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COVID-19: Impact on the Industry




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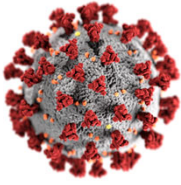

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COVID-19 Impacts


(excluding personal lines and workers' compensation)

- Direct insurance losses (e.g., event cancellation, business interruption in the UK)
- Indirect insurance losses (e.g., Cyber, Mortgage)
- Delay in claim settlements
- Remote work issues





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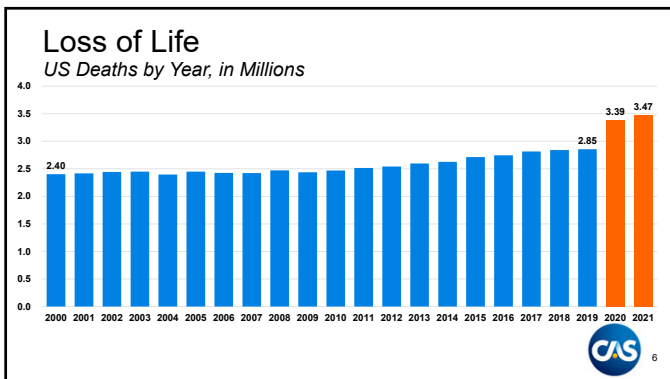
COVID-19 Background



- Loss of life
- Strain on healthcare system
- Strain on nursing home system
- Lockdown
 - In the US, many states had 2 lockdowns (ranging from 20 to 453 days)
 - England had 5 lockdowns
- Economic impacts



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Review of 10-Ks: COVID-19 Exposures

Company	Year-End 2020 COVID-19 Reserves (\$M)
AIG	\$1,093
AXIS	360
Berkshire Hathaway	964
Chubb	1,396
Cincinnati	85
CNA	195
Fairfax	669
Hartford	278
Hiscox	475
Markel	358

- Many companies had extended discussions of COVID-19 exposures at year-end 2020
- Some companies established significant reserves for COVID-19 at year-end 2020
- Typical coverages noted:
 - Event Cancellation
 - Business Interruption
 - Surety
 - Entertainment
 - Trade Credit




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Review of 10-Ks: COVID-19 Exposures

Company	Year-End 2021 COVID-19 Reserve Adjustments
AIG	N/A
AXIS	N/A
Berkshire Hathaway	N/A
Chubb	\$430M decrease
Cincinnati	\$7M decrease
CNA	N/A
Fairfax	\$55M increase
Hartford	\$31M increase
Hiscox	N/A
Markel	\$16M increase


- Companies in 2021 generally increased COVID-19 reserves slightly or reduced reserves



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COVID-19 Actuarial Method Adjustments

- Lagged LDFs for certain lines of business due to slowdown in court system, often in coverages where lawsuits are common (e.g., Medical Professional Liability)
- Removal of COVID-19 claims from data and analyzed separately from non-COVID-19 claims
 - For some coverages, a significant number of COVID-19 claims closed with no indemnity payment
- Adjusted a-priori loss ratios
 - For some coverages, loss experience was favorable and the initial a-priori was overstated (e.g. motor insurance), as such the a-priori was adjusted downward based on judgment
 - For other coverages, the initial a-priori was too low (e.g., short term illness) so the a-priori was increased



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UK COVID-19 BI Issues

- In the UK insurers have paid out \$1.8 billion for business interruption (BI) claims according to the Financial Conduct Authority
- On February 25, 2022, the UK High Court issued a friendly policyholder judgment that could result in significant additional COVID-19 BI property payments. The key issues are:
 - Coverage denial
 - If the policy limit applies to all premises combined or if there is a separate policy limit for each premise



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Impact on Entertainment

- Estimated losses of \$110 billion in 2020 for the entertainment and event insurance markets
- Insurance policy costs have risen 20% from pre-COVID-19 levels and virus-related exclusions now commonplace
- *Mission Impossible 7* held \$100 million production policy and now suing insurer seeking indemnity for full amount due to pandemic related production disruptions



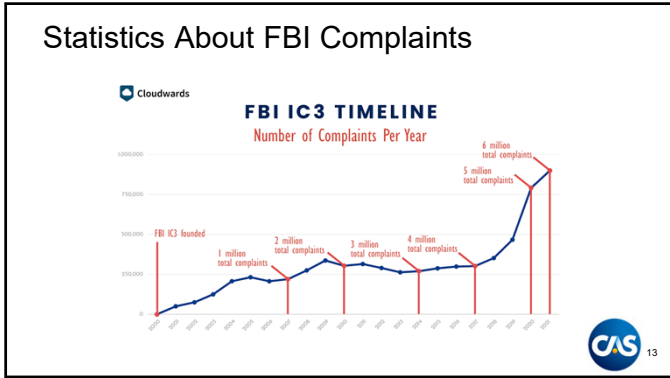
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Cyber Issues

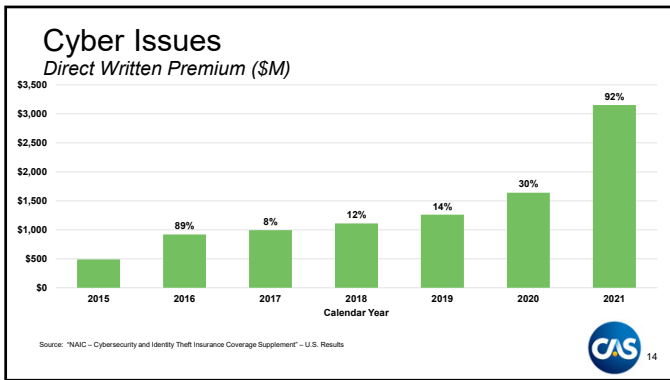
- According to Cloudwards the rate of cyber crime increased by 600% during the COVID-19 pandemic
- Work from home increased cyber incidents
 - *Cyber rates are the most prominent among anticipated commercial insurance rate changes as broker WTW said it expects rate increases of 100% to 200%*



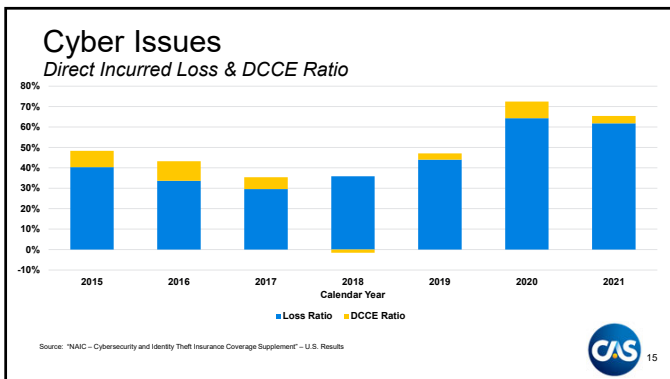
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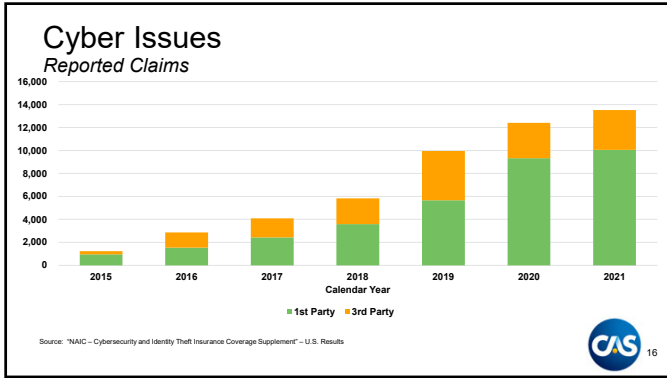
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Cyber Issues Incurred Loss Ratios

Lloyd's of London
Cyber
Evaluated as of December 31, 2021
Incurred Loss Ratios

U/W Year	12 Months of Development	Inception to Date @ 12/31/21	Implied Growth Factor
2017	5.5%	50.2%	9.2
2018	7.8%	62.8%	8.0
2019	14.1%	Est 120.0% *	
2020	19.4%	Est 165.0% *	

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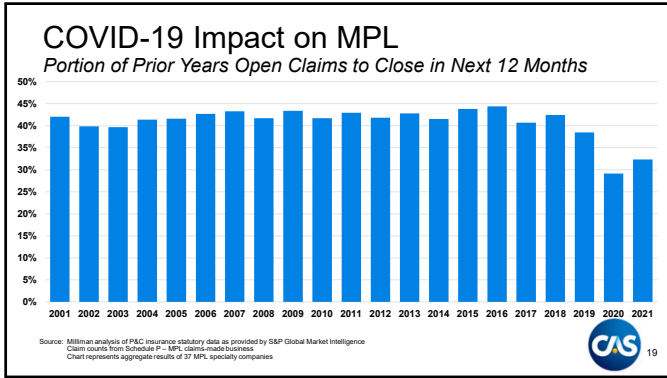
* Estimates reflect possible loss ratio if growth indicated by more mature underwriting years (2017 & 2018) repeats in 2019 & 2020.
Source: Loss ratios are based on 12/31/21 data from Lloyd's of London (from Xchanging).

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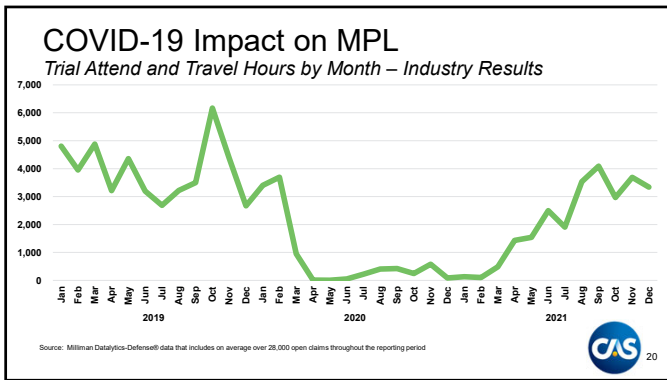
COVID-19 Has Caused Delay In The Courts

- Usually a correlation between the size of a claim and how long it takes to settle
- Will severity increase due to claim delays?

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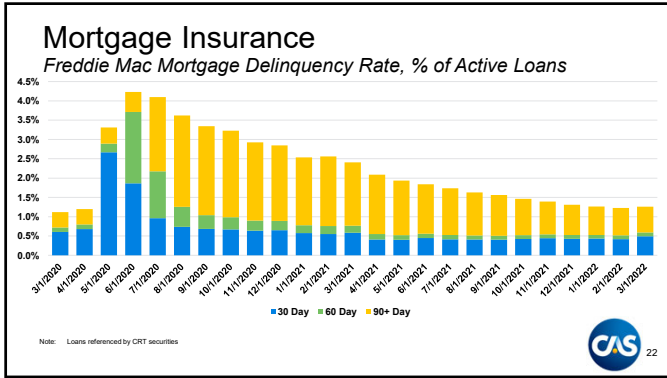
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Mortgage Insurance

- Fannie and Freddie Mortgage Deferral Program due to COVID-19:
 - Starting July 1, 2020 homeowners could have 6 months of loan payment forbearance (later extended to up to 18 months)
 - Missed payments are made up at the end of the loan period in a non-interest bearing lien on the property
 - This program caused an initial spike in delinquent loan payments which over the last 21 months has largely returned to pre-pandemic conditions
 - The missed payments are not insurance losses
- Mortgage Insurance Market is currently favorable:
 - Low interest rates over the past 2 years has resulted in significant refinancing activity – lower mortgage payments and record origination volume
 - Housing market is robust and higher home prices result in fewer insurance losses

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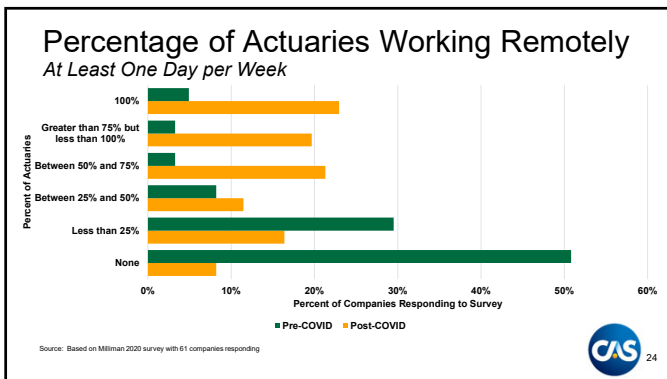
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Remote Working

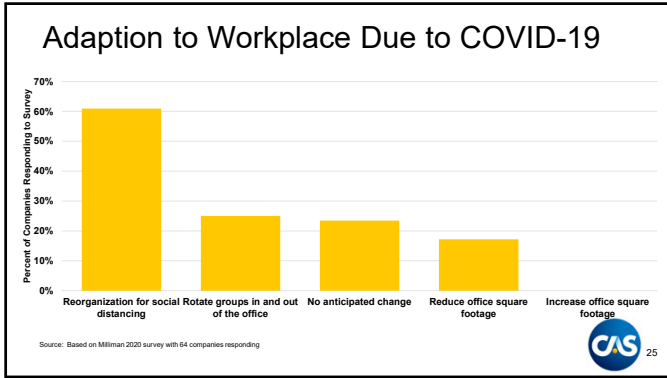
- Before COVID-19: working remotely was not common
- During COVID-19: remote work was obviously common for actuaries
- After COVID-19: many employees are expected to work remotely or hybrid

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Remote Working Has Several Challenges

- How do you best manage remote employees?
 - Mentoring
 - Career advancement
 - Discipline
 - Retention
- How do firms maintain a sense of culture?
- Stress issues (isolationism)
- Developing communication / interaction skills
- Work / life balance

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Background on Session


- Pandemic Impact on Insurance Sector
 - Direct – COVID claims
 - Varying impact by line of business

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Impacts


- Economic
 - Sharp increase in unemployment rate (+10 pts)
 - stay at home resulted dramatic reduction in driving generally and commuting in particular
- Regulatory
 - Pressure from state regulators led to premium returns in the form of cash refunds (dividends) and account credits
- Medical
 - Delay in nonessential medical treatments
 - Stress on essential medical professionals
- Legal
 - Shutdown of courts
 - Virtual platform resulted in delays
 - Presumption of WC benefits to injured workers



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Impacts


- Employers
 - Work from home restrictions
 - Health & safety protocols had to be overhauled to reflect new realities
 - Delay/cancellation of loss control/safety visits from insurance companies
 - Presumption of WC benefits to injured workers
- Employees
 - Injured workers more likely to settle
 - Focus on safety became paramount – both individually and loved ones
 - Requests for accommodations
 - Greater mobility led, in part, to Great Resignation



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Impact by LOB


- Personal Lines
 - Personal Auto
 - HMP
- Commercial Lines
 - CAL
 - CMP
 - GL, Products, Medical Professional Liability
 - WC
 - Cyber



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PPAL


- Impacts
 - Regulatory – pressure from state regulators led to a \$14B return of premium to policyholders in the form of cash refunds and account credits (~5% of premiums)
 - Premiums – fewer accidents led to drop in surcharge revenues
 - Exposure
 - Drop of 41%+ in miles traveled in April 2020 compared to April 2019
 - Traveling at different times led to substantial change in rush hour
 - Speeding increased



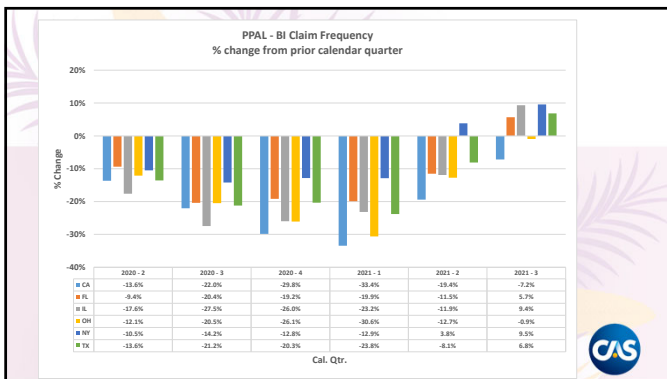
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PPAL

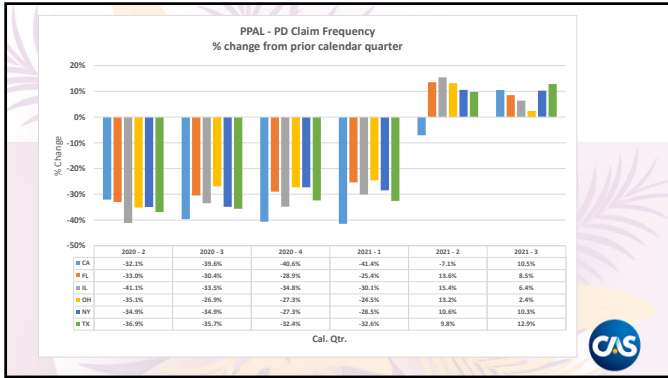
- Claim Frequency
 - 30 – 34% reduction in accident rate (i.e., PD frequency)
 - 22 – 25% reduction in BI claim frequency
 - Consistency by state
 - Distracted Driving
- Claim Severity
 - Speeding increased by 10%
 - more severe accidents
 - higher fatality rates



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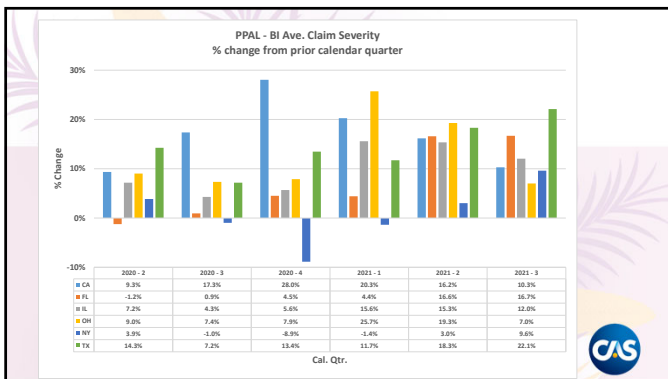


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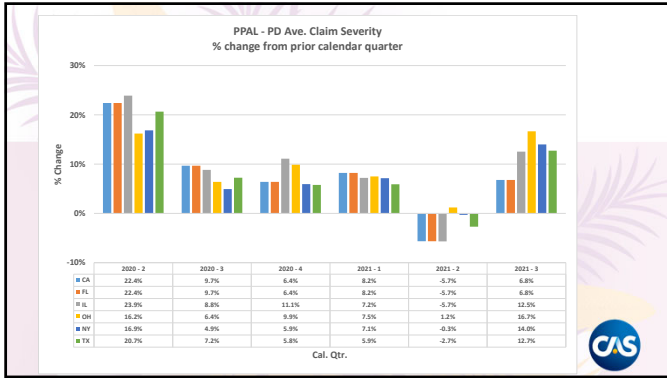
PPAL

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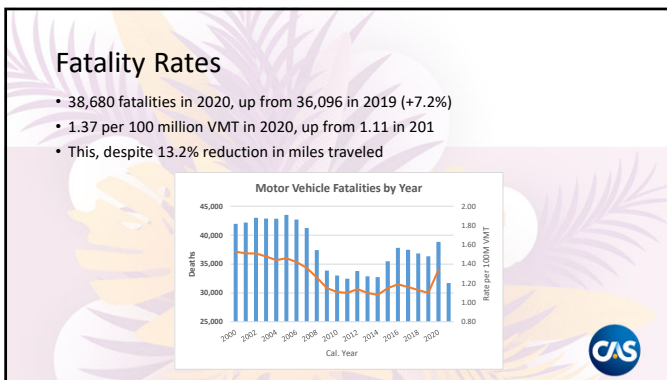
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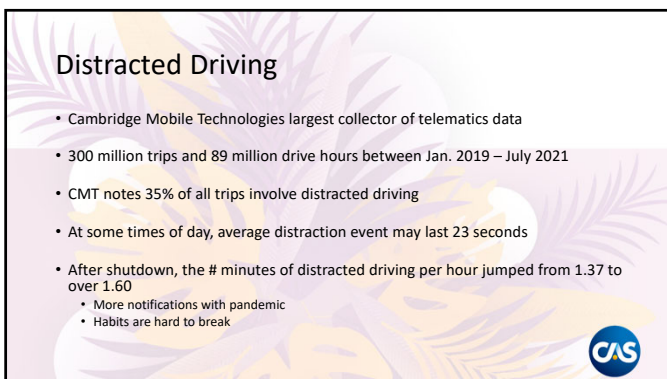
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Profitability

- Rates of Return On Net Worth Total Personal Auto

Cal. Year	NAIC Personal Auto	Fortune All-Industry
2011	4.8%	14.3%
2012	4.5%	13.4%
2013	4.6%	16.6%
2014	3.6%	14.3%
2015	2.1%	12.7%
2016	0.8%	13.1%
2017	3.4%	13.9%
2018	7.6%	15.4%
2019	6.9%	14.2%
2020	10.2%	10.3%
2021		

Source: NAIC Profitability Report by Line by State




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HMP

- Impact of pandemic not as clear
- Uneven infections and vaccination rates by state
- CATS much more of an impact than COVID
- Acceleration in home values driving up premiums

Quarter Ending	Freq	Ave. Claim Severity	Loss Cost	% Change from prior calendar quarter			CAT * as % of non-CAT Losses
				Freq	Claim Severity	Loss Cost	
2019 - 1	4.86	15,486	753	-0.4%	-1.7%	-2.0%	69.9%
2019 - 2	6.55	12,549	822	3.5%	6.1%	9.9%	66.3%
2019 - 3	7.16	12,242	876	2.1%	2.1%	4.2%	66.0%
2019 - 4	4.86	13,544	658	-19.0%	-15.9%	-32.0%	40.0%
2020 - 1	3.99	14,640	584	-17.9%	-5.5%	-22.5%	30.4%
2020 - 2	6.75	12,433	839	3.1%	-0.9%	2.0%	93.1%
2020 - 3	8.65	9,203	796	20.8%	-24.8%	-9.2%	56.0%
2020 - 4	6.14	15,888	975	26.3%	17.3%	48.3%	99.7%
2021 - 1	5.39	14,349	773	35.1%	-2.0%	32.4%	67.4%
2021 - 2	6.16	14,251	878	-8.7%	14.6%	4.7%	75.4%
2021 - 3	6.56	14,534	953	-24.2%	57.9%	19.8%	77.2%


* Note: LT average CAT as % of non-CAT losses = 75%



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HMP

- WFH driving up usage of second homes
- Need for office space
- Competition for bandwidth
- Greater strain on utilities (especially electric)
- Likely result in more HMP claims, but there will be delays before such claims are realized and/or reported




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HMP Profitability

Cal. Year	HMP	Fortune All-Industry
2011	-8.1%	14.3%
2012	2.6%	13.4%
2013	10.7%	16.6%
2014	8.5%	14.3%
2015	9.8%	12.7%
2016	8.0%	13.1%
2017	0.1%	13.9%
2018	2.5%	15.4%
2019	6.6%	14.2%
2020	0.1%	10.3%
2021		

Source: NAIC Profitability Report by Line by State




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CAL

- Some benefit to profitability from pandemic
- May be more due to rate action
- Impact of pandemic very uneven by sector
 - LH trucking – foodstuffs vs. general freight
 - Taxi / livery / rental cars
 - Artisan contractors
 - Delivery services
- Bigger issue relates to rising claim severities
 - Nuclear verdicts

Cal. Year	NAIC Comm. Auto	Fortune All-Industry
2011	5.1%	14.3%
2012	2.9%	13.4%
2013	3.1%	16.6%
2014	4.0%	14.3%
2015	1.6%	12.7%
2016	0.6%	13.1%
2017	0.7%	13.9%
2018	2.0%	15.4%
2019	1.6%	14.2%
2020	4.6%	10.3%
2021		

Source: NAIC Profitability Report by Line by State




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CMP

- Many bars, taverns, small business had to close their doors
- Initial concern was exposure to BI claims
- Several courts consistently upheld the pandemic exclusion in policy language
- Pandemic Risk Insurance Act of 2021 introduced but has not progressed

Cal. Year	CMP	Fortune All-Industry
2011	0.6%	14.3%
2012	3.2%	13.4%
2013	6.8%	16.6%
2014	5.7%	14.3%
2015	7.7%	12.7%
2016	4.3%	13.1%
2017	2.2%	13.9%
2018	3.0%	15.4%
2019	4.0%	14.2%
2020	1.0%	10.3%
2021		

Source: NAIC Profitability Report by Line by State




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GL, Products & MPL

- Arguably, pandemic has less of an impact on rates of return on net worth for these lines of business

Cal. Year	Other Liability	Products Liability	Medical Prof. Liab.
2011	9.2%	0.1%	12.0%
2012	7.1%	8.6%	10.2%
2013	8.6%	0.1%	11.1%
2014	8.6%	2.2%	8.7%
2015	6.5%	3.5%	6.9%
2016	3.3%	3.9%	5.8%
2017	6.5%	6.6%	6.6%
2018	7.4%	4.0%	6.6%
2019	5.8%	6.9%	4.6%
2020	4.8%	8.5%	3.5%
2021			


Source: NAIC Profitability Report by Line by State



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WC System Impact

- Stay at home restrictions may limit impact ability to report claims
- Delayed medical treatment associated with higher burden on healthcare workers may exacerbate claim severities (e.g., inability to obtain physical therapy)
- Greater use of telemedicine
- Court closures result in significant delay in adjudication of claims
- Delays may impact claimant's desire to settle
- Increasing unemployment makes return to work more difficult
- Extension of WC benefits to personal automobiles used in delivery services
- Rebuttable presumption laws and executive actions
- Premium rebates / discounts
- Reductions in claims staffing / impact of changes in case reserve adequacy



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WC

- Economic downturn associated with pandemic led to substantial reductions in claim frequency

Change in WC Claim Frequency - CA
2019Q2 - 2020 Q2

Type of Claim	Non-COVID	All Claims	States
All	-32% to -35%	-27% to -29%	SC, TX, MS, LA, VA, KS
Lost Time only		-14% to -16%	FL, NC, IA, CA, AZ, GA, IN
		-5% to +4%	NM, DE, CT, NJ, MI, MA
		+38% +	


- Impact of pandemic uneven by sector
 - Largest reductions in clerical/professional (-57%)
 - Average reductions in high risk services (-35%)
 - Smaller reductions in construction/trade (-25%)



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WC Claim Frequency

- COVID claims concentrated in service industries (assisted living facilities, hospitals, physician/dentist offices)
- Variations by state impacted by at least 3 important variables
 - Impact of economic downturn vis-à-vis industries in the jurisdiction
 - Severity of pandemic (MA, NJ and MI hardest hit early on)
 - Rebuttable presumption laws and/or executive orders
- High risk services accounted for 2/3 of COVID claims in 2020Q2 – especially healthcare workers




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Cyber

- Pandemic and work from home restrictions had an enormous impact on cyber liability
- Ransomware emerged largely due to explosion of new avenues to hack into company systems via remote desktop protocols (RDP)
- Led to strengthened underwriting guidelines, lower limits and 100%+ rate increases
- Policy renewal dependent on evidence of:


Multi-factor authentication	Scanning/filters for malicious email
Regular patches for network vulnerabilities	Authentication of inbound emails
Regularly maintained backups offsite/cloud	Remote Desktop Protocols
All operating systems run on local networks	Encryption
	Administrative Privileges



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Information Sources

- NAIC
- ISO/NAII/NISS Fast Track Data
- Special Studies
- AAA Issue Briefs / COPLFR Document on Financial Reporting Issues
- Auto Insurance Report
- National Highway & Traffic Safety Administration (NHTSA)
- Aon Cyber Market Update
- WCIRB
- WCRI



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