

# Eckler

The 2004 product reforms became effective 1 August 2004, and may have had an impact on the experience of certain coverages for the 2004 and subsequent accident periods. An indicator variable (to allow for a vertical shift in the curve), as well as an additional time variable (to allow for a different rate of change) are used as appropriate in the regression to model the estimated impact of the 2004 product reforms. In the case where these variables are statistically significant, new product reform mapping factors are determined from the regression model.

In addition, consideration is also given to the impact of economic factors by adding a variable for the unemployment rate.

The mathematical equation representing this approach is:

$$\text{fitted loss cost} = \text{constant} \times (\text{pure trend factor})^t \times (\text{2004 reform indicator})^a \\ \times (\text{2004 reform time variable})^b \times (\text{unemployment factor})^u$$

where t represents the time period (e.g., 1, 2, 3, etc.)

a represents the 2004 reform indicator (0 pre-2004, 1 post-2004)

b represents the 2004 reform time period (e.g., 1, 2, 3, etc. starting 2005)

u represents the provincial unemployment rate during the period.

Historical provincial unemployment rates are obtained from the Bank of Canada. Projected unemployment rates are selected after consideration of projected unemployment rates prepared by leading Canadian banks.

For some coverages, the analysis deviates from this standard methodology. For example, legislation and unemployment variables are only kept in a regression if they are statistically significant, early portions of the experience history may be excluded from the regression, and frequencies and severities may be analyzed separately.

For some coverages, when recent claim frequencies and/or severities show early evidence of a possible pattern shift, historical fitted trends are typically forecasted to continue at a tempered pace beyond a certain point. Careful consideration is given to assessing the sustainability of trends going forward.

In some cases, certain accident periods are considered to be outliers and their experience is excluded from the trend analysis. Potential outliers are typically identified with an objective statistical outlier test examining standardized residuals (the ratio of the residuals to the square root of the mean squared error), and by visual inspection of the graphs.

From this analysis, projection factors which vary by coverage and accident year are determined. These projection factors are derived as ratios of the fitted loss cost at the assumed future average accident date of 24 June 2014 to each historical accident year's fitted loss cost. The future average accident date is estimated assuming a rate program effective for one year commencing 1 July 2013 with an average policy duration of 11.6 months. This assumed average policy duration is estimated using Commercial Vehicles data from the data repository to determine the distribution of business by policy term.

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The Liability projection factors are derived by weighting the separate Bodily Injury and Property Damage projection factors with the respective accident year ultimate incurred losses adjusted for the expected impact of the 2004 reforms as needed. These Liability projection factors are also adopted for Uninsured Automobile due to the low volume and the volatility of data for this coverage.

## **2.b.3 Treatment of Large Losses**

Large loss information is not available for the purpose of this analysis.

## **2.b.4 Catastrophe (or Excess Claim) Procedure**

Not applicable.

## **2.b.5 Other Adjustments to Losses – GST Adjustment**

Adjustments are made to the losses to reflect the changes in the GST (or HST) rates over the experience period. These adjustments are estimated using the Industry Commercial Vehicles estimated proportion of paid losses by calendar year and coverage for each accident year, an estimate of the proportion of losses subject to GST for each coverage, and the GST percentage in effect each year. In the absence of any data source, the proportion of losses subject to GST is judgmentally set to 50%. Industry GST adjustment assumptions were used because corresponding Facility Association assumptions were not available at the time of the analysis. The impact of these assumptions on the resulting GST adjustment is not significant.

## **2.c Allocated Loss Adjustment Expenses**

In the analysis of Industry experience, losses are used combined with ALAE.

In the analysis of Facility Association experience, losses are considered excluding ALAE. A provision is made for all loss adjustment expenses based on Facility Association Servicing Carrier claims service fee arrangements, and a provision for Excess Legal and Professional Fees, which are expected to be paid to Servicing Carriers in accordance with the Plan of Operation.

Servicing Carriers are paid an initial fee based on the actual premiums earned each month. For a given accident year, the overall fee is adjusted twice: first after 2 years, and again 5 years after the end of the accident year. The assumptions used in the Newfoundland and Labrador formula are as follows:

- 1) an initial claims expenses provision of 10.00%;
- 2) a base rate of 3.25%;
- 3) an earned to reported incurred loss ratio of 67.50%;
- 4) a minimum allowance to Servicing Carriers of 9.00%; and
- 5) a maximum allowance to Servicing Carriers of 16.00%.

In the derivation of the provincial Commercial Vehicles average rate level changes, the loss adjustment expense provision is adjusted iteratively to reflect the indicated change in average rate level by coverage. These results are incorporated into this analysis, restated to reflect the proper commission rate for Taxis, Jitneys and Liveries.