July 30, 2020

Ms. Falguni Debnath
Senior Legal Officer
Court of Appeal for Ontario
Osgoode Hall, 130 Queen Street West
Toronto, Ontario
M5H 2N5

Re: Report of the Discount Rate Sub-committee of the Civil Rules Committee

Dear Ms. Debnath,

Thank you for your letter of May 20, 2020, to CIA Executive Director Michel Simard, and your invitation to the Canadian Institute of Actuaries (CIA) to provide input on the *Report to the Civil Rules Committee on rules 53.09 and 53.10* prepared by the Discount Rate Sub-committee of the Civil Rules Committee. We are pleased to share our comments as follows:

1. Summary of key comments

a. That the two-tier rate system be maintained, to provide equitable treatment between plaintiffs who seek recovery of shorter-term losses and those who sustain longer-term losses. To this end, we advise the sub-committee that discount rates with 30 or more tiers are commonly used in other financial settings. Further, we submit that discount rates for the second tier do not require a forecast of future bond yields, beyond that currently calibrated by the market. Thus, the difficulty of forecasting future interest rates should not be a barrier to retaining a two-tier rate system.

b. That the ***actuarial present value method***, prescribed by standards of practice for actuaries, is distinct from the calculation of present value. It avoids over- and under-compensation of plaintiffs where amounts are payable for uncertain time periods. It also produces a value consistently lower than that of a present value at the fixed time period of life expectancy.

c. That the sub-committee consider a review of the alternatives to the Government of Canada bond yields, considering the current policy of the Bank of Canada of maintaining low interest rates for federal bonds. The CIA would be willing to participate in such review.

d. We do not favour a strict prohibition on judicial departures from the discount rate specified in r. 53.09(1). The fixed rate will not only understate present values of amounts that will grow at rates of inflation greater than the CPI. It will also overstate present values of future contractual amounts that are indexed at rates below the CPI.

2. Two-tier rate system

Equitable compensation

While the sub-committee recommends replacement of the current two-tier rate with a single rate, we recommend retaining the two-tier rate. The reason is for equitable compensation between classes of plaintiffs.

In litigation, the lost income or additional expense compensated by a damages award varies from case to case in its duration. Wrongful termination matters may compensate lost earnings over a transition period as short as two to three years, while catastrophic personal injury matters for younger individuals may provide for care expenses paid over decades.

Financial markets usually provide greater returns for longer-term commitments of funds. This is described by what is called the ***yield curve***, which is the set of market interest rates in which each rate corresponds to a particular time horizon for the loan.

Plaintiffs with longer-term losses have the opportunity to commit at least a portion of the damages awarded to investment for a longer period, before these funds are used to replace income or meet expenses. In making that longer-term commitment of funds, these plaintiffs can capture the higher interest rates on the yield curve for longer-term loans. Such higher interest rates are not available to plaintiffs investing an award for a shorter time period.

A single discount rate fails to recognize the opportunity for higher investment returns to plaintiffs with longer-term losses, and thus provides richer compensation relative to loss for these plaintiffs.

A two-tier system, on the other hand, generally provides higher discount rates for longer-term losses (and hence a smaller lump-sum award for those losses, restored to full compensation by the higher investment income available to such plaintiffs). And it provides lower discount rates for shorter-term losses (and hence a larger lump-sum, to compensate for the lower investment income available when the award is invested). The two-tier system thus provides more equitable compensation between the two classes of plaintiffs.

More than two tiers: standard in other financial settings

Even greater equity between plaintiffs would be provided by interest rates specified by a full yield curve. A full yield curve expands the number of tiers from two to 30 or more by specifying a separate interest rate for each individual year of payment.

While such a set of interest rates would be more complex to implement than a single rate or two-tier rate, a full yield curve is commonly used in other financial setting. For example, the use

of a full yield curve is mandated for pension plans and post-retirement benefit plans, with the endorsement of four major stakeholders:

- pension plan sponsors,
- pension regulators,
- the Canadian accounting profession, and
- the Canadian actuarial profession.

The issue of long-term forecasts of the discount rate

We acknowledge the point that the sub-committee's report makes in Paragraph 360, about "the difficulty of establishing a rate for a period that will only begin 15 years in the future." However, we disagree that a forecast of that kind is a necessary part of the damages calculation, even for setting the second tier of a two-tier rate system.

Rather, the plaintiff is most likely to develop and implement an investment plan for the proceeds of a damages award ***soon after the proceeds are received***. And this investment plan is based on market terms on offer ***at that time***, not at the time of future payments.

As an illustration, where the plaintiff receives an award in 2020 to provide for lost income or care expenses that are paid in 2045, the plaintiff does not need to forecast the yields that will be available for investments initiated in 2045 (or 2040 or 2030). The only investment to be made is in 2020. And the financial markets in 2020 readily provide fixed interest rates for bonds that deliver cash in 2045.

To provide for plaintiffs who receive a damages award in 2020 for care expenses to be paid in 2045, all that is needed is knowledge of the market interest rates, available at that time in 2020, for new investments that mature (and hence deliver cash) in 2045.

For the second tier of a two-tier rate system, even though the payments are made 15 years or more in the future, the current yield curve provides the interest rates needed for such payments.

The individual setting the discount rate, for either tier, can determine the available market interest rate by consulting that current yield curve. Any one interest rate on the yield curve applies for a loan made immediately (e.g. in 2020) and repaid at a particular date in the future (e.g. in 2045). Since the current yield curve is tabulated and published, no forecasts of future interest rates are needed. The only task is to look up a published number. For the second-tier rate, one merely looks up rates for the various time horizons 15 years and greater, and then calculates an average of those rates.

Thus, we submit that the point in Paragraph 360 about the difficulty of establishing a rate for a period beginning 15 years in the future need not be a barrier to keeping the two-tier rate system. The task of making a projection of a future rate is simply not a necessary step at the time the damages are calculated. Rather, it is the set of market rates along the current yield curve that provides the information needed to set the rates for both tiers. Since this yield curve

is currently published, the difficult and uncertain long-term forecast of interest rates is not needed.

3. Present value

Paragraph 63 of Section 2.2.1 of the sub-committee's report raises the question of "whether a present value calculation is really an 'actuarial' one."

To assist the sub-committee, we illuminate the distinction between "present value" and "actuarial present value" (APV).

Paragraph 66 of the same section defines "present value" as "a calculation of the amount that, paid now, will equal that stream of payments and that will be exhausted at the end of the ***specified future period*** [emphasis added]."

The "specified future period" in this calculation is of a length that is fixed.

Section 2.2.2 provides a concrete illustration of the calculation of a present value, using the Excel function "PV." The example calculation in Paragraph 74 shows the input of the parameter "Nper" which is for a specified future period of 22 years – a fixed length of time.

However, where the stream of payments is for a future period of uncertain length (e.g. for the remainder of an individual's lifespan) a modification to the calculation is necessary. Two well-recognized approaches are common:

- The "present value of an annuity certain" approach uses life expectancy, i.e. the average future lifespan drawn from a population, as the specified future period for the calculation.
- The APV is a more precise approach, which makes the present value calculation for each payment in the stream, and then recognizes the uncertainty in the length of the stream of payments by applying the probability of each payment being made.

Since the future lifespan is uncertain, it is possible for the lifespan to be shorter than life expectancy (and thus for the present value at life expectancy to over-compensate). Alternatively, the lifespan might be longer than life expectancy (where the present value at life expectancy under-compensates).

The APV method has the benefit that it avoids over- and under-compensation because it applies a probability weighting to each payment, to reflect the likelihood that the payment will be made.

This aspect of the APV method, that it treats each payment individually and acknowledges its specific timing, has an additional benefit. By specifying the timing of each payment, the method captures the precise calibration of investment yields by time horizon, made available by a full yield curve. By contrast, the benefits of using a full yield curve are sidelined when a full yield curve is coupled with the annuity certain method.

Last, the APV method has a result that is almost always less than the result of the present value of an annuity certain, under a broad range of payment patterns, mortality assumptions, and interest rate conditions. This suggests that the "present value of an annuity certain" method may favour plaintiffs at the expense of defendants.

For these reasons, Actuarial Standard 4250.01, promulgated by the Actuarial Standards Board in Canada, requires that actuaries use the APV method when calculating the capitalized value of future amounts payable in respect of an individual.

4. The Issue with Government of Canada bond yields as the foundation of the discount rate

The sub-committee may wish to consider an alternative to Government of Canada bond yields as the source of the nominal discount rate. The reason to do so is that yields on Government of Canada bonds are no longer a close representation of market conditions. These yields have been influenced by non-market influences, such as Quantitative Easing and other active management of interest rates by the Bank of Canada (this issue was reported by the *Globe and Mail* on July 13, 2020[1]).

An illustrative example of the potential impact of such active management is the situation in the UK. As the sub-committee has considered, the discount rate, then based on market yields on index-linked gilts (ILGs), became negative in 2017. The yield on ILGs fell to such a low level at least partly due to active management of the interest rate by the Bank of England. The consequences of such a low discount rate contributed to the 2019 decision to change the basis of the discount rate from full compensation to how plaintiffs actually invest their awards.

An alternative approach that wouldn't require changing the full compensation standard would be to adopt another measure of market yields, less influenced by active management by the central bank.

The CIA would be willing to participate in a review of alternative sources for the discount rate.

5. Allowance of judicial discretion to depart from r. 53.09(1)

Section 2.11.7 of the sub-committee's report recommends an "outright prohibition" on departures from the discount rate in r. 53.09(1).

We do not support an outright prohibition of such adjustments to the discount rate.

Paragraph 408 states that "the reason most often given" for seeking a different discount rate is that "costs of certain types of future expenses (such as health care costs) will increase at a rate ***greater than*** [emphasis added] that of the CPI."

We bring to the sub-committee's attention that it is also common for future cash flows to increase at a rate ***less than*** that of the CPI. For example, non-indexed contractual losses may be

[1] https://www.theglobeandmail.com/business/article-bank-of-canada-moves-to-cap-long-term-rates-as-ottawa-pumps-up/

fixed in nominal terms. Thus, a strict prohibition on discount rates that depart from r. 53.09(1) will produce overcompensation of such losses.

In closing, the CIA appreciates the opportunity to provide feedback on these issues, and we would welcome further discussion with you throughout this process.

If you have any questions, please contact Chris Fievoli, CIA Staff Actuary, Communications and Public Affairs, at 613-656-1927 or chris.fievoli@cia-ica.ca.

Sincerely,

[original signature on file]

Michel St-Germain, FCIA
President, Canadian Institute of Actuaries

The Canadian Institute of Actuaries (CIA) is the national, bilingual organization and voice of the actuarial profession in Canada. Our members are dedicated to providing actuarial services and advice of the highest quality. The Institute holds the duty of the profession to the public above the needs of the profession and its members.