

# Insurance Table Study

*Excerpted from 2/23/2023 Retro  
Advisory Committee Meeting  
Presentation*

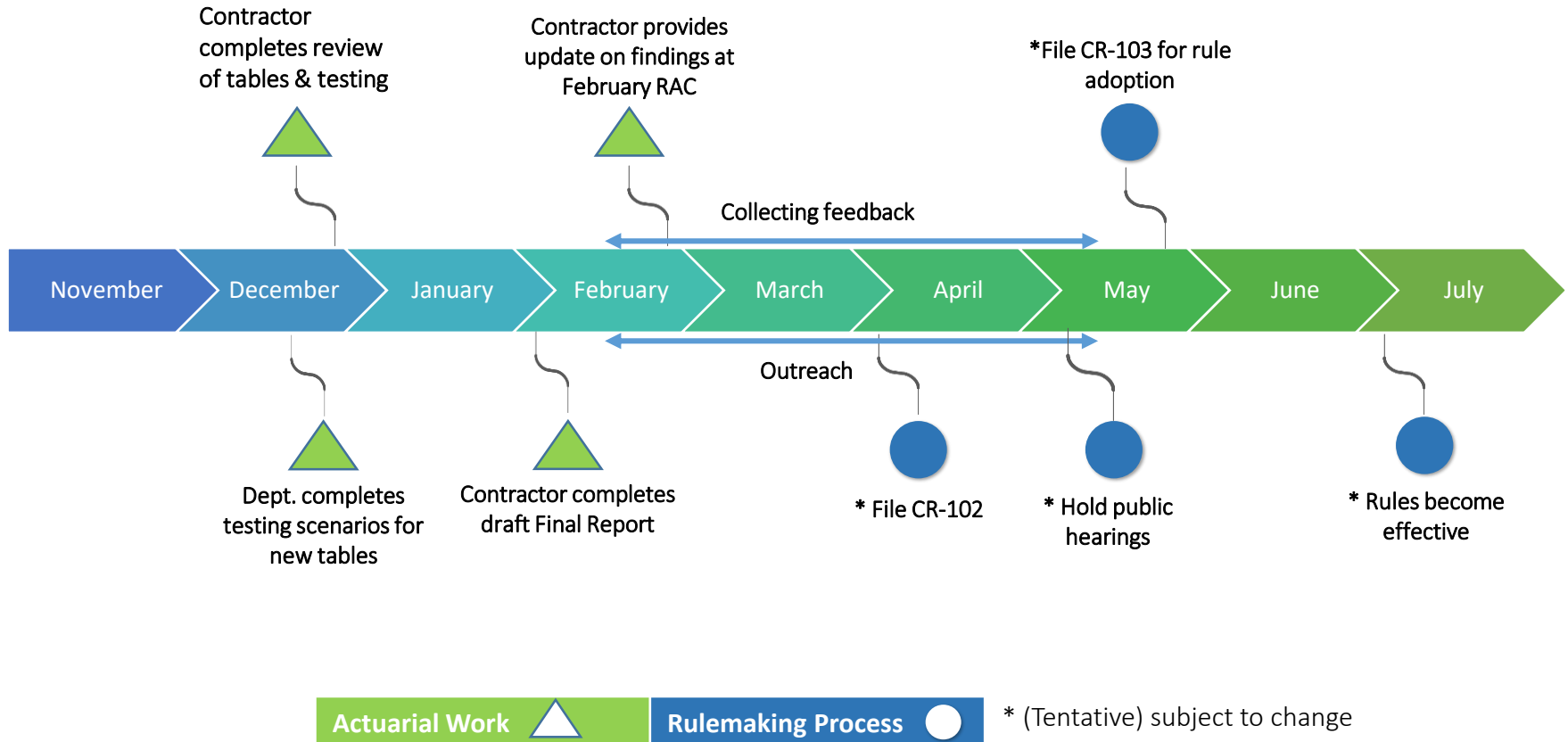
**Slides Prepared by:**

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*Financial Incentives  
Coordinator*

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*Actuary*

**Rajesh Sahasrabuddhe**  
*Consulting Actuary,  
Oliver Wyman*

# Tentative Timeline



# Background

- The current study is part of our regular process to study and update the retro tables, as required by rule.
- The study is based on 18 years of data (2001–2018), actuarially adjusted to current benefit levels. We are using this much data because:
  - More data can help improve some of the estimates.
  - More data can also provide more stability in the estimates.

# Important Points to Remember:

- The new tables and parameters

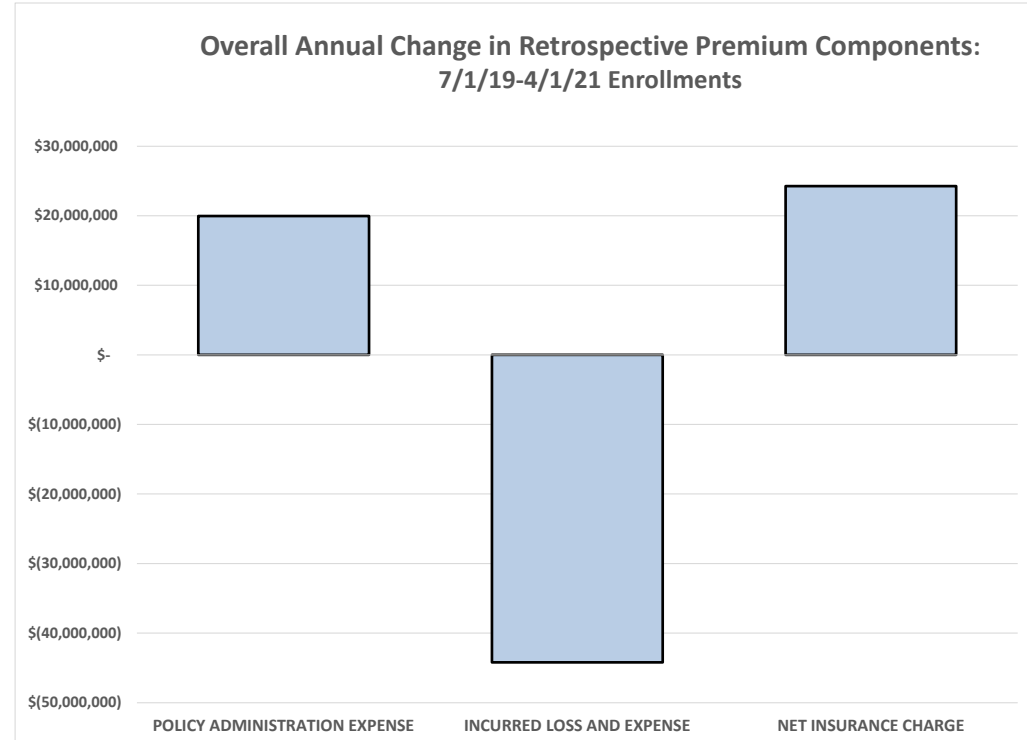
**WILL NOT CHANGE THE TOTAL REFUND.**

- However the new tables and parameters will change:
  - The Hazard Group assignments,
  - The Expense Factors,
  - The Insurance Charges for different plan choices
- The costs and benefits of different plan choices will change, so participants will likely adjust some of their choices.
- But the total amount refunded at each evaluation will remain the same.

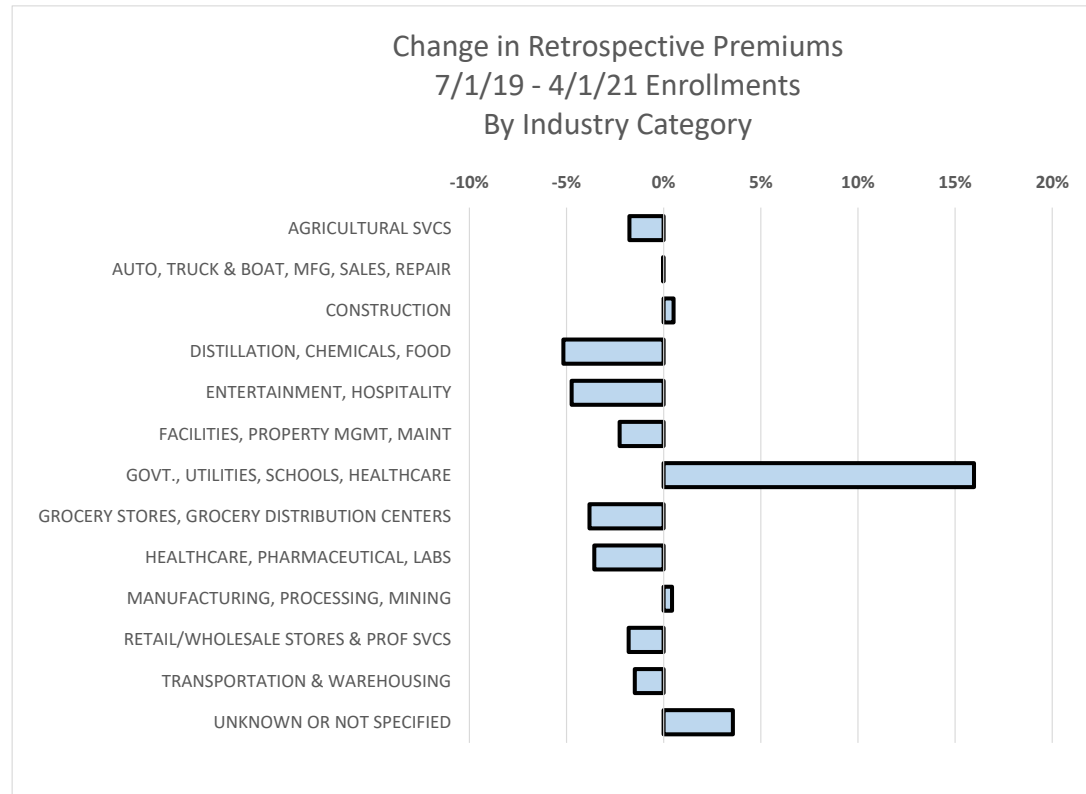
# Testing New Tables and Parameters

Based on tests using the 7/1/19 through 4/1/21 enrollments:

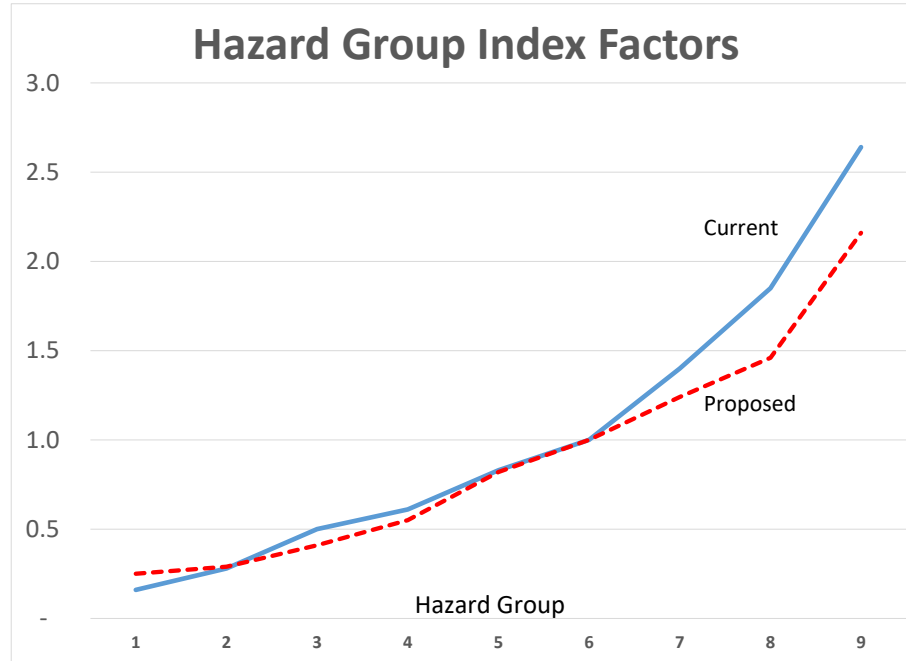
- Keeping all the historical plan choices,
  - Using the proposed tables and parameters,
  - Adjusting the PAFs, so that overall refunds were unchanged.
1. Policy Admin Expenses **increased** from 4.3% to 7.3% of standard premiums, about \$20M per year.
  2. Net Insurance Charges **increased** from 3.6% to 7.3% of standard premiums, or about \$24M per year.
  3. Incurred Loss & Expense charges offset the changes above, **decreasing** from 62.4% to 55.8%, or \$44M per year.



# Testing New Tables: By Industry Category



# Hazard Group Assignments: Index Factors

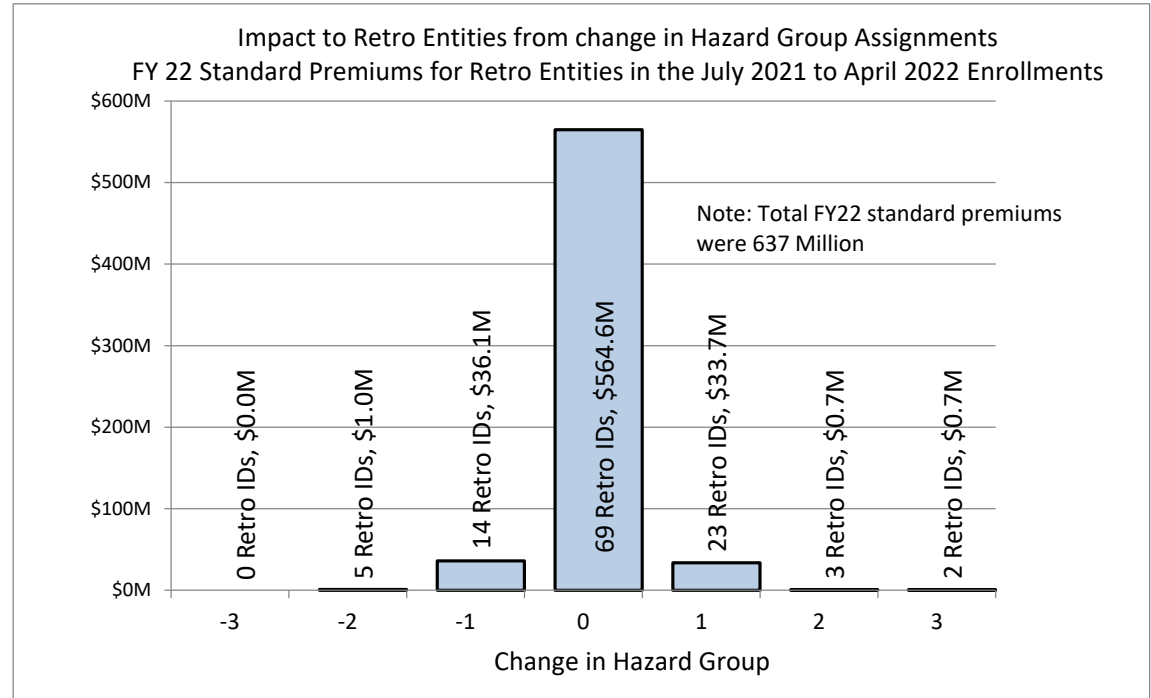


The proposed Index Factors are lower for the high Hazard Groups.

# Hazard Group Assignments: Testing

Current and Proposed Hazard Groups were calculated for the 7/1/21 – 4/1/22 enrollments using FY22 premiums.

- The majority of the premiums and retro entities did not change Hazard Group.
- Of those that changed most moved by +/-1 Hazard Group.
- Similar to the last Hazard Group update.





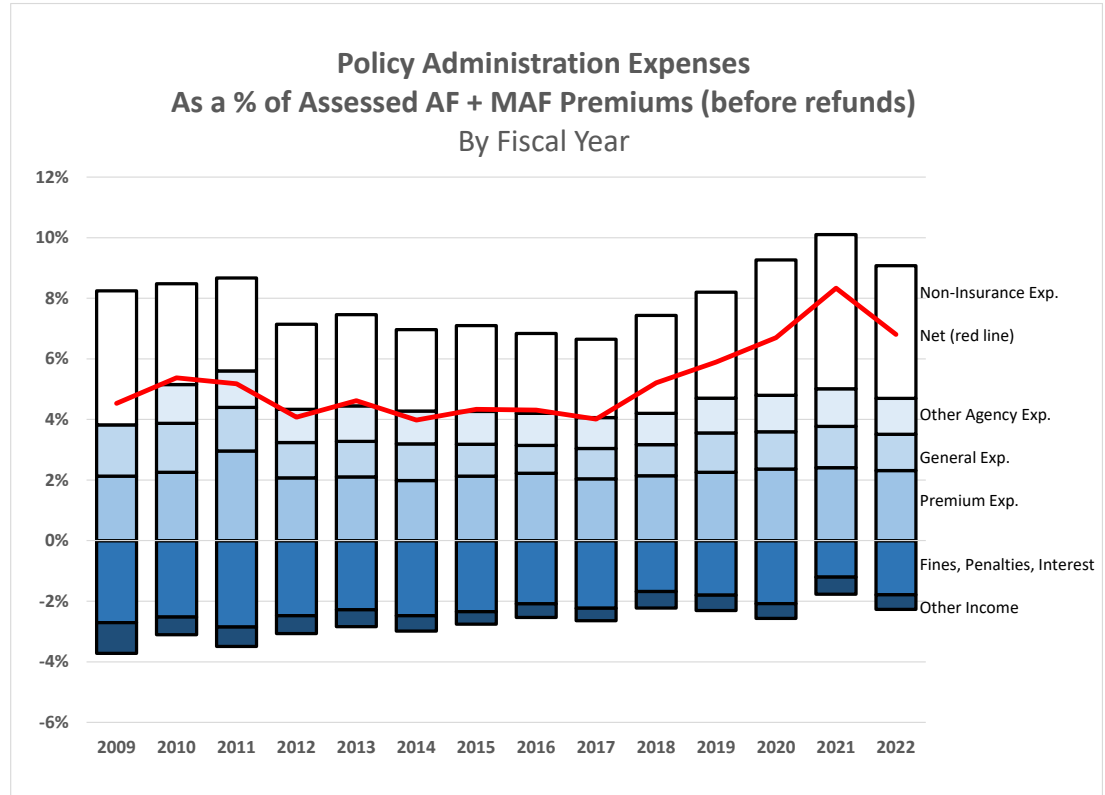
# Expense Factors

- The net Policy Administration Expense and Claims Administration Expense ratios have increased since the last study.
- The current standard premium rates already reflect these higher expense ratios.
- So the retrospective premium formula needs updated expense factors to be consistent.

# Expense Factors: Policy Administration Expenses

The proposed Policy Administration Expense Ratio is 7.3%, based on FY20–FY22 data.

(The current ratio is 4.3%)

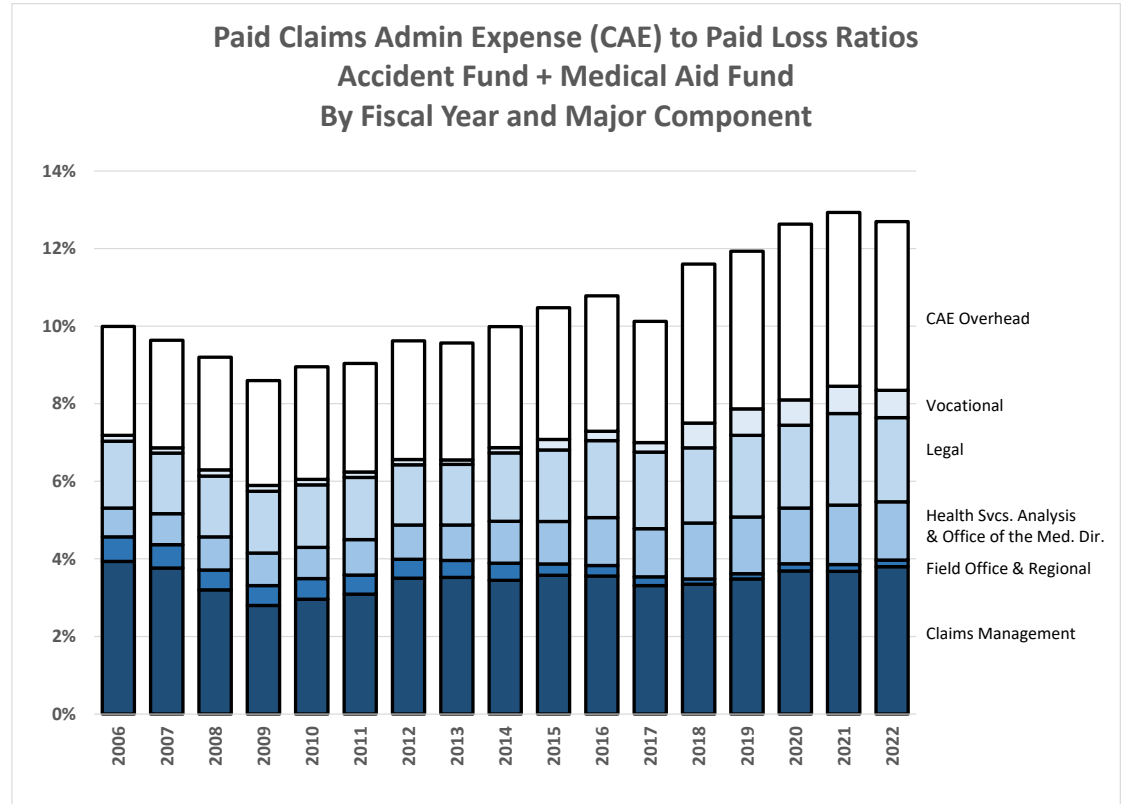


# Expense Factors: Claims Administration Expenses

The proposed Claims Administration Expense (CAE) Ratio is 12.5% based on FY20–FY22 data.

(The current ratio is 9.0%)

Note that the industry ratio of CAE to loss is closer to 25%, or twice as large.



# Expected Loss Ratio Factors (ELRFs)

We are **not** proposing any changes to the ELRFs at this time.

## Accident Fund:

Recent Permissible Loss Ratios have been close to the ELRF in WAC.

## Medical Aid Fund:

Recent Permissible Loss Ratios have been higher than the current ELRF in WAC.

However the MAF has a high contingency reserve and less adequate rates. So we anticipate that the Permissible Loss Ratio will drop over time.

	Permissible* Loss Ratios (as of 3Q22)	ELRFs in WAC 296-17B-830
Accident Fund	77.2%	76.6%
Medical Aid Fund	92.0%	88.0%

**\*The Permissible Loss Ratio is the Loss Ratio at which the premium rates would break even**

# Insurance Charges

Specific changes in insurance charges depend on:

- Size Group,
- Hazard Group,
- Single Loss Limit,
- Minimum Loss Ratio, and
- Maximum Loss Ratio

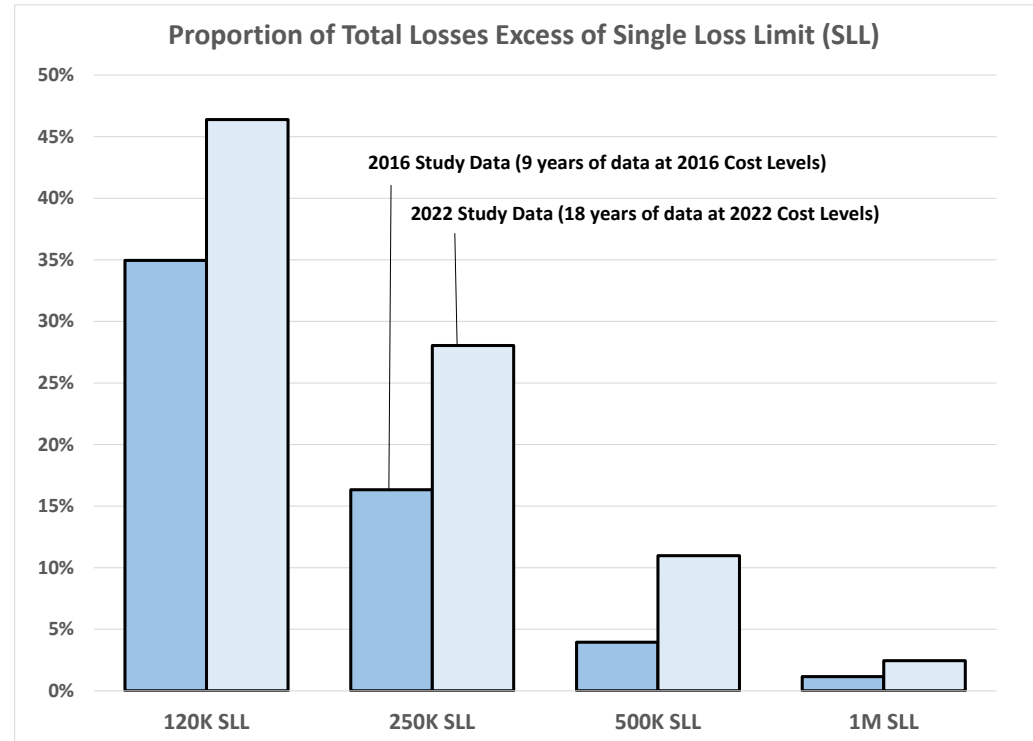
But on average the insurance charges are increasing, assuming historical plan choices are continued.

# Insurance Charges: Excess Loss Experience

Some of the increases in insurance charges are due to:

- Inflation: SLLs now exclude more losses.
- Lower Pension Discount Rate: More pension costs are above SLLs.

In the latest study data, each SLL excludes a larger portion of loss.



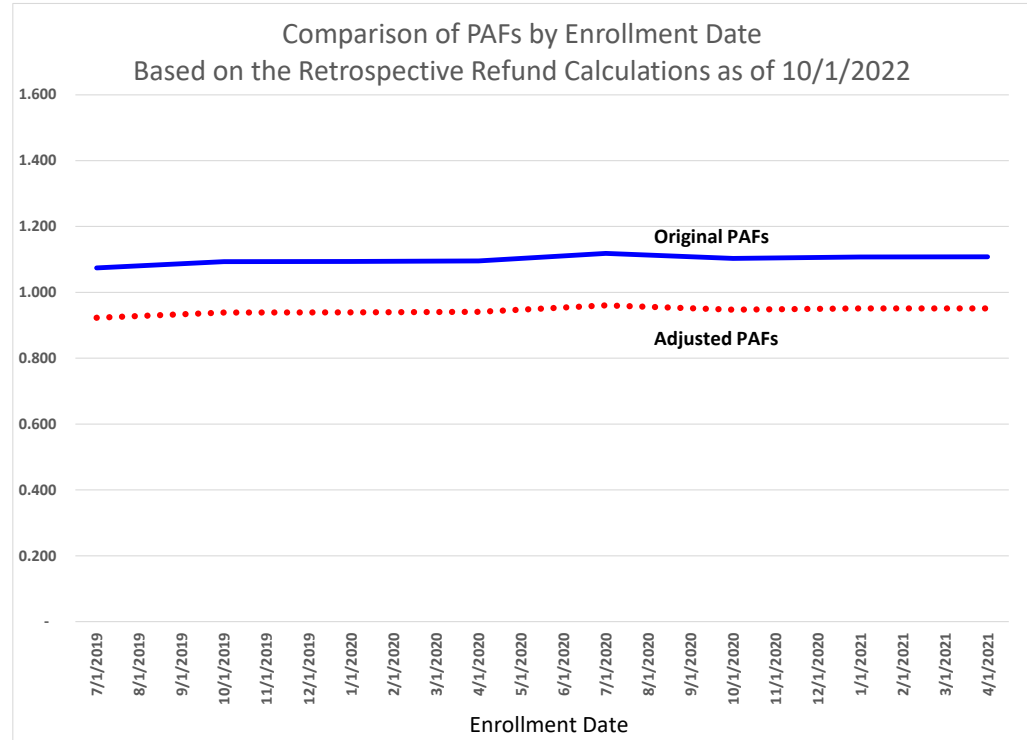
# The PAF is expected to be closer to 1.0

- Proposed expense factors are increasing.
- Proposed insurance charges are also generally increasing.

To keep the refunds unchanged, the PAF will need to decrease.

Based on tests using the 7/1/19–4/1/21 enrollments, the historical PAFs would:

- Drop by about 14%.
- Be closer to 1.0—and our goal is to keep the PAF near 1.0.



# Testing New Tables and Parameters:

## Observations on % change in Retro Premiums

### Range of Results:

#### Plans At Max Loss Ratio:

- Premium based: -4% to 6%
- Loss based: -2% to 24%

#### Plans At Min Loss Ratio:

- Premium based: 0% to 20%
- Loss based: 3% to 70%

#### Plans Between Max & Min Loss Ratio:

- Premium based: -6% to 8%
- Smaller Loss based: -13% to 57%
- Larger Loss based: -9% to 15%

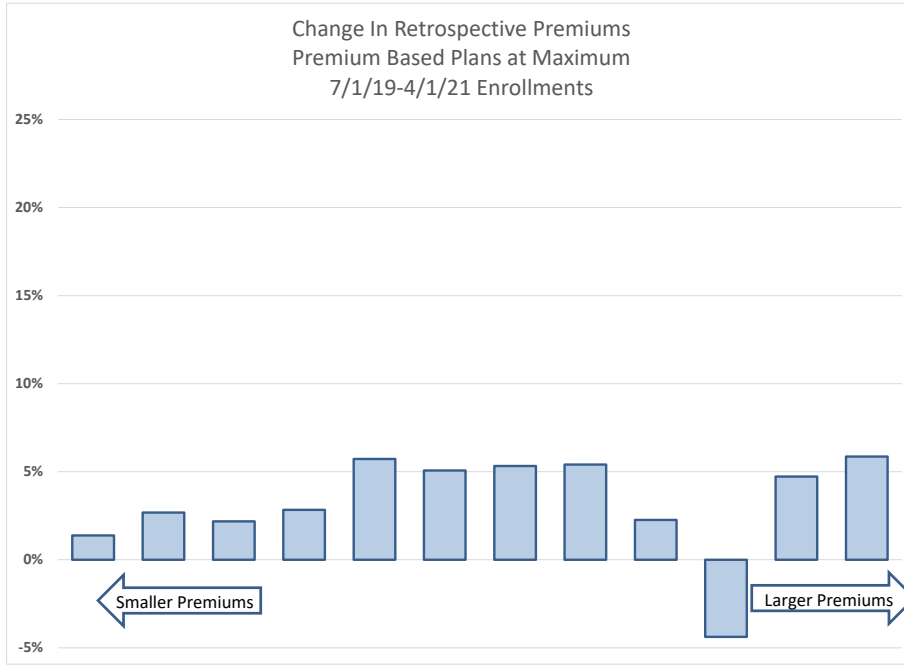
### Comments:

- The 70% increase (4.3% to 7.3%) in Policy Administration Expense can result in a large percentage increase in retrospective premiums for some plans (for example plans at or near minimum loss ratio.)

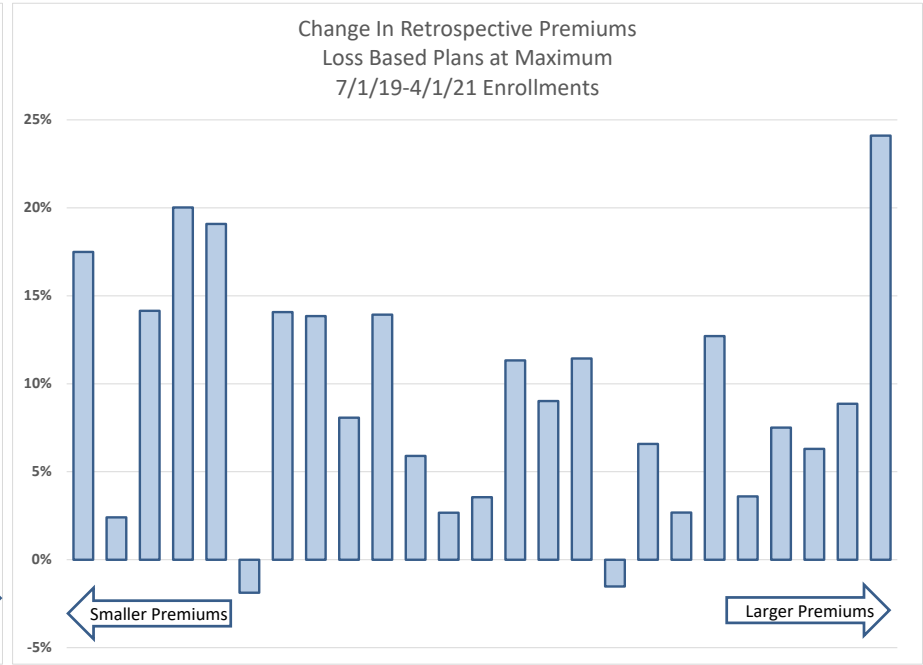


# Testing New Tables: Plans at Maximum

**Premium Based Plans:  
Overall Change +4%**

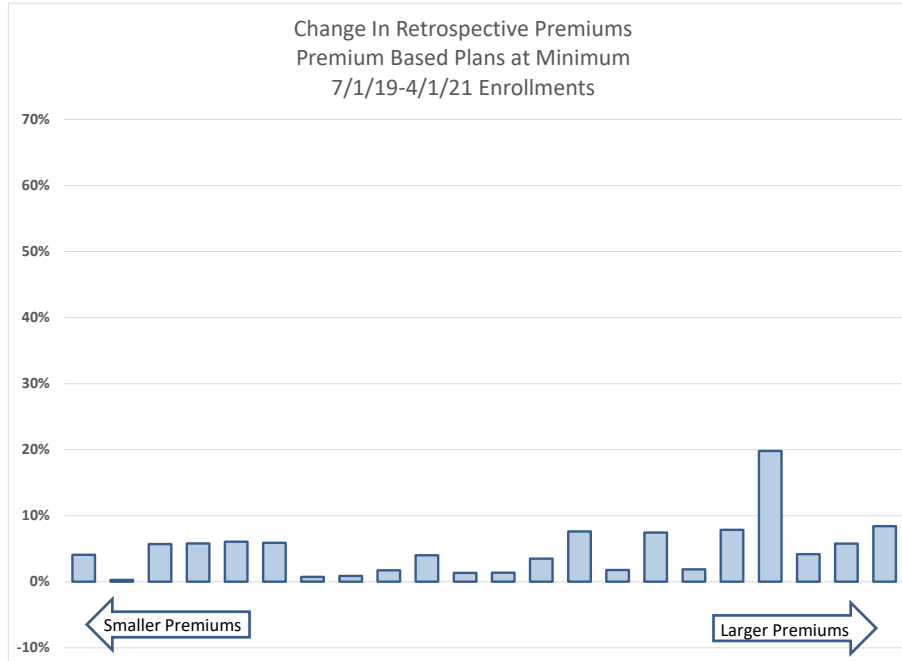


**Loss Based Plans:  
Overall Change +15%**

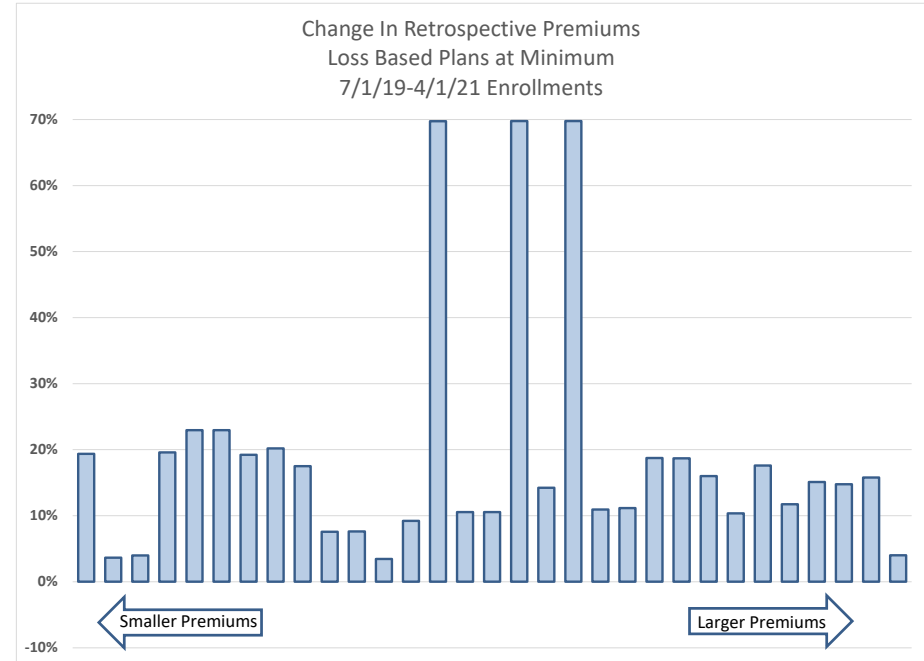


# Testing New Tables: Plans at Minimum

**Premium Based Plans:  
Overall Change +7%**



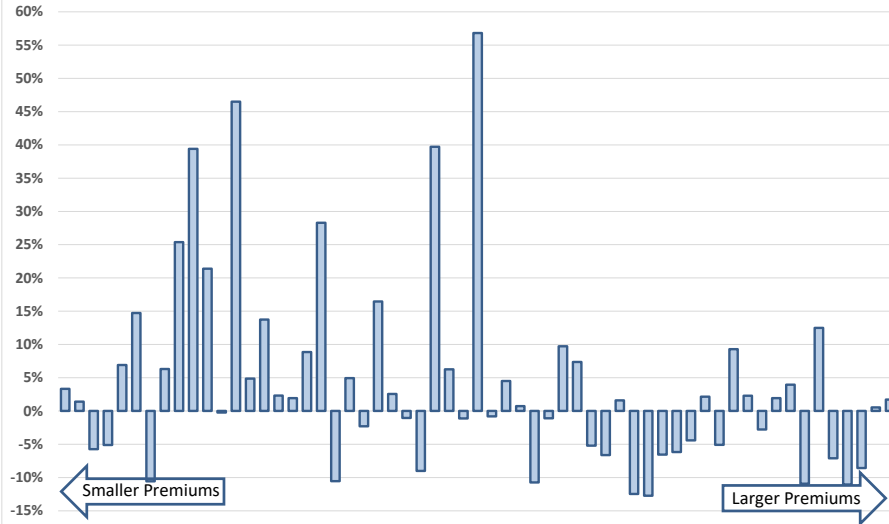
**Loss Based Plans:  
Overall Change +12%**



# Testing New Tables: Plans between Max & Min

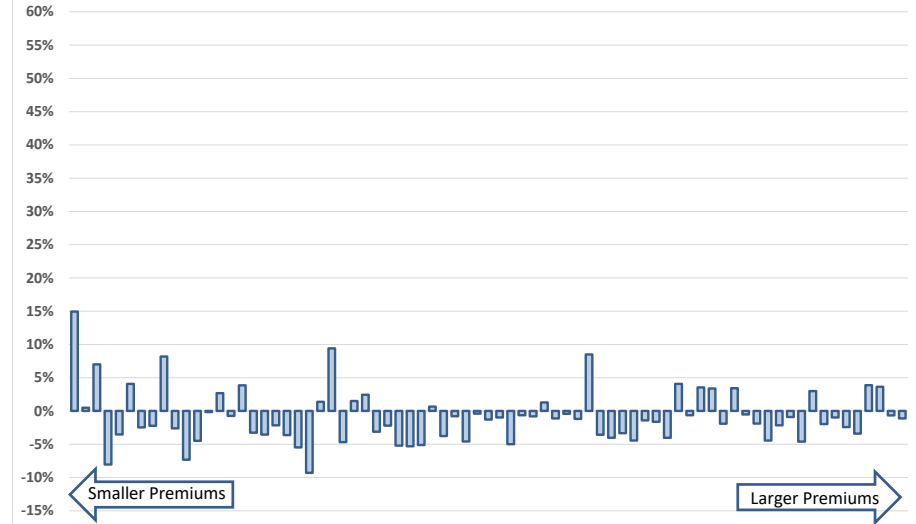
## Smaller Loss Based Plans: Overall Change -2%

Change In Retrospective Premiums  
Loss Based Plans between Min & Max  
Less than \$1 million in Standard Premium  
7/1/19-4/1/21 Enrollments



## Larger Loss Based Plans: Overall Change -1%

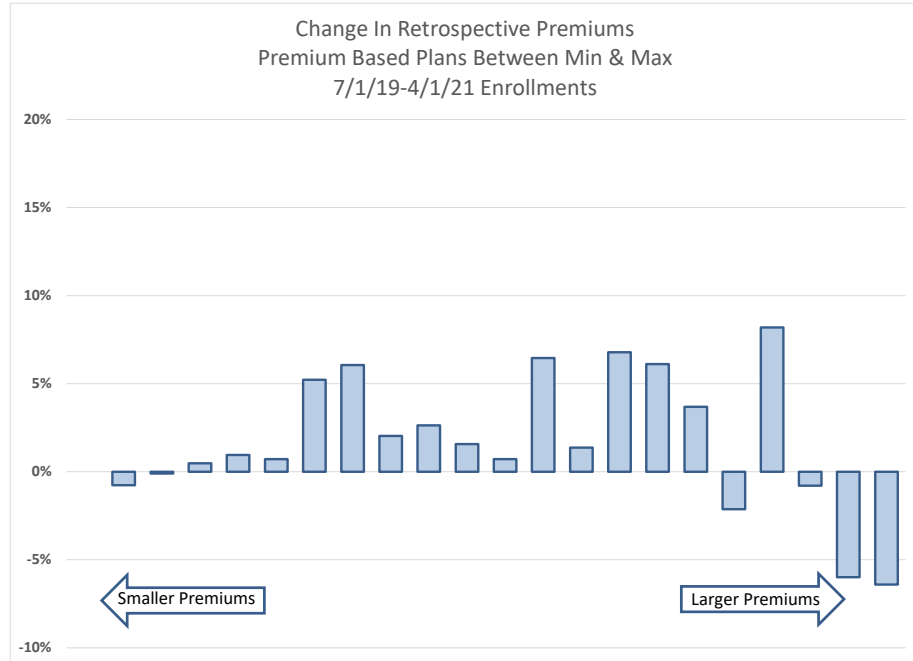
Change In Retrospective Premiums  
Loss Based Plans between Min & Max  
\$1 million+ in Standard Premium  
7/1/19-4/1/21 Enrollments



# Testing New Tables: Plans between Max & Min

## Premium Based Plans:

**Overall Change -2%**



# Purpose of Oliver Wyman Review

- The department is not regulated by the Office of the Insurance Commissioner which reviews changes to other insurers' rating plans. So Oliver Wyman provides an outside review of our work.
- They consulted with L&I actuaries during the course of the study.
- They reviewed the study to ensure that the assumptions, calculations, and results are reasonable and consistent with insurance principles.

# Scope of Oliver Wyman Review

- A review of the Retrospective Rating Program
- An actuarial review of the development of insurance tables used in the calculation of retrospective rating premiums including:
  - A technical review of the L&I calculations.
  - An actuarial review of the modeling underlying the development of the insurance tables.
- Oliver Wyman Review Team:
  - Douglas (Doug) Barritt
  - Rajesh (Raj) Sahasrabuddhe, FCAS, MAAA

# Oliver Wyman Findings and Conclusions

- Our findings for the program before the consideration of the performance adjustment factor are as follows:
  - The program is consistent with retrospective rating principles.
  - The program is consistent with the Statement of Principles Regarding Property and Casualty Insurance Ratemaking promulgated by the Casualty Actuarial Society.
  - The calculation of the expense factors is reasonable and actuarially sound.
  - The data used in the calculation of the insurance tables is appropriate.
  - The calculations underlying the insurance tables are actuarially sound.
  - The assumptions underlying the insurance tables are reasonable and actuarially sound.

# Oliver Wyman Findings and Conclusions

- With respect to the performance adjustment factor:
  - The consideration of a performance adjustment factor is consistent with the Washington Administrative Code.



# Model Validation

- **Fit for purpose.** The model is conceptually and methodologically sound for each model use.
- **Accuracy of calculations.** The modeling methodology is implemented correctly with accurate inputs and appropriate outputs.
- **Design and data processing.** The modeling environment, tools and design are appropriate for model uses.
- **Model governance and documentation.** Model control standards are implemented and the modeling process and technical functionality are accurately and comprehensively documented.

# Model Validation

- **Deficiency.** An adverse finding (e.g., methodology or calculation error) that presents an immediate or continued risk to the company if not corrected for a period of time.
- **Model risk.** An observation noted by the validator of a potentially risk- bearing finding that does not constitute an error, but which does create a risk for the company if not addressed.
- **Improvement recommendation.** An opportunity for improvement identified as carrying little or no risk to the company if not completed.

# Model Validation

Model Validation Element	Deficiencies	Model Risks	Model Improvements
Fit for purpose	None	None	None
Accuracy of calculations.	None	None	Model does not include unit testing.
Design and data processing.	None	Use of modeling software that is not “state-of the art” and does not support advanced data visualization.	Model limitations due to the modeling software choice.
Model governance and documentation.	Not Tested	Not Tested	Not Tested