



Revised Exposure Draft

Amendments to Section 3500 of the Practice-Specific Standards for Pension Plans – Pension Commuted Values (Red-lined)

Actuarial Standards Board

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Memorandum

To: All Fellows, Affiliates, Associates, and Correspondents of the Canadian Institute of Actuaries and other interested parties

From: Conrad Ferguson, Chair
Actuarial Standards Board
Gavin Benjamin, Chair
Designated Group

Date: November 23, 2018

Subject: **Revised Exposure Draft – Amendments to Section 3500 of the Practice-Specific Standards for Pension Plans – Pension Commuted Values**

Comment Deadline: **January 31, 2019**

Introduction

This revised exposure draft proposes changes to the practice-specific standards for pension commuted values (section 3500). It was approved for distribution by the Actuarial Standards Board (ASB) on November 15, 2018. Due process has been followed in the development of this revised exposure draft.

The ASB distributed a [notice of intent](#) (NOI) on October 15, 2015 to provide the background and general information on these proposed changes, with a deadline for comments of December 19, 2015. An update on the progress of this review was provided at the Canadian Institute of Actuaries' (CIA) Pension Seminar held on November 8, 2016.

The NOI was followed by an [exposure draft](#) that summarized the feedback received on the NOI and proposed changes to the practice-specific standards for pension commuted values. The ASB distributed the exposure draft on July 20, 2017, with a deadline for comments of September 18, 2017. Some respondents, after having justified their need for extra time (e.g., upcoming Board or group meeting), were granted additional time to submit their comments. The final comments were received in the fourth quarter of 2017.

Background

The ASB is committed to conducting general reviews of all parts of the Standards of Practice on a quinquennial basis. The mortality assumption prescribed under section 3500 was reviewed by another designated group (DG) and changes to the mortality assumption became effective on October 1, 2015. Following the change in the mortality assumption, the ASB established a DG to review the standards of practice for pension commuted values (section 3500), other than the mortality assumption prescribed by section 3500, ahead of the quinquennial review of part 3000. This review was to assess the continued appropriateness of the basis for calculating commuted values (CVs), considering the interests of a number of stakeholders including terminating plan members, non-terminating plan members, and plan sponsors.

Feedback from Stakeholders

The DG solicited input from various stakeholder groups in the exposure draft that was distributed in 2017. The DG received 37 submissions with comments on the exposure draft.

The DG appreciates the feedback received and has taken it into account in the preparation of the revised exposure draft. The following sections of this memorandum outline some of the key issues that were raised by stakeholders and considered by the DG.

Summary of Key Issues Raised by Stakeholders, and DG Response

The following sections, while not exhaustive, summarize key comments provided by stakeholders, and the DG's response to these comments.

1. Assumed pension commencement age (paragraphs 3520.09 and 3530.06)

When the 2017 exposure draft was released, the DG recognized that there was likely a bias in favour of the former plan member in assuming that deferred vested members would elect to commence their pension at the age which produces the highest CV. This was supported by the majority of responses submitted at that time. However, at that time no changes were proposed to the existing Standards of Practice due to the difficulty in establishing an appropriate alternative that was both unbiased and practical to implement.

A number of respondents to the exposure draft reiterated that a bias may exist and that other options should be explored.

DG comments – The DG agrees with these comments, has given further consideration to other reasonable approaches, and hence is proposing an alternative. The DG proposes that CVs be calculated assuming there is a 50% probability that a former member will commence their pension at the age which produces the highest CV and a 50% probability that a former member will commence their pension at their earliest unreduced retirement age. This change attempts to reduce the bias in the current Standards of Practice in a practical way

that is broadly reflective of common pension plan provisions and related former member behaviour.

Given that a plan may continue to pay a CV based on the current standard that is higher than the minimum amount set out in the proposed standard, there would be no requirement for plan administrators to implement this change as of the effective date of the new standard, provided the current standard produces a higher amount. In such a case, the change, if adopted, may be adopted as of the effective date of the standard or at a later point in time.

Rationales supporting this proposed change include the fact that some former plan members may have a preference for deferring retirement until they are entitled to an unreduced pension, and that the optimal retirement date may not be optimal for the former member when, for example, the effect of income taxes are taken into account. Furthermore, an alternative source of earnings can cause some former members to delay commencing a deferred pension.

The DG recommends that the CIA undertake research to further support and refine the assumptions related to the distribution of pension commencement ages of former plan members. This study could incorporate empirical data from a cross section of plans with varying early retirement plan provisions.

2. Assumed pension commencement age when normal retirement age has been attained (paragraph 3530.06)

One respondent commented that paragraph 3530.06 of the Standards of Practice does not provide for the assumed retirement age in the case that the former member's age is greater than the normal retirement age.

DG comments – The DG agrees and proposes modifying paragraph 3530.06 to clarify that where the terminated plan member's age on the valuation date is greater than or equal to the earliest age at which the member will be entitled to an unreduced lifetime pension, the valuation date should be used as the assumed retirement date.

3. Discount rate spreads approach (paragraphs 3540.06.1 and 3540.06.2)

Some respondents to the 2017 exposure draft requested more information regarding the rationale for the proposed approach for determining the discount rate spreads used to calculate CVs. Only a few respondents did not agree with the proposed approach.

DG comments – As communicated when the 2017 exposure draft was released, the DG concluded that the spread adjustments to be reflected in CV discount rates should be based on a time-varying, market-linked estimator which would be more consistent with a marked-to-market assessment of the economic value of the pension payable from the pension plan that the former member is forgoing by receiving a CV. As a result, the DG reviewed several options and recommended discount rate spreads based on a mix of two-thirds of the spreads on the yields of provincial bonds and one-third of the spreads on the yields of investment-grade

corporate bonds (the spreads are relative to Government of Canada bond yields). The DG maintains its recommendation, subject to minor adjustments, and provides more information below on the rationale for the selected approach and the proposed adjustments. More information is also provided on the intended process for making the spread information available to all stakeholders in a transparent and timely manner.

Key elements underlying the recommendations of the DG are as follows:

- There are no simple market data that are readily available that can provide an accurate measure of the liquidity premium embedded in bond yields. Furthermore, there is no defined methodology to precisely quantify the size of the liquidity premium, but a reasonable range can be estimated. In 2015, the DG asked Fiera Capital Corporation and PH&N Investment Services to provide their views on an appropriate liquidity premium for highly illiquid fixed-income instruments, such as a monthly pension payable from a defined benefit pension plan. Based on these analyses, it was concluded that at the time the analysis was performed a spread in yields above Government of Canada bond yields in the range of 60 bps to 120 bps would be deemed reasonable for the liquidity premium. Furthermore, the DG notes that the fixed-income instruments referenced by Fiera Capital Corporation and PH&N Investment Services for their analyses are more liquid than a monthly pension payable from a pension plan. Therefore, the liquidity premiums suggested by their analyses could be viewed as lower bounds for the purpose of calculating CVs.
- Provincial bonds are considered highly secure and the spreads on their yields therefore represent an appropriate reference point for calculating dynamic CV discount rate spreads. In addition, since provincial bonds are significantly more liquid than a defined benefit pension promise, the CV discount rate spreads should normally be higher than the provincial bond spreads.
- After reviewing different options, the DG is of the opinion that the recommended dynamic spread approach based on a mix of two-thirds of provincial bond yield spreads and one-third of investment-grade corporate bond yield spreads is reasonable and preferable to the current fixed spread approach for the following reasons:
 - Although the corporate spreads are also influenced by factors other than liquidity such as credit risk, the DG is of the opinion that using a weight of one-third is reasonable and captures a level of additional spread that provides a reasonable proxy for the additional liquidity premium associated with the pension promise. In the current market environment, the recommended discount rate spreads are approximately 25 to 30 bps higher than provincial spreads. As shown in the charts presented in the appendix, for the period reviewed (2004 to July 2018), the resulting recommended mid-term spread above Government of Canada bond yields is about 90 bps on average and the long term spread is about 115 bps on average, which are

both in line with the recommended reasonable range resulting from the analyses performed by Fiera Capital Corporation and PH&N Investment Services.

- The provincial and investment-grade corporate bond markets are sufficiently deep and stable to be used to calculate the CV discount rate spread adjustments and the yield indices for these bonds are available through data providers.
- As demonstrated in the cover note to the 2017 exposure draft, the volatility of the discount rates (measured using the standard deviation) over the years 2004 through 2016 would have generally been reduced under the recommended approach compared to the current fixed spread of 90 bps approach.
- The DG recognizes that there may be unusual financial market conditions, such as the 2008–2009 financial crisis, during which time corporate bond spreads widened significantly. This could result in a situation in which a CV is calculated using a valuation date on which bond spreads are unusually high (and, as a result, the CV is unusually low), while the CV is paid a few weeks later at which time bond spreads have reverted back to more normal levels. For this reason, the DG proposes an adjustment in the revised exposure draft whereby the discount rate spread adjustments would be capped at 150 bps. The 150 bps cap on the spread adjustments is expected to apply only in unusual market conditions.
- The revised exposure draft also ensures that the calculated provincial and corporate spreads can never be negative. Similar to the rationale for providing a cap for the spread adjustments, the inclusion of a floor on the provincial and corporate spreads is intended to mitigate the effects of unusual market conditions that may prove to be short-lived.
- In addition, the DG proposes that the evolution of the discount rate spread adjustments and the related financial market environments (including the cap and floor on the discount rate spread adjustments) be monitored by a committee as explained further below.

The DG recommends that the proposed discount rate spread adjustments be published on a publicly available website monthly, on the last Wednesday of the month. The DG has entered into discussions with a data provider regarding the provision of the data needed in order to publish the spread adjustments on a publicly available website.

The DG proposes that a committee be established to manage and oversee the ongoing process of publishing the monthly discount rate spreads. The DG suggests that the committee's responsibilities include recommending to the ASB changes to the methodology used to calculate the discount rate spread adjustments in the event that the financial market environment changes and the committee concludes

that the proposed methodology for calculating the spread adjustments no longer remains appropriate.

4. Rounding of rates of interest and rates of pension escalation (paragraph 3540.13)

In the 2017 exposure draft, the DG proposed that both final rates of interest and rates of pension escalation be rounded to 10 bps.

Some respondents recommended more flexibility in the Standards of Practice with respect to the rounding of interest rates and rates of pension escalation to accommodate the approaches already programmed in pension administration systems.

DG comments – The DG agrees due to practical considerations and concluded that there is little risk that, once selected, the practice with respect to rounding would be changed such that one group would be advantaged over another. Therefore, the DG proposes modifications to paragraph 3540.13 of the Standards of Practice to provide more flexibility with respect to rounding.

5. Characteristics of pension plans that will be considered target pension arrangements (TPA) for purposes of calculating CVs (paragraph 3570.01)

Most respondents to the 2017 exposure draft did not address this question. There were four responses that supported the exposure draft as drafted. Six submissions suggested that jointly sponsored pension plans (JSPPs) should be permitted to use subsection 3570 when calculating CVs, asserting that the methodology under subsection 3570 is more aligned with the shared risk and governance structure of JSPPs and is consistent with the way these plans are funded. Four submissions suggested that the definition of TPAs proposed in the exposure draft is too constricting and the Standards of Practice should allow others, including policy makers and administrators, to decide which method is most appropriate to calculate CVs for a particular plan. The reason asserted for this suggestion is that ongoing innovation in the pension field continues to blur the lines between target benefit and traditional defined benefit pension plans.

DG comments – The DG continues to believe that the definition of TPAs as proposed in the 2017 exposure draft remains appropriate, as the definition looks to the nature of the benefit that the former member is forgoing by receiving a CV. However, the DG acknowledges that the rationale for permitting JSPPs and other plans with similar characteristics to use subsection 3570 when calculating CVs has some merit and encourages policy makers to consider whether pension legislation in their jurisdiction should permit the use of subsection 3570 for these types of plans. In this context, it is the DG's view that if this is allowed, added disclosures should be given serious consideration by regulatory authorities, because some of these plans present accrued benefits as not subject to any reductions at any time, while a CV calculated in accordance with subsection 3570 can be much less than the CV calculated for a "guaranteed" defined benefit pension.

6. Approach for calculating CVs payable from target pension arrangements (paragraphs 3570.03, 3570.04, 3570.05, and 3570.06)

In the 2017 exposure draft, the DG noted that, for a pension plan that contemplates the reduction in accrued benefits as one of the mechanisms to manage the risk associated with the plan as an ongoing entity, the DG views the pension promise to plan members as being different from the promise provided by a traditional defined benefit (DB) pension plan (which does not contemplate a reduction in accrued benefits while the plan is ongoing). Therefore, the DG agreed with the majority of respondents to the NOI that the assumptions and methods used to calculate the CV payable from TPAs (such as certain multi-employer pension plans and target benefit pension plans) should be different from those used to calculate a CV payable from traditional DB plans.

A number of approaches for calculating the CV of an individual who terminates membership in a TPA were considered. The DG observes that, for these types of plans, the target pensions payable are often adjusted over time so that plan assets are expected to be sufficient to provide the target pensions.

Therefore, at that time, the DG concluded that a reasonable economic value of a terminating member's accrued pension is the member's share of the total pension plan assets at the time of receipt of the CV.

In the 2017 exposure draft, the DG recommended adding subsection 3570 to the Standards of Practice which proposed a methodology for calculating CVs for TPAs that attempted to allocate a reasonable share of plan assets to the terminating member. The reasonable share of plan assets would be calculated as the actuarial present value of the former member's pension, calculated on a going concern basis, multiplied by the pension plan's going concern funded ratio.

Note that, prior to the publishing of the 2017 exposure draft, there was not consensus among DG members as to whether the funded ratio of the pension plan, as outlined in the methodology contained in the proposed new subsection 3570, should be capped at some level (e.g., 100%) for purposes of calculating CVs. Therefore, the DG requested feedback in the 2017 exposure draft as to whether the funded ratio should be capped.

The DG received little feedback on the 2017 exposure draft either directly agreeing or disagreeing with the share-of-assets approach. Most of the comments received, though, were in favour of using the going concern assumptions in the calculation of a CV for TPAs, and multiplying the resulting CV by the pension plan's going concern funded ratio. This was seen as a more consistent and direct recognition of the economic value of the terminating member's pension benefit by those who responded. Most respondents also supported a cap of 100% in the funded ratio applied when calculating CVs.

DG comments – The DG debated as to whether the share of assets approach remains appropriate for purposes of calculating the economic value of the target pension, if a cap was applied to the pension plan’s funded ratio.

Some DG members believe that not capping the funded ratio provides for a truer allocation of plan assets to the former plan member at time of receipt of a CV. Also, applying a cap to the funded ratio when the plan is more than 100% funded, but multiplying the actuarial present value of the former member’s pension by the funded ratio when the plan is less than 100% funded could be viewed as biased against the former member.

Other DG members believe that not capping the funded ratio could result in the distribution of surplus assets to the former plan member receiving the CV, which may not be equitable for the remaining plan members and plan sponsors. Also, distributing surplus to the former plan member may impact the willingness and ability of the trustees of a TPA to accumulate surplus and allocate this surplus over time in the manner that they see fit as being in the best interest of all plan stakeholders.

Which of the two points of view described above is most appropriate likely varies from plan to plan, depending on the characteristics of the particular plan, such as the plan’s funding policy.

As a result of additional debate among the DG members, taking into consideration the feedback received, and also seeking additional input from practitioners, the DG concluded that an appropriate approach for determining the economic value of a pension payable from a TPA is to calculate the actuarial present value of the former member’s pension using the plan’s going concern funding assumptions, without any adjustment based on the pension plan’s funded ratio. The justification for this approach is that it reflects the former member’s target pension at the time of termination of plan membership in an unbiased manner and is consistent with the valuation basis used in determining the ongoing funding and affordability of the target pensions of plan members. To be consistent with the basis used to fund the pension plan, the assumptions used to calculate a former member’s CV would include any margins for adverse deviations that are included in the going concern funding assumptions.

However, the DG acknowledges that, depending on the governing documents for the pension plan and related communications to members, for a particular TPA or the public policy considerations of a particular jurisdiction, it may be appropriate to adjust the actuarial present value of the former member’s pension up or down based on the pension plan’s funded status. Therefore, the DG proposes that the Standards of Practice allow for the possibility that adjusting the CV based on the funded status of the pension plan may be appropriate in circumstances where they are required by applicable legislation or by the terms of the pension plan, as described in a plan text, benefits policy, and/or collective agreement.

7. Combination plans (paragraph 3570.08)

One respondent commented that the proposed Standards of Practice do not appropriately address pension plans that provide some traditional DB entitlements, and also provide pensions that are consistent with benefits provided by TPAs.

DG comments – The DG agrees and proposes the addition of paragraph 3570.08 to address these types of plans.

Feedback

Interested parties are invited to formally submit their feedback on these proposed revisions. Parties wishing to comment on this revised exposure draft should direct those comments to Gavin Benjamin at gavin.benjamin@willistowerswatson.com, with a copy to Chris Fievoli at chris.fievoli@cia-ica.ca by **January 31, 2019**.

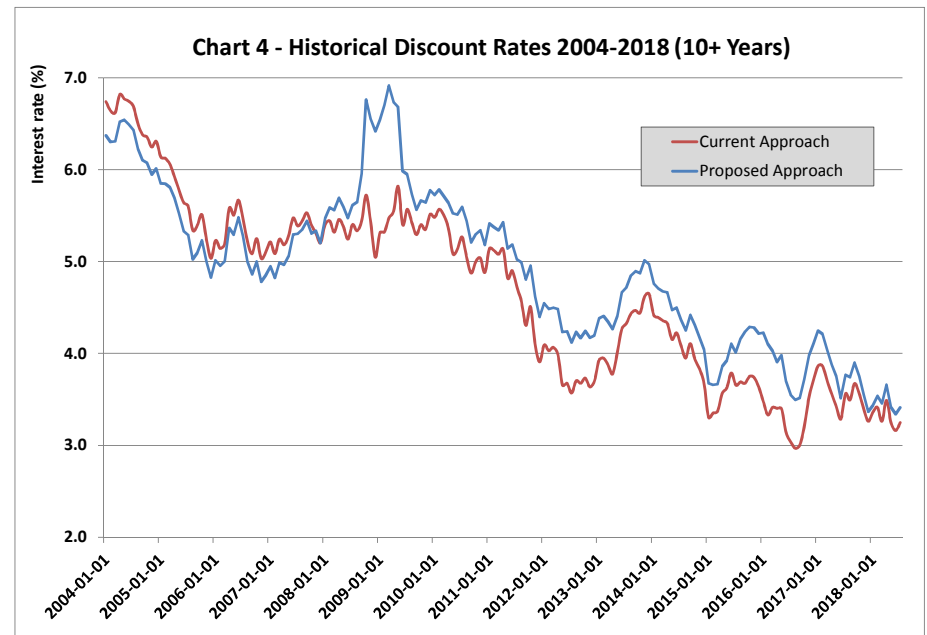
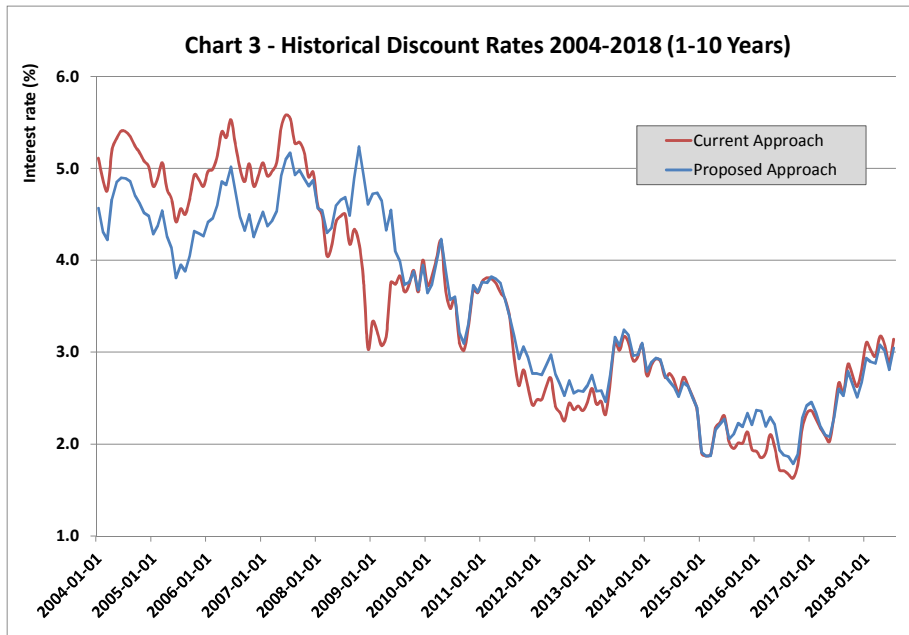
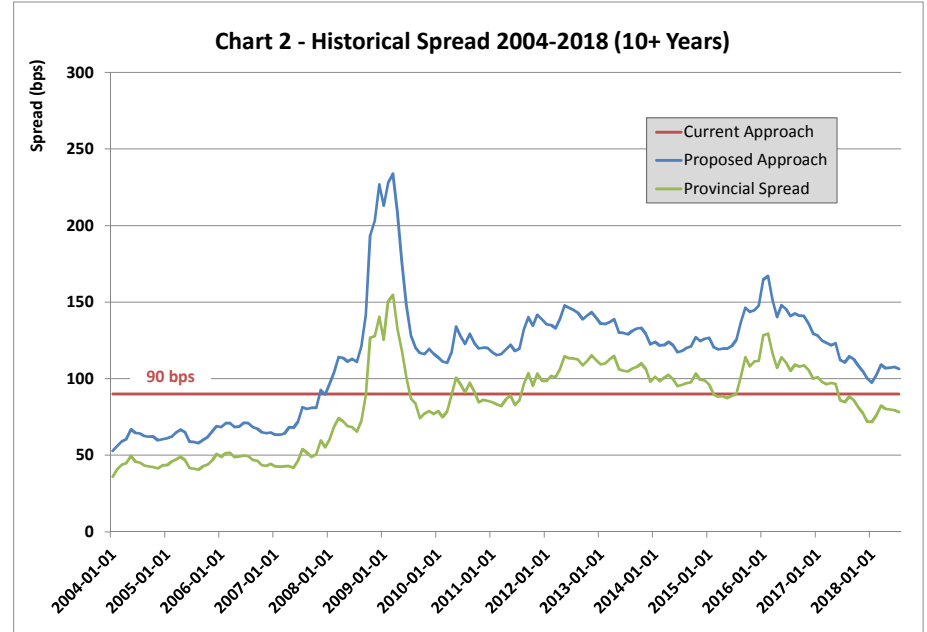
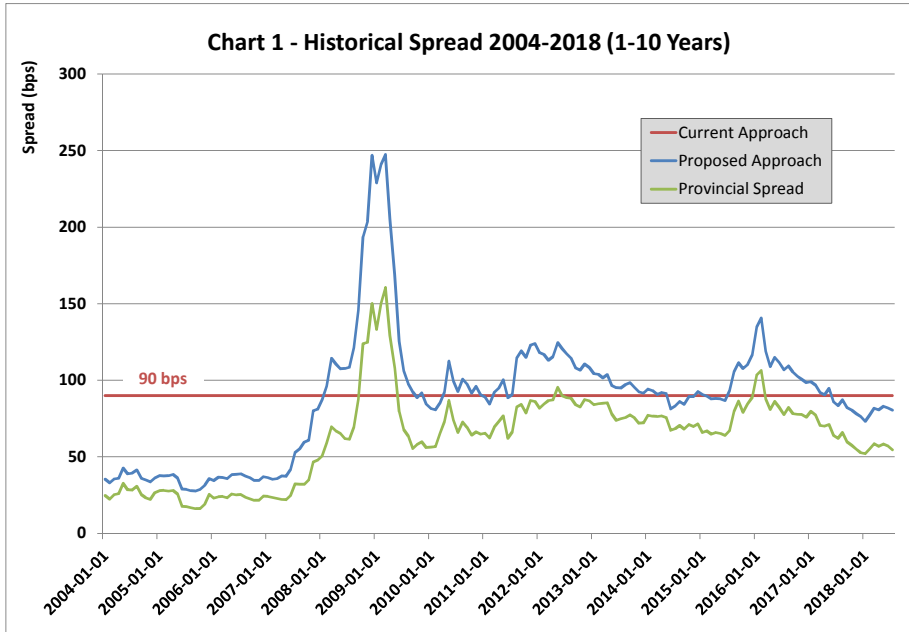
If the feedback does not result in significant changes to the proposed standard, it is expected that changes to the standard will be finalized in early 2019, with an effective date during the second quarter of 2019. It is intended that upon release of the final standard, early adoption will be permitted for new subsection 3570.

Members of the DG

The members of the DG are Gavin Benjamin (Chair), Ty Faulds, Dani Goraichy, Jamie Jocsak, José Legault, Tim McGorman, Mark Mervyn, and Catherine Robertson.

CF, GB

Appendix – Comparison of commuted value discount rates and spreads from January 2004 to July 2018



3500 Pension Commuted Values

3510 Scope

.01 The standards in this section 3500 apply to ~~an actuary's~~ advice on the computation of commuted values, including commuted values to be paid from a pension plan that is registered under an Act when the method of settlement is a lump sum payment in lieu of an immediate or deferred pension resulting from death or individual termination of plan membership, except for the specific circumstances that are described below in paragraph 3510.03. In particular, the standards in this section 3500 apply:

- In a jurisdiction whether or not there is legislation in that jurisdiction that specifically provides for portability of pension benefit credits;
- Regardless of limits imposed by the Income Tax Act (Canada) on amounts that may be transferred to other tax-sheltered retirement plans; ~~and~~
- Subject to paragraph 3570.05, regardless of the specific adjustments to commuted values in order to determine the lump sums paid from a pension plan required by the terms of the plan in accordance with applicable legislation. An example of such an adjustment would be the requirement by pension legislation to reduce the lump sum payment to a former pension plan member if the plan is less than fully funded;
- As modified by subsection 3570, to the determination of commuted values of pensions and deferred pensions payable from target pension arrangements, such as certain target benefit plans and multi-employer pension plans. For purposes of this section 3500, a target pension arrangement is a pension plan for which applicable legislation contemplates the reduction to the accrued pensions of plan members while the pension plan is ongoing as one of the available options for maintaining the funded status of the pension plan, and where the reduction in accrued pensions is not necessarily caused by the financial distress of the plan sponsor or sponsors; and
- Under a reciprocal pension agreement between plan sponsors where the result of the reciprocal agreement is either to establish a pension amount determined on a defined contribution basis or to establish an account balance under a defined contribution provision of a plan, whether the account balance is to be converted immediately or subsequently into a pension.

.02 The standards in this section 3500 also apply to the determination of a lump sum payment from the pension plan in lieu of an immediate or deferred pension to which a plan member's former spouse is entitled after a division of the member's pension on marital breakdown.

.03 The standards in this section 3500 do not apply:

- Under a reciprocal pension agreement between plan sponsors where the result of the reciprocal agreement is to provide defined pension benefits or target pension benefits for the plan member;
- To the determination of commuted values of pensions and deferred pensions payable from pension arrangements that are not registered under an Act;
- To the conversion of defined pension benefits or target pension benefits to a defined contribution arrangement where there is no termination of active employment;
- To the determination of commuted values of pensions that have commenced payment and where commutation is at the discretion of the member, except as explicitly required under paragraphs 3510.02 or 3560.01; ~~or~~
- When calculating the capitalized value of pension benefits for actuarial evidence purposes, pursuant to part 4000, where such value does not relate to a commuted value payable from a registered pension plan; or
- To the determination of commuted values of pensions and deferred pensions under a target pension arrangement in the case of a full or partial wind-up.

Act

.04 For the purposes of this section 3500, "Act" means a pension benefits standards act of a province or the federal government of Canada or the Income Tax Act (Canada).

Retirement Compensation Arrangements

.05 Since ~~R~~etirement ~~C~~ompensation ~~A~~rrangements (RCAs) are not required to be registered under the Income Tax Act (Canada), this section 3500 applies to commuted values payable from an RCA only if the RCA is registered under a pension benefits standards act of a province or the federal government of Canada.

3520 Method

.00 A commuted value calculated in accordance with the methods and assumptions of this section 3500 is intended to represent the economic value of the immediate or deferred pension that would have been paid from the pension plan. That is, it is intended to represent the value that the marketplace would attribute to that pension, while reflecting certain simplifications in the calculations and requiring that certain assumptions be common among different plans. It is not intended to include any value that marketplace participants such as insurance companies might attribute to potential costs different than expected due to the assumption of risks such as longevity and inflation.

- .01 The commuted value should be independent of the ~~funded status~~ of the pension plan ~~at the valuation date~~, except in the circumstances described in paragraph 3540.16.1 and paragraph 3570.05. [Effective ~~April 1, 2009~~Month XX, 201X]
- .02 The ~~actuary should establish the~~ period for which the commuted value applies before recomputation is required ~~may be established by the plan terms or, taking into account the requirements of~~ applicable legislation, ~~or by a plan administrator who is empowered to specify such period and the plan rules~~. Commuted values paid after the end of such period should be recomputed on the basis of a new valuation date. If the period for which the commuted value applies before recomputation is required is not established by the terms of the plan or applicable legislation, or by a plan administrator who is empowered to specify such period, the period should be established as nine months after the valuation date. [Effective ~~April 1, 2009~~Month XX, 201X]
- .03 The commuted value should be adjusted for ~~a reasonable rate of~~ interest, taking into account the requirements of applicable legislation, between the valuation date and the first day of the month in which the payment is made. Unless otherwise required by applicable legislation, the interest rates used to calculate the commuted value should be used for such adjustment. [Effective ~~April 1, 2009~~Month XX, 201X]

- .04 Subject to paragraph 3570.05, ¶the commuted value should reflect the plan member's full benefit entitlement as a deferred or immediate pensioner, as may be applicable, determined under the terms of the pension plan. In the case of a deferred pensioner, the commuted value should include the value of the death benefit that would have applied before commencement of the deferred pension. [Effective ~~April 1, 2009~~Month XX, 201X]
- .05 ~~The actuary~~A commuted value should not be ~~calculated a commuted value~~ using methods or assumptions that produce a commuted value smaller than the value computed in accordance with this section ~~3500~~. [Effective ~~April 1, 2009~~Month XX, 201X]

Valuation date

- .06 The valuation date means the date as of which a value is being computed. Generally, this would be the date upon which the plan member becomes entitled to an immediate or deferred pension resulting from death or individual termination of plan membership, or as of such other date as may be determined either by legislation, by the terms of the plan rules, or by a plan administrator who is empowered to do so, on which the right to receive a commuted value becomes effective.
- .07 In the event that recomputation is required in accordance with these standards, ~~the actuary would establish~~ a new valuation date would be established. ~~The actuary would make~~ Calculations would be made at the new valuation date in accordance with the standards in effect on the new valuation date.

Conditions attached to payment

- .08 Applicable legislation or the terms of the plan provisions may attach conditions to the payment of ~~a portion of the~~ full commuted value when the plan is less than fully funded on a plan termination basis.

Benefit entitlement

- .09 The following applies except for commuted values calculated in accordance with subsection 3570. Subject to paragraphs 3530.06 and 3530.07, ¶where, at the valuation date, a plan member has the right as a deferred or immediate pensioner, as may be applicable, to optional forms of pension ~~or optional commencement dates~~, and where such right is contingent on an action that is within the member's control and where it is reasonable to assume that the member will act so as to maximize the value of the benefit, the option that has the greatest value would be used in ~~the determination of~~ the commuted value. For example, where a member has terminated employment and, upon application, is eligible for a particular benefit such as a subsidized joint and survivor form of pension that has a value, it is reasonable to assume that, upon acquiring expert advice, the member will apply for the benefit.

- .10 ~~Repealed However, where such right is contingent upon an action that is within the member's control and where it is not reasonable to assume that the member will act so as to maximize the value of the benefit, an appropriate allowance would be made for the likelihood and timing of such action. For example, where a member is continuing in employment and is entitled to an unreduced pension that commences upon termination of employment, it may not be reasonable to assume that the member will immediately terminate employment in order to maximize the value of the benefit. In determining the likelihood and timing of such action, the actuary may use group data, and the actuary would be prepared to justify the allowance that has been made.~~
- .11 The commuted value ~~determined by the actuary~~ using these assumptions made in accordance with the preceding paragraphs 3520.09 and subsequent paragraphs 3530.06 and 3530.07~~3520.10~~ may prove to have recognized certain potential entitlements that are never realized, or may prove to have disregarded certain entitlements that ultimately provide value.

Alternative methods and assumptions

- .12 ~~The actuary may calculate~~Except for commuted values calculated in accordance with subsection 3570, a commuted value may be calculated based on methods and assumptions that differ from those prescribed in these standards only if:
- The resulting value is larger; and
 - Such value is required by the terms of the plan ~~terms~~ or applicable legislation, or by a plan administrator who is empowered to specify the basis on which commuted values are to be determined.

3530 Demographic Assumptions

- .01 Except for situations specifically noted below, the ~~actuary following~~ should be assumed:
- Separate mortality rates for male and female members; and
 - Except for commuted values calculated in accordance with subsection 3570, ~~M~~mortality rates in accordance with a mortality table promulgated from time to time by the Actuarial Standards Board for the purpose of these calculations. [Effective February 1, 2014~~Month XX, 201X]~~
- .02 No adjustment should be made to reflect the health or smoker status of the member. [Effective February 1, 2014]

- .03 The ~~current~~ age of the plan member on the valuation date should be used when valuing a ~~an immediate~~ pension. [Effective ~~February 1, 2014~~ Month XX, 201X]
- .04 If the plan provides a contingent benefit only to the person who is the plan member's spouse at the date of termination of membership, the actual age of the spouse, if any, should be used in the computation. If this information cannot be obtained, an appropriate proportion married and age difference between the plan member and spouse should be assumed. [Effective February 1, 2018]
- .05 Where the plan provides a contingent benefit to a plan member's spouse and a change in the member's marital status after the valuation date is relevant to the determination of the commuted value, ~~the actuary should make~~ an appropriate assumption should be made concerning the likelihood of there being an eligible spouse, and the age of that spouse, at the time of death. [Effective ~~February 1, 2014~~ Month XX, 201X]
- .06 When valuing deferred pensions, including deferred pensions for a plan member who may also be entitled to an immediate pension, the normal retirement age should be used, except in the situation where the terminated plan member has the right to elect an earlier commencement date and the consequent early retirement pension exceeds the amount that is of actuarial equivalent value to the pension payable at normal retirement age. In this case, subject to paragraph 3530.07, it should be assumed with a probability of 50% that retirement will occur at the age that would result in the highest commuted value and with a probability of 50% that retirement will occur at the earliest age at which the plan member will be entitled to an unreduced lifetime pension. In the situation where the terminated plan member's age on the valuation date is greater than or equal to the earliest age at which the plan member will be entitled to an unreduced lifetime pension, subject to paragraph 3530.07, the valuation date should be used as the assumed retirement date. [Effective ~~February 1, 2018~~ Month XX, 201X]
- .06.1 However, where a right described in paragraph 3520.09 or 3530.06 is contingent upon an action that is within the member's control and where it is not reasonable to assume that the member will always act to maximize the value of the benefit or that retirements may occur in accordance with paragraph 3530.06, an appropriate allowance would be made for the likelihood and timing of such action. For example, where a member is continuing in employment and is entitled to an unreduced pension that commences upon termination of employment, it may not be reasonable to assume that there is a 50% probability the member will immediately terminate employment in order to become eligible for an immediate benefit. In determining the likelihood and timing of such action, group data may be used.
- .07 The demographic assumptions would be the same for all types of immediate and deferred pensions.

Mortality

- .08 ~~The actuary~~ Commuted values would ~~calculate commuted values that do~~ not vary according to the sex of the plan member ~~when where the actuary is~~ required ~~to do so~~ by applicable legislation or by the ~~terms provisions~~ of the plan or by the plan administrator if the administrator is so empowered by the ~~terms provisions~~ of the plan. In this case, ~~the actuary would adopt~~ a blended mortality approach would be adopted by either developing a mortality table based on a combination of male and female mortality rates, or computing the commuted value as a weighted average of the commuted value based on male mortality rates and that based on female mortality rates. The relative proportions of males versus females would be appropriate for the particular plan.
- .09 If the requirement that commuted values do not vary according to the sex of the plan member is legislated and applies only to benefits earned after a particular date or only to a subgroup of plan members, ~~the actuary may extend~~ the use of a blended mortality approach may be extended to commuted values of benefits earned prior to such date or to commuted values of benefits of all members.

3540 Economic Assumptions

- .01 ~~The actuary should select e~~ Economic assumptions that vary depending on whether the pension is fully indexed, partially indexed, or non-indexed should be selected. For commuted values calculated in accordance with subsection 3570, the economic assumptions should be determined in accordance with subsection 3570. [Effective ~~April 1, 2009~~ Month XX, 201X]
- .02 ~~If the valuation date is on or before January 31, 2011, the actuary should select e~~ Economic assumptions should be selected based that depend on the ~~reported~~ rates for the applicable CANSIM series for the ~~second~~ calendar month immediately preceding the month in which the valuation date falls. ~~If the valuation date is on or after February 1, 2011, the actuary should select economic assumptions that depend on the reported rates for the applicable CANSIM series for the calendar month immediately preceding the month in which the valuation date falls.~~ [Effective ~~April 1, 2009~~ Month XX, 201X]
- .03 ~~The actuary should calculate t~~ Two interest rates should be calculated, one applicable to the first 10 years after the valuation date and the second applicable to all years thereafter. [Effective ~~April 1, 2009~~ Month XX, 201X]
- .04 The commuted value of a fully or partially indexed pension should be at least equal to the commuted value applicable to a non-indexed pension in the same amount and having similar characteristics. [Effective April 1, 2009]

- .05 The following three factors~~actuary~~ should be determined~~d~~ from the CANSIM series: ~~the following three factors.~~

CANSIM Series	Description	Factor
V122542	Seven-year Government of Canada benchmark bond yield, annualized (final Wednesday of month)	i_7
V122544	Long-term Government of Canada benchmark bond yield, annualized (final Wednesday of month)	i_L
V122553	Long-term, real-return Government of Canada bond yield, annualized (final Wednesday of month)	r_L

Note that the factors determined above are not the reported CANSIM series, but the annualized value of the reported figure. [Effective ~~April 1, 2009~~Month XX, 201X]

- .06 ~~The actuary~~A fourth factor should also be determined~~d~~ ~~a fourth factor, calculated as follows:~~

$$r_7 = r_L * (i_7 / i_L)$$

[Effective ~~April 1, 2009~~Month XX, 201X]

- .06.1 Four bond yield spreads should be determined, based on the index yields for the final Wednesday of the calendar month immediately preceding the month in which the valuation date falls, calculated as follows:

$$PS_{1-10} = (\text{Midterm Provincial index yield}) - (\text{Midterm Canada index yield})$$

$$CS_{1-10} = (\text{Midterm Corporate index yield}) - (\text{Midterm Canada index yield})$$

$$PS_{10+} = (\text{Long-Term Provincial index yield}) - (\text{Long-Term Canada index yield})$$

$$CS_{10+} = (\text{Long-Term Corporate index yield}) - (\text{Long-Term Canada index yield})$$

If PS_{1-10} , CS_{1-10} , PS_{10+} , or CS_{10+} as calculated above is less than zero, the bond yield spread should be set equal to zero. [Effective Month XX, 201X]

{NOTE TO DRAFT: Prior to the standard being finalized, the above definitions will be modified to refer to specific indices published by a data provider.}

.06.2 Two spread adjustments should be determined as follows:

$$s_{1-10} = (0.667 * PS_{1-10}) + (0.333 * CS_{1-10})$$

$$s_{10+} = (0.667 * PS_{10+}) + (0.333 * CS_{10+})$$

If s_{1-10} or s_{10+} as calculated above is more than 1.5%, the spread adjustment should be set equal to 1.5%. [Effective Month XX, 201X]

.07 The ~~following non-indexed and indexed~~ ~~actuary should determine the~~ interest rates should be used to determine the interest rates and rates of pension escalation used to calculate commutes values from the following:

	Non- Indexed	Indexed
First 10 Years	$i_{1-10} = i_7 + s_{1-10} \text{ 0.90\%}$	$r_{1-10} = r_7 + s_{1-10} \text{ 0.90\%}$
After 10 Years	$i_{10+} = i_L + 0.5 * (i_L - i_7) + s_{10+} \text{ 0.90\%}$	$r_{10+} = r_L + 0.5 * (r_L - r_7) + s_{10+} \text{ 0.90\%}$

[Effective ~~April 1, 2009~~ Month XX, 201X]

.08 The ~~actuary should calculate the~~ commuted value should be calculated of a non-indexed pension using a two-tier interest rate as follows of:

_____ i_{1-10} for the first 10 years and i_{10+} thereafter.

_____ [Effective ~~April 1, 2009~~ Month XX, 201X]

- .09 ~~The actuary should calculate the commuted value of a~~For pensions that ~~is are~~ fully indexed to increases in the Consumer Price Index, ~~the rates of pension escalation should be determined based on the implied rates of increase in the Consumer Price Index for any escalation falling within the first 10 anniversaries of the valuation date inclusive, and thereafter determined as follows using a two-tier interest rate of:~~
- ~~r_{1-10}~~ ~~C_{1-10}~~ for the first 10 years: ~~$(1 + i_{1-10}) / (1 + r_{1-10}) - 1$~~
- ~~C_{10+}~~ for after 10 years: ~~$(1 + i_{10+}) / (1 + r_{10+}) - 1$~~ and ~~$r_{10+}$~~ thereafter.
- ~~[Effective April 1, 2009~~Month XX, 201X]
- .10 For pensions that are partially indexed to increases in the Consumer Price Index, the ~~actuary should determine the implied~~ rates of ~~pension escalation should be determined by applying the partial indexing formula of the plan to those rates of~~ increase in the Consumer Price Index, ~~in the first 10 years and thereafter that make the above assumptions for non-indexed and fully indexed pensions internally consistent. The actuary should then determined in accordance with paragraph 3540.09 the rates of pension escalation that are produced by applying to those implied rates of increase in the Consumer Price Index the partial indexing formula of the plan. The actuary should determine the adjusted interest rates applicable to partially indexed pensions by appropriately reducing on a geometric basis the non-indexed rates of interest to reflect the rates of pension escalation.~~ [Effective April 1, 2009Month XX, 201X]
- .11 ~~Where rates increases~~ in pensions ~~escalation~~ are related to increases in the average wage index, ~~the actuary it~~ should ~~be assumed~~ that the average wage index will increase at rates that are one percentage point higher than the ~~implied~~ rates of increase in the Consumer Price Index. [Effective April 1, 2009Month XX, 201X]
- .12 A pension that is indexed according to an excess interest approach involves increases that are linked to the excess of formula A over formula B, where A is some proportion of the rate of return on the pension fund or on a particular class of assets, and B is a base rate or some proportion of the rate of return on another asset class. In determining the interest rates under formula A and formula B, ~~the actuary should use~~ the interest rates ~~determined in accordance with paragraph 3540.08 should be used~~ applicable to a non-indexed pension as a prox~~iesy~~ for the rate of return on the pension fund or on any particular asset class for which the rate of return is expected to be equal to or greater than the non-indexed interest rates determined in accordance with paragraph 3540.08~~7~~. [Effective February 1, 2018Month XX, 201X]

.13 Prior to calculating the commuted value, the ~~actuary should round the~~ rates of interest and/or rates of pension escalation determined in accordance with this subsection 3540 should be adjusted using one of the following approaches:

- Round each of the rates of interest and rates of pension escalation to the nearest multiple of 0.10%;
- Round the rates of interest to the nearest multiple of 0.10% and do not round the rates of pension escalation; or
- Round the rates of interest to the nearest multiple of 0.10% and adjust the rates of pension escalation so that the compound difference between the rates of interest and rates of pension escalation are rounded to the nearest multiple of 0.10%.

~~to the nearest multiple of 0.10%. The actuary should round o~~Only the interest rates and/or pension escalation rates to be used in the calculation of the commuted value should be rounded or adjusted. ~~The actuary should not round a~~Any rates of interest, increase or escalation used in calculations prior to the final step of the determination should not be rounded. [Effective ~~February 1, 2018~~Month XX, 201X]

Pension index frequency

.14 ~~For an indexed pension, the actuary would apply the indexed interest rates as determined above without adjustment only if the frequency of indexing is equal to the payment frequency.~~ Reasonable approximations may be used to ~~calculate an adjustment that takes~~ into account the specific circumstances of the situation regarding payment frequency, indexing frequency, and time and amount of the first increase of pension escalations.

Pension indexed on an excess interest formula

.15 If the pension is indexed on an excess interest formula and the particular asset class is one for which the rate of return is expected to be less than the ~~non-indexed~~ interest rates determined in accordance with paragraph 3540.087, ~~the actuary would appropriately reduce the rate of interest to reflect the actuary's expectation of the difference between the non-indexed interest rates determined in accordance with paragraph 3540.07 and the rate of return on the particular asset class.~~ In determining the expected rate of return on a particular asset class for this purpose, ~~the actuary would be guided by~~ the current economic environment as well as ~~long-term historical experience~~ future expectations would be considered.

Other modifications

.16 Where ~~pension escalation rates benefit adjustments~~ are based on one of the above approaches but are either modified by applying a maximum or minimum annual increase, with or without carry forward of excesses or deficiencies to later years, or modified by prohibiting a decrease in a year where the application of the formula would otherwise cause a decrease in pension, the ~~actuary would adjust the interest-pension escalation~~ rates otherwise applicable would be adjusted, based on the likelihood of the modification causing a material change in the pension payable in any year. In determining such likelihood, the ~~actuary would be guided by the~~ current economic environment as well as ~~future expectations would be considered long-term historical experience~~. Either a stochastic or deterministic analysis may be used to determine the pension escalation rates. ~~The actuary would be prepared to justify any such adjustment or lack of adjustment to the interest rates.~~

.16.1 Where pension escalation rates are based on the funded status of the pension plan, the pension escalation rates otherwise applicable would be adjusted, based on the likelihood of the plan's funded status causing a material change in the pension payable in any year. In determining such likelihood, the current funded status of the plan and the projected funded status in future years would be considered in determining the pension escalation rates. A stochastic or deterministic analysis may be used to determine the pension escalation rates.

.17 Where ~~increases in benefits~~ pension escalation rates are not determined by reference to increases in the Consumer Price Index, the ~~actuary would ensure that the~~ commuted value ~~would be is not in~~ consistent with the values of non-indexed pensions and fully indexed pensions.

Alternative calculation method

.18 ~~Repealed For pensions that are either fully or partially indexed, rather than using the implicit approach described above, the commuted value may be determined explicitly by indexing each expected payment based on the indexing rate that makes the assumptions for non-indexed and fully indexed pensions, prior to rounding under paragraph 3540.13, internally consistent.~~

3550 Disclosure

- .01 ~~.01~~ When communicating the amount of the commuted value of a member's pension, the ~~following actuary~~ should ~~be~~ provided:
- A description of the benefit entitlements involved;
 - A description of the actuarial assumptions used in determining the commuted value and the rate of interest to be credited between the valuation date and the ~~first day date~~ of the month in which the payment is made. For indexed pensions, both the non-indexed nominal interest rates and the pension escalation assumptions should be disclosed separately;
 - A statement of the period for which the commuted value applies before recomputation is required;
 - When the payment of ~~a portion of the~~ full commuted value is subject to a condition based on the funded status of the plan, the additional contribution required for the payment of the full commuted value to be made or the recommended schedule for payment of the balance of the commuted value, if applicable; and
 - A statement as to whether the commuted value has been computed in accordance with these standards. [Effective ~~February 1, 2018~~ Month XX, 201X]
- .02 Where the commuted value has not been determined in accordance with these standards, ~~the actuary~~ it should ~~be~~ clearly stated ~~d~~ that the calculation is not in compliance with these standards and ~~disclose~~ all areas of noncompliance and the reasons for the noncompliance should be disclosed. [Effective ~~April 1, 2009~~ Month XX, 201X]
- .03 When communicating to the plan administrator an actuarial basis to be used in determining commuted values, ~~the actuary~~ it should ~~be provide a statement~~ that the actuarial basis is in accordance with these standards. [Effective ~~February 1, 2018~~ Month XX, 201X]

.03.1 The disclosures in paragraphs 3550.01 to .03 above would be made in both an external user report and a written internal user report.

Disclosure of plan values which differ from these standards

- .04 Except for commuted values calculated in accordance with subsection 3570, in a situation where the use of commuted values (called plan values in this subsection 3550) that are different from those computed in accordance with this section 3500, is required by the ~~plan~~ terms of the plan or applicable legislation, or by a plan administrator who is empowered to specify the basis on which commuted values are to be determined, the following disclosure requirements are applicable:
- If the plan values are lower, ~~the actuary~~ it should be disclosed that the commuted values so calculated are in accordance with the terms of the plan or the applicable legislation but not in accordance with the standards; or
 - If the plan values are higher, ~~the actuary~~ it should be disclosed that the commuted values so calculated are in accordance with the terms of the plan or the applicable legislation and the standards. [Effective ~~February 1, 2018~~ Month XX, 201X]
- .05 Where ~~the actuary is required to calculate~~ commuted values that do not vary according to the sex of the plan member are required to be calculated, and where that requirement applies only to benefits earned after a particular date or only to a subgroup of plan members, ~~the actuary should describe~~ the extent to which the ~~actuary's~~ blended mortality approach has been extended to benefits earned before the particular date or to benefits of all members should be described. [Effective ~~April 1, 2009~~ Month XX, 201X]
- .06 Where ~~the actuary uses~~ assumptions or methods described in these standards are used to calculate a commuted value in a situation where these standards ~~do~~ not apply, ~~the actuary~~ it should not be stated or implied that the commuted value has been computed in accordance with these standards. [Effective ~~February 1, 2018~~ Month XX, 201X]

3560 Reduced Life Expectancy

- .01 The standards in this subsection 3560 ~~applies to an actuary's~~ advice on the computation of commuted values, from a registered pension plan, where the right to receive the lump sum is based on subsection 51.1 of the regulations to the Ontario Pension Benefits Act. These standards may also be applicable in other directly comparable situations.
- .02 These standards do not apply where the right to receive a lump sum is not conditional upon medical certification, under legislation or the terms of the plan ~~provisions~~, even if the former member is known to be terminally ill.

.03 All standards set out in ~~preceding subsections of~~ section 3500 apply, except as superseded by the following recommendations.

.04 The commuted value should be calculated as of the date of the medical certificate specifying that the former member has life expectancy less than two years, even if other conditions for payment of the benefit (such as spousal consent) are not met until a later date. [Effective April 1, 2009]

.05 The commuted value should be adjusted for interest and benefits paid to the date of payment. [Effective April 1, 2009]

.06 The computation should not be adjusted to reflect the actual death or change in health of the former member after the valuation date. However, if a former pension plan member becomes eligible for immediate commencement of a pension after the date of the medical certificate and prior to payment of the benefit, this eligibility should be reflected in the calculation. [Effective April 1, 2009]

.07 If the former member is entitled to a commuted value transfer based on the terms of the plan ~~provisions~~ or legislation that is not conditional on reduced life expectancy, the amount payable should be the greater of the amount calculated in accordance with this subsection 3560 and the amount computed in accordance with subsections 3520 through 3540 and subsection 3570, if applicable, without regard to shortened life expectancy. [Effective ~~April 1, 2009~~ Month XX, 201X]

Benefit Entitlement

- .08 The commuted value would reflect the plan member's full benefit entitlement as a deferred or immediate pensioner, as may be applicable, determined under the terms of the pension plan.

There are three possible cases:

- (a) ~~a~~A former member with deferred pension entitlement, not eligible for immediate commencement of pension.

In this case, the commuted value would reflect the present value of the death benefits that would be payable in respect of the former member. For this purpose, the value of the death benefit would be calculated as of the valuation date, assuming the former member died as of the valuation date.

- (b) ~~a~~A former member with deferred pension entitlement, eligible for immediate commencement of pension.

In this case, the lump sum value would be the greater of the amount determined as in (a) above and a value determined as if the member had retired at the date of valuation and elected the most favourable combination of the highest surviving spouse pension permitted by the plan (if there is an eligible spouse) and the longest guaranteed period available under the plan. This value would be determined as for pensioners in (c) below.

- (c) ~~a~~A former member in receipt of pension.

In this case, the commuted value would reflect the present value of pension payments for a period certain of four months from the valuation date, any additional guaranteed payments and any survivor benefits potentially payable.

Disclosure

- .09 When communicating the amount of the commuted value of a member's pension, ~~the actuary would also provide~~ a description of the survival period assumption would be provided.

3570 Target Pension Arrangements

- .01 The standards in this subsection 3570 apply to the determination of commuted values of pensions and deferred pensions payable from target pension arrangements, such as certain target benefit plans and multi-employer pension plans. For purposes of this section 3500, a target pension arrangement is a pension plan for which applicable legislation contemplates the reduction to the accrued pensions of plan members while the pension plan is ongoing as one of the available options for maintaining the funded status of the pension plan, and where the reduction in accrued pensions is not necessarily caused by the financial distress of the plan sponsor or sponsors.

- .02 All standards set out in preceding subsections of section 3500 apply, unless indicated otherwise or as superseded by the following recommendations.
- .03 A commuted value calculated in accordance with the going concern assumptions and methods of this subsection 3570 is intended to represent the economic value of the immediate or deferred pension that would have been paid from the target pension arrangement in accordance with the terms of the pension plan and applicable legislation.
- .04 The commuted value should be calculated as the actuarial present value on the valuation date of the member's benefit entitlement as a deferred or immediate pensioner, determined using the same going concern assumptions as used in the most recent funding actuarial valuation report or cost certificate filed with the applicable pension regulator. [Effective Month XX, 201X]
- .05 The actuarial present value of the member's benefit entitlement may be adjusted to reflect the funded status of the pension plan or to reflect the member's share of the plan assets, only as required by applicable legislation or by the terms of the plan, as described in official plan documents such as a plan text, benefits policy, and/or collective agreement. The funded ratio of the plan used to determine the adjustment should be calculated in accordance with accepted actuarial practice and should be based on a valuation date no earlier than the valuation date of the most recent funding actuarial valuation report or cost certificate filed with the applicable pension regulator. [Effective Month XX, 201X]

Assumptions

- .06 The assumptions used to calculate the commuted value would be the assumptions used for the pension plan's going concern valuation from the most recent funding actuarial valuation report or cost certificate filed with the applicable pension regulator, including any margins for adverse deviations that are reflected in the going concern valuation assumptions.

.07 When calculating the commuted value of a deferred pension, the assumptions used to determine the actuarial present value of the member's benefit entitlement would be assumptions that are appropriate for purposes of performing an actuarial valuation of a pension plan consisting of only the group of deferred pensioner members of the plan. For example, in the case of the going concern valuation from the most recent funding actuarial valuation report of a plan filed with the applicable pension regulator, the age that deferred pensioner members are assumed to commence their pension may not be a material assumption and therefore the normal retirement age was used. However, if deferred pensioner members have the right to elect an earlier commencement date and the consequent early retirement pension exceeds the amount that is of actuarial equivalent value to the pension payable at normal retirement age, it may be appropriate to assume pension commencement at an earlier age for purposes of calculating the commuted value.

Combination Plans

.08 Some plans provide certain benefits that fall within the definition of the benefits provided by target pension arrangements, while other benefits provided by the plan fall within the scope of this section 3500, but do not fall within the definition of the benefits provided by target pension arrangements. For these plans, the commuted value of the benefits that fall within the definition of the benefits provided by target pension arrangements would be calculated in accordance with this section 3500, including subsection 3570. The commuted value of the benefits that do not fall within the definition of the benefits provided by target pension arrangements would be calculated in accordance with this section 3500, but would not reflect the requirements of subsection 3570.

Disclosure

.09 In addition to the disclosures specified in preceding subsections of section 3500, any adjustments determined in accordance with paragraph 3570.05 should be disclosed. [Effective Month XX, 201X]

.10 In a situation in which the use of commuted values for a target pension arrangement that are different from those computed in accordance with this subsection 3570 is required by the terms of the plan or applicable legislation, or by a plan administrator who is empowered to specify the basis on which commuted values are to be determined, it should be disclosed that the commuted values so calculated are in accordance with the terms of the plan or the applicable legislation but not in accordance with the standards. Adjustments determined in accordance with paragraph 3570.05 are considered to be a component of the calculation of a commuted value that is in accordance with the standards. [Effective Month XX, 201X]