

July 29, 2020

Alberta Automobile Insurance Rate Board
2440 Canadian Western Bank Place
10303 Jasper Avenue
Edmonton, AB T5J 3N6

Attention: Ms. Charlene Butler, MBA, BSc, BComm, Chair

RE: FA Written Submission in regard to the AIRB Draft Review of 2019-H2 Industry PPV and CV Experience

Dear Ms. Butler,

Facility Association has reviewed the draft Oliver Wyman (“OW”) reports entitled “*Annual Review of Industry Experience – Preliminary Report as of December 31, 2019 Private Passenger Vehicles*” dated June 26, 2020, and “*Annual Review of Industry Experience – Preliminary Report as of December 31, 2019 Commercial Vehicles*” dated June 15, 2020.

We are pleased to provide our attached written submission for your consideration. Our comments are focused on the availability of automobile insurance in the voluntary market in Alberta, providing consumers in the province choice both in terms of insurance provider and choice of the type and amount of coverage available¹. We believe this dovetails with the Alberta Automobile Insurance Rate Board (AIRB) vision of fostering an efficient and effective automobile insurance market with fair and predictable rates.

We continue to be concerned with the potential availability issues in Alberta at the current time. While the OW estimates of PPV loss ratios (indemnity, ALAE, and ULAE) have been improving (marginally) from their accident year 2016 peak, they remain well above the 64% level we estimate would be consistent with the proposed benchmarks as per the Reports. Further, the OW estimates of CV loss ratios for the most recent two prior accident years (2017/2018 already well above the 65% level consistent with the benchmark assumptions), have continued to deteriorate since their initial annual respective reviews. We estimate the OW future trend selections at the coverage level will translate to an overall loss cost future trend rate over 5% for both private passenger and commercial vehicles.

It is challenging to promote both fairness and predictability in automobile insurance rates at a time when

¹Consumers in Alberta are required to purchase \$200,000 of third party liability protection. However, it is clear that consumers see value in broader insurance coverage to protect them and their financial wellbeing, as only 0.1% of individually-rated private passenger vehicles were insured for the required minimum third party liability limit, according to 2018 data found in GISA industry data (the AUTO1101 exhibit for 2019, and related industry statistics for 2019, is not yet available). Further, 75% purchased protection for their vehicle against collision/upset, and 89% purchased protection for their vehicle against theft and non-collision damage. We believe these statistics show a clear consumer appetite in the province for automobile insurance across many of the perils to which owning or operating an automobile exposes consumers.

the underlying costs of benefits provided by the insurance product are very difficult to predict, as highlighted in several passages of the OW reports.

In light of this, we believe it is important for the AIRB to use the benchmarking exercises to inform its considerations of rate filings, rather than to set specific targets, caps, or floors with respect to any one particular assumption. This approach opens the opportunity for insurers to reflect their own assessment of future costs in providing their product / service to the consumer, and allows them to set their rates based on their assessment of the competitive market in which they operate. This, we believe, results in the greatest consumer choice in both providers and product, while maintaining fairness to all parties.

In contrast, benchmark assumptions which set values, floors or caps may adversely impact availability of voluntary automobile insurance in the province, to the extent that capital providers in the voluntary market take an adverse view of their ability to charge rates that they have assessed relative to the future costs and risk of providing insurance.

More broadly (i.e. beyond just a focus on reform factors and trends), there are areas of uncertainty where we believe the AIRB should allow flexibility for companies selecting assumptions supporting their applications. These include:

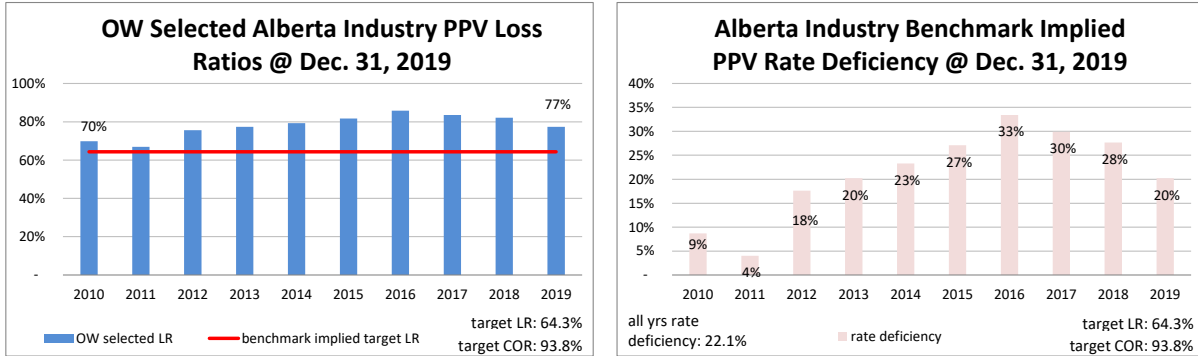
- selection of industry ultimate claim counts and amounts supporting their analyses (including trend analyses);
- selection of trend models (including the underlying methodology and approach) and associated estimates of trends or other changes to claims metrics;
- selection of large loss and catastrophe loss loadings and methodologies;
- operational expenses; and
- profit provisions (both in terms of the metric to use, and the level to target).

We would like to recognize and support the update to the Board guidelines in July 2019 to direct insurers to support their individually selected expected investment income rate. We believe that it is important to begin laying the foundation for a flexible future system, where insurers are able to include their best estimates of future costs based on their own assumptions, judged by the AIRB on their own merit and the basis of reasonableness, giving proper consideration to prediction uncertainty.

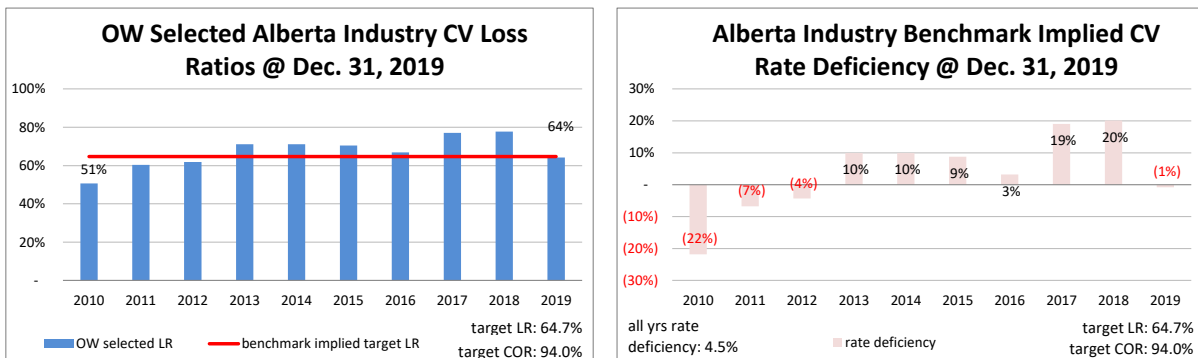
In considering these areas of potential flexibility, it is important to acknowledge the extent of the current estimated rate deficiency in the province. Based on our interpretation, the proposed benchmark assumptions would indicate target indemnity and claims expense ratios of approximately 64 to 65% for both PPV and CV. The charts on the next page summarize estimated rate deficiencies, by accident year, relative to this target level. For PPV, this ranges from 4% (2011) to 33% (2016) deficient, with a weighted average rate deficiency of 22% or **greater than \$8.5 billion in PPV premium shortfall over that 10-year period.**

It is important to note that these are not estimates of actual hindsight rate deficiencies, but rather estimated rate deficiency applying the OW benchmark assumptions per the current preliminary benchmark Report. We have not attempted to put claims or premium amounts “on-level” (i.e. adjusted claims for trends/reforms over time; adjusted premium levels for premium trend and rate changes).

Industry Alberta PPV @ Dec 31, 2019 - OW selected indemnity, ALAE, ULAE LRs and implied rate deficiencies on basis of OW selected current benchmarks



Industry Alberta CV @ Dec 31, 2019 - OW selected indemnity, ALAE, ULAE LRs and implied rate deficiencies on basis of OW selected current benchmarks



More specific to the reform factors and trends outlined in the OW Preliminary Reports, we discuss the following issues and our views more broadly over the following pages:

- selection of ultimates and valuation methodologies (use of GISA published development factors and apparent use of a single valuation methodology);
- use of indemnity + ALAE + ULAE vs use of indemnity alone (ALAE develops differently than indemnity; ULAE is applied as a calendar year factor applied to accident year half data); and
- selection of loss trend rates (consideration of coverage correlations; single-period vs. multi-period approaches; moving future trend breakpoints)

Any questions related to this submission may be directed to Aidan Chen either by phone (647-619-2965) or by email at achen@facilityassociation.com.

Best regards,

Aidan Chen
 AVP Data & Analytics

General Comments

This document represents the Facility Association (FA) written submission to the Alberta Automobile Insurance Rate Board (AIRB) with respect to the Oliver Wyman (OW) report entitled “*Annual Review of Industry Experience – Preliminary Report as of December 31, 2019 Private Passenger Vehicles*” dated June 26, 2020, and “*Annual Review of Industry Experience – Preliminary Report as of December 31, 2019 Commercial Vehicles*” dated June 15, 2020.

Summary of Selection

There are many possible models for frequency, severity, and loss costs for each coverage that are valid and reasonable, and the ultimate selection of models by insurers in developing their rates is a matter of judgment and interpretation that can differ among actuaries even when modeling the same data. We put forward that differences like this in general should be viewed as both “okay” and healthy in a competitive environment.

Specifically, we feel it is important for the Board to consider that valid differences in actuarial judgment and opinion can lead to differing selections of ultimates, and differing trend results, as differing models can fit actual results equally well even to the same data, and yet, due to their structure (i.e. the selected parameters included in each), result in divergent forecasts.

We also believe the Board should allow the filing insurer to bet their prices and market share on their views of ultimates and their selections of models describing frequency/severity/loss costs over time and as projected into the future. The rate review process should focus on whether the filing insurer’s process to arrive at their forecast was reasonable (and consistent with the insurer’s previous views / process / approach unless an explanation is provided as to what has changed and why). If so satisfied, we believe the Board should accept the filing insurer’s view, even if it differs from the view of the Board’s actuary. Forcing all participants in the insurance market place to adopt a single view introduces systemic risk and potentially detracts from the competitive marketplace should certain participants reduce their risk appetite where they do not agree with the imposed view. This can lead to an overly prescriptive regulatory environment, which we believe is not the intention of the Board.

We appreciate the opportunity to provide feedback, but regret that we lack resources to provide a detailed assessment of all aspects of the OW Report and their modeling approach. We have focused our comments on the following areas as a result:

1. selection of ultimates and valuation methodologies

For all coverages, the OW selection of ultimates (counts / amounts) is based on the selection of loss development factors (chain ladder method) using industry data through December 31, 2019.

Furthermore, we believe it is uncommon practice in Canada for a valuation actuary to rely on a **single valuation methodology in completing a valuation** as this introduces significant model risk (the risk that the model employed is not appropriate or has significant shortcomings for the experience being projected). To minimize model risk it is common to employ different models.

The strengths and weakness of the chain ladder method are well documented in actuarial literature. Some of the limitations (weaknesses/constraints) of the chain ladder method include:

- dependent on the experience, requiring the past to be perfectly predictive of the future – for Alberta experience in particular, there is evidence that claims reporting and development (link ratios) may be changing for some coverages, particularly in the face of increased catastrophic event activity, changes in economic activity, regulatory and potential product reforms, system changes, recent changes in company reserving patterns (changes in case reserve adequacy) and acknowledged data reporting quality concerns;
- highly-leveraged nature – for coverages with long settlement periods (for example, bodily injury), link ratios tend to have significant levels of volatility, particularly at earlier development ages; and
- calendar period (or “settlement period”) trends – we believe there is evidence² of inflation on a settlement year basis, where all claims settled one year are inflated relative to similar claims settled in the previous year, and the standard link ratio methodology does **not** properly account for such trends

We have included a “heat map” for Alberta PPV Bodily Injury (BI) indemnity average case reserves at the top of the next page, the most recent 8-10 diagonals for accident halves are **showing an increase in the average case reserves**, which would have an impact on valuation estimates based solely on the chain ladder method, and should be taken into consideration.

*Industry Alberta **PPV** Bodily Injury at Dec. 31, 2019*

***Average Case Reserve Indemnity Only** per open claim (Amounts in \$'000s)*

by accident half (heat map – green to yellow to red indicates increasing amount for column)

Accident Half year	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	126	132	138	144	150	156	162	168	174	180	186	192	198	204				
06-2000	21	31	45	58	77	88	107	128	147	158	167	202	234	254	267	325	260	339	477	341	791	341	979	835	1,656													
12-2000	22	33	46	61	72	89	103	119	143	163	187	216	237	254	274	275	318	293	209	224	169	202	239	136	117	132	27	13										
06-2001	22	33	47	59	76	92	113	132	150	155	166	184	212	252	226	289	313	385	394	344	1,023	720	688	826	839	685	686	502	455	644	645							
12-2001	22	34	49	66	81	95	107	119	145	158	167	190	242	215	226	232	283	374	402	401	558	679	722	794														
06-2002	21	32	46	62	81	100	114	146	163	188	211	252	238	289	287	290	341	322	410	517	507	601	1,369	2,673	2,347	2,053	1,309	809										
12-2002	22	35	51	68	86	101	125	143	162	189	204	219	209	280	286	290	284	316	431	360	375	362	235	246	194													
06-2003	22	34	47	61	78	103	114	128	147	170	191	216	205	218	288	270	355	457	516	740	677	813	1,304	708	1,351	2,707	1,045	1,032	999	999	999	999	807	807	807			
12-2003	25	39	55	70	97	118	126	144	175	195	228	230	259	257	258	282	352	327	580	717	864	669	857	1,374	1,302	706	743	743	432	437	1,103	1,106	1,115					
06-2004	24	38	51	71	85	100	108	131	153	168	171	185	198	215	268	307	272	319	355	285	417	659	421	278	284	284	413	979	0	0	0	0	0	0				
12-2004	24	36	52	69	84	95	106	121	142	142	158	188	208	249	272	214	295	248	277	436	526	466	952	799	188	365	0	0	0	0	0	0	0	0				
06-2005	20	30	43	53	68	86	103	121	119	125	123	128	152	165	144	189	208	297	267	346	330	382	408	567	582	308	231	819	410	259								
12-2005	19	30	42	50	63	85	96	106	123	128	147	175	215	185	210	266	293	361	525	489	558	618	579	588	617	336	733	485	820									
06-2006	19	28	38	46	69	82	85	97	107	121	134	147	128	164	175	191	242	297	281	287	405	411	473	294	111	108	403	1,015										
12-2006	20	32	38	55	75	83	98	107	123	132	148	138	180	194	232	266	328	421	591	742	677	1,039	1,319	2,049	1,581	840	840											
06-2007	16	28	35	46	58	77	86	96	117	134	128	183	184	198	219	248	250	314	267	361	407	341	371	234	403	365												
12-2007	19	30	42	54	73	85	98	117	133	133	168	209	250	283	312	334	369	302	486	388	614	661	679	661	664													
06-2008	19	27	36	46	59	79	97	111	117	156	172	194	273	300	289	387	507	661	756	686	561	562	626	517														
12-2008	21	31	43	56	84	105	117	132	169	185	188	209	250	297	360	350	452	539	663	648	853	518	792															
06-2009	19	28	37	48	67	85	94	130	160	203	240	264	310	313	332	271	269	312	202	262	313	218																
12-2009	21	30	46	61	84	106	144	175	210	238	250	257	263	327	384	417	374	389	423	469	307																	
06-2010	17	27	38	53	72	109	131	153	173	191	213	233	259	322	371	385	349	330	348	611																		
12-2010	19	29	41	55	93	128	148	168	185	204	229	269	310	391	450	389	516	560	580																			
06-2011	16	24	35	52	82	107	127	153	185	201	246	275	288	340	315	368	390	426																				
12-2011	19	29	46	67	106	141	162	197	240	273	310	351	444	418	559	739	692																					
06-2012	18	30	44	63	101	130	148	178	208	254	275	414	408	403	400	477																						
12-2012	19	28	43	63	102	134	147	174	207	227	277	293	382	409	457																							
06-2013	17	28	43	65	108	131	148	181	219	270	281	356	379	412																								
12-2013	19	30	48	71	105	140	158	186	223	251	296	339	393																									
06-2014	18	32	50	72	112	142	165	204	260	287	319	358																										
12-2014	22	36	58	87	127	159	189	233	292	348	370																											
06-2015	21	38	58	85	124	165	201	237	290	304																												
12-2015	26	41	62	94	147	188	217	253	284																													
06-2016	23	38	64	96	135	166	201	243																														
12-2016	24	41	70	99	133	167	199																															
06-2017	23	43	69	96	134	173																																
12-2017	30	48	72	98	132																																	
06-2018	28	44	67	93																																		
12-2018	36	48	76																																			
06-2019	26	42																																				
12-2019	31																																					

² FA has been investigating the use of a valuation methodology that incorporates calendar period trends (akin to a GLM methodology). Our current review of Alberta PPV data suggests a relatively large statistically significant calendar period trend, for at least some coverages (our bodily injury models indicate a calendar trend in excess of 6% annualized)

Based on our review of the December 31, 2019 AIX data, we believe there is evidence for Alberta PPV BI that some level of stability may be coming about across the relationship of indemnity and ALAE and paid and case. We believe these may be helping to stabilize recorded amount link ratios for BI. We are still seeing instability in recorded claim count development.

The selection of ultimates is a critical and foundational input of the loss trend analysis. We believe there are a number of factors contributing to the uncertainty in estimating Alberta Industry ultimates and that the **“range of reasonable” valuation estimates is wide** which subsequently **leads to a wide range of reasonable trend estimates**.

We also believe that including prior estimates of ultimates would be beneficial to understanding how the historical estimates of ultimate are changing over time (that is, over a longer period of selections, beyond a comparison with the prior semi-annual report). As the AIRB’s vision is for fair and predictable rates, the accuracy of the predictions used for setting benchmarks should be assessed as part of the annual process. It is relatively easy to provide historical actual vs. predicted levels and we suggest that this be done focused on loss costs, showing variances in both dollar terms and percentage terms and suggest that a “triangle” format might be a strong visualization tool to aid in the assessment. It might also be possible to estimate the variances that can be attributed to process variance (that is, randomness inherent in the underlying process), and parameter variance (that is, due to either having a sub-optimal model, or having the optimal model, but having selected a sub-optimal parameterization of the model).

2. use of indemnity + ALAE + ULAE vs use of indemnity alone

OW uses indemnity plus allocated loss adjustment expense (ALAE) plus unallocated loss adjustment expense (ULAE) as the basis³ for loss amounts in their analysis.

We see two primary ways that **ULAE/ALAE shifts over time might impact or distort trend estimates**: due to differences in development patterns for indemnity and ALAE, and the use of a calendar year ULAE factor applied to accident half coverage data.

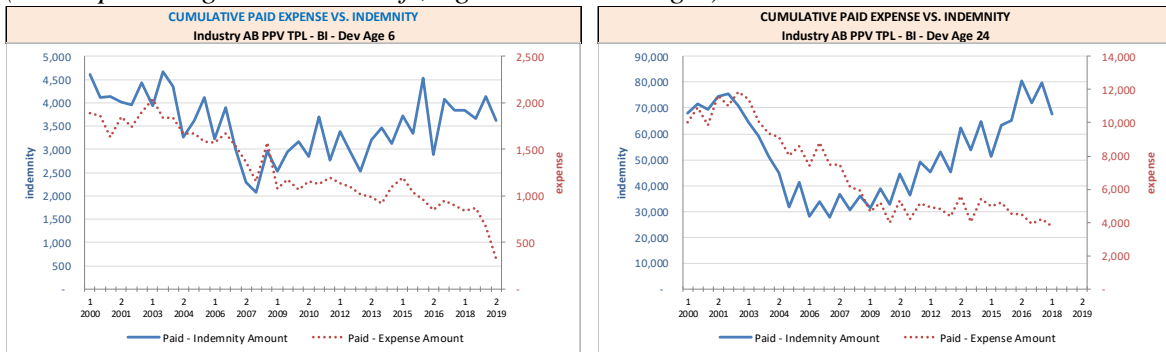
- **ALAE develops differently than indemnity:** If the proportion of ALAE to indemnity is reasonably constant, using aggregate indemnity & ALAE triangles to determine ultimate levels is not problematic. However, if the relation changes (particularly in Alberta PPV, where we’ve seen impacts related to technology and claims system changes and, in particular, a legal expense shift from ALAE to ULAE), for any reason, including the situation where ALAE is shifting to or from ULAE, then the aggregate development factors may no longer be appropriate.
- **Calendar year ULAE factors applied to accident half data:** As a calendar year factor, ULAE is made up of the sum of ULAE payments made by insurers during the course of a

³ “Our severity and loss cost estimates include allocated loss adjustment expenses and a provision for the unallocated loss adjustment expenses based on factors provided by GISA.” [page 15, OW Preliminary Report]

calendar year (and the change in the estimated unpaid ULAE level). In a steady state, it may be reasonable to assume that this would be stable over time. However, as per the draft PPV benchmark report, the calendar year ULAE ratios are not stable and in recent years, we have seen a range from 8.5% for calendar year 2016 to 10.8% for calendar year 2019. Furthermore, applying these calendar year factor to accident half data at a coverage level will inappropriately apply the factor equally to first and second accident halves for a given accident year, as well as equally across all coverages.

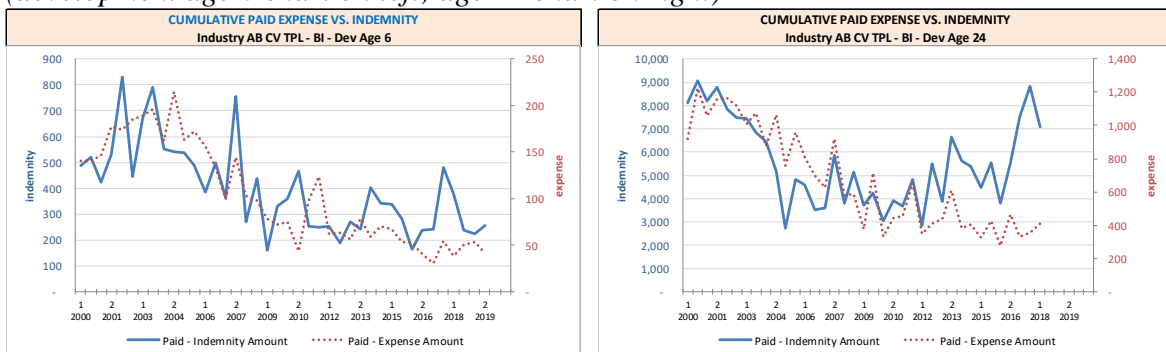
We also note a continuation of the previous pattern we identified and discussed in prior submissions related to the change in relationship between paid indemnity and paid ALAE for bodily injury. Specifically, we have noted that by 24 months, the total dollar amount of paid ALAE has remained steady at around \$5 million per accident half, while paid indemnity has increased annually over the same period (close to 5% annually).

*Industry Alberta **PPV BI Paid Indemnity** and **Paid ALAE** at Dec. 31, 2019 by accident half (development age 6 chart on left; age 24 chart on right)*



As per the charts above, for PPV at 6 months, indemnity paid started increasing at around 2009 whereas ALAE paid has continued to decrease (both may be leveling out recently). At 24 months, while ALAE paid may be leveling out, indemnity paid continues to increase. The same patterns do not appear in CV to the same extent (see charts below).

*Industry Alberta **CV BI Paid Indemnity** and **Paid ALAE** at Dec. 31, 2019 by accident half (development age 6 chart on left; age 24 chart on right)*



If the objective, as indicated in the report, is to minimize any impacts or distortions in the data that may arise from insurers change their mix of ULAE and ALAE over time, this can be achieved by **modeling indemnity only data and recognizing that individual insurers are in a much better position to make direct adjustments** for any shifts in their usage of ULAE vs ALAE over time, as they deem appropriate.

3. selection of loss trend rates

The **OW PPV & CV Report selected trends** are generally **in line** with the loss cost trends estimated for indemnity as per **FA's own modeling of the Alberta industry experience** as at Dec. 31, 2019, neither consistently higher or lower by coverage (i.e. OW is higher for some coverages, lower for others).

Consideration of coverage correlations

In addition to review of linear regression models, FA also considers correlation between coverages and across private passenger and commercial vehicles for like coverages when selecting trend review periods. That is, collision, accident benefits, property damage and bodily injury coverages are all generally triggered by automobile collisions (and private passenger and commercial vehicles share the same roads, weather and economic conditions etc.). As such, we expect to see correlation between and among these coverages for claims frequency, and we take this into account in our modeling and in our final model selections. This ensures consistency between the coverages and the related modeled frequencies and helps raises questions (particularly where relationships appear to be changing). **We believe the AIRB and OW formally taking coverage correlations into consideration when selecting trend period structures will likely result in more consistent models.**

Single period vs multi-period approaches

In general, the OW selected trend coefficients are not taken directly from a single selected regression model, but rather after consideration of coefficient estimates from a variety of models, where model design differences are largely based on reducing the period length (without then including the dropped periods explicitly as part of an implied earlier period). As a result, the **OW selection process, while based on ordinary least squares, is ultimately not strictly ordinary least squares, and may not result in a best or unbiased estimator** of the underlying trend rate.

We believe a better approach would be for OW to select a period structure that they believe best describes the historical results, and then accept the coefficient estimates from that model. Further, **we believe it would be better to model a consistent set of data** (that is, data across the same periods), rather than modeling subsets of data and attempting to compare model results of the data subsets. In general, using regression, directly comparing fit measures of models of different subsets from a data set, requires careful interpretation, as the fits are in relation to different data sets; and **differing fits are not necessarily directly comparable.**

Moving future trend breakpoints

Using OW PPV bodily injury for reference, OW described their rationale for selecting a lower future loss cost trend rate (+6.0%) than their selected past trend rate (+7.0%) as being in part due to finding “... *some evidence of moderation to the steep increases in loss costs...*”.

For OW CV bodily injury, there is no difference between the selected future trend and past trend.

Going back through prior OW PPV Reports, we would note OW has continued to move-the-goal-posts, by effectively changing the period at which they view the loss cost trend to have changed (from ‘18H1 with the 2017-12 AIX data set, to ‘18H2 with the 2018-06 AIX data set, to ‘19H1 with the 2018-12 AIX data set, to ‘19H2 with the current 2019-06 AIX data set). This in effect **continually changes the model structure and potentially leads to instability in the trend estimates between analyses.**

We would question whether the **selected lower future bodily injury loss cost trend rate versus the selected past trend rate for PPV is necessary and appropriate** given the period changes across the PPV reviews. In general, we believe a better approach than assuming a different starting point for future trends with each analysis would be to explicitly pick a point at which the trend is viewed as having changed, then take that forward. The benefit is that future analysis may provide support for or against the original hypothesis, leading to improved decision making.