



**CS25: The COVID Year:
Key Pandemic Topics for 2021 and Beyond**

SEMINAR ON REINSURANCE

JUNE 8–9, 2021 • VIRTUAL EVENT

CS25: The COVID Year: Key Pandemic Topics for 2021 and Beyond

CARe Seminar, June 8-9, 2021 – Virtual Event

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CS25: Agenda

- **Introduction – John**
- **US Industry Perspective - Chris**
 - Update on Industry Losses
 - Deep Dive into WC
 - Possible COVID impacts on development patterns
- **UK Industry Perspective - Alex**
 - Market loss impacts and class of business view
 - FCA Test Case and Business Interruption considerations for insurers and reinsurers
 - Economic impacts and exposed classes
- **Q&A 10 mins**



The COVID Year: Key Pandemic Topics for 2021 and Beyond

- COVID 19 and the pandemic has been a major issue for both the insurance and reinsurance industry. Lines of business have been impacted both positively and negatively from the deadly impact of the virus, the lack of economic activity and the stay at home activities of the world.
- Many lines of insurance were directly impacted by the effects of the pandemic including lines such as credit, mortgage, business interruption and first responders workers compensation to name a few. The impacts have been unique in the United States as well as the London Market.
- This panel will provide perspective for the reinsurance market from both a US and London Market viewpoint.



Intro poll – who do we have in the session

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polling tool

- US/Bermuda/London/international
- Insurer / reinsurer / consultant / broker / other
- Reserving / pricing / capital / ERM / other



COVID Intro

John



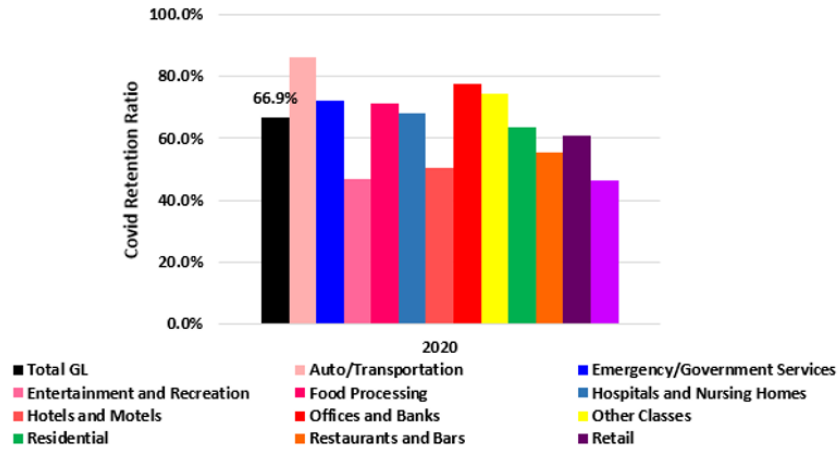
Impact of Covid on 2020 Reported Losses – GL Classes, Ground-up and XS 25k

Illustrative

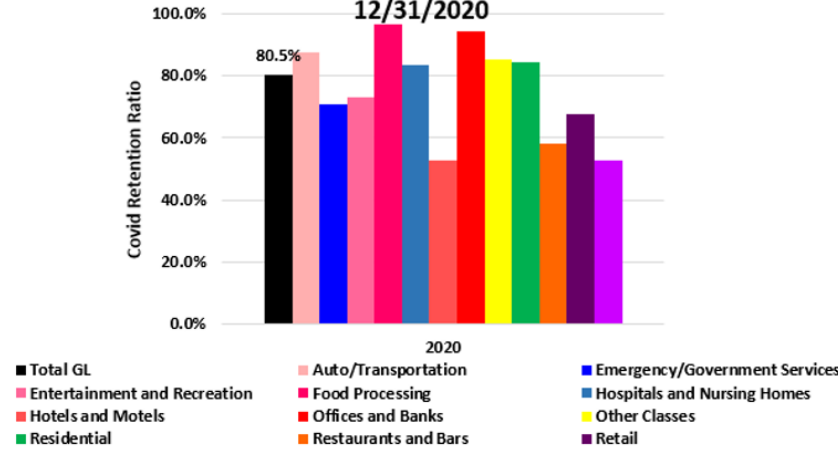
For all claim sizes thru 12/31/2020, # incurred claims and \$ incurred indemnity fell 33% and 23%, respectively. Entertainment and Recreation, Hotels and Motels, Restaurants and Bars, and Schools fell the most (about 50% in 2020). Food processing had an increase in \$ incurred.

Larger claim sizes ($\geq 25K$), saw less of a decline than total claims (20% and 17% respectively for incurred claims and indemnity). The same 4 class groups saw the biggest drop-off, with food processing being the outlier.

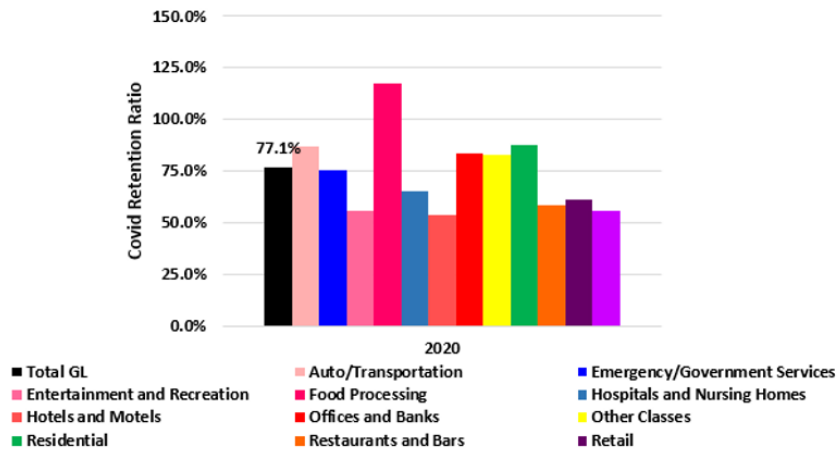
SOLM AQRQ - GL - Incurred Claim Count (I+A) - 12/31/2020



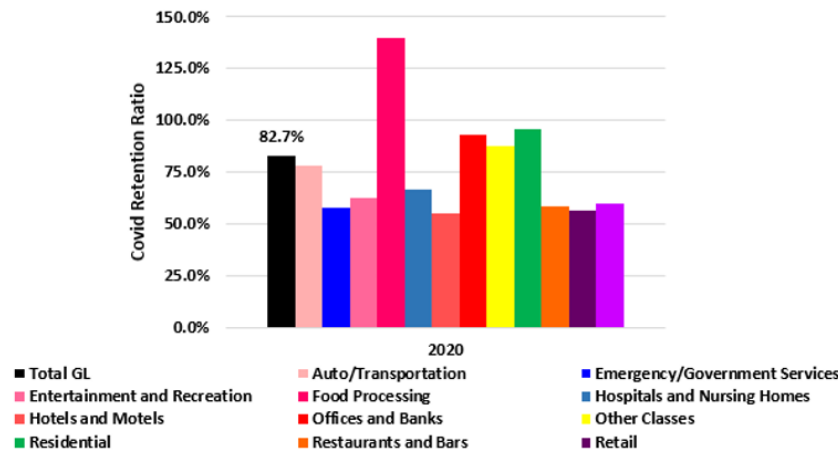
SOLM AQRQ - GL - Incurred Claim Count (I+A) - 25k - 12/31/2020



SOLM AQRQ - GL - Incurred Indemnity- 12/31/2020

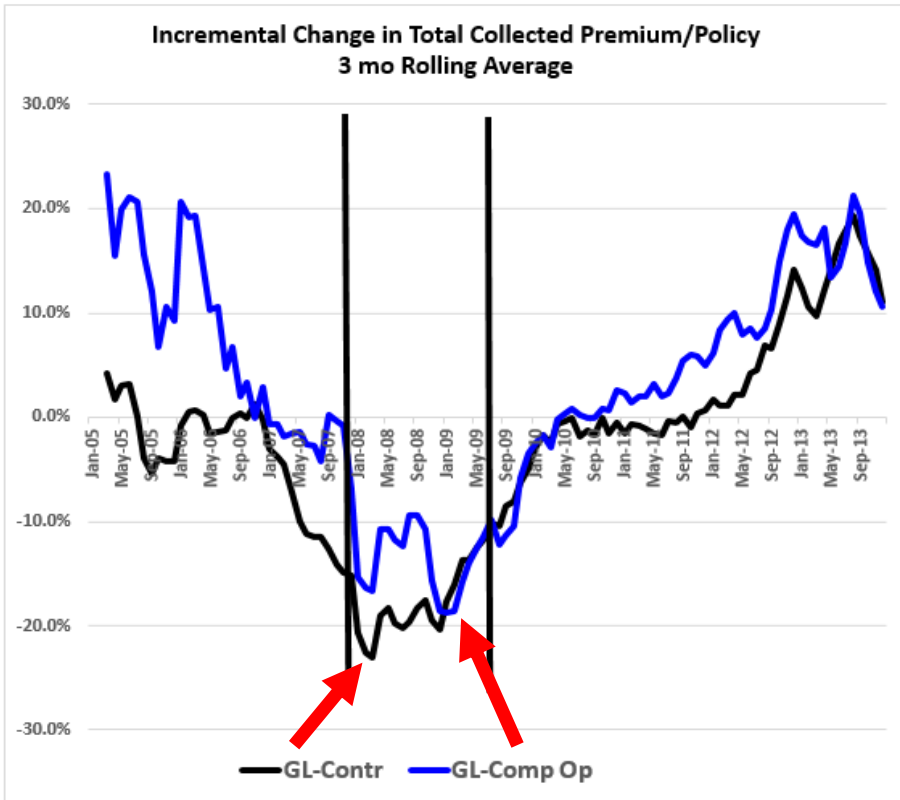


SOLM AQRQ - GL - Incurred Indemnity - 25k - 12/31/2020



Prior Shock Events Analysis – Great Recession Analyzing Premium Declines

Illustrative



Source: ISO MarketWatch Dashboard (removal of floors / ceilings) - Method 2

ISO MarketWatch LOB/Market	Dates					Drop/Recovery Metrics			
	Initial Premium Drop	Trough	GR Start to Trough	Trough to Flat (0%)	Additional to Full Rebound	Drop to Trough	Total Drop to Flat	Total Premium (B)	
GL-Contractors	12/1/2006	3/1/2008	3 Months	27 Months	24 Months	-16.6%	-36.7%	16.8	
GL-Completed Ops	2/1/2007	1/1/2009	13 Months	15 Months	16 Months	-18.0%	-25.7%	7.6	
GL-Manufacturers	11/1/2006	12/1/2008	12 Months	22 Months	14 Months	-14.5%	-23.1%	5.6	
CRR - GL+CAu	4/1/2008	2/1/2009	14 Months	17 Months	10 Months	-10.5%	-13.3%	33.3	
D&O	7/1/2006	11/1/2009	23 Months	10 Months	21 Months	-40.4%	-45.6%	15.2	
D&O For Profit	4/1/2006	11/1/2009	23 Months	10 Months	25 Months	-50.5%	-55.1%	13.2	
CAu-TTT	11/1/2006	9/1/2009	21 Months	13 Months	2 Months	-17.5%	-23.0%	37.0	
CAu-Misc	4/1/2007	6/1/2008	6 Months	29 Months	11 Months	-34.6%	-48.7%	10.0	
BOP	5/1/2006	1/1/2010	25 Months	9 Months	13 Months	-19.7%	-20.1%	36.6	
BOP-Indiv Prem Cont	2/1/2007	8/1/2010	31 Months	4 Months	66 Months	-16.4%	-19.4%	6.8	
BOP-Liability Payroll	2/1/2006	12/1/2008	12 Months	24 Months	24 Months	-14.5%	-24.7%	2.1	
Comm'l Inland Marine	6/1/2007	8/1/2009	20 Months	11 Months	18 Months	-33.8%	-38.3%	42.4	
Average Reviewed (12)	4/1/2007	2/1/2009	14 Months	19 Months	13 Months	-15.3%	-25.4%	204.5	
LOB Weighted Average	2/8/2007	5/25/2009	17 Months	14 Months	13 Months	-22.5%	-28.2%		
Cumulative from start GR:			17 Months	32 Months	45 Months				
Dow Jones	10/1/2007	2/1/2009	14 Months	15 Months	32 Months	-49.3%			
Unemployment	3/1/2007	11/1/2009	23 Months	43 Months	43 Months	110.6%			
Housing Prices	1/1/2007	1/1/2009	13 Months	34 Months	13 Months	-20.2%			
Great Recession Dates		Start	End						
		12/1/2007	6/1/2009						

Note: Great Recession defined as the time period from December 2007 to June 2009, starting with the crash of the housing market and ending when the stimulus packages were passed

Leading indicators of treasury yields, consumer confidence, housing prices, and building permits all indicated that the economy was declining at least a year before the official start of the recession.

Initial premium drop date is when total collected premium per policy started declining

Full rebound to cover loss trend = 3-4%

Dow Jones went from 13,930 to 7,063; Unemployment went from 4.4% to 10.0%;

Housing Prices went from \$320,100 to \$257,000

Recovery metrics estimated using monthly impacts from annual rolled up MWDB (area between x-axis and pricing curve)

Total Markets Analyzed above (12 of 72) represents about 25% of the total premium (855.2B) analyzed during that period



COVID US Industry Perspective

Chris



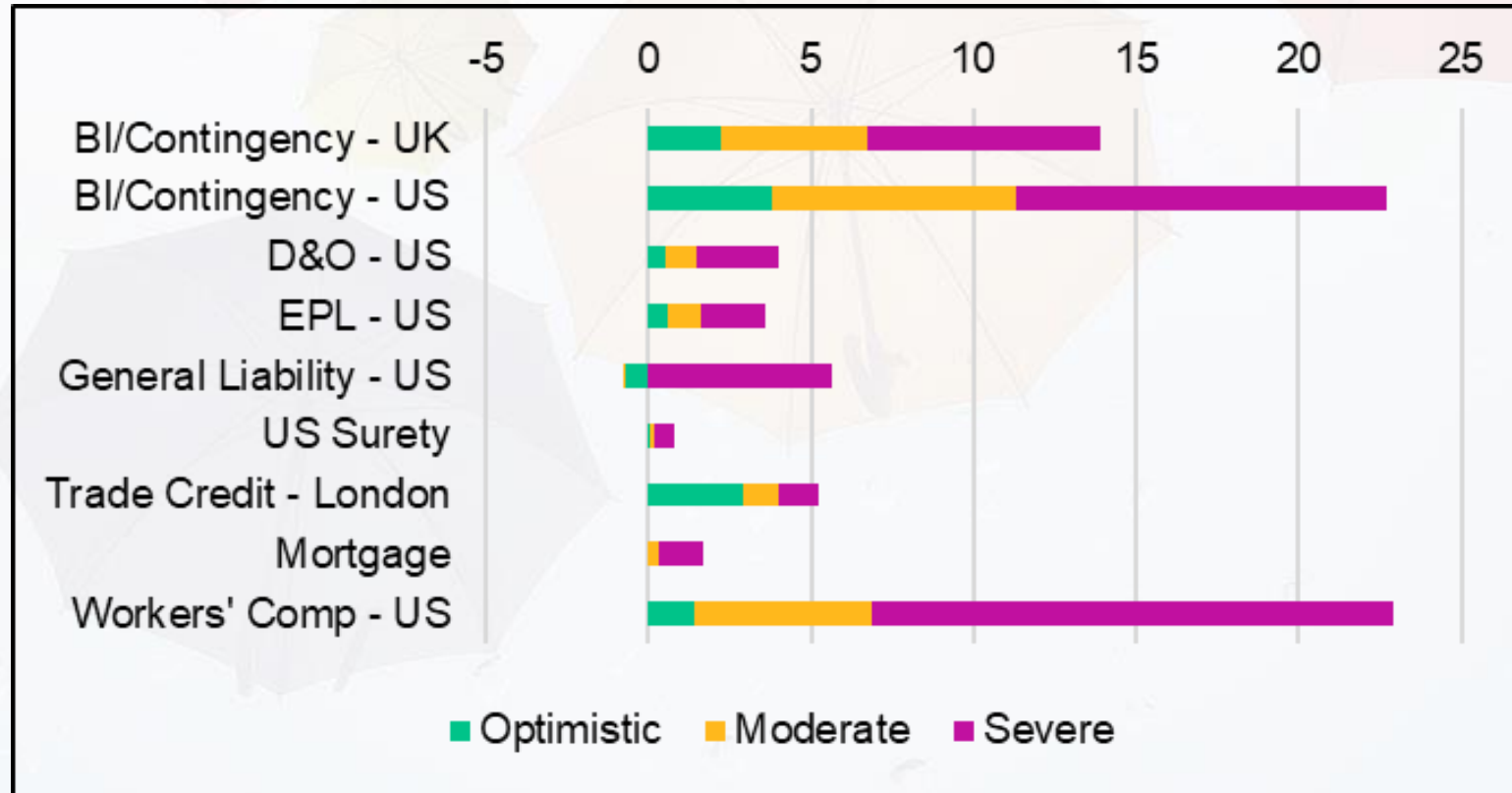
Discussion Topics

- Update on Industry Losses
- Deep Dive into WC
- Possible COVID impacts on development patterns



Willis Towers Watson Original Estimated COVID-19 Impacts from April 2020

- US, UK, London Market Estimates - \$bn



From "Scenario Analysis of COVID-19 pandemic" – May 1, 2020. Includes net effect of offsetting improvements on loss ratio



Reassessment of Losses

Directional change in views from initial assessment

Line of Business	Key Drivers of COVID-19 impacts	Current Assessment	Directional impact
Property / BI	Policy wordings, coverage trigger, # of occurrences (for reinsurance purposes)	FCA case in UK has led to more coverage than originally expected. Mixed court cases in US, but trending favorably. More potential exposure exists where virus exclusion not used.	Neutral overall, expect to be better in US.
Liability	Propensity to sue	Immunity for nursing homes in some states, limited COVID litigation to date. Reduction in frequencies on premises exposures more significant than premium reductions.	Still too early to tell, but looks positive, should see favorable impact on AY 2020 loss ratio.
Workers Comp	Fatalities of essential workers, long term health impacts of survivors, compensability of claims, potential for PTSD claims from healthcare workers.	WTW estimated industry loss & ALAE from COVID related claims for AY 2020 = \$6.8 billion , including self insured amounts (excluding potential mental health claims). Non-COVID claims frequency improvements but higher proportion of lost time claims. Premiums reduced due to payroll decreases.	Overall closer to optimistic scenario, perhaps loss ratio neutral overall



Reassessment of Losses

Directional change in views from initial assessment

Line of Business	Key Drivers of COVID-19 impacts	Key Developments subsequent to whitepaper	Directional impact
D&O	Equity market volatility, insolvencies, nature of disclosures	<p>Equity market recovery, SCAs in first 2020 below market averages.</p> <ul style="list-style-type: none"> • 24 COVID related SCAs in 2020 • 8 COVID related SCAs in 2021 	<ul style="list-style-type: none"> ▪ More positive than expected, tracking in line with optimistic scenario ▪ Single digit loss ratio impact expected on AY 2020 ▪ Exposure continues into 2021 as companies make disclosures about return to normal
Trade credit	Insolvencies	<p>Government backstops in Europe</p> <ul style="list-style-type: none"> ▪ These backstops mitigate downside for insurers and reinsurers, but premium payments will increase loss ratios 	<ul style="list-style-type: none"> ▪ Not seeing a lot of losses coming through ▪ Impact of premium payments to government backstops increasing loss ratios by approximately 30 points.
Mortgage	Unemployment, property prices	<ul style="list-style-type: none"> • Home prices have generally increased • Strong rebound in employment in US • Forbearance has led to more delinquencies but high cure rate expected 	<ul style="list-style-type: none"> ▪ Positive, may be a non-event for mortgage



Issues for reinsurers

- **Most losses to date coming from Business Interruption and Contingency**
 - For BI, significant challenges with quantification due to lack of detailed cedant advices, lack of catastrophe models, uncertainties around aggregation and other coverage issues.
 - Market share approaches recommended
 - Ranges of reasonable results are very wide
- **WC catastrophe**
 - Potential exists for losses depending on contractual language on aggregation
- **Clash covers**
 - Not seeing significant claims in market, but there is always a potential for losses to come through
- **Impact of social distancing/economic slowdown**
 - Has caused frequency reductions in many lines, but there are some offsetting severity trends
 - Less favorable impact to excess layers than primary layers



Modeling Industry COVID WC claims

- **General Approach**

- Infection and fatality data by state and month, using IHME data
- Adjust statistics to working age population
- Assumptions made regarding propensity to file by severity of illness, as well as compensability assumptions by state and category of worker – calibrated to available sources of frequency data
- Severities vary by mild, moderate, severe and death, with allowance made for long term health impacts of some survivors
- No allowance for mental health claims (e.g., PTSD for healthcare workers) – recommend stress testing approach to understand potential claims

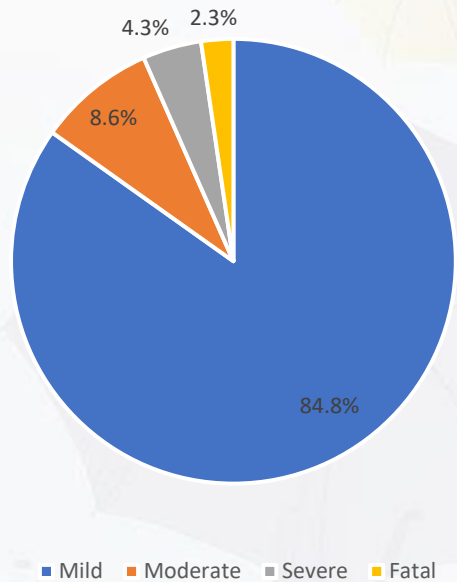
- **Result is expected ultimates of \$6.8 billion for AY 2020 (includes self insured amounts)**

- AY 2021 can be projected using same framework - vaccine impacts need to be layered in by worker category

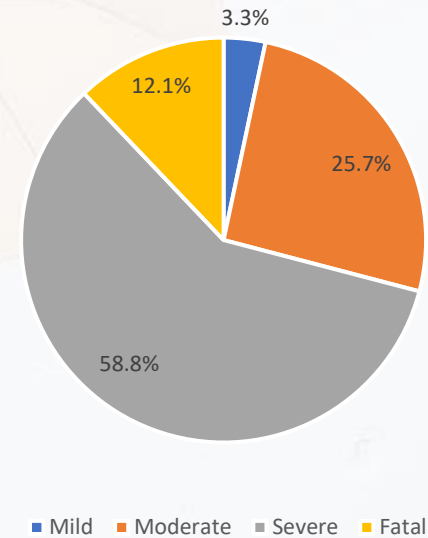


Modeling COVID WC claims

Projected Distribution of AY 20 counts with payment



Proportion of Ultimate Claim Costs by Infection Severity

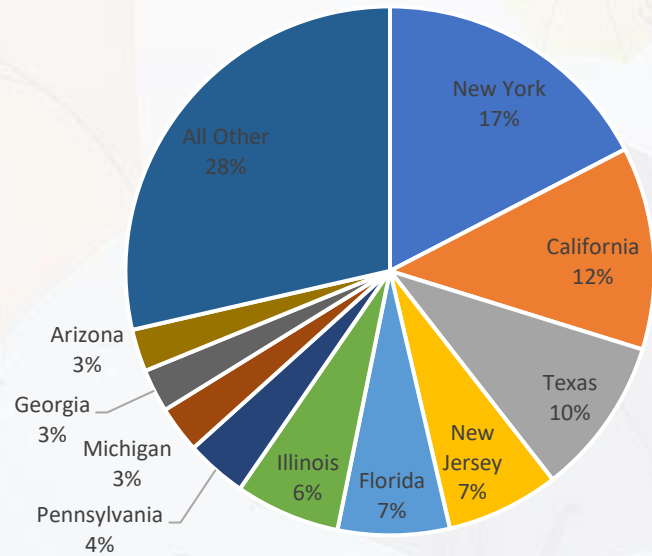


Severe infections account for the majority of the projected ultimate losses. Significant unknowns remain regarding ultimate severity for these claims.

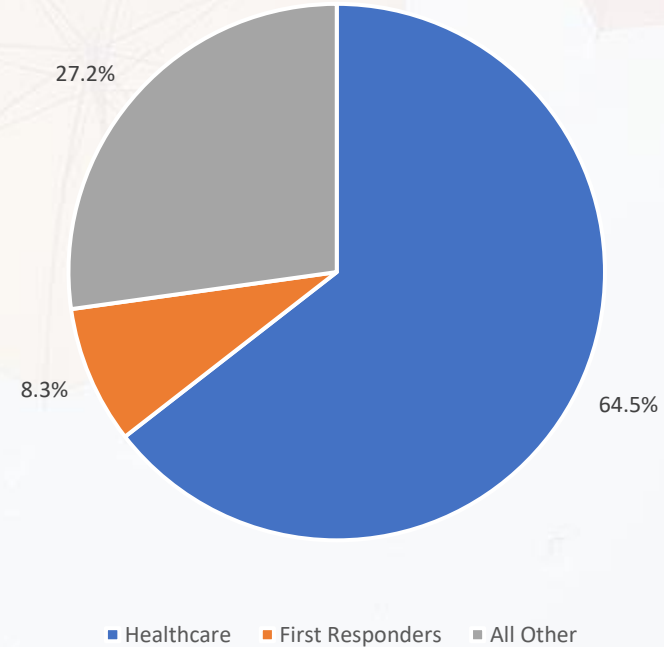


Modeling COVID WC claims

Projected Ultimate AY 2020 COVID WC Claim Costs



Total AY 2020 Claim Costs by Type of Worker



As expected, the majority of the claims are expected from healthcare workers



Has COVID distorted loss development patterns?

- **Examples of possible issues**
 - Temporary court closures, slowing down resolution of liability claims and adjudication of WC claims
 - Delays in access to care for WC claimants and bodily injury claimants
 - Operational issues due to shift to WFH model – not expected to be significant
 - For auto lines, more attention paid to resolving older cases as new case inventory drops
 - Increase in settlements of existing claims
 - For AY 2020, changes in average accident date for some lines due to non-uniform exposure throughout year, as well as changes in mix of types of claims
- **This is an issue for reserving and pricing actuaries right now**
- **Look at publicly available Schedule P data offers some initial insights**
 - We looked for calendar year diagonal effects by reviewing residuals
 - For industry data, we compared factors on the last diagonal to volume weighted average of the prior 3 periods



COVID-19 Development Impacts on Industry Schedule P Data – last diagonal vs prior 3

Schedule P Segment	Reported	Paid
Commercial Auto	Measurably lower than expected	Measurably lower than expected
Other Liability (Claims-Made)	Minimal impact	Measurably higher than expected
Other Liability (Occurrence)	Significantly lower than expected	Significantly lower than expected
Workers Compensation	Minimal impact	Significantly lower than expected

Based on cohort of companies representing 25 largest in each line (excluding AIG)



Has COVID distorted loss development patterns?

Other Liability Occurrence – Reported Loss & DCC A v E

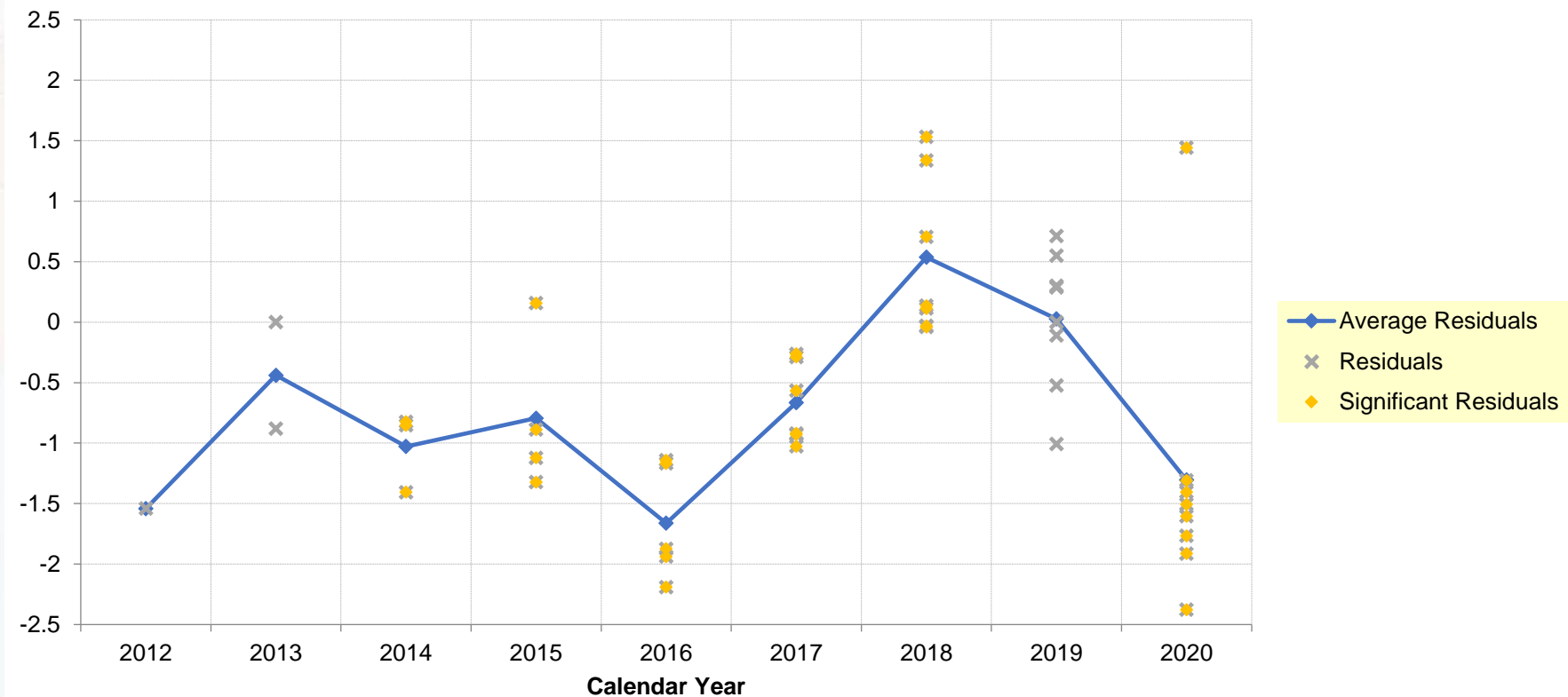
Accident Year	Actual	Expected	Difference	%
2012	170,570	155,435	15,135	10%
2013	236,933	274,758	(37,825)	-14%
2014	324,185	420,686	(96,501)	-23%
2015	643,091	803,513	(160,422)	-20%
2016	1,082,481	1,343,692	(261,211)	-19%
2017	1,529,591	2,236,604	(707,013)	-32%
2018	2,945,945	3,068,574	(122,629)	-4%
2019	3,487,171	4,234,661	(747,490)	-18%
Total	10,419,967	12,537,922	(2,117,955)	-17%

Expected based on vol 3 excl latest diagonal link ratio x 12/19 diagonal



Has COVID distorted loss development patterns?

Other Liability Occurrence Reported Residuals (based on Volume 3 excluding latest as selection)



Each residual is scaled using the factor $\frac{\sqrt{D_{w,d}}}{\alpha_d}$, where $D_{w,d}$ is the cumulative loss at accident year w , column d , and α_d is Mack's alpha value for column d . For more information on Mack's alpha, see Thomas Mack: Distribution-free calculation of the standard error of chain ladder reserve estimates. *ASTIN Bulletin: The Journal of the IAA*, 23(2):213–225, 1993



Has COVID distorted loss development patterns?

Workers Compensation – Paid Loss & DCC A v E

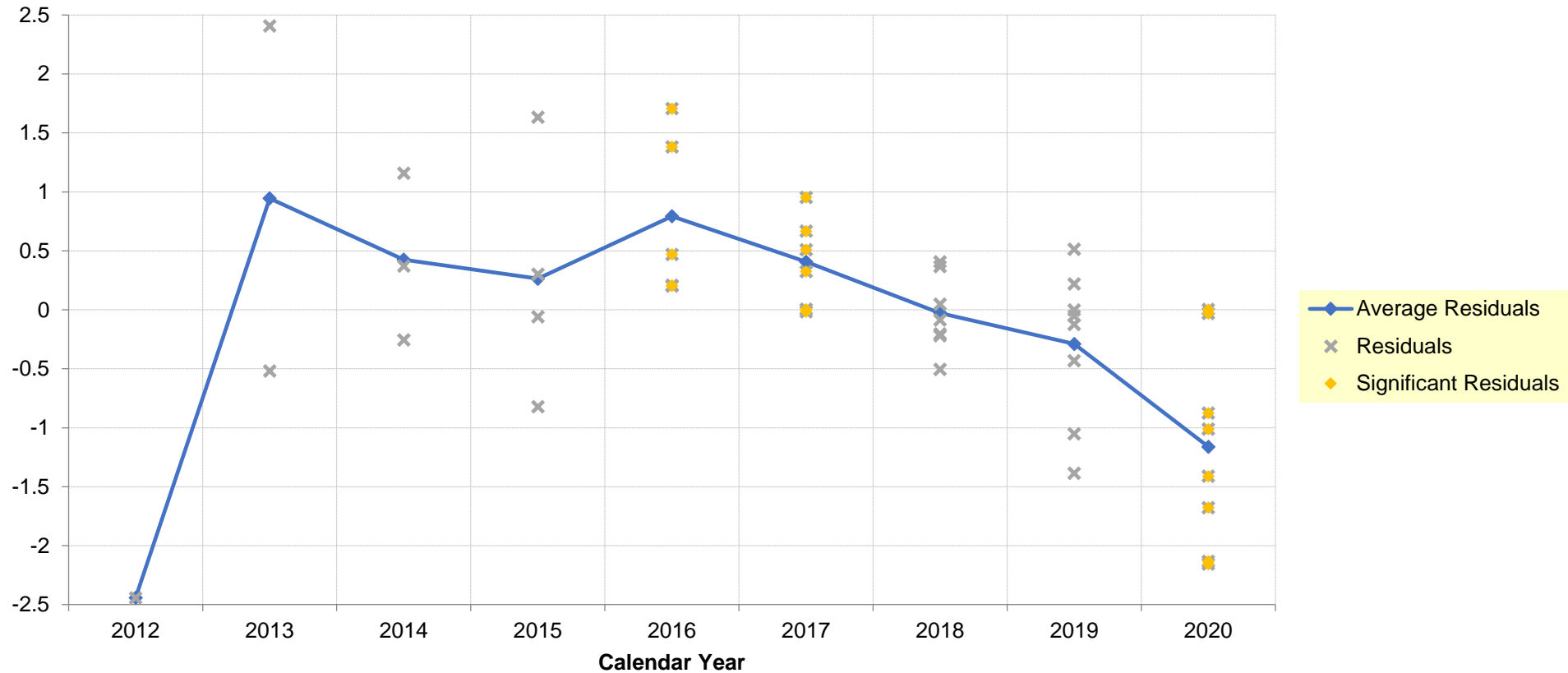
Accident Year	Actual	Expected	Difference	%
2012	217,367	243,481	(26,114)	-11%
2013	269,341	304,547	(35,206)	-12%
2014	370,790	373,135	(2,345)	-1%
2015	511,838	511,640	198	0%
2016	746,389	806,850	(60,461)	-7%
2017	1,215,448	1,407,089	(191,641)	-14%
2018	2,483,337	2,537,218	(53,881)	-2%
2019	4,503,059	4,813,485	(310,426)	-6%
Total	10,317,569	10,997,446	(679,877)	-6%

Expected based on vol 3 excl latest diagonal link ratio x 12/19 diagonal



Has COVID distorted loss development patterns?

WC paid residuals (based on Volume 3 excluding latest as selection)



Each residual is scaled using the factor $\frac{\sqrt{D_{w,d}}}{\alpha_d}$, where $D_{w,d}$ is the cumulative loss at accident year w , column d , and α_d is Mack's alpha value for column d . For more information on Mack's alpha, see Thomas Mack: Distribution-free calculation of the standard error of chain ladder reserve estimates. *ASTIN Bulletin: The Journal of the IAA*, 23(2):213–225, 1993



Possible solutions to pattern changes

- **How to reflect in analysis**
 - Less weight to paid methods
 - Lag development patterns
 - Slower movement to B-F from Expected Loss method for more recent years
- **Specific Considerations for Reinsurers**
 - Slowdowns for excess casualty may be more significant than primary casualty
 - Need to understand issues at cedant level – review cedant development experience
- **Ongoing issues**
 - Is this just a timing issue or will ultimates be impacted?
 - Prejudgment interest
 - Deterioration in medical conditions of claimants
 - Will some costs come out of system?(e.g., telemedicine impact on WC costs)



COVID UK Industry Perspective

Alex



Discussion Topics

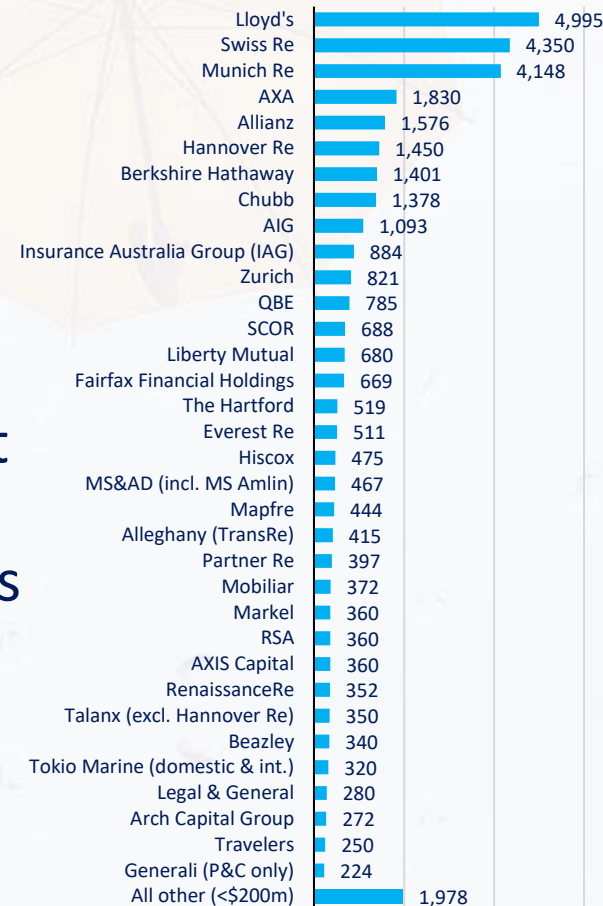
- Market loss impacts and class of business view
- FCA Test Case and Business Interruption considerations for insurers and reinsurers
- Economic impacts and exposed classes
- What next?



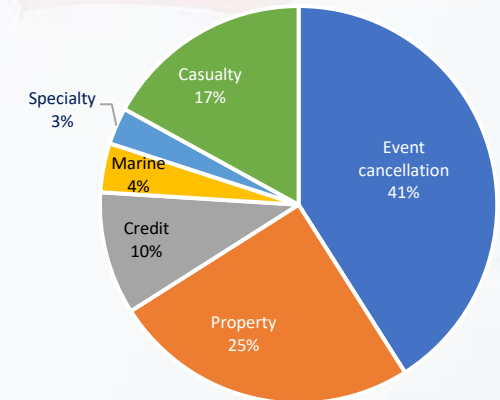
London & Specialty Market Covid impacts

- Largest direct losses in Contingency / Event Cancellation and Property BI
- Key uncertainties at YE20 – Property BI and reinsurance impact, validity of reinsurance recovery assumptions, length and impact of future lockdowns
- Impact on reinsurers – knock-on impact of FCA Test Case, aggregation of exposures, exposure to legal precedents in other jurisdictions and the systemic nature of the risk

COVID net loss & reserves estimate (\$m)



Distribution of Lloyd's COVID-19 loss by class (HY 2020)



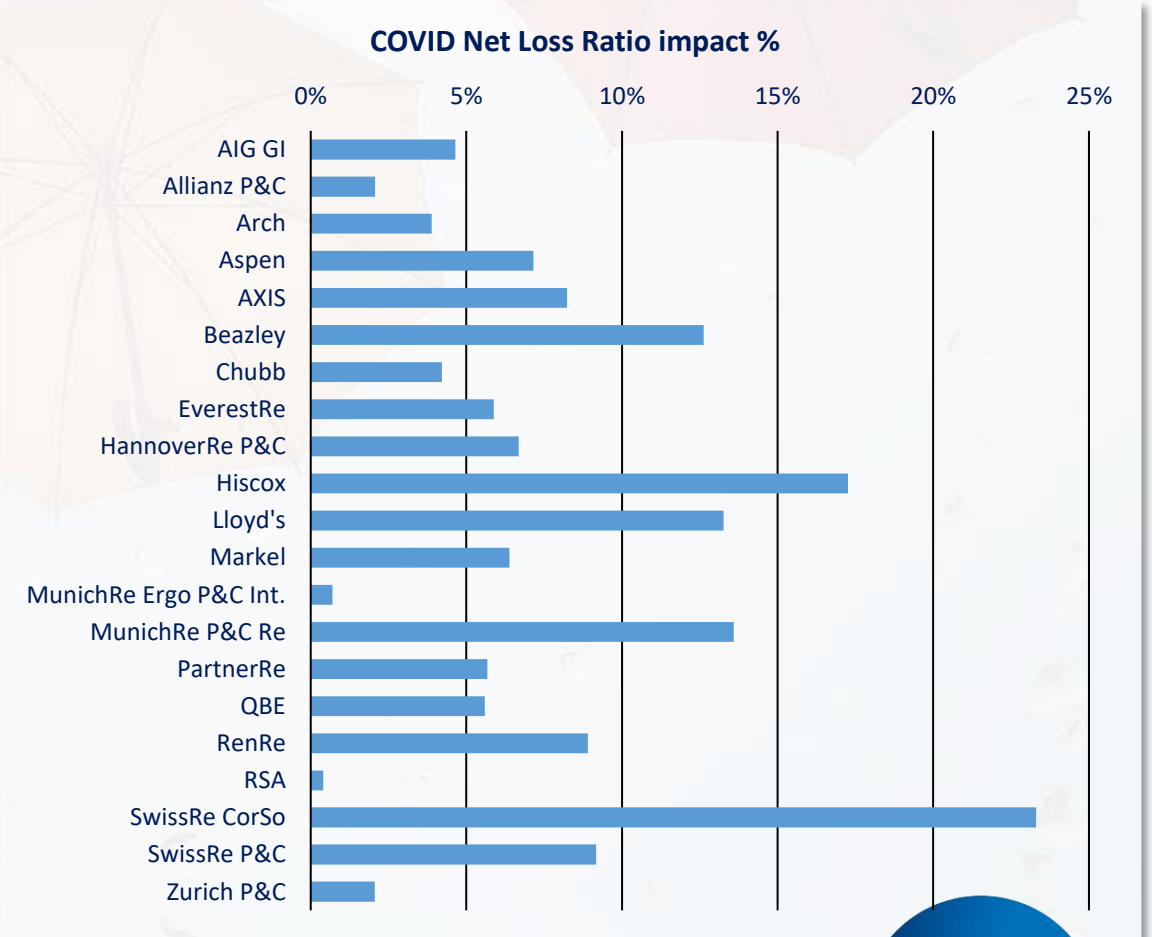
Source: Lloyd's market presentation



Source: Reinsurance News (<https://www.reinsurancene.ws/covid-19-insurer-reinsurer-loss-reports/>) as at April 2021

London & Specialty Market Covid impacts

- Loss ratio impact of Covid varies significantly, averaging out at around 6% impact on NCR
- Most significant impacts typically cite Property BI and Event Cancellation
- Specialty market analysis – disclosed impact on loss ratios by class
- Some offsetting good news for results in 2020 – reduction in claim frequency for Motor, EL, GL.



Source: Company Accounts. COVID disclosures vary, loss ratio impact shown where possible



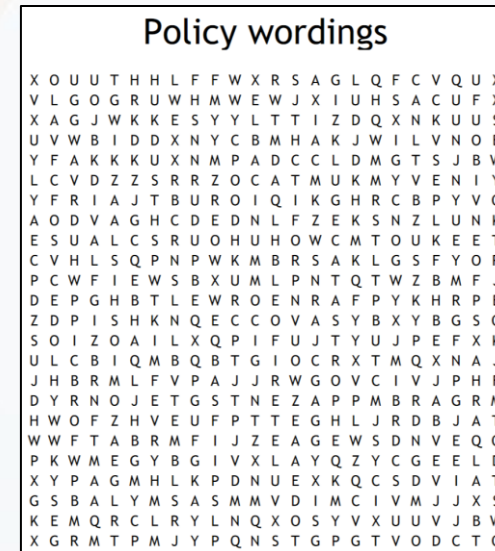
FCA Test Case overview

- *'The Financial Conduct Authority v Arch and Others'*: The UK Financial Conduct Authority (FCA) brought a case against insurers to clarify the circumstances under which business interruption coverage will respond to losses incurred from Covid and associated lockdowns
- Initial judgment at UK High Court on 15 September 2020 found broadly in favor of the policyholders
- Insurers appealed and UK Supreme Court handed down judgment on 15 January 2021, dismissing insurers' appeals and finding further in favor of policyholders
- Initial High Court judgment led to significant reserve movements for direct insurers involved, and others who were using similar policy wordings
- Supreme Court judgment had less significant impact on market reserves although a number of insurers disclosed limited net impact – indicating that additional losses passed to reinsurers as a result of the judgments
- Impacts are still emerging and coverage disputes remain. Reinsurance recoverability assumptions are a key uncertainty and a number of areas remain unclear at YE 2020. Some coverages were not in-scope of the case but could give rise to claims.



FCA Test Case impact on direct insurers

- Eight insurers providing BI cover agreed to be parties to the Test Case, and the judgment is legally binding on them
- Most other BI insurers used similar wordings to those ruled on in the Test Case – case clarifies wording interpretation for these
- Policy wording review a key area of effort – diversion of underwriting and claims team effort, deployment of intelligent wordsearch etc.
- Judgment also interestingly impacted on Orient-Express Hotels claim from Hurricane Katrina which could have impact on insurers in future (although intersection of UK Court jurisdiction and major hurricane losses is quite small!)



Placeholder slide
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polling tool

Poll – impact on reinsurers

- How big an issue is Covid BI losses for the reinsurance industry (quantification – analogy by size of cat?)
- How long will it take for disputes to be resolved – no disputes, 21Q2, 21Q4, 2022, beyond
- Key concerns on other jurisdictions – US, Europe, Australia, Asia, other
- Free comments field?



FCA Test Case impact on reinsurers

- Key considerations around aggregation and disputed wordings
- “Cause” vs “event” vs “catastrophe”
- Virus vs lockdowns
- Application of hours clauses is complicated by the definition of the event and the indemnity period
- Wide range of positions at year-end 2020 with some reinsurance claims being settled while other primary insurers had not reported much to their reinsurers in anticipation of court rulings
- Uncertainty is reflected in a wide range of reserving assumptions and loss ratio impacts on Property Treaty writers at YE20



Other key BI uncertainties for reinsurers

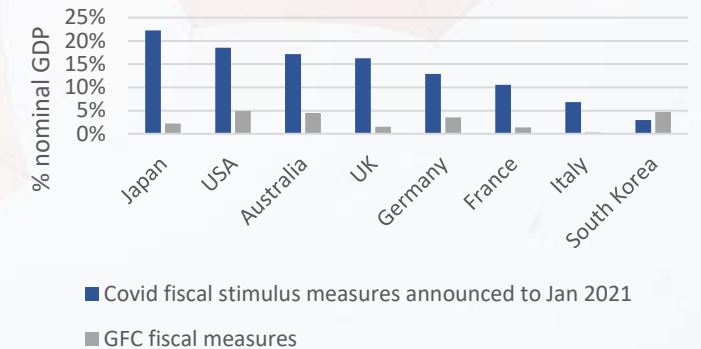
- Impact of FCA ruling on similar legal jurisdictions: Commonwealth countries
- South African Supreme Court ruling has caused significant reinsurance losses to date
- Australia – again highlights the policy wording issues that can be sitting unrecognized in insurers' portfolios
- Europe – BI extensions exist but mechanism varies by country
- Important to consider what allowance is in the best and carried estimates for execution risk relating to coverage matters



Economic impacts and indirect losses

- Initially significant provisions for recessionary impacts were largely released by YE20 on an earned basis (Credit, Political Risk, D&O)
- State support avoiding or postponing significant Credit losses
- Construction activity appears to be holding up with delays
- Specific sectors significantly impacted with insolvencies arising and financial strength eroded (airlines, retail, travel)

Fiscal measures significantly exceed
GFC response

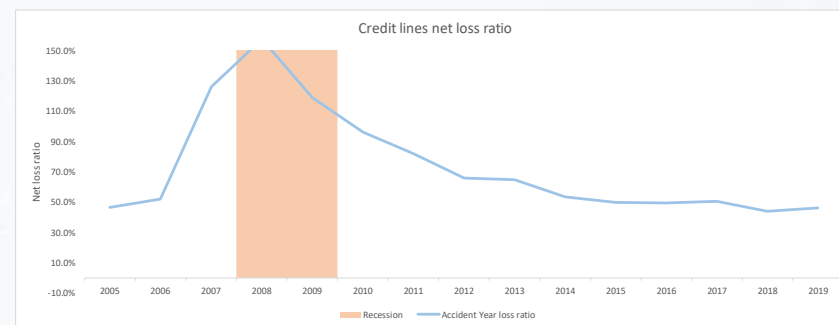
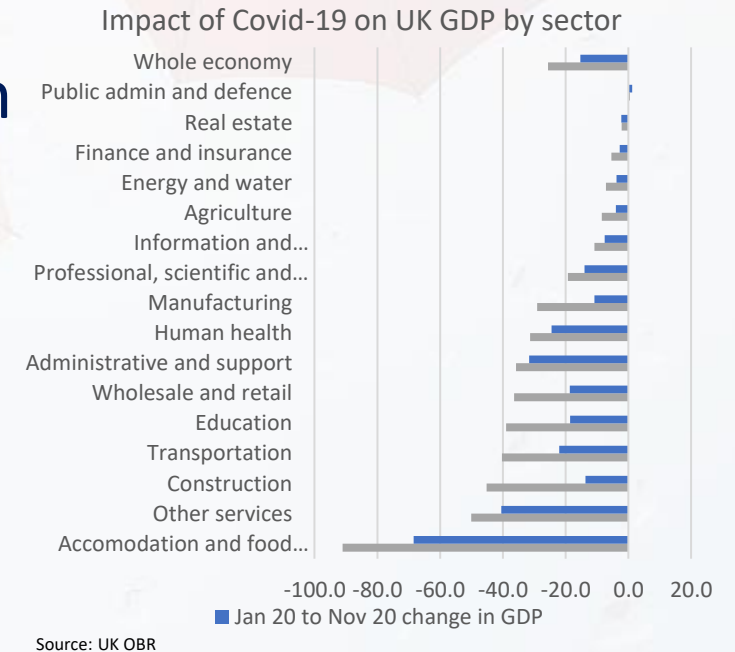


Source: IMF, UK OBR



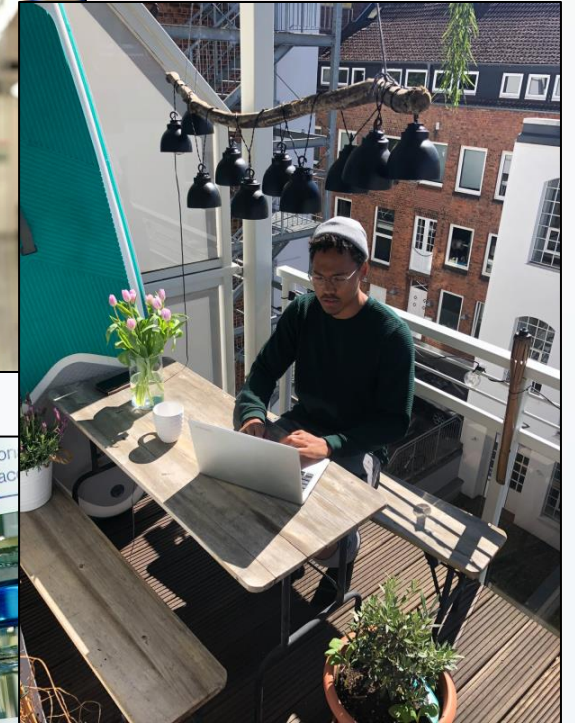
Economic impacts and indirect losses

- Reserving approach varies in sophistication, from detailed economic & credit risk scenario modelling to loss ratio uplifts adapted from financial crisis years
- Important to understand sectoral exposure and consider the timing and duration of effects – effects could take significant time to emerge and “normal” may be some time away



Impact on underwriting & product design

- Changes to insurance and reinsurance wordings in response to Covid-19
- New products, how does the industry respond to improve understanding and coverage of systemic risks
- Impact on frequency/severity by class? And how this looks going forward
- What are impacts on exposure going forward? Societal and behavioral changes, return to normal versus the new normal...



Wrap-up & Q&A slides



QUESTIONS & COMMENTS

