

# **REVIEW OF RATE APPLICATION SUBMITTED BY: MANITOBA PUBLIC INSURANCE ACTUARIAL EVIDENCE**

Province of Manitoba: Public Utilities Board

25/26 October 2021

Rajesh Sahasrabuddhe, FCAS, ACIA

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**ACTUARIAL CONSULTING**



# AGENDA

**1**

**Introduction**

**2**

**Scope of Review**

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**Actuarial Commentary: Driver Safety Rating**

**4**

**Actuarial Commentary: Loss Trends**

**5**

**Actuarial Commentary: Capital Management Plan**

# INTRODUCTION

- Oliver Wyman’s Actuarial Consulting Practice provides actuarial consulting services to public and private enterprises, self-insured group organizations, insurance companies, government entities, insurance regulatory agencies and other organizations. We provide support to public stakeholders in automobile rate regulation throughout Canada:
  - British Columbia
  - Alberta
  - Saskatchewan
  - **Manitoba**
  - Ontario
  - New Brunswick
  - Nova Scotia
  - Newfoundland and Labrador
- The Public Interest Law Centre (PILC) on behalf of the Consumers Association of Canada (Manitoba) Inc. (CAC Manitoba), an intervener in the rate application review proceeding, retained Oliver Wyman to provide this review of the 2022 General Rate Application submitted by Manitoba Public Insurance.
- Our duty in providing assistance and giving evidence is to help the Public Utilities Board. This duty overrides any obligation to CAC Manitoba.
- We intend the evidence that we provided and the testimony that we will deliver:
  - to be fair, objective and non-partisan;
  - to be related only to matters that are within our area of expertise; and
  - to provide such additional assistance as the Public Utilities Board may reasonably require to determine an issue.

# OLIVER WYMAN



**Rajesh Sahasrabuddhe**  
*ACIA, FCAS*

Rajesh (“Raj”) holds a Bachelor of Science, majoring in Mathematics – Actuarial Science (*summa cum laude*) from the University of Connecticut. Raj reviews automobile rate applications in on behalf of regulators and consumer stakeholders in several Canadian provinces. Within the scope of this work, he provides expert witness testimony in rate hearings.

Raj is a Fellow of the Casualty Actuarial Society, an Associate of the Canadian Institute of Actuaries, and a Member of the American Academy of Actuaries. Raj us a member of the Regulatory subcommittee of the Property & Casualty Insurance Pricing committee of the CIA.



**Paula Elliott**  
*FCIA, FCAS*

Paula holds a Bachelor of Mathematics, Actuarial Science (Hons) from the University of Waterloo. She specializes in the automobile insurance practice area and in providing actuarial services to insurance regulatory authorities.

Her primary responsibilities include reviewing automobile insurance rate applications, providing expert witness testimony on rate applications, analyzing automobile insurance reform measures, conducting automobile insurance benchmark rate studies and performing special studies.



# AGENDA

- 1 Introduction
- 2 **Scope of Review and Summary of Findings**
- 3 Actuarial Commentary: Driver Safety Rating
- 4 Actuarial Commentary: Loss Trends
- 5 Actuarial Commentary: Capital Management Plan

# SCOPE OF REVIEW AND SUMMARY OF FINDINGS

## 1

### Driver Safety Ratings

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#### MPI Rate Application

- An increase to the maximum merit level under the DSR scale from +15 to +16 in the 2022/23 policy year;
- Allocation of 2.6 points of the 2.8 point indicated reduction in breakeven premiums to the DSR vehicle discount levels with the most significant need for rate decreases based on actuarial indications; and,
- No changes to DSR driver premiums

#### Oliver Wyman Findings

- MPI's proposal does not fully adopt the actuarially indicated discount levels.
- Subsidization from higher DSR levels to lower DSR levels continues to exist.

## 2

### COVID-19

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#### MPI Rate Application

- Considers the effects of COVID-19 on the claims experience reviewed
- Assumes no effect from Covid-19 after March 30, 2022

#### Oliver Wyman Findings

- It is our view that the “new normal” may include fewer miles driver per vehicle. However, we appreciate the significant uncertainty associated with the phase-in to the new normal and any potential reduction in miles driven. In summary, while the lasting effects may include lower frequency, those effects are not reasonably estimable.

# SCOPE OF REVIEW AND SUMMARY OF FINDINGS

## 3

### Accident Benefit Weekly Indemnity Case Reserves

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#### MPI Rate Application

- Prior to 2015/16, MPI did not index case reserves for coverages that are subject to indexation. As a result, the projected reported incurred did not account for the increase in benefits from indexation. MPI has since indexed (strengthened) its case reserves. This change presented a concern that the indexing would be misinterpreted as adverse development rather than case reserve strengthening. Case reserve strengthening reduces the need for IBNR while adverse development increases the need for IBNR.

#### Oliver Wyman Findings

- We did not identify a bias from misinterpretation of the indexation of case reserves

## 4

### Actuarial Assumptions

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#### MPI Rate Application

- Numerous actuarial assumptions underlie the calculation of the required rate.

#### Oliver Wyman Findings

- We identified two issues related to MPI's trend models.

# SCOPE OF REVIEW AND SUMMARY OF FINDINGS

## 5

### Capital Management Plan

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#### MPI Rate Application

- The Capital Management Plan (CMP) provides the means and pathway to achieve the capital target of 100% Minimum Capital Test (MCT) ratio for the Basic Rate Stabilization Reserve (RSR).
- The 2022 GRA proposed the elimination of the 5% capital release provision the PUB approved in the 2021 GRA. Concurrently, MPI would seek approval for a capital rebate.

#### Oliver Wyman Findings

- We concluded that there is a benefit to maintaining approved 5% capital release provision.
- We concluded that excess capital *after the release* could be returned through a rebate.

## 6

### IFRS 17 Impact

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#### MPI Rate Application

- MPI will adopt International Financial Reporting Standards (IFRS) 9 and 17 on April 1, 2023 with a comparative year for IFRS 17 starting on April 1, 2022.

#### Oliver Wyman Findings

- The state of MPI's readiness and its general evaluation of the effect of IFRS 17 is consistent with our experience with other automobile insurers. We therefore do not discuss this issue further.





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# DRIVER SAFETY RATING

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## Goal

PUB Order 89/09 (May 28, 2009) introduced the Driver Safety Rating (DSR) Program with the goal of “effectively motivating improved driving behaviour.”

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## Registered Owner Model

- Assigns credits to the registered owner of the vehicle
  - The discounts and surcharges do not reflect the relative risk of drivers with different DSR levels
  - A primary driver model would better support the goals of the DSR program, and the collection of information does not appear to be onerous. We suggest that MPI begin to collect that data with the 2022/23 program year to implement a primary driver model in the near future.
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## Subsidization

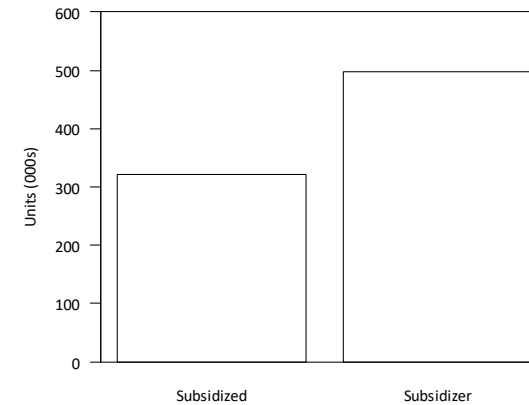
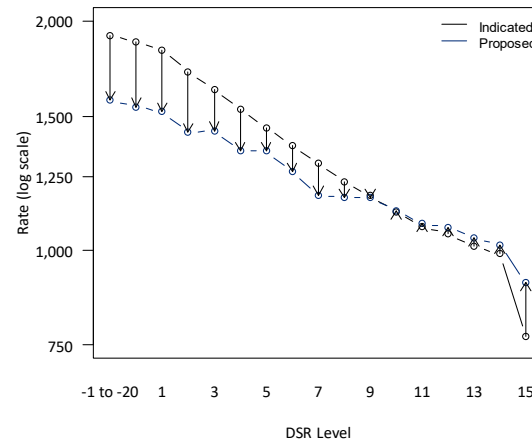
- MPI does not adopt the actuarially indicated DSR rate level as they view the required increase in the base rate as publicly unacceptable.
  - As a result, drivers at DSR Levels 10 and above subsidize the premium for drivers at DSR levels 9 and below.
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# DRIVER SAFETY RATINGS

## Subsidization

### A comparison of the proposed rates.

We note the significant increase for policyholders with better experience at DSR Level 15 and the subsidization of policyholders with poorer experience at the lower DSR levels.

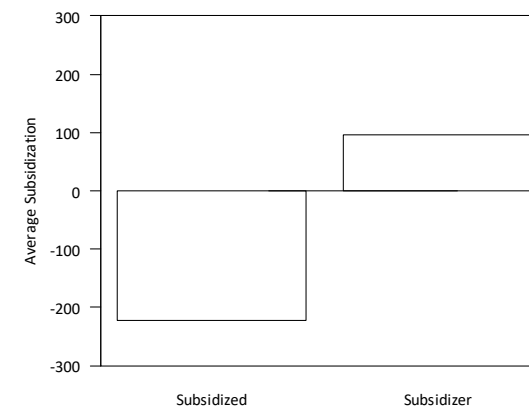
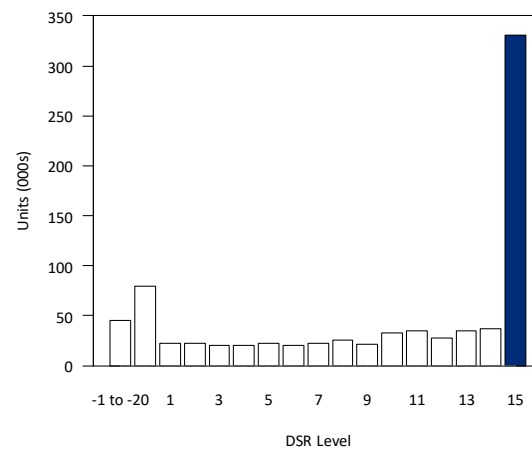


### A comparison of subsidized risks and subsidizing risks

More policyholders are disadvantaged by the subsidization than benefit from the subsidization.

### The distribution of units by DSR level

We note that the majority of policyholders have better experience at DSR Level 15.

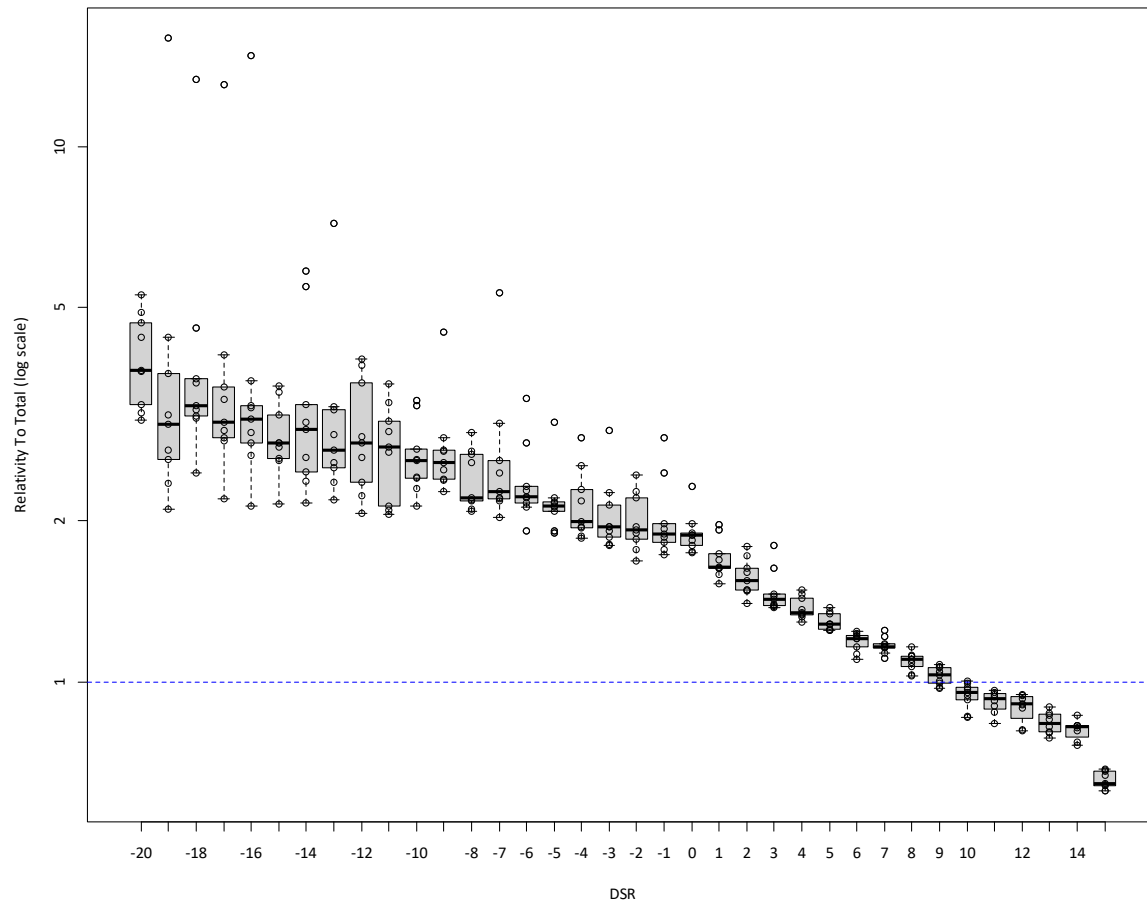


### Average Subsidy

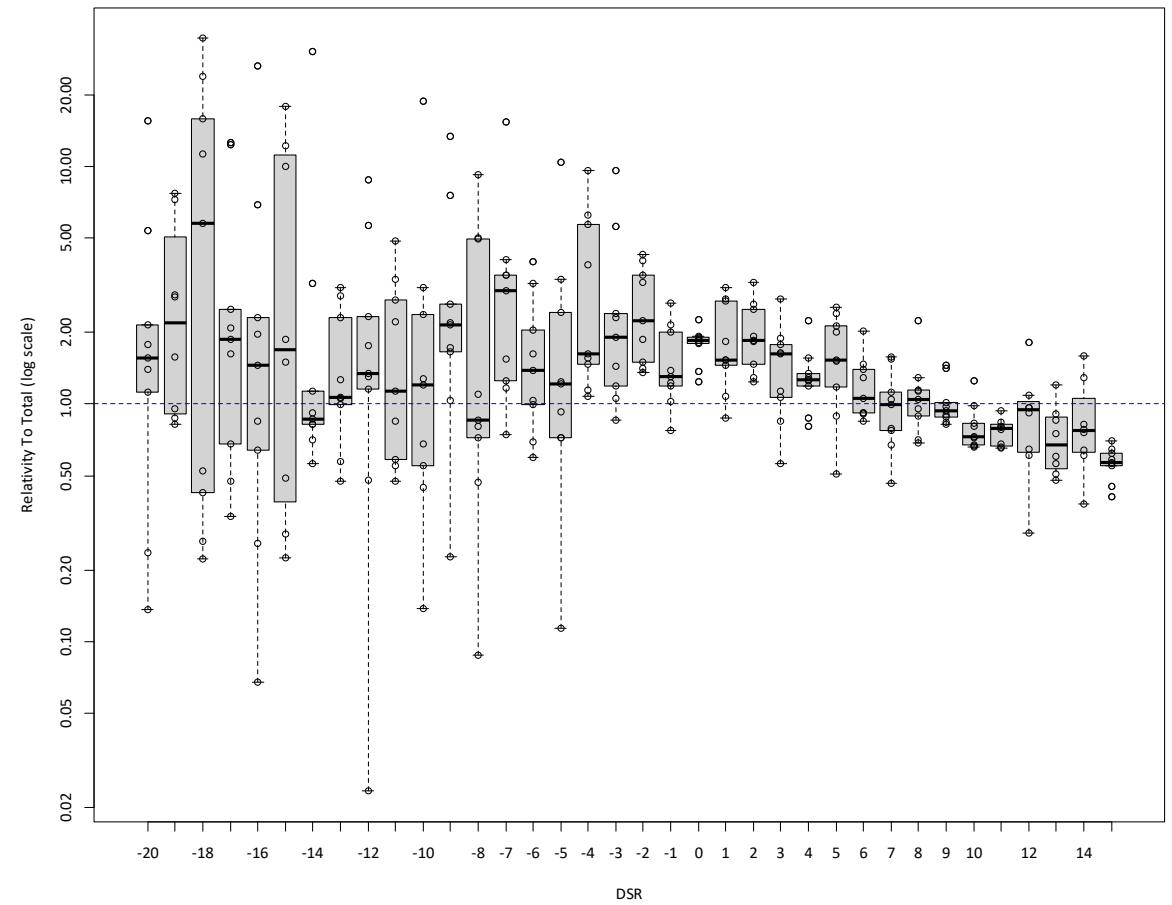
# DRIVER SAFETY RATINGS

Policyholder experience at higher DSR levels is observably better than experience at lower DSR levels

Non-PIPP Pure Premium Relativities



PIPP Pure Premium Relativities



# DRIVER SAFETY RATINGS

## Conclusions

- The current scheme results in the policyholders with better experience, which represent the majority of risks, subsidizing poorer risks.
- We suggest that the Public Utilities Board should review the proposed rating program with consideration to:
  - The acceptability of year-over-year rates changes and the use of capping to address acceptability,
  - The stated goals of the program, and
  - The fairness of the subsidization.
- Furthermore, we note that MPI 2021 proposal also included subsidization. Although we recognize that ratemaking is a prospective exercise, we also appreciate that perpetuating the subsidy increases the cumulative detriment to Manitoba policyholders with better experience.



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# TRENDS



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As a result of the effect of compounding, estimation of trends is a **material assumption** in an actuarial rate indication.

- In our high-level review we considered the analysis of pure premium trends from the Ratemaking section of the GRA. That analysis allocates the overall required rate to major class of business.
- The separate frequency and severity trends from the Claims Incurred section are generally similar to the trends in the Ratemaking section of the GRA



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- Considering statistical significance of the indications of the trend model is established practice.



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- Residual analysis to determine the appropriateness of trend models is an established practice.
  - Consistent with Section 1620.21-23 of the Standards of Practice of the Canadian Institute of Actuaries, the application of trend rates is a two-step process.
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# TREND

## The Importance of Trend

- The compounding effect magnifies small differences
- Many regulators in Canada consider benchmark trend rates
- The subject of a current educational study note by the Regulatory Subcommittee of the CIA's P&C Insurance Pricing Committee.
- The subject of many court cases in the early days of insurance regulation in the United States

## An example from Banking

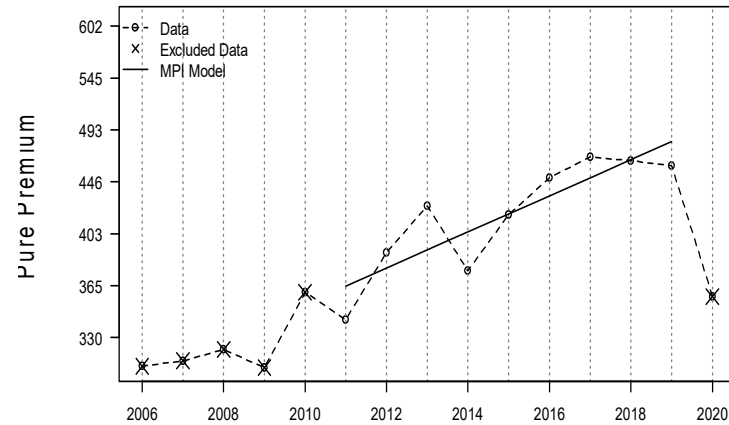
	MPI	Oliver Wyman
Amount Invested	\$100.0	\$100.0
Interest Rate	3.75%	0.62%
Compounding Period	5	5
Future Value	\$120.21	\$103.14
Difference	<b>16.6%</b>	



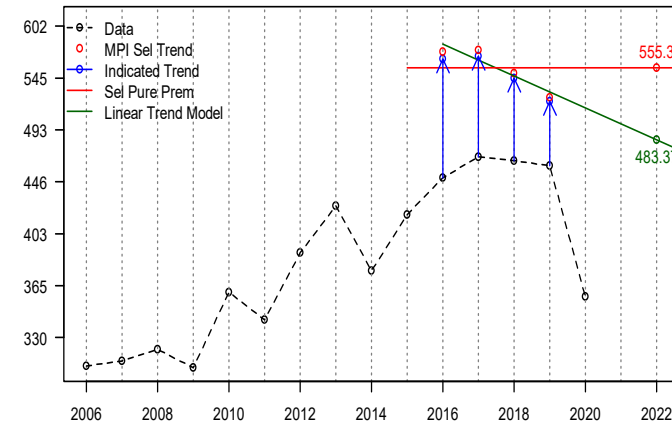
# TRENDS

## Materiality

### MPI Model



Modeler Trend p.value Adj.R2  
1 MPI +3.53% 0.002 0.727



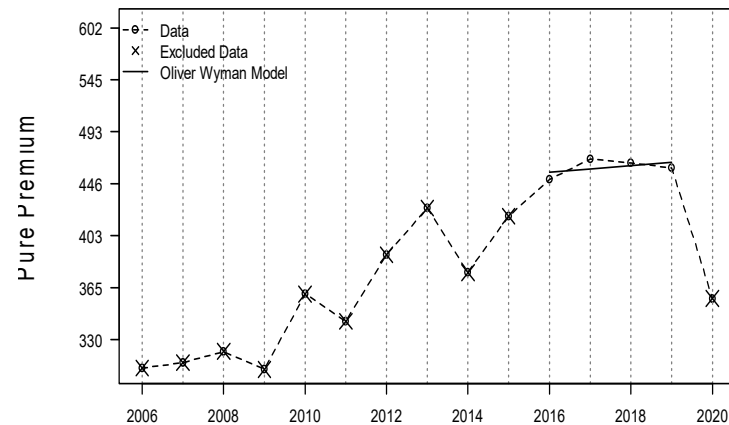
Modeler Trend p.value Adj.R2  
1 MPI Residual -3.02% 0.068 0.804

### Compounding Effect of MPI Model

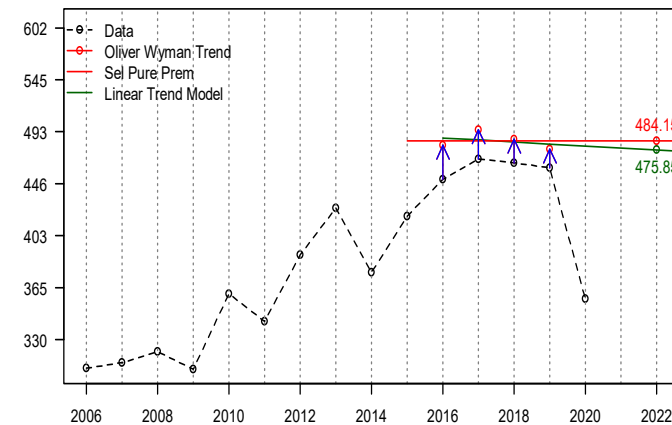
### Residual Analysis

### Oliver Wyman Model

Note the flattening



Modeler Trend p.value Adj.R2  
1 Oliver Wyman +0.62% 0.542 -0.185



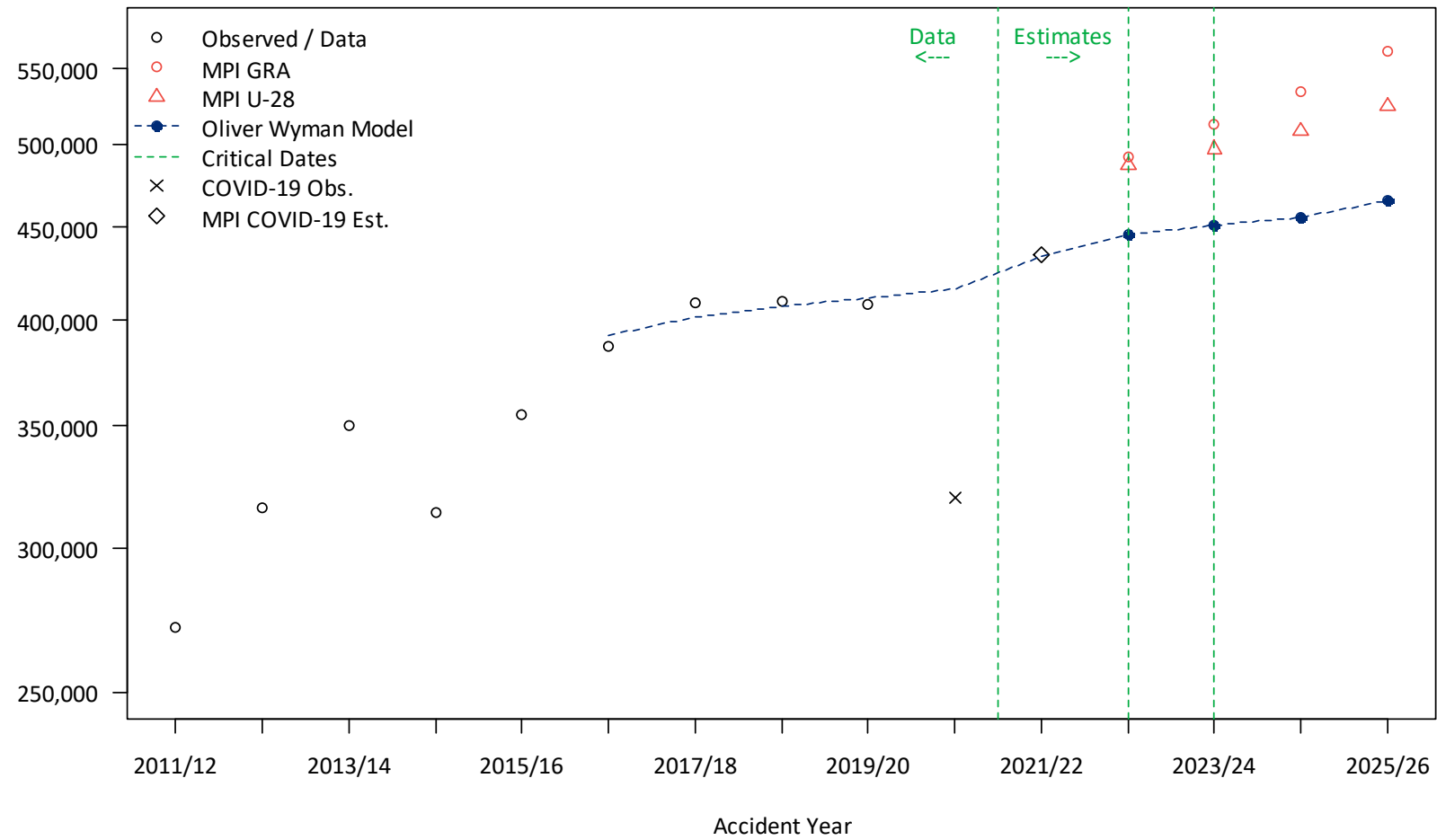
Modeler Trend p.value Adj.R2  
1 Oliver Wyman Residual -0.38% 0.694 -0.36

### Compounding Effect of Oliver Wyman Model

### Residual Analysis

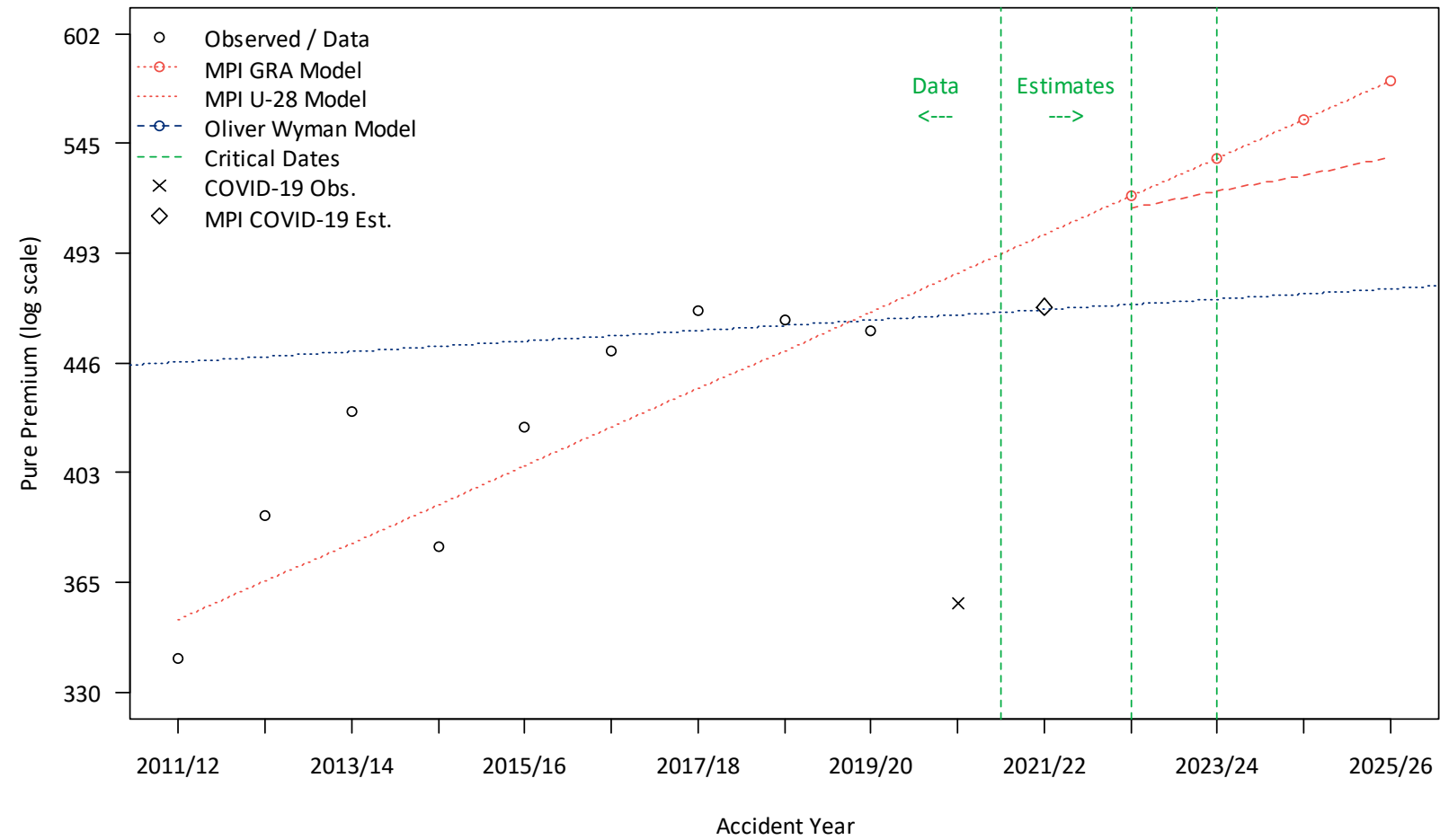
# TREND

## The Insurance Example: Claim Incurred Forecasts



# TREND

## The Insurance Example: Pure Premiums



# TRENDS

## Estimation of Trend

- Coverage Level Pure Premiums Trends vs. Frequency/Severity Trends by Peril
  - It is a reasonable approach to review trends by peril (though not necessarily by size category)
  - It is a reasonable approach to review frequency and severity trends separately
  - We note that the resulting trend rates in the GRA are similar. For example, we note that the implied total, and repair trends for collision are +4.5% and +3.0%, respectively as compared to MPIs pure premium trend of +3.75%
- Considering statistical significance of the indications of the trend model is established practice.
  - Data is comprised of “signal” and “noise” and this analysis identifies whether the model is measuring signal.
  - $p$ -values greater than 0.05 indicate that there is insufficient “signal” in the data and that the model unable to discern a trend that is different from 0%
  - As such, trends based on model coefficients with  $p$ -values greater than 0.05 **are not statistically supported**
- Residual analysis to determine the appropriateness of trend models is an established practice.
- Consistent with Section 1620.21-23 of the Standards of Practice of the Canadian Institute of Actuaries, the application of trend rates is a two-step process.



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# THE CAPITAL MANAGEMENT PLAN

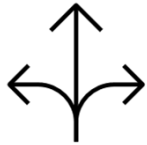


## Capital Management Plan

In the 2021 GRA, MPI applied for and the PUB approved a 5.0% capital release provision. Although MPI expected that it and the PUB would reassess the provision at each GRA, the 2021 GRA effectively assumed that the 5% capital release would be in effect for several years (i.e., until the Basic MCT ratio returned to approximately 100%).

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MPI now proposes to rebate Basic surplus instead of applying for another capital release.



## Either/Or

- MPI does not consider the capital release and the capital rebate to be an “either/or” option, but rather different methodologies that allow for MPI to return excess capital to policyholders. The two methodologies differ primarily in the timing and execution.



## Do Both

- A rebate would allow for a more expedient return of capital to policyholders. However, we note that the current source of the excess capital is the COVID-19 pandemic, which we view as a non-recurring event.

It is our view that changes in approach should not be the result of such events. That is, we suggest that:

- MPI maintain the capital management plan which would require a regular review of capital adequacy.
- MPI include the 5% capital release in 2022/23 rate program.
- MPI use a rebate to return additional excess capital resulting from the extraordinary circumstances of the pandemic.



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