

QUARTERLY VALUATION HIGHLIGHTS

FACILITY ASSOCIATION RESIDUAL MARKET (FARM)

as at March 31, 2019

FA Actuarial

9/13/2019

Should you require any further information, please call:

Shawn Doherty, FCIA, FCAS SVP Actuarial & CFO (416) 644-4968.



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A. Executive Summary

We have completed a valuation of the Facility Association Residual Market ("FARM") as at March 31, 2019¹ has been completed for Private Passenger Vehicle (PPV) and non-Private Passenger Vehicle (non-PPV) business segments and all jurisdictions, with the results summarized by jurisdiction in the table below (for indemnity only). The previous valuation was completed at December 31, 2018 and included both PPV and non-PPV business segments and all jurisdictions.

aluation Summary (Nominal Basis) unfavourable / (favourable)												
Jurisdiction	2018 & Prior Beginning Indemnity Unpaid (000s)	2018 & Prior Accident Year Indemnity Change (000s)	% of Beginning Unpaid	2019 Indemnity Loss Ratio	Change from Prior Valuation	Change against 2019 Earned Prem (000s)	2020 Indemnity Loss Ratio		Change against 2020 Proj Earned Prem (000s)	Selected Discount Rate at Mar/19	Change in Dsct Rate from Prior Valuation	Estimated \$ Effect from sensitivity analysis (000s)
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Ontario	86,631	3,431	4.0%	46.5%	(1.2%)	(1,163)	48.9%	(0.1%)	(104)	1.48%	-47 bps	1,386
Alberta	77,093	6,052	7.9%	51.2%	(0.1%)	(80)	52.3%	0.0%	(9)	1.48%	-47 bps	1,090
Newfoundland & Labrador	47,405	850	1.8%	66.7%	0.6%	192	64.9%	(0.1%)	(22)	1.48%	-47 bps	510
New Brunswick	35,746	(25)	(0.1%)	64.9%	5.3%	1,299	59.0%	0.0%	(11)	1.48%	-47 bps	480
Nova Scotia	27,423	589	2.1%	67.7%	0.4%	94	65.2%	0.1%	16	1.48%	-47 bps	384
Prince Edward Island	9,083	1,305	14.4%	58.6%	4.4%	204	52.6%	0.0%	-	1.48%	-47 bps	129
Yukon Territory	2,814	131	4.7%	49.9%	(0.5%)	(9)	51.0%	0.0%	(0)	1.48%	-47 bps	37
Northwest Territories	3,577	(147)	(4.1%)	46.0%	2.0%	86	44.9%	(0.1%)	(3)	1.48%	-47 bps	49
Nunavut	1,087	101	9.3%	36.5%	1.4%	14	35.7%	(0.1%)	(1)	1.48%	-47 bps	14
Total	290,859	12,287	4.2%	53.9%	0.2%	637	54.1%	0.0%	(135)			4,079

In total, the <u>unfavourable prior accident year</u> change of \$12.3 million (column [2] in the table above) represents 4.2% (column [3]) of the \$290.9 million beginning unpaid (column [1])². The impact of "roll-forward valuation" updates tend to be less material since the impact of actual emerged experience from the last full valuation has not been incorporated into revised assumptions.

The total column in the left chart above is consistent with column [2] of the earlier table, with some rounding differences.

Tables summarizing valuation changes in ultimate during the quarter are provided in section C.1 (page 11), including tables at the business segment level. Similar tables are available in each of the jurisdiction sections (D.1 for Ontario; E.1 for Alberta; F.1 for the Atlantic region; G.1 for the Northern Territories).

The valuation quarters ending June 30 and December 31 reflect a full valuation update of assumptions. Impacts of these updates tend to be more material since the impact of actual emerged experience from the last full valuation will be incorporated into the revised assumptions. In contrast, the "off-half" valuation quarters ending March 31, 2018 and September 30, 2018 do not reflect a full valuation update of assumptions, but would rather "roll-forward" key assumptions from the previous valuation. Loss development factors as brought forward through this process are interpolated assuming linear emergence.

As the current valuation is as at March 31, it reflects a roll-forward valuation assumption set.

The current valuation for all FARM jurisdictions/business segments use updated trend assumptions selected as part of the FA Industry trend analysis using industry AIX Industry private passenger vehicle (PPV) and commercial vehicle (CV) 2018-H1.

file: Qtrly Valuation Highlights - FARM as at 2019 03 31 vfinal

¹The March 31, 2019 valuation result was implemented into the FARM Participation Results for the month of May 2019. The valuation implementation impact is discussed in the respective May 2019 Actuarial Highlights.

²The beginning unpaid is the sum of the case reserves and selected nominal IBNR as per the valuation completed as at December 31, 2018. ³Under the proposed schedule for fiscal year 2019, the "off-half" valuation quarters ending March 31, 2019 and September 30, 2019 would not reflect a full valuation update of assumptions, but would rather "roll-forward" key assumptions from the previous valuation. Loss development factors as brought forward through this process are interpolated assuming linear emergence.



The selected loss ratios for the current accident year 2019 (AY2019; column [4]) increased in most of the FARM jurisdictions. The impact of these changes, relative to projected full year 2019 earned premium, is unfavourable by \$0.6 million (column [6]).

Changes in selected loss ratios for the future accident year 2020 (AY2020; column [7]) were modest. The impact of these changes has an anticipated complete accident year 2020 favourable impact of \$0.1 million (column [9]) in relation to the current projected *complete* AY2020 earned premium level.

These AY2019 and AY2020 changes also collectively imply an immediate unfavourable impact in relation to policy liabilities with the valuation's implementation.

As indicated in columns [10] and [11] in the summary table above, claims payment emergence patterns were updated and discount rates were decreased, reflecting March 2019 Government of Canada yield curve, with an initial **estimated \$4.1 million unfavourable** impact due to the discount rate selection change (column [12]). The selected investment income (25 basis points) margin for adverse deviation (MfAD) was not changed with the current valuation.

The FARM (all jurisdictions) unfavourable prior accident year (PAY) development⁴ was driven by bodily injury recorded claims activity (large loss⁵ case reserve increases in Ontario, Alberta and Atlantics). Additional discussion of the actual recorded and payment activity relative to projected activity can be found in the all jurisdiction (section C.4) and by jurisdiction actual versus projected discussion further in these highlights.

The table below shows historical changes in valuation selected ultimates on an annual fiscal-accident year basis on the left with changes in the most recent quarterly valuations on a calendar-accident year basis⁶ on the right.

FARM – All Jurisdictions (All Vehicles) Changes in PAY Selected Ultimates through time

		Chang	e in Selected l	Jitimates from	prior Sept 30th	· .	
	Sep-12	Sep-13	Sep-14	Sep-15	Sep-16	Sep-17	Sep-18
AY2009 & Prior	(22,279)	442	1,966	(8,269)	(128)	(200)	(4,888)
AY2010	(3,935)	(7,433)	1,208	(2,318)	(828)	(489)	(85)
AY2011	(3,420)	(478)	(2,921)	(382)	627	(184)	(559)
AY2012		(6,687)	5,315	847	1,809	(3,513)	(481)
AY2013			(3,928)	(2,307)	(2,919)	(545)	1,154
AY2014				(621)	(2,979)	(284)	(2,612)
AY2015					2,737	(449)	(9)
AY2016						4,625	(2,606)
AY2017						i i	(2,830)
AY2018						ł	
Total	(20 624)	(1A 1EE)	1 6/1	(12 OE1)	(1 600)	(1.040)	(12 016)

Change in Selected Ultimates from Prior Quarter End										
Dec-18	Mar-19	Jun-19	Sep-19	Dec-19						
(654)	(887)									
171	(186)									
250	(530)		ı							
(95)	74		i	i						
(201)	856									
(140)	1,642									
2,614	(769)									
270	1,420									
(960)	2,158									
	8,509									
1,255	12,287									

The Ontario FARM unfavourable PAY development, presented in the table immediately below, was driven by unfavourable large loss case reserve and claims settlements recorded during the quarter. (PPV AY2014 accident benefits and non-PPV AY2012-AY2014 third party liabilities and accident benefits).

file: Otrly Valuation Highlights - FARM as at 2019 03 31 vfinal

⁴The term "development" throughout this document refers to claims activity during the period, and "favourable" or "unfavourable" development is in relation to projections or underlying assumptions per the previous valuation.

⁵The term "large loss" throughout this document refers to a claim with an aggregate incurred (paid and outstanding) loss of \$250,000 or more, in line with FA "large loss" claims reporting criteria.

⁶Due to FA's October 31 year-end, the runoff table is shown on a fiscal accident year basis. However, valuations are treated on a calendar accident year basis. As a result, the "Change in Selected Ultimates from Prior Quarter End" will not necessarily sum to the annual view for the most recent "prior" accident year. The valuation change discussions focus on the calendar accident basis.



FARM - Ontario (All Vehicles) Changes in PAY Selected Ultimates through time

		Chang	e in Selected L	Iltimates from	prior Sept 30th	1	
	Sep-12	Sep-13	Sep-14	Sep-15	Sep-16	Sep-17	Sep-18
AY2009 & Prior	(20,870)	(5,919)	(3,803)	(3,917)	2,049	70	(3,783)
AY2010	(5,384)	(3,126)	(2,025)	(1,172)	(7)	(761)	5
AY2011	(3,049)	(2,902)	(6,860)	(935)	2,079	1,048	(1,025)
AY2012		(5,131)	346	(1,102)	3,235	(1,644)	275
AY2013			1,157	(3,580)	(718)	(1,050)	495
AY2014				(3,679)	(2,319)	(737)	(1,463)
AY2015					(910)	238	(417)
AY2016						361	(1,389)
AY2017						i i	(2,372)
AY2018							
Total	(29,304)	(17,078)	(11,185)	(14,386)	3,409	(2,475)	(9,673)

Change	in Selected	Ultimates fro	m Prior Quarte	r End
Dec-18	Mar-19	Jun-19	Sep-19	Dec-19
(399)	(865)			
182	(172)			
(177)	(241)			
(72)	144	l	i	
(387)	993			
(87)	2,267			
1,783	(328)			
282	(14)			
(1,469)	54			
	1,593			
(343)	3,431			

A similar summary for the **Alberta FARM** is presented immediately below. The <u>unfavourable PAY</u> was driven by <u>unfavourable non-PPV</u> bodily injury and collision claims activity recorded in the quarter.

FARM – Alberta (All Vehicles) Changes in PAY Selected Ultimates through time

		Chang	e in Selected L	Iltimates from	prior Sept 30th		
	Sep-12	Sep-13	Sep-14	Sep-15	Sep-16	Sep-17	Sep-18
AY2009 & Prior	4,818	9,181	1,671	(1,818)	(1,083)	899	(4,888)
AY2010	607	846	812	(1,011)	(269)	(125)	(193)
AY2011	1,891	3,399	2,738	(970)	(1,800)	(446)	530
AY2012		1,556	2,654	570	(2,522)	(1,335)	46
AY2013			1,503	2,351	(1,653)	(306)	64
AY2014				2,702	(421)	359	(907)
AY2015					1,642	713	(9)
AY2016						2,250	(337)
AY2017						1	(2,830)
AY2018						}	
Total	7.316	14.982	1.641	(13.051)	(1.680)	(1.040)	(12.916)

Change	Change in Selected Ultimates from Prior Quarter End										
Dec-18	Mar-19	Jun-19	Sep-19	Dec-19							
(654)	(887)										
171	(186)	l									
250	(254)	j									
(95)	74	i	i								
(201)	856										
(140)	1,642]	ļ								
2,614	(769)										
270	1,420										
(960)	2,158										
	8,509										
1,255	12,287										

The **Atlantics** <u>unfavourable PAY</u> development, presented in the table immediately below, was driven by one large loss case reserve (PE PPY AY2016) and <u>unfavourable</u> bodily injury claims activity (PPV AY2016-2018, non-PPV AY2016) recorded in the quarter.

FARM – Atlantics (All Vehicles) Changes in PAY Selected Ultimates through time

		Change	e in Selected L	Itimates from	prior Sept 30th	1	
	Sep-12	Sep-13	Sep-14	Sep-15	Sep-16	Sep-17	Sep-18
AY2009 & Prior	(8,051)	(2,524)	4,290	(1,801)	(1,106)	(1,135)	(240)
AY2010	1,289	(4,792)	2,205	102	(512)	365	115
AY2011	(1,286)	(600)	1,176	1,540	332	(585)	(44)
AY2012		(2,507)	2,446	1,398	1,153	(523)	(780)
AY2013			(6,038)	(522)	(361)	1,036	666
AY2014				219	23	788	(205)
AY2015					1,116	(330)	1,591
AY2016						2,044	(576)
AY2017							(288)
AY2018							
Total	(8,048)	(10,422)	4,080	935	645	1,660	241

Change	Change in Selected Ultimates from Prior Quarter End								
Dec-18	Mar-19	Jun-19	Sep-19	Dec-19					
(240)	(22)								
(0)	(5)								
42	(34)								
154	(2)	j							
2	(157)								
(160)	47								
125	(186)								
(13)	1,463								
51	680								
	935								
(38)	2,719								

The **Combined Northern Territories** <u>unfavourable PAY</u> development, presented in the table at the top of the next page, was driven by process variance.

FARM – Combined Northern Territories (All Vehicles) Changes in PAY Selected Ultimates through time

		Chang	e in Selected L	Iltimates from	prior Sept 30th	١ .	
	Sep-12	Sep-13	Sep-14	Sep-15	Sep-16	Sep-17	Sep-18
AY2009 & Prior	1,824	(297)	(191)	(732)	13	(34)	(34)
AY2010	(446)	(361)	216	(236)	(40)	32	(11)
AY2011	(976)	(375)	24	(18)	17	(201)	(21)
AY2012		(604)	(131)	(18)	(58)	(11)	(23)
AY2013			(438)	(556)	(188)	(226)	(71)
AY2014				294	(263)	(694)	(37)
AY2015					833	(1,071)	(632)
AY2016						(57)	(305)
AY2017						į	185
AY2018							
Total	402	(1,637)	(520)	(1,266)	315	(2,262)	(949)

Change	Change in Selected Ultimates from Prior Quarter End			
Dec-18	Mar-19	Jun-19	Sep-19	Dec-19
-	-			
0	-			
(0)	(0)			
(2)	(3)	j		
(3)	(9)			
175	(19)			
(100)	31		ļ	
(160)	(9)			
(123)	(126)			
	221			
(213)	86			



Similar tables for individual jurisdictions are included with the supporting exhibits provided with this report in section L (Appendix 5).

Caution must be exercised in reviewing the variances as volumes for some jurisdictions are very low and single claim transactions that are normal course for the business may look "unusual" and generate relatively "significant" variances that in nominal value terms are not that significant. With this in mind, when reviewing the results, we have attributed the older accident year claims experience as "random" and "process variance" driven.

The remainder of this report consists of 10 sections. Section C includes valuation details related to All FARM Jurisdictions with sections D through G providing detailed sections by jurisdiction, including valuation highlights and a discussion of actual vs. projected activity. General information about this report can be found in section B. The final 4 sections are appendices: the valuation process is described in detail in section K (Appendix 4); a summary of changes to the process during this fiscal year is provided in section H (Appendix 1); a summary of recent regulatory changes is provided in section I (Appendix 2) and recent applicable court decisions is provided in section J (Appendix 3); and supporting exhibits are provided in section L (Appendix 5).



B. General Information

This report summarizes the results of the valuation of the Facility Association Residual Market ("FARM") as at **March 31, 2019** and completed for the jurisdictions listed below and separately by business segment (Private Passenger (PPV) and non-Private Passenger (non-PPV)) within each jurisdiction.

- Ontario (ON);
- Alberta (AB);
- Newfoundland & Labrador (NL);
- New Brunswick (NB);
- Nova Scotia (NS):
- Prince Edward Island (PE);
- Yukon (YT);
- Northwest Territories (NT); and
- Nunavut (NU).

The results of this valuation were reflected for the first time in the May 2019 FARM Participation Reports.

The valuations have been prepared in accordance with Canadian Accepted Actuarial Practice and comply with the appropriate Standards of Practice of the Canadian Institute of Actuaries as well as applicable regulatory requirements. Canadian Accepted Actuarial Practice requires all policy liabilities recognize both the time value of money and provisions for adverse deviations.

Unless specifically noted in this document, no explicit provision has been made for causes of loss which are not already reflected in the historical data, nor for otherwise unforeseen changes to the legal or economic environment in which claims are settled, including changes in the interpretation of existing legislation or regulation on matters currently before the courts.

Automobile insurance product reforms occur from time to time and consideration is given to the associated impact, if any. Please see Section I for a discussion of recent product reforms considered for the purposes of this valuation.

For ease of reference, we will use the term "claims amount" in reference to the more proper and descriptive term "indemnity" and the terms "loss ratio", "claims ratio", or "claims amount ratio" in reference to the ratio of "claims amount" to "earned premium". (Please see footnote 8 on page 8 for a description of Servicing Carrier claims fees and allowed claims adjustment expenses that are generally considered separately from indemnity.)

General information regarding the Facility Association and on the FARM in particular can be found on its website:

www.facilityassociation.com



B.1 Appointed Actuary and Hybrid Actuarial Services Model

Liam McFarlane of Ernst & Young LLP is Facility Association's Appointed Actuary (effective as of June 1, 2013).

Facility Association operates under a "hybrid" model in relation to the management and provision of actuarial services. Under this model, actuarial services are performed by both Facility Association's internal staff and its external actuarial consulting firm. The hybrid model approach maximizes the efficiency of resource allocation while providing access to additional expertise and capacity as needed.

B.2 Intended Audience and Use

This report is intended for the Member Companies of the Facility Association (Members) to provide additional information on the results of the most recent valuation of the FARM in relation to the results of prior such valuations. It is not intended, nor necessarily suitable, for any other purpose.

B.3 Data

Two primary data sets were used for the purposes of this valuation:

- FARM valuation data, which is aggregated premium and claim information primarily intended for valuation purposes; and
- Industry AIX data, which is developed from detailed statistical records reported by insurers to the Insurance Bureau of Canada (IBC)⁷ in accordance with the Automobile Statistical Plan.

B.3.1 FARM Valuation Data

Much of this analysis was based on FARM valuation data collected from FARM Servicing Carriers and aggregated by IBC on behalf of Facility Association. The claims data excludes all loss adjustment expenses except certain specific reimbursed expenses ("claims fees and allowed claims expenses")⁸. The data is reconciled to information contained in Facility Association's Participation Reports, the results of which are reviewed by the Appointed Actuary for reasonableness. Procedures are in place to provide reasonable assurance that the data used is reliable and sufficient for the proper valuation of the liabilities.

The valuation data, for the purposes of the valuation, is aggregated to the level of:

jurisdiction;

These "claims expense" type provisions are adjusted to an actuarial present value basis, consistent with other policy liabilities.

⁷IBC is the statistical agent of the General Insurance Statistical Agency (GISA), with responsibility of managing the Automobile Statistical Plan reporting. In addition, Facility Association outsources its IT to IBC.

⁸Servicing Carriers for the Residual Market are compensated via an initial claims fee paid as a percentage of earned premium. This fee is retroactively adjusted and settled at age 72 months for each accident year based on the formula as laid out in the Plan of Operation. The claims fee is meant to cover Servicing Carrier costs for claims management and adjudication except for certain categories of claims expenses (first party legal and professional consulting fees as described in the Facility Association's "Claims Guide" manual under the "Legal & Professional Fees" section). These latter fees are reimbursable upon proof of closure of the applicable coverage of the claim, and upon verification of eligibility.

We refer to these fees/expenses collectively as "claims fees and allowed claims expense", or alternately as "retro claims expenses", and these are generally NOT included in this discussion, although reference is made to them from time to time as deemed appropriate. The claims fees and allowed claims expenses may be reviewed in the valuation process and any associated changes in unpaid amounts are reflected in the Participation Report.



- business segment;
- kind-of-loss / coverage;
- accident year and half-year; and
- development half-year⁹.

Data elements captured include earned premium, claims¹⁰ paid, case reserves, recorded claims (being the sum of claims paid and case reserves), and recorded claim counts.

For the purposes of the valuation described in this report, the valuation data is as at March 31, 2019.

B.3.2 Industry AIX Data

Although the FARM valuation data is the primary source of data for valuation purposes, the following "Industry AIX" data files prepared by IBC (on behalf of GISA) is used to supplement the FARM valuation data and is used in the determination of "loss cost trend structures", being models describing changes in loss costs (average claim amount per exposure unit) over time, including the impacts of product reforms:

• industry experience (indemnity only) as per the 2018-1 AIX Development Exhibits for Private Passenger Vehicles (PPV) and Commercial Vehicles (CV¹¹) in the applicable jurisdictions, compiled as at June 30, 2018.

IBC (on behalf of GISA) assembles Industry AIX data from the submissions made under the Automobile Statistical Plan by each of the insurers writing automobile business in the applicable jurisdiction. As there are many insurers providing this information and due to remoteness from the individual data elements, it is not practical for IBC to directly put in place audit or audit-like procedures. However, IBC does perform various data edit checks which are designed to promote data integrity.

Industry AIX data is relied upon without the benefit of any independent audit and has been used without modification. Nonetheless, the data is deemed to be reliable and appropriate for the purposes of this valuation and the trend analysis completed in relation to the data.

B.3.3 Other Data

Reliance has also been placed on other quantitative and qualitative information supplied by Facility Association without audit or independent verification. Wherever possible, such information was reviewed for reasonableness and internal consistency by the Appointed Actuary.

B.4 Actual vs Projected (AvsP)

With each valuation, we project, by accident year, future claim activity (recorded and paid). Both projected recorded claim activity and projected paid claim activity is used as a means of providing feedback on our prior selections of ultimate. In addition, the paid projections are used directly as

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file: Qtrly Valuation Highlights - FARM as at 2019 03 31 vfinal

⁹Development quarter is also available for purposes of performing "roll forward" valuations in relation to valuation periods ending March 31 and September 30.

¹⁰For purposes of this report, the terms "claims" or "loss" will refer to "indemnity" unless otherwise indicated.

¹¹Industry experience (indemnity only) using AIX development exhibits for Private Passenger Motorcycles in Ontario and Alberta are reviewed annually, including determination of "loss cost trend structures", and are currently used for FA pricing purposes only.



projected cash flows for claims in the determination of the discount rate selection for the policy liabilities.

The challenge in interpreting actual versus projected (AvsP) variances as a feedback mechanism is how much of the variance is attributed to:

- process variance (i.e. randomness) inherent in the activities themselves (i.e. recorded and paid activity);
- model selection (i.e. that our emergence model is not a good representation or predictor of future emergence even if we've correctly estimated ultimate);
- parameter selection within the model (i.e. that our emergence model can be a good representation of emergence, but we selected the "wrong" emergence factors);
- our selection of ultimate (i.e. that our emergence model and emergence factors selections are good, but we're applying the model and factors to the "wrong" ultimate); and
- changes to our model (i.e. changes made with the goal of improving its predictive capability).

Nonetheless, the AvsP exercise is an important validation process for us. Our discussion in the by jurisdiction AvsP section will focus on our interpretation of feedback the variances provide to our prior selections of ultimate, and how this provides information in relation to our current selections of ultimate.

B.5 Uncertainty

The establishment of provisions for the unpaid, unrecorded, and/or unreported claims is based on numerical data and the interpretation of current and anticipated circumstances. It is a complex and dynamic process influenced by a large variety of factors. These factors include the experience of the FARM and the experience of the voluntary market in the associated jurisdiction, claim frequency and severity, indemnity and allowed claims expense payment patterns, case reserving practices, and lags between when the event giving rise to the claim occurred, when the claim is reported to a Servicing Carrier, when the Servicing Carrier records claim information on their own system, and when that information is transmitted to Facility Association to be recorded. The process of determining the provisions necessarily involves uncertainty such that the actual results will deviate, perhaps substantially, from the best estimates made through the valuation process.



C. ALL JURISDICTIONS

C.1 Valuation Highlights

A summary of the valuation results through time is available in the "A" exhibit (see section L for all exhibits), with detail related to the current valuation provided in the "B" exhibits.

The change in selected ultimate for **prior accident years** was \$12.3 million <u>unfavourable</u> with this valuation (4.2% of the unpaid estimate as at last quarter). These changes are presented in total and by business segment, accident year and government line in the tables below.

	FARM - All Jurisdictions (All Vehicles) Valuation changes in selected ultimate (favourable) / unfavourable during Quarter			
Accident Year	Third Party	Accident	Other	Total
7.00.00	Liability	Benefits	Coverages	
2014 & Prior	47	1,081	(158)	970
2015	(521)	(318)	70	(769)
2016	1,526	(115)	10	1,421
2017	2,085	208	(136)	2,157
2018	4,222	558	3,728	8,508
TOTAL	7,359	1,414	3,514	12,287

	FARM - All Jurisdictions (Private Passenger Vehicles) Valuation changes in selected ultimate					•	Private Passenge	•	
	(favourable) / unfavourable during Quarter (favourable) / unfavourable during Quarter			rable during Qua	rter				
Accident Year	Third Party	Accident	Other Total Accident Year		Third Party	Accident	Other	Total	
Accident Year	Liability	Benefits	Coverages	iotai	Accident Year	Liability	Benefits	Coverages	iotai
2014 & Prior	(188)	465	(11)	266	2014 & Prior	235	612	(147)	700
2015	(278)	(26)	71	(233)	2015	(243)	(290)	(2)	(535)
2016	1,215	196	(2)	1,409	2016	311	(311)	12	12
2017	(108)	248	(1)	139	2017	2,194	(41)	(135)	2,018
2018	130	277	1,068	1,475	2018	4,093	281	2,662	7,036
TOTAL	771	1,160	1,125	3,056	TOTAL	6,590	251	2,390	9,231

The <u>unfavourable prior accident year development</u> was driven by large loss claims activity recorded in the quarter. In particular, the <u>unfavourable</u> recorded claims activity is driven by bodily injury case reserve increase and claim settlements in Ontario (non-PPV AY2012-AY2014), Alberta (non-PPV AY2017 & AY2018) and Prince Edward Island (PPV AY2016).

Selected loss ratios aggregated across all jurisdictions for **accident year 2019** (AY2019; current accident year) <u>increased</u> in total (+0.2 point to 53.9%) while **accident year 2020** (AY2020; future accident year) remained **unchanged** (54.1%).

Consideration was given to recent regulatory and legislative initiatives (see summary descriptions in section I) and court decisions (see summary descriptions in section J).

The valuation process is described in more detail in section K, and a summary of changes to the process during this fiscal year is provided in section H.

Policy liability projected cash flows and March 2019 Government of Canada bond yield curves were used to determine the applicable discount rate. The selected investment income margin for adverse deviation was maintained at 25 basis points with the current valuation.

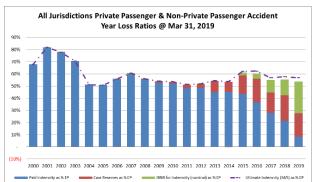
Selected claims development margins for all jurisdictions and business segments, at the coverage and accident half-year level, were carried forward from the prior valuation (as at December 31, 2018) and these are summarized in Exhibit D (see Section L).

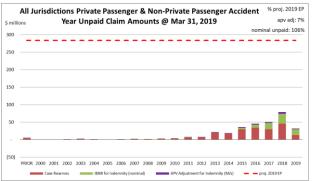


C.2 Booked results for the prior valuation implementation

It is helpful to consider how the portfolio looked after the <u>prior</u> valuation was implemented. In this case, the **March 2019 booked results** were **based on** assumptions derived from **the** <u>prior</u> (**December 31, 2018**) valuation and were discussed in the associated monthly Actuarial Highlights.

The charts immediately below show the levels of claim liabilities booked by accident year¹² on that basis. The left chart displays life-to-date payments, case reserves, IBNR, and the total including actuarial present value adjustments against accident year earned premium. The right chart shows the associated dollar amounts for the components of the claim liabilities and the then-current projected amount of 2019 full year earned premium (the red hash-mark line) to provide some perspective.





"M/S" refers to "Member Statement" values - that is, actuarial present value adjustments at the selected discount rate.

The associated policy liabilities are presented and discussed in the tables that follow.

claim liabilities (\$000s	claim	liabil	lities	(\$000s	١
---------------------------	-------	--------	--------	---------	---

	amt	%
case	220,796	69.5%
ibnr	77,989	24.5%
M/S apv adj	19,049	6.0%
M/S indemnity	317,834	100.0%
retro claims	30,060	
retro apv adj	3,999	
M/S total	351,893	

The table to the left breaks down the Member Statement (M/S) unpaid claims liabilities total into its component parts. The first four rows of this table reflect indemnity only as indicated, with the majority of the unpaid in case reserves. The unpaid claims fees and allowed claims expenses liability is shown in the row labelled "retro claims" (see footnote 8 on page 8) and the associated actuarial present value adjustments are shown in the row

labelled "retro apv adj".

The tables at the top of the next page summarize premium and policy liabilities.

file: Qtrly Valuation Highlights - FARM as at 2019 03 31 vfinal

¹²The loss ratio chart has been limited to show the most recent 20 accident years; the unpaid provision chart has been limited to show the most recent 20 accident years, and show all accident years older than 20 years collectively as "PRIOR".



premium liabilities (\$000s)			
	amt	%	
unearned prem	127,137	108.3%	
prem def/(dpac)	(10,011)	(8.5%)	
M/S apv adjust.	285	0.2%	
M/S total	117,411	100.0%	

Total policy liabilities are summarized by jurisdiction in the table to the right. Collectively, the Atlantic provinces represent the largest exposure, with \$174.7 million in policy liabilities (on an actuarial present value basis; rounding differences may apply between the total in the table to the right and the policy liabilities table above and to the right).

policy liabilities (\$000s)		
	amt	%
claim	328,845	70.1%
premium	117,126	25.0%
M/S apv adjust.	23,333	5.0%
M/S total	160 301	100.0%

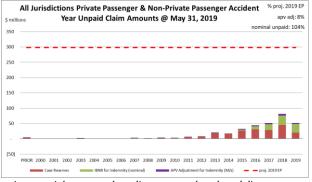
M/S total by juris (rounded at juris level)				
Ontario	158,500			
Alberta	124,905			
Newfoundland & Labrador	66,819			
New Brunswick	51,989			
Nova Scotia	43,908			
Prince Edward Island	11,982			
Yukon	3,848			
Northwest Territories	5,689			
Nunavut	1,664			
All Jurisdictions	469,304			

C.3 Booked results for the current valuation implementation

The May 2019 booked results were based on assumptions derived from the current (March 31, 2019) valuation and are discussed in the associated monthly Actuarial Highlights.

The charts below show the levels of claim liabilities booked by accident year¹³ on that basis. The left chart displays life-to-date payments, case reserves, IBNR, and the total including actuarial present value adjustments against accident year earned premium. The right chart shows the associated dollar amounts for the components of the claim liabilities and the current projected amount of 2019 full year earned premium (the red hash-mark line) to provide some perspective.





"M/S" refers to "Member Statement" values – that is, actuarial present value adjustments at the selected discount rate.

The associated policy liabilities are presented and discussed in the tables on the top of the next page.

file: Qtrly Valuation Highlights - FARM as at 2019 03 31 vfinal

¹³The loss ratio chart has been limited to show the most recent 20 accident years; the unpaid provision chart has been limited to show the most recent 20 accident years, and show all accident years older than 20 years collectively as "PRIOR".



claim liabilities (\$000s)		
	amt	%
case	214,696	64.2%
ibnr	95,687	28.6%
M/S apv adj	23,879	7.1%
M/S indemnity	334,262	100.0%
retro claims	31,059	
retro apv adj	4,823	
M/S total	370,144	

The table to the left breaks down the Member Statement (M/S) unpaid claims liabilities total into its component parts. The first four rows of this table reflect indemnity only as indicated, with the majority of the unpaid in case reserves. The unpaid claims fees and allowed claims expenses liability is shown in the row labelled "retro claims" (see footnote 8 on page 8) and the associated actuarial present value adjustments are shown in the row labelled "retro apv

The tables immediately below summarize premium and policy liabilities.

premium liabilities (\$000s)

% amt unearned prem 148,827 108.1% prem def/(dpac) (11,584)(8.4%)M/S apv adjust. 450 0.3%

M/S total 137.693 100.0%

Total policy liabilities are summarized by jurisdiction in the table to the right. Collectively, the Atlantic provinces represent the largest exposure, with \$183.2 million in policy liabilities (on an actuarial present value basis; rounding differences apply between the total in the table to the right and the policy liabilities table above and to the right).

policy	liabilities	(\$000s)
--------	-------------	----------

	amt	%
claim	341,442	67.2%
premium	137,243	27.0%
M/S apv adjust.	29,152	5.7%
M/S total	507,837	100.0%

M/S total by juris (rounded at juris level) Ontario 176,106 Alberta 137,009 Newfoundland & Labrador 68,989 **New Brunswick** 53,681 Nova Scotia 47,322 Prince Edward Island 13,175 Yukon 4,026 **Northwest Territories** 5,739 Nunavut 1,790 All Jurisdictions 507,837

C.4 Actual vs Projected (AvsP)

Projected recorded and paid emergence are reviewed and selected at a jurisdiction, business segment, kind of loss/coverage and accident half-year level at each valuation. Total variances in projected recorded and paid emergence are aggregated and the associated actual emergence is presented in the two following tables.



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FARM Total - A	ll Vehicles											
	Th	ird Party Liabili	ty	Accident Benefits			Other Coverages			Total		
	Projected Actual		Projected	Actual	ļ.	Projected	Actual		Projected	Actual		
	Recorded	Recorded	Actual Less	Recorded	Recorded	Actual Less	Recorded	Recorded	Actual Less	Recorded	Recorded	Actual Less
i	Claims in	Claims in	Projected	Claims in	Claims in	Projected	Claims in	Claims in	Projected	Claims in	Claims in	Projected
i	2019-Q1	2019-Q1	i	2019-Q1	2019-Q1	j	2019-Q1	2019-Q1	i	2019-Q1	2019-Q1	i
Accident	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Year			=[2]-[1]			=[5]-[4]			=[8]-[7]	=[1]+[4]+[7]	=[2]+[5]+[8]	=[11]-[10]
2014 & Prior	150	388	238	326	1,285	959	-	(158)	(158)	476	1,515	1,039
2015	542	(65)	(607)	250	(75)	(325)	-	69	69	792	(71)	(863)
2016	1,705	2,486	781	648	222	(426)	12	3	(9)	2,365	2,711	346
2017	2,458	3,097	639	699	489	(210)	(20)	(173)	(153)	3,137	3,413	276
2018	6,771	7,000	229	1,682	1,742	60	1,585	4,044	2,459	10,038	12,786	2,748
2019	8,388	9,216	828	1,474	1,358	(116)	6,648	7,407	759	16,510	17,981	1,471
Total	20,014	22,122	2,108	5,079	5,021	(58)	8,225	11,192	2,967	33,318	38,335	5,017
2019 9 prior	11 626	12.006	1 200	2 605	2 662	EO	1 577	2 705	2 200	16 909	20.254	2 546
2018 & prior	11,626	12,906	1,280	3,605	3,663	58	1,577	3,785	2,208	16,808	20,354	3,546

^{*}projected recorded claims based on recorded emergence model as at 2018-Q4

As indicated in the table above, total recorded emergence at \$38.3 million was \$5.0 million (15.1%) more than the \$33.3 million projected (columns [11], [12] and [10] respectively).

The prior accident years (PAY) actual recorded claims experience of \$20.4 million came in higher than projected, attributed to recorded large loss claims activity in Alberta AY2017-AY2018 and Prince Edward Island AY2016 bodily injury. The monthly individual claims experience was reviewed and confirmed at a jurisdiction level and we view the current quarter <u>unf</u>avourable recorded activity as process variance.

		tions All Veh		FARM All Jurisdictions All Vehicles PAY Paid Claims by Cal Qtr (\$'000s)						
2015-Q2	6,793	2017-Q2	9,085	2015-Q2	22,223	2017-Q2	22,672			
2015-Q3	5,063	2017-Q3	6,725	2015-Q3	12,658	2017-Q3	18,940			
2015-Q4	5,070	2017-Q4	4,889	2015-Q4	19,766	2017-Q4	24,374			
2016-Q1	16,402	2018-Q1	9,460	2016-Q1	27,882	2018-Q1	24,945			
2016-Q2	5,896	2018-Q2	4,722	2016-Q2	20,569	2018-Q2	18,689			
2016-Q3	9,114	2018-Q3	6,066	2016-Q3	11,374	2018-Q3	13,548			
2016-Q4	(559)	2018-Q4	8,570	2016-Q4	27,845	2018-Q4	21,719			
2017-Q1	19,074	2019-01	20.354	2017-Q1	22,317	2019-Q1	21,909			
Avg:	8,545	StDev:	5,586	Avg:	20,714	StDev:	4,874			

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FARM Total - A	II Vehicles											
	Th	ird Party Liabili	ty	Accident Benefits			Other Coverages			Total		
	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected
Accident	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]
Year			=[14]-[13]			=[17]-[16]			=[20]-[19]	=[13]+[16]+[19]	=[14]+[17]+[20]	=[23]-[22]
2014 & Prior	6,485	3,803	(2,682)	2,731	991	(1,740)	198	(5)	(203)	9,414	4,789	(4,625)
2015	2,278	1,739	(539)	994	132	(862)	3	(2)	(5)	3,275	1,869	(1,406)
2016	2,539	1,416	(1,123)	816	209	(607)	5	7	2	3,360	1,632	(1,728)
2017	1,631	1,130	(501)	966	848	(118)	(12)	(91)	(79)	2,585	1,887	(698)
2018	5,329	3,858	(1,471)	1,479	1,125	(354)	6,137	6,745	608	12,945	11,728	(1,217)
2019	2,126	1,708	(418)	88	62	(26)	3,707	3,574	(133)	5,921	5,344	(577)
Total	20,388	13,654	(6,734)	7,074	3,367	(3,707)	10,038	10,228	190	37,500	27,249	(10,251)
2018 & prior	18,262	11,946	(6,316)	6,986	3,305	(3,681)	6,331	6,654	323	31,579	21,905	(9,674)

^{*}projected paid claims based on paid emergence model as at 2018-Q4

As indicated in the table above, total paid emergence at \$27.2 million was \$10.3 million (27.3%) less than the \$37.5 million projected (columns [23], [24] and [22] respectively).

Further discussion of the Actual versus Projected emergence variances is provided in the by jurisdiction sections of this report.

C.5 Current valuation IBNR selections

Exhibit "4.1" (see Section L for all exhibits) summarizes the overall change in ultimate with this valuation and "4.2" shows selected loss ratios over the most recent 4 valuations for comparison purposes on an "all coverages basis".



C.6 Premium Liabilities / Future Accident Years

In order to provide a basis for estimating the full premium liability level for monthly statements (i.e. the level of premium deficiency liability / deferred policy acquisition cost asset to carry) we leverage the a priori loss ratios for the accident year underlying the unearned premium levels.

The test of recoverability leverages assumptions set by the Appointed Actuary. These include the servicing carrier expense allowances (per the Plan of Operation) and policy administration / maintenance expense assumptions.

C.7 Actuarial Present Value Adjustments

C.7.1 Selected Claims Payment Patterns

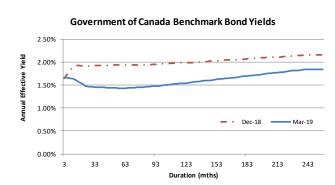
Payment patterns are selected through the emergence models (the same used for projecting future claims paid and recorded activity for the AvsP process), currently leveraging a "paid to ultimate" metric.

C.7.2 Selected Discount Rate

The projected future claims paid cash flow are aggregated across all jurisdictions and business segments and matched to a simulated portfolio of Government of Canada benchmark monthly bonds (yields anchored to the valuation date), and 15 basis point investment expense is assumed.

A discount rate of <u>1.48%</u> per annum was selected for all jurisdictions for the valuation of the claim liabilities and premium liabilities at March 31, 2019, down from 1.95% selected with the December 31, 2018 valuation. The chart to the right shows the Government of Canada benchmark bond yield curves at March 2019 and December 2018.

Sensitivity to the discount rate assumption is presented in Exhibit C (see Section L).



C.7.3 Selected Margins for Adverse Deviations

The margin for adverse deviation for investment income was maintained at 25 basis points with the current valuation.

There were **no changes to selected claims development margins** from the prior valuation and these are summarized in Exhibit D (see Section L).



D. ONTARIO

D.1 Valuation Highlights – Indemnity Only

A summary of the valuation results through time is available in the "A" exhibit (see section L for all exhibits), with detail related to the current valuation provided in the "B" exhibits.

The change in selected ultimate for **prior accident years** was \$3.4 million <u>unfavourable</u> with this valuation (4.0% of the unpaid estimate as at last quarter). These changes are presented by business segment, accident year and government line in the tables below.

		FARIVI - Ontario (Ali Venicies)											
	Valua	Valuation changes in selected ultimate											
_	(favour	(favourable) / unfavourable during Quarter											
Accident Year	Third Party	Accident	Other	Total									
Accident Year	Liability	Benefits	Coverages	iotal									
2014 & Prior	1,108	1,172	(156)	2,124									
2015	(230)	(168)	71	(327)									
2016	(14)	-	-	(14)									
2017	93	(48)	8	53									
2018	178	28	1,387	1,593									
TOTAL	1,135	1,135 984 1,310 3,429											

EARM - Ontario (All Vehicles)

	FARM -	Ontario (Private	Passenger Vehi	cles)		FARM - Ontario (Non-Private Passenger Vehicles)						
	Valua	ation changes ir	selected ultimat	:e		Valuation changes in selected ultimate						
_	(favour	<mark>able)</mark> / unfavou	rable during Qua	rter	_	(favour	<mark>able)</mark> / unfavou	rable during Qua	rter			
Accident Year	Third Party	Accident	Other	Total	Accident Year	Third Party	Accident	Other	Total			
Accident rear	Liability	Benefits	Coverages	iotai	Accident real	Liability	Benefits	Coverages	iotai			
2014 & Prior	87	564	(9)	642	2014 & Prior	1,023	608	(147)	1,484			
2015	(56)	(2)	71	13	2015	(174)	(165)	-	(339)			
2016	(37)	197	-	160	2016	23	(197)	=	(174)			
2017	12	(11)	10	11	2017	83	(37)	(1)	45			
2018	140	(1)	707	846	2018	38	30	680	748			
TOTAL	146	747	779	1,672	TOTAL	993	239	532	1,764			

The <u>unfavourable prior accident year development</u> was driven by older accident year (AY2012-AY2014) bodily injury and accident benefits large loss recorded claims activity (claims settlements and case reserves increases) and high levels of PPV physical damage recorded claims experience (Other Coverages – collision) in the quarter.

The **selected loss ratio** for **accident year 2019** (current accident year) <u>decreased</u> (1.2 points to 46.5%), while the selected loss ratio for **accident year 2020** (future accident year) <u>decreased</u> at 48.9%.

Consideration was given to recent regulatory and legislative initiatives (see summary descriptions in section I) and court decisions (see summary descriptions in section J).

D.2 Actual vs Projected (AvsP)

Variances in projected recorded and paid emergence and the associated actual emergence are presented in the following two tables.



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Ontario - All Ve	ehicles											
	Thi	rd Party Liabilit	ty	Accident Benefits			Other Coverages			Total		
	Projected	Actual		Projected	Projected Actual P		Projected	Actual	1	Projected Actual		ł
	Recorded	Recorded	Actual Less	Recorded	Recorded	Actual Less	Recorded	Recorded	Actual Less	Recorded	Recorded	Actual Less
i i	Claims in	Claims in	Projected	Claims in	Claims in	Projected	Claims in	Claims in	Projected	Claims in	Claims in	Projected
i i	2019-Q1	2019-Q1	j	2019-Q1	2019-Q1	i	2019-Q1	2019-Q1	i	2019-Q1	2019-Q1	
Accident	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Year			=[2]-[1]			=[5]-[4]			=[8]-[7]	=[1]+[4]+[7]	=[2]+[5]+[8]	=[11]-[10]
2014 & Prior	(12)	1,128	1,140	304	1,342	1,038	-	(156)	(156)	292	2,314	2,022
2015	34	(248)	(282)	116	(62)	(178)	-	71	71	150	(239)	(389)
2016	332	1	(331)	217	139	(78)	13	-	(13)	562	140	(422)
2017	524	232	(292)	267	83	(184)	10	1	(9)	801	316	(485)
2018	1,775	695	(1,080)		923	(75)	378	1,489	1,111	3,151	3,107	(44)
2019	2,296	1,382	(914)		479	116		978	(366)		2,839	(1,164)
Total	4,949	3,190	(1,759)	2,265	2,904	639	1,745	2,383	638	8,959	8,477	(482)
2018 & prior	2,653	1,808	(845)	1,902	2,425	523	401	1,405	1,004	4,956	5,638	682

^{*}projected recorded claims based on recorded emergence model as at 2018-Q4

As indicated in the table above, total recorded emergence at \$8.5 million was \$0.5 million (5.4%) less than the \$9.0 million projected (columns [11], [12] and [10] respectively).

The <u>unfavourable</u> **prior accident year** (**PAY**) recorded activity was driven by <u>unfavourable</u> large loss claims experience recorded in the quarter for older accident years (PPV AY2014 bodily injury and accident benefits case reserve increases, non-PPV AY 2012-AY 2014 third party liability and accident benefits case reserve increases and claims settlements) and AY 2018 (PPV and non-PPV collision claim).

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Ontario - All Ve	ehicles											
	Th	ird Party Liabili	ty	Accident Benefits			Other Coverages			Total		
	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected
Accident	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]
Year			=[14]-[13]			=[17]-[16]			=[20]-[19]	=[13]+[16]+[19]	=[14]+[17]+[20]	=[23]-[22]
2014 & Prior	1,687	1,477	(210)	1,239	823	(416)	195	(4)	(199)	3,121	2,296	(825)
2015	307	282	(25)	777	24	(753)	2	-	(2)	1,086	306	(780)
2016	204	1	(203)	264	79	(185)	4	-	(4)	472	80	(392)
2017	195	122	(73)	311	177	(134)	5	3	(2)	511	302	(209)
2018	1,551	872	(679)	364	288	(76)	911	1,423	512	2,826	2,583	(243)
2019	920	438	(482)	19	8	(11)	781	328	(453)	1,720	774	(946)
Total	4,864	3,192	(1,672)	2,974	1,399	(1,575)	1,898	1,750	(148)	9,736	6,341	(3,395)
2018 & prior	3,944	2,754	(1,190)	2,955	1,391	(1,564)	1,117	1,422	305	8,016	5,567	(2,449)

^{*}projected paid claims based on paid emergence model as at 2018-Q4

As indicated above, total paid emergence at \$6.3 million was \$3.4 million (34.9%) less than the \$9.7 million projected (columns [23], [24] and [22] respectively).

It is difficult to determine how much of the continuing poor paid and recorded emergence projection result is due to the various causes as discussed in Section B.4 (i.e. being driven by significant changes in Ontario private passenger volumes/mix of business, the significant reductions in IBNR over the prior valuations, impacts of various reforms or changes in payment emergence patterns).

D.3 Special IBNR Provisions / Adjustments

There are currently no special IBNR provisions or adjustments.



E. ALBERTA

E.1 Valuation Highlights – Indemnity Only

A summary of the valuation results through time is available in the "A" exhibit (see section L for all exhibits), with detail related to the current valuation provided in the "B" exhibits.

The change in selected ultimate for **prior accident years** was \$6.1 million <u>unfavourable</u> with this valuation (7.9% of the unpaid estimate as at last quarter). These changes are presented by business segment, accident year and government line in the tables below.

		(7th Verneies)										
	Valuation changes in selected ultimate											
_	(favourable) / unfavourable during Quarter											
Accident Year	Third Party	Accident	Other	Total								
Accident rear	Liability	Benefits	Coverages	IUlai								
2014 & Prior	(941)	(9)	(1)	(951)								
2015	(297)	12	(1)	(286)								
2016	(8)	(22)	12	(18)								
2017	1,614	(36)	(27)	1,551								
2018	3,843	73	1,844	5,760								
TOTAL	4,211											

FARM - Alberta (All Vehicles)

	FARM -	Alberta (Private	Passenger Vehic	cles)		FARM - Alberta (Non-Private Passenger Vehicles)						
	Valua	ation changes ir	selected ultimat	e		Valua	ation changes in	selected ultimat	te			
_	(favour	<mark>able)</mark> / unfavou	rable during Qua	rter	_	(favour	able) / unfavou	rable during Qua	rter			
Accident Year	Third Party	Accident	Other	Total	Accident Year	Third Party	Accident	Other	Total			
Accident Year	Liability	Benefits	Coverages	iotai	Accident real	Liability	Benefits	Coverages	iotai			
2014 & Prior	(181)	1	(1)	(181)	2014 & Prior	(760)	(9)	(1)	(770)			
2015	(108)	-	-	(108)	2015	(189)	12	(1)	(178)			
2016	38	(2)	1	37	2016	(46)	(20)	10	(56)			
2017	(85)	(2)	4	(83)	2017	1,699	(35)	(31)	1,633			
2018	53	88	60	201	2018	3,790	(16)	1,784	5,558			
TOTAL	(283)	85	64	(134)	TOTAL	4,494	(68)	1,761	6,187			

The <u>unfavourable prior accident year development</u> was driven by recent accident year (AY2017-AY2018) bodily injury and collision large loss recorded claims activity (claims settlements and case reserves increase) recorded in the quarter, particularly related to Commercial and Interurban vehicles.

The **selected loss ratios** for **accident year 2019** (current accident year) decreased 0.1 point to 51.2% while **accident year 2020** (future accident year) remained unchanged at 52.3%.

Consideration was given to recent regulatory and legislative initiatives (see summary descriptions in section I) and court decisions (see summary descriptions in section J).

E.2 Actual vs Projected (AvsP)

Variances in projected recorded and paid emergence and the associated actual emergence are presented in the two following tables.



	Th	ird Party Liabilit	ty	A	cident Benefit	s	0	ther Coverages			Total	
	Projected	Actual		Projected	Actual		Projected	Actual		Projected	Actual	
	Recorded	Recorded	Actual Less	Recorded	Recorded	Actual Less	Recorded	Recorded	Actual Less	Recorded	Recorded	Actua
ì	Claims in	Claims in	Projected	Claims in	Claims in	Projected	Claims in	Claims in	Projected	Claims in	Claims in	Proje
i	2019-Q1	2019-Q1	i	2019-Q1	2019-Q1	i	2019-Q1	2019-Q1		2019-Q1	2019-Q1	
Accident	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[
Year			=[2]-[1]			=[5]-[4]			=[8]-[7]	=[1]+[4]+[7]	=[2]+[5]+[8]	=[11
2014 & Prior	85	(690)	(775)	1	1	- !	-	(2)	(2)	86	(691)	
2015	306	35	(271)	10	6	(4)	-	(1)	(1)	316	40	
2016	682	464	(218)	103	5	(98)	(1)	6	7	784	475	
2017	744	2,077	1,333	144	(23)	(167)	(29)	(77)	(48)	859	1,977	
2018	2,056	4,157	2,101	224	196	(28)	934	2,148	1,214	3,214	6,501	
2019	1,832	2,599	767	177	182	5	2,707	3,037	330	4,716	5,818	
Total	5,705	8,642	2,937	659	367	(292)	3,611	5,111	1,500	9,975	14,120	
2018 & prior	3,873	6,043	2,170	482	185	(297)	904	2,074	1,170	5,259	8,302	

^{*}projected recorded claims based on recorded emergence model as at 2018-Q4

As indicated above, total recorded emergence at \$14.1 million was \$4.1 million (41.6%) more than the \$10.0 million projected (columns [11], [12] and [10] respectively).

The \$3.0 million <u>unfavourable</u> **prior accident year (PAY)** recorded activity was driven by non-PPV large loss recorded claims activity recorded in the quarter for recent accident year (AY2017-AY2018 bodily injury case reserve increases, AY2018 collision claims settlements), particularly related to Commercial and Interurban Vehicle rating classes. The <u>unfavourable PAY</u> recorded activity is partially offset by four older accident year (AY2012, AY2013, AY2015) bodily injury case reserves decreases that were greater than associated payments.

	Th	ird Party Liabili	ty	A	ccident Benefit	S	C	ther Coverages			Total	
	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected
Accident	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]
Year			=[14]-[13]			=[17]-[16]			=[20]-[19]	=[13]+[16]+[19]	=[14]+[17]+[20]	=[23]-[22]
2014 & Prior	2,087	1,620	(467)	660	24	(636)	3	(1)	(4)	2,750	1,643	(1,107
2015	699	545	(154)	28	8	(20)	-	(1)	(1)	727	552	(175
2016	802	286	(516)	188	36	(152)	-	6	6	990	328	(662
2017	386	477	91	182	42	(140)	(26)	(54)	(28)	542	465	(77
2018	1,523	1,355	(168)	248	342	94	2,893	3,510	617	4,664	5,207	543
2019	260	302	42	24	19	(5)	1,375	1,503	128	1,659	1,824	165
Total	5,757	4,585	(1,172)	1,330	471	(859)	4,245	4,963	718	11,332	10,019	(1,313
2018 & prior	5,497	4,283	(1,214)	1,306	452	(854)	2,870	3,460	590	9,673	8,195	(1,478

^{*}projected paid claims based on paid emergence model as at 2018-Q4

As indicated above, total paid emergence at \$10.0 million was \$1.3 million (11.6%) less than the \$11.3 million projected (columns [23], [24] and [22] respectively). Variances are attributed to process variance.

E.3 Special IBNR Provisions / Adjustments

There are currently no special IBNR provisions or adjustments.



F. ATLANTIC REGION

F.1 Valuation Highlights – Indemnity Only

A summary of the valuation results through time is available in the "A" exhibit (see section L for all exhibits), with detail related to the current valuation provided in the "B" exhibits.

The change in selected ultimate for **prior accident years** was \$2.7 million <u>unfavourable</u> with this valuation (2.3% of the unpaid estimate as at last quarter). These changes are presented by business segment, accident year and government line in the tables below.

	TAMIN'- Combined Adamtics (All Vehicles)											
	Valuation changes in selected ultimate											
_	(favour	(favourable) / unfavourable during Quarter										
Accident Year	Third Party	Total										
Accident real	Liability	Benefits	Coverages	iotai								
2014 & Prior	(89)	(84)	-	(173)								
2015	(25)	(161)	-	(186)								
2016	1,556	(89)	(3)	1,464								
2017	441	296	(57)	680								
2018	81	420	434	935								
TOTAL	1,964	382	374	2,720								

EARM - Combined Atlantics (All Vehicles)

	FARM - Combi	ined Atlantics (I	Private Passenge	r Vehicles)		FARM - Combined Atlantics (Non-Private Passenger Vehicle					
	Valua	ation changes in	selected ultimat	te		Valuation changes in selected ultimate					
_	(favour	<mark>able)</mark> / unfavou	rable during Qua	rter	_	(favourable) / unfavourable during Quarter					
Accident Year	Third Party	Accident	Other	Total	Accident Year	Third Party	Accident	Other	Total		
Accident rear	Liability	Benefits	Coverages	iotai	Accident rear	Liability	Benefits	Coverages	IUtai		
2014 & Prior	(75)	(96)	-	(171)	2014 & Prior	(15)	15	-	-		
2015	(94)	(24)	-	(118)	2015	69	(136)	-	(67)		
2016	1,228	4	(4)	1,228	2016	328	(93)	=	235		
2017	28	262	30	320	2017	413	34	(86)	361		
2018	(45)	189	263	407	2018	126	229	171	526		
TOTAL	1,042	335	289	1,055	TOTAL	921	49	85	1,055		

The <u>unfavourable prior accident year development</u> was driven by bodily injury case reserve increases (Newfoundland & Labrador AY2016-AY2018, Nova Scotia non-PPV AY2016, Prince Edward Island PPV AY2016) and accident benefits case reserve increases for Prince Edward Island PPV AY2017 recorded in the quarter.

Consideration was given to recent regulatory and legislative initiatives (see summary descriptions in section I) and court decisions (see summary descriptions in section J).

F.2 Actual vs Projected (AvsP)

Variances in projected recorded and paid emergence and the associated actual emergence are presented in the following two tables.



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Combined Atla	ntics - All Vehic	les							_			
	Th	ird Party Liabili	ty	A	ccident Benefit	s	0	ther Coverages			Total	
	Projected	Actual		Projected	Actual		Projected	Actual	ł	Projected	Actual	
	Recorded	Recorded	Actual Less	Recorded	Recorded	Actual Less	Recorded	Recorded	Actual Less	Recorded	Recorded	Actual Less
	Claims in	Claims in	Projected	Claims in	Claims in	Projected	Claims in	Claims in	Projected	Claims in	Claims in	Projected
	2019-Q1	2019-Q1		2019-Q1	2019-Q1		2019-Q1	2019-Q1	i	2019-Q1	2019-Q1	j
Accident	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Year			=[2]-[1]			=[5]-[4]			=[8]-[7]	=[1]+[4]+[7]	=[2]+[5]+[8]	=[11]-[10]
2014 & Prior	69	(49)	(118)	21	(52)	(73)	-	-	- !	90	(101)	(191)
2015	165	86	(79)	123	(19)	(142)	-	-	-	288	67	(221)
2016	589	2,013	1,424	323	78	(245)	-	(4)	(4)	912	2,087	1,175
2017	1,065	836	(229)	275	430	155	(4)	(32)	(28)	1,336	1,234	(102)
2018	2,622	1,963	(659)	445	582	137	167	344	177	3,234	2,889	(345)
2019	4,100	5,116	1,016	928	679	(249)	2,392	3,058	666	7,420	8,853	1,433
Total	8,610	9,965	1,355	2,115	1,698	(417)	2,555	3,366	811	13,280	15,029	1,749
2018 & prior	4,510	4,849	339	1,187	1,019	(168)	163	308	145	5,860	6,176	316

^{*}projected recorded claims based on recorded emergence model as at 2018-Q4

As indicated above, total recorded emergence at \$15.0 million was \$1.7 million (13.2%) more than the \$13.3 million projected (columns [11], [12] and [10] respectively).

The <u>unfavourable</u> recorded activity was driven by recent accident year bodily injury case reserve increase, in particular, one Prince Edward Island PPV AY2016 and one New Brunswick non-PPV AY2019, partially offset by favourable prior accident year New Brunswick PPV bodily injury and accident benefits and Nova Scotia PPV bodily injury.

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Con	nbined Atla	ntics - All Vehic	cles											
- }		Th	ird Party Liabili	ty	Α	ccident Benefit	S	(Other Coverages	5		Total		
		Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected	
i A	Accident	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]	
j	Year			=[14]-[13]			=[17]-[16]			=[20]-[19]	=[13]+[16]+[19]	=[14]+[17]+[20]	=[23]-[22]	
20:	14 & Prior	2,562	707	(1,855)	830	143	(687)	-	-	-	3,392	850	(2,542)	
- [2015	1,255	912	(343)	189	100	(89)	-	-	-	1,444	1,012	(432)	
- !	2016	1,490	1,121	(369)	349	94	(255)	2	-	(2)	1,841	1,215	(626)	
	2017	1,006	493	(513)	464	631	167	6	23	17	1,476	1,147	(329)	
	2018	2,069	1,498	(571)	856	481	(375)	2,109	1,593	(516)	5,034	3,572	(1,462)	
	2019	926	948	22	44	35	(9)	1,452	1,566	114	2,422	2,549	127	
	Total	9,308	5,679	(3,629)	2,732	1,484	(1,248)	3,569	3,182	(387)	15,609	10,345	(5,264)	
201	18 & prior	8,382	4,731	(3,651)	2,688	1,449	(1,239)	2,117	1,616	(501)	13,187	7,796	(5,391)	

^{*}projected paid claims based on paid emergence model as at 2018-Q4

As indicated above, total paid emergence at \$10.3 million was \$5.3 million (33.7%) less than the \$15.6 million projected (columns [23], [24] and [22] respectively).

Claims transaction activity is generally volatile and differences between actual and projected claims emergence are anticipated due to this natural "process variance". This is particularly true where volumes are low (as is the case here), so caution must be exercised in reviewing the variances as single claim transactions that are normal course for the business may look "unusual" and generate relatively "significant" variances that, in nominal value terms, are not that significant overall. With this in mind, and after our review, we have attributed the claims experience variance here as "random" and "process variance" driven.

That being said, it is difficult to determine how much of the continuing poor paid emergence projection result is due to the various causes as discussed in Section B.4 (i.e. being driven by changes in mix of business, impacts of various reforms or changes in payment emergence patterns).

F.3 Special IBNR Provisions / Adjustments

There are currently no special IBNR provisions or adjustments.



G. NORTHERN TERRITORIES

G.1 Valuation Highlights – Indemnity Only

A summary of the valuation results through time is available in the "A" exhibit (see section L for all exhibits), with detail related to the current valuation provided in the "B" exhibits.

The change in selected ultimate for **prior accident years** was \$0.1 million <u>unfavourable</u> with this valuation (9.3% of the unpaid estimate as at last quarter). These changes are presented by business segment, accident year and government line in the tables below.

	uation changes i		ate									
Accident Year Third Party Liability 2014 & Prior (31)	urable) / unfavo											
Accident Year Liability 2014 & Prior (31)	urable) / uriravoi	(favourable) / unfavourable during Quarter										
Liability 2014 & Prior (31)	Third Party Accident Other											
	Benefits	Coverages	Total									
2015 22	-	(1)	(32)									
2015 55	(1)	-	32									
2016 (7)	(4)	2	(9)									
2017 (63)	(3)	(60)	(126)									
2018 119	38	64	221									
TOTAL 51	30	5	86									

FARM - Combined Territories (All Vehicles)

			(Private Passenge	•	F	FARM - Combined Territories (Non-Private Passenger Vehicl					
		-	n selected ultimat Irable during Qua			Valuation changes in selected ultimate (favourable) / unfavourable during Quarter					
Accident Year	Third Party Liability	Accident Benefits	Other Coverages	Total	Accident Year	Third Party Liability	Accident Benefits	Other Coverages	Total		
2014 & Prior	(20)	-	-	(20)	2014 & Prior	(11)	-	-	(11)		
2015	(20)	-	-	(20)	2015	52	(1)	-	51		
2016	(13)	(3)	1	(15)	2016	6	(1)	1	6		
2017	(62)	-	(45)	(107)	2017	(1)	(3)	(16)	(20)		
2018	(20)	=	38	18	2018	139	38	26	203		
TOTAL	(135)	(3)	(6)	(144)	TOTAL	185	33	11	229		

Consideration was given to recent regulatory and legislative initiatives (see summary descriptions in section I) and court decisions (see summary descriptions in section J).

G.2 Actual vs Projected (AvsP)

Variances in projected recorded and paid emergence and the associated actual emergence are presented in the following two tables.

Combined Terr										1		
	Thi	ird Party Liabili	ty	A	cident Benefit	:S	(Other Coverage:	S		Total	
}	Projected	Actual		Projected	Actual		Projected	Actual		Projected	Actual	
	Recorded	Recorded	Actual Less	Recorded	Recorded	Actual Less	Recorded	Recorded	Actual Less	Recorded	Recorded	Actual Less
i i	Claims in	Claims in	Projected	Claims in	Claims in	Projected	Claims in	Claims in	Projected	Claims in	Claims in	Projected
i	2019-Q1	2019-Q1		2019-Q1	2019-Q1		2019-Q1	2019-Q1	j	2019-Q1	2019-Q1	
Accident I	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Year			=[2]-[1]			=[5]-[4]			=[8]-[7]	=[1]+[4]+[7]	=[2]+[5]+[8]	=[11]-[10]
2014 & Prior	9	-	(9)	-	-	- !	-	-	- !	9	-	(
2015	36	63	27	-	-	-	-	-	-	36	63	2
2016	103	9	(94)	4	-	(4)	-	-	-	107	9	(9
2017	126	(47)	(173)	13	-	(13)	2	(64)	(66)	141	(111)	(25
2018	317	183	(134)	15	40	25	105	62	(43)	437	285	(15
2019	160	119	(41)	7	18	11	205	334	129	372	471	9:
Total	751	327	(424)	39	58	19	312	332	20	1,102	717	(38
2018 & prior	591	208	(383)	32	40	8	107	(2)	(109)	730	246	(48

*projected recorded claims based on recorded emergence model as at 2018-Q4

As indicated in the table above, total recorded emergence at \$0.7 million was \$0.4 million (34.9%) less than the \$1.1 million projected (columns [11], [12] and [10] respectively).



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Combined Terr	ritories - All Veh	icles		_						_		
	Third Party Liability			Accident Benefits			Other Coverages			Total		
	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected	Projected Paid Claims in 2019-Q1	Actual Paid Claims in 2019-Q1	Actual Less Projected
Accident	[13]	[14]	[15]	[16]	[17]	[18]	[19]	[20]	[21]	[22]	[23]	[24]
Year			=[14]-[13]			=[17]-[16]			=[20]-[19]	=[13]+[16]+[19]	=[14]+[17]+[20]	=[23]-[22]
2014 & Prior	153	-	(153)	-	-	-	-	-	-	153	-	(153)
2015	18	-	(18)	-	-	-	-	-	-	18	-	(18)
2016	44	9	(35)	14	2	(12)	-	-	-	58	11	(47)
2017	43	39	(4)	9	-	(9)	3	(62)	(65)	55	(23)	(78)
2018	186	131	(55)	11	12	1	225	220	(5)	422	363	(59)
2019	19	20	1	1	-	(1)	100	178	78	120	198	78
Total	463	199	(264)	35	14	(21)	328	336	8	826	549	(277)
2018 & prior	444	179	(265)	34	14	(20)	228	158	(70)	706	351	(355)

*projected paid claims based on paid emergence model as at 2018-Q4

As indicated above, total paid emergence at \$0.5 million was \$0.3 million (33.5%) less than the \$0.8 million projected (columns [23], [24] and [22] respectively).

Claims transaction activity is generally volatile and differences between actual and projected claims emergence are anticipated due to this natural "process variance". This is particularly true where volumes are low (as is the case here), so caution must be exercised in reviewing the variances as single claim transactions that are normal course for the business may look "unusual" and generate relatively "significant" variances that, in nominal value terms, are not that significant overall. With this in mind, and after our review, we have attributed the claims experience variance here as "random" and "process variance" driven.

G.3 Special IBNR Provisions / Adjustments

There are currently no special IBNR provisions or adjustments.



H. Appendix 1: Changes in process introduced since the September 30, 2018 valuation

The September 30, 2018 valuation supported the October 31, 2018 fiscal year-end financial statements. There have been no significant changes to the valuation process since that valuation.

A more detailed description of the current valuation process is presented in section K.



I. Appendix 2: Recent Regulatory and/or Legislative Initiatives

Consideration and assessment of potential impacts of legal decisions and changes in legislation / regulation constitutes a regular part of the valuation process. Descriptions of some of the more recent changes are provided below.

1.1 Ontario

Ontario Bill 91 (Building Ontario Up Act (Budget Measures), 2015) was introduced into the Legislature by the Minister of Finance on April 23, 2015 and received Royal Assent on June 4, 2015. Bill 91 announced a number of amendments to regulations made under the Insurance Act, including: updating the Catastrophic Impairment Definition and changes to the standard benefit level under the Statutory Accident Benefits Schedule (SABS); restrictions on insurance premium increases and lowering of the maximum interest rate charged on monthly auto insurance premium payments; and adjustments to the monetary threshold beyond which the tort deductible does not apply to reflect inflation (adjustments to reflect inflation in the associated tort deductible were undertaken via an update to regulation 461/96). On August 26, 2015, the Ontario government filed Ontario regulations 250/15 and 251/15 implementing reforms set out in Bill 91. With the most recent valuation (March 31, 2019), reform adjustments (originally introduced with the September 30, 2015 valuation), specifically related to the SABS impacting the bodily injury and accident benefits coverages, were included with the updated industry trend analysis (completed using industry data as at June 30, 2018), impacting the selection of ultimates.

1.2 Alberta

In the **Alberta Treasury Board and Finance Notice 04-2018** (Clarification of Minor Injury Regulation), dated **May 17, 2018**, the Alberta Superintendent of Insurance advised that clarifying amendments have been made to the definition of minor injuries under the Minor Injury Regulation (MIR). With the <u>most recent</u> valuation (March 31, 2019), adjustments have been made to our valuation estimates to reflect our estimates of the impact of these amendments, including a one-time adjustment of -10.0% applied to account for MIR change effective June 1, 2018, reflected in the most recent updated industry trend analyses completed using industry data as at June 30, 2018.

The Minister of Treasury Board and Finance issued Ministerial Order 14/2018, on October 31, 2018, which states unless otherwise directed by the Minister, the AIRB may not approve filing from insurers for cumulative rate increases on private passenger vehicles greater than +5.0% during the period between December 1, 2018, and August 31, 2019. At the current time, no explicit adjustments have been made to our valuation estimates or views based on this order.

1.3 Harmonized Sales Tax

In the **New Brunswick** fiscal 2016-17 provincial budget released February 2, 2016, the New Brunswick Finance Minister announced a 2 percentage point <u>in</u>crease in the provincial component of the harmonized sales tax ("HST") **effective July 1st, 2016** increasing the combined HST rate in the province from 13% to 15%.

In the **Newfoundland and Labrador** fiscal 2016-17 provincial budget released April 4, 2016, the Newfoundland and Labrador Finance Minister announced a 2 percentage point increase in the provincial



component of the HST **effective July 1st, 2016** increasing the combined HST rate in the province from 13% to 15%.

In the **Prince Edward Island** fiscal 2016-17 provincial budget released April 19, 2016, the Prince Edward Island Finance Minister announced a 1 percentage point <u>in</u>crease in the provincial component of the HST **effective October 1st, 2016** increasing the combined HST rate in the province from 14% to 15%.

With the <u>most recent</u> valuation (March 31, 2019), **HST adjustments** for **Newfoundland & Labrador**, **New Brunswick and Prince Edward Island** were explicitly taken into account with the updated industry trend analyses (completed using industry data as at June 30, 2018), impacting the selection of ultimates.

1.4 Harmonized Sales Tax Class Action – Ontario

Since the end of October 2018, class action lawsuits have been brought against multiple insurers related to HST and limits / sub-limits of benefits per the Statutory Accident Benefits Schedule and FSCO's Professional Services Guideline as part of claims settlement practices in Ontario.

At the current time, no adjustments have been made to our valuation estimates, but in conjunction with FA's Appointed Actuary, FA management continues to review and consider the implications of the potential outcomes related to the class action lawsuits. Please contact Shawn Doherty at sdoherty@facilityassociation.com if you need further information.



J. Appendix 3: Court Decisions

J.1 Nova Scotia Court of Appeal

The **Nova Scotia Court of Appeal** confirmed, in a unanimous decision released on **January 18, 2019** in relation to **Sparks v Holland** (**2019 NSCA 3**), that future Canada Pension Plan (CPP) disability benefits are deductible from future income loss awards in motor-vehicle accident claims in that province. Sparks sustained injuries as a result of a motor vehicle accident in Nova Scotia and sought damages for personal injuries and loss of income. The decision supported an earlier decision (Tibbets v Murphy, 2017 NSCA 35) that both past and future CPP disability benefits are deductible under section 133A of the Insurance Act. At the current time, no adjustments have been made to our valuation estimates as a result of this decision.



K. Appendix 4: General description of the FARM valuation process

- 1) select a priori loss ratios
 - a. start with prior valuation a priori model
 - b. update with prior valuation final selected ultimates
 - c. update with trend / rate as available
 - d. final selection approved by Appointed Actuary
- 2) collect / prepare / reconcile / validate valuation data
 - a. results presented for review and acceptance by Appointed Actuary
- 3) complete Actual vs Projected process
 - a. prepare exhibits and metrics
 - b. share with Appointed Actuary for review and consideration
- 4) calculate ultimate estimates based on incurred link ratio method¹⁴
 - a. prepare triangles and link ratio averages
 - b. prepare estimates based on pre-determined default link ratio selections
 - c. final link ratio selections reviewed and accepted by Appointed Actuary
- 5) calculate ultimate estimates based on a priori loss ratio method
 - a. prepare estimates
 - b. final estimates reviewed and accepted by Appointed Actuary
- 6) calculate ultimate estimates based on Bornhuetter / Ferguson method
 - a. prepare estimates
 - b. final estimates reviewed and accepted by Appointed Actuary
- 7) final IBNR selection
 - a. prepare summary of IBNR estimates underlying each valuation method at coverage / accident half-year level
 - b. Appointed Actuary selects final IBNR by coverage and accident half-year, taking into consideration IBNR estimated from valuation methods employed and other information
- 8) complete paid emergence and apy factor models (coverage / accident half-year)
 - a. load triangles, selected ultimates, current yield curves into model

file: Qtrly Valuation Highlights - FARM as at 2019 03 31 vfinal

¹⁴We also calculate ultimate estimates based on 3 additional "link-ratio" valuation methodologies ("Mack", "Murphy", and "ICRFS Cape Cod"), although no selections to date have been based on these additional methods, we are monitoring how well these alternate methods and the associated statistical ranges for their estimated unpaid claims liabilities work on FA data.



- b. select initial emergence ratios (currently using initial paid / ultimate ratios to determine emergence ratios) and calculate associated payment / cash flow estimates
- c. select discount rate and investment rate margin
- d. select development margins
- e. final selections reviewed / accepted by Appointed Actuary
- 9) select expense ratios for premium liabilities
 - a. initial selections prepared
 - b. Appointed Actuary selects final ratios
- 10) present results to Actuarial Committee
 - a. prepare and post analysis package (including preliminary implementation impact analysis)
 - b. update analysis and selections based on discussion and review
 - c. posted updated analysis package
- 11) summarize valuation assumptions
 - a. Appointed Actuary reviews and signs off
 - b. assumptions given to Facility Association for implementation
 - c. implementation impact estimated
- 12) present results to Audit & Risk Committee
 - a. prepare and post valuation summary and implementation impact package
 - b. present / review / discuss results
- 13) complete recorded emergence models (coverage / accident half-year)
 - a. load triangles, selected ultimates
 - b. select initial emergence ratios (currently using recorded / ultimate ratios to determine emergence ratios) and calculate associated recorded emergence
 - c. final selections reviewed / accepted by Appointed Actuary
- 14) implement valuation
- 15) prepare summary of year-on-year change in process and liabilities for review by Accounting Committee (annual only occurs in December to align with October Statement preparation)
- 16) prepare summary of year-on-year change in process and liabilities for review by Audit & Risk Committee (annual only occurs in December to align with October Statement preparation)
- 17) prepare Appointed Actuary Report (annual only occurs in February/March to align with release of Board approved Financial Statements)



L. Appendix 5: Exhibits

Summary exhibits are provided by jurisdiction on an all vehicles/all coverages basis. Additional detail and summary exhibits by jurisdiction; segment (i.e. private passenger vs non-private passenger) and government line/coverage is available upon request. Exhibits are posted separately on the FA website.

Exhibit A Changes in Ultimate Selection over time

Exhibit B.4 ("All vehicles"; "total" government line/coverage level)

B.4.1 Summary

B.4.2 Loss Ratios over time

Exhibit C Interest Rate Sensitivity

Exhibit D Margins for Adverse Deviations