CAS Seminar on Reinsurance

Workers' Compensation Market Update - 2021

Brett King – New York Compensation Insurance Rating Board

Lisa Walsh – Swiss Re

Bryan Ware – AmTrust Financial

June 8, 2021

Workers' Compensation Market Update

Bryan Ware – AmTrust Financial

Casualty Actuaries in Reinsurance

June 8, 2021

Agenda

- Employment and wage trend
- Frequency and Severity changes

US Unemployment Rate Forecast: 2007:Q1–2022:Q4

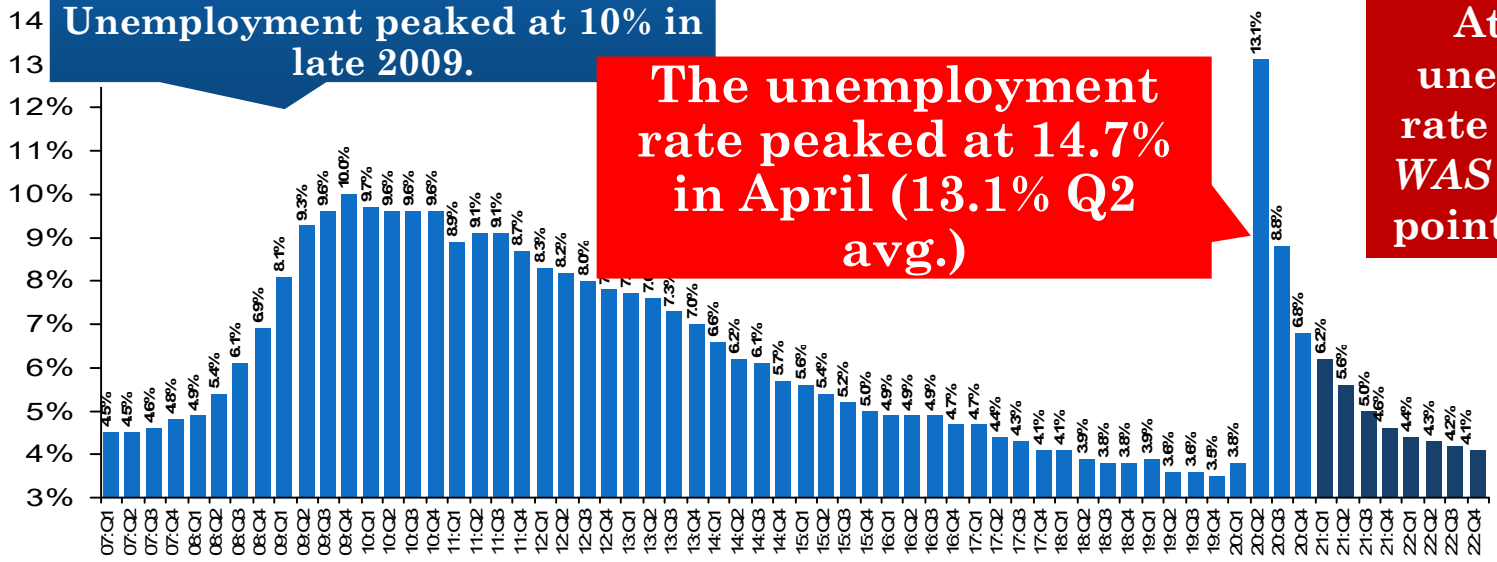
Great Recession

Rising unemployment eroded payrolls and WC's exposure base.

Unemployment peaked at 10% in late 2009.

The unemployment rate peaked at 14.7% in April (13.1% Q2 avg.)

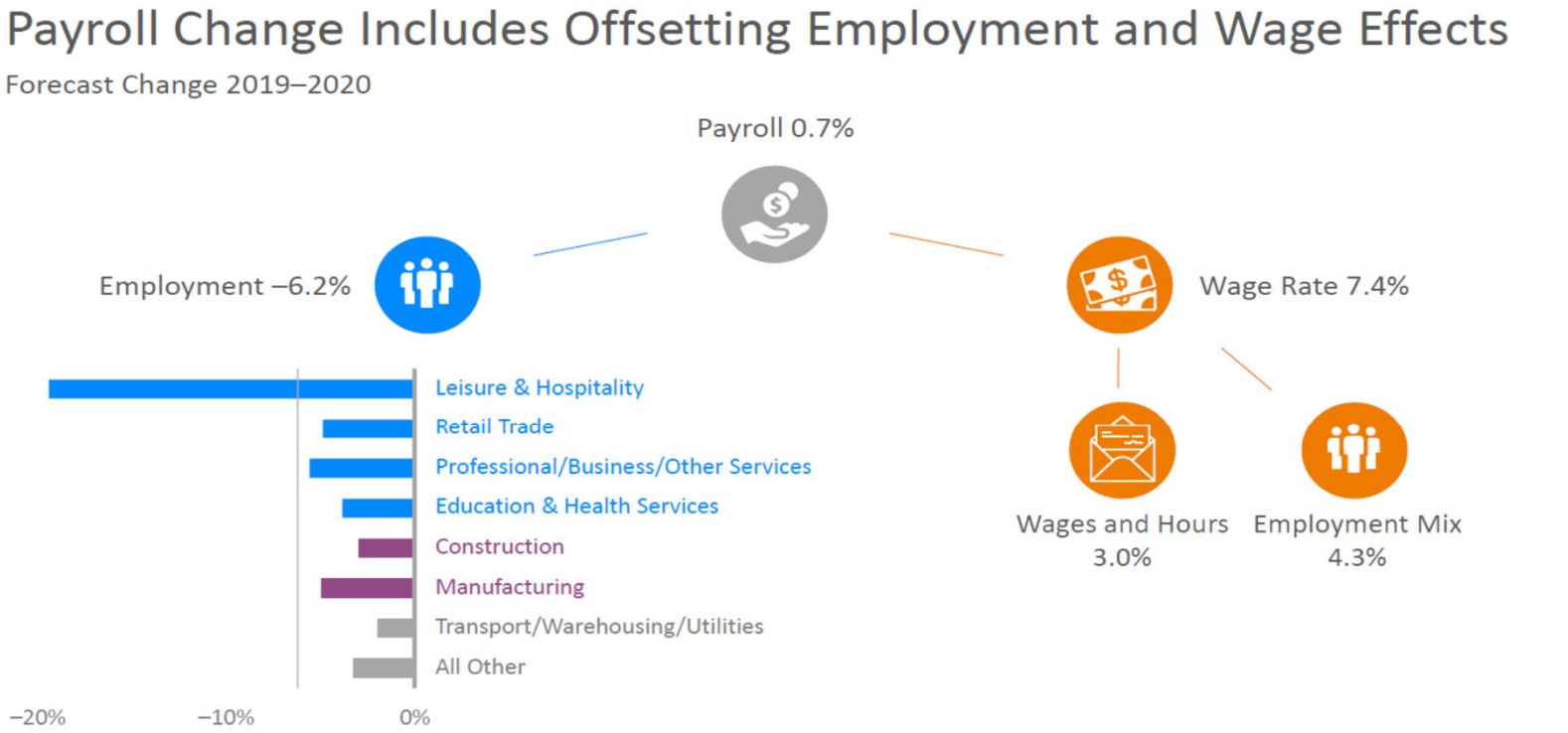
At 3.5%, the unemployment rate in Feb. 2020 *WAS* at its lowest point in 50 years.



: forecasts ; = actuals

Sources: US Bureau of Labor Statistics; Wells Fargo Securities (4/21 edition); Risk and Uncertainty Management Center, University of South Carolina.

Wage inflation is high, but much of this is mix change



Sources: Moody's Analytics and NCCI

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Unemployment is very industry-dependent

Forecast Industry Level Employment Data

	2019 Employment	Relative to 2019 Employment Level			
		2020	2021	2022	2023
Agriculture & Mining	446,467	-14.4%	-9.0%	-3.3%	-1.6%
Utilities & Construction	943,920	-3.5%	0.5%	1.7%	4.0%
Manufacturing	1,323,017	-6.4%	-4.5%	-2.6%	-1.5%
Wholesale	694,467	-5.1%	-3.6%	-2.5%	-1.6%
Retail	1,656,692	-7.6%	-2.3%	-4.6%	-6.7%
Transportation & Warehousing	640,505	-1.4%	4.3%	6.3%	7.8%
Information	562,517	-5.1%	0.6%	4.4%	9.5%
Finance & Insurance	546,986	0.1%	2.1%	3.5%	5.2%
Real Estate	294,422	0.1%	2.1%	3.5%	5.2%
Prof. Services & Mgmt. of Companies	1,569,370	-3.9%	1.4%	5.9%	9.6%
Administrative	1,154,505	-3.9%	1.4%	5.9%	9.6%
Education	386,208	-3.7%	0.0%	3.2%	4.7%
Health	2,418,792	-3.7%	0.0%	3.2%	4.7%
Arts & Entertainment	321,672	-24.3%	-16.7%	-10.5%	-4.3%
Hospitality	1,711,012	-24.3%	-16.7%	-10.5%	-4.3%
Other	576,442	-16.7%	-9.4%	-2.4%	1.0%
Public Administration	2,607,350	-4.0%	-5.0%	-1.6%	0.3%
All Industries	17,854,342	-7.2%	-3.3%	-0.3%	2.0%

WCIRB California®
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Source: March 2021 UCLA Forecast

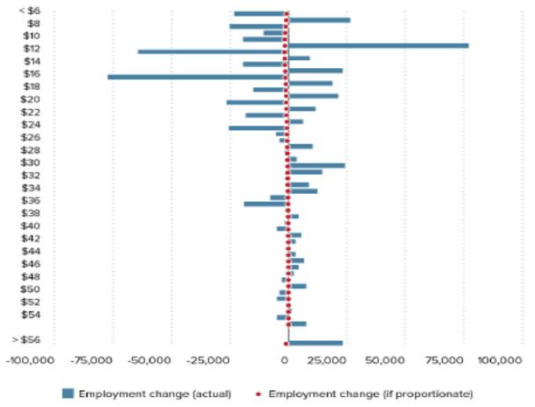
California data

Job losses hit lower wage workers much harder

Comparison With Prior Recessions

Job losses in the early 2000s recession appear unrelated to wage level

Employment change from 2001 to 2002, by wage level



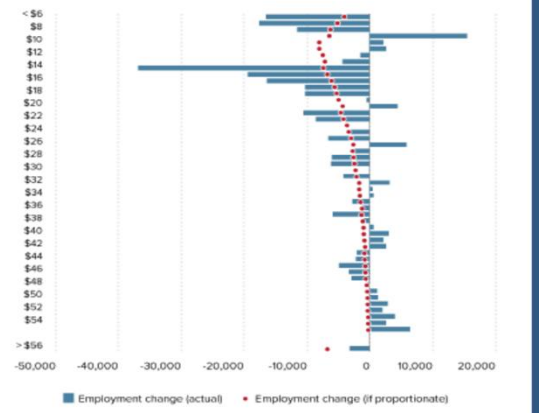
Notes: Wages are adjusted for inflation using the CPI-U-RS. The bars represent how much average employment changed, on a monthly basis, for workers in hourly "wage bands" (i.e., levels) labeled by the midpoint value of the band. For example, the bar at $10 represents the monthly loss in jobs with hourly wages from $7.50 to $12.49 and the bar at $11 represents loss in jobs with hourly wages from $8.50 to $13.49. (The last bar represents jobs with wages $56 an hour or higher). This smoothing of employment into wage bands was used to clarify underlying trends. The dots are provided as benchmarks—they show how many jobs would have been lost at each wage level if jobs had contracted proportionately across the entire wage distribution. If a bar extends to the right of the zero axis, workers at that wage level actually gained jobs. If the bar extends left of the zero axis but does not extend beyond its dot, workers at that wage level lost jobs but fewer than they would have had jobs been shed proportionately to how many jobs were in that bin in 2001. Finally if the bar extends to the left of its dot, workers at that wage level lost jobs at a faster rate than would have occurred if the losses were proportionate.

Source: Authors' analysis of EPI Current Population Survey Extracts, Version 1.0.14 (2021), https://microdata.epi.org.

Economic Policy Institute

Job losses during the Great Recession are weakly related to wage level

Employment change from 2007 to 2010, by wage level



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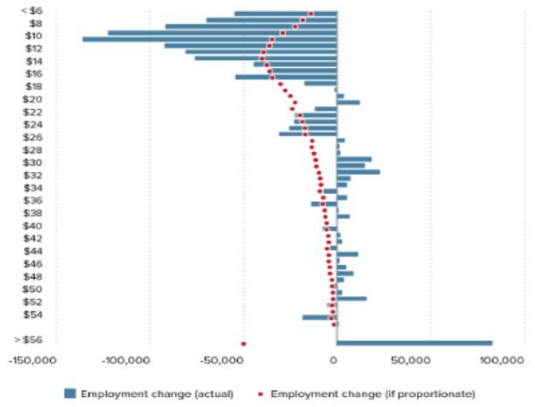
Source: Authors' analysis of EPI Current Population Survey Extracts, Version 1.0.14 (2021), https://microdata.epi.org.

Economic Policy Institute

Lower-wage workers experienced job losses in far excess of the proportionate shares

Employment change from 2019 to 2020, by wage level



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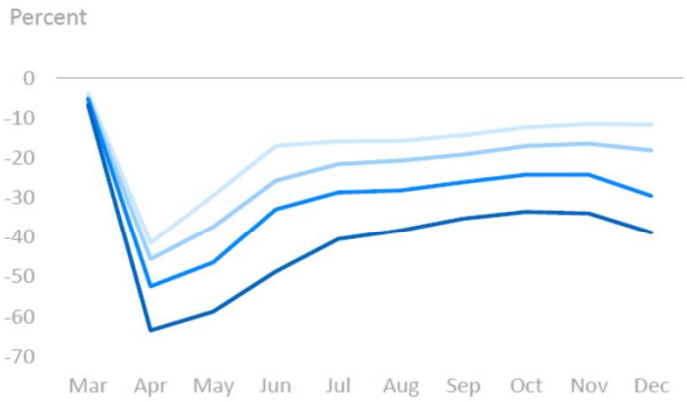
Source: Authors' analysis of EPI Current Population Survey Extracts, Version 1.0.14 (2021), https://microdata.epi.org.

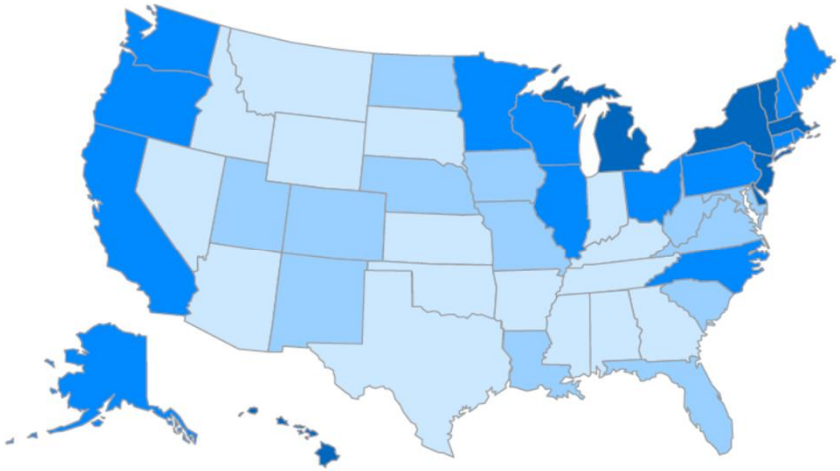
Economic Policy Institute

Job losses vary significantly by state

Job Losses—Leisure and Hospitality

Employment Gap by State Group, March–December 2020





Sources: US Bureau of Labor Statistics and NCCI

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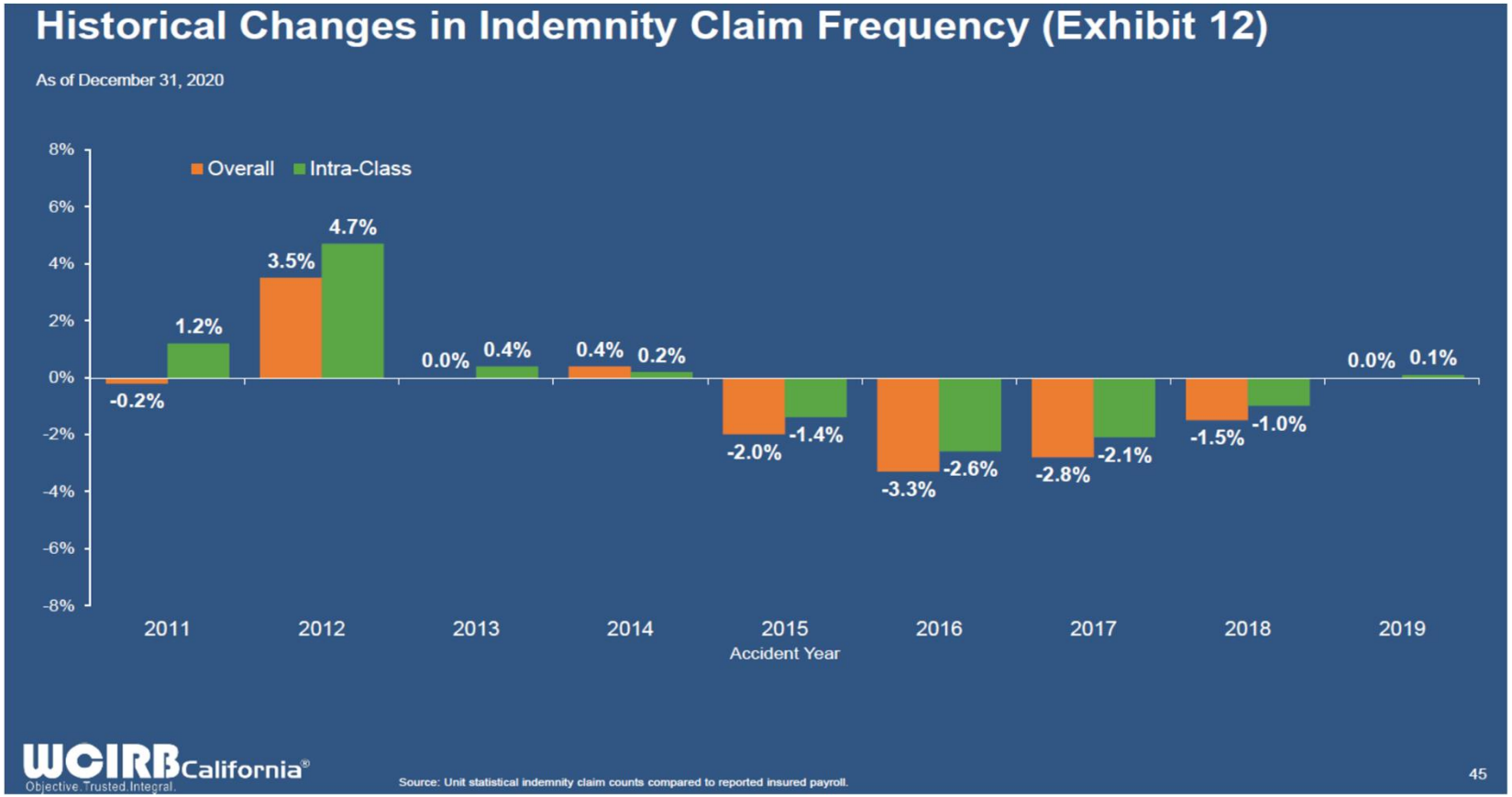
Employment and Wage Trend
Summary from above slides

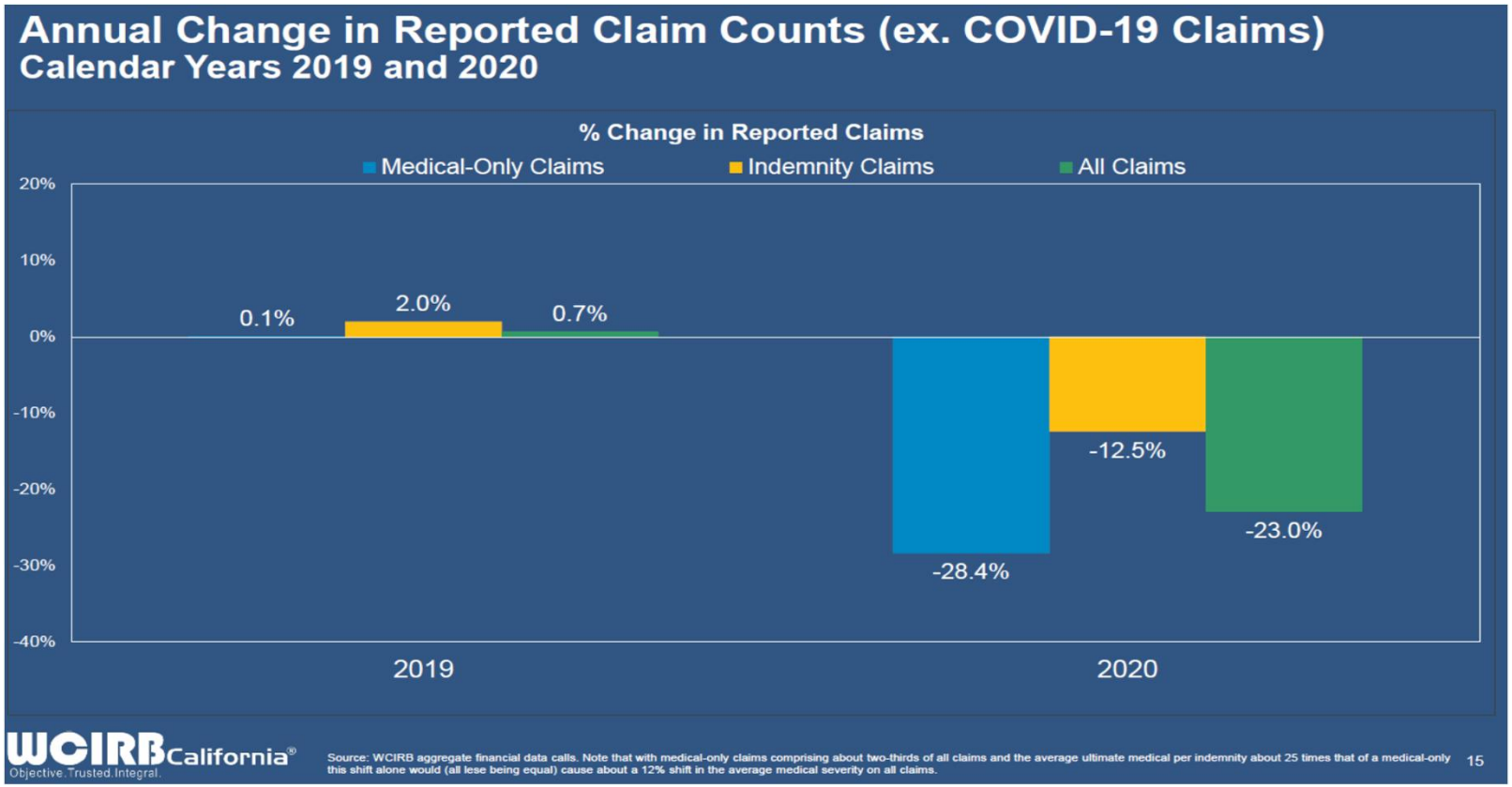
- Job losses hit some industries much harder than others
  - Losses also vary a lot by state
- Wage growth is affected by:
  - Disproportionate loss of jobs in lower wage industries
  - Within these industries, disproportionate loss of lower wage jobs
- Some industries will be permanently affected
- Unemployment not expected to get back to near “Full Employment” level by end of 2022, earliest

Change in claim frequency flattening– Pre-2020



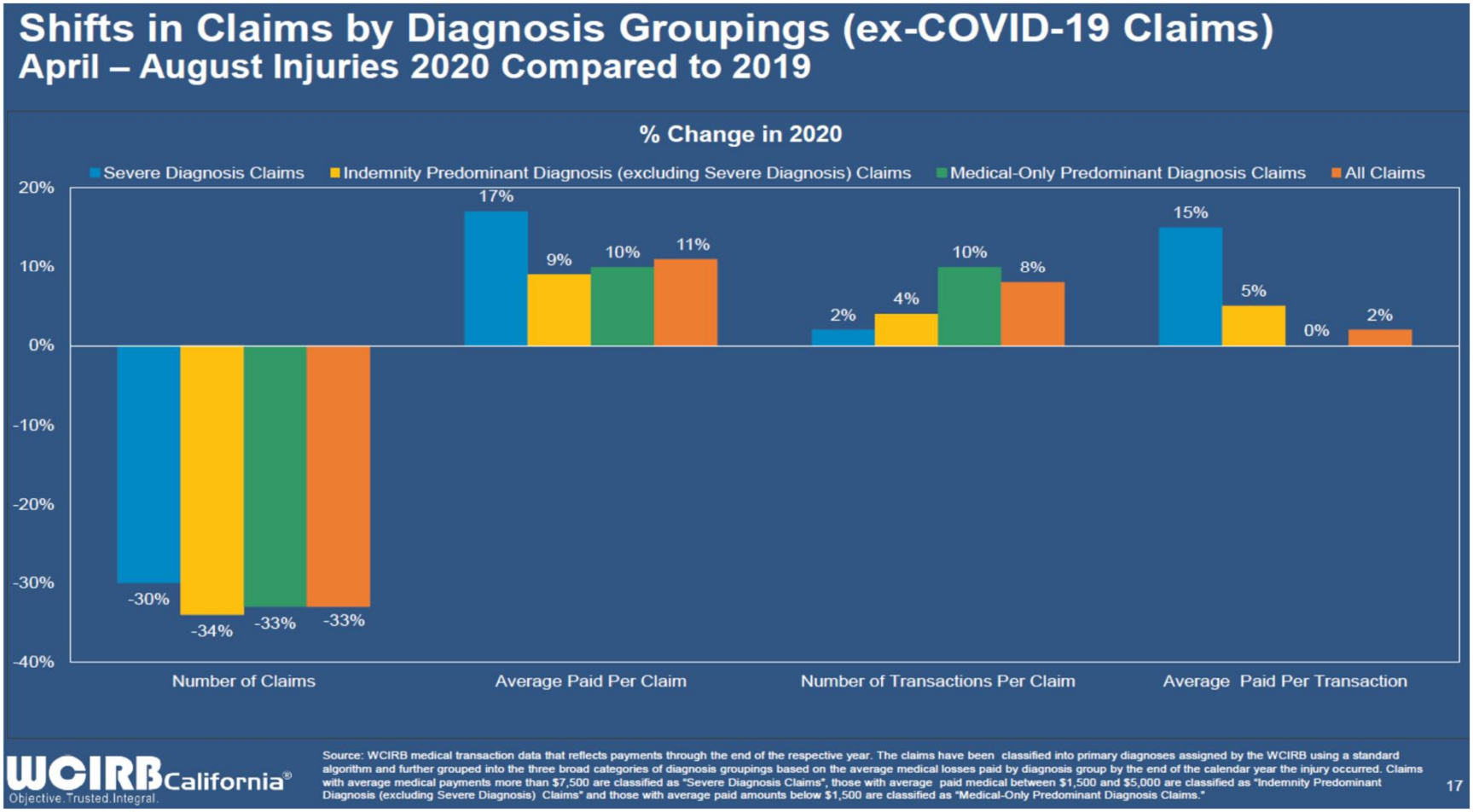
California data

Claim count change from 2018-2020

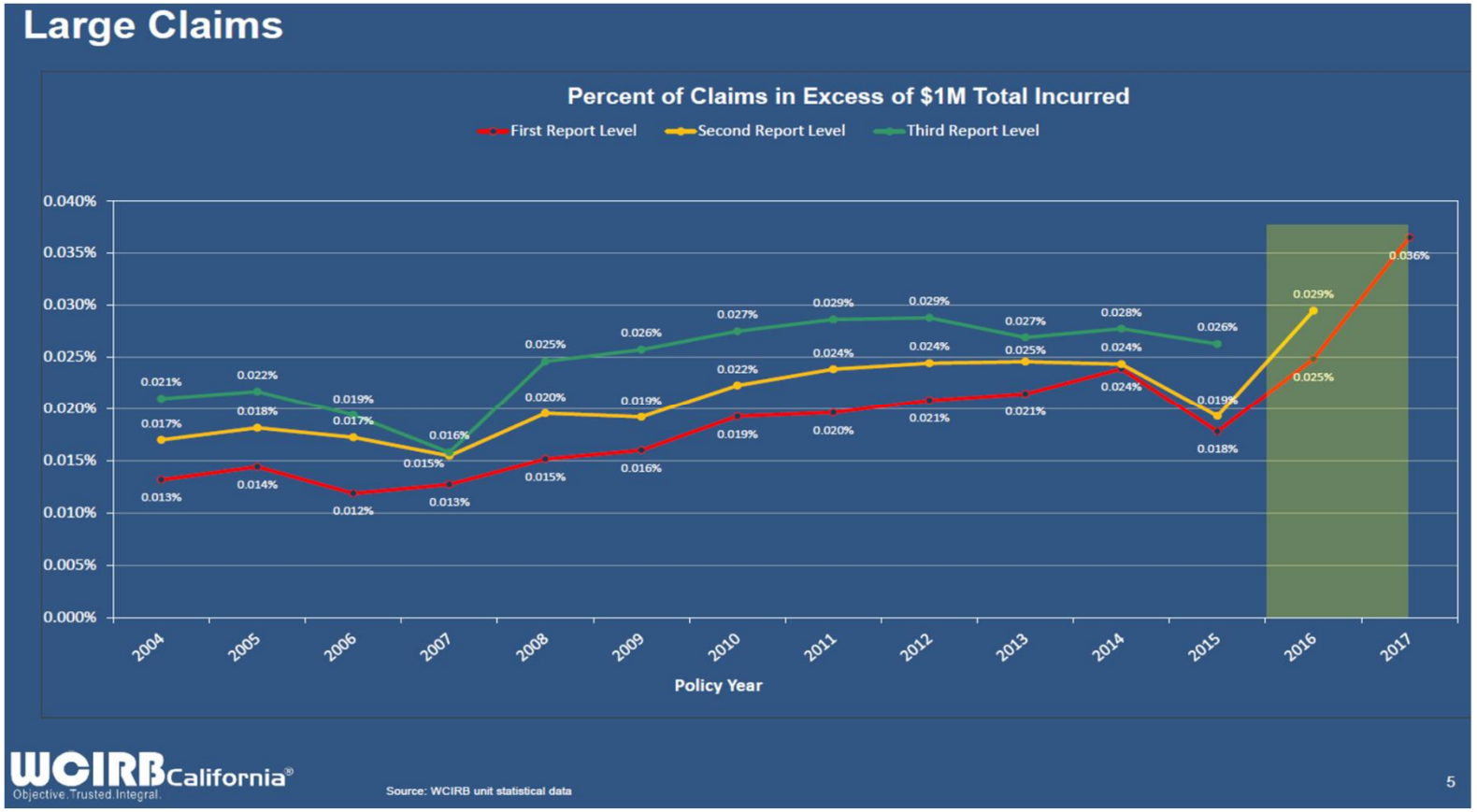


California data

Remaining claims appear more expensive, but not all explained by lower severity claims dropping out



High severity claim frequency rising, or being reserved more adequately quicker?

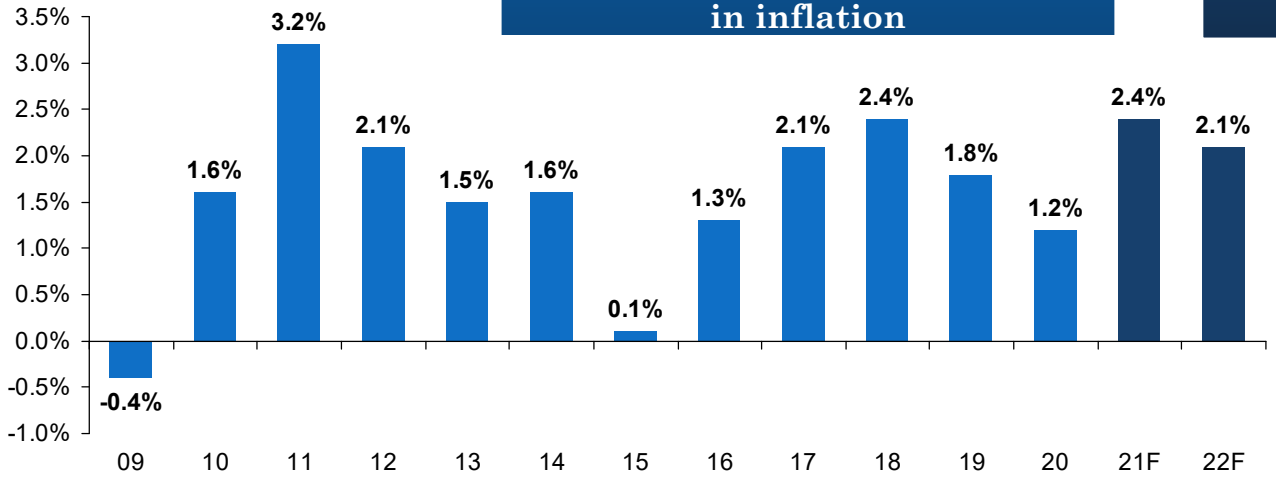


U.S. Inflation Rate: 2009-2022F*

There's a great deal of concern that trillions of dollars of stimulus plus the post-COVID recovery could cause the economy to overheat, resulting in inflation

Inflation is expected to accelerate sharply in 2021—though diminish thereafter—making the case for a Fed rate hike more remote (Fed is looking to keep long-run inflation rate ~2%)

Percentage Change (%)



Insurer Concerns About Inflation

Rate Inadequacy

Reserve Inadequacy

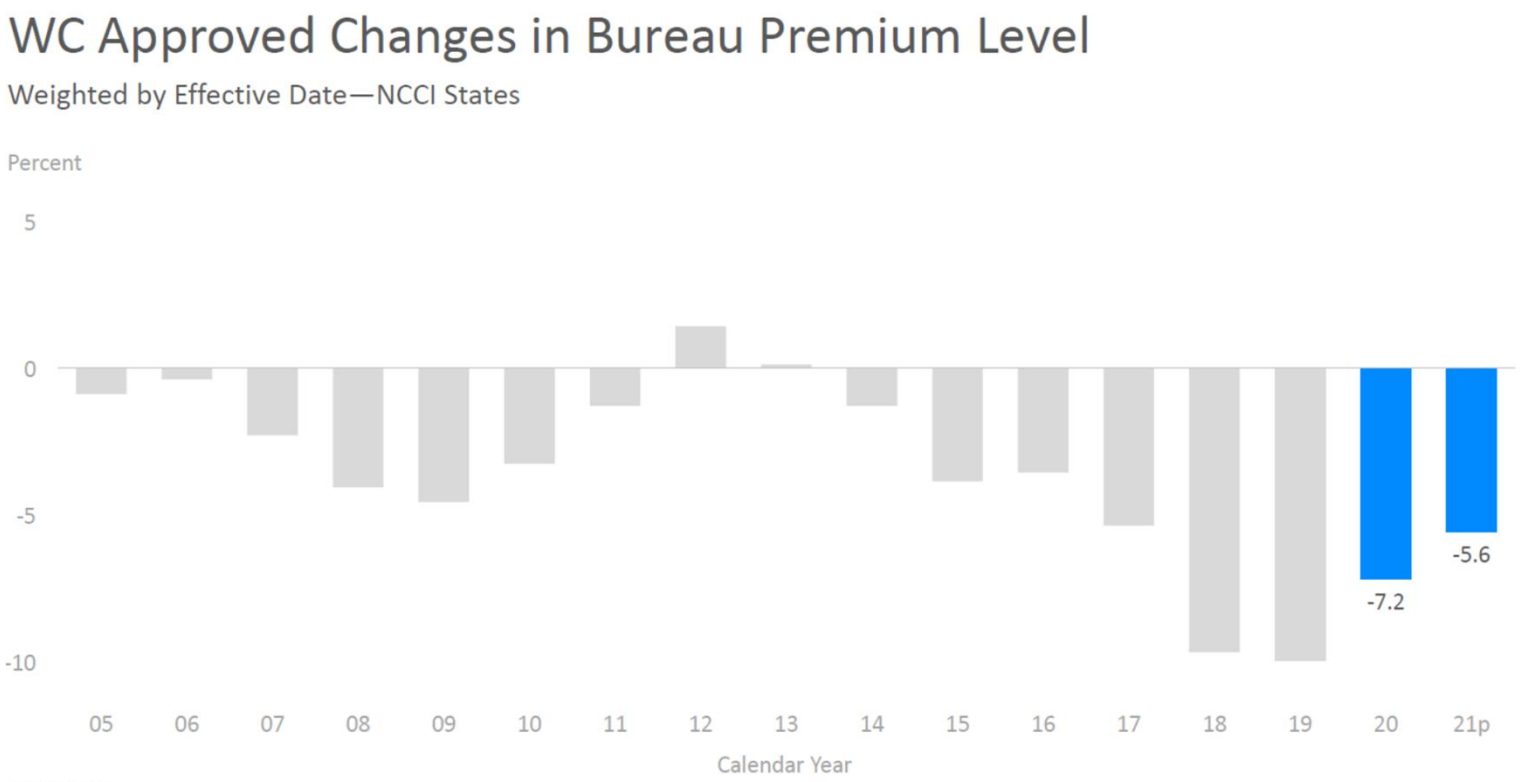
*Annual change in Consumer Price Index for All Urban Consumers (CPI-U).

Source: U.S. Bureau of Labor Statistics; Wells Fargo Securities (4/21); USC Center for Risk and Uncertainty Management.

Frequency and severity changes
Summary from above slides

- Frequency drops have been disproportionately on less severe claims
- However, severity appears to be increasing in addition to the mix effect caused by the frequency drop
- Higher reserve adequacy, as seen in lower development, magnifies appearance of severity increases
- Inflation expected to spike in 2021 and reduce thereafter

Bureau rate/loss cost changes moving towards flat



p Preliminary
Source: NAIC's Annual Statement Statutory Page 14
Values reflect changes in average premium levels between years, based on approved changes in advisory rates, loss costs, assigned risk rates, and rating values, as of 4/30/2021
IN and NC are filed in cooperation with state rating bureaus

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NYCIRB

CARe Workers Compensation

June 8, 2021

Brett King

Poll Question: Why are You here? (Click all that apply)

A – Continuing Ed. credits

B – to learn about Workers Compensation

C – to relax and escape my daily work routine for an hour or two!

D – to be inspired by others

E – to challenge my own way of thinking

F – something else – if you are brave, please use the chat to tell us why you are here

Actuarial and Industry Expertise

Review

Reimagine

Retool

Re-examine

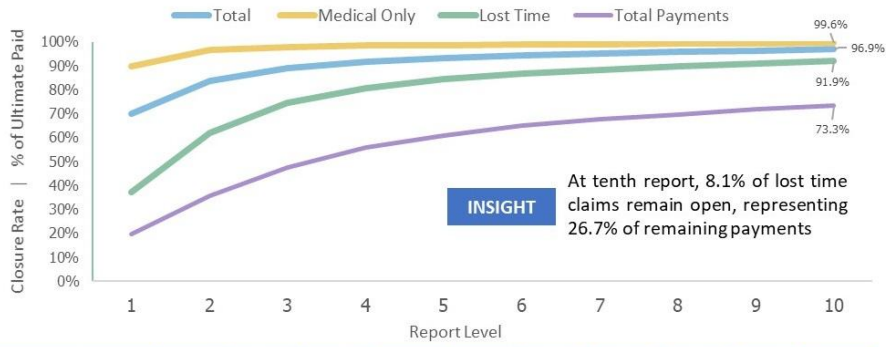
The Work of Yesterday

Besides the annual loss cost filings and the Forum, the New York Rating Board provides industry stakeholders with a wealth of information that may interest actuaries:

- State of the System Reports
- Research Reports:
  - Large Claims Study
  - Motor Vehicle Accident Study
  - Medical Payments Study
  - Frequency Study
  - Mega Claims Study
- Actuarial Committee Research Work
- Excess Loss Information
- Other Actuarial Information

And even more!

Closure Rates and Payment Patterns



Report	1	2	3	4	5	6	7	8	9	10
Total	69.9%	83.6%	89.2%	91.8%	93.4%	94.4%	95.1%	95.8%	96.4%	96.9%
Medical Only	89.8%	96.5%	97.9%	98.4%	98.6%	98.8%	99.0%	99.2%	99.5%	99.6%
Lost Time	37.3%	61.9%	74.5%	80.6%	84.3%	86.7%	88.4%	89.9%	91.1%	91.9%
Total Payments	19.7%	35.7%	47.7%	55.7%	61.0%	64.9%	67.5%	69.8%	71.7%	73.3%

The Work of Today

Homogeneous claim development using meaningful claim characteristics:

- Report Level
- Claim Status
- Injury Type
- Part of Body (Group)

The Work of Today

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- Report Level
- Claim Status
- Injury Type
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Different claim development can have measurable ramifications on our other work:

- Hazard Groups
- ELPPFs
- Pure Premiums
- Class Credibility

The Work of Today

Homogeneous claim development using meaningful claim characteristics:

- Report Level
- Claim Status
- Injury Type
- Part of Body (Group)

Different claim development can have measurable ramifications on our other work:

- Hazard Groups
- ELPPFs
- Pure Premiums
- Class Credibility

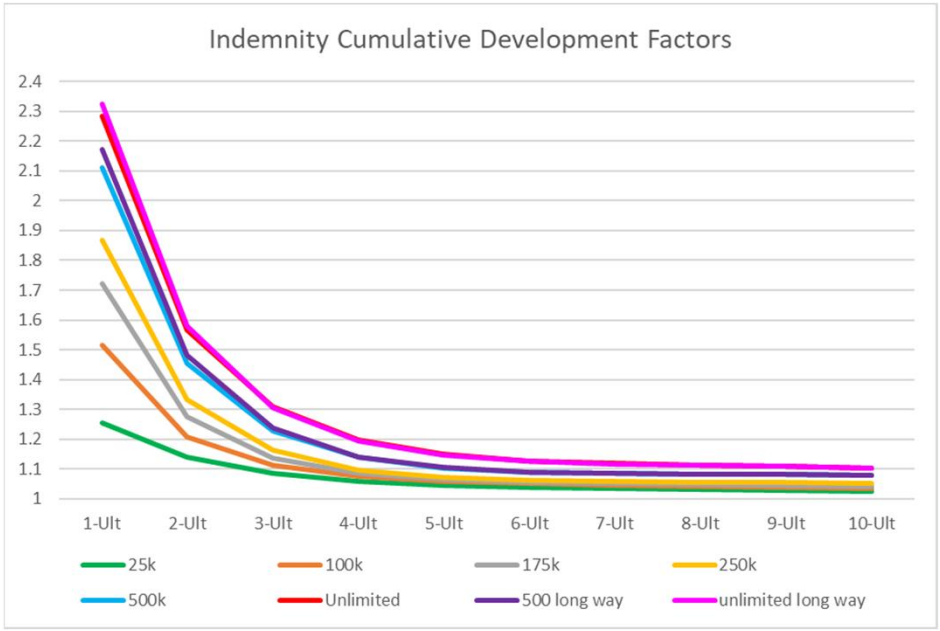
How should our pure premium calculations and other work use and leverage limited information?

- No Limit
- $500K Limit
- $100K Limit
- $25K Limit

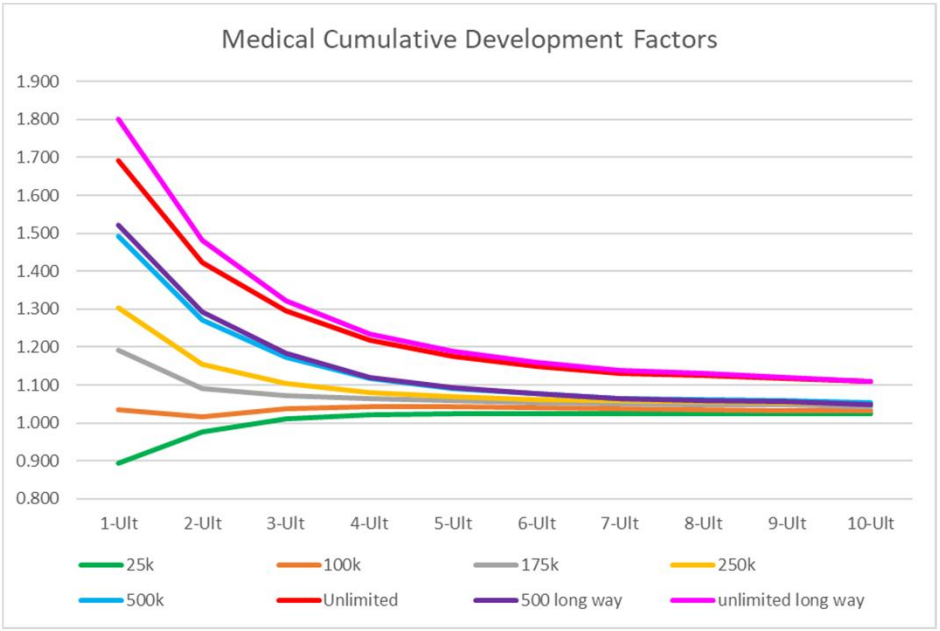
The Work of Today (Continued)

- Limited Development Patterns by Various Limits

Indemnity



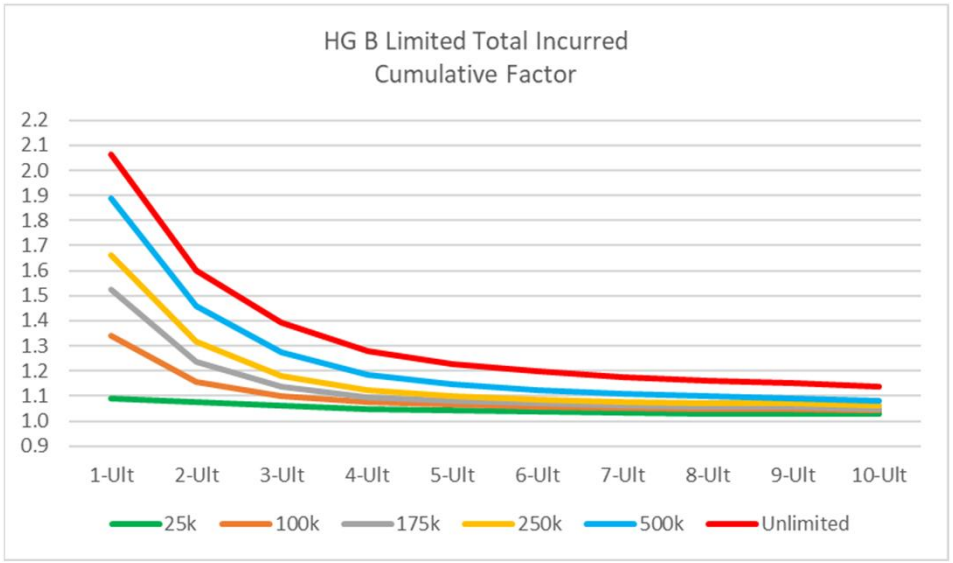
Medical



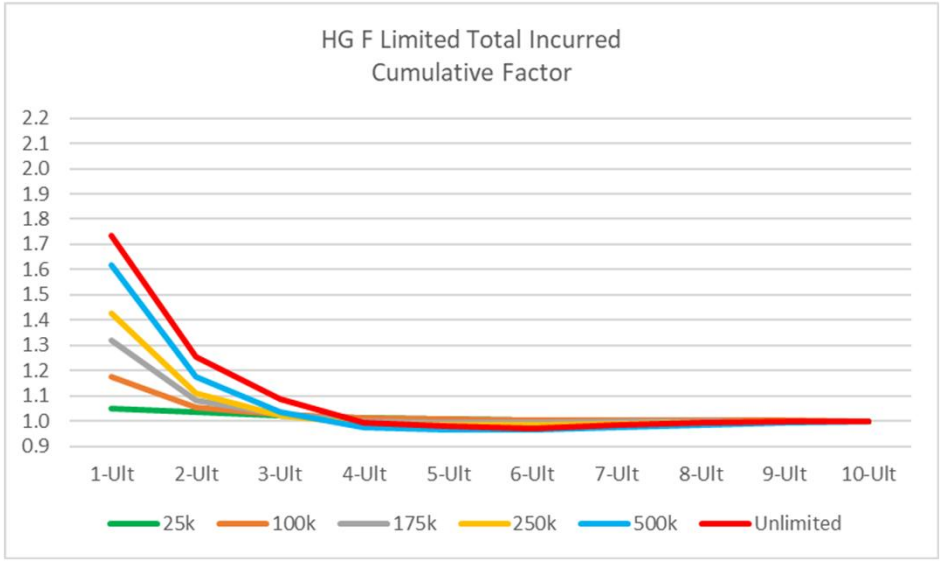
The Work of Today (Continued)

- Limited Development Patterns by Hazard Group at Various Limits

HG B



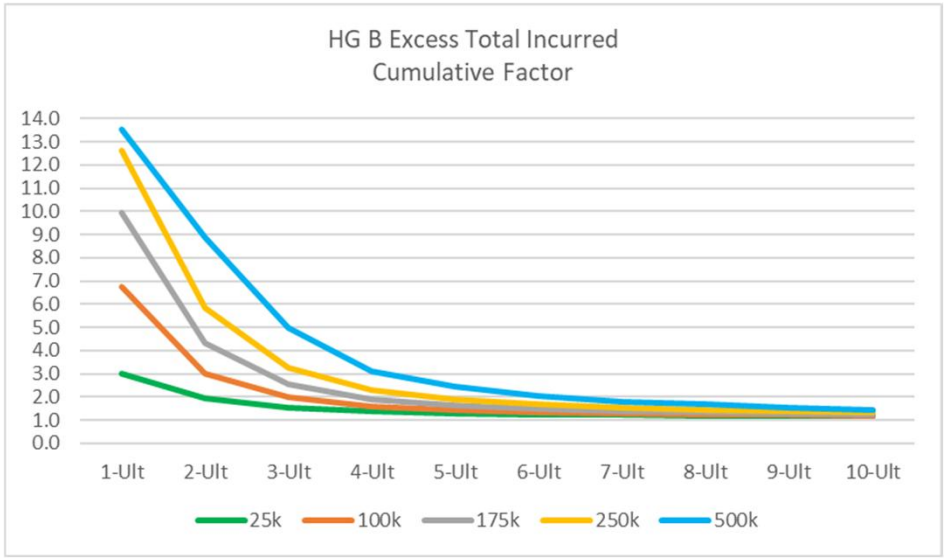
HG F



The Work of Today (Continued)

- Excess Development Patterns by Hazard Group at Various Limits

HG B



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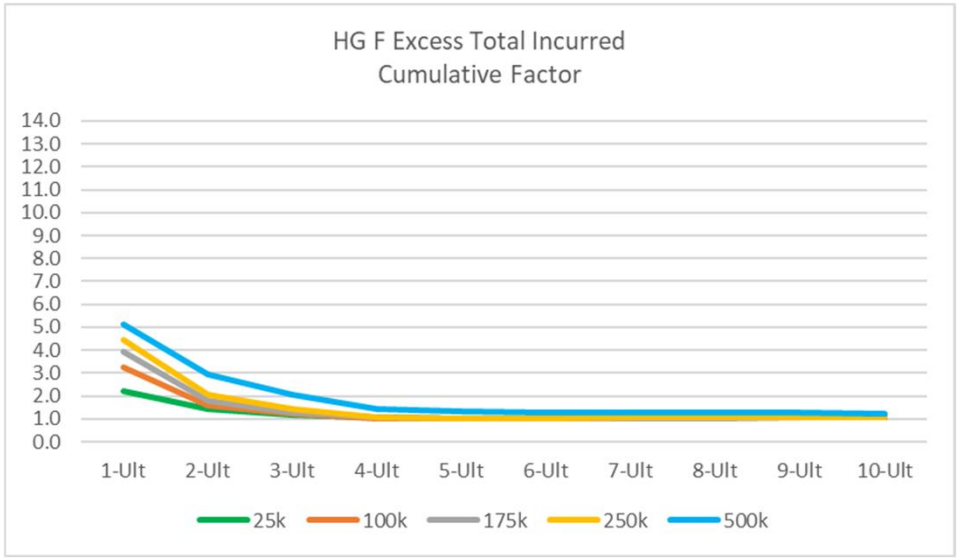
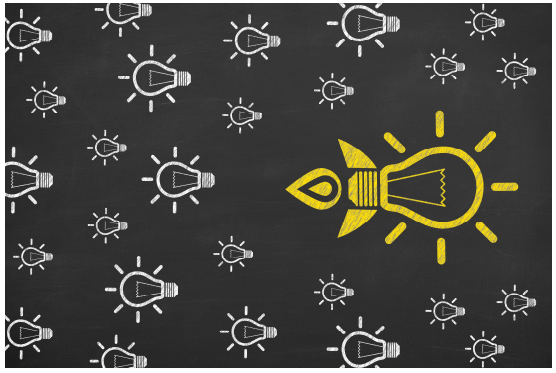
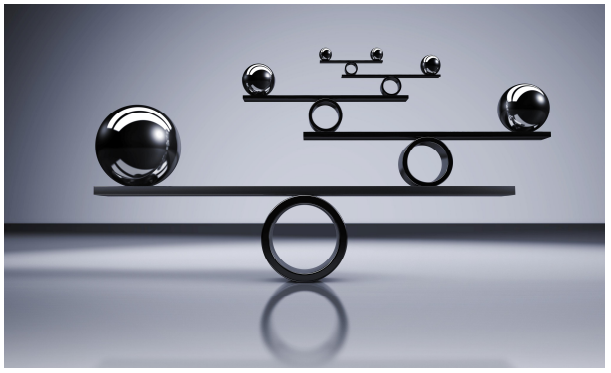


The Work of Tomorrow



COVID Report



Annual Forum in September

??? New hazard group assignments ???

??? New ELPPFs using claim characteristic development and updated dispersion ???

??? New Pure Premium calculations using different limits and excess loads based on class size ???

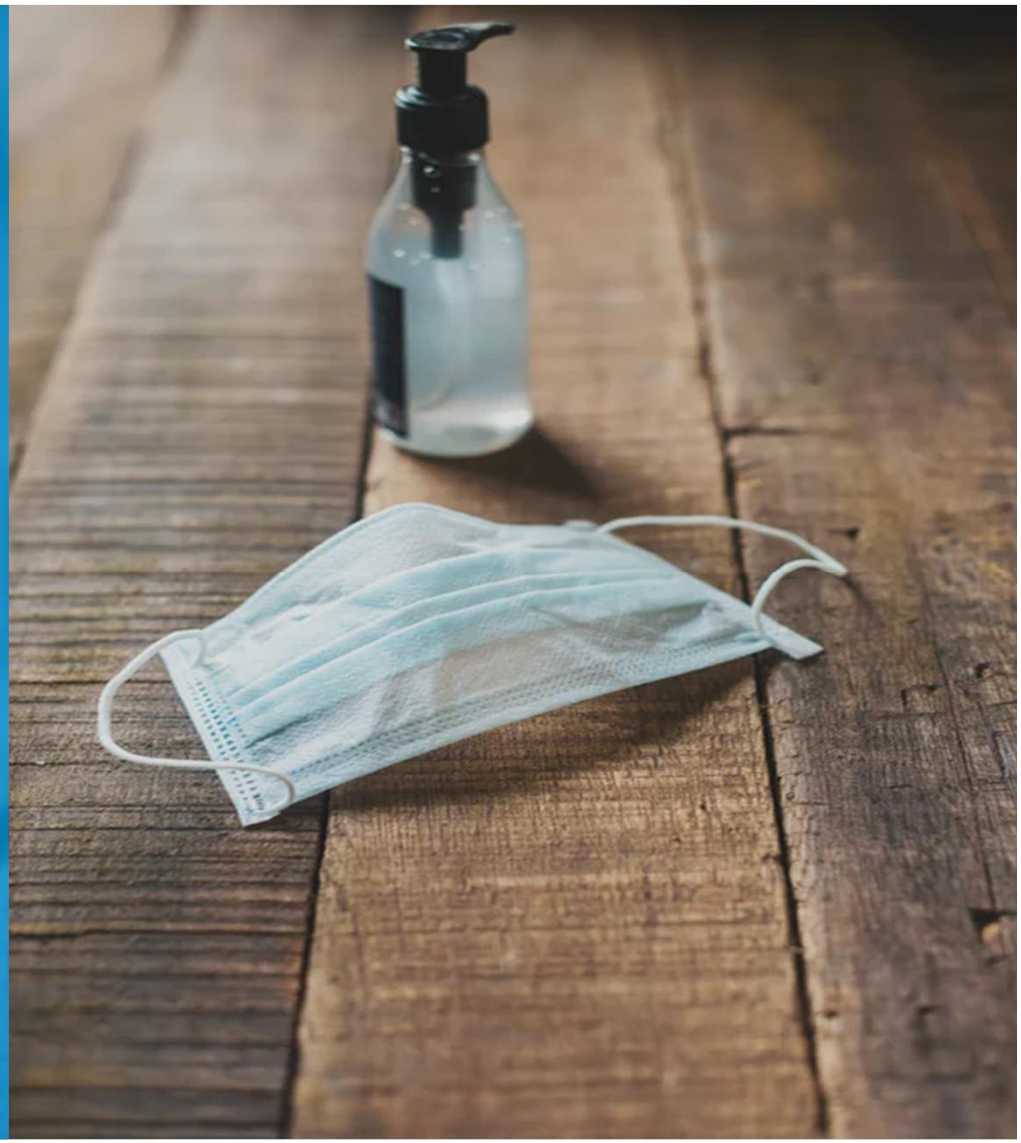
Do Your Part

Explore and execute on actionable items you may have percolating in your head

Swiss Re

COVID impacts on WC and Reinsurance Opportunities

Lisa Walsh FCAS, MAAA, CPCU
June 8, 2021



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COVID Real Life

Polling: How has COVID affected CAS members?

Have you or someone close to you had COVID19?

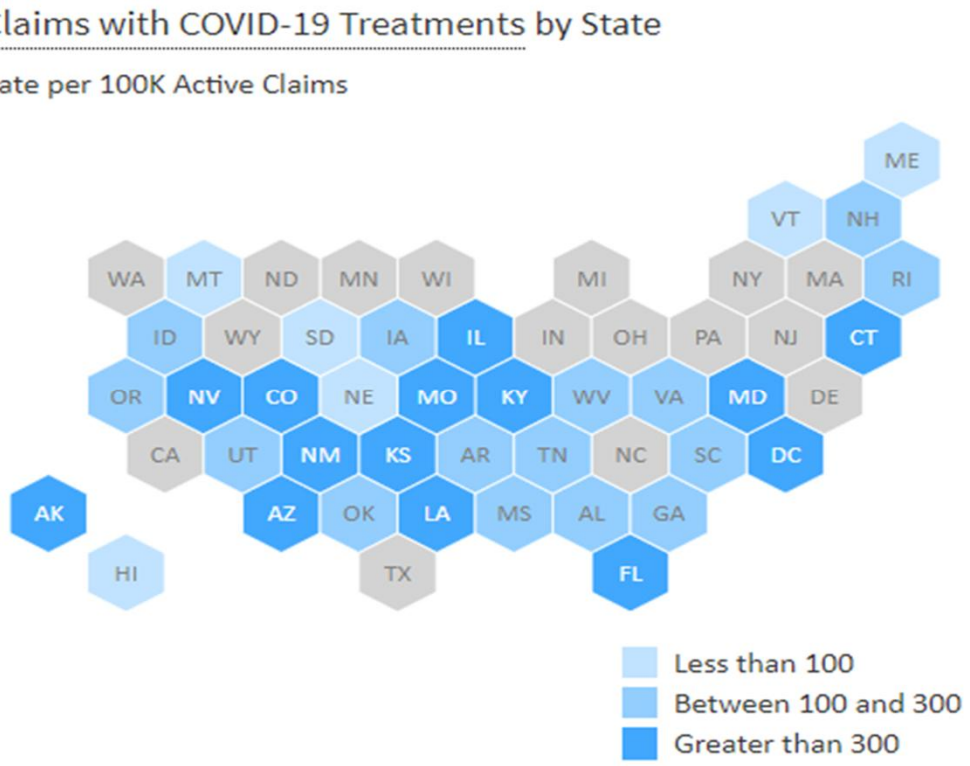
Have you or someone close to you been hospitalized due to COVID19?

Do you personally know anyone who was in the ICU due to COVID?

Do you personally know anyone who died from COVID?

Do you know anyone who got COVID at work?

COVID By State



Metrics are derived from the approximately 3,100 COVID-19 treated claims reported across all states, as of 1/15/2021

COVID Hospitalizations

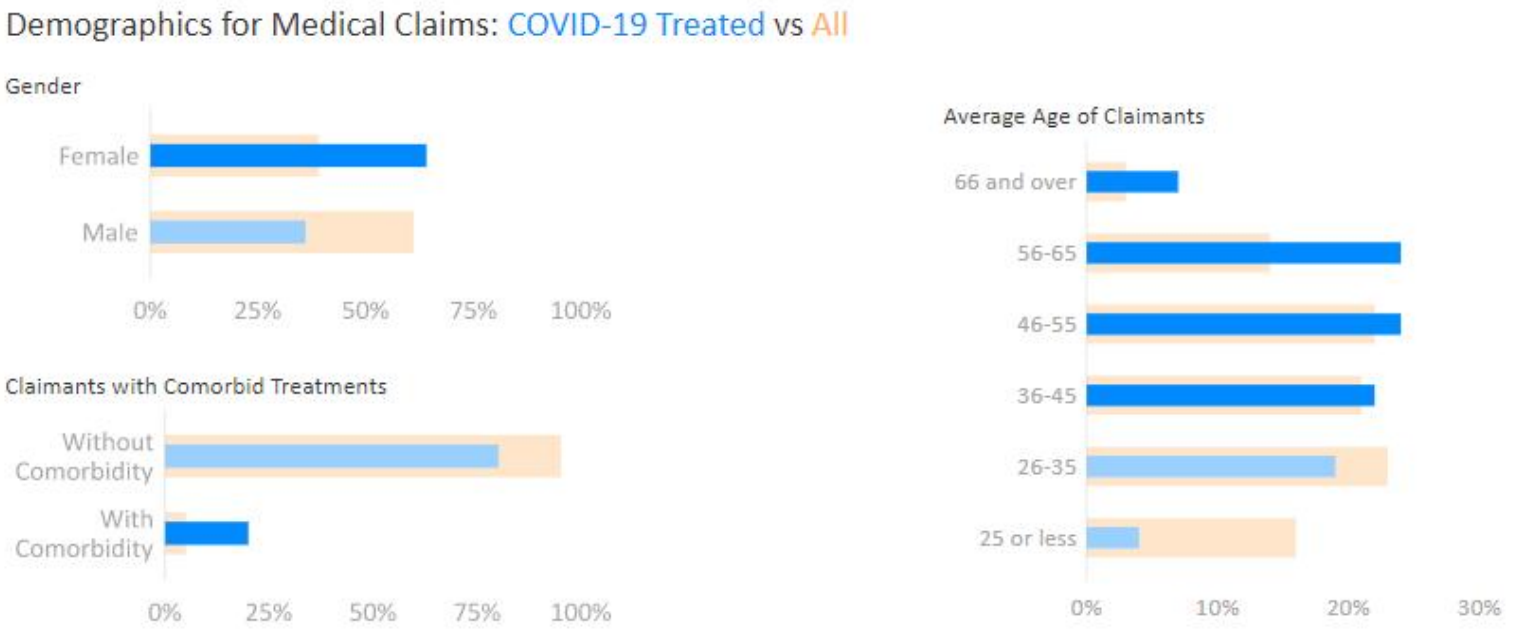
COVID-19 Treated Claims with Hospital Inpatient Stays

	With ICU	Without ICU
Share of Claims	22%	78%
Average Paid per Stay	$89,390	$44,273
Average Length of Stay	11	8

19% of COVID-19 treated claims have a **hospital inpatient** stay

Metrics are derived from the approximately 3,100 COVID-19 treated claims reported across all states, as of 1/15/2021

COVID Demographics



Metrics are derived from the approximately 3,100 COVID-19 treated claims reported across all states, as of 1/15/2021

Impact of COVID–19/Recession on Workers' Compensation

Overall Impacts to WC Market		
Factor	**Impact**	**Comments**
Payroll & Premium	↓	Due to the unprecedented size and scope of the COVID-19 pandemic, the impact on unemployment, payroll and premium will be very large, at least in the short-term. As the economy starts to gradually recover, so will payroll and premium. The pace and extent of the recovery is dependent on the magnitude and duration of the COVID event and recession.
Claims Frequency	↓	Loss frequency is expected to decrease in the short-term due to high unemployment and work from home requirements. It will gradually return to pre-COVID levels as the economy recovers. However, the reduction in frequency will be mitigated by the states' presumptive WC coverage directives for healthcare workers, first responders and in some states, all essential workers. The extent of impact is currently uncertain as many states have pending legislation regarding this issue. Expansion to additional states is expected.
Rates	↓	Rates have declined for 5 consecutive years, including 2020 (pre-COVID) and there was an expectation that they would be flat to slightly positive in 2021. However, the very large negative impact on the economy caused by COVID and the recession creates a need / desire for states to provide rate relief to employers. Frequency reduction provides additional pressure to reduce rates.
Expense Ratios	↑	Due to the very significant reduction in premium without an equivalent reduction in expenses, primary insurers expense ratios will increase dramatically in the short-term. Gradual improvement in expense ratios as the economy recovers and/or insurers cut expenses. The increased expense ratios will create pressure to increase reinsurance ceding commissions.
Loss Ratios	?	Generally, loss ratios decrease in the short-term for most recessions. However, due to the uniqueness of the COVID pandemic and the extensive uncertainties of the magnitude and duration, it is very difficult to predict the ultimate impact on the L/R. What will be the impact of the presumptive WC coverage laws on the L/R and the expected 2021 rate decreases? The current market consensus is a small decrease in the short-term (2020), with an increase in the longer-term if the recovery is prolonged.
Combined Ratios	↑	Combined ratios reflect the overall impact of all the recessionary factors. Dowling: "WC typically underperforms in any recessionary scenario, both top line and bottom line." For the COVID event, the expense ratio increase will almost certainly significantly exceed any small decrease in the L/R, in the short-term. However, the extent of the CR increase varies greatly, depending on the magnitude and length of the recession.

↑ Positive impact on portfolio ↓ Negative impact on portfolio → Neutral impact ? Impact uncertain

UNCERTAINTY

- Unprecedented times
- It will take time for it to fully play out
  - Subrogation
  - Delayed treatment
  - Return to ‘normal’
  - Working from home
  - Unknown long-term effects of COVID ie potential lung problems, etc
  - Telemedicine
  - Loss development
- Financial statement implications
- Resource drain
- Capital drain

SOLUTIONS

Protect and safeguard net volatility

To tackle confluence scenarios, reinsurance can address tail risk outside of COVID-19 related losses. This can include additional Cat purchases, Fac placements, and Special Lines. Reinsurance can help manage the firm's credibility by reducing surprise potential for stakeholders, and therefore protecting the firm's franchise value and optimising investors' and stakeholders' performance targets.

Support growth and capital management

Capital has become a precious commodity as insurers cope with the contraction of economies caused by the pandemic. Especially in times of uncertainty, the robustness, strength and resiliency of the balance sheet for insurers is critical. Reinsurance can support achieving rating capital targets, regulatory capital adequacy, or other capital management-related topics such as RoE optimisation.

Manage your legacy

One of the biggest drivers of volatility and capital consumption is unresolved non-life liabilities. There is a growing demand for transferring the underwriting uncertainty, the operational and capital burden implicit in these reserves through smart tailor-made retrospective reinsurance solutions.

Uniquely tailored and innovative solutions to achieve aspirations and overcome challenges.

Any questions?

Swiss Re

Thank you!

Contact us

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SVP
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