WORKERS' COMPENSATION (C) TASK FORCE MEETING

VIRTUAL MEETING IN LIEU OF MEETING AT THE 2023 SUMMER NATIONAL MEETING

Thursday, July 20, 2023

Adopt the Task Force's Spring National Meeting Minutes

Draft: 3/15/23

Workers' Compensation (C) Task Force
Virtual Meeting (*in lieu of meeting at the 2023 Spring National Meeting*)
March 6, 2023

The Workers' Compensation (C) Task Force met March 6, 2023. The following Task Force members participated: Alan McClain, Chair (AR); John F. King, Vice Chair, and Steve Manders (GA); Mark Fowler represented by Jimmy Gunn, Yada Horace, and Erick Wright (AL); Lori K. Wing-Heier represented by Alex Reno (AK); Ricardo Lara represented by Yvonne Hauscarriague, Giovanni Muzzarelli, Mitra Sanandajifar, and Sarah Ye (CA); Andrew N. Mais represented by George Bradner, Wanchin Chou, and Bridget Lamagdelaine (CT); Karima M. Woods represented by David Christhilf (DC); Gordon I. Ito represented by Randy Jacobson, Kathleen Nakasone, and Roland Teruya (HI); Doug Ommen represented by Mathew Cunningham (IA); Dean L. Cameron represented by Randy Pipal (ID); Vicki Schmidt represented by Chris Hollenbeck, Julie Holmes, Sara Hurtado, and Cassandra McCall (KS); Sharon P. Clark represented by Sue Hicks (KY); James J. Donelon represented by Tom Travis (LA); Gary D. Anderson represented by Bashiru Abubakare, Caleb Huntington, and Matthew Mancini (MA); Timothy N. Schott, Brock Bubar, Sandra Darby, and Robert Wake (ME); Grace Arnold represented by Sandra Anderson, Tammy Lohmann, and Phil Vigliaturo (MN); Chlora Lindley-Myers represented by Jo LeDuc (MO); Mike Causey represented by Tracy Biehn and Fred Fuller (NC); Marlene Caride represented by Carl Sornson (NJ); Scott Kipper represented by Gennady Stolyarov (NV); Glen Mulready, Kim Hunter and Cuc Nguyen (OK); Andrew R. Stolfi represented by Alex Cheng and TK Keen (OR); Michael Humphreys, Mark Lersch, Lu Xiaofeng (PA); Shannon Kost, Michael McKenney, Dennis Sloand, and Eric Zhou (PA); Elizabeth Kelleher Dwyer represented by Beth Vollucci (RI); Larry D. Deiter and Tony Dorschner (SD); Kevin Gaffney, Rosemary Raszka, and Mary Richter (VT); and Allan L. McVey represented by Juanita Wimmer (WV). Also participating were: Kaylee Baumstark and Tom Zuppan (AZ); Lucretia Prince, Frank Pyle, and Jeffry Schott (DE); Patrick O'Connor (IN); Chris Arth, Paige Dickerson, Robyn Lowes, Tina Nacy, and Mandi Whinnie (MI); Bob Biskupiak (MT); Christian Citarella (NH); Anna Krylova (NM); Jessica Thomas (TN); Marianne Baker and Nicole Elliott (TX); Tracy Klausmeier (UT); and Rebecca Nichols (VA).

1. <u>Adopted its 2022 Fall National Meeting Minutes</u>

Sanandajifar said she had a couple of corrections to the Fall National Meeting minutes. The first item was to replace the word "depended" with "dependent" on page 2 in the third paragraph. The second item was to replace "combined ratio" with "premium" on page 2 in the last paragraph.

Commissioner King made a motion, seconded by Keen, to adopt the Task Force's Fall National Meeting minutes as amended. The motion passed unanimously.

2. <u>Heard a Presentation from the IAIABC on Telework and how it is Affecting Workers' Compensation</u>

Heather Lore (International Association of Industrial Accident Boards and Commissions—IAIABC) said she reached out to several state workers' compensation administrators to ask how their jurisdictions are tracking teleworking injuries. She asked about injury frequencies, severity, premium, class codes, etc. Lore said of all those she talked to, no one is tracking information regarding workers' compensation injuries experienced by teleworkers, making it challenging to understand the impact of telework on workers' compensation.

Lore said telework will continue. She said McKinsey & Company's study this spring estimated that 35% of job holders in the U.S. were offered the option to work from home full-time, and 58% of these workers can work from home at least part-time. Prior to the pandemic, approximately 6% of workers were able to work from home on a full-time basis.

Lore said the IAIABC has been teleworking on a full-time basis since March 2020 and does not plan to return to the office. She said prior to this time, all but one of the IAIABC staff worked full-time in the office. Lore asked the state insurance regulators on the call to share whether they allow telework and who determines the ability to telework.

O'Connor said the state of Indiana allows telework two days a week.

Gaffney said the state of Vermont had a well-established telework policy prior to the pandemic. He said in the past, it was mainly financial examiners who took advantage of teleworking, but others were also able to telework. The governor leaves the telework decision to the department heads to determine the level of telework. Gaffney said jobs might require more in-office and manual processes, so it is not a one size fits all solution. He said he leaves it up to each division to determine the telework processes, so it varies by team. Gaffney believes the implementation of telework has allowed the department to attract talent they would not otherwise have been able to attract. He said some needs still occur in the office, such as cross-training staff, skills training, and meeting with industry and other interested parties. Gaffney believes there are hazards that come with remote work that will need to be tracked as well.

King said he has broad authority regarding work schedules. He believes it is not a one size fits all solution, and each of the activities in the agencies requires tailoring and assessments. King said in the instance of brand-new employees, they need to start in the office to understand the culture and be trained. He said Georgia has a mechanism in place to track the performance of teleworkers.

The following states responded in the WebEx chat box:

- The Iowa Department of Insurance (DOI) allows teleworking for all employees, which was the commissioner's decision based on what the governor has allowed for state employees.
- The Kansas DOI allows two remote workdays per week as approved by the division directors.
- The Kentucky DOI allows two days per week to telework, and the governor dictates the policy.
- The Missouri DOI allows limited remote work on a part-time basis for no more than two days per week.
- The Nevada DOI allows remote work for unclassified employees but not for classified employees. The new governor, Joe Lombardo, recently issued an order for state offices to return to "pre-pandemic working conditions" by July 1, 2023, but it is not certain whether this will alter the current arrangement in which classified employees need to work from the office, while unclassified employees have more flexibility.
- The Pennsylvania DOI allows telework two days a week for management and leadership, while the civil service and union are allowed to continue full-time telework.
- The South Dakota DOI has a few telework options, and division directors weigh each situation case by case.
- The Virginia DOI allows teleworking up to three days per week, and its agency decides the teleworking policy.
- The West Virginia Offices of the Insurance Commissioner (OIC) do not allow telework. The governor left these decisions to each cabinet secretary, and they have determined that no remote or hybrid options will apply to the OIC.

Lore said it is difficult to discuss the frequency of workers' compensation claims that occur while an employee is teleworking because jurisdictions are not actually tracking those employees who are teleworkers. She said none of the states she reached out to had plans to add new class codes. However, California did add a new class code for clerical teleworking employees in 2021. Lore said she was going to try and see what data California has available regarding this new class code.

Lore said loss costs were generally higher for jobs that are unable to telecommute, such as retail, construction, transportation, and manufacturing. These jobs have higher claims frequency in general than telecommuting-optional clerical jobs. Lore said the hazards are likely not a lot different when an employee is working in the office or when they are working from home. In an office, employees might be getting up more from their desks to go to a conference room for a meeting, or getting up to talk to a colleague, but functionally the work itself is really the same.

Lore said several states mentioned they have concerns about the psychological issues of telecommuting employees, and while it is not something that is showing up in the data yet, it may be a lagging issue. She said we might see more psychological issues arise as people might be feeling more disconnected from the workplace, which may cause anxiety and depression to set in, particularly for people who are working full-time from home and do not have the same connections to their colleagues that they did when they were working in the office. Lore said most jurisdictions do not allow for mental-only claims, but it is possible we will start to see an increase in disputes regarding these types of injuries.

Lore asked if any of the states were seeing any frequency or severity trends they could report on for workers' compensation or anything in states regarding premiums being affected. She asked if, anecdotally, states had seen any psychological impacts on their teleworking employees.

Stolyarov said in Nevada, they have seen a significant decrease in the loss costs for workers' compensation since the beginning of the pandemic. He said he believes the shift to telework for many occupations has contributed to this decrease. Stolyarov said it is not a matter of work being different, but it could be a matter of the workplace setting being different. He said, understandably, there are some hazards at home as well as in the office, but from an intuitive standpoint there are less hazards because the worker has more control over the environment. He said someone in an office could put a cord somewhere in the hallway that creates a tripping hazard, whereas that likely would not happen in someone's own home.

Lore said a couple of employees in her office did not have an office in their home, and therefore their ethernet port was on the opposite side of the home from their desk. She asked how we encourage employees to set up their home offices safely. Lore said while an employee does not have to set up an office per se, their workspace needs to be safe.

McKenney said he was hoping to discuss this topic in a meeting because the data is many years behind in workers' compensation. He said Pennsylvania just got the most recent loss cost filing from their independent bureau, and it takes effect on April 1, 2023. McKenney said the most recent year in the experience was the policy year 2020, so he does not know what is happening and does not like the idea that he must wait for the results to come through the data.

McKenney said a lot of workers' compensation is returned to work, as you are paying an injured person's salary while they are not working, and it may be easier for a person to return to work if they are working from home. He said he is concerned that we are not getting, and taking account of, any of the positive impacts we are gaining from telework.

Lore said workers' compensation data is slower to get, and therefore, it is a challenge that the data is not available.

Lore asked the various states what insurers require when writing a workers' compensation policy. She asked if agencies require their employees to have a desk that is at a proper height, etc. Lore said she knows that one jurisdiction does conduct home office visits in which a safety coordinator goes to the teleworker's home to make sure they have a safe and ergonomic workspace. She said that while this is not practical for all employers, some are having their employees send in pictures of their home workspace to make needed suggestions.

Draft Pending Adoption

Lore said items to take into consideration regarding injuries at home include:

1. Is going to the kitchen to get lunch considered to be in the course of work?
2. Does the lack of witnesses to an injury cause potential friction?
3. Many jurisdictions have a coming-and-going rule, so a commute would generally not be covered. But if coming and going is covered, and a person falls down the stairs walking into their home office, is that covered?

Lore asked the Task Force if they have seen any compensability challenges in court regarding teleworking or denials specifically for teleworking injuries.

Lore said there is a lack of data and information regarding workers' compensation injuries occurring in the course of telework. She said as an employer, she is looking at the requirements her business should begin complying with, including developing specific telework policies that provide necessary equipment lists and safety standards to ensure employees are working in a safe work environment. Lore asked the Task Force if their agencies have safety and equipment requirements for teleworking employees, how they are monitoring these requirements, if insurers require their policyholders to develop these written policies, and how else they might be mitigating the risk for teleworking employees. Answers in the chat included states having checklists for teleworkers and teleworking agreements.

Lore said there needs to be some data collected to better understand the impacts. She said the NAIC and the IAIABC have discussed the opportunity to collaborate on a paper that could dive deeper into this issue. McClain said he liked the idea of a collaborative white paper. King said Georgia is still assessing the data, and it is hard to predict when more data will be available, as it could be a year or longer before data is available.

King said telework will likely continue at the current rates because productivity is not being affected. He said they are not seeing a surge in claims but believes it is likely too early to tell what will transpire.

3. Heard a Presentation from the NCCI Regarding Presumptive Workers' Compensation Benefits for Firefighters and Other First Responders

Jeff Eddinger (National Council of Compensation Insurance—NCCI) said numerous studies have examined the relationship between the job duties of firefighters and the contraction of certain diseases. He said these studies have provided varying conclusions, and the NCCI does not take a position on whether there is an actual correlation between the job duties of firefighters and these types of injuries.

Over the last decade, many states have enacted presumption laws for firefighters and other first responders. When a statutory presumption exists, and a worker meets certain requirements, the injury is presumed to have arisen out of and in the course of employment. More than a dozen states have introduced bills this year that would add some more types of cancers to the list of comprehensive injuries for first responders, such as police, firefighters, and emergency medical personnel. This has been a legislative trend in recent years as more states seek to expand benefits.

Eddinger said over the years, the NCCI has produced a white paper to provide information and insights on this topic to various stakeholders. This white paper was recently updated. The white paper outlines the different varieties of firefighter bills and some of the issues associated with them. The bills generally vary in two major respects, namely, the specific diseases that are covered and how certain restrictions may apply.

One of the diseases included in most of the firefighter bills is cancer. There can be either a broad definition of cancer or a specific list of cancers that would be covered. One of the issues with cancer is that it is a relatively common disease in the U.S., as well as being among one of the most expensive medical conditions. Another issue with cancer is that it tends to have a long latency period, so it may be difficult to tie back to a prior employment period.

A second common disease found in firefighter bills includes respiratory conditions. Chronic respiratory diseases are relatively common diseases, as they are the sixth leading cause of death in the U.S. Smoking can contribute to respiratory conditions and some states include a non-smokers clause in their legislation.

A third type of disease found in firefighter bills includes blood and infectious diseases. First responders often come into contact with diseases like HIV, AIDS, hepatitis, tuberculosis, and recently COVID-19. These diseases have a shorter latency period, so theoretically, there would be less of an impact for these types of diseases due to a presumption law because it might be easier to track when the exposure occurred.

A fourth type of disease found in the firefighter bills includes heart and vascular conditions, including high blood pressure and heart disease. Heart disease is prevalent among firefighters, and sudden cardiac arrest accounts for half of all on-the-job fatalities for firefighters. It is difficult to prove a link because lifestyle and family history play a large role in heart disease. Additionally, there could be some heart-related presumptions that have time restrictions, so there could be a minimum amount of time between the firefighter's service and the episode for it to be eligible for a presumption.

Finally, the presumption being discussed most recently is mental injuries, which may expand to include things like Post-traumatic Stress Disorder (PTSD). At least 25 states recognize mental injuries, which are defined as mental injuries that arise without physical injuries. The NCCI is tracking this topic.

The other variabilities in these bills deal with different types of restrictions. Many times, these restrictions are service restrictions and time limitations, meaning that in order to qualify for a presumption, the employee must have served a minimum number of years to qualify. There may also be a limitation on the time after retirement or termination and could also be age restrictions. These presumptions may require health evaluations so that a pre-employment exam shows no pre-existing conditions for the types of diseases we have been discussing.

Furthermore, these presumption bills generally have wording on rebuttal presumptions. These presumptions are usually rebuttable presumptions that may be rebutted by a preponderance of the evidence.

Some additional considerations include voluntary firefighters. Some state statutes specifically exclude voluntary firefighters versus full-time firefighters. In those states where voluntary firefighters are included, it makes it more difficult to estimate the potential impact of one of these bills. A voluntary firefighter does not have set hours and there can be a variation of how much time they might actually spend being a firefighter.

Another issue is the potential shifts to coverage. Sometimes when these presumptions are put into place, there is a fear that the presumptions might open up or increase claims activity. Firefighters who do not self-insure may have difficulty finding workers' compensation coverage in the voluntary market.

If a presumption is passed, there is also an unexpected impact on the judicial environment, meaning that just because of the uncertainty, there could be an increase in litigation.

Another important impact to consider is the retroactive impact. Once a presumption bill is put into place, any claims that are filed could end up coming from years prior to the effective date of that presumption, so there was no premium collected to cover past injuries.

The final issue the NCCI discusses in its white paper is the issue of estimating the impact of the proposed bills. The availability of data is one issue that makes it hard to estimate the impact of firefighter bills. Most firefighters are employed by municipalities or other entities that self-insure, and this data is not reported to the NCCI. Additionally, there is the issue of the long latency of some of the diseases, meaning the data will not be available for many years. Even when the data does exist, it is impossible to differentiate between claims that were compensable under presumption versus just general standards.

The NCCI will continue to track these bills. The NCCI's newly updated white paper that includes additional information can be found on the NCCI's website.

Having no further business, the Workers' Compensation (C) Task Force adjourned.

SharePoint/NAIC Support Staff Hub/Member Meetings/C CMTE/2023_Spring/WCTF/Minutes – WCTF_3_6 SprNM 2023.docx

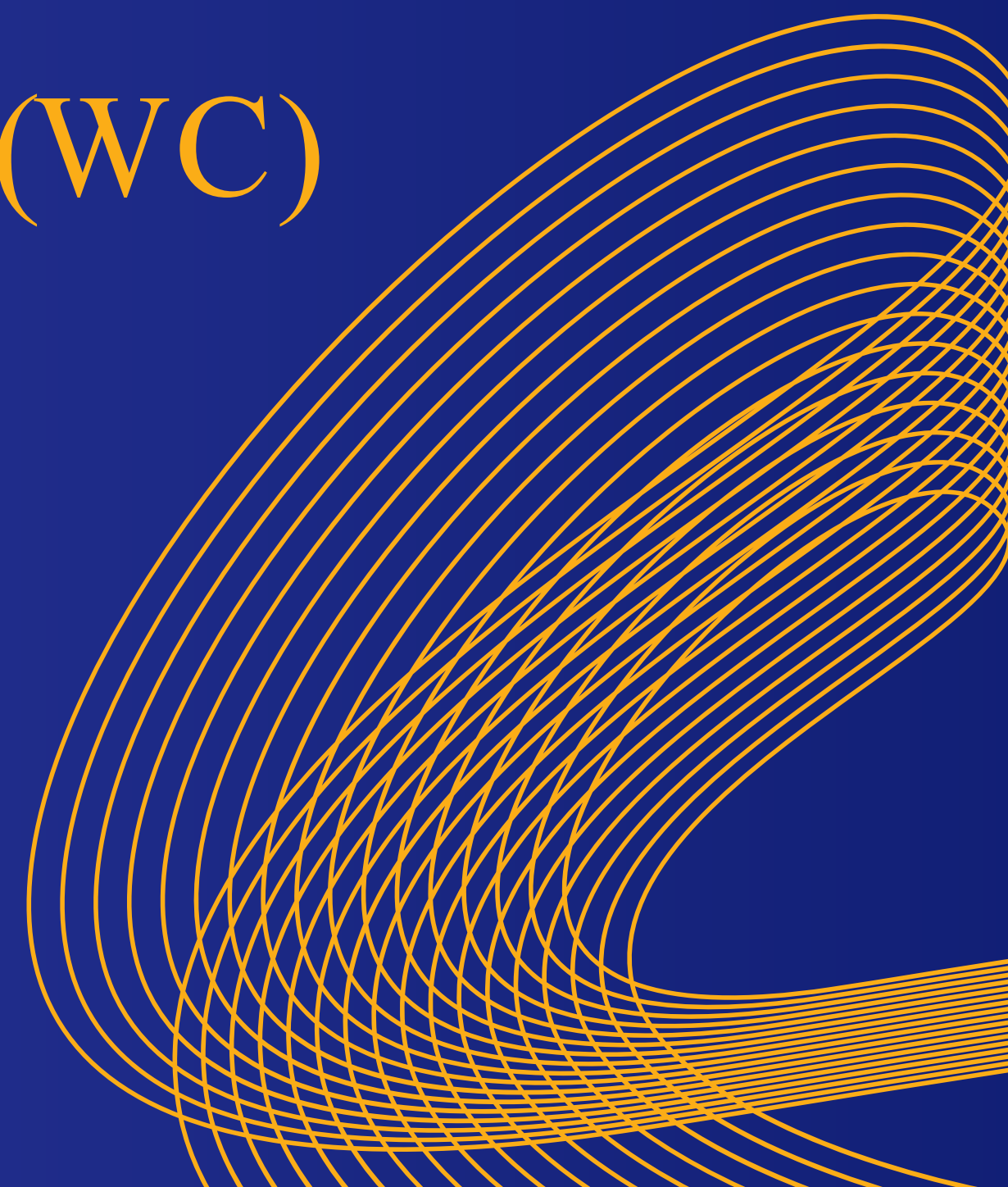# Presentation on Workers' Compensation Ratemaking

WORKERS' COMPENSATION (WC) RATEMAKING

Kathryn Koch, FCAS, MAAA
KKoch@LewisEllis.com

AGENDA

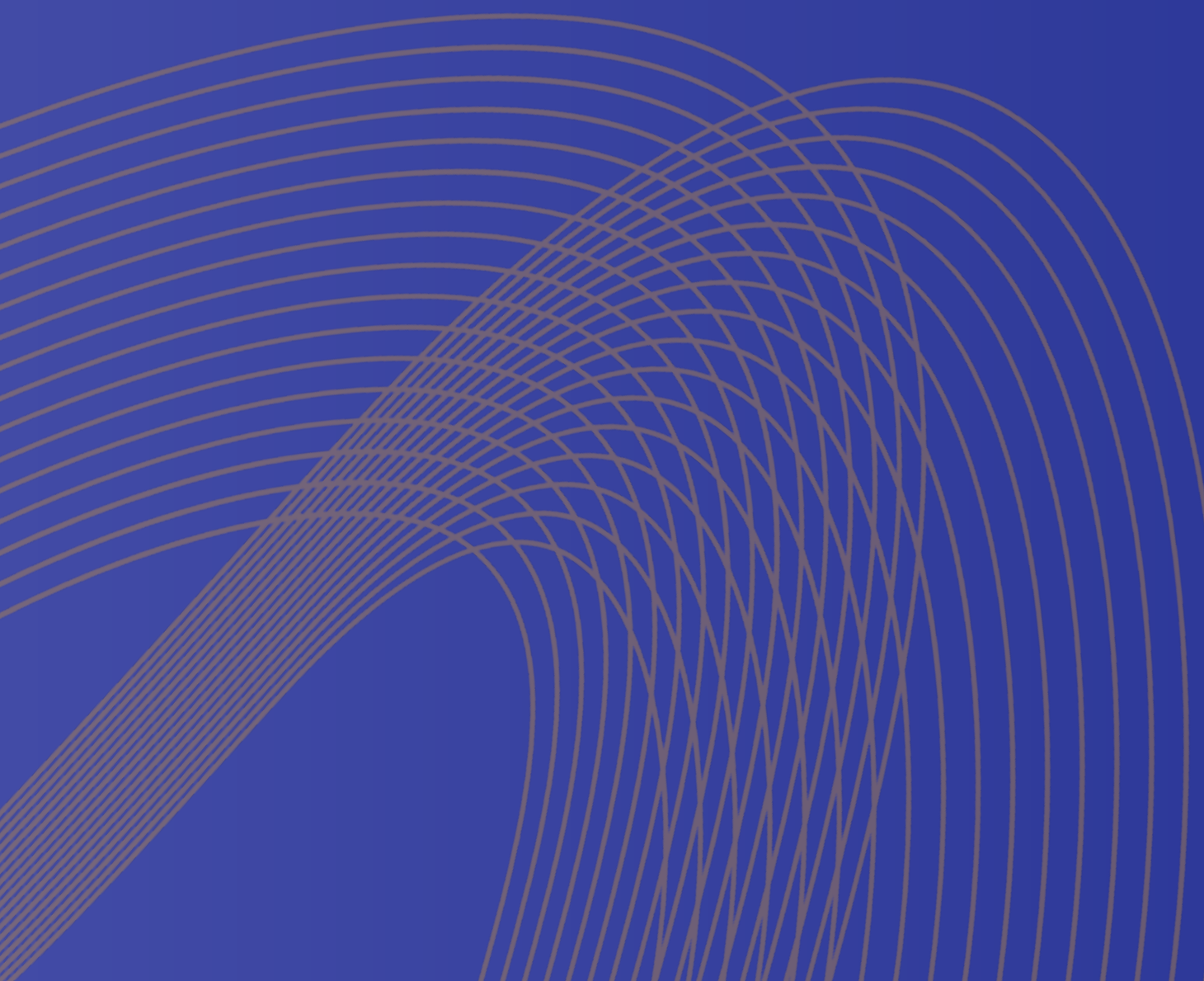|	
Overview of WC Ratemaking process	
Overview of State regulatory environment	
Definition of a model	
Model usage in personal lines insurance products	
Model usage in workers compensation	
Hurdles to model roll outs in WC	
Impacts from model usage in WC	

DISCLAIMER AND LIMITATIONS

- Any views either written or presented verbally herein are those of the presenter only and should not be construed as the views of L&E as an organization or any other state department of insurance or insurance company entity.

- There is risk and uncertainty in the workers' compensation ratemaking processes. Processes rely on assumptions and methods that are, by their nature, subject to uncertainty. Workers' Compensation cost estimates made based on historical information will not precisely mimic future cost outcomes.

OVERVIEW OF WC RATEMAKING PROCESS

OVERVIEW OF WC RATEMAKING PROCESS

- In the past, the National Council on Compensation Insurance (NCCI) and regional bureaus developed advisory rates that were widely adopted by carriers.

- The introduction of open competition in the Workers' Compensation market led to a reevaluation of pricing procedures.

- Now, NCCI and state bureaus typically provide only loss costs instead of advisory rates. Carriers must independently justify various components of the premium rate, including profit and contingency provisions, expense loads, investment income offsets, and other loss cost deviations.

OVERVIEW OF WC RATEMAKING PROCESS

Workers' compensation rating bureaus, such as the National Council on Compensation Insurance (NCCI), play a significant role in workers' compensation insurance ratemaking.

- **Workers' Compensation Rating Bureaus:** Rating bureaus are organizations that collect and analyze data related to workers' compensation claims, costs, and other relevant factors. They develop and maintain statistical data and actuarial methodologies to determine appropriate premium rates for different industries and classifications. These bureaus are generally state specific.

- **National Council on Compensation Insurance (NCCI):** The NCCI is a widely recognized rating bureau in the United States. It operates in many states and serves as the rating bureau for approximately 35 states. NCCI collects data from insurance companies, analyzes it, and proposes loss costs and rating values that insurance carriers use to calculate premiums. NCCI's role extends to areas such as classification systems, experience rating plans, and other aspects of workers' compensation insurance.

OVERVIEW OF WC RATEMAKING PROCESS

- **Data Collection and Analysis:** Rating bureaus like NCCI collect large amounts of historical claims' experience data from insurance carriers. This data is analyzed to determine loss costs, which represent the projected claim costs associated with different job classifications. These loss costs serve as the basis for determining premium rates.

- **Rate Filings:** Rating bureaus, including NCCI, prepare rate filings that propose changes to premium rates based on their data analysis and actuarial calculations. These rate filings are submitted to state regulatory authorities for review.

- **Advisory Role:** Rating bureaus also provide guidance and recommendations to insurance carriers and regulatory authorities regarding workers' compensation insurance. They offer expertise on issues such as classification systems, rate methodologies, experience rating plans, and other aspects of the insurance system.

OVERVIEW OF WC RATEMAKING PROCESS

- Loss cost deviations include experience rating modifications and schedule rating.

- Carriers must consider expense costs related to involuntary pools and special fund assessments.

- The industry evaluates the cost implications of Workers' Compensation reforms enacted in state legislatures.

OVERVIEW OF WC RATEMAKING PROCESS

- A pricing actuary is often involved for determining premium rates that cover expected losses and expenses during the policy period while allowing the insurer to make a reasonable profit.

- There are two main methods for determining rates:
    1) The loss ratio method: quantifies the needed revision from current rates
    2) The pure premium method: quantifies the required rate per unit of exposure and can be used in the derivation of rating factor relativities

- Workers' Compensation often sees entities using the loss ratio method for overall statewide rate indications and the pure premium method for classification ratemaking.

OVERVIEW OF WC RATEMAKING PROCESS

- "The published rate is not the final price paid by most insureds. The application of experience rating plans, schedule rating plans, and dividend plans plays a significant role in the ultimate price paid. The prevalence of large-deductible policies and retrospective rating plans also has a significant impact on the final amount paid by employers, whether through costs retained by the employer or through premiums paid to insurers. Consideration should be given to these various elements that affect the final price." – American Academy of Actuaries, Workers' Compensation Committee
https://www.actuary.org/sites/default/files/files/publications/Workers_Compensation_State_Rate_Compariso_ns_03.16.2018.pdf

OVERVIEW OF WC RATEMAKING PROCESS

- Experience rating: Considers the actual loss history of the insured employer and makes a rate adjustment utilizing a measure of how the insured employer's loss experience performed relative to the industry.

- Retrospective Rating: Could be selected as an endorsement to a policy. A Retrospective Rating Plan is a rating program in which the final premium is based on an employer's actual incurred losses during the policy period.

- Schedule Rating: modification of manual rates either upward (debits) or downward (credits) to reflect the individual risk characteristics of the subject of insurance.

OVERVIEW OF WC RATEMAKING PROCESS

- "In most states, rating bureaus file pure premiums rather than final rates. When including those states in a comparison, it is important to carefully consider the need to add on provisions for the additional costs of providing coverage. These additional costs include commission and brokerage expense; other acquisition and general expenses; taxes, licenses, and fees; and a provision for profit and contingencies; and differ by insurer. Consideration should be given to the variation in these additional costs." American Academy of Actuaries, Workers' Compensation Committee https://www.actuary.org/sites/default/files/files/publications/Workers_Compensation_State_Rate_Comparisons_03.16.2018.pdf

OVERVIEW OF STATE REGULATORY ENVIRONMENT

OVERVIEW OF STATE REGULATORY ENVIRONMENT

- Bureau/ NCCI Overall Loss Cost Level and Loss Costs by Industry Class Code → FOUNDATIONAL; generally reviewed and revised once per year at the individual state level

- Companies permitted to use their own Loss Cost Multipliers, which includes a Company specific provision for expenses

- Companies may be permitted to use a Loss Cost Modification Factor (LCMF), which is an adjustment to the rate level in consideration of Company specific loss experience.

- There are often limitations on the degree to which a LCMF in a specific program is permitted to deviate (e.g., one LCMF to one program, or perhaps additional segmentation is permitted)

OVERVIEW OF STATE REGULATORY ENVIRONMENT

- Most states permit experience rating and schedule rating, which facilitates additional rate segmentation, but there may be some state differences in specific rules (e.g., schedule rating may have state maximum and minimum cumulative debits/credits permitted)

- Administrative Pricing states may be the most restrictive in permitting insurers to deviate from a Bureau filing

- The Workers Compensation Research Institute maintains a lot of information on state differences in both laws and benefits. https://www.wcrinet.org/

OVERVIEW OF STATE REGULATORY ENVIRONMENT

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Workers' compensation rating laws can vary by state in terms of the specific regulations and methodologies used to determine premium rates.

- **Classification Systems:** Are used to determine the level of risk associated with each occupation, which influences the premium rates. Many states have similar classification systems, others may have unique or more detailed classifications.

- **Experience Rating:** Many states permit the use an experience modification factor or an experience rating system to adjust an employer's premium based on their historical claim experience. The experience modification factor compares an employer's actual claims history with the expected claims for that industry. A factor above 1.0 indicates higher-than-average claims, resulting in higher premiums, while a factor below 1.0 indicates lower-than-average claims, leading to reduced premiums.

OVERVIEW OF STATE REGULATORY ENVIRONMENT

- **Competitive vs. Monopolistic States:** Some states have a competitive market where multiple insurance carriers can provide workers' compensation insurance. In these states, insurance companies compete for business. Some states operate in a monopolistic system, where a state fund or agency is the sole provider of workers' compensation insurance.

- **Benefit Levels:** The benefits provided under workers' compensation insurance, such as medical coverage, disability payments, and vocational rehabilitation, can vary by state. Benefit levels may be influenced by factors like average wage levels, cost of living, and specific state regulations.

- **Rate Formulas:** Workers compensation rating formulas consider factors such as the industry classification, claims history, payroll, and other factors believed to be relevant. The specific components and weighting of these formulas can differ between states although many states have similarities in risk classification plans.

OVERVIEW OF STATE REGULATORY ENVIRONMENT

STATES WITH A STATE-RUN WORKERS COMPENSATION FUND

Competitive with Private Insurers			Exclusive
Arizona	Maine	Oklahoma	North Dakota
California	Maryland	Oregon	Ohio
Colorado	Minnesota	Pennsylvania	Washington
Hawaii	Missouri	Rhode Island	Wyoming*
Idaho	Montana	Texas	
Kentucky	New Mexico	Utah	
Louisiana	New York		

*Compulsory for extra hazardous operations only. Employers with nonhazardous operations may insure with the state fund or opt to go without coverage.

Source:https://www.iii.org/article/spotlight-on-workers-compensation

OVERVIEW OF A MODEL

DEFINITION OF A MODEL

- "A predictive model is a statistical or machine learning model that is constructed to make predictions or forecasts about future outcomes based on historical data and known explanatory variables." - Source: Investopedia

- "A predictive model is a mathematical representation of a system or process that uses historical data to predict future behavior or outcomes. It aims to capture the underlying patterns and relationships in the data to make accurate predictions about future observations." - Source: SAS

- "In statistics, a predictive model refers to a mathematical or statistical model that is used to predict future outcomes or estimate unknown values based on available data. It involves using observed data to develop a model that can generalize to make predictions about unseen data." - Source: Towards Data Science

- "A predictive model is a statistical tool or algorithm that leverages patterns and relationships in historical data to make predictions or forecasts about future events. It involves training a model on a dataset and then using that model to make predictions about new, unseen data." - Source: IBM

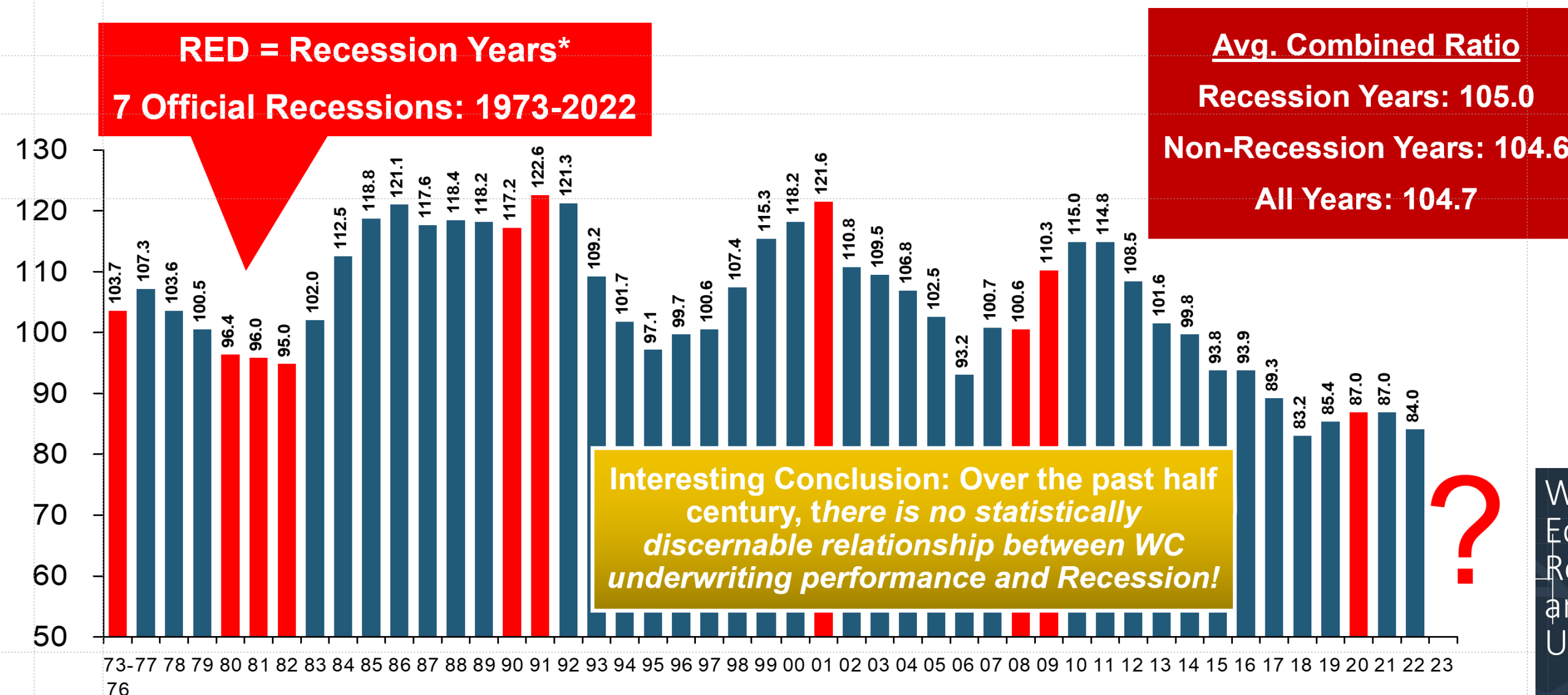# MODEL USAGE IN PERSONAL LINES INSURANCE PRODUCTS

L&E

- Fairly commonly used in the industry

- Purpose is to promote more accurate risk segmentation that is correlated with expected costs

- Requires a robust historical dataset

- Interactions; goal of avoiding risk of double counting rate effects

MODEL USAGE IN WORKERS COMPENSATION

- May be less common relative to personal lines in rate filings

- NCCI and rate bureau ratemaking methods are not typically interpreted as applying the "model" definition as we have defined earlier

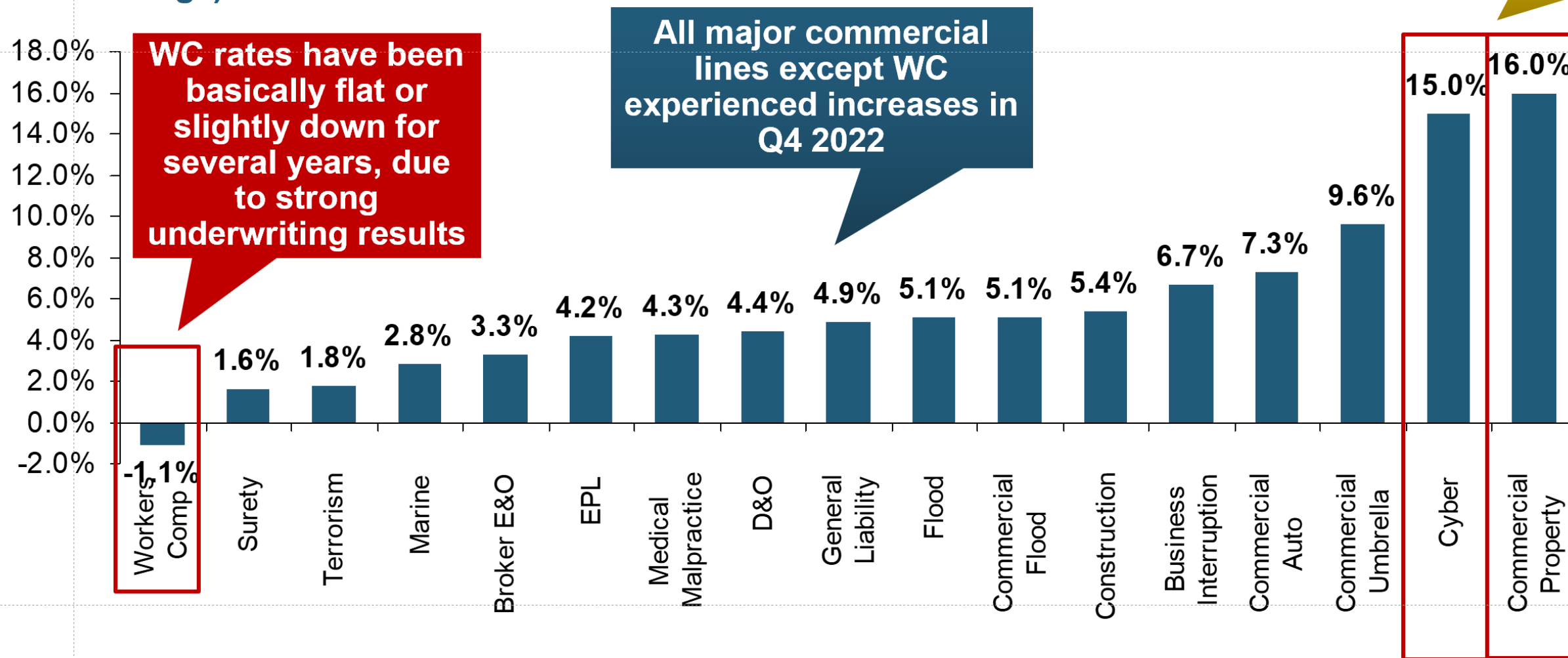- May have some unique considerations in the modeling process to manage unique aspects of the WC line of business

MODEL USAGE IN WORKERS COMPENSATION

Change in Commercial Rate Renewals, by Line: 2022:Q4

Commercial property is up sharply as CAT losses and inflation continue to take their toll, overtaking Cyber, which is up in response to major breaches in recent years.

(Percent Change)

WC rates have been basically flat or slightly down for several years, due to strong underwriting results

All major commercial lines except WC experienced increases in Q4 2022

Line	Percent Change
Workers Comp	-1.1%
Surety	1.6%
Terrorism	1.8%
Marine	2.8%
Broker E&O	3.3%
EPL	4.2%
Medical Malpractice	4.3%
D&O	4.4%
General Liability	4.9%
Flood	5.1%
Commercial Flood	5.1%
Construction	5.4%
Business Interruption	6.7%
Commercial Auto	7.3%
Commercial Umbrella	9.6%
Cyber	15.0%
Commercial Property	16.0%

Workers Comp at the Economic Crossroads: Recession, Inflation and Economic Uncertainty

Robert P. Hartwig, PhD, CPCU
Clinical Associate Professor of Finance
Darla Moore School of Business
University of South Carolina

May 2023

Note: CIAB data cited here are based on a survey. Rate changes earned by individual insurers can and do vary, potentially substantially.

Source: Council of Insurance Agents and Brokers; USC Center for Risk and Uncertainty Management.

HURDLES TO MODEL ROLL OUTS IN WC

- Internal resource constraints and prioritization

- Regulatory and company management acceptance

- Cost to invest in model development

- Complexity potentially added to modeling process due to state differences and the nature of the current WC ratemaking structure

IMPACTS FROM MODEL USAGE IN WC

- If permitted by the regulatory framework, companies can conceivably use models to deviate from Bureau loss cost plans and the current rating structure

- Could potentially modify risk segmentation based on cost expectations

- Could have unique complexities that differ from personal lines pricing models due to state differences

- Could offer insights into risk management and pricing

WHAT MAKES A GOOD PRICING MODEL?

- Compliant with state laws and regulations

- Is predictive of the target variable - claim severity, claim frequency, pure premium, loss ratio on a dataset not used in building the model

- Is designed in consideration of the dataset size; larger dataset may permit a more complex model structure than a smaller dataset.

- Uses appropriate input characteristics that meaningfully contribute to a model's ability to predict the target variable. For example, the input variable can be demonstrated to have statistical significance or influence on a model.

WHAT MAKES A GOOD PRICING MODEL?

- Has appropriate control and offset variables in place to mitigate the risk of predictions being influenced by certain variable's model contributions. (e.g., policy year and state)

- Control and offset variables: Variables that the modeler does not want to influence target variable predictions.

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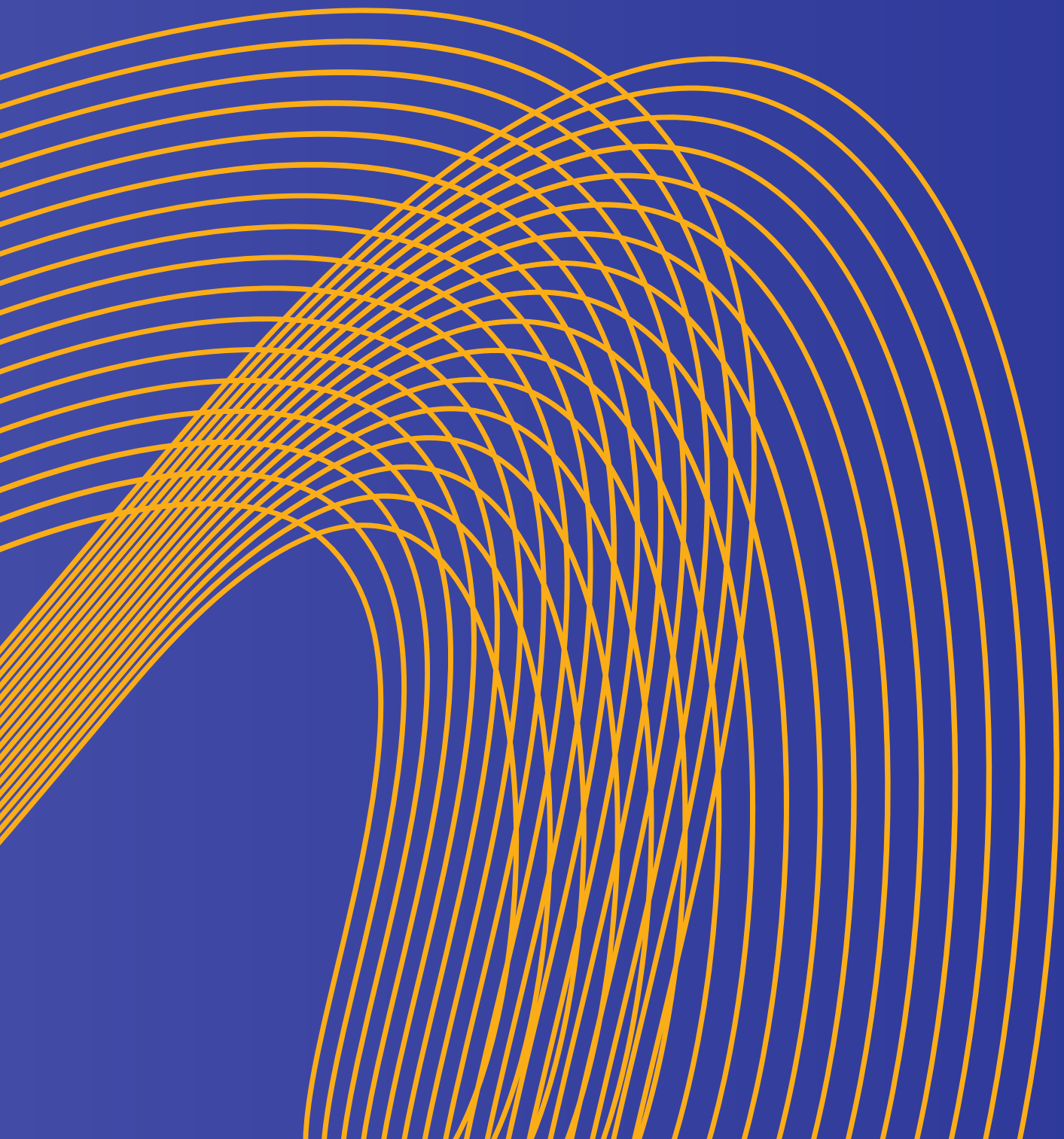
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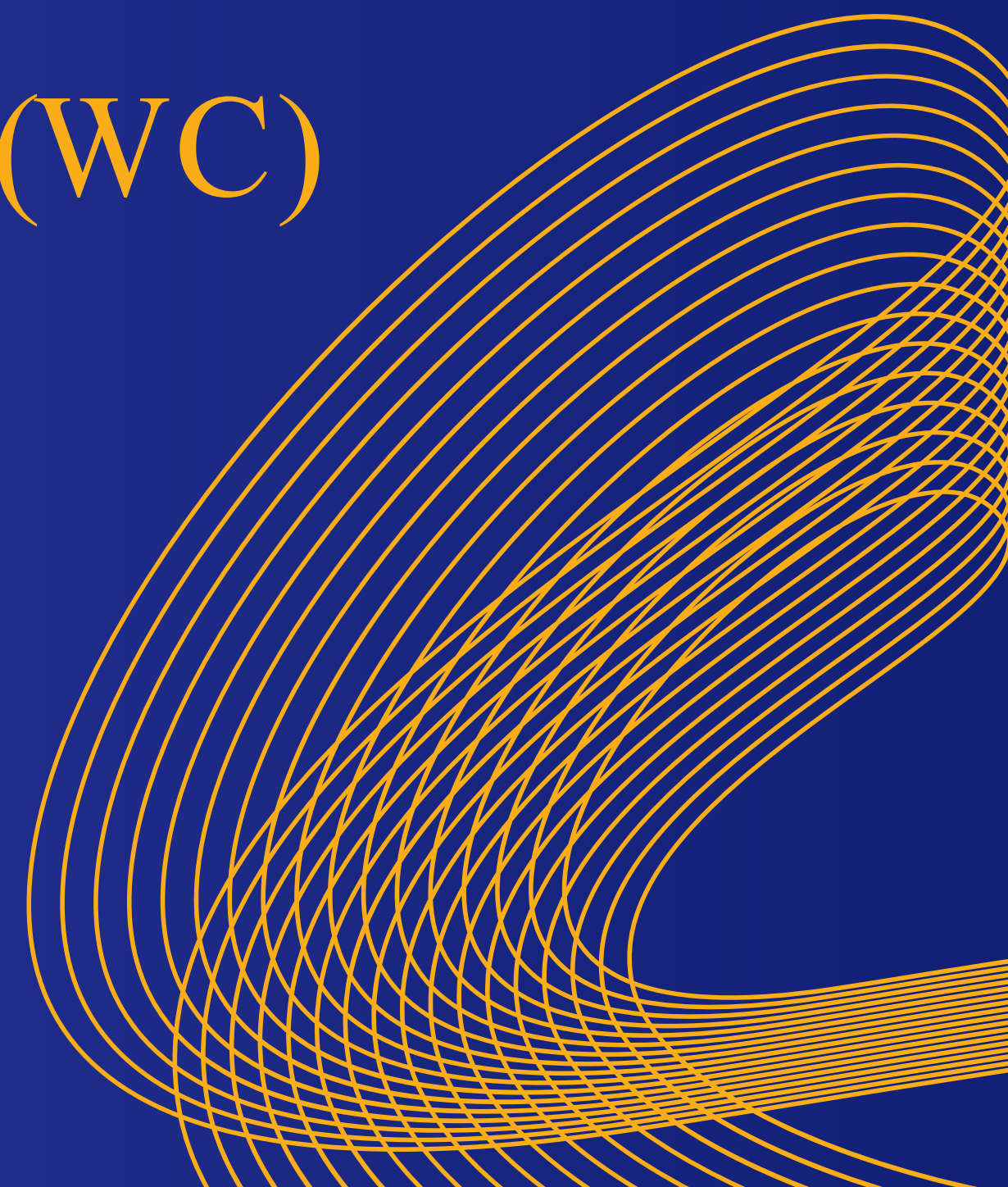- Time and speed to market/ compliance costs

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WORKERS' COMPENSATION (WC) RATEMAKING

Kathryn Koch, FCAS, MAAA
KKoch@LewisEllis.com

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Overview of State regulatory environment	
Definition of a model	
Model usage in personal lines insurance products	
Model usage in workers compensation	
Hurdles to model roll outs in WC	
Impacts from model usage in WC	

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- In the past, the National Council on Compensation Insurance (NCCI) and regional bureaus developed advisory rates that were widely adopted by carriers.

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Workers' compensation rating bureaus, such as the National Council on Compensation Insurance (NCCI), play a significant role in workers' compensation insurance ratemaking.

- **Workers' Compensation Rating Bureaus:** Rating bureaus are organizations that collect and analyze data related to workers' compensation claims, costs, and other relevant factors. They develop and maintain statistical data and actuarial methodologies to determine appropriate premium rates for different industries and classifications. These bureaus are generally state specific.

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- **Data Collection and Analysis:** Rating bureaus like NCCI collect large amounts of historical claims' experience data from insurance carriers. This data is analyzed to determine loss costs, which represent the projected claim costs associated with different job classifications. These loss costs serve as the basis for determining premium rates.

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- "The published rate is not the final price paid by most insureds. The application of experience rating plans, schedule rating plans, and dividend plans plays a significant role in the ultimate price paid. The prevalence of large-deductible policies and retrospective rating plans also has a significant impact on the final amount paid by employers, whether through costs retained by the employer or through premiums paid to insurers. Consideration should be given to these various elements that affect the final price." – American Academy of Actuaries, Workers' Compensation Committee https://www.actuary.org/sites/default/files/files/publications/Workers_Compensation_State_Rate_Compariso_ns_03.16.2018.pdf

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- **Benefit Levels:** The benefits provided under workers' compensation insurance, such as medical coverage, disability payments, and vocational rehabilitation, can vary by state. Benefit levels may be influenced by factors like average wage levels, cost of living, and specific state regulations.

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Colorado	Minnesota	Pennsylvania	Washington
Hawaii	Missouri	Rhode Island	Wyoming*
Idaho	Montana	Texas	
Kentucky	New Mexico	Utah	
Louisiana	New York		

*Compulsory for extra hazardous operations only. Employers with nonhazardous operations may insure with the state fund or opt to go without coverage.

Source:https://www.iii.org/article/spotlight-on-workers-compensation

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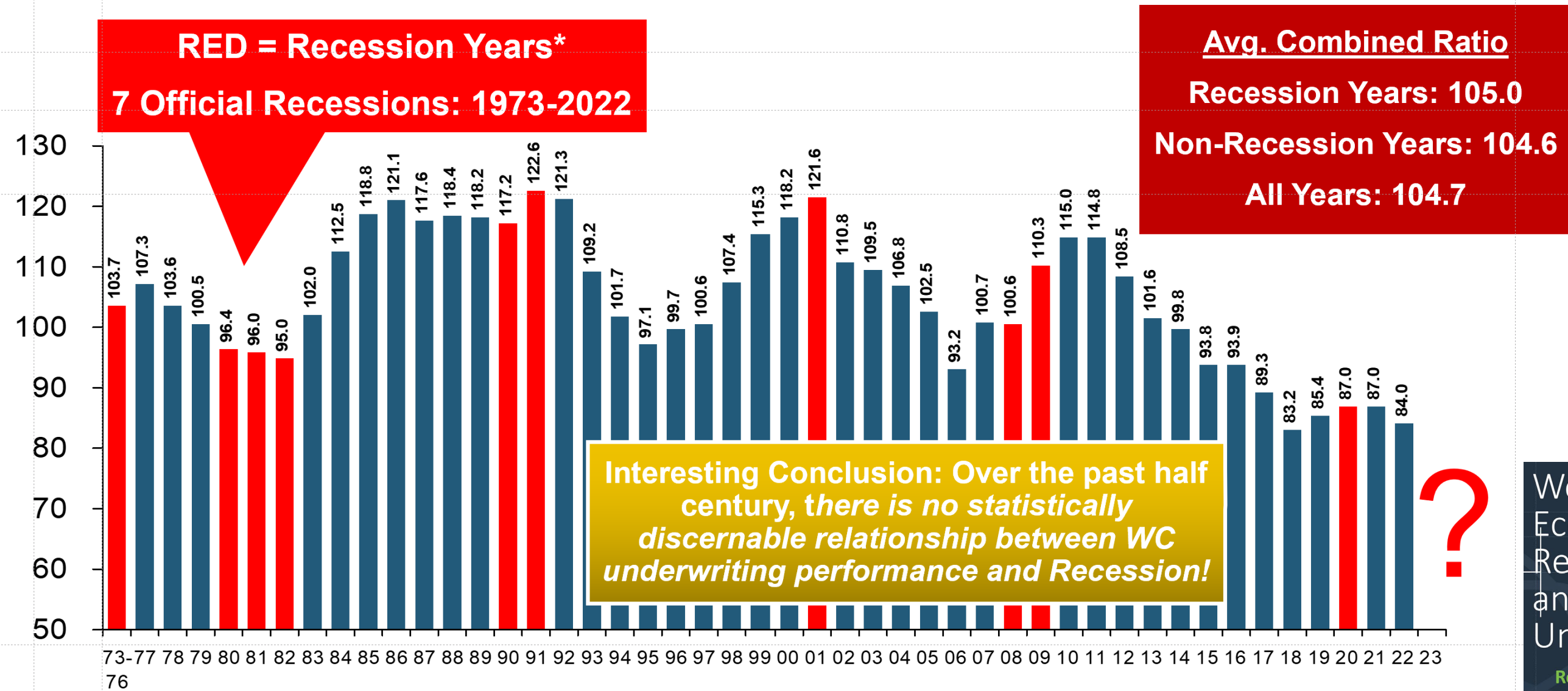# MODEL USAGE IN PERSONAL LINES INSURANCE PRODUCTS

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MODEL USAGE IN WORKERS COMPENSATION

Workers Comp Combined Ratios: 1973 – 2022p

RED = Recession Years*

7 Official Recessions: 1973-2022

Avg. Combined Ratio
Recession Years: 105.0
Non-Recession Years: 104.6
All Years: 104.7

Interesting Conclusion: Over the past half century, *there is no statistically discernable relationship between WC underwriting performance and Recession!*

?

Workers Comp at the Economic Crossroads: Recession, Inflation and Economic Uncertainty

Robert P. Hartwig, PhD, CPCU
Clinical Associate Professor of Finance
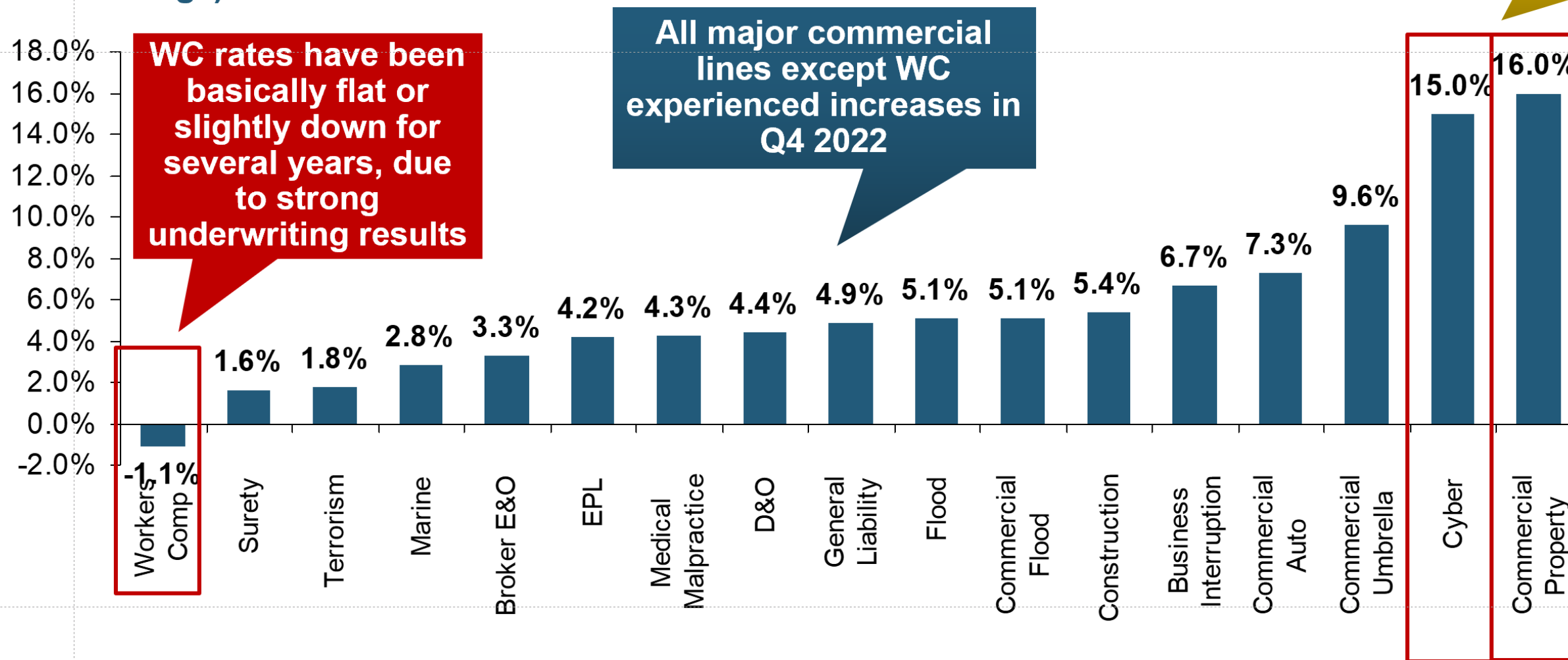Darla Moore School of Business
University of South Carolina

May 2023

Values on chart (left to right): 103.7, 107.3, 103.6, 100.5, 96.4, 96.0, 95.0, 102.0, 112.5, 118.8, 121.1, 117.6, 118.4, 118.2, 117.2, 122.6, 121.3, 109.2, 101.7, 97.1, 99.7, 100.6, 107.4, 115.3, 118.2, 121.6, 110.8, 109.5, 106.8, 102.5, 93.2, 100.7, 100.6, 110.3, 115.0, 114.8, 108.5, 101.6, 99.8, 93.8, 93.9, 89.3, 83.2, 85.4, 87.0, 87.0, 84.0

X-axis labels: 73-77 76, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23

*Years in which 3 or more months of the year were in recession plus 2020 (Covid-related recession) which lasted 2 months. Recession dates from NBER: https://www.nber.org/research/data/us-business-cycle-expansions-and-contractions
Note: Data for 1973-1984 are calculated from incurred loss and expense data, excluding policyholder dividends, as sourced below, and are for stock companies only.
Sources: *Social Security Bulletin*, July 1988 (v. 51, n. 7) accessed at: https://www.ssa.gov/policy/docs/ssb/v51n7/v51n7p4.pdf; NAIC Annual Statement (1985-2021); NCCI (2022p);
University of South Carolina, Risk and Uncertainty Management Center.

MODEL USAGE IN WORKERS COMPENSATION

Change in Commercial Rate Renewals, by Line: 2022:Q4

Commercial property is up sharply as CAT losses and inflation continue to take their toll, overtaking Cyber, which is up in response to major breaches in recent years.

(Percent Change)

WC rates have been basically flat or slightly down for several years, due to strong underwriting results

All major commercial lines except WC experienced increases in Q4 2022

Line	Value
Workers Comp	-1.1%
Surety	1.6%
Terrorism	1.8%
Marine	2.8%
Broker E&O	3.3%
EPL	4.2%
Medical Malpractice	4.3%
D&O	4.4%
General Liability	4.9%
Flood	5.1%
Commercial Flood	5.1%
Construction	5.4%
Business Interruption	6.7%
Commercial Auto	7.3%
Commercial Umbrella	9.6%
Cyber	15.0%
Commercial Property	16.0%

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Note: CIAB data cited here are based on a survey. Rate changes earned by individual insurers can and do vary, potentially substantially.

Source: Council of Insurance Agents and Brokers; USC Center for Risk and Uncertainty Management.

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