

777 Bay Street, Suite 2400 P.O. Box 121 Toronto, Ontario M5G 2C8



E: mail@facilityassociation.com

May 14, 2014

NL Board of Commissioners of Public Utility 120 Torbay Road P.O. Box 21040 St. John's, NL A1A 5B2

Attention: Ryan Oake

RE: FA NL <u>Category 2 Taxi Rate Application – OW Report of Findings</u> – Response to email May 09, 2014 (2:39 pm)

Dear Mr. Oake,

Facility Association (FA) received OW Report of Finding ("the Report") with alternative assumptions in regard to FA NL Taxi rate level change. We appreciate the opportunity to review and provide comment on the Report.

Facility Association's original rate level indication for combined coverages Third Party Liability ("TPL"), Accident Benefits ("AccBen"), and Underinsured Automobile ("UA") was +102.7%, based on a target post-tax return on equity ("ROE") of 12.0%, and a return on investment ("ROI") of 1.03% (net of expenses). At the request of management, an indication was derived based on a 0.0% cost of capital and an ROI of 2.8%, with this indication being +73.5%. Based on this latter indication, and a decision to cap the TPL rate change at 50.0%, management proposed an overall rate change of +56.7%.

The Report contained alternative assumptions on page 19 that were put forward as changes OW propose are reasonable and within the Board Guidelines, and are reproduced below:

- 1. the Board's Guideline CV loss trend rates developed by Oliver Wyman ("OW"),
- 2. the Board's Guideline investment income rate assumption of 2.8%,
- 3. the same full credibility claim count standard for TPL as used in the prior application,\
- 4. the same basis for the complement of credibility as used in the prior application,
- 5. A provision for the health levy

Based on the above alternative assumptions, the overall indication is reduced to +21.5%, as presented in the Report – this indication is directly comparable to the +73.5% presented above. We discuss our view of these alternative assumptions in the "Response Section" beginning on page 3 of this document.



We would be	please to	provide any	additional	information	as needed.
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Best regards

Liqing Yang, FCAS Pricing Actuary

attachment



OW's alternative assumption 1: the Board's Guideline CV loss trend rates developed by Oliver Wyman ("OW")

FA Response assumption 1:

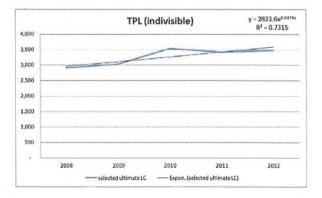
FA was provided an opportunity to present our position that the trend structures used in support of the rate indications for Taxi as per our filing were appropriate and represented superior trend structures to describe historical (and by extension) industry indemnity loss cost changes over time compared with the Board's Guideline CV trend structure (based on indemnity and expense loss cost). We continue to believe our original selection is superior to the OW trends.

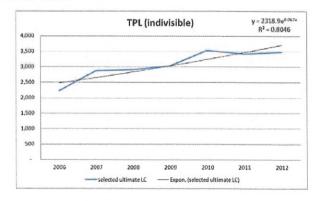
We believe at FA that we have a robust review process in place for the trend analyses, in that trend analyses are initially completed and reviewed by several actuarial experts within FA and our partner E&Y (generally 3-5 Fellows/Associates and several other analyst) before presentation and discussion at the FA's Actuarial Committee meetings (presented to 10 Fellows as members of the Committee, but also to the FA Peer Review Actuary, also a Fellow). That does not mean, however, that the ultimate selected model is based on consensus, but considerations is given to several different perspectives and interpretations of the data.

The Report provides the rationale for the conclusions drawn by the OW. We address the by-coverage OW discussion points in Appendix A.

We do note that the FA's Taxi indemnity loss costs do show an increasing trend for TPL as indicated below, using the "trend" functionality in excel's charts (annual trends are shown as the formula shown in the format of " $y = ae^{bx}$ ", where "b" is the annual trend; for example, the estimated trend for the TPL (indivisible) chart on the left below is 4.79%), and we did it both on a 5-year and 7-year basis. We remain satisfied with our use of our selected trend structures based on Newfoundland and Labrador (NL) commercial vehicle trends (+4.4% for BI, +2.4% for PD) and simply offer this as additional support that the OW trends (-1.5% for BI and 0.0% for PD) do not seem to describe the FA NL taxi experience.

FARM TPL (BI&PD) NL Taxi Ultimate Indemnity Loss Costs

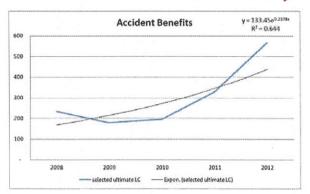


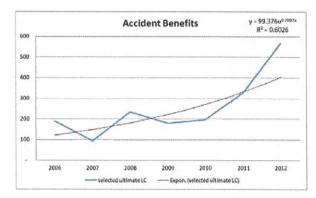




We include AccBen, UA, and "TPL, AccBen, UA Combined" experience below (again, estimated annual trends are shown as the formula shown in the format of " $y = ae^{bx}$ ", where "b" is the annual trend; for example, the estimated trend for the Accident Benefits chart on the left below is 23.78%).

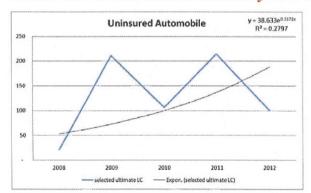
FARM AccBen NL Taxi Ultimate Indemnity Loss Costs

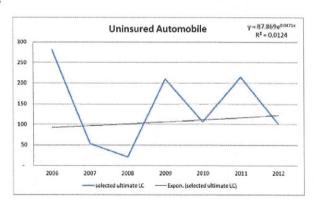




In contrast to the above, our selected loss cost trend for AccBen was +7.6% compared with the OW selection of +1.0%.

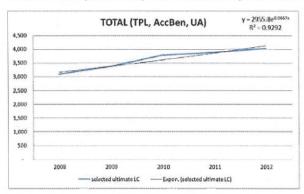
FARM UA NL Taxi Ultimate Indemnity Loss Costs

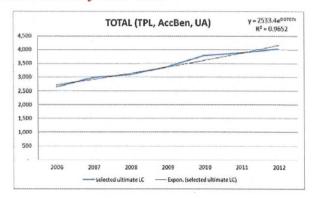






FARM TPL, AccBen, UA Combined, NL Taxi Ultimate Indemnity Loss Costs





While the charts above are on a "combined coverage" basis, the simple regression estimates the underlying loss cost trend at 6.7% on the left chart, and 7.1% on the right chart (again, estimated annual trends are shown as the formula shown in the format of " $y = ae^{bx}$ ", where "b" is the annual trend).

In addition to the by-coverage discussion in Appendix A, we discuss our view on the OW approach to determining past and future trend structures in Appendix B. We believe these are healthy and important discussions and debates to have. We are happy to discuss any of these findings and/or comments in more detail at your convenience.

OW's alternative assumption 2: the Board's Guideline investment income rate assumption of 2.8% FA Response assumption 2:

FA's proposed rates were based on an indication that used a 2.8% ROI assumption.

OW's alternative assumption 3: the same full credibility claim count standard for TPL as used in the prior application

FA Response assumption 3:

We stand by our current selection of full claim credibility count for TPL.

OW's alternative assumption 4: the same basis for the complement of credibility as used in the prior application

FA Response assumption 4:

As FA's responses to the questions received on March 21, 2014, FA believe using one year industry loss cost trend as the complement of credibility is not an appropriate approach in this situation. This approach is consistent with an assumption that the current rates (in-force up to expiry the day before the



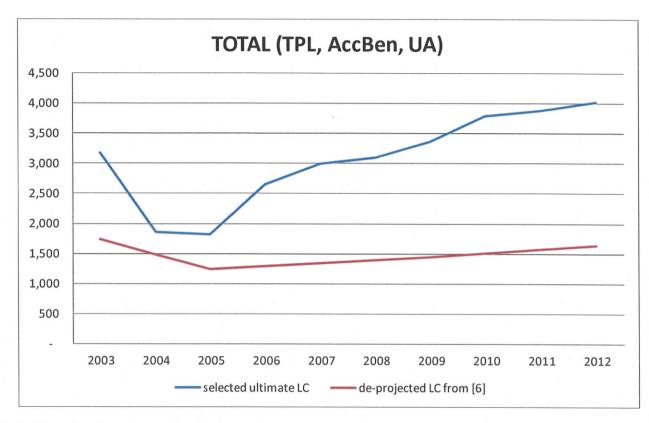
assumed effective date of the rate program the filed indication was based on, being August 1, 2014) are "adequate" and generate the target post-tax ROE. If this were the case, one could generate the associated loss cost, as we have in the table immediately below (weighted average of \$1,775) and this can be compared with the FA experience loss cost. That is, if we assume that \$2,911 as the overall average premium for the expiring term (effective Aug 1, 2013 to July 31, 2014) is "adequate" and therefore will generate the target 61.0% indemnity loss ratio, the implication is that the nominal indemnity loss costs are \$1,775.

Implied Loss Costs if Current Rates are Adequate

	1s) unless otherwise indicated		TPL (indivisible)	Accident	Uninsured	TOTAL (TPL,
			Tr Z (marrister)	Benefits	Automobile	AccBen, UA)
[1]	FA Written Exposures, Rolling 12	filing Exh C-2, row [1]	815	650	816	815
[2]	FA Written Premium @ Current Rates, Rolling 12	filing Exh C-2, row [4]	2,308,745	51,834	11,094	2,371,673
[3]	FA Average Written Premium @ Current Rates, Rolling 12, \$s	=[2]/[1]	2,834	80	14	2,91:
[4]	Target nominal indemnity Loss Ratio (12.09 ROE, 1.03% ROI)	The second secon	60.9%	63.5%	63.6%	61.0%
[5]	Nominal Indemnity @ current rates	=[4]/[3]	1,406,026	32,915	7,056	1,445,997
[6]	Nominal Indemnity Loss Costs	=[5]/[4]	1,726	51	9	1,77
RM AIX U [7]	ltimate Loss Cost (as at Dec 31 2012) AY 2003	selected ultimate LC filing Exh D-1, col [8]	2,696	480	188	3,16
			2,696 1,610	480 164	188 146	Federal reset resources
[7]	AY 2003	filing Exh D-1, col [8]	elective designation and an arrange		CHARLEST CONTROL AND	1,85
[7] [8]	AY 2003 AY 2004	filing Exh D-1, col [8] filing Exh D-1, col [8]	1,610	164	146	1,85 1,81
[7] [8] [9]	AY 2003 AY 2004 AY 2005	filing Exh D-1, col [8] filing Exh D-1, col [8] filing Exh D-1, col [8]	1,610 1,361	164 555	146 82	1,85 1,81 2,64
[7] [8] [9] [10]	AY 2003 AY 2004 AY 2005 AY 2006	filing Exh D-1, col [8] filing Exh D-1, col [8] filing Exh D-1, col [8] filing Exh D-1, col [8]	1,610 1,361 2,225	164 555 189	146 82 281	1,85 1,81 2,64 2,99
[7] [8] [9] [10] [11]	AY 2003 AY 2004 AY 2005 AY 2006 AY 2007	filing Exh D-1, col [8] filing Exh D-1, col [8] filing Exh D-1, col [8] filing Exh D-1, col [8] filing Exh D-1, col [8]	1,610 1,361 2,225 2,875	164 555 189 93	146 82 281 54	1,85 1,81 2,64 2,99 3,09
[7] [8] [9] [10] [11] [12]	AY 2003 AY 2004 AY 2005 AY 2006 AY 2007 AY 2008	filing Exh D-1, col [8] filing Exh D-1, col [8]	1,610 1,361 2,225 2,875 2,903	164 555 189 93 233	146 82 281 54 21	1,85. 1,81. 2,64 2,99. 3,09. 3,36
[7] [8] [9] [10] [11] [12] [13]	AY 2003 AY 2004 AY 2005 AY 2006 AY 2007 AY 2008 AY 2009	filing Exh D-1, col [8] filing Exh D-1, col [8]	1,610 1,361 2,225 2,875 2,903 3,030	164 555 189 93 233 178	146 82 281 54 21	3,16: 1,85: 1,81: 2,64: 2,99: 3,09: 3,36: 3,78: 3,87:

To make this on an apples-to-apples basis, the nominal indemnity loss costs in row [6] can be "detrended" from the average accident date of the current rate program (July 23, 2014) to the average accident date for each accident year listed above. We have done this for each coverage in the associated attached exhibit. For purposes of the narrative here, we have included the chart for the total of TPL, AccBen, and UA on the next page.





We believe the chart above clearly shows that the actual experience FA taxi loss costs are well above that derived from an assumption that the current rates are "adequate". This alone, in our opinion, is strong support for not accepting this assumption as reasonable in this situation.

We would also point out, as we did in our original response, that the prior approach, while used for public and miscellaneous classes, has not been used for the major classes (private passenger, commercial, and interurban). The decision to use the prior approach for public and miscellaneous classes was based on available resources (the approach is a simplified approach, based on the simplifying assumption regarding rate adequacy discussed above). FA's move is one that creates a consistent approach across all classes and jurisdictions.

¹ This chart also shows that the two loss cost estimates as diverging, as the loss cost trends underlying FA's taxi experience appears to be higher than that implied by our use of industry trend experience loss costs. A simple regression fit on the loss costs implies a trend of 6.7% if one uses 2008-2012, and 7.1% if one uses 2006-2012, with R² values of 93% and 97% respectively.



OW's alternative assumption 5: A provision for the health levy

FA Response assumption 5:

The Report correctly indicates on page 15 FA does not include a Heath Levy (HL) provision in our rate level indication. It goes further "... We understand that this is because the GISA exhibits do not include the HL in the published exhibits for Taxis ...". This is a misunderstanding. FA does look to the IBC/GISA exhibits for the most recent HL fee levels and allocation media, and those reports clearly indicate that for Newfoundland & Labrador, the allocation media (i.e. the basis upon which the Ministry's determination of the amount to subrogate from the industry for health care costs associated with victims of automobile accidents is levied against individual insurers) is earned car years for specific rating classes, those being private passenger (including farmer), commercial, interurban (only those rated on a per-vehicle basis), motorcycle, ATV, and snow vehicle. Risks insured with FA are included. The sum of earned car years for these classes forms the "denominator" when determining the "per vehicle" charge that is levied against individual insurers. Each individual insurer is levied the "per vehicle" charge for each of their own earned vehicles from those classes, and for their "share" of the FA risks (where FA risks are "shared" based on the relative counts excluding FA). We have confirmed this with IBC.

The Report indicates on page 15 "... Based on information provided by Board Staff, we understand Taxis should [emphasis added] be subject to the HL fee, and therefore a provision should be included in the rates. ..." Whether or not taxis "should" be subject to the HL fee is beside the point – they currently are not. For FA to include such a provision (\$26.44 per taxi) in its rates when the \$26.44 charge itself is not based on taxi counts would imply that members would capture this levy (as part of the FA sharing process) but not be required to pass it along to the ministry.

As a simple example to make this clear, if the ministry needed to recoup \$100 from the industry and there were only two vehicles insured in the province (by two different insurers) but only one of these was included as the "allocation media", the levy would be \$100 per vehicle, and the ministry would collect it from the insurer that was identified with the included count. However, if both insurers were able to include the \$100 in their rates, (with only one would be required to submit the levy to the ministry), the other insurer would be ahead by \$100.

As such, until such time as the HL determination process is updated to a broader basis, we do not believe it is appropriate to include such costs in FA taxi rates.

² There are alternate allocation media (for instance, TPL earned premium), which could be used instead of earned vehicle counts as an allocation media and, by including all vehicle classes and rating types (individual and fleet), a broader basis could be achieved.

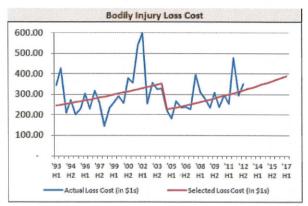


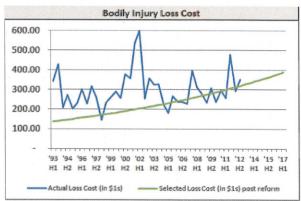
Appendix A

FA Response to OW's Report of Finding to Trend Selections

Bodily Injury (BI)

The Report's discussion on BI begins on page 11. OW correctly indicates that FA does consider the entire data set available (20 accident years) when considering its trend structures. OW states "... In our opinion, a 20 year period is too long to serve as a basis for selecting trend rates that apply to the (2008 to 2012) experience period). ..." However, their opinion is not explicitly supported. Further, while we do consider the entire 20-year period, we do look for, and account for, differing "regimes" within the experience. For example, the selected bodily injury loss cost trend structure consisted of two distinct periods or "regimes", and only the latter applied to the 2008-20012 period in determining our indication. The chart on the left below shows our selected trend structure, including the two "regimes" of trend as we selected (being pre and post the 2004 reforms). However, if simply treat the pre-2004 years as "outliers" and exclude them the post-reform trend line is unchanged (see chart on right below).





We provide additional commentary on OW selection of time periods in Appendix B.

The Report comments on page 11 "... FA estimates the August 2004 reforms resulted in a reduction in Industry CV loss costs of BI of 37.1% ... We do not find this estimate to be reasonable." The decrease noted is determined from the fitted regression above and we believe it is reasonable (given our selected periods, the regression fit of the data itself determines the drop at 2004-H2; we are not able to specify the extent to which this is directly related to reform or to any other cause). As stated, it appears that OW either that OW does not believe there are two distinct periods (in which case, the green line on the right chart above would fit the pre-2004 data better than it does – as is, only 1 data point is below that line), or that there are 2 distinct periods, but only differ in their trend (i.e. the "cliff" noted in our regression should not exist). As the major component of the 2004 reform was the introduction of a deductible, we



believe it not only reasonable, but should be expected, that a one-time impact would manifest itself (as we believe it does). A deductible where one did not exist before will take claims dollars out of the loss costs.

The Report also indicates, correctly, that "... In its prior filing, FA did not include a parameter in its regression model for the August 2004 reforms, so this represents a change from the prior filing – although FA states that this reform estimate is not important to its findings." This is true; specifically, one would get the same result (as applies to the determination of the "past trend" we apply to the 2008-2012 period) if the regression was applied to the post-2004 reform data (we indicated this in our response to the April 9 email question set, along with the actual fits if such data is "regressed" – we also did the same in the right chart shown on the previous page).

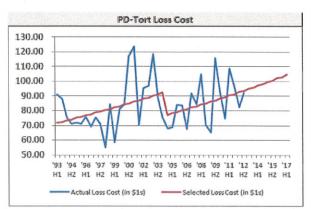
The Report states "FA does not appear to fully consider that the Industry loss cost trend rate has varied over time ...". We do fully consider the potential that loss cost trend periods may vary – in fact, we believe our approach is more robust than that exhibited via OW's approach (again, see Appendix B). The difference is that we disagree with OW on where regime changes have taken place (we select only two periods, aligned with the 2004 reforms; we tested other additional periods, but none were statistically significant). As OW uses only the most recent data, by inference, they are selecting a "regime" change at 2008. Our tests do not indicate a change in trend at the end of 2007, 2008 or 2009.

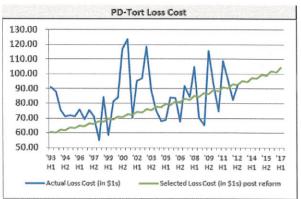
Finally, the Report states "... We believe that this variability and uncertainty in loss trend rates support our approach to select loss trend rates that consider several alternate measurement periods." We do not agree with this assessment. We back-tested this approach and found that the approach does not outperform regression on determining fit over the most recent 5-year period, and does not outperform using the same regression "trend" forward to projection 1, 2, and 3 accident years out. This is discussed in more detail in Appendix B.

Property Damage (PD)

The Report's discussion on PD begins on page 12 and comments "... FA estimates the August 2004 reforms resulted in a reduction in Industry CV loss costs of PD of 17.2% ... We do not find this estimate to be reasonable." The decrease noted is determined from the fitted regression (summarized below) and we believe it is reasonable (given our selected periods, the regression fit of the data itself determines the drop at 2004-H2; we are not able to specify the extent to which this is directly related to reform or to any other cause). Similar to our approach with the BI commentary, we have included on the next page charts showing our selected model and an alternate model where pre-2004 reform periods are treated as "outliers" and excluded. The trends for the post-reform periods are the same under both regressions.







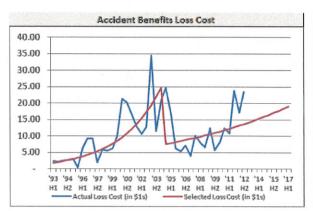
The Report also indicates, correctly, that "... In its prior filing, FA did not include a parameter in its regression model for the August 2004 reforms, so this represents a change from the prior filing – although FA states that this reform estimate is not important to its findings." This is true; specifically, one would get the same result (as applies to the determination of the "past trend" we apply to the 2008-2012 period) if the regression was applied to the post-2004 reform data (see right chart above – note that in the original regression, seasonality was included as significant – when we use only the post-2004 years, seasonality is no longer significant – however, we left it in to remain consistent with the original model structure).

The Report states "FA does not appear to fully consider that the Industry loss cost trend rate has varied over time ...". As discussed with respect to BI in the previous section, we do fully consider the potential that loss cost trend periods may vary and reference here Appendix B where we discuss this in depth. The difference is that we disagree with OW on where regime changes have taken place (we select only two periods, aligned with the 2004 reforms; we tested other additional periods, but none were statistically significant). As OW uses only the most recent data, by inference, they are selecting a "regime" change at 2008. Our tests do not indicate a change in trend at the end of 2007, 2008 or 2009.

Accident Benefits (AccBen)

The Report's discussion on AccBen begins on page 13 and comments "... FA estimates the August 2004 reforms resulted in a reduction in Industry CV loss costs of PD of 72.6% ... We do not find this estimate to be reasonable." The decrease noted is determined from the fitted regression (summarized below) and we believe it is reasonable (given our selected periods, the regression fit of the data itself determines the drop at 2004-H2; we are not able to specify the extent to which this is directly related to reform or to any other cause).







The Report also indicates, correctly, that "... In its prior filing, FA did not include a parameter in its regression model for the August 2004 reforms, so this represents a change from the prior filing – although FA states that this reform estimate is not important to its findings." This is true; specifically, one would get the same result (as applies to the determination of the "past trend" we apply to the 2008-2012 period) if the regression was applied to the post-2004 reform data.

The Report states "FA does not appear to fully consider that the Industry loss cost trend rate has varied over time ...". As discussed with respect to BI in the previous section, we do fully consider the potential that loss cost trend periods may vary and reference here Appendix B where we discuss this in depth. The difference is that we disagree with OW on where regime changes have taken place (we select only two periods, aligned with the 2004 reforms; we tested other additional periods, but none were statistically significant). As OW uses only the most recent data, by inference, they are selecting a "regime" change at 2008. Our tests do not indicate a change in trend at the end of 2007, 2008 or 2009.



Appendix B

FA Consideration of the OW Approach to Trend Selection

We have reviewed the general approach OW undertakes in its analysis of industry trends and present the results of our review focused on two main areas: the first being the selection of only the most recent 10 year data points for use in their analysis (even though 20 years of data is available), and the approach of "select loss trend rates that consider several alternative measurement periods". In the case of the former, we don't believe it is necessary to restrict the time periods considered in a trend analysis, as doing so prevents the determination of longer term trends, the ability to identify points in time where trend changes occur, and may lead to "over parameterization" of historical results without explicitly meaning to. In the case of the latter, we back-tested the OW approach against a 5-year regression approach and found that the OW approach did not outperform with respect to fitting the 5-year data (i.e. the OW "past trend" determined with their approach did not fit the 5-year data as well as a regression) and that it did not perform any better than the 5-year regression when the "trends" were used to project forward.

The Report states that "FA does not appear to fully consider that the industry los cost trend rate has varied over time and that the measured loss cost trend is quite different if different measurement periods are considered" and "we also notice that the more recent loss cost estimates (..), are subject to change, and therefore, indicated loss trend rates are subject to change over time. We believe that this variability and uncertainty in loss trend rates supports our approach to select loss trend rates that consider several alternate measurement periods" FA does use the full data set available, and this represents a larger number of data points that OW leverages in general. We contend that OW's approach can be viewed as having "multiple regime periods" if consideration is given to the data they ignore by focusing on the most recent periods. For example, if FA has modeled the entire data set by identifying two trend periods (e.g. one for the first 15 accident years and one for the most recent 5 accident years), the only difference with OW's approach of only using the latest 5 accident years is that we are explicitly indicating the two periods, whereas OW is implying it. By stressing that we make use of the full data set compared with the OW approach, we wonder, is OW suggesting it is better to use the least amount of data? Why? How do they determine what is the "optimal" amount of data to use? Are they unsure or unable to determine this "optimal" amount of data and thus the reason to use different time periods and average trends? Have they analyzed the data demarking the separate reform periods and determined doing so was statistical insignificant tested using as they suggest the T-test? To include those breakpoints would be natural to test directly (and easy to do with regression), particularly testing for the potential for overparameterization. Perhaps OW does all of this and more. However, it is not clear in their reports that is done and, if so, how it was done. This is an important topic – so much so that we have included a more complete discussion of this issue (i.e. selected time periods) in the next section.

However, the purpose of the trend analysis as it applies to FA rate level indications is to establish past trends to bring the experience period to a consistent level. As the "past trend" in our case is meant at the



very least to be appropriate for the 2008-H1 to 2012-H2 period inclusive (as we give weight in our indication process to the experience of accident years 2008 to 2012 inclusive), we believe it is not only appropriate, but imperative to test whether the OW trends, being considered as "more appropriate" than our own selections, fit the actual results, and if so, to what extent. Our conclusion was, and remains, that they did not.

View of OW Approach - Selecting Trend based on Averaging Trends from Regressions

We understand the OW approach is composed of doing many regressions then selecting a "trend" parameter based on averaging the results of up to 6 regressions covering different periods of lengths of 3, 4, and 5 years. We believe this approach of averaging the "trend" parameters determined from regressions over different periods and of various lengths of time does need to be viewed from the stand point of meeting specific goals of the trend analysis process, specifically:

- 1. fitting the past data (i.e. does it fit the past data better than regression, indicating a "superior" selected trend to explain actual past data); and
- 2. projecting future loss costs (i.e. does it do a better job than using the regression trend in projecting future values, indicating a "superior" selected trend to project forward).

We believe that regression analysis over the past data provides the best solution to both of these goals. Regression analysis is used extensively throughout the scientific community and has for some time. From first principles, "regression" is based on the minimization of the difference between actual and fitted values or $(y-y')^2$. The objective function is squared in order to consider absolute differences in actual and fitted. The "best fit" is defined as the minimum of the sum of squares or the least squared error (LSE). All the resulting formulae and statistical inference is based on this objective function and certain statistical assumptions imputed on it (e.g. normality, independence etc.).

OW's approach starts with regression, but then selects specific "trend" parameters based on averages of several regressions. We do not believe this to be the best approach, as we believe it does not maintain the statistical integrity of "linear regression". More explicitly, it no longer represents the LSE. However, an a priori "belief" is one thing; proof is another. Luckily, we can test the OW approach against simple regression. That is, we can (and did) "back test" the hypothesis that the OW approach is superior to a simple 5-year regression against the two goals listed above.

Specifically, we tested, over the data available, discreet periods of 5 years of "data" and 3 subsequent years of "projection". For example, the first period of "data" was 1993-H1 to 1997-H2 inclusive and the associated "projection" period was 1998-H1 to 2000-H2 inclusive. We used the OW approach, generating 3 separate regression "trends" (a 3-year – in our example 1995-H1 to 1997-H2 inclusive; a 4-year – in our example 1994-H1 to 1997-H2; and a 5-year – in our example 1993-H1 to 1997-H2). We used the average "trend" parameter from those 3 regressions as the "selected" trend parameter. For the selected trend, we needed to adjust the intercept to "position" the selected trend with respect to the five



years of data – we did this by solving for the minimum of the mean square error of the selected model result and the actual data. We then compared the selected model's average projected loss cost for the subsequent 3 accident years (in our example, 1998, 1999, and 2000). We compared the variance of the projected loss cost with the actual (because we obviously had the actual values). We also took the average variance across all 3 projections.

To measure against criteria 1 (i.e. superior past trend fits), we compared the "selected" result's adjusted R² value against the same for the 5-year regression model (as we are measuring the fit over the "past" period, with this period being of a 5 accident year duration).

To measure against criteria 2 (i.e. superior future trends), we compared the "selected" model projection variances against the variances from the 5-year regression model trend.

Given the 40 data points available but that we wanted to be able to project 3 accident years forward, we were able to do 13 such tests for the 3 year projection, 14 for 2 year projection, and 15 for both the 1 year projection and the past trend (in fact, we could add 1 more test for the latter, but we are satisfied that we'd see the same result).

We completed this test over each of BI, PD, AccBen, CL, and CM coverages, using NL commercial vehicle industry indemnity³.

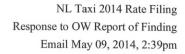
Against criteria 1, the OW approach's selection did <u>not</u> produce a higher adjusted R^2 than the 5-year regression fit <u>in any of the 75 (5 x 15) tests</u>. To be honest, we would have been very surprised if it had. Linear regression is designed to produce the best "fit" as we have already described. Regression is used throughout many fields as an objective and reliable methodology and has been tested extensively.

Against criteria 2, the OW approach resulted in a smaller projection variance in slightly less half of the projections (34 of 75 1-yr projections; 35 of 70 2-yr projections; 34 of 65 3-year projections). However, it did <u>not</u> outperform any of the following in any of the projections, except for PD (outperformed all 3 measures below for each of the 3 projections), and AccBen (outperformed the three metrics for the 1-year projection only):

- overall average variance;
- overall average percent variance;
- weighted-average percent variance;

Our test results have been summarized and are attached. We conclude that the OW approach is no better than simply using the 5-year regression result as the projection trend.

³ We are confident that the same test applied to indemnity and ALAE would lead to the same overall result.





In both criteria (past data fit for past trend; projection variance for future trend), we were testing the OW approach against using a 5-year regression. We are <u>not</u> endorsing using a 5-year regression as a standard model – we are only concluding that, based on the tests we have done, the OW approach does not fit the historical data as well as a 5-year regression as a basis for past trends, and the approach is no better than a 5-year regression as the basis of selecting future trends. We <u>do</u> believe that our general approach – looking at the data to determine regression periods, but relying on regression as the tool to set parameters – is a better approach overall. While our testing was focused on indemnity, we are confident the same test results would arise from a test of indemnity and ALAE.

Facility Association - Trend Analysis - Industry

as at: Dec 31, 2012

	selected fit better?	ou	no	no	ou	no	no	no	no	no	no	no	ou	no	no	no	
selected	adjusted R ²	(41.5%)	(25.9%)	(13.0%)	(49.4%)	18.3%	41.2%	(23.0%)	(29.3%)	45.7%	37.8%	(52.5%)	(10.5%)	12.1%	(16.2%)	(21.3%)	(8.5%)
	selected	4.8%	(88.9)	(0.3%)	14.8%	26.5%	15.3%	(2.4%)	(14.8%)	(17.9%)	(10.6%)	7.3%	10.8%	4.1%	(0.8%)	10.2%	2.7%
t 5	adjusted R ²	(3.8%)	(11.1%)	(11.2%)	(7.4%)	34.9%	45.7%	(1.1%)	(3.1%)	46.6%	41.3%	(8.0%)	2.0%	18.6%	(8.1%)	(2.7%)	8.6%
latest 5	fitted	(4.3%)	(1.7%)	1.6%	3.6%	15.9%	21.8%	6.5%	(2.8%)	(16.2%)	(14.0%)	(3.2%)	5.5%	7.7%	2.4%	3.9%	1.6%
t 4	adjusted R ²	15.7%	(13.6%)	(14.6%)	(2.0%)	83.8%	10.8%	(16.5%)	30.3%	43.0%	35.4%	(9.4%)	35.9%	(3.6%)	(14.5%)	0.1%	12.1%
latest 4	fitted	7.4%	(3.2%)	(5.6%)	8.4%	34.0%	14.2%	1.0%	(15.9%)	(18.9%)	(11.9%)	5.1%	13.6%	5.5%	(2.0%)	7.2%	2.8%
t 3	adjusted R²	21.2%	12.0%	(25.0%)	72.5%	71.9%	(16.8%)	(2.6%)	31.6%	42.9%	(14.7%)	38.0%	14.3%	(24.9%)	(19.8%)	27.0%	15.2%
latest 3	fitted trend	12.1%	(15.0%)	0.2%	34.7%	30.2%	10.3%	(13.5%)	(21.8%)	(18.7%)	(2.8%)	21.4%	13.7%	(0.6%)	(2.8%)	20.0%	4.3%
	Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	10H2	'11H2	average:
	Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1	
4.	Period ID	1	2	8	4	2	9	7	8	6	10	11	12	13	14	15	

Count were OW better:

0.0% % better:

Facility Association - Trend Analy

as at: Dec 31, 2012

1 year Projection (avg AY LC)

	selected var lower?	no	ou	no	yes	ou	yes	yes	yes	no	yes	yes	no	yes	no	no	no	no
	% variance	(39.6%)	45.2%	33.1%	13.5%	(27.1%)	(27.5%)	(14.9%)	4.4%	32.9%	52.7%	(11.0%)	(23.9%)	(86.6)	38.0%	(18.3%)	3.2%	(4.0%)
,	variance	(124.05)	85.76	79.22	53.05	(158.14)	(129.29)	(48.10)	9.45	58.58	107.12	(36.64)	(85.31)	(29.29)	100.83	(71.99)	(12.59)	
)	selected	313.15	189.81	239.49	394.30	584.29	470.78	322.77	214.15	178.09	203.17	333.13	357.19	296.13	265.47	393.83	317.05	
	% variance	(20.6%)	23.5%	25.7%	54.4%	(5.1%)	(38.5%)	(34.4%)	(22.6%)	24.7%	71.5%	21.3%	(11.7%)	(18.7%)	25.4%	(5.6%)	6.2%	(0.5%)
	variance % variance	(49.08)	52.43	65.07	157.59	(23.05)	(213.46)	(143.93)	(65.14)	46.90	129.39	52.01	(32.89)	(61.18)	74.15	(8.56)	(1.52)	weighted:
	latest 5 fitted	238.17	223.14	253.64	289.76	449.20	554.95	418.60	288.75	189.77	180.90	244.48	307.77	328.03	292.15	330.41	305.98	
	Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2	average:	
	Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1		
	Period ID	1	2	3	4	2	9	7	∞	6	10	11	12	13	14	15		

Count were OW better:

46.7% % better:

Facility Association - Trend Analy

as at: Dec 31, 2012

2 year Projection (avg AY LC)

	selected var lower?	ou	ou	no	yes	ou	yes	yes	ou	no	yes	ou	no	no	ou	
	% variance	(16.1%)	80.2%	87.3%	(2.9%)	(23.8%)	(49.4%)	(29.0%)	29.7%	112.3%	63.3%	(23.9%)	(32.6%)	18.8%	22.3%	
	variance	(52.75)	141.86	208.55	(26.54)	(397.40)	(268.33)	(91.50)	54.13	164.15	114.93	(85.51)	(129.07)	57.90	58.60	
,	selected fitted	328.32	176.85	238.80	452.69	738.88	543.00	315.10	182.54	146.14	181.56	357.39	395.92	308.40	263.25	
	% variance	20.9%	45.2%	73.5%	41.9%	(34.4%)	(59.4%)	(49.8%)	(13.0%)	95.1%	%2'06	14.9%	(17.8%)	3.6%	7.6%	
	variance	47.63	99.28	189.56	125.89	(179.08)	(401.36)	(222.02)	(35.31)	151.22	140.97	35.29	(57.79)	12.86	22.75	
	latest 5 fitted	227.95	219.43	257.79	300.26	520.56	676.03	445.63	271.98	159.07	155.51	236.59	324.64	353.44	299.10	
	Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2
	Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1
	Period ID	1	2	m	4	2	9	7	∞	6	10	11	12	13	14	15

Count were OW better: 4

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14.5% (5.4%)

(17.93)

330.63

15.6% (1.6%)

(5.01) weighted:

317.71

average:

% better: 28.6%

Facility Association - Trend Analy

as at: Dec 31, 2012

3 year Projection (avg AY LC)

	selected var lower?	yes	ou	no	ou	ou	yes	yes	no	no	yes	ou	no	yes			no	no	
	variance % variance	(7.4%)	171.5%	79.0%	(34.3%)	(20.6%)	(64.3%)	(23.1%)	99.4%	147.2%	%9.79	(30.4%)	(16.5%)	0.2%			24.5%	(13.0%)	
(== :: 0	variance	(25.53)	282.58	188.05	(178.25)	(659.70)	(402.70)	(70.94)	154.69	176.56	109.63	(116.58)	(72.54)	0.68			(47.24)		
	selected fitted	344.24	164.77	238.10	519.73	934.37	626.31	307.61	155.60	119.93	162.25	383.42	438.84	321.17			362.80		
	variance % variance	46.1%	107.3%	62.6%	%8.6	(54.5%)	(72.8%)	(50.1%)	21.1%	122.3%	103.4%	16.5%	7.0%	(15.5%)			23.3%	(6.4%)	
	variance	100.55	231.56	164.14	30.34	(328.59)	(599.92)	(237.73)	54.11	163.14	138.19	37.89	23.86	(28.98)			(21.65)	weighted:	
	latest 5 fitted	218.16	215.79	262.01	311.15	603.26	823.53	474.40	256.18	133.34	133.69	228.96	342.44	380.83			337.21		
	Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2	average:		
	Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1			
	Period ID	1	2	ĸ	4	2	9	7	∞	6	10	11	12	13	14	15			

Count were OW better:

5 38.5% % better:

Facility Association - Trend Analy NL - CV BI

as at: Dec 31, 2012

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selected var lower?	ou	no	no	yes	no	yes	yes	no	no	yes	no	no	yes			
selected %	(21.0%)	80.66	%5'99	(8.9%)	(20.5%)	(47.1%)	(22.3%)	44.5%	97.5%	61.2%	(21.8%)	(24.3%)	3.0%		***************************************	
selected	(67.44)	170.07	158.61	(50.58)	(405.08)	(266.77)	(70.18)	72.76	133.10	110.56	(79.58)	(95.64)	9.76			
fitted % variance	15.5%	58.7%	53.9%	35.4%	(31.3%)	(26.9%)	(44.8%)	(4.8%)	80.7%	88.5%	17.6%	(7.5%)	(10.2%)			
fitted	33.03	127.76	139.59	104.60	(176.91)	(404.92)	(201.23)	(15.45)	120.42	136.18	41.73	(23.27)	(35.77)			
Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2	
Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	199H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1	
Period ID	1	2	8	4	5	9	7	∞	6	10	11	12	13	14	15	

5 38.5% Count were OW better:

no

13.5%

(29.26)

15.0%

(11.86)

average:

% better:

Facility Association - Trend Analysis - Industry

as at: Dec 31, 2012

	selected fit better?	no	ou	ou	ou	ou	ou	ou	ou	ou	ou	ou	ou	no	ou	no	
selected	adjusted R ²	18.8%	(10.7%)	(12.5%)	(16.2%)	13.2%	18.0%	(0.4%)	(1.5%)	14.7%	32.3%	(34.4%)	7.9%	(3.1%)	(14.0%)	(14.0%)	(0.1%)
	selected	(1.5%)	(%6.0)	%0.0	14.8%	13.1%	2.8%	2.2%	(%6.6)	(10.5%)	(5.1%)	2.8%	3.4%	2.5%	(0.6%)	5.3%	1.4%
t 5	adjusted R ²	41.6%	(10.7%)	(12.0%)	13.3%	17.6%	25.9%	10.7%	8.1%	20.6%	38.9%	(4.3%)	8.8%	(1.6%)	(11.0%)	(8.7%)	9.1%
latest 5	fitted trend	(4.2%)	(%6.0)	(0.6%)	%6.9	9.3%	10.8%	7.4%	(%0.9)	(7.5%)	(7.8%)	(3.0%)	4.3%	4.1%	1.5%	2.4%	1.1%
t 4	adjusted R ²	(14.5%)	(16.2%)	(16.4%)	23.1%	22.1%	7.0%	(16.7%)	12.6%	38.2%	25.1%	19.0%	(2.9%)	(11.5%)	(15.4%)	(10.0%)	2.7%
latest 4	fitted trend	(0.4%)	(0.6%)	(0.6%)	11.9%	14.7%	%9.6	%0.0	(8.8%)	(10.1%)	(8.8%)	5.5%	3.9%	3.7%	(1.7%)	4.3%	1.5%
t3	adjusted R ²	(24.8%)	(24.2%)	(24.4%)	53.3%	1.8%	(23.3%)	(24.9%)	44.4%	30.7%	(22.1%)	2.1%	(23.3%)	(25.0%)	(24.5%)	(%8.7)	(6.1%)
latest 3	fitted trend	0.2%	(1.2%)	1.3%	26.4%	15.4%	(5.6%)	(0.5%)	(14.5%)	(13.7%)	1.7%	6.3%	2.1%	(0.1%)	(1.5%)	9.5%	1.9%
	Finish	-197H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2	average:
	Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	,00H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1	
	Period ID	1	2	8	4	2	9	7	∞	6	10	11	12	13	14	15	,

Count were OW better:

0.0% % better:

Facility Association - Trend Analy

as at: Dec 31, 2012

1 year Projection (avg AY LC)

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selected var lower?	yes	no	yes	no	no	yes	yes	no	no	yes	yes	no	yes	no	no	yes	yes
variance % variance	(3.6%)	0.4%	41.9%	(15.1%)	(16.4%)	4.1%	(26.5%)	13.4%	21.0%	23.6%	(1.7%)	3.5%	(5.2%)	24.6%	(16.0%)	3.2%	0.7%
variance	(2.63)	0.25	29.63	(17.20)	(18.85)	4.05	(25.76)	9.05	13.13	16.76	(1.53)	3.07	(4.56)	20.21	(16.64)	09.0	
selected fitted	72.21	69.57	70.76	114.16	115.01	98.36	97.31	67.21	62.43	71.18	88.98	87.33	88.50	82.17	103.75	86.00	
variance % variance	4.8%	0.3%	44.4%	5.2%	(7.4%)	(8:2%)	(36.6%)	(0.0%)	9.7%	34.8%	17.2%	0.8%	(8:3%)	17.1%	(8.7%)	4.2%	1.6%
variance	3.20	0.21	30.85	4.77	(7.65)	(10.91)	(41.36)	(0.01)	89.9	22.72	12.84	0.75	(8.56)	14.93	(8.35)	1.34	weighted:
latest 5 fitted	96.38	69.61	69.53	92.19	103.81	114.32	112.91	76.24	68.88	65.22	74.62	89.65	92.49	87.45	95.47	85.25	
Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2	average:	
Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1		
Period ID Start	1	2	ĸ	4	5	9	7	∞	6	10	11	12	13	14	15		

Count were OW better:

46.7% % better:

Facility Association - Trend Analy

as at: Dec 31, 2012

2 year Projection (avg AY LC)

selected var lower?	yes	no	yes	no	no	yes	yes	ou	no	yes	yes	yes	no	no		yes	yes
variance % variance	(1.8%)	45.6%	37.0%	(26.6%)	(20.5%)	(31.9%)	(23.4%)	24.7%	57.3%	29.5%	(1.2%)	(7.1%)	12.8%	%9.9		7.2%	1.2%
variance	(1.29)	31.46	26.18	(34.84)	(26.69)	(33.57)	(23.26)	14.97	32.05	19.91	(1.11)	(6.38)	11.64	5.43		1.04	
selected	71.12	68.92	70.77	131.00	130.10	105.12	99.49	69.29	55.89	67.54	91.51	90.32	90.74	81.69	***************************************	86.77	
variance % variance	9.6%	45.5%	40.2%	(2.4%)	(8.9%)	(43.5%)	(37.2%)	5.4%	38.0%	45.5%	24.9%	(10.2%)	6.4%	(1.8%)		8.0%	1.8%
variance	6.26	31.40	27.81	(2.37)	(10.08)	(55.17)	(45.07)	3.88	24.21	27.34	18.03	(9.58)	6.13	(1.63)		1.51	weighted:
latest 5 fitted	63.56	86.89	69.15	98.53	113.49	126.72	121.30	71.68	63.73	60.12	72.37	93.52	96.25	88.75		86.30	
Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2	average:	
Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1		
Period ID Start	1	2	3	4	2	9	7	8	6	10	11	12	13	14	15		

Count were OW better:

7 50.0% % better:

Facility Association - Trend Analy

as at: Dec 31, 2012

3 year Projection (avg AY LC)

cted wer?	Si	0	Si	0	0	Si	Si	0	0	Si	S	0	Si			S	S
selected var lower?	yes	no	yes	no	no	yes	yes	no	no	yes	yes	ou	yes			yes	yes
variance % variance	43.3%	42.0%	35.8%	(31.2%)	(51.4%)	(31.5%)	(25.7%)	61.0%	74.8%	41.0%	(10.8%)	%9.6	(6.4%)			11.6%	(0.8%)
variance	30.34	28.67	25.37	(46.92)	(75.61)	(34.98)	(26.15)	33.32	37.42	26.31	(10.18)	86.8	(5.93)			(0.72)	
selected fitted	70.05	68.28	70.79	150.33	147.16	111.21	101.71	54.62	50.04	64.09	94.11	93.40	93.05			89.91	
variance % variance	64.9%	41.8%	39.8%	(1.8%)	(42.3%)	(45.7%)	(42.0%)	30.5%	48.3%	63.2%	19.6%	4.9%	(13.0%)			12.9%	1.0%
variance	39.51	28.60	27.40	(1.89)	(52.53)	(64.23)	(54.75)	20.54	28.49	34.99	13.75	4.82	(13.04)			06.0	weighted:
latest 5 fitted	60.87	68.36	68.76	105.30	124.08	140.46	130.31	67.40	58.96	55.41	70.18	97.56	100.16			88.29	
Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2	average:	
Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	'00H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1		
Period ID Start	1	2	8	4	2	9	7	8	6	10	11	12	13	14	15		

Count were OW better: % better:

7 53.8%

Facility Association - Trend Analy

as at: Dec 31, 2012

	selected var lower?	yes	ou	yes	no	no	yes	yes	ou ou	no	yes	yes	no	yes			yes
variance	selected % variance	12.6%	29.3%	38.2%	(24.3%)	(29.4%)	(19.8%)	(25.2%)	33.0%	51.1%	31.4%	(4.6%)	2.0%	0.4%		***************************************	7.3%
average projected LC variance	selected	8.80	20.13	27.06	(32.99)	(40.38)	(21.50)	(25.05)	19.10	27.53	21.00	(4.27)	1.89	0.38			0.13
average p	fitted % variance	26.5%	29.5%	41.5%	0.3%	(19.5%)	(32.9%)	(38.6%)	12.0%	32.0%	47.8%	20.6%	(1.5%)	(2.3%)			8.6%
	fitted	16.32	20.07	28.69	0.17	(23.42)	(43.43)	(47.06)	8.13	19.79	28.35	14.87	(1.34)	(5.16)			1.23
	Finish	'97H2	'98H2	'99H2	,00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2	average:
	Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1	
	Period ID	1	2	ĸ	4	2	9	7	∞	6	10	11	12	13	14	15	

7 53.8% Count were OW better:

% better:

Facility Association - Trend Analysis - Industry

AccBen (indivis) as at: Dec 31, 2012

	selected fit better?	no	no	ou	ou	ou	ou	no	no	no	no	no	no	no	no	no	
selected	adjusted R ²	(2.3%)	0.7%	9.8%	(1.0%)	46.3%	(8.4%)	(3.0%)	(34.3%)	(34.5%)	(16.8%)	51.6%	12.2%	(25.0%)	19.3%	39.9%	3.6%
	selected	32.6%	12.0%	19.2%	54.8%	39.8%	0.7%	4.6%	16.3%	(15.7%)	(32.0%)	(27.8%)	(2.6%)	%6.9	14.4%	30.8%	9.7%
t 5	adjusted R ²	0.3%	2.6%	14.5%	20.2%	46.4%	30.6%	2.8%	(10.2%)	(11.6%)	17.0%	52.2%	36.8%	(11.0%)	19.3%	41.6%	17.0%
latest 5	fitted trend	21.4%	26.5%	35.1%	27.4%	41.3%	22.6%	12.4%	3.6%	(2.8%)	(18.8%)	(30.3%)	(23.6%)	(3.2%)	13.9%	25.7%	10.1%
t 4	adjusted R ²	(2.4%)	0.7%	(16.5%)	44.9%	57.1%	(8.4%)	(12.4%)	7.9%	(13.9%)	28.0%	46.3%	(7.8%)	(1.8%)	10.5%	36.9%	13.1%
latest 4	fitted trend	27.9%	36.6%	1.5%	57.5%	44.1%	9.3%	(80.9)	16.8%	(89.9)	(36.5%)	(33.5%)	(8:3%)	11.2%	16.9%	28.8%	10.6%
t 3	adjusted R ²	(11.1%)	(8.6)	(86.6)	81.3%	17.1%	78.6%	(21.3%)	8.2%	26.9%	70.7%	(8.5%)	(7.6%)	(14.5%)	(10.2%)	24.2%	14.4%
latest 3	fitted trend	50.1%	(18.7%)	23.5%	85.0%	34.0%	(23.7%)	8.2%	29.9%	(34.1%)	(46.8%)	(18.8%)	13.8%	13.6%	12.6%	38.3%	11.1%
	Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2	average:
	Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	,00H1	'01H1	'02H1	'03H1	'04H1	'05H1	106H1	'07H1	
	Period ID	1	2	8	4	5	9	7	∞	6	10	11	12	13	14	15	

Count were OW better:

0.0% % better:

Facility Association - Trend Analy

AccBen (indivis)

as at: Dec 31, 2012

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selected var lower?	no	ou	ou	ou	yes	no	no	no	yes	no	yes	yes	yes	yes	yes	yes	yes
variance % variance	(18.6%)	29.6%	175.4%	(50.2%)	(52.2%)	106.0%	41.9%	(58.4%)	(31.6%)	88.86	%8.69	24.4%	11.5%	55.1%	(0.1%)	28.8%	1.3%
variance	(1.29)	3.00	13.25	(14.76)	(12.79)	11.85	6.73	(15.99)	(2.86)	3.46	2.96	1.75	1.05	6.14	(0.03)	0.17	
selected fitted	6.95	5.03	7.55	29.39	24.50	11.17	16.08	27.40	9.03	3.50	4.23	7.21	9.12	11.15	20.21	12.84	
variance % variance	6.2%	10.5%	88.8%	(10.3%)	(23.8%)	14.0%	14.3%	(41.1%)	(55.4%)	2.4%	88.5%	119.4%	20.5%	57.5%	12.7%	20.3%	3.2%
variance	0.33	0.77	9.78	(1.68)	(13.63)	2.83	2.86	(2.36)	(2.68)	0.16	3.38	4.88	3.41	6.31	2.28	0.40	weighted:
latest 5 fitted	5.33	7.26	11.02	16.31	25.35	20.19	19.95	19.36	13.86	08.9	3.81	4.08	97.9	10.98	17.91	12.60	
Finish	'97H2	'98H2	'99H2	,00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2	average:	
Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	'00H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1		
Period ID Start	1	2	8	4	2	9	7	∞	6	10	11	12	13	14	15		

Count were OW better:

7 46.7% % better:

Facility Association - Trend Analy

AccBen (indivis)

as at: Dec 31, 2012

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selected var lower?	yes	no	no	no	yes	no	yes	no	yes	no	yes	yes	yes	yes		
% variance	(12.8%)	269.2%	62.5%	(74.3%)	(32.8%)	102.7%	(32.2%)	(80.6%)	(8.5%)	215.9%	193.1%	52.8%	77.3%	58.2%		
variance	(1.18)	15.17	5.63	(33.80)	(11.23)	11.56	(5.41)	(25.69)	(0.65)	4.91	5.90	3.52	7.54	7.43		
selected fitted	9.21	5.63	9.00	45.51	34.25	11.26	16.82	31.86	7.61	2.28	3.06	99'9	9.75	12.76		
% variance	24.2%	126.3%	(1.7%)	(43.6%)	(35.7%)	(7.8%)	(49.1%)	(69.2%)	(48.3%)	30.1%	236.9%	226.1%	164.2%	61.5%		
variance	1.56	11.61	(0.25)	(6.01)	(12.80)	(1.94)	(11.02)	(13.89)	(6.51)	1.66	6.30	7.05	10.75	7.69		
latest 5 fitted	6.47	9.19	14.88	20.78	35.82	24.76	22.42	20.06	13.47	5.53	2.66	3.12	6.54	12.50		
Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2	
Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1	
Period ID	1	7	3	4	2	9	7	8	6	10	11	12	13	14	15	

_∞ Count were OW better:

no no

56.5%

(1.16)

14.69

43.8% (4.5%)

(0.63) weighted:

14.16

average:

57.1% % better:

Facility Association - Trend Analy

AccBen (indivis)

as at: Dec 31, 2012

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selected var lower?	yes	ou	yes	no	yes	yes	yes	ou	yes	no	yes	yes	yes			no	no
variance % variance	70.3%	131.9%	9.5%	(67.3%)	(52.3%)	%9.0	(64.9%)	(81.2%)	12.1%	505.8%	361.0%	181.0%	93.6%			84.6%	(24.5%)
variance	8.59	8.32	0.99	(47.46)	(25.05)	0.07	(11.41)	(30.09)	0.78	7.48	7.97	11.14	9.76			(4.53)	
selected	12.21	6.31	10.73	70.48	47.86	11.34	17.59	37.05	6.41	1.48	2.21	6.15	10.43			18.48	
variance % variance	164.9%	25.8%	(41.7%)	(13.1%)	(54.9%)	(62.4%)	(75.5%)	(86.5%)	(45.1%)	%2.66	448.8%	625.1%	218.8%			94.1%	(18.0%)
variance	12.95	3.00	(8.39)	(3.46)	(27.81)	(18.96)	(19.02)	(13.82)	(2.90)	4.47	8.32	14.91	13.85			(3.07)	weighted:
latest 5 fitted	7.85	11.63	20.10	26.48	50.63	30.37	25.19	20.78	13.09	4.49	1.85	2.38	6.33			17.01	
Finish	'97H2	'98H2	199H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2	average:	
Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1		
Period ID Start	1	2	3	4	2	9	7	∞	6	10	11	12	13	14	15		

Count were OW better: 9

% better: 69.2%

FA Actuarial

file: NL CV - test OW approach 02 AccBen v01

average projected LC variance		
average projected LC	000000000	, variance
average projected	_	2
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average	9	5
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Facility Association - Trend Analy

NL - CV

AccBen (indivis) as at: Dec 31, 2012

6 selected var lower?	yes	no	ou	ou () yes) yes	ou () yes		yes	yes	yes		
selected % variance	13.0%	153.6%	82.4%	(83.9%)	(45.8%)	%8.69	(18.4%)	(73.4%)	(8:3%)	273.5%	208.0%	86.1%	8.09		
selected	2.04	8.83	6.62	(32.01)	(16.36)	7.82	(3.36)	(23.92)	(0.91)	5.29	5.61	5.47	6.11		
fitted % variance	65.1%	54.2%	15.1%	(22.3%)	(48.2%)	(18.8%)	(36.8%)	(28.9%)	(49.6%)	44.1%	258.1%	323.5%	144.5%		
fitted	4.95	5.12	0.38	(4.74)	(18.08)	(6.02)	(90.6)	(11.89)	(0.70)	2.10	00.9	8.95	9.34		
Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2
Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	199H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1
Period ID	1	2	m	4	2	9	7	∞	6	10	11	12	13	14	15

(1.51) 51.5% (2.21) 56.6% no

average:

Count were OW better: 7 % better: 53.8%

Facility Association - Trend Analysis - Industry NL - CV

as at: Dec 31, 2012

2	selected fit better?	no	no	ou	ou	ou	ou	ou	no	no	no	ou	no	no	no	no	
selected	adjusted R ²	(2.4%)	8.1%	(28.8%)	26.5%	(88.6)	(2.0%)	(9.4%)	(14.4%)	(16.0%)	(25.5%)	11.5%	27.8%	4.3%	(44.0%)	(1.7%)	(3.4%)
	selected	1.6%	5.3%	17.2%	7.8%	0.4%	4.0%	(0.8%)	(10.0%)	%6.0	3.3%	%9.6	27.3%	6.1%	(%9.9)	(2.3%)	4.1%
t 5	adjusted R ²	10.0%	%0.6	9.5%	27.8%	4.2%	(8.7%)	(2.7%)	4.9%	(7.2%)	(10.8%)	13.0%	62.9%	5.1%	(8.1%)	(1.7%)	7.1%
latest 5	fitted trend	6.3%	%9.9	7.1%	9.5%	5.2%	3.3%	(3.2%)	(2.0%)	(2.9%)	(1.7%)	7.6%	21.1%	7.8%	3.8%	(2.1%)	4.0%
t 4	adjusted R²	1.4%	(14.3%)	96.3%	2.9%	(12.7%)	(15.7%)	(12.6%)	25.4%	(15.9%)	(12.6%)	28.7%	45.0%	0.7%	(11.8%)	29.5%	%6:9
latest 4	fitted trend	7.6%	(1.9%)	19.6%	7.7%	3.2%	(1.5%)	2.5%	(10.4%)	(1.5%)	2.8%	13.9%	20.9%	10.6%	(4.5%)	(12.1%)	3.8%
t 3	adjusted R ²	7.7%	32.3%	%6.09	(18.7%)	(11.3%)	16.4%	(24.0%)	17.4%	(11.9%)	(4.0%)	(13.7%)	70.7%	(25.0%)	31.5%	(18.4%)	7.3%
latest 3	fitted trend	(8.3%)	11.5%	25.8%	6.1%	(8.7%)	10.7%	(1.7%)	(14.4%)	7.2%	9.1%	7.3%	40.9%	0.3%	(17.9%)	1.9%	4.8%
	Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2	average:
	Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1	П
	Period ID	1	2	ĸ	4	2	9	7	∞	6	10	11	12	13	14	15	

Count were OW better:

0.0% % better:

Facility Association - Trend Analy

as at: Dec 31, 2012

1 year Projection (avg AY LC)

selected var lower?	no	no	no	yes	no	no	OU	no	no	yes	yes	no	yes	yes	yes	no	no
variance % variance	11.6%	37.3%	(39.6%)	(8:3%)	10.8%	(19.4%)	(28.8%)	26.7%	(7.3%)	18.8%	44.4%	(52.3%)	(20.4%)	11.9%	(0.5%)	%6.0	(2.6%)
variance	11.93	44.58	(75.99)	(13.57)	13.61	(28.44)	(36.87)	48.52	(8.99)	24.37	69.77	(147.02)	(35.87)	14.35	(0.62)	(8.02)	
selected	102.43	119.51	191.66	145.36	126.10	146.69	128.18	85.53	123.91	129.40	157.15	280.87	175.43	120.56	129.86	144.18	
variance % variance	(2.5%)	32.1%	(20.8%)	(13.6%)	(3.7%)	(17.6%)	(23.5%)	33.3%	3.9%	37.8%	52.5%	(44.7%)	(24.1%)	(18.4%)	(1.1%)	(0.1%)	(4.6%)
variance	(2.93)	39.87	(30.34)	(20.73)	(5.30)	(25.28)	(28.02)	33.51	4.35	42.19	78.11	(108.00)	(44.20)	(30.48)	(1.41)	(6.58)	weighted:
latest 5 fitted	117.29	124.23	146.01	152.52	145.01	143.53	119.34	100.54	110.57	111.57	148.81	241.85	183.76	165.39	130.64	142.74	
Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2	average:	
Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1		
Period ID Start	1	2	8	4	5	9	7	8	6	10	11	12	13	14	15		

Count were OW better: 6

% better: 40.0%

Facility Association - Trend Analy

as at: Dec 31, 2012

2 year Projection (avg AY LC)

selected var lower?	no	yes	no	yes	yes	no	yes	ou	yes	yes	no	no	yes	yes	
% variance	57.7%	(8.1%)	(41.3%)	(10.8%)	(89.9)	(40.2%)	2.5%	49.3%	23.0%	%2.69	(22.3%)	(61.0%)	(27.5%)	14.8%	
variance	60.04	(10.13)	(92.89)	(16.93)	(8.38)	(61.27)	6.94	37.94	28.78	93.24	(38.37)	(217.97)	(51.24)	16.66	
selected fitted	104.06	125.80	224.68	156.64	126.63	152.59	127.11	76.98	124.98	133.68	172.22	357.53	186.15	112.57	
variance % variance	31.6%	(12.7%)	(15.7%)	(16.3%)	(22.5%)	(38.4%)	16.0%	20.3%	43.2%	106.8%	(16.4%)	(52.4%)	(31.9%)	(24.7%)	
variance	39.44	(16.80)	(24.57)	(27.30)	(34.31)	(56.91)	18.50	19.40	46.39	117.20	(26.30)	(153.39)	(63.11)	(42.37)	
latest 5 fitted	124.66	132.47	156.37	167.01	152.56	148.22	115.55	95.52	107.37	109.72	160.15	292.95	198.02	171.61	
Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2
Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	199H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1
Period ID	1	2	3	4	2	9	7	∞	6	10	11	12	13	14	15

Count were OW better: 8

00

0.2% (11.6%)

(18.11)

155.83

(%9.6)

(14.58) weighted:

152.30

average:

% better: 57.1%

Facility Association - Trend Analy

as at: Dec 31, 2012

3 year Projection (avg AY LC)

	selected var lower?	yes	yes	ou	yes	yes	ou	no	ou	yes	yes	ou	ou	yes		
	variance % variance	9.4%	(0.5%)	(47.0%)	(29.9%)	(28.2%)	(15.5%)	(8.8%)	121.9%	80.0%	(3.1%)	(26.1%)	(70.4%)	(34.6%)		***************************************
(2=0	variance	9.95	(0.63)	(123.69)	(50.55)	(35.85)	(24.67)	(11.14)	84.48	100.85	(4.26)	(49.17)	(320.20)	(68.29)		
100000	selected	105.72	132.43	263.40	168.80	127.17	158.72	126.06	69.29	126.07	138.11	188.73	455.10	197.52		
2 / 201 1 1	variance % variance	(12.7%)	(8.7%)	(16.6%)	(35.3%)	(43.1%)	(12.4%)	2.7%	69.5%	117.6%	24.1%	(19.0%)	(62.0%)	(39.4%)		
	variance	(16.82)	(9.46)	(27.75)	(64.63)	(69.19)	(19.01)	3.03	63.02	122.66	25.96	(32.78)	(219.93)	(84.15)		
	latest 5 fitted	132.49	141.25	167.46	182.88	160.51	153.06	111.89	90.74	104.26	107.89	172.34	354.84	213.39		
	Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2
	Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	'00H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1
	Period ID Start	1	2	ĸ	4	2	9	7	∞	6	10	11	12	13	14	15

7 53.8% Count were OW better:

00

(4.1%) (21.8%)

(37.94)

173.62

(2.6%) (15.7%)

(25.31) weighted:

161.00

average:

% better:

Facility Association - Trend Analy

as at: Dec 31, 2012

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	ariance
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700	ec
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0 55	projected
	average
	ave

selected var lower?	no	no	no	yes	yes	no	no	no	yes	yes	yes	no	yes		
selected %	26.3%	%9.6	(42.6%)	(16.7%)	(8.0%)	(25.0%)	(10.7%)	20.9%	31.9%	28.5%	(1.3%)	(61.2%)	(27.5%)		
selected	27.31	11.27	(97.52)	(27.02)	(10.21)	(38.13)	(13.69)	26.98	40.22	37.78	(5.92)	(228.40)	(51.80)		
fitted % variance	5.5%	4.2%	(17.7%)	(21.8%)	(23.1%)	(22.8%)	(1.6%)	41.0%	54.9%	56.2%	2.7%	(23.0%)	(31.8%)		
fitted	6.56	4.54	(27.55)	(37.55)	(36.27)	(33.73)	(2.17)	38.65	57.80	61.79	6.34	(160.44)	(63.82)		
	'			1			I			1			1		1
Finish	'97H2	'98H2	'99H2	,00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2
Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1
Period ID	1	2	3	4	2	9	7	∞	6	10	11	12	13	14	15

6 46.2% Count were OW better:

no

(1.6%)

(23.01)

(0.3%)

(14.30)

average:

% better:

Facility Association - Trend Analysis - Industry

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as at: Dec 31, 2012

	selected fit better?	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	
	adjusted sele R ² b	23.0%	(10.6%)	12.1%	40.0%	47.1%	(17.0%)	2.9%	(8.4%)	(33.2%)	(1.9%)	12.8%	14.2%	(11.5%)	(20.6%)	(7.8%)	2.9%
		(2.0%)	(0.4%)	12.7%	18.1%	13.6%	(0.9%)	(10.1%)	(1.3%)	11.3%	13.6%	13.5%	16.4%	0.5%	(2.7%)	7.3%	5.8%
	adjusted R ²	43.7%	(3.2%)	17.2%	45.4%	47.7%	5.2%	14.3%	(3.6%)	(12.2%)	3.9%	13.3%	15.7%	(2.9%)	(8.6%)	(%0.9)	11.0%
ומרכזר כ	fitted trend	(12.2%)	(3.5%)	8.8%	13.5%	15.3%	7.3%	(%9.9)	(4.8%)	1.1%	8.3%	11.8%	13.1%	4.5%	3.7%	4.7%	4.3%
	adjusted R ²	(3.7%)	(15.6%)	19.7%	42.8%	41.3%	(11.9%)	20.0%	(12.7%)	(2.1%)	8.3%	1.2%	10.8%	(15.0%)	(16.6%)	(16.0%)	3.4%
ומוכזו ד	fitted trend	(4.9%)	1.4%	12.2%	16.4%	19.0%	(3.3%)	(9.7%)	(4.4%)	10.2%	14.3%	12.8%	15.1%	2.8%	(0.4%)	1.8%	2.6%
	adjusted R²	(22.5%)	(24.6%)	15.0%	42.0%	(14.3%)	(16.1%)	13.7%	(20.2%)	7.4%	(2.6%)	(7.3%)	19.9%	(21.3%)	(8:3%)	0.5%	(5.9%)
ומובאר א	fitted trend	2.7%	1.0%	17.1%	24.5%	6.8%	(6.1%)	(13.9%)	5.5%	23.9%	18.3%	16.0%	21.2%	(2.4%)	(10.8%)	15.8%	7.8%
	Finish	. 97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2	average.
	Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1	
	Period ID	1	2	3	4	2	9	7	00	6	10	11	12	13	14	15	

Count were OW better:

0.0% % better:

Facility Association - Trend Analy NL - CV

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as at: Dec 31, 2012

1 year Projection (avg AY LC)

selected var lower?	yes	yes	yes	no	yes	yes	ou	yes	no	no	yes	no	ou	ou	ou	no	ou	
variance % variance	(1.2%)	48.4%	1.4%	(10.2%)	(33.3%)	(13.4%)	40.6%	25.3%	(19.6%)	(13.0%)	3.0%	(40.2%)	22.3%	42.9%	(29.4%)	1.6%	(3.9%)	
variance	(0.63)	25.64	1.10	(10.21)	(33.31)	(6.30)	21.77	17.59	(19.41)	(13.40)	3.26	(53.15)	19.34	35.43	(35.27)	(3.37)		
selected	51.96	52.98	79.62	100.42	100.15	68.39	53.60	68.39	99.28	103.25	108.48	132.10	86.70	85.68	120.12	87.34		
variance % variance	25.1%	63.2%	12.6%	1.0%	(36.2%)	(31.8%)	25.4%	39.7%	%9'.	0.4%	7.9%	(34.8%)	8.9%	18.1%	(24.1%)	5.5%	(0.3%)	
variance	10.29	30.45	90.6	0.92	(37.91)	(27.97)	15.27	24.70	5.63	0.35	8.17	(42.23)	8.71	18.12	(58.88)	(0.22)	weighted:	
latest 5 fitted	41.04	48.17	71.67	89.29	104.74	88.06	60.10	62.28	74.24	89.50	103.57	121.18	97.33	66.66	111.74	84.19		
Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2	average:		
Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1			
Period ID Start	1	2	3	4	2	9	7	∞	6	10	11	12	13	14	15			

Count were OW better: % better:

7 46.7%

Facility Association - Trend Analy NL - CV

S

as at: Dec 31, 2012

2 year Projection (avg AY LC)

selected var lower?	yes	yes	yes	no	yes	yes	no	yes	no	yes	no	no	no	yes	
% variance	59.2%	53.0%	%9.0	(43.6%)	(47.2%)	9.5%	80.5%	16.6%	(18.7%)	(4.7%)	(32.9%)	(31.1%)	35.5%	2.5%	
variance	29.24	27.95	0.50	(51.72)	(53.63)	6.57	38.80	11.40	(20.69)	(5.54)	(44.20)	(47.77)	30.95	4.39	
selected	49.37	52.78	89.70	118.56	113.72	68.80	48.19	68.47	110.54	117.28	123.15	153.81	87.17	80.46	
% variance	118.1%	73.6%	15.7%	(34.1%)	(50.2%)	(20.3%)	54.9%	34.7%	19.8%	15.3%	(31.8%)	(22.7%)	16.1%	(18.2%)	
variance	42.57	34.24	12.24	(34.55)	(60.63)	(19.15)	30.84	20.59	14.82	14.80	(36.83)	(31.07)	16.42	(18.82)	
latest 5 fitted	36.04	46.49	77.97	101.38	120.72	94.52	56.14	59.28	75.03	96.94	115.78	137.11	101.69	103.67	
Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2
Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1
Period ID	1	2	m	4	2	9	7	∞	6	10	11	12	13	14	15

Count were OW better:

0 0

5.7% (5.8%)

(5.27)

91.57

12.2% (1.2%)

(1.04) weighted:

87.34

average:

8 57.1% % better:

Facility Association - Trend Analy

NI - CV

as at: Dec 31, 2012

3 year Projection (avg AY LC)

selected var lower?	yes	yes	ou	no	yes	no	no	yes	yes	no	no	no	yes			
variance % variance	72.1%	71.6%	(33.9%)	(57.1%)	(41.6%)	27.5%	84.4%	33.0%	(8.5%)	(40.7%)	(24.2%)	(34.0%)	(3.2%)			
variance	33.81	37.63	(34.23)	(79.88)	(53.76)	18.77	36.54	22.29	(11.34)	(54.25)	(33.77)	(60.97)	(2.78)			
selected fitted	46.91	52.58	101.06	139.98	129.13	68.22	43.33	67.56	123.08	133.21	139.81	179.08	87.63			
variance % variance	155.0%	101.0%	(21.2%)	(47.8%)	(45.8%)	(14.3%)	52.3%	59.3%	47.3%	(24.8%)	(18.1%)	(23.9%)	(20.1%)			
variance	49.07	45.34	(17.99)	(55.02)	(63.77)	(14.48)	27.42	33.43	35.91	(26.04)	(23.40)	(37.01)	(21.40)			
latest 5 fitted	31.65	44.87	84.82	115.12	139.14	101.46	52.45	56.42	75.83	105.00	129.44	155.12	106.25			
Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2	
Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	100H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1	
Period ID	1	2	ĸ	4	2	9	7	∞	6	10	11	12	13	14	15	

6 46.2% Count were OW better:

9 9

3.4% (13.9%)

(14.00)

100.89

15.3% (5.7%)

(5.23) weighted:

92.12

average:

% better:

Facility Association - Trend Analy

as at: Dec 31, 2012

	selected var lower?	yes	yes	ou	no	yes	yes	ou	yes	yes	no	ou	ou	ou		
variance	selected % variance	43.4%	22.6%	(10.6%)	(37.0%)	(40.7%)	7.9%	68.5%	25.0%	(15.8%)	(19.5%)	(19.0%)	(35.1%)	18.2%		
average projected LC variance	selected	20.81	30.41	(10.87)	(47.27)	(46.90)	5:32	32.37	17.09	(17.15)	(24.40)	(24.90)	(53.96)	15.84		
average p	fitted % variance	99.4%	79.3%	2.4%	(26.9%)	(44.1%)	(22.1%)	44.2%	44.6%	24.9%	(3.1%)	(14.0%)	(27.1%)	1.7%		
	fitted	33.98	36.67	1.10	(29.55)	(54.10)	(20.53)	24.51	26.24	18.79	(3.63)	(17.35)	(36.77)	1.24		
	Finish	'97H2	'98H2	'99H2	'00H2	'01H2	'02H2	'03H2	'04H2	'05H2	'06H2	'07H2	'08H2	'09H2	'10H2	'11H2
	Start	'93H1	'94H1	'95H1	'96H1	'97H1	'98H1	'99H1	,00H1	'01H1	'02H1	'03H1	'04H1	'05H1	'06H1	'07H1
	Period ID	1	2	n	4	2	9	7	∞	6	10	11	12	13	14	15

6 46.2% Count were OW better:

no

3.3%

(7.97)

12.2%

(1.49)

average:

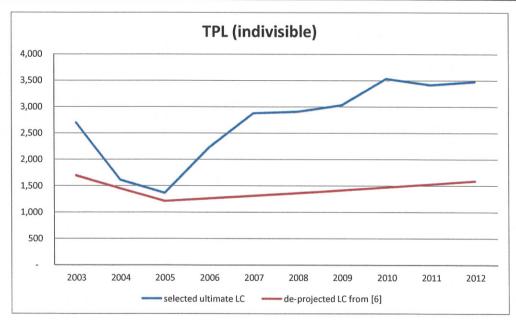
% better:

Jurisidiction: Newfoundland & Labrador Vehicle Type: Taxi (fleet & individual rated)

Project ID: NL-2013Q4-TX

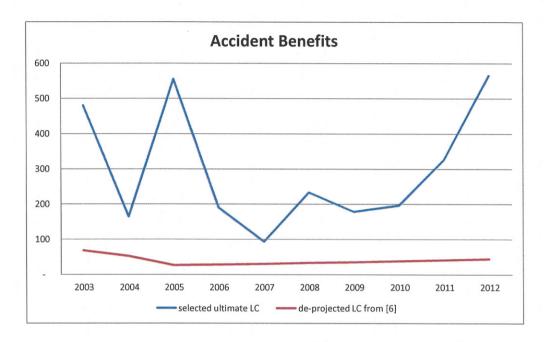
Implied Loss Costs if Current Rates are Adequate

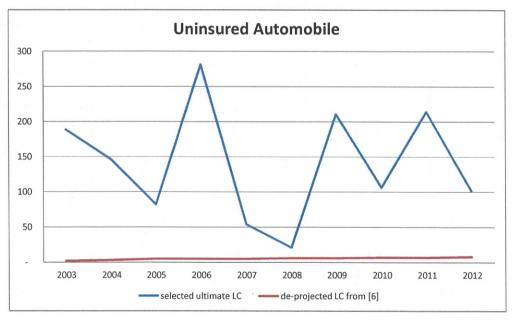
(2.	1s) unless otherwise indicated		TPL (indivisible)	Accident	Uninsured	TOTAL (TPL,
				Benefits	Automobile	AccBen, UA)
[1]	FA Written Exposures, Rolling 12	filing Exh C-2, row [1]	815	650	816	81!
[2]	FA Written Premium @ Current Rates, Rolling 12	filing Exh C-2, row [4]	2,308,745	51,834	11,094	2,371,67
[3]	FA Average Written Premium @ Current Rates, Rolling 12, \$s	=[2]/[1]	2,834	80	14	2,91
[4]	Target nominal indemnity Loss Ratio (12.0% ROE, 1.03% ROI)	filing Exh C-2, row [25]	60.9%	63.5%	63.6%	61.0
[5]	Nominal Indemnity @ current rates	=[4]/[3]	1,406,026	32,915	7,056	1,445,99
[6]	Nominal Indemnity Loss Costs	=[5]/[4]	1,726	51	9	1,77
28.4. A.I.V. I.I.I	lkimaka Lasa Cash (asah Das 24 2042)					
	Itimate Loss Cost (as at Dec 31 2012) AY 2003	selected ultimate LC	2.696	480	188	3 16
[7]	•	filing Exh D-1, col [8]	2,696 1.610	480 164	188 146	3,16 1.85
[7] [8]	AY 2003		1,610	164	188 146 82	1,85
[7]	AY 2003 AY 2004	filing Exh D-1, col [8] filing Exh D-1, col [8]	1,610 1,361		146 82	1,85 1,81
[7] [8] [9] [10]	AY 2003 AY 2004 AY 2005	filing Exh D-1, col [8] filing Exh D-1, col [8] filing Exh D-1, col [8]	1,610	164 555	146	1,85 1,81 2,64
[7] [8] [9] [10] [11]	AY 2003 AY 2004 AY 2005 AY 2006	filing Exh D-1, col [8] filing Exh D-1, col [8] filing Exh D-1, col [8] filing Exh D-1, col [8]	1,610 1,361 2,225	164 555 189	146 82 281	1,85 1,83 2,64 2,99
[7] [8] [9] [10]	AY 2003 AY 2004 AY 2005 AY 2006 AY 2007	filing Exh D-1, col [8] filing Exh D-1, col [8] filing Exh D-1, col [8] filing Exh D-1, col [8] filing Exh D-1, col [8]	1,610 1,361 2,225 2,875	164 555 189 93	146 82 281 54	1,85 1,81 2,6 ² 2,99 3,09
[7] [8] [9] [10] [11] [12]	AY 2003 AY 2004 AY 2005 AY 2006 AY 2007 AY 2008	filing Exh D-1, col [8] filing Exh D-1, col [8]	1,610 1,361 2,225 2,875 2,903	164 555 189 93 233	146 82 281 54 21	1,85 1,81 2,64 2,99 3,09 3,36
[7] [8] [9] [10] [11] [12] [13]	AY 2003 AY 2004 AY 2005 AY 2006 AY 2007 AY 2008 AY 2009	filing Exh D-1, col [8] filing Exh D-1, col [8]	1,610 1,361 2,225 2,875 2,903 3,030	164 555 189 93 233 178	146 82 281 54 21	CONTRACTOR AND AND ADDRESS.



Jurisidiction: Newfoundland & Labrador Vehicle Type: Taxi (fleet & individual rated)

Project ID: NL-2013Q4-TX





Jurisidiction: Newfoundland & Labrador Vehicle Type: Taxi (fleet & individual rated)

Project ID: NL-2013Q4-TX

