



# **ACTUARIAL PEER REVIEW**

# **WORKERS COMPENSATION RATEMAKING PROCESSES OF THE NATIONAL COUNCIL ON COMPENSATION INSURANCE, INC.**

STATE OF FLORIDA  
OFFICE OF INSURANCE REGULATION

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# Introduction

## Scope

Oliver Wyman Actuarial Consulting, Inc. (Oliver Wyman) has been engaged by the Office of Insurance Regulation, State of Florida, (the FLOIR) to conduct an independent actuarial peer review of the ratemaking processes of the National Council on Compensation Insurance, Inc. (NCCI), in Florida, as required by Section 627.285, Florida Statutes.<sup>1</sup>

Specifically, Oliver Wyman has been engaged to review the following:

1. Methodologies, thought processes, judgments and assumptions used to determine statewide rate level changes.
2. Methodologies, thought processes, judgments and assumptions used to distribute statewide rate level changes to industry groups.
3. Methodologies, thought processes, judgments and assumptions used to determine individual workers compensation classification rates.
4. Methodologies, thought processes, judgments and assumptions used to determine the impact of legislative changes, benefit-level adjustments, and legislative proposals.<sup>2,3</sup>

## General Approach to this Review

The general approach to this review was as follows:

1. Identification of data and methodology used.
2. Assessment of appropriateness of data and methodology used
  - Is the methodology a commonly applied actuarial technique?
  - Is it appropriate in the circumstances of its use by NCCI?

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<sup>1</sup> Section 627.285 states that: “..... at least once every other year contract for an independent actuarial peer review and analysis of the ratemaking processes of any licensed rating organization that makes rate filings for workers compensation insurance, and the rating organization shall fully cooperate in the peer review. The contract shall require submission of a final report to the commission, the President of the Senate, and the Speaker of the House of Representatives by February 1.”

<sup>2</sup> Since implementation of SB 50A on October 1, 2003, there have been our material changes to case law due to court decisions and one material legislative change affecting workers compensation costs in Florida:

- Florida Supreme Court Decision, *Emma Murray v. Mariner Health and ACE USA*, October 23, 2008.
- HB 903, which reversed the legislative impact of the Murray Decision, effective July 1, 2009.
- Florida Supreme Court Decision, *Marvin Castellanos v. Next Door Company* April 28, 2016.
- Florida Supreme Court Decision, *Bradley Westphal v. City of St. Petersburg* June 9, 2016.

There have been no additional material case law decisions or legislative changes since *Westphal* (see above) affecting benefit costs in Florida, according to the NCCI Annual Statistical Bulletin, 2021 edition. This is confirmed in the calculation of loss “on-level” factors in Appendix A-I of the current filing and prior filings.

<sup>3</sup> Minor benefit level changes implemented in Florida periodically include adjustments to physician fee schedules, hospital fee schedules, and changes to the maximum weekly benefit. The most recent change was an adjustment to the medical fee schedule effective July 1, 2017. The impact of that adjustment was to reduce medical costs by 0.1%.

- Does it meet Actuarial Standards of Practice?
  - Is data appropriate for methodologies employed?
  - What additional methodologies were available?
3. Assessment of consistency of methodologies used
    - What changes to methodology were made and why?
    - Were any changes to methodology justified with clear and unbiased communication to all parties?
    - What was the impact of the change in the methodology?
  4. Is there evidence of bias in the ratemaking process?

The review process was as follows:

1. Review documentation from the FLOIR.
2. Discuss questions and concerns with the FLOIR.<sup>4</sup>
3. Issue Draft Report to FLOIR.
4. Consider comments from FLOIR and NCCI.
5. Issue Final Report

This assignment was not used as a vehicle to substitute Oliver Wyman's professional opinions for those of NCCI. Oliver Wyman conducted an objective review with the goal of identifying those areas where, in Oliver Wyman's opinion, NCCI's documentation was incomplete or where inappropriate actuarial judgments were made, or where additional investigation by NCCI into specific issues was warranted. Oliver Wyman's findings that specific processes, judgments, or assumptions are reasonable, or Oliver Wyman's lack of issue with the same, do not necessarily mean that Oliver Wyman endorses them or would take the same approach if Oliver Wyman were to conduct its own independent analysis of rate needs in the state of Florida.

Oliver Wyman's report to the FLOIR consists of the text and charts in this document.

A complete list of documents and data provided is attached at the end of this report. Applicable Considerations and Limitations are attached as well.

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<sup>4</sup> Oliver Wyman's contact during the course of this review was Mr. Greg Jaynes, ACAS, MAAA, Actuary, Florida Office of Insurance Regulation.

# Executive Summary

## Principal Conclusions

**1. The NCCI ratemaking process (in Florida<sup>5</sup>) is based on commonly applied actuarial methodologies that are supported in actuarial literature as well as by frequency of usage by credentialed actuaries.**

- a. The NCCI ratemaking process draws from a group of actuarial methodologies employed by NCCI and other ratemaking organizations in other states.
- b. Actuarial methodologies used by NCCI are appropriate within the context of their use in the NCCI ratemaking process in Florida.
- c. Oliver Wyman considers standards of practice established by the Casualty Actuarial Society and the American Academy of Actuaries as the governing body of documentation used to determine whether the NCCI ratemaking process in Florida is compliant with applicable actuarial standards of practice. Actuarial methodologies used by NCCI are consistent with:
  - The Statement of Principles Regarding Property and Casualty Insurance Ratemaking, as published by the Casualty Actuarial Society
  - The Code of Professional Conduct, as published by the Casualty Actuarial Society
  - Applicable Actuarial Standards of Practice promulgated by the Actuarial Standards Board of the American Academy of Actuaries

Oliver Wyman based its conclusion on a review of the key elements and selected specific details of the NCCI ratemaking process. Oliver Wyman did not conduct an exhaustive examination of every method and calculation employed by NCCI. Additionally, while Oliver Wyman examined certain rating values for reasonableness, Oliver Wyman did not examine the detailed calculations of all of these elements during this review. These issues are not material as respects the conclusion above.

**2. The NCCI ratemaking process is based on data that is appropriate as respects the actuarial methodologies employed in the 2022 filing.**

- a. The financial call data collected by NCCI is appropriate for the actuarial methodologies used by NCCI to calculate the statewide rate change.
- b. The WCSP data collected by NCCI is appropriate for the actuarial methodologies used by NCCI to distribute the statewide change to the five industry groups and the individual classifications in each industry group.
- c. The expense data utilized by NCCI is appropriate for the actuarial methodologies used by NCCI to determine the expense provisions underlying rates.

The financial call data and WCSP data are the primary data sets used by NCCI in the ratemaking process. Each set of data has advantages and limitations. The ratemaking processes employed by the NCCI tend to maximize the advantages of each set of data and tend to minimize the impact of limitations of each set of data. Expense provisions other than loss adjustment expense are calculated using expense data

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<sup>5</sup> This report addresses the NCCI ratemaking processes and methodologies in the state of Florida, only. Unless otherwise stated, any references to the NCCI ratemaking process or ratemaking methodologies are specific to the state of Florida.

from the NAIC<sup>6</sup> Insurance Expense Exhibit. The provision for loss adjustment expense is based on Florida specific and countrywide data collected in the financial call.

**3. The current charge for terrorism should be re-examined for:**

- **Appropriateness as respects the amount of the charge;**
- **Appropriateness as respects the manner by which it is charged, that is, as a fixed cost per \$100 payroll or as a percentage of manual premium or some other related base;**
- **Whether the charge is in actuality a contingency charge, as opposed to a loss cost; and**
- **If found to be a contingency charge, whether or not there should be a contingency charge for terrorism in addition to the profit and contingencies provision, or whether the profit and contingencies provision underlying rates compensates insurers for the risk of a terrorist event, in which case the current charge for terrorism is an unnecessary second charge to policyholders for the same contingency.**

- a. The current charge is \$0.01 per \$100 payroll.<sup>7</sup>
- b. Florida policyholders have paid \$690 million to the insurance industry since these charges were implemented in 2003. At a 2021 cost level, this equates to approximately \$853 million. The current charge of \$0.01 per \$100 payroll generates approximately \$30 million in annual premium charges.<sup>8</sup>
- c. There have been no losses to date for which this charge was intended to cover.
- d. Charging for this cost at a rate of \$0.01 per \$100 of payroll, as opposed to as a percentage of premium, places a greater share of the financial responsibility for the overall charge on lower cost classifications. This becomes apparent when comparing the \$0.01 charge to the rate of a low cost classification, such as 8810 (clerical), to the rate of a high cost classification, such as 5551 (roofing):
  - The rate for 8810, clerical, is \$0.16 per \$100 payroll. The terrorism charge has a 6% impact on costs.
  - The rate for 5551, roofing, is \$11.41 per \$100 payroll. The terrorism charge impacts costs by less than one tenth of 1%.

Charging as a fixed rate per \$100 payroll allocates financial responsibility for the charges in proportion to payroll, whereas charging as a percentage of premium allocates financial responsibility for the charges as a percentage of premium. The impact is that 8810, clerical, represents 28% of the payroll in Florida and will fund 28%, or approximately \$8 million, of the current expected annual charge of \$30 million. It is not likely that 28% of the cost of a potential terrorist incident, should it occur, will fall on 8810. If a decision is made to keep the charge in place, consideration should be given to charging it as a percentage of manual premium or some other, related premium base.

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<sup>6</sup> National Association of Insurance Commissioners.

<sup>7</sup> From 2003 through 2008, it was \$0.03 per \$100 payroll. From 2008 through 2016, it was \$.02 per \$100 payroll. From 2016 onward, it has been \$.01 per \$100 payroll.

<sup>8</sup> Charges for terrorism associated with Policy Year 2018 and Policy Year 2019 were \$30.3 and \$30.2 million, respectively. Charges for Policy Year 2020, which was not complete as of December 31, 2020, the valuation date of data used in the 2022 filing, appear to be coming in at approximately \$26 million. This is likely due to reduced economic activity, and therefore payroll, during the pandemic in 2020.

**4. The general NCCI ratemaking process is consistent over time. However, judgments and assumptions as respects specific decisions on methodology and the selection of actuarial parameters may vary between rate applications.**

a. Certain specific judgments and assumptions vary between rate applications. In general, specific judgments and assumptions are a matter of professional actuarial opinion. There is a concern that relying on varying judgments and assumptions regarding key actuarial parameters, such as trend, rather than a consistent selection methodology over time increases the potential for generating rate level indications based on predetermined notions, rather than objective statistical measurements. Conversely, there are arguments that fixing all aspects of the ratemaking methodology may lead to illogical results when changes occur to the workers compensation system. This author, as respects statewide ratemaking, has generally recommended that methodologies and selection criteria for key actuarial parameters such as trend be fixed over time unless there is a compelling reason to change. Nevertheless, this is Oliver Wyman’s professional opinion. Oliver Wyman finds nothing inherently improper with NCCI’s general approach to ratemaking as respects this issue.

**5. NCCI annual trend selections are biased because they are consistently greater than trends indicated by historical data. The impact is a potential overstatement of rate level.**

Number of Years Used in Model	Years Used In Model	Indicated Trends	
		IND	Med
15	2005 to 2019	0.969	0.972
14	2006 to 2019	0.970	0.972
13	2007 to 2019	0.966	0.967
12	2008 to 2019	0.962	0.962
11	2009 to 2019	0.959	0.956
10	2010 to 2019	0.956	0.949
9	2011 to 2019	0.956	0.945
8	2012 to 2019	0.957	0.941
7	2013 to 2019	0.951	0.934
6	2014 to 2019	0.943	0.927
5	2015 to 2019	0.942	0.927
	NCCI Selected	0.970	0.960

Highlighted entries in the above table are calculated trends greater than NCCI’s selections. The table infers that for indemnity trend (IND), NCCI’s selection is greater than all 15 measurements except one. For medical trend (MED) NCCI’s selection is greater than all 15 measurements except four. In all cases, NCCI’s selected trends are based on long term trends (trends based on 12 years of data or more) that are not indicative of trends based on more recent data.

**6. NCCI Item Filing B-1442 proposed to update the hazard group assignments for all classifications. This filing was approved, and while not directly associated with the 2022 filing, the impact of reassigning each individual classification’s hazard group affected the calculation of the rates for individual classifications as well as the calculation of important parameters required for experience rating, all in the 2022 filing. Oliver Wyman examined the methods and calculations used by NCCI to reassign hazard**

**groups by classification on behalf of other jurisdictions and found the approach and results to be actuarially sound.**

- a. The change to the hazard group mapping resulted material changes to certain experience rating parameters. Of note are changes to parameters termed "D-Ratios." D-Ratios are a very important part of the experience rating process and while it is unlikely, there is a possibility that the changes could cause a sudden change to the experience modification of a specific employer. D-Ratios are generally in the range of 0.30 to 0.40. The value of these ratios does depend on the hazard group of the classification. Typically, D-Ratios will vary from one year to the next. However, the change in hazard group mapping results in a much greater year to year variation to D-Ratios than typical. More than 25% of classifications realized a change to D-Ratios greater than .03 in either direction. In this respect, NCCI should have considered capping the change to the D-Ratios to some maximum value, such as +/-0.03, to decrease the likelihood of a change to the D-Ratio materially impacting the experience modification of an individual employer.
7. **Embedded in the credits for small deductibles and coinsurance is a 0.95 safety factor. The purpose of the safety factor is to compensate insurers for the risk that employers who elect to participate in these programs do not reimburse insurers for the applicable deductible or coinsurance charges. The safety factor decreases the credits (and therefore increases the premium charged) for employers who elect to participate in these programs. Therefore, the lower the safety factor, the lower the credit, and the higher the premium charge. The safety factor is therefore a contingency provision in addition to what is already included in the underwriting profit and contingencies provision underlying rates. The filing provided no support or empirical data for the selected safety factor. Oliver Wyman recommends that NCCI provide support for this factor on an annual basis. Without this support, we recommend that the FLOIR eliminate the safety factor.**
8. **Oliver Wyman's primary concern with the class ratemaking methodology implemented in 2010 is the substitution of theoretical excess loss ratios for actual data to provide for losses in excess of the \$500,000 per claim limit. This concern is compounded by the fact that \$500,000 limit has been unchanged since 2010. The impact is that over time, the impact of inflation will increase the volume of loss experience above the limit and decrease the volume of loss experience below the limit, effectively giving more weight to the excess ratios, and less weight to empirical data. Oliver Wyman recommends that NCCI report to the FLOIR, based on Florida data, what the impact of keeping the limit fixed over time has been on the portion of available data below the limit, as well as what the potential impact has been, if any, on the differentials between classification rates. If the impact is measurable, consideration should be given to inflating the limit over time to reflect the impact of severity inflation.**



# Discussion

## Overview of the NCCI Ratemaking Methodology

The result of the workers compensation ratemaking process is a revised manual premium rate for each of over 500 individual workers compensation employer classifications. The final premium rate for an individual employer is the published manual workers compensation rate multiplied by the specific employer's experience modification.<sup>9</sup> NCCI maps classifications into five industry groups.<sup>10</sup> The premium rate for each classification incorporates the combined impact of statewide average experience, the experience of the industry group to which it belongs, and the experience of the individual classification itself. The NCCI ratemaking methodology in Florida is composed of four general steps:

### **Step 1: Calculation of Statewide Rate Change**

The statewide rate change is the average rate change for all classifications combined. This step relies primarily on Aggregate Financial Call data.<sup>11</sup> The statewide change is based on a measurement of actual loss experience against the provision for loss experience underlying premium rates. To the extent that actual loss experience has been greater than (or less than) the provision for loss experience underlying premium rates, premium rates will be increased (or decreased). Additionally, provisions for expense and underwriting profit are recalculated based on current data. To the extent that there is a greater (or lower) need for expenses and underwriting profit, premium rates will be increased (or decreased).

### **Step 2: Distribution of Statewide Rate Change to Industry Groups**

NCCI distributes the statewide rate change to each of the five industry groups based on the relative loss experience of each individual industry group. In many respects, allocation of the statewide rate change to the five industry groups is an exercise in experience rating at the industry group level. Actual loss experience by industry group is measured against expected loss experience. If the measurement shows that for a specific industry group actual loss experience exceeded expected, that industry group is allocated a rate level change greater than the statewide average. Similarly, if the actual loss experience

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<sup>9</sup> Experience rating is the final step in the process of determining premium charges for individual employers. Experience rating recognizes that the premium rate for a specific classification represents the average premium rate for all employers in that classification. Experience rating is the process by which the premium rate, for a specific employer, is adjusted to reflect that employer's own loss experience relative to the average loss experience in the employer's classification. In its simplest form, experience rating is a measurement of an employer's actual loss experience to the employer's expected loss experience. Expected loss experience is based on the average loss experience of all employers in a classification. The result of the experience rating process is the experience modification. An experience modification greater than unity, or 1.000, is commonly referred to as a "debit mod" and means the specific employer has loss experience greater than the classification average. Conversely, an experience modification less than unity is commonly referred to as a "credit mod" and means the specific employer has loss experience less than the classification average. Importantly, if a specific employer has a debit mod, that *does not* mean that this specific employer is "unsafe." It only means that this specific employer has greater loss experience than the average employer in that specific classification. The converse applies as well. If a specific employer has a credit mod, that does not mean that this specific employer is "safer." A range of items completely unrelated to relative safety, such as average wage levels, will affect the experience modification.

<sup>10</sup> The five industry groups are:  
Manufacturing, Contracting, Office and Clerical, Goods and Services, Miscellaneous

<sup>11</sup> NCCI collects, tabulates, checks, and edits combined statewide workers compensation experience for use in an actuarial analysis to determine, on an average statewide basis, whether rates need to be increased, or decreased. NCCI publishes detailed instructions as to how insurance carriers should respond to the various data requests in the financial call.

for a specific industry group is less than the expected loss experience, that industry group is allocated a rate level change less than the statewide average. For example, in NCCI's filing for revised workers compensation rates and rating values to be effective January 1, 2022 (hereafter referred to as the "2022 filing") NCCI calculated a 4.9% decrease to statewide rate level. The results of the distribution of the proposed statewide 4.9% decrease to each industry group is summarized below:

Manufacturing	4.7%	decrease
Contracting	5.9%	decrease
Office and Clerical	2.8%	decrease
Goods and Services	4.6%	decrease
Miscellaneous	5.6%	decrease

It is clear that Manufacturing performed very close to the statewide average, while Office and Clerical and Goods and Services performed better than the statewide average because larger decreases than the statewide average were allocated to these industry groups. Conversely, Contracting and Miscellaneous performed worse than the statewide average because smaller decreases than the statewide average were allocated to these two industry groups.

The weighted average of the rate changes for each of the five industry groups must equal the statewide rate change calculated in Step 1. The allocation to industry groups relies primarily on Workers Compensation Statistical Plan (WCSP) Data.<sup>12</sup>

### **Step 3: Distribution of Industry Group Rate Changes to the Individual Classifications**

NCCI distributes the industry group change to each individual classification within the specific industry group. NCCI bases the distribution on the actual loss experience of each individual classification and relies on WCSP data as well. The weighted average of the rate changes for all classifications in an individual industry group must equal the industry group rate change calculated in Step 2.

Note that NCCI does not directly calculate classification rates.<sup>13</sup> Rather, the starting point in the NCCI ratemaking process is current manual rates. The process described in steps 1, 2, and 3 above represents a rate relativity system. An overall statewide rate need is determined by examining statewide combined data, which generates an indicated statewide rate level change in step 1. If not for consideration of rate relativities, the process would stop here, and NCCI would apply the same calculated rate change to the current rate for each classification. Steps 2 and 3, however, consider how the *relative* actual loss experience for each individual classification has changed since the prior rate application. Step 2 measures the relative change between industry groups, and step 3 measures the relative change between individual

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<sup>12</sup> WCSP data is a database of individual claim experience and policy specific information collected, tabulated, checked, and edited by NCCI. Information is collected in sufficient detail such that workers compensation experience can be allocated to individual classifications, and therefore, to the five industry groups. WCSP data is the basis for allocating the statewide rate level change to the five industry groups as well as to all individual classifications.

<sup>13</sup> This statement applies to industrial classifications, which comprise the bulk of the workers compensation classifications. This is not the case for Federal classifications (F-Classes). F-Classes represent classifications where claims may be filed under the United States Longshoreman and Harbor Workers Act. This is a federal jurisdiction administered by Office of Workers Compensation Programs, United States Department of Labor. Workers injured on or near coastal or inland waterways have the option to file claims under either the Federal act or the Florida state act. Occupations include ship manufacturing and repair, stevedoring, etc. NCCI calculates rates for F-Classes somewhat differently than for industrial classifications, and has, in fact, recently changed the manner by which the rates for F-Classes are determined. This is discussed later in this report.

classifications within each industry group. In the simplest sense, if the most recently available data indicated that every classification, relative to each other, behaved exactly as expected, then the rate for every classification would be increased by the exact same amount, the calculated statewide rate change. This, of course, does not reflect reality, and illustrates the need for step 2 and step 3. These steps measure how the loss experience for each individual class changed relative to each other. This is why, even with very small or zero percent statewide rate change, some classifications might increase (or decrease) by amounts significantly greater than 0%.<sup>14</sup>

#### **Step 4: Calculation of Rating Values**

The final step of the ratemaking process is the calculation of the required rating values for the experience rating program, retrospective rating programs<sup>15</sup>, and other programs that individual insureds may voluntarily elect to subscribe to as well as other mandatory charges.

## **Statewide Rate Indication**

### **Introduction**

Contributing elements to the statewide rate change include

*Loss Experience*  
*Benefit Changes*  
*Trend*  
*Loss Adjustment Expense*  
*Other Insurance Company Expenses*  
*Taxes and Assessments*  
*Profit and Contingencies*

Each is discussed individually.

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<sup>14</sup> There are limits as to how much the rate for an individual classification can change. 15% represents what is referred to as the swing limit. The swing limit is the maximum allowable change (up or down, relative to the industry group change) in any year to the rate for a single classification. Using the industry group change for Manufacturing, -4.7% in the 2022 filing, the maximum allowable range of rate changes for classifications in the Manufacturing industry group is (-4.7%-15%) to (-4.7%+15%). This calculates to be a range of -19.7% to +10.3%.

Rates for the following classifications in the 2022 filing were limited to a maximum increase of 10.3%:

0908 2021 3126 3865 4251 4653 5069 5191 6213 8045 8203 8393 8602 8725 8856

Therefore, if not for the swing limits, 2022 rates for these classifications would have been higher.

Rates for the following classifications in the 2022 filing were limited to a maximum decrease of 19.7%:

5037 7538

Therefore, if not for the swing limits, 2022 rates for these classifications would have been lower.

<sup>15</sup> Retrospective rating represents a type of insurance program where a specific employer's premium is based on actual loss experience under the program, subject to certain maximum and minimum premiums and limits on the cost of individual claims. Retrospective premiums are periodically recalculated for years after the actual insurance policy expired. The recalculation reflects the most recently available actual loss experience under the program.

## Loss Experience

The analysis of loss experience generates a forecast of the final expected cost of claims with dates of loss during the specified experience periods. Key considerations in this process are the selection of experience periods, database, and methods used to forecast the expected cost of claims.

### Experience Period

NCCI uses policy year experience in the calculation of the statewide rate change.

*Losses:* Loss experience mapped to a specific policy year is due to claims covered by policies written during that year. Policy year periods in NCCI applications are calendar years. Therefore, claims covered by policies written during 2019 generate losses associated with policy year 2019 (PY2019). Losses must be developed, or adjusted, to a final cost basis. Loss development adjustments are required because the final cost of the group of claims associated with a specific policy year will not be known until after all claims are reported, paid, and closed. This will not occur until 50 or more years after the end of the policy year.<sup>16</sup> Loss development is a standard part of all NCCI applications and is discussed later in this section.

*Premium:* Premium mapped to a specific policy year is premium associated with policies written during the specified policy year period. Therefore, premium associated with PY2019 is the total premium associated with policies written during 2019. Policy year premium must be developed, or adjusted, to reflect the anticipated impact of premium adjustments over time. Premium adjustments are primarily due to the anticipated impact of premium audits, which generally occur within 12 months after a typical policy has expired.<sup>17</sup> Therefore, policy year premium used to determine the experience indication is an estimate equal to premium reported to NCCI by the insurance carriers multiplied by a premium development factor.<sup>18</sup>

*Premium to Loss Experience Matching:* Policy year experience maximizes the matching of losses to the premium insuring those losses. For PY2019, for example, a common group of insurance policies generates the loss experience and premium reported to NCCI.

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<sup>16</sup> Loss development is a standard actuarial approach and is required for the analysis of numerous types of casualty exposures besides workers compensation, such as general liability, medical professional liability, automobile liability, etc. However, loss development for workers compensation claims generally has the longest durations of all casualty exposures given that the cost of medical benefits associated with a workers compensation injury are payable for the lifetime of the claimant and that permanent total disability income benefits are payable to age 75 in Florida (or for a maximum of five years from the determination of permanent total disability for claimants injured over the age of 70).

<sup>17</sup> Audits are typically within six months after policy expiration. An audit generally is a reassessment of payroll to determine actual payroll during the policy period. Insurers use estimated payroll to determine the initial premium payment prior to policy inception. Premium is recalculated using actual payroll. The difference between premium based on audited payroll and premium based on estimated payroll is the reason why policy year premium changes over time. NCCI uses premium development factors to incorporate the estimate of audit adjustments on policy year premium reported to NCCI by insurance carriers (see the following footnote).

<sup>18</sup> As noted in the preceding footnote, the auditing process requires a recalculation of policy year premium using audited (actual) payroll, causing policy year premium to change from amounts initially reported to NCCI by the insurance carriers. Premium development factors reflect the impact of the auditing process and measure the change to reported policy year premium over time. In a simple example, a factor of 1.021 multiplied against policy year premium provides an estimate of the impact of future audit adjustments.

*Maturity of Experience:* Policy year experience extends over a 24-month period because only policies written on January 1 will have claims with dates of loss exclusively in the year of writing. Using PY2019 as an example, a policy written on January 1, 2019 will provide coverage for claims with dates of loss from January 1, 2019 through December 31, 2019. On the other hand, a policy written on December 31, 2019 will provide coverage for claims with dates of loss from December 31, 2019 through December 30, 2020. Therefore, approximately half the claims associated with PY2019 will have dates of loss in 2019. The other half will have dates of loss in 2020. The average date of loss is approximately December 31, 2019.<sup>19</sup>

*Policy Year Data Available for the January 1, 2022 Filing:* The two most recent policy years available for use in the most recent rate application are PY2018 and PY2019, both with data valued as of December 31, 2020. December 31, 2020 is 12 months after the last possible date of loss (December 31, 2019) for a claim in PY2018. PY2018, valued as of December 31, 2020, is therefore said to be at a *second report*. Analogously, December 31, 2020 is the last possible date of loss for a claim in PY2019. PY2019, valued as of December 31, 2020, is therefore said to be at a *first report*.

#### Database

NCCI has several types of loss data (available from NCCI's financial calls) that may be used to forecast the final cost of claims. NCCI has historically relied on either paid loss data or paid loss plus case reserve data, or a combination of both. Paid loss data relies exclusively on benefit payments. Paid loss plus case reserve data relies on benefit payments and case reserves. Case reserves are the most recent estimates by claims professionals of the unpaid costs on open reported cases. Therefore, the use of paid loss data, as opposed to paid loss plus case reserve data, excludes the most recently available information on expected future costs embedded in case reserves. Paid loss data relies much more heavily on loss development factors for forecasting purposes, whereas paid loss plus case reserve data essentially substitutes case reserves, the most recently available information on the expected future costs of individual claims, for a substantial portion of paid loss development. Paid loss data is distorted by changes in claim payment (settlement) patterns while paid loss plus case reserve data is also distorted by changes to case reserve levels.

Currently, NCCI bases the rate level indication on an average of the paid loss plus case reserve experience approach and the paid loss approach. NCCI uses paid loss data to a 19<sup>th</sup> report, after which a calculated loss development factor for a 19<sup>th</sup> to ultimate value is applied. This is the same approach as used for paid loss plus case reserve data. NCCI's approach is consistent with prior applications and is reasonable.

#### Loss Development

Loss development factors (LDFs) measure the growth in losses associated with a group of claims over time. Claims are generally grouped by experience period, either policy year or calendar/accident year. LDFs are selected using some type of average of the most recent observations available. Such averages could include the most recent five observations, or the most recent five observations excluding the highest and lowest values, or the most recent three or two observations, etc. All of these averaging techniques are appropriate and reasonable in the context of the current and recent applications. In the current filing, NCCI used an average of the three most recently available observations, which is reasonable. However, in the filing for rates effective January 1, 2020, NCCI changed the loss development selection method for paid loss data to reflect a more recent increase in observed paid loss development. This was noted in Oliver Wyman's prior to FLOIR. Specifically, Oliver Wyman noted that:

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<sup>19</sup> This would be the case if policies are written and inception evenly over the year, and if claims occur evenly over the policy periods. As this is not the case, the average date of loss is generally close to, but not exactly equal to, December 31. While a relatively minor concern, NCCI appropriately addresses this issue as applicable within the rate level calculation.

“A two-year average is actuarially reasonable, though it does represent a material change to methodology and acts to only slightly increase the rate level calculation. This raises the question as to whether the change was truly necessary. Nevertheless, given this change, it is important to maintain this two-year average. A material concern is that if observed paid loss development begins to decrease, bias would be introduced into the rate level calculation if NCCI immediately reverts back to the three-year average, prior to stabilization of loss development factors at the new lower level. That approach would create a situation where the measurement was changed to a two-year average to more quickly recognize the observed increase to paid loss development, but when paid loss development begins to decline, going back to the three-year average immediately would delay recognition of lower development.”

Clearly, since the time of the 2020 filing, NCCI changed the averaging method back to a three-year average. This type of methodology and parameter selection variation over time has the potential to introduce bias into the ratemaking calculation should be avoided.

Oliver Wyman also examined the method and calculation of what are termed the 19<sup>th</sup> to ultimate report LDFs. These factors estimate growth beyond a 19<sup>th</sup> report, the last report for which NCCI collects loss development data. The calculation and results are similar to NCCI practice in other states and are reasonable. The selected value is an all year average of available calculations.

## **Benefit Changes**

Historical losses, for the purpose of the experience indication and the calculation of trend, must be adjusted to reflect changes in benefit levels at the time the losses were incurred to the period during which the prospective rates will be in effect. There have been no material changes to benefit levels in Florida since 2017.

## **Trend**

Trend forecasts the anticipated annual percentage change in loss ratios. Loss ratio trends represent the combined effect of changes in the incidence of claims over time, or frequency, as well as the change in the average cost per claim, or severity, over time.

As respects workers compensation loss ratios, trend measures the change in loss experience relative to wage inflation. That is, a 0% loss ratio trend does not imply that workers compensation costs are not increasing. Rather, a 0% loss ratio trend implies that workers compensation costs are increasing at the same rate as wages. A loss ratio trend greater (less) than 0% implies workers compensation costs are increasing at a rate greater (less) than wage inflation.

NCCI conducted a detailed analysis of trend factors separately for medical and indemnity loss experience, and judgmentally selected annual trend factors of 0.970 for indemnity loss ratios and 0.960 for medical loss ratios. The primary concern is that the selected trend values are materially greater than the annual trends implied by empirical data over the last 12 years. This is illustrated by the following chart, which shows historical loss ratios and calculated trends for indemnity, medical, and combined loss ratios. Calculated trends are based on various exponential trend models using the most recent 5 loss ratios, 6 loss ratios, etc., up to 15 years of data.

Number of Years Used in Model	Years Used In Model	Indicated Trends	
		IND	Med
15	2005 to 2019	0.969	0.972
14	2006 to 2019	0.970	0.972
13	2007 to 2019	0.966	0.967
12	2008 to 2019	0.962	0.962
11	2009 to 2019	0.959	0.956
10	2010 to 2019	0.956	0.949
9	2011 to 2019	0.956	0.945
8	2012 to 2019	0.957	0.941
7	2013 to 2019	0.951	0.934
6	2014 to 2019	0.943	0.927
5	2015 to 2019	0.942	0.927
	NCCI Selected	0.970	0.960

As noted earlier, there are two concerns with this process. The first concern is that trends are selected, not calculated. The second is that selected trends coincide with calculated trends that require 12 or more policy years of experience. Trends based on more recent policy years, such as the latest 5 through the latest 8 are materially less than those selected by NCCI.

## Loss Adjustment Expense

LAE is calculated as a ratio to loss, and is the sum of two components, all other expense (AOE) and defense and cost containment expense (DCCE). The approach in Florida is reasonable.

## Other Insurance Company Expenses

Other insurance company expenses include the provisions for production expense and general expense. The provision for production expense includes commission and brokerage costs, and other acquisition costs. The methodology used by NCCI is reasonable. The resulting provisions generally do not vary by significant amounts over time.

## Taxes and Assessments

Taxes and assessments are based on actual charges in Florida. The only exception is the miscellaneous tax provision of 0.30%. The miscellaneous tax provision is a catch all provision for taxes, licenses and fees not specifically provided for. It is common ratemaking practice to include this provision, and the value of 0.30% is not unreasonable.

## Profit and Contingencies Provision

The profit and contingencies provision provides the insurance company the required return on equity, after taking into account the investment income earned on premium payments until losses and expenses

are actually paid. The general processes used to determine this provision are generally economic in nature and therefore outside the scope of this review. However, the resulting provision is reasonable based on Oliver Wyman's experience.

## Distribution to Industry Groups

NCCI distributes the statewide rate change to each of the five industry groups based on the relative loss experience of each individual industry group. The distribution is such that the weighted average final change to each industry group is equal to the statewide rate change. The industry groups are Manufacturing, Contracting, Office and Clerical, Goods and Services, and Miscellaneous. The distribution relies on a measurement, for each industry group, of actual losses to expected losses for each individual industry group. The process results in industry group differentials. The differentials are equivalent to "experience modifications" for each industry group, measuring the loss experience of each industry group relative to expectations. If each industry group performed exactly as expected, then the industry group differentials will all be 1.000, and each industry group will receive a rate change equal to the statewide average.

NCCI calculates the industry group differentials by adjusting actual losses for trend, development, experience rating, etc. Additionally, NCCI uses a credibility procedure to limit the impact of the procedure on a specific industry group with relatively low loss volume. In Florida, however, all industry groups are fully credible. The procedure is identical to procedures used in other NCCI states and is reasonable.

Industry group differentials are not expected to vary materially from 1.000, especially for larger states such as Florida. This is the case with this filing.

## Distribution to Individual Classifications

### Introduction

The final step in the ratemaking process is the distribution of the industry group changes to the individual workers compensation classifications comprising each industry group. NCCI bases the distribution on the loss experience of each individual classification. As noted earlier, the approach for industrial classifications is a rate relativity system. NCCI's application gives the appearance of a direct calculation of rates for individual classifications, but this is not precisely the case. Rather, the relative behavior of the loss experience of an individual classification (to the loss experience of all classifications in a specific industry group) is the primary determinant of the final rate for that classification.

Rates for individual classifications are calculated in a four-step process:

*Calculation of the pure premium:* The pure premium is the expected cost of indemnity and medical benefits per \$100 payroll during the period when rates will be in effect.

*Conversion of the pure premium to a manual rate:* The provisions for expense and profit (and contingencies) are added to the pure premiums to produce a manual premium rate.

*Application of swing limits and correction factors:* Rate changes to individual classifications are limited to a range of +15% to -15% around the industry group change. A final adjustment using what is termed the



test correction factor ensures that the average rate change to all classifications in an industry group equals the product of the statewide rate change and the calculated industry group differential.

*Disease Loadings:* Loadings for diseases unique to specific classifications are applied.

## **Class Ratemaking**

The overall process described above is the same general process NCCI has used for many years and is reasonable and actuarially sound.

Oliver Wyman has expressed concerns regarding the substitution of theoretical excess loss ratios for actual data to provide for losses in excess of the \$500,000 per claim limit, which is part of the changes to class ratemaking implemented by NCCI. While this approach is reasonable from an actuarial perspective, there is a concern regarding the \$500,000 limit, which has been fixed since implementation of the changes and is not adjusted annually for inflation. Therefore, with the passage of time, a greater portion of class experience (due to inflation) will be above \$500,000. The impact is that over time, the relative weight of excess ratios for costs above \$500,000 in the calculation of class rates will increase, and the relative weight of empirical loss experience below the \$500,000 limit will decrease.

## **Application of Swing Limits and Test Correction Factors**

In Florida, the rate change to an individual classification is limited to a range within 15% of the change to the industry group to which the classification belongs. For example, if a specific industry group has a 12% rate increase, the rate change for each classification in that industry group can be no greater than 27% (= 12% + 15%) or less than -3% (= 12% - 15%). Because of the limiting procedure, as well as other processes within the ratemaking calculation, the resulting average rate change for all classifications in an industry group may not precisely equal the required industry group change. This is addressed by calculation of a test correction factor (TCF) that is applied to each individual classification rate in the industry group to ensure that the required industry group change is achieved. The calculation of the TCF is an iterative procedure, because no individual classification rate is permitted to violate the swing limit test. The TCF ensures that the impact of using swing limits is revenue neutral. Therefore, the implementation of swing limits by NCCI is actuarially sound. The precise value of the swing limit, or even the use of swing limits at all, is primarily a matter of policy with the regulator, and is dependent on the size of the range of swing in class rates that will be accepted in a specific jurisdiction.

## **Disease Loadings**

The last step is addition of specific disease loadings for individual classifications to which disease loading apply.

# Documentation and Information

The following is list of documents utilized for the purpose of this report. In addition to documents listed below, Oliver Wyman may have relied on internal data sources, insurance industry data sources, or other information not specifically listed below.

## NCCI Annual Statistical Bulletins

Florida Workers Compensation Rate Application and related documents for rates effective January 1, 2022

- Filing Documents
- Hearing Documents
- Interrogatories and Correspondence

Florida Workers Compensation Rate Application and related documents for rates effective January 1, 2020

- Filing Documents
- Hearing Documents
- Interrogatories and Correspondence

## Miscellaneous Other Sources

## Distribution and Use

- Usage and Responsibility of Client – This report was prepared for the sole use of the FLOIR. All decisions in connection with the implementation or use of advice or recommendations contained in this report are the sole responsibility of the FLOIR.
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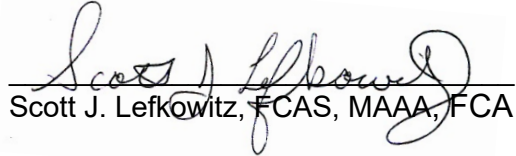
## Considerations and Limitations

- **Data Verification (Claim and Exposure)** – For our analysis, we relied on data and information provided by NCCI without independent audit. We have assumed that the data provided is both accurate and complete. The results of our analysis are dependent on this assumption. If this data or information is inaccurate or incomplete, our findings and conclusions may need to be revised.
- **Rounding and Accuracy** – Our models may retain more digits than those displayed. In addition, the results of certain calculations may be presented in the exhibits with more or less digits than would be considered significant. As a result, it should be recognized that (i) there may be rounding differences between the results of calculations presented in the exhibits and replications of those calculations based on displayed underlying amounts, and (ii) calculation results may not have been adjusted to reflect the precision of the calculation.
- **Unanticipated Changes** – Our conclusions are based on an analysis of the data and on the estimation of the outcome of many contingent events. Future costs were developed from the historical claim experience and covered exposure, with adjustments for anticipated changes. Our estimates make no provision for extraordinary future emergence of new classes of losses or types of losses not sufficiently represented in historical databases or which are not yet quantifiable.
- **Uncertainty Inherent in Projections** – While this analysis complies with applicable Actuarial Standards of Practice and Statements of Principles, users of this analysis should recognize that our projections involve estimates of future events, and are subject to economic and statistical variations from expected values. We have not anticipated any extraordinary changes to the legal, social, or economic environment that might affect the frequency or severity of claims. For these reasons, no assurance can be given that the emergence of actual losses will correspond to the projections in this analysis.
- **Other Issues** – Any issues not specifically addressed in this report should not be construed as acceptance by Oliver Wyman of the methodologies and judgments associated with those issues.

## Acknowledgement

I, Scott J. Lefkowitz, am a Partner for Oliver Wyman Actuarial Consulting Inc. I am a member of the American Academy of Actuaries, a Fellow of the Casualty Actuarial Society, and a Fellow of the Conference of Consulting Actuaries.

I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.



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