DECISION **2023 NBIB 097**

NEW BRUNSWICK INSURANCE BOARD

IN THE MATTER OF:
a rate revision application for the:

Aviva Insurance Company of Canada

With respect to automobile insurance rates for:

Private Passenger Vehicles

Written Hearing Date: October 17, 2023

PANEL:

	Chair	Ms. Marie-Claude Doucet, LL.B.
	Member	Ms. Francine Kanhai
	Member	Ms. Brigitte Ouellette, LL.B.
Applicant:	**Aviva Insurance Company of Canada**	
Intervenors:	The Office of the Consumer Advocate for Insurance	Ms. Michèle Pelletier, LL.B., K.C.

Decision Rendered: December 1, 2023

Summary

[1] Aviva Insurance Company of Canada (the "Applicant" or "Aviva") filed an application to revise rates (the “Filing” or the “Application”) with respect to automobile insurance rates for Private Passenger Vehicles (“PPV”) in New Brunswick. Aviva presented its Filing to the New Brunswick Insurance Board (the “Board”) based on an overall rate change indication of +25.11% and proposed an overall average rate increase of +9.00% before capping (and +7.57% after capping).

[2] Pursuant to subsection 267.5(1) of the *Insurance Act*, R.S.N.B., 1973 c. I-12 (the “*Act*”), the Board convened a Panel of the Board (the “Panel”) to conduct a Written Hearing (the “Hearing”) on October 17, 2023, with deliberations held on October 18, 2023.

[3] In compliance with subsection 19.71(3) of the *Act*, the Office of the Attorney General (the “OAG”), opted not to intervene in the Hearing, as confirmed by email of August 15, 2023.

[4] All relevant documentation was provided to the Office of the Consumer Advocate for Insurance (“CAI”). The CAI did intervene in the matter and submitted a final written submission on September 1, 2023.

[5] The Panel finds that Aviva’s proposed average rate change is just and reasonable in the circumstances and Aviva is approved to adopt the proposed average rate change of +9.00% before capping (+7.57% after capping) effective June 1, 2024 for new business and June 1, 2024 for renewal business.

Exhibits

[6] The Panel accepted the following Exhibits as part of the Record of Hearing:

EXHIBIT	DESCRIPTION	DATE
1	Original Private Passenger Rate Filing	March 31, 2023
2	Round 1 Questions from Eckler	May 30, 2023
3	Round 1 Questions from NBIB	June 6, 2023
4	Round 1 Response to Eckler	June 10, 2023
5	Round 1 Response to NBIB	June 13, 2023
6	Round 2 Questions from Eckler	June 15, 2023
7	Round 2 Questions from NBIB	June 15, 2023
8	Round 2 Response to NBIB	June 22, 2023
9	Round 2 Response to Eckler	June 30, 2023
10	Round 3 Questions from Eckler	July 12, 2023
11	Round 3 Questions from NBIB	July 13, 2023
12	Round 3 Response to Eckler	July 19, 2023
13	Round 3 Response to NBIB	July 19, 2023
14	Round 4 Question from NBIB	July 25, 2023
15	Round 4 Response to NBIB	July 25, 2023
16	Actuarial Storyboard – Eckler	July 31, 2023
17	Actuarial Storyboard REVISED – Eckler	August 4, 2023
18	Final Submission from CAI	September 1, 2023

1. Introduction

[7] The Board is mandated by the Legislature with the general supervision of automobile insurance rates in the Province of New Brunswick. In order to fulfill that mandate, the Board exercises the powers prescribed by the *Act*. One key responsibility for the Board is to ensure that rates charged, or proposed to be charged, are just and reasonable. Under the Act, each insurer carrying on the business of automobile insurance in the province must file with the Board the rates it proposes to charge at least once every 12 months from the date of its last filing. An insurer must appear before the Board when:

a. The Insurer files for a rate change more than twice in a 12-month period, or
b. The Insurer files rates where the average rate increase is more than 3% greater than the rates charged by it within the 12 months prior to the date on which it proposes to begin to charge the rates, or
c. The Board requires it to do so.

2. Procedural History

[8] Aviva filed this Application for the PPV category on March 31, 2023. The original overall rate level change indication in the Filing was +25.11% and the Applicant proposed an overall average rate increase of + 9.00% (+ 7.57% after capping).

[9] In light of the magnitude of the rate level change being requested, the Board issued a Notice of Hearing on August 10, 2023 and convened a Panel of the Board to conduct a Written Hearing on the matter with the intervention of the CAI provided by way of written submission.

[10] Prior to the Hearing, in addition to the Filing, supplementary information and clarification was generated: the Board posed a number of questions to the Applicant through several rounds of questions from the Board's staff and its actuaries. The Applicant responded to all questions posed and those answers form part of the Record. Some of these responses were corrections to calculations or exhibits in the Filing, or the provision of information that ought to have been included in the initial Filing to support the Applicant's indications. The last amendment to the filing was provided on July 19, 2023.

[11] The Hearing took place on October 17, 2023 with deliberations on October 18, 2023.

3. Evidence and Positions of the Parties

Aviva Insurance Company of Canada

[12] Aviva presented its Filing to the Board with an overall rate change indication of +25.11% and proposed an overall average rate increase of +9.00% (+ 7.57% after capping). The justification and rationale for a proposed rate increase that is lower than the indicated average rate level change, was the desire to provide rate stability and avoid large rate increases, while still ensuring viability in the current environment.

[13] The following table summarizes the indicated and proposed rate changes by coverage:

Coverage	Indicated	Proposed (before capping)	Proposed (after capping)
Bodily Injury (TPL-BI)	5.31%	1.76%	7.28%
Property Damage (TPL-PD)	24.53%	7.97%	7.54%
Property Damage – Direct Compensation (DCPD)	36.12%	13.00%	7.16%
Accident Benefits (AB)	3.46%	2.00%	7.14%
Uninsured Auto (UA)	4.85%	1.94%	7.79%
Collision (COL)	30.19%	14.16%	7.54%
Comprehensive (COM)	50.92%	14.89%	8.67%
Specified Perils (SP)	39.46%	13.89%	6.29%
Underinsured Motorist (UM) – SEF44	3.71%	0.00%	8.53%
Total	25.11%	9.00%	7.57%

[14] The rate indication calculations detailed in the Filing incorporate various assumptions, including an after-tax target return on equity (ROE) of 12.00% (implied ROE of -2.96% with proposed rate change), a target Return on Premium of 6.45%, (implied Return on Premium of -4.09%), an investment rate on cash flow (discount rate) of 4.00%, an after-tax investment rate on capital (IRS) of 4.00%, and a 2.00:1 premium to surplus ratio. Proposed average rates would increase from the current average premium of approximately $1,189 to approximately $1,279 (after capping).

[15] The Filing, the interrogatories and the submission from the CAI raised several issues for consideration, the key ones are addressed in this decision as follows:

A. Disclosure of estimated adjustments for COVID-19
B. Proposed effective date
C. Changes in methodology
D. Loss trend selections
E. Territory definitions
F. Generalized additive model

G. Model validation

H. Discount / surcharges

I. Proposed base rates and capping mechanism

J. Return on equity

4. Analysis and Reasons

[16] The Panel has reviewed all the evidence before it, including the interrogatories and the written submission from the CAI.

[17] The Panel recognizes and accepts the actuarial expertise of the Applicant's actuaries who prepared the Filing and responded to the various inquiries.

[18] The Panel's decision reflects that models and methodologies are interconnected, and laced with layers of data, assumptions, and judgement. As set out below in more detail the Panel accepted the Applicant's evidence as satisfying its evidentiary burden to establish that the rates proposed to be charged are just and reasonable. The evidence in the Record nevertheless raised several issues for the Panel to consider and determine at the Hearing. Each of those issues is discussed individually below.

A. Disclosure of estimated adjustments for COVID-19

[19] Since the COVID-19 pandemic began to impact loss trends in 2020, insurers have been striving to determine appropriate adjustments to the data, and to make reasonable assumptions about expected future behavior and experience.

[20] In its previous Filing, Aviva had not made any adjustments to reflect the impact of the COVID-19 pandemic on the company's experience. The Panel which considered the prior filing accepted Aviva's methodologies and assumptions, and noted that the issue would be

revisited in coming years, as it will be for all insurers due to the requirements for annual filing. In this Filing, Aviva has now included an adjustment that is intended to reflect those impacts on claim frequency, and therefore loss costs.

[21] Aviva considered frequency data from its own PPV book of business along with its associated entities, Traders General Insurance Company ("Traders") and Aviva General Insurance Company ("Aviva General"). Aviva calculated quarterly ratios of trended ultimate frequencies (using the results of their trend analysis) to a baseline frequency, which was an average of the 2017 to 2019 frequency data. These ratios, which provided an estimate of the degree to which COVID-19 had impacted the frequencies, were converted to COVID-19 adjustments for each quarter of 2020 and later. Finally, these quarterly results were transformed into adjustments to be used in the provincial indications which are done using annual data in this Filing.

[22] Because the company data was relatively sparse, and not fully credible, Aviva used industry data as a complement of credibility in the calculation of the reduction in frequency assumptions.

[23] Following the analysis, Aviva made the assumption that severity has not been affected by COVID-19 and that frequency will return to pre-COVID-19 levels by the time the new rates become effective. During the interrogatory stage of the filing review process, since this was a new assumption, the Board's consulting actuaries, Eckler Ltd. (Eckler), requested that Aviva provide some sensitivity testing. It was determined that if Aviva had only used industry data to determine the COVID-19 adjustments (instead of using credibility-weighted frequency reduction assumptions based on company and industry data), the indicated overall average rate level change would have been 2.82% higher.

[24] The consideration of this adjustment is material, as its inclusion serves to increase the overall indicated average rate level change by 15.6%. In part, this large impact is attributable to the fact that Aviva did not previously adopt a COVID-19 adjustment, in

conjunction with the fact that the adjustment is applied to three of the five years of data analyzed.

[25] The Panel reviewed the methodology employed by the Applicant and the rationale provided. It also confirmed that there was no overlap of this consideration with the various loss trends, alleviating any concern of 'double counting' the impact.

[26] The CAI argued that the Applicant should have used only industry data for this analysis, suggesting that the indicated rates would then have then been lower if that had been done. However, the Panel concluded that the indication would in fact have been higher if only industry data had been used. Regardless, the Panel accepts the Applicant's methodology, including the use of its own data, with its associated companies, and the use of industry data as a complement of credibility. The Panel finds the COVID-19 adjustment used in the Filing to be reasonable and appropriate.

B. Proposed Effective Date

[27] Aviva submitted this Filing in March of 2023, yet it proposed an effective date of August 2024, (later amended to June 1, 2024) 17 months after filing. When questioned about this unusual gap, Aviva responded that it anticipated several months would be required to complete the hearing process. Thereafter, it would need 60 days to communicate with existing policyholders and queue a timeslot in the rating system. Given the substantial changes to the rating algorithm that are proposed in this Filing, Aviva anticipates that those will take some time to implement.

[28] The Panel considered the explanations provided by the Applicant and accepted them as reasonable, particularly given the complex nature of the changes being made.

C. Changes in methodology

[29] As previously noted, the Applicant proposed several changes to their methodologies in this Filing. In particular, Aviva made an additional adjustment to account for the atypical recent inflationary environment. Based on a historical review of the Consumer Price Index (CPI), the Applicant observed that elevated inflation started in July of 2021. Since the provincial analysis is based on data ending 30 June 2022, a past elevated inflation assumption was applied to each quarter up to June 2022 and a future elevated inflation assumption was applied for the period from July 2022 to one year after the effective date (which is the average accident date of the rating period).

[30] For the past elevated inflation adjustment analysis, Aviva considered its actual historical experience, as at September 2022, which includes the data of its associated companies. The methodology was explained thoroughly in the Filing, supplemented by the responses to interrogatories.

[31] In addition to using its own experience data for this analysis, Aviva also analyzed industry experience.

[32] Aviva examined the severity of the closed claims as of September 2022, as those claims can no longer be impacted by inflation. Using this closed claims data, Aviva estimated how much of each claim related to parts, labour, total losses, rental and other, and then examined the CPI associated to each of these categories. A weighted average CPI was calculated for each period, up to December 2024. The difference between each period’s weighted average CPI and the baseline CPI (10-year average over 2010 to 2019) is the past elevated inflation adjustment for each quarter.

[33] To determine an adjustment based on industry experience, the selected severity trend models were adjusted to include two factors, one for each of 2021-2 and 2022-1, creating an elevated inflation adjustment for each period. Where p-values indicated that the

variable was significant, Aviva selected a past elevated inflation adjustment based on the results of the adjusted severity trend models.

[34] The <u>future</u> elevated inflation factor is based on the same data but is meant to capture the future elevated inflation applied to the losses for the period from April 2022 to August 2025.

[35] The Applicant's comprehensive analysis of the impact of inflation is explained to be the product of a working group it formed for this purpose. That group developed a model which supported the adjustments, including adjustments for future elevated inflation. Aviva also argued that it selected conservative adjustments as the lesser of the indicated industry adjustments and the indicated company adjustments, to temper or mitigate the effect. The impact of the inclusion of these elevated inflation adjustments is an increase in the indicated average rate level change of 9.1%.

[36] The Panel was initially concerned with the potential for 'double counting' the impact of elevated inflation if it had been built into the trend analysis as well. Upon review of the Filing, the Panel concludes that this is not the case, there is no duplication of impact.

[37] The CAI's submission questioned whether the impact of the adjustment was too high. For the purposes of the current Filing, the Panel concludes that the inflation adjustment is well supported and reasonable.

D. Loss trend selections

[38] Loss trends are assumptions that measure the annual rate of change of past and future claim costs over time.

[39] The selection of loss trends requires, *inter alia*, the analysis of past data and the application of professional judgment in order to select trend rates that reasonably reflect the rates of change of past experience and are reasonable predictions of future expected rates of change for each coverage.

[40] For this Filing, Aviva has selected future annual loss cost trends to be equal to past trends for all coverages. As discussed above, this basis of selection of future trends effectively removes the impact of future changes in inflation from the trend analysis (to the extent it is not present in the experience), allowing it to be considered separately. Aviva based its trend selections on separate analyses for frequency and severity, consistent with prior practice.

[41] To lessen the impact of the atypical frequency experience in 2020-1 to 2022-1 during the COVID-19 lockdowns, Aviva excluded those data periods from the analysis for several coverages. Aviva also determined that the impact of COVID-19 on its experience was different than the impact of the pandemic on the industry experience.

[42] In terms of the severity trend analysis, Aviva excluded 2021-2 and 2022-1 data points for some coverages, where they appeared to be outliers and potential reflected elevated inflation.

[43] The Panel considered the methodologies and the Applicant's selected loss trends and finds that the Applicant's loss trend selections are well supported and reasonable.

E. Territory definitions

[44] The Applicant proposed significant changes to its territory rating. It applied a Generalized Additive Model (GAM) to analyze the data and develop differentials, and argued that the resultant model would more accurately capture the territorial signal.

[45] First, the Applicant proposed a change in territory definitions. In prior filings, it had used 14 territories, and now proposed to reduce that number to 10, which are contiguous and based upon postal codes. Also, while Aviva in the past applied one base rate per territory, in this Filing it proposed to adopt a single base rate by coverage with territory differentials based on their GAM.

[46] Aviva created loss cost models for each coverage using only driver related variables and vehicle related variables, in order to isolate the effect of the territory. The results of these simple models were ranked and used as input for the territory model which used data from an external party. When the data was modelled, regions that revealed similar predicted values were grouped to create the 10 contiguous territories. These defined territories were then used in the GAM.

[47] Initially in the Filing, the Applicant's methodology and results were not thoroughly explained, but this was fleshed out over a number of interrogatories posed by Eckler. The impact of this change in the rating of territories is to reduce the overall premiums by 53.9%.

[48] The CAI's submission raised a concern, one that had been raised by Eckler as well, that Aviva's modelling assigned all policies as being "urban." The Applicant explained that it was "not their intention to not rate urban/rural risks differently" and that they set the New Brunswick territories to be equal to urban for modelling based on the Government of Canada's definition. However, for the use of the results of the model, the Applicant applied different differentials for urban and rural.

[49] The Panel was satisfied with the rationale and methodology supporting the change in territory definitions and differentials. It also confirmed that the contiguous proposed territories are compliant with the Filing Guidelines. The Guidelines state that any change from the existing boundaries must be kept for a minimum of at least 3 years.

F . Generalized additive model

[50] In this Filing, Aviva also proposes to implement a refined rating plan that will increase segmentation, improve rating accuracy and market competition. Some variables would be improved, some removed and some added.

[51] The modelling exercise of the Applicant was complex and sophisticated and a number of questions were posed by Eckler, including particulars of the expected dislocation, which is quite significant.

[52] The modelling required a significant amount of data, and therefore Aviva had to look beyond the borders of New Brunswick for supplemental data. In large part, however, Atlantic Canada data was used from the period 2015 (Q1)-2020 (Q3). Modelling was done based on both frequency and severity for the BI, PD, AB, Coll and Comp coverages. For each variable, the impact of its inclusion in the model was considered and ranked, for each of the selected coverages. The Applicant's proposed differentials were most often the same or very close to the modelled differentials.

[53] Both the CAI and the Panel raised concern that gender appeared to be one of the rating variables used in the modelling. However, it was demonstrated by the Applicant that the variable was used for modelling only, so that the analysis could be adopted in other provinces where that variable is permitted. Where the use of the variable is prohibited, as in New Brunswick, the variable is not applied.

[54] Notably, the Applicant proposes to adopt credit score (known as "Responsibility Factor") as a rating variable in this Filing. Whereas the Applicant has only limited personal credit score data available to it, it considered Aggregate Credit score data that was obtained from a third party and aggregated by postal code. Based on their actual Property Insurance policy distribution, and making the assumption that 43% of policyholders will consent to its use, Aviva estimates that the introduction of credit score will decrease overall premiums by

6.5%, though off-balancing would ensure the aggregate premium would remain unchanged.

[55] The CAI in her submission raised a concern that the use of credit score as a variable has a negative impact on availability and price of insurance. Aviva argued that it proposed only a discount, not a surcharge, and that policyholders would have to provide consent to access to credit score in order for it to be used in determining their premium.

[56] The voluntary adoption of credit score as a rating variable in New Brunswick has been increasing in the last several years by most insurers. The Panel accepts that there is an apparent correlation between credit score and auto insurance risk and, in the absence of statutory prohibition, it can be a reasonable and appropriate rating variable. The Board continues to review the proposed adoption, including the processes of consent, on a case-by-case basis to ensure that policyholders are protected against unfair rating practices. In this Filing, the Panel finds that the adoption of Responsibility Factor as a rating variable, on consent, is reasonable.

[57] The Panel reviewed the multiple elements of the Applicant's GAM analysis and was satisfied that it was fair, logical, thorough and reasonable.

G. Model validation

[58] Rather than analyzing common statistical considerations of p-values and adjusted R-squared values for its models to assess the performance of its models, Aviva incorporated cross validation, observed vs. fitted loss cost graphs, lift charts and model metrics. As a result of these techniques, Aviva judged that its modelling was reasonable and appropriate, and the Panel agrees.

H. Discount / surcharges

[59] In this Filing, Aviva proposes to remove certain discounts, amend others and introduce a new discount for electric and hybrid vehicles. In addition, it seeks to align its surcharge schedule with its associated companies in the Atlantic Provinces.

[60] Many of the changes to the discounts are related to those factors being taken into account elsewhere, in the new rating variable structure.

[61] One specific change of note is the First Chance Discount, and the Applicant's proposal to change the curve for this discount to reflect the Years Licensed and Driving Record proposed differentials. The Panel reviewed the proposed change to the discount to determine whether it was compliant with the Recently Licensed Driver Rate Reduction Regulation - *Insurance Act*, Regulation 2004-140 which states:

> *Recently licensed driver credits*
>
> *4(1) An insurer, when determining the rates to be paid, shall credit driving experience without accidents or convictions in accordance with subsection (2) to a recently licensed driver with a good driving record.*
>
> *4(2) The credits, when combined with the actual driving experience of the driver, shall be an amount that totals*
>
> *(a) 6 years, if the driver*
>
> *(i) has passed a licensed driver training course, or*
>
> *(ii) has passed a driver training course elsewhere in North America that is substantially similar to a licensed driver training course, and*
>
> *(b) 3 years in all other cases.*

[62] Upon review, the Panel was satisfied that the structure of the discount did not change, only the value. The assignment of risk remains the same, and therefore the Panel concludes that the change to this discount is in compliance with the Regulations and is a reasonable change.

I. Proposed base rates and capping mechanism

[63] The multitude of changes in this Filing are expected to result in a significant degree of dislocation. Though the Applicant intends to apply capping at +25% and cupping at -10%, the impact remains material for a large sector of policyholders.

[64] While the Panel recognizes this impact, it nevertheless determines that the proposed changes in the Filing are reasonable, and that the changes in structure serve to reasonably allocate the risk to the appropriate segments. The analysis of differentials by the Applicant has been thorough and supported and the Panel sees no basis to make any changes to the proposed capping and cupping.

J. Return on equity

[65] Aviva adopted a 12.00% after-tax target ROE for the purpose of its Filing and a Premium to Surplus ratio of 2.00:1. The CAI argues that the assumption of 12% is not just and reasonable in the current market, particularly where insurers in other provinces are not receiving that level of return.

[66] The Panel was not provided with evidence that challenged the reasonableness of a 12% target after-tax ROE. While other regulators may arrive at a different conclusion in the specific circumstances of their jurisdictions, this Panel is satisfied that a target after-tax target ROE of 12% is reasonable in the circumstances. The Panel notes as well that the implied ROE with the proposed rate increase is -2.96%.

[67] The Panel reiterates that there is no benchmark for the target ROE in New Brunswick, and each application is assessed individually on a case-by-case basis after considering all of the surrounding circumstances.

4. Decision

[68] For the reasons set out above, the Panel finds the Applicant's proposed average rate level change is just and reasonable. Aviva is approved to adopt the proposed average rate change of +9.00% before capping and +7.57% after capping.

[69] The approved rates for new business and renewals will be effective on June 1, 2024.

Dated at Saint John, New Brunswick, on December 1, 2023.

Ms. Marie-Claude Doucet, Chair
New Brunswick Insurance Board

WE CONCUR:

Ms. Francine Kanhai, Board Member

Ms. Brigitte Ouellette, Board Member