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Cheryl Blundon, Board Secretary
Board of Commissioners of Public Utilities
P.O. Box 21040
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March 29, 2018

Subject: Profit and Rate Adequacy Review – Private Passenger Automobiles

Dear Ms. Blundon:

The Board has asked Oliver, Wyman Limited (Oliver Wyman) to use the most recent Newfoundland and Labrador Insurance Industry private passenger automobile experience that is available (as of June 30, 2017) and review the historic profit levels earned by the Insurance Industry for private passenger automobile business written in Newfoundland and Labrador. We present our findings in this report which includes:

- our review of the historic profit levels earned by the Insurance Industry for private passenger automobile business written in Newfoundland and Labrador
- a comparison of our estimates of the required average premium per private passenger automobile, to the actual average premium charged for each of the last five complete accident years, 2012 to 2016
- an assessment of the current level of private passenger automobile rate adequacy in the province for the 2017 accident year

We refer to each of these issues as Parts I, II, and III, respectively.

We are available at your convenience to discuss this report.

Sincerely,

Paula Elliott FCAS, FCIA

Ted Zubulake FCAS, FCIA

OLIVER WYMAN

PROFIT AND RATE ADEQUACY REVIEW- PRIVATE PASSENGER AUTOMOBILES

NEWFOUNDLAND AND LABRADOR INSURANCE INDUSTRY

29 MARCH 2018

MARSH & McLENNAN COMPANIES

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1. Part I-Summary

Introduction

The premium that insurers charge, coupled with the investment income that they earn, should provide for (a) the payment of claims and associated expenses, (b) operating expenses, and (c) a reasonable amount of profit. To the extent that the premiums charged plus investment income earned exceeds claims, claim related expenses, and operating expenses by more than what would be considered a reasonable amount of profit, the premiums charged would, in hindsight, be considered excessive. Conversely, to the extent that the premiums charged plus investment income earned does not result in what would be considered a reasonable amount of profit (after paying for claims, claim related expenses, and operating expenses), the premiums charged would, in hindsight, be considered inadequate.

Insurance industry profit levels can be estimated and measured in several ways. In this report we estimate and measure the Industry profit levels for private passenger automobile insurance in Newfoundland and Labrador on two bases, and we do so by accident year:

- Percent of Premium (POP) – profits realized as a percent of premium on a pre-tax basis
- Return on Equity (ROE) - profits realized as a percent of supporting capital[1] on an after-tax basis

The advantage of the percent of premium approach is its simplicity. For example, the consumer can readily understand that for every $100 of premium paid, $7 was retained by insurers as profit.

However, the standard approach used by insurance companies (and the investment community, in general) is to measure and report profits on an after-tax basis expressed as a percentage (return) of equity.

[1] In this report we use the terms “capital,” “equity,” and “surplus” interchangeably.

Estimated Profit Levels

We use the total of all premium actually charged by insurers in Newfoundland and Labrador for private passenger automobile insurance in each of accident years[2] 2007 to 2016, less the amount estimated for claims and all expenses in each of those years based on Industry data as of June 30, 2017, plus estimated investment income from associated cash flows and notionally attributed surplus to measure the profit levels realized by insurers in Newfoundland and Labrador, in aggregate, on two bases:

- pre-tax profit levels as a percentage of premium
- after-tax profit levels as a percentage of equity

We refer to the first basis as POP (percent of premium) and the second as ROE (return on equity)

We present a summary of our findings in Table 1.

Table 1: Estimated Profit Levels by Accident Year

	POP	ROE
Accident Year	**Pre-Tax**	**After-Tax**
2007	8%	11%
2008	12%	16%
2009	8%	11%
2010	5%	7%
2011	7%	9%
2012	1%	2%
2013	-3%	-4%
2014	4%	6%
2015	-5%	-8%
2016	-6%	-8%

We note that the Board of Commissioners of Public Utilities (the Board) guideline target profit level for private passenger automobile rate filings is an ROE of 10%, which equates to a POP of 7.1%.

[2] Accident Year claim costs and premium refer to (a) the cost of claims arising from incidents that occurred in that year and (b) premiums earned in that year. As an example of premiums earned, the premium from a 12 month policy effective on July 1, 2009 would be 50% earned in Accident Year 2009 and 50% earned in Accident Year 2010.

As can be seen from Table 1, on both bases, the Industry's realized profit levels (as we have estimated them to be) are equal to or higher than the Board's guideline from 2007 through 2009, but the realized profit levels are lower than the Board's guideline from 2010 through 2016. Of particular note is that the Industry's realized profit was negative in 2013, 2015, and 2016. The relatively lower profit levels for the more recent five accident years are the result of higher loss ratios (particularly so for 2015 and 2016) and lower investment income returns. The higher loss ratio in 2015 is, in part, due to unusually adverse weather conditions; random large losses may also be contributing to the higher loss ratios in these years.

It is important to note that in deriving our estimates of Industry profit levels for Newfoundland and Labrador private passenger automobile insurance, we have made a number of assumptions. We discuss these assumptions later in this report.

Based on these estimates, we find that, on average, the premiums charged over years 2007 to 2011, in aggregate, were more than adequate to provide for claim costs, expenses, and the Board's guideline profit provision. But over years 2012 to 2016, the premiums have proven to be inadequate, particularly years 2013, 2015 and 2016.

These findings apply to all insurance companies in the aggregate and are not applicable to any one insurance company.

We also note:

- Our findings are based on a hindsight review of the experience that has emerged and are not to suggest that insurance companies intended to achieve the resulting profit levels.

- Our findings are for the years 2007 to 2016, and are not to suggest that insurance companies have realized similar profit levels in years prior to 2007.

Comparison to the FIIP&L Report

Since 2012 the General Insurance Statistical Agency (GISA) has prepared and released a report called the "Financial Information Industry Profit and Loss Report for Private Passenger Automobiles," which we refer to as the FIIP&L Report in this report. The FIIP&L report presents ROE results by province and by calendar year for private passenger automobile, as well as

other information from which POP results can be calculated. The FIIP&L Report reflects the private passenger automobile premiums, losses, expenses, and investment income reported by insurers in their financial statements. The report also shows the amount of equity that the insurers allocated to private passenger automobile and by province. This allocated equity is used to calculate the ROE profit levels that are presented in the FIIP&L report. We present the profits levels from the FIIP&L Report in Table 2.

Table 2: Profit Levels Reported in the FIIP&L Report

	POP	ROE
Calendar Year	**Pre-Tax**	**After-Tax**
2012	3.3%	2.6%
2013	-0.5%	0.7%
2014	-11.5%	-12.5%
2015	-13.6%	-28.0%
2016	3.0%	3.1%

The FIIP&L Report profit levels differ from those that we present in Table 1, and we discuss these differences later in this report. Although the FIIP&L profit levels are different than our accident year estimates, they are consistent in that the profit levels since 2012 have been below the Board's guideline.

2. Methodology & Discussion

We arrive at our findings by comparing the total premium charged by insurers in Newfoundland and Labrador for private passenger automobile insurance in each of the years 2007 to 2016, to the total of:

A. claim and claim related expense costs we estimate insurance companies will pay on claims that occurred in each of these years

B. the operating expense costs reported by IBC (through 2011) and GISA (beginning 2012) that were incurred by insurers in each of these years

C. an estimated provision for investment income attributed as being earned on (i) the cash flow of the insurance operation and (ii) the supporting capital

A. Claim and Claim Related Expense Costs

Methodology

Our loss ratio estimates by accident year are consistent with our estimates of the ultimate loss amounts we present in the Newfoundland and Labrador Loss Trend Report as of June 30, 2017 that we prepared for the Board[3]. We apply our selected loss development factors to the Industry reported incurred loss and allocated loss adjustment expenses, add in the appropriate provision for the Health Levy, and add in a provision for unallocated claims handling expenses based on factors published by GISA.

Table 3, below, presents our estimate of the Industry loss ratios for Newfoundland and Labrador private passenger automobile, by accident year, as of June 30, 2017.[4]

[3] See Directive A. I. 2018-02 at http://www.pub.nf.ca/insurance.htm

[4] The claim costs reflected in the loss ratios are not discounted to reflect investment income earned on cash flow.

Table 3: Oliver Wyman's Loss Ratio Estimates as of June 30, 2017

Accident Year	Ultimate Loss Ratio		Accident Year	Ultimate Loss Ratio
2007	73.5%		2012	78.7%
2008	67.9%		2013	82.0%
2009	68.3%		2014	78.9%
2010	73.4%		2015	86.7%
2011	73.6%		2016	85.5%

Discussion

Table 3 shows that since 2008 the loss ratios have (with two exceptions) increased every year. The highest loss ratio, 86.7%, was incurred in 2015 and was at least in part due to unusually adverse weather conditions.

We note that our loss ratio estimates are quite close to those estimated by GISA[5], except for Accident Year 2016, as shown in Table 4.

Table 4: Comparison of GISA Loss Ratio Estimates as of December 31, 2016 and Oliver Wyman Loss Ratio Estimates as of June 30, 2017

Accident Year	GISA Estimated Loss Ratios	Oliver Wyman Estimated Loss Ratios
2007	74%	74%
2008	68%	68%
2009	69%	68%
2010	74%	73%
2011	74%	74%
2012	80%	79%
2013	84%	82%
2014	80%	79%
2015	86%	87%
2016	81%	85%

In the case of Accident Year 2016, our estimate is based on the more recent actual experience that has emerged in the first half of 2017, whereas the GISA estimate is based on the experience as of December 31, 2016. The actual experience that emerged in the first half of 2017 was more adverse than initially expected.

[5] As presented by GISA in the AUTO 1005 Exhibit.

B. Operating Expense Costs

Methodology

We use the average Industry operating expense costs as reported by IBC and GISA. We present these operating expense ratios in Table 5.

Table 5: Operating Expense Ratios

Year	Expense Ratio		Year	Expense Ratio
2007	29.7%		2012	28.1%
2008	29.6%		2013	23.3%
2009	30.3%		2014	25.0%
2010	29.5%		2015	23.9%
2011	28.1%		2016	25.7%

Discussion

Through 2011, information on insurers' operating expense costs for Newfoundland and Labrador automobile insurance was compiled, by year, by IBC through an annual survey of insurance companies, for which participation was voluntary.[6] IBC reported the Newfoundland and Labrador automobile expense ratios expressed as a percentage of premiums. The expense ratio information provided by IBC is allocated between (a) commission, (b) premium taxes and (c) all other expenses. While the commission expense ratio is specific for private passenger automobile, and the premium tax rate is the same rate for all automobile risks, the reported costs under the "all other expense" category are not specific to private passenger automobiles, but include commercial automobiles as well. As such, due to the more complex nature of some commercial automobile risks, the IBC total expense ratios may be slightly overstated for private passenger automobiles.

Since 2012, the expense costs and premiums for private passenger automobile insurance in each province are reported to GISA by each insurer. GISA compiles this information and presents it in an expense report that GISA prepares and releases for each province. Several changes and refinements were introduced for the second, 2013, report. Specifically, the 2012 expense ratio is based on net expense costs measured against net earned premiums (NEP),

[6] In 2011, IBC reports a 77% participation rate based on premium volume in its Newfoundland and Labrador expense survey.

whereas the 2013 and subsequent expense ratios are based on direct expense costs measured against direct written premiums (DWP). GISA made this change to provide a more appropriate expense ratio to use for ratemaking purposes. The expense ratio based on NEP is generally considered more appropriate for financial reporting.

Both the IBC and GISA expense reports include a "weighted average" Industry expense ratio. The "weighted average" refers to the average based on weighting the expense ratio of each insurer with its premium volume. We use these weighted average expense ratios.

As Table 5 shows, the 2013 to 2016 GISA expense ratios are lower than the 2012 GISA expense ratio. We assume that part of the decline in the expense ratio is attributed to the change in the basis for weighting the expense ratios.

C. Provision for Investment Income

Methodology

We use a weighted average (based on Newfoundland and Labrador automobile premium) of the pre-tax investment returns[7] that are reported for each insurer in their P&C-1 financial statements to estimate the investment income earned on (a) cash flows by discounting the estimated claims and adjusting expense costs and (b) supporting capital.

The investment rates that we use are as follows:

Table 6: Investment Rates[8]

Year	Pre-Tax Investment Income Rate		Year	Pre-Tax Investment Income Rate
2007	6.1%		2012	4.0%
2008	5.3%		2013	2.8%
2009	3.7%		2014	3.9%
2010	4.4%		2015	2.3%
2011	4.5%		2016	2.4%

[7] For all lines of business and all provinces.

[8] These average investment rates were calculated based on the rates reported by each individual insurer in the annual P&C-1 financial statement. This rate, as reported in the P&C-1, is calculated as the average of the net investment income earned in the calendar year, divided by the average of the total investments at the beginning of the year and the end of the year (less the investment income). The amounts presented in Table 6 are a weighted average of the investment rates reported by all carriers, weighted by each carrier's Newfoundland and Labrador automobile written premium.

We consider the average investment income earned between the time a claim occurs, and the time when the claim is finally settled and paid. We use the Industry Newfoundland and Labrador claim payment data for private passenger automobiles, by coverage, as compiled by GISA, through June 30, 2017 to estimate the average time span between claim occurrence and claim settlement to be approximately 2.3 years. As a simplifying assumption, we use this same 2.3 year assumption for all accident years.

We assume there is an average delay in the receipt of premium of three months, and take this delay into consideration in our calculations. We make no allowance for finance fee revenues collected by insurers[9].

We notionally allocate equity to Newfoundland and Labrador private passenger automobile based on the assumption that there is $1 of supporting surplus for every $2 of premium.

Discussion of Premium to Surplus Ratio

Insurance companies do not segregate their capital by province, line of business, or coverage in their financial statements; only one company-wide surplus amount is presented. Therefore, to determine the amount of investment income earned on the capital that supports private passenger automobile (and to measure private passenger automobile profit levels on an ROE basis), insurers notionally allocate their firm-wide capital to province, line of business, and coverage.

We, therefore, must also notionally allocate capital to Newfoundland and Labrador private passenger automobile. We do so by assuming there is $1 of supporting surplus for every $2 of written premium - that is, a premium to surplus ratio of 2 to 1. We make this assumption as it would be considered the “traditional” ratio for private passenger automobile and it is the ratio used by the Board in its review of rate applications.

We note that both the POP and ROE profit level estimates that we present are sensitive to this assumption. This can be seen in Table 7.

[9] If we took into consideration finance fees collected by insurers, this would increase our estimates of profit level.

Table 7: Premium to Surplus Ratios – Sensitivity Testing

	Premium to Surplus Ratio		Premium to Surplus Ratio	
	2.0	1.5	2.0	1.5
	POP	POP	ROE	ROE
Accident Year	Pre-Tax		After-Tax	
2007	8%	9%	11%	9%
2008	12%	13%	16%	12%
2009	8%	9%	11%	8%
2010	5%	6%	7%	6%
2011	7%	8%	9%	8%
2012	1%	2%	2%	2%
2013	-3%	-2%	-4%	-2%
2014	4%	5%	6%	5%
2015	-5%	-5%	-8%	-5%
2016	-6%	-6%	-8%	-6%

Table 7 shows that the profit level based on POP is slightly higher (subject to rounding differences) at a 1.5 to 1 premium to surplus ratio than at a 2 to 1 premium to surplus ratio. This is because, all else being equal, the amount of surplus carried is higher at a 1.5 to 1 ratio and this increases the investment income, which increases the ratio of the profits as a percentage of the premium base.

Table 7 also shows that when positive, profit level based on ROE is higher at 2 to 1 assumption than at the 1.5 to 1 assumption. This is because, all else being equal, as the premium to surplus ratio increases, the amount of surplus carried decreases, and this causes the measurement base to decrease, which increases the ratio of the profits as a percentage of the (lower) equity base. This same effect causes negative profit levels based on ROE to be lower (more negative) at the 2 to 1 ratio than at the 1.5 to 1 ratio.

To the extent that insurance companies actually have a relatively higher or lower amount of surplus supporting their private passenger automobile insurance business in Newfoundland and Labrador than the 2 to 1 ratio that we have assumed, the POP and ROE profit levels will be higher or lower depending on the circumstances. As discussed later in this report, the premium to surplus ratios that have been reported for Newfoundland and Labrador in the FIIP&L Report are about 1.60 to 1 – except for the 2015 year where the reported ratio is 2.89[10].

[10] We are not aware of the reason for this high figure for 2015.

3. Comparison to the FIIP&L Report

Since 2012, GISA has prepared and released a report called the "Financial Information Industry Profit and Loss Report for Private Passenger Automobiles," (FIIP&L Report). The FIIP&L report presents ROE results by province and by calendar year for private passenger automobile, as well as other information from which POP results can be calculated. The FIIP&L Report reflects the private passenger automobile premiums, losses, expenses, and investment income that are reported by insurers in their financial statements. The report also shows the amount of equity that the insurers allocated to private passenger automobile and by province. This allocated equity is used to calculate the ROE profit levels that are presented in the FIIP&L report.

A. Reported Industry Results by Year

The following table presents a comparison of the Oliver Wyman estimates of the POP and ROE profit levels to the POP and ROE profit levels reported in the FIIP&L Exhibits.

Table 8: Comparison of POP and ROE Profit Levels

	POP (Pre-Tax)		ROE (After-Tax)	
Year	**Oliver Wyman**	**FIIP&L**	**Oliver Wyman**	**FIIP&L**
2012	1%	3%	2%	3%
2013	-3%	-1%	-4%	1%
2014	4%	-12%	6%	-13%
2015	-5%	-14%	-8%	-28%
2016	-6%	3%	-8%	3%

As Table 8 shows, the POP and ROE profit levels estimated by Oliver Wyman and as reported in the FIIP&L Report differ, and rather significantly for 2015. These differences can be attributed to differences in what the profit levels represent and how they are calculated.

- GISA's FIIP&L Report presents profits (and other financial results) on what is referred to as a calendar year basis. On a calendar year basis, losses represent the claim payments made during the calendar year, plus the change in the loss reserves carried by insurers from the beginning of the calendar year to the end of the calendar year. Calendar year results do not change after a calendar year is complete. Any changes in loss estimates following the close of a calendar year are reflected in the results for the calendar year in which the loss estimates are changed. This is different from the accident year results we present in this report, in which changes in loss estimates are

matched to the year in which the loss occurred, regardless as to when the change in estimate is recorded.

- The loss estimates that underlie the FIIP&L calendar year results reflect the loss reserves actually booked by the insurers as reported to the Office of the Superintendent of Financial Institutions (OSFI) in the P&C-1 Annual Filings. Our accident year loss estimates represent our estimate of the reserve needs of insurers, in aggregate.

- The calendar year loss ratios that underlie the FIIP&L calendar year profit results reflect the *calendar year net (of reinsurance) loss amounts and the net (of reinsurance) earned premiums*. The accident year loss ratio estimates that we present, as well as those presented by GISA in its AUTO 1005 Exhibits, are based on the *direct loss amounts by accident year* and *direct earned premiums*; there is no consideration of reinsurance arrangements. In the following table we compare our loss ratio estimates to the loss ratios in the FIIP&L Report:

Table 9: Comparison of FIIP&L Calendar Year Net Loss Ratios as of 12/31/2016 and Oliver Wyman Accident Year Direct Loss Ratio Estimates as of 6/30/2017

Year	FIIP&L Estimated Net Calendar Year Loss Ratios	Oliver Wyman Estimated Direct Accident Year Loss Ratios
2012	79%	79%
2013	80%	82%
2014	94%	79%
2015	92%	87%
2016	74%	85%

- The higher calendar year net of reinsurance loss ratios for 2014 and 2015 in the FIIP&L Report contribute to the lower profit levels presented in the FIIP&L compared to our profit estimates for the 2014 and 2015 accident years; the lower loss ratio for calendar year 2016 in the FIIP&L Report contributes to the higher profit level than we estimate for accident year 2016.

- As we have noted, the allocation of surplus to the private passenger automobile line of business in each province is a key driver in the measurement of the profit levels. We allocate surplus by assuming that there is one dollar of surplus for every two dollars of premium. This 2 to 1 premium to surplus ratio is consistent with the Board's profit provision calculation guideline. The implied premium to surplus ratios presented in the FIIP&L Report are based on an allocation of surplus that each individual insurer

performs. The allocation methodology for the FIIP&L Report is not prescribed; each insurer applies its own method for allocating its company-wide surplus to private passenger automobile, by province. Further, the insurers allocate the surplus that they carry, as opposed to allocating the level of surplus that is *needed* to support the risk associated with private passenger automobile insurance. The implied premium to surplus ratios in the FIIP&L Reports are as follows:

Table 10: FIIP&L Premium to Surplus Ratios

Year	Premium to Surplus Ratio
2012	1.43
2013	1.65
2014	1.65
2015	2.89
2016	1.61

As Table 10 shows, except for the 2015 year, the reported premium to surplus ratios are reasonably consistent, averaging 1.60 per year. Obviously, the 2015 year is an outlier. We do not know the reason for this anomaly, but it causes us to question the accuracy of each of the premium to surplus ratios. We also note that had the implied premium to surplus ratio for the 2015 year instead been 1.60, then we estimate that FIIP&L's calculated ROE would increase from -28% to about -15%, which is much closer to our estimate.

- There are differences in the amount of investment income assumed to be earned that is associated with private passenger automobile insurance in Newfoundland and Labrador. These differences are, in turn, due to the following:

  - As discussed above, there are differences in the amount of surplus that is notionally allocated to Newfoundland and Labrador private passenger automobile insurance. These differences result in there being more surplus allocated to Newfoundland and Labrador private passenger automobile in the FIIP&L Report than implied by our 2 to 1 premium to surplus assumption (except for 2015). All else equal, the more surplus that is allocated, the more investment income that is earned.

  - We suspect, but are not certain, that we apply a different pre-tax investment rate than what underlies the FIIP&L profit levels. We apply a rate of 4.0% for 2012; 2.8%

for 2013; 3.9% for 2014; 2.3% for 2015; and 2.4% for 2016. It is not clear what pre-tax investment income rates are reflected in FIIP&L profit levels.

  - There is likely a difference between the time period over which we assume investment income is earned on the premiums/reserves that are held and the corresponding investment income time period that underlies the FIIP&L profit levels. We assume an investment period of 2.3 years; it is not clear what the average time period is reflected in the FIIP&L Report. If it is a shorter time period than we assume, the FIIP&L profit levels would include less investment income.

- The expense ratios we assume for the years 2012 to 2016[11] at 28.1%, 26.5%, 25.0%, 23.9% and 25.7%[12], respectively, are based on the GISA expense report that provides the direct expense costs on a weighted average basis with direct written premium used for the weights. The FIIP&L profit levels are calculated using expense ratios based on net earned premiums. It is our opinion that since we are performing a hindsight review of the profit achieved from a "ratemaking" perspective, that the *weighted average direct written premium* based expense ratio is more appropriate than the *net earned premium* based expense ratio[13].

- We apply the Newfoundland and Labrador (federal and provincial) income tax rates in estimating the ROE profit level (which is on an after-tax basis): 34.6% (2007); 33.5% (2008), 33.0% (2009), 32.0% (2010), 30.5% (2011), 29.0% (2012-2015), and 30.0% (2016). The implied tax rates in the FIIP&L Report are different: 46% (2012), 34% (2014), 29% (2015), and 37% (2016).[14]

These differences contribute to the differences between the Industry profit levels presented in the FIIP&L Reports and our estimates that we present in this report.

[11] For 2012, GISA's expense ratio was presented based on a percentage of net earned premiums.

[12] The FIIP&L expense ratios are generally slightly higher than the expense ratios we assume, since the net earned premium is generally less than the direct earned premium. For example, the FIIP&L expense ratio for 2016 (as a percentage of net earned premium) is 26.8%; whereas our provision is 25.7%.

[13] Our general findings are not material to this assumption. Other bases for the expense ratio would also be appropriate (such as the variable expenses as a percentage of the DWP and fixed expenses as a percentage of the NEP), but GISA only presents the *weighted* expense average as a percentage of the DWP.

[14] For 2013, the reported income tax credit is greater than the reported net income loss.

B. Reported Industry Results – 2016

As presented in the FIIP&L Report data for private passenger automobiles in 2016:

- The reported total *net earned premium* is $316.6 million.
- The reported total *net* incurred losses and claim adjustment related expenses are $235.6 million, or 74.4% of net earned premiums.
- The reported total operating expenses is $84.8 million, or 26.8% of net earned premiums.
- The reported underwriting loss (net earned premium less claim costs less operating expenses) is $3.8 million, or 1.2% of net earned premiums.
- The reported total investment income is $13.2 million, or 4.2% of net earned premiums.
- The reported pre-tax income (including investment income and other revenues) is $9.6 million, or approximately 3.0% of net earned premiums.
- The reported net after-tax income (including investment income and other revenues) is $6.0 million, or approximately 1.9% of net earned premiums.
- The reported total equity is $196 million.
- The reported total average after-tax ROE is 3.1%.

4. Sensitivity of Findings

Earlier in this report we discuss the sensitivity of our profit level estimates to the assumed premium to surplus ratio.

Our profit level estimates are also sensitive to the assumed investment income rates. For example, for accident year 2016, if the average pre-tax return on investment income rate was 1 percentage point higher (3.4% instead of 2.4%), the estimated ROE profit level would increase by approximately 3.0 percentage points (assuming a 2 to 1 premium to surplus ratio). If the average return was one percentage point lower (1.4% instead of 2.4%), the estimated ROE profit level would decrease by approximately 3.0 percentage points.

Our profit level estimates are also affected by the assumed income tax rates. For example, for accident year 2016, if the average income tax rate was 1 percentage point higher (31% instead of 30%), the estimated ROE profit level would reduce by approximately 0.1 percentage points (assuming a 2 to 1 premium to surplus ratio). If the average income tax rate was one percentage point lower (29% instead of 30%) the estimated ROE profit level would increase by approximately 0.1 percentage points.

5. Reasonableness of Profit Levels

There are varying views on reasonable POP and ROE profit levels for insurers, and how to compute an ROE for a particular province, line of business, and insurance coverage. To put the private passenger automobile line of business profit levels that we present in this report in some perspective, we present the following information.

- The Newfoundland and Labrador Board rate filing guidelines state that a reasonable target ROE for insurers is 10.0%, computed based on a premium to surplus ratio of 2 to 1. This is approximately equivalent to a POP of 7.1% at Newfoundland and Labrador's income tax rate of 30%.

- The New Brunswick Board rate filing guidelines *previously* directed insurers to provide rate indications based on ROEs of 10%, 12%, and 14%, computed based on a premium to surplus ratio of 2 to 1. These are approximately equivalent to POPs of 7.0%, 8.5%, and 9.9%, respectively, at New Brunswick's income tax rate of 29%. However, the current New Brunswick guidelines do not provide any specific target profit levels.

- The Financial Services Commission of Ontario (FSCO) automobile rate filing guidelines were updated in 2014, and no longer have a target ROE. Instead, FSCO has established a guideline POP[15] of 5% to be reasonable. The FSCO target profit *provisions* are not comparable to the target profit levels of other provinces noted above that are based on ROE. However, based on a 3.0% pre-tax investment return on capital[16] (for example) and a 2 to 1 premium to surplus ratio (for example), FSCO's 5% guideline POP is equivalent to an ROE of approximately 9.5%.

- Like FSCO, the Alberta Automobile Insurance Board has a benchmark POP profit provision. The Alberta POP benchmark is 7% for rate filings. Based on a 3.0% pre-tax investment return (for example) and a 2 to 1 premium to surplus ratio, the Board's 7% guideline is equivalent to an ROE of approximately 12.4%.

[15] We distinguish between profit level and profit provision. Profit level represents the total profit (return) either targeted or realized by insurance companies and includes all sources of profit: underwriting profit, investment income earned on premium that is collected (cash flow), and earned investment income attributed to the supporting equity (capital). Profit provision represents the provision that is either included in computing the rate level indication or is implied by the proposed or approved rate level, and reflects underwriting profit and investment income earned on premium that is collected (cash flow) only.

[16] FSCO's minimum pre-tax investment return rate on losses is 2.25%; and the rate of return insurers typically assume on losses (i.e., cash flow) is typically less than on the surplus.

- Insurers generally take the position that a target ROE of 10% is too low and that a target of at least 15% is more appropriate.

- Insurance companies also generally take the position that a 2 to 1 premium to surplus ratio is too high; citing OSFI minimum capital requirements, they find lower premium to surplus ratios such as 1.5 to 1 or lower to be more appropriate.

6. Part II- Required Average Premium versus Actual Average Premium

We present in this section a hindsight review of the *required* average premium versus the *actual* average premium for each of the last five accident years, 2012 to 2016, for private passenger automobiles in Newfoundland and Labrador. Our required premium estimates[17] are based on:

(i) our estimate of the ultimate claim costs and claim related expenses based on the Industry aggregated experience as of June 30, 2017

(ii) the Industry average expense ratio as provided by GISA for each year

(iii) a 10% after-tax return on equity provision for profit based on a notionally attributed capital level to premiums of 2 to 1

(iv) investment income from associated cash flows and notionally attributed capital realized by insurers, in aggregate, on a per vehicle basis of 2.8%[18].

The following Table 11 presents the summary of these results. The details of our calculations are presented in Appendix A, Pages 1 to 5.

Table 11: Adequacy of Premiums

Accident Year		2012	2013	2014	2015	2016
Required Average Premium	(1)	$ 1,121	$ 1,115	$ 1,126	$ 1,231	$ 1,281
Actual Average Premium	(2)	$ 1,014	$ 1,032	$ 1,054	$ 1,075	$ 1,102
$ difference =(2)-(1)	(3)	$ (107)	$ (83)	$ (72)	$ (156)	$ (179)
% difference = (3)/(2)	(4)	-10.6%	-8.0%	-6.8%	-14.5%	-16.2%

[17] Our calculations are performed on a per coverage basis.

[18] The 2.8% is the Board's Guideline minimum rate.

It should be noted that these findings apply to all insurance companies in the aggregate and may not be applicable to any one insurance company as results vary from insurer to insurer.

Our findings are based on a hindsight review of the experience that has emerged and are not to suggest that insurance companies intended to achieve these results.

Required Average Premium Estimate

To determine the required average premium for each accident year by individual coverage, we perform the following calculations:

- We estimate the average ultimate claim and allocated claim handling expense per earned vehicle using our estimates as presented in our Private Passenger Loss Trend Report as of June 30, 2017. We include with this provision an allowance for unallocated loss adjustment expenses (ULAE) using the factors provided by GISA. We include the Health Levy provision using the amount per car reported by GISA for each of the years 2012 to 2016.

- Using the Industry experience as of June 30, 2017 we determine the claim payment pattern for each coverage, assuming loss amounts are paid, on average, in the middle of the year. As a simplifying assumption, we assume this same claim payment pattern for 2012 to 2016. Using this claim payment pattern, and the Board's minimum pre-tax return on investment rate of 2.8%[19], we calculate a discount factor for each coverage that we multiply by the average loss and adjustment expense cost per car described in the step above.

- We include a provision for the variable expenses, commission and premium taxes, based on the provisions reported in GISA's expense exhibits discussed in Part I of this report.[20]

  The commission expense ratios as a percentage of premium are 16.1%, 13.0%, 12.9%, 12.9%, and 12.2% for 2012 to 2016, respectively.

[19] This rate of 2.8% is in-line with the actual investment returns achieved, on average, over 2012 to 2016 for insurers as described in Part I.

[20] As discussed earlier, the 2012 differs from the 2013 to 2016 expense ratios in that the 2012 is based on net expense costs as a percentage of the net earned premiums, whereas the 2013 to 2016 are based on the direct expense costs as a percentage of the direct written premiums.

The prescribed premium tax rate increased from 4% to 5% on July 1, 2016. However, the reported premium taxes in the GISA exhibit are less than these prescribed rates. We use the reported GISA premium tax rates on the premise that the total GISA expense ratio is accurate.

- We include a dollar amount provision for all general expenses (everything except commissions and premium taxes) based on the costs reported by insurers to GISA. Our calculation is as follows:

Table 12

Accident Year		2012	2013	2014	2015	2016
Commissions %	(1)	16.1%	13.0%	12.9%	12.9%	12.2%
Premium Taxes & fees%	(2)	3.8%	3.1%	3.6%	3.3%	4.4%
General Expenses %	(3)	8.2%	7.2%	8.5%	7.7%	9.1%
Total Expense Ratio	(4)	28.1%	23.3%	25.0%	23.9%	25.7%
Average Written Premium	(5)	$ 1,018	$ 1,045	$ 1,063	$ 1,088	$ 1,116
Avg General Expense/Vehicle	(6)	$ 83	$ 75	$ 90	$ 84	$ 102
=(5)*(3)						

The average cost per vehicle is distributed proportionately across all coverages based on the premium volume by coverage.

- We assume there is, on average, a three month delay in receiving premiums. This is based on an assumption that roughly 1/3 of vehicles pay premiums monthly; and the remainder within 2 months. However, we are unable to confirm the degree to which finance fees have been considered in the expense data reported to GISA - as some insurers reduce their general expense ratios by the net finance fees collected and others do not.[21]

- We include a provision for profit based on the Board's guideline after-tax ROE of 10%, a notionally allocated provision of premium to capital of 2 to 1, the income tax rates in effect each calendar year, and the minimum pre-tax return on investment rate prescribed by the Board of 2.8%.

[21] Our general findings are not affected by this issue.

- Based on these assumptions and the 10% after-tax ROE target, the provision for profit as a percentage of premium that we include is: 5.64% for 2012 to 2015; and 5.74% for 2016.

Based on these assumptions, we calculate the required average premium for each coverage, for each of the five accident years, 2012 to 2016. We calculate the required average premium across all coverages combined for each for the five accident years by taking into consideration the number of vehicles that purchased each of the coverages.

Actual Average Premium Estimate

We use the total of all premiums charged by insurers in the Province of Newfoundland and Labrador for private passenger automobile insurance in each of the years 2012 to 2016 as reported by GISA, to calculate the actual average earned premium for each coverage.

The Difference Between the Actual and Required Average Premium

The difference we present above between the actual average premium and the required average premium, by accident year, represents an average across all coverages. This difference, on average, is the hindsight shortfall in the actual premium needed to achieve an assumed target after-tax ROE of 10% at a 2 to 1 premium to surplus ratio. Our findings are sensitive to both the assumed target after-tax ROE and the assumed surplus level.

If a target after-tax ROE higher than 10% is instead assumed, the premium shortfall would be greater; and if a target after-tax ROE lower than 10% is instead assumed, the premium shortfall would be less. As well, if the assumed premium to surplus ratio is lowered (e.g., 1.5 to 1), then the premium shortfall would be greater; and if the assumed premium to surplus ratio is higher (e.g., 2.5 to 1), then the premium shortfall would be less.

In the attached Appendix A we present our summary worksheets for each accident year that detail our assumptions and calculations by individual coverage. Generally, all coverages exhibit a deficiency, with TPL exhibiting the largest deficiency.

7. Part III-Current Rate Level Adequacy

In this section of our report, we estimate the current rate level adequacy for the 2017 accident year.

With the caveat that premium and claim cost forecasts for the 2017 accident year are subject to uncertainty, we make the following calculations and assumptions:

- The average written premiums over the latest three fiscal years (2014/15, 2015/16 and 2016/17) has increased by approximately 2.5% each year: $1,073, $1,102, and $1,127, respectively.

- The combination of the approved rate changes as of December 31, 2017 including the rate filings for changes to the CLEAR rate group table, is an overall rate level change of approximately +2.6% for 2017 over 2016.

- The average written premium for calendar year 2016 is $1,116. We estimate the average written premium for 2017 is $1,145 (=$1,116 * 1.026), and roughly estimate the average earned premium for 2017 to be $1,131.

- We determine the ultimate claim costs for each of the three fiscal accident years: July 1, 2014 to June 30, 2015, July 1, 2015 to June 30, 2016, and July 1, 2016 to June 30, 2017. We project the estimated claim costs, including loss adjustment expenses, for these three fiscal accident years (2014/15, 2015/16 and 2016/17) to the July 1, 2017 cost level, the middle of Accident Year 2017.

- Future claim costs will increase (trend) at an average annual rate of +4.2% based on our recent review of claim experience through to June 30, 2017 for the Board. (We trend claim costs by individual coverage.)

- As presented in Appendix B, based on these loss trend assumptions and our estimate of the average earned premium for 2017, our estimate of the Accident Year 2017 loss ratio underlying our estimates of the trended loss ratios for each of fiscal accident years 2014/15, 2015/16 and 2016/17 are 83.8%, 87.9% and 85.5%, respectively. The following Table 13 presents these loss ratio calculations.

Table 13: Estimated Loss Ratios for Accident Year 2017

Fiscal Accident Year ending June 30th		2014/2015	2015/2016	2016/2017
Projected Loss Cost/vehicle to July 1, 2017	(1)	$ 947	$ 994	$ 967
Estimated 2017 Average Earned Premium	(2)	$ 1,131	$ 1,131	$ 1,131
Loss & Loss Adjustment Expense Ratio	(3)=(1)/(2)	83.8%	87.9%	85.5%

- We weight the trended (projected) loss ratios for fiscal accident years 2014/15, 2015/16, and 2016/17 by 20%, 30%, and 50%, respectively. Based on these weights, applied to fiscal accident years 2014/15, 2015/16 and 2016/17 loss ratios of 83.8%, 87.9% and 85.5%, respectively, we estimate the Accident Year 2017 loss ratio to be 85.9%[22].

- We assume a Health Levy per vehicle cost of $26.49 for 2017 as provided by Board staff, and include this fee in these loss ratios noted above.

- We assume an investment return for 2017 of 2.9% - the average return over the last three years (2014 to 2016) for insurers in Newfoundland and Labrador.

- We assume the GISA 2016 variable expense ratio will apply in 2017, but increase this by 0.5 percentage points for the change in the premium tax rate effective July 1, 2016.

- We assume the general expense costs of $102 for 2016 (as based on the GISA expense exhibit) will increase at an annual rate of 1.7% in line with recent CPI in Newfoundland and Labrador.

- A target after-tax return on equity of 10% and a premium to surplus ratio of 2 to 1, the Board's Guidelines.

- The 2017 corporate income tax rate, 30%, applies to all insurers in Newfoundland and Labrador.

[22] An alternative weight of 33.33% to each year would result in a similar weighted loss ratio of 85.9%.

Combining our projected Accident Year loss ratio of 85.9% with our selected provision for investment income, and operating expenses described above, we estimate the resulting Industry after-tax ROE for Accident Year 2017 to be -9%.

The allocation of weights to the historical accident year experience is a matter of judgment. However, even under alternate weights the Industry profit level in 2017 is expected to be less (i.e., a larger loss) than that of 2015 and 2016, due to the growth in claims cost exceeding the growth in premiums.

8. Final Comments

Due to the nature of insurance, the profits actually earned by insurance companies on policies issued during a particular year cannot be known with certainty for several years (until all claims are settled).

Our findings are based on averages and aggregated data, and do not apply to any individual insurer.

For reasons stated in this report, our findings for accident years 2007 to 2016 will not directly tie to the profit levels reported by the insurance industry in the FIIP&L Reports.

Our findings for the years 2007 to 2016 are based on a hindsight review of the experience that has emerged and are not to suggest that insurance companies intended to achieve the resulting profit levels. And, our findings are not intended to suggest that insurance companies have realized similar profit levels in years prior to 2007.

Our findings for the year 2017 is based on partial data (up to June 30, 2017) and the actual number of claims that will emerge and the cost of settling those claims may be materially different than we estimate.

9. Distribution and Use

- This report was prepared for the sole use of the Newfoundland and Labrador Board of Commissioners of Public Utilities (Board). All decisions in connection with the implementation or use of advice or recommendations contained in this report are the sole responsibility of the Board.

- Oliver Wyman's consent to any distribution of this report (whether herein or in the written agreement pursuant to which this report has been issued) to parties other than the Board does not constitute advice by Oliver Wyman to any such third parties and shall be solely for informational purposes and not for purposes of reliance by any such third parties. Oliver Wyman assumes no liability related to third party use of this report or any actions taken or decisions made as a consequence of the results, advice or recommendations set forth herein. This report should not replace the due diligence on behalf of any such third party.

- This report is designed and intended solely for the Board's internal use, provided that the Board may distribute a copy of this report to any third party properly requesting such information through a channel established by the Board or pursuant to applicable freedom of information laws, provided that in the case of freedom of information law requests, the Board shall first inform Oliver Wyman of such request in writing so that Oliver Wyman may, in its reasonable discretion, contest such request.

10. Consideration of Limitations

- For our review, we relied on data and information available from GISA and Board staff without independent audit. Though we have reviewed the data for reasonableness and consistency, we have not audited or otherwise verified this data. It should also be noted that our review of data may not always reveal imperfections. We have assumed that the data provided is both accurate and complete. The results of our analysis are dependent on this assumption. If this data or information is inaccurate or incomplete, our findings and conclusions may need to be revised.

- Our conclusions are based on an analysis of the data and on the estimation of the outcome of many contingent events. Future costs were developed from the historical claim experience and covered exposure, with adjustments for anticipated changes. Our estimates make no provision for extraordinary future emergence of new classes of losses or types of losses not sufficiently represented in historical databases or which are not yet quantifiable.

- While this analysis complies with applicable Actuarial Standards of Practice and Statements of Principles, users of this analysis should recognize that our projections involve estimates of future events, and are subject to economic and statistical variations from expected values. We have not anticipated any extraordinary changes to the legal, social, or economic environment that might affect the frequency or severity of claims. For these reasons, no assurance can be given that the emergence of actual losses will correspond to the projections in this analysis.

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Newfoundland and Labrador- Private Passenger Auto
Retrospective Review- Industry-wide Average
Accident Year 2016 as of June 30, 2017

Coverage	Cars Earned (1)	Premiums Earned (2)	Ultimate Loss & ALAE Cost/Car (3)	ULAE Factor (4)	Claim Payment Pattern Factor (5)	Delay in Receiving Premiums (6)	General Expense (7)	Premium Tax (8)	Commission Expense (9)	After Tax 10% ROE Profit Provision (10)	Estimated Required Average Premium (11)	Actual Average Earned Premium (12)	Excess or Deficiency/Car (13)
Bodily Injury	325,756		$ 396.75	1.103	0.897	1.007	$ 46.44	4.4%	12.2%	5.74%	$ 570.42		
Property Damage	325,756		$ 103.95	1.103	0.977	1.007	$ 13.25	4.4%	12.2%	5.74%	$ 162.72		
Health Levy	325,756		$ 26.10	1.000	0.986	1.007		4.4%	12.2%	5.74%	$ 33.44		
TPL	325,756	210,171,749					$ 59.68				$ 766.59	$ 645.18	$ (121.40)
Accident Benefits	306,423	22,026,241	$ 56.30	1.103	0.940	1.007	$ 6.90	4.4%	12.2%	5.74%	$ 84.81	$ 71.88	$ (12.92)
Uninsured Auto	326,240	6,165,286	$ 18.76	1.103	0.940	1.007	$ 2.30	4.4%	12.2%	5.74%	$ 28.26	$ 18.90	$ (9.37)
Collision	251,489	73,642,909	$ 208.22	1.103	0.988	1.007	$ 26.85	4.4%	12.2%	5.74%	$ 329.77	$ 292.83	$ (36.94)
Comprehensive	263,786	37,421,469	$ 101.34	1.103	0.983	1.007	$ 13.00	4.4%	12.2%	5.74%	$ 159.72	$ 141.86	$ (17.86)
All Perils	6,399	2,631,337	$ 311.83	1.103	0.989	1.007	$ 40.22	4.4%	12.2%	5.74%	$ 494.03	$ 411.18	$ (82.85)
Specified Perils	6,785	316,448	$ 16.38	1.103	0.983	1.007	$ 2.10	4.4%	12.2%	5.74%	$ 25.81	$ 46.64	$ 20.83
Underinsured Motorists	298,945	6,523,288	$ 9.05	1.103	0.897	1.007	$ 1.06	4.4%	12.2%	5.74%	$ 13.01	$ 21.82	$ 8.81
Total- Weighted Average		358,898,726			0.943		$ 101.54				$ 1,280.77	$ 1,101.74	$ (179.03)

Excess or Deficiency as % of Actual Premium -16.2%

Assumptions

ROI pre Tax	2.80%	*Minimum Rate Prescribed by Board*
Income Tax Rate	30.0%	*Combined Corporate Federal and Newfoundland and Labrador rate*
Delay in premiums	3 mths	*Assumed*

Expenses- as per GISA; assume General are flat cost per vehicle
Premium and exposure data- as per GISA Reported data
Health Levy and ULAE- as per GISA published factors
Claims Payment factor- based on appr 3 year avg payment pattern as of 2017-1; assuming mid year payment
Note- no recognition of finance fee payment plan additional revenues or delay
Column (11)={ (3)*(4)*(5)*(6) +(7)}/{1-((8)+(9)+(10))}
Column (13)=(12)-(11)

Oliver, Wyman Limited

Newfoundland and Labrador- Private Passenger Auto
Retrospective Review- Industry-wide Average
Accident Year 2015 as of June 30, 2017

Coverage	Cars Earned (1)	Premiums Earned (2)	Ultimate Loss & ALAE Cost/Car (3)	ULAE Factor (4)	Claim Payment Pattern Factor (5)	Delay in Receiving Premiums (6)	General Expense (7)	Premium Tax (8)	Commission Expense (9)	After Tax 10% ROE Profit Provision (10)	Estimated Required Average Premium (11)	Actual Average Earned Premium (12)	Excess or Deficiency/Car (13)
Bodily Injury	320,328		$ 413.33	1.078	0.889	1.007	$ 39.40	3.3%	12.9%	5.64%	$ 562.32		
Property Damage	320,328		$ 108.63	1.078	0.978	1.007	$ 11.39	3.3%	12.9%	5.64%	$ 162.53		
Health Levy	320,328		$ 27.17	1.000	0.986	1.007		3.3%	12.9%	5.64%	$ 34.59		
TPL	320,328	203,050,442					$ 50.79				$ 759.44	$ 633.88	$ (125.56)
Accident Benefits	298,695	21,268,084	$ 63.01	1.078	0.935	1.007	$ 6.31	3.3%	12.9%	5.64%	$ 90.10	$ 71.20	$ (18.90)
Uninsured Auto	321,265	6,220,866	$ 15.89	1.078	0.935	1.007	$ 1.59	3.3%	12.9%	5.64%	$ 22.72	$ 19.36	$ (3.36)
Collision	245,882	67,545,958	$ 202.88	1.078	0.986	1.007	$ 21.44	3.3%	12.9%	5.64%	$ 306.05	$ 274.71	$ (31.34)
Comprehensive	259,657	37,422,619	$ 93.63	1.078	0.983	1.007	$ 9.87	3.3%	12.9%	5.64%	$ 140.87	$ 144.12	$ 3.25
All Perils	5,916	2,300,522	$ 309.21	1.078	0.986	1.007	$ 32.67	3.3%	12.9%	5.64%	$ 466.24	$ 388.87	$ (77.37)
Specified Perils	6,850	322,088	$ 14.50	1.078	0.983	1.007	$ 1.53	3.3%	12.9%	5.64%	$ 21.81	$ 47.02	$ 25.21
Underinsured Motorists	272,712	6,081,678	$ 5.34	1.078	0.889	1.007	$ 0.51	3.3%	12.9%	5.6%	$ 7.27	$ 22.30	$ 15.03
Total- Weighted Average		344,212,256			0.937		$ 83.80				$ 1,230.63	$ 1,074.56	$ (156.06)

Excess or Deficiency as % of Actual Premium -14.5%

Assumptions

ROI pre Tax 2.80% *Minimum Rate Prescribed by Board*
Income Tax Rate 29.0% *Combined Corporate Federal and Newfoundland and Labrador rate*
Delay in premiums
Expenses- as per GISA; assume General are flat cost per vehicle
Premium and exposure data- as per GISA Reported data
Health Levy and ULAE- as per GISA published factors
Claims Payment factor- based on appr 3 year avg payment pattern as of 2017-1; assuming mid year payment
Note- no recognition of finance fee payment plan additional revenues or delay
Column (11)={ (3)*(4)*(5)*(6) +(7)}/{1-((8)+(9)+(10))}
Column (13)=(12)-(11)

Oliver, Wyman Limited

Newfoundland and Labrador- Private Passenger Auto
Retrospective Review- Industry-wide Average
Accident Year 2014 as of June 30, 2017

Coverage	Cars Earned (1)	Premiums Earned (2)	Ultimate Loss & ALAE Cost/Car (3)	ULAE Factor (4)	Claim Payment Pattern Factor (5)	Delay in Receiving Premiums (6)	General Expense (7)	Premium Tax (8)	Commission Expense (9)	After Tax 10% ROE Profit Provision (10)	Estimated Required Average Premium (11)	Actual Average Earned Premium (12)	Excess or Deficiency/Car (13)
Bodily Injury	313,717		$ 354.37	1.082	0.887	1.007	$ 40.82	3.6%	12.9%	5.64%	$ 493.61		
Property Damage	313,717		$ 102.95	1.082	0.979	1.007	$ 13.08	3.6%	12.9%	5.64%	$ 158.16		
Health Levy	313,717		$ 26.10	1.000	0.986	1.007		3.6%	12.9%	5.64%	$ 33.36		
TPL	313,717	198,636,478					$ 53.90				$ 685.13	$ 633.17	$ (51.96)
Accident Benefits	288,993	21,052,159	$ 50.80	1.082	0.936	1.007	$ 6.17	3.6%	12.9%	5.64%	$ 74.61	$ 72.85	$ (1.76)
Uninsured Auto	315,957	5,980,847	$ 14.78	1.082	0.936	1.007	$ 1.80	3.6%	12.9%	5.64%	$ 21.70	$ 18.93	$ (2.77)
Collision	239,680	61,281,304	$ 189.32	1.082	0.989	1.007	$ 24.31	3.6%	12.9%	5.64%	$ 293.96	$ 255.68	$ (38.28)
Comprehensive	254,417	35,680,190	$ 91.23	1.082	0.983	1.007	$ 11.65	3.6%	12.9%	5.64%	$ 140.83	$ 140.24	$ (0.58)
All Perils	5,318	1,974,987	$ 287.31	1.082	0.988	1.007	$ 36.84	3.6%	12.9%	5.64%	$ 445.47	$ 371.37	$ (74.10)
Specified Perils	7,143	327,954	$ 23.35	1.082	0.983	1.007	$ 2.98	3.6%	12.9%	5.64%	$ 36.04	$ 45.91	$ 9.87
Underinsured Motorists	258,676	5,697,502	$ 2.32	1.082	0.887	1.007	$ 0.27	3.6%	12.9%	5.64%	$ 3.23	$ 22.03	$ 18.79
Total- Weighted Average		330,631,420			0.940		$ 90.33				$ 1,125.54	$ 1,053.92	$ (71.63)

Excess or Deficiency as % of Actual Premium -6.8%

Assumptions

ROI pre Tax 2.80% *Minimum Rate Prescribed by Board*
Income Tax Rate 29.0% *Combined Corporate Federal and Newfoundland and Labrador rate*
Delay in premiums
Expenses- as per GISA; assume General are flat cost per vehicle
Premium and exposure data- as per GISA Reported data
Health Levy and ULAE- as per GISA published factors
Claims Payment factor- based on appr 3 year avg payment pattern as of 2017-1; assuming mid year payment
Note- no recognition of finance fee payment plan additional revenues or delay
Column (11)={ (3)*(4)*(5)*(6) +(7)}/{1-((8)+(9)+(10))}
Column (13)=(12)-(11)

Oliver, Wyman Limited

Newfoundland and Labrador- Private Passenger Auto
Retrospective Review- Industry-wide Average
Accident Year 2013 as of June 30, 2017

Coverage	Cars Earned (1)	Premiums Earned (2)	Ultimate Loss & ALAE Cost/Car (3)	ULAE Factor (4)	Claim Payment Pattern Factor (5)	Delay in Receiving Premiums (6)	General Expense (7)	Premium Tax (8)	Commission Expense (9)	After Tax 10% ROE Profit Provision (10)	Estimated Required Average Premium (11)	Actual Average Earned Premium (12)	Excess or Deficiency/Car (13)
Bodily Injury	307,588		$ 380.87	1.087	0.887	1.007	$ 36.20	3.1%	13.0%	5.64%	$ 520.11		
Property Damage	307,588		$ 104.87	1.087	0.979	1.007	$ 10.99	3.1%	13.0%	5.64%	$ 157.95		
Health Levy	307,588		$ 26.93	1.000	0.986	1.007		3.1%	13.0%	5.64%	$ 34.24		
TPL	307,588	194,131,052					$ 47.19				$ 712.30	$ 631.14	$ (81.16)
Accident Benefits	277,489	20,529,750	$ 51.82	1.087	0.936	1.007	$ 5.19	3.1%	13.0%	5.64%	$ 74.62	$ 73.98	$ (0.63)
Uninsured Auto	308,807	5,839,194	$ 14.11	1.087	0.936	1.007	$ 1.41	3.1%	13.0%	5.64%	$ 20.31	$ 18.91	$ (1.40)
Collision	231,395	57,781,827	$ 179.43	1.087	0.989	1.007	$ 19.01	3.1%	13.0%	5.64%	$ 273.13	$ 249.71	$ (23.42)
Comprehensive	245,438	31,704,560	$ 82.26	1.087	0.983	1.007	$ 8.66	3.1%	13.0%	5.64%	$ 124.49	$ 129.18	$ 4.68
All Perils	4,885	1,783,225	$ 259.88	1.087	0.988	1.007	$ 27.49	3.1%	13.0%	5.64%	$ 395.04	$ 365.06	$ (29.97)
Specified Perils	7,233	312,204	$ 14.48	1.087	0.983	1.007	$ 1.52	3.1%	13.0%	5.64%	$ 21.91	$ 43.16	$ 21.25
Underinsured Motorists	245,479	5,367,400	$ 3.01	1.087	0.887	1.007	$ 0.29	3.1%	13.0%	5.64%	$ 4.11	$ 21.86	$ 17.76
Total- Weighted Average		317,449,211			0.937		$ 75.21				$ 1,114.89	$ 1,032.06	$ (82.83)

Excess or Deficiency as % of Actual Premium -8.0%

Assumptions

ROI pre Tax	2.80%	*Minimum Rate Prescribed by Board*
Income Tax Rate	29.0%	*Combined Corporate Federal and Newfoundland and Labrador rate*

Delay in premiums
Expenses- as per GISA; assume General are flat cost per vehicle
Premium and exposure data- as per GISA Reported data
Health Levy and ULAE- as per GISA published factors
Claims Payment factor- based on appr 3 year avg payment pattern as of 2017-1; assuming mid year payment
Note- no recognition of finance fee payment plan additional revenues or delay
Column (11)={ (3)*(4)*(5)*(6) +(7)}/{1-((8)+(9)+(10))}
Column (13)=(12)-(11)

Oliver, Wyman Limited

Newfoundland and Labrador- Private Passenger Auto
Retrospective Review- Industry-wide Average
Accident Year 2012 as of June 30, 2017

Coverage	Cars Earned (1)	Premiums Earned (2)	Ultimate Loss & ALAE Cost/Car (3)	ULAE Factor (4)	Claim Payment Pattern Factor (5)	Delay in Receiving Premiums (6)	General Expense (7)	Premium Tax (8)	Commission Expense (9)	After Tax 10% ROE Profit Provision (10)	Estimated Required Average Premium (11)	Actual Average Earned Premium (12)	Excess or Deficiency/Car (13)
Bodily Injury	298,383		$ 368.09	1.078	0.887	1.007	$ 40.95	3.8%	16.1%	5.64%	$ 532.56		
Property Damage	298,383		$ 90.64	1.078	0.979	1.007	$ 11.12	3.8%	16.1%	5.64%	$ 144.64		
Health Levy	298,383		$ 26.50	1.000	0.986	1.007		3.8%	16.1%	5.64%	$ 35.43		
TPL	298,383	187,765,862					$ 52.07				$ 712.63	$ 629.28	$ (83.35)
Accident Benefits	263,555	19,367,115	$ 49.06	1.078	0.936	1.007	$ 5.75	3.8%	16.1%	5.64%	$ 74.84	$ 73.48	$ (1.36)
Uninsured Auto	298,999	5,626,840	$ 13.06	1.078	0.936	1.007	$ 1.53	3.8%	16.1%	5.64%	$ 19.92	$ 18.82	$ (1.10)
Collision	220,236	54,647,856	$ 173.44	1.078	0.989	1.007	$ 21.51	3.8%	16.1%	5.64%	$ 279.72	$ 248.13	$ (31.58)
Comprehensive	234,230	28,179,009	$ 83.28	1.078	0.983	1.007	$ 10.27	3.8%	16.1%	5.64%	$ 133.53	$ 120.30	$ (13.23)
All Perils	4,626	1,683,579	$ 265.17	1.078	0.988	1.007	$ 32.83	3.8%	16.1%	5.64%	$ 427.05	$ 363.92	$ (63.13)
Specified Perils	7,519	310,000	$ 14.50	1.078	0.983	1.007	$ 1.79	3.8%	16.1%	5.64%	$ 23.25	$ 41.23	$ 17.98
Underinsured Motorists	231,424	4,997,472	$ 3.67	1.078	0.887	1.007	$ 0.41	3.8%	16.1%	5.64%	$ 5.30	$ 21.59	$ 16.29
Total- Weighted Average		302,577,733			0.936		$ 83.48				$ 1,121.30	$ 1,014.06	$ (107.24)

Excess or Deficiency as % of Actual Premium -10.6%

Assumptions

ROI pre Tax	2.80%	*Minimum Rate Prescribed by Board*
Income Tax Rate	29.0%	*Combined Corporate Federal and Nova Scotia rate*

Delay in premiums
Expenses- as per GISA; assume General are flat cost per vehicle
Premium and exposure data- as per GISA Reported data
Health Levy and ULAE- as per GISA published factors
Claims Payment factor- based on appr 3 year avg payment pattern as of 2017-1; assuming mid year payment
Note- no recognition of finance fee payment plan additional revenues or delay
Column (11)={ (3)*(4)*(5)*(6) +(7)}/{1-((8)+(9)+(10))}
Column (13)=(12)-(11)

Oliver, Wyman Limited

Newfoundland and Labrador- Private Passenger Auto
Prospective Review- Industry-wide Average
Fiscal Accident Year ending June 30, 2017 as of June 30, 2017

Forecast Accident Year 2017

Coverage	Cars Earned (1)	Premiums Earned (2)	Ultimate Loss & ALAE Cost/Car (3)	ULAE Factor (4)	Loss Trend Rate (5)	Loss Trend Factor: 0.5 years (6)	Claim Payment Pattern Factor (7)	Delay in Receiving Premiums (8)	General Expense (9)	Premium Tax (10)	Commission Expense (11)	After Tax 10% ROE Profit Provision (12)	Estimated Required Average Premium (13)
Bodily Injury	324,415		$ 387.69	1.103	3.0%	1.015	0.897	1.007	$ 45.82	4.9%	12.20%	5.74%	$ 569.09
Property Damage	324,415		$ 106.30	1.103	4.0%	1.020	0.980	1.007	$ 13.73	4.9%	12.20%	5.74%	$ 171.26
Health Levy	324,415		$ 26.49	1.000	0.0%	1.000	0.986	1.007		4.9%	12.20%	5.74%	$ 34.16
TPL	324,415	211,466,196							$ 59.55				$ 774.51
Accident Benefits	306,763	22,088,381	$ 54.90	1.103	4.5%	1.022	0.930	1.007	$ 6.73	4.9%	12.20%	5.74%	$ 84.13
Uninsured Auto	325,203	5,962,286	$ 13.58	1.103	5.0%	1.025	0.930	1.007	$ 1.66	4.9%	12.20%	5.74%	$ 20.85
Collision	248,999	74,994,845	$ 205.95	1.103	4.5%	1.022	0.983	1.007	$ 26.68	4.9%	12.20%	5.74%	$ 333.62
Comprehensive	262,781	37,731,085	$ 126.83	1.103	6.5%	1.032	0.983	1.007	$ 16.42	4.9%	12.20%	5.74%	$ 207.10
All Perils	6,425	2,769,808	$ 354.11	1.103	6.0%	1.030	0.983	1.007	$ 45.88	4.9%	12.20%	5.74%	$ 577.33
Specified Perils	6,716	316,296	$ 27.87	1.103	6.5%	1.032	0.983	1.007	$ 3.61	4.9%	12.20%	5.74%	$ 45.53
Underinsured Motorists	306,334	6,596,316	$ 9.05	1.103	6.5%	1.032	0.823	1.007	$ 0.98	4.9%	12.20%	5.74%	$ 12.37
Total- Weighted Average		361,925,212					0.942		$ 103.27				$ 1,322.85

Estimated Accident Year 2017 Earned Premium $1,131
Estimated Loss & Adjustment Expense Ratio 85.5%

Assumptions

ROI pre Tax	2.90%	*Average Rate Last 3 Years*
Income Tax Rate	30.0%	*Combined Corporate Federal and Newfoundland and Labrador rate*
Delay in premiums	3 mths	*Assumed*

Expenses- as per GISA 2016; except Premium Tax increased by 0.5%.
General Expenses- as per 2016 cost per vehicle; increased by CPI for 1 year.
Premium and exposure data- as per GISA Reported data
ULAE- as per GISA published factors as at YE 2016
Claims Payment factor- based on appr 3 year avg payment pattern as of 2017-1; assuming mid year payment
Note- no recognition of finance fee payment plan additional revenues
Underinsured Estimate in Column #3 based on AY 2016
Column (13)={ (3)*(4)*(6)*(7)*(8) +(9)}/{1-((10)+(11)+(12))}

Oliver, Wyman Limited

Newfoundland and Labrador- Private Passenger Auto
Prospective Review- Industry-wide Average
Fiscal Accident Year ending June 30, 2016 as of June 30, 2017

Forecast Accident Year 2017

Coverage	Cars Earned (1)	Premiums Earned (2)	Ultimate Loss & ALAE Cost/Car (3)	ULAE Factor (4)	Loss Trend Rate (5)	Loss Trend Factor: 1.5 years (6)	Claim Payment Pattern Factor (7)	Delay in Receiving Premiums (8)	General Expense (9)	Premium Tax (10)	Commission Expense (11)	After Tax 10% ROE Profit Provision (12)	Estimated Required Average Premium (13)
Bodily Injury	324,103		$ 407.15	1.091	3.0%	1.045	0.897	1.007	$ 48.14	4.9%	12.20%	5.74%	$ 607.48
Property Damage	324,103		$ 105.82	1.091	4.0%	1.061	0.980	1.007	$ 13.67	4.9%	12.20%	5.74%	$ 174.81
Health Levy	324,103		$ 26.49	1.000	0.0%	1.000	0.986	1.007		4.9%	12.20%	5.74%	$ 34.16
TPL	324,103	206,937,405							$ 61.81				$ 816.45
Accident Benefits	303,451	21,607,232	$ 60.32	1.091	4.5%	1.068	0.930	1.007	$ 7.40	4.9%	12.20%	5.74%	$ 95.18
Uninsured Auto	324,617	6,280,706	$ 19.52	1.091	5.0%	1.076	0.930	1.007	$ 2.39	4.9%	12.20%	5.74%	$ 31.00
Collision	250,304	71,155,492	$ 203.16	1.091	4.5%	1.068	0.983	1.007	$ 26.33	4.9%	12.20%	5.74%	$ 338.90
Comprehensive	262,542	37,349,038	$ 100.38	1.091	6.5%	1.099	0.983	1.007	$ 13.00	4.9%	12.20%	5.74%	$ 171.69
All Perils	6,229	2,473,929	$ 282.69	1.091	6.0%	1.091	0.983	1.007	$ 36.64	4.9%	12.20%	5.74%	$ 480.72
Specified Perils	6,845	318,128	$ 17.42	1.091	6.5%	1.099	0.983	1.007	$ 2.26	4.9%	12.20%	5.74%	$ 29.82
Underinsured Motorists	284,462	6,312,598	$ 5.34	1.091	6.5%	1.099	0.823	1.007	$ 0.58	4.9%	12.20%	5.74%	$ 7.65
Total- Weighted Average		352,434,529					0.940		$ 103.27				$ 1,354.02

Estimated Accident Year 2017 Earned Premium $1,131
Estimated Loss & Adjustment Expense Ratio 87.9%

Assumptions

ROI pre Tax	2.90%	*Average Rate Last 3 Years*
Income Tax Rate	30.0%	*Combined Corporate Federal and Newfoundland and Labrador rate*
Delay in premiums	3 mths	*Assumed*

Expenses- as per GISA 2016; except Premium Tax increased by 0.5%.
General Expenses- as per 2016 cost per vehicle; increased by CPI for 1 year.
Premium and exposure data- as per GISA Reported data
ULAE- average as per GISA published factors as at YE 2016/2015
Claims Payment factor- based on appr 3 year avg payment pattern as of 2017-1; assuming mid year payment
Note- no recognition of finance fee payment plan additional revenues
Underinsured Estimate in Column #3 based on AY 2015
Column (13)={ (3)*(4)*(6)*(7)*(8) +(9)}/{1-((10)+(11)+(12))}

Oliver, Wyman Limited

Newfoundland and Labrador- Private Passenger Auto
Prospective Review- Industry-wide Average
Fiscal Accident Year ending June 30, 2015 as of June 30, 2017

Forecast Accident Year 2017

Coverage	Cars Earned (1)	Premiums Earned (2)	Ultimate Loss & ALAE Cost/Car (3)	ULAE Factor (4)	Loss Trend Rate (5)	Loss Trend Factor: 2.5 years (6)	Claim Payment Pattern Factor (7)	Delay in Receiving Premiums (8)	General Expense (9)	Premium Tax (10)	Commission Expense (11)	After Tax 10% ROE Profit Provision (12)	Estimated Required Average Premium (13)
Bodily Injury	317,187		$ 376.42	1.080	3.0%	1.077	0.897	1.007	$ 48.09	4.9%	12.20%	5.74%	$ 576.33
Property Damage	317,187		$ 105.82	1.080	4.0%	1.103	0.980	1.007	$ 14.77	4.9%	12.20%	5.74%	$ 180.92
Health Levy	317,187		$ 26.49	1.000	0.0%	1.000	0.986	1.007		4.9%	12.20%	5.74%	$ 34.16
TPL	317,187	200,509,449							$ 62.86				$ 791.40
Accident Benefits	294,185	21,181,795	$ 54.81	1.080	4.5%	1.116	0.930	1.007	$ 7.26	4.9%	12.20%	5.74%	$ 89.90
Uninsured Auto	318,709	6,098,021	$ 12.24	1.080	5.0%	1.130	0.930	1.007	$ 1.62	4.9%	12.20%	5.74%	$ 20.29
Collision	242,587	63,910,670	$ 194.36	1.080	4.5%	1.116	0.983	1.007	$ 27.22	4.9%	12.20%	5.74%	$ 336.99
Comprehensive	257,316	37,122,372	$ 89.24	1.080	6.5%	1.171	0.983	1.007	$ 12.49	4.9%	12.20%	5.74%	$ 161.36
All Perils	5,587	2,125,966	$ 326.00	1.080	6.0%	1.157	0.983	1.007	$ 45.65	4.9%	12.20%	5.74%	$ 583.59
Specified Perils	6,968	327,206	$ 22.33	1.080	6.5%	1.171	0.983	1.007	$ 3.13	4.9%	12.20%	5.74%	$ 40.39
Underinsured Motorists	265,369	5,885,304	$ 2.32	1.080	6.5%	1.171	0.823	1.007	$ 0.27	4.9%	12.20%	5.74%	$ 3.51
Total- Weighted Average		337,160,783					0.942		$ 103.27				$ 1,297.92

Estimated Accident Year 2017 Earned Premium $1,131
Estimated Loss & Adjustment Expense Ratio 83.8%

Assumptions

ROI pre Tax	2.90%	*Average Rate Last 3 Years*
Income Tax Rate	30.0%	*Combined Corporate Federal and Newfoundland and Labrador rate*
Delay in premiums	3 mths	*Assumed*

Expenses- as per GISA 2016; except Premium Tax increased by 0.5%.
General Expenses- as per 2016 cost per vehicle; increased by CPI for 1 year.
Premium and exposure data- as per GISA Reported data
ULAE- average as per GISA published factors as at YE 2015/2014
Claims Payment factor- based on appr 3 year avg payment pattern as of 2017-1; assuming mid year payment
Note- no recognition of finance fee payment plan additional revenues
Underinsured Estimate in Column #3 based on AY 2014
Column (13)={ (3)*(4)*(6)*(7)*(8) +(9)}/{1-((10)+(11)+(12))}

Oliver, Wyman Limited