

The (re)insurance implications of the coronavirus catastrophe

1st April 2020



Today's speakers



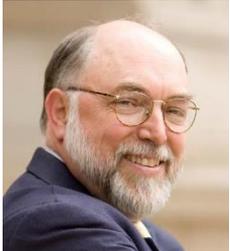
Robert Muir-Wood, MA Ph.D., Chief Research Officer, Risk Management Solutions

After a first degree in Natural Sciences and a PhD in Earth Sciences from the University of Cambridge, since 1992 Robert has worked on the development of methodologies for catastrophe loss modelling for a wide range of perils and regions. He has been head of research at RMS since 2004 with a mission to explore new areas of risk modelling and new applications for models beyond the insurance sector. He was Lead Author on Insurance, Finance and Climate Change for the 2007 4th IPCC Assessment Report and for the 2011 IPCC 'Special Report on Extremes'. He is Chair of the OECD High Level Advisory Board of the International Network on Financial Management of Large Catastrophes. His latest (7th) book 'The Cure for Catastrophe - How we can stop manufacturing natural disasters' was published in the US and UK in 2016.



Tim Edwards, BSc Econ, ACII – Regional Director, Willis Re International, Willis Towers Watson

Tim joined Willis Re in 2011 and has responsibility for overseeing catastrophe analytics for Global clients, Willis Re's Model Research & Evaluation also Willis Research Network functions. Tim has 17 years' experience, starting out at a Lloyd's syndicate where he led part of the response and reporting to the '04 and '05 hurricane seasons. Tim then joined vendor modelling firm RMS within their model development division before spending 3 years at reinsurance broking firm Guy Carpenter, leading portfolio optimisation initiatives and analytics related to government pools. Tim is an economist by background, holds the ACII and has achieved CFA level 1.



David N Ingram, CERA, FRM, PRM, FSA, MAAA - Executive Vice President, Willis Re, Willis Towers Watson

Dave heads Willis Re's ERM Advisory group, helping insurance company clients to develop and improve their Enterprise Risk Management practices. He was previously in the Insurance Ratings Group of Standard and Poor's (S&P) where he led their initiative to incorporate ERM into insurance ratings. Dave has also held executive positions within insurance companies. Dave is a frequent writer and speaker on ERM. Four times he has won the award for Best Practical Paper at the annual ERM Symposium. He was recently the Chair of the International Actuarial Association (IAA) Enterprise and Financial Risk Committee and Chair of the US Actuarial Standards Board ERM Committee. He has also led the IAA ERM task force of the actuarial standards committee. In those roles, Dave was instrumental in the promulgation of the first ERM related professional standards of practice for actuaries in the US and globally.

Agenda

Summary impact by class



- How material an impact can we expect?
- Which factors may influence (re)insured losses?

Line of business focus



How may insurance and reinsurance treaties respond to:

- Property Business Interruption
- Life
- Liability

Market impact



- Possible economic scenarios
- Illustrative rating agency actions and reinsurer strength
- Impact on repair costs and recovery times of properties damaged from nat-cats in 2020

Looking forward



- How does the industry respond to the yawning pandemic protection gap?

We welcome and encourage questions – please send these on Ben, our moderator

Potential ranking of insurance exposure to COVID-19

		Class of Business	Reinsurance Considerations
Relatively High	Anticipated impact	Contingency Event / media cancellation	<ul style="list-style-type: none"> With global participation in events, most stringent authority ruling likely applies Loss of revenue and sponsorship agreements insurable Often have infectious diseases exclusions, then covered as an extension
		Personal Accident & Travel Delay / cancellation	<ul style="list-style-type: none"> Trigger requires government advice ('Notifiable disease') or a WHO pandemic declaration Hours clause and policy excess limitations Policy non-renewal and loss of premium
		Trade Credit & Surety	<ul style="list-style-type: none"> Trigger for Credit is essentially bankruptcy or insolvency Expect deterioration in loss ratios given supply chain disruption Surety covers longer term performance risk so lower impact
Relatively Low		Life and A&H Extreme mortality Medical expenses	<ul style="list-style-type: none"> Low mortality on those of working age and assume those impacted can return Medical Expenses mainly being dealt with by public institutions Proportional treaties offer un-restricted cover for pandemic
		Property Non-damage BI extensions	<ul style="list-style-type: none"> General restrictions on original policies typically require property damage Hours clause and other limitations in defining an event
		Liability D&O, PI and E&O GL / Workers Comp. / EL	<ul style="list-style-type: none"> Underperformance leading to D&O, E&O/PI claims, with potential for 'clash' Loss Definition Clauses key to determining when losses are an issue Claims Series and Aggregation provisions may restrict extent of coverage Potential WC/EL claims mitigated by "one person—one event", occupational disease language

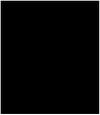
Anticipated short-term exposure to insured losses by selected classes of business

Line of Business Focus

Property BI

Life

Liability



How will property insurance policies respond and what issues may impact this?

Key point: whether non-damage Business Interruption (BI) is covered under the original Property policy.



Are original losses covered?

- In many markets BI insurance **typically requires property damage** for the cover to respond
- In **UK, US and in Scandinavia, insurers offer BI coverage without the need for physical damage** as part of their 'all perils policy'. In others this can be purchased as a non-damage BI (NDBI) extension.
- Types of **extension include:** Denial of Access, Loss of Attraction and Customers and Suppliers (contingent BI)

To what extent are losses likely to be excluded?

- **Sub-limits**, waiting periods and territorial limits (avoiding peak zone nat-cat)
- **Geographic limits** from the insured premises of Denial of Access and Loss of Attraction
- **Notifiable disease exclusions** – some include all respiratory based viruses (i.e. family of MERS/SARS and Coronavirus), others just exclude a subset.
- **Potential for concurrent perils** - if the policy operates on a named perils basis only for non damage BI, this wouldn't have to specifically exclude the infectious disease as the fact it wasn't a named covered peril would exclude it by default

Which factors will determine how property reinsurance treaties will respond?

Does the treaty offer cover to non-damage BI losses and can losses that are covered can be aggregated into occurrence events.



Do per risk and proportional treaties provide coverage?

- Providing the claim was made for BI under an original Property policy this would satisfy the **Class of Business** specified in such contracts.
- Coverage would then depend on whether the peril in operation is listed as a Named Peril and/or **whether there is an infectious disease exclusion**. If none of these apply it is likely that the Reinsurance should follow the conditions of the original policies.
- Where covered, per risk attachment points are likely to be greater than most underlying sub-limited non-damage BI exposures.

Do catastrophe treaties provide coverage?

- Most catastrophe contracts cover **“all perils” subject to occurrence limitations** when defining the event (i.e. number of hours). Some may however operate in respect of named perils only.
- General loss occurrence definition language specifies **‘each and every loss or series of loss arising out of one event’** requiring a stipulation what constitutes an event and what was the trigger.
- Renewal discussions are arising around the run-off of old policies and the **potential exposure of new treaties to on-going events**.

Property (re)insurance looking forward - considerations

Damage definition?

This differs depending on legal jurisdictions, although may include decontamination costs and loss of commercial value following contamination.

Are losses covered in property treaties?

Where not excluded, treaty language may give cover for such losses. The most likely area for coverage lies in catastrophe contracts where losses are aggregable.



Event definition

Language to the effect of, 'each and every loss or series of loss arising out of one event', may lead to discussion with Reinsurers as to what constitutes an event. Financial losses incurred as a result of government decree could constitute the proximate cause and then define the start of the event.

Coverage litigation

Legislative action to retroactively expand coverage terms is expected, but could prove unsuccessful.

Timing

Inability to inspect plants is hampering new business quoting for many insurers. Renewals may be quoted with subjectivities.

Will life insurance policies respond and what issues may impact carriers?

Risks	Considerations
Pandemic Claims	<ul style="list-style-type: none"> ▪ Mortality is the most obvious and can be complex to evaluate. ▪ Potential for disability claims impact as well.
Counterparty	<ul style="list-style-type: none"> ▪ Can reinsurance partners meet their obligations in a severe mortality scenario?
Reinsurance Capacity	<ul style="list-style-type: none"> ▪ What if reinsurers react in a way similar to the 2001 Life Catastrophe market?
Economic and Capital Market	<ul style="list-style-type: none"> ▪ How will invested assets be impacted? ▪ What other impacts would financial stress create?
Operational	<ul style="list-style-type: none"> ▪ Can policies be administered effectively? ▪ Underwriting and/or claims issues? ▪ How would sales be impacted?



Will life insurance policies respond – excess mortality focus

▪ Demographics

- Age composition of the block. Older ages typically have higher fatality rates.
- Geographic concentrations. Is the block concentrated in areas where an outbreak is more likely? Areas that have high volumes of visitors and/or travelers?
- Industry. Some will have greater exposure to a pandemic.



▪ Pandemic Characteristics

- Fatality rate by age. Pandemic models often assume “U” and “W” shaped pandemics. Covid-19 appears to have a “Hockey Stick” shape.
- Transmissibility, Fatality, Incubation period, etc.

▪ Insured vs General Population Differences

- Insured mortality is typically lower than the overall population. Should this apply to the Pandemic mortality?
- Would it depend on the type of Pandemic?

What are the issues around Workers' Compensation and Employers Liability through the Covid 19 pandemic?

▪ Elevated Exposure

- Business or industry with raised probability of employee exposure?
- Employees located in, or traveling to, high risk areas?
- Employees required to work closely with others at greater risk?



- As a general rule – not compensable if employee no greater risk than the broader population.

▪ Secondary Factors

- Delays in any other medical treatment and emergency
- Workers at home less likely to suffer accidents.
- On return to work – potentially rusty on practices and procedures

Where could Employers Liability be triggered?

- **Workers Compensation statutes do not fully shield an Employer**
 - If an employee can argue that it was through their employer's negligence they contracted COVID-19 during work or through work-related travel .
 - Should the disease spread to other members of the family via the employee they could also file a claim.
- **Higher Risk Work Environments**
 - Crew on cruise liners,
 - Medical personnel,
 - Air crew,
 - Ticket sellers
 - Check-out staff,
 - Employees required to take public transport to work while other employees work at home
- Challenge of constantly checking for new hot spots of risk when we come out of lock-down



What are the implications for litigation and liability pay outs?

- **Litigation around alleged negligence in failing to protect customers/visitors from exposure to Covid-19**

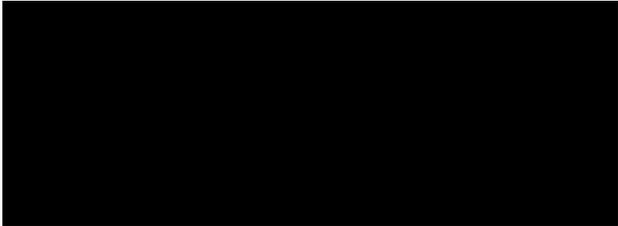


- Cruise liner passengers
- Hotel guests not informed about Covid-19 cases in the hotel
- Occupants of nursing homes
- COVID-19 could be classed as a 'pollutant'.
- Challenges for lawsuits to succeed around proof of causation
- Businesses need to have had clear policies around reducing exposure and risk

- **Directors and Officers**

- Drop in stock market valuation could trigger securities class actions
- Alleging disclosure deficiencies, breaches of fiduciary duty, and corporate mismanagement,
- In defense, firms need to have developed and tested contingency plans around business continuity to deal with all credible catastrophes/major events.

3. How may COVID-19 impact the market?



How may COVID-19 impact the market?

Illustrative Scenarios of COVID-19 Impact – Morgan Stanley

1. Business Activity Disruption and Dislocations

- Disruption is contained to the first quarter, with a forecast contraction in GDP of -1.8% and -16% in Q2. In this scenario, U.S. economic growth picks up later in the year.



2. Demand Destruction

- More than just Supply Destruction
- Escalation and more disruption in the second quarter, as evidenced by the -16% contraction forecasted. In this case, the virus peaks in May, and third quarter sees things picking back up.

3. Tightening Financial Conditions

- The virus persists into Q3. Escalating risk of recession. Impacts all large economies. Corporate profits hit hard and credit risk for corporations spikes. In Europe, would cause an “outright recession”
- In the U.S., temporary rise in unemployment of up to 8 percent. The Fed would keep cutting rates aggressively in 0.5 percent increments.

How may COVID-19 impact the market?

Illustrative questions from AM Best Regarding COVID-19

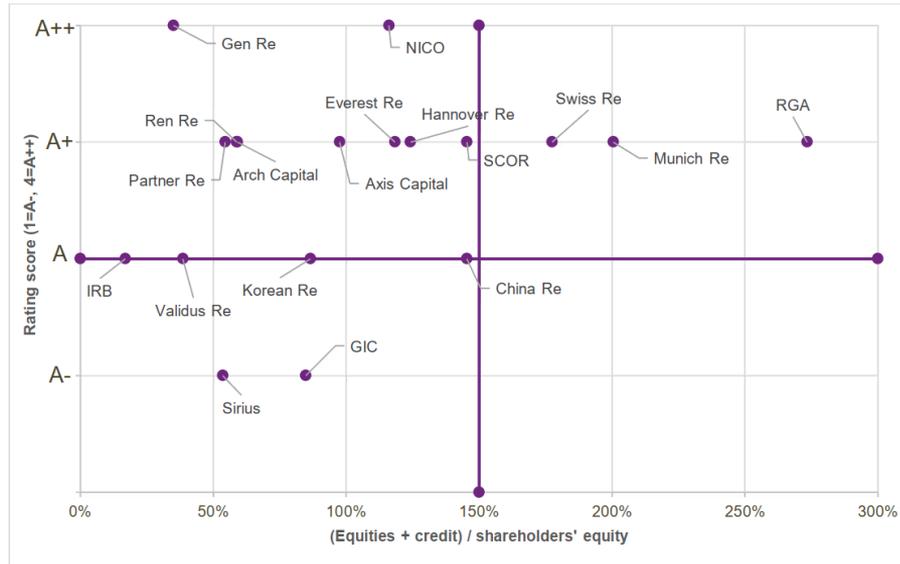


1. Explain the **current impact COVID-19** is having on the company's operations.
 - Describe how the company is conducting business (implementation of any business continuity plans), and latest available impact on the financial position of the company (sales, claims, exclusions, underwriting and investment performance, liquidity draws, solvency, etc.).
2. Discuss any **stress test scenarios** that the company had previously modelled in relation to pandemic risk
 - (or other applicable scenarios), and if the current (or anticipated) impact falls within risk appetite and tolerance.
3. Comment on any planned adjustments to **2020 financial projections**.
 - Please provide updated projections to AM Best as soon as they are available and summarize the key assumption changes.
4. Provide an update on any **changes the company has made** to product assumptions, internal stress testing and scenario or sensitivity analysis.

How may COVID-19 impact the market?

Capital strength

Rating strength vs sensitivity: no reinsurers in the 'problem' quadrant



Source: AM Best and Willis Re

Capital positions as of today are still holding up well (for the quoted re-insurance sector at least)

While, claims are expected to be 'manageable'



Greatest impact anticipated from investments

- decline in risk-free rates (ie the rally in government bonds)
- the collapse of equity and credit markets
- the increase in volatility (eg the VIX)

Implications for managing insured catastrophes through 2020

▪ During 'Lock-Downs'

- Need for remote monitoring of damages
- No available repair capacity
- Current recovery in Shropshire after February floods has 'stalled'.
- Those in confinement whose homes are no longer liveable will require immediate alternative accommodation, with no prospect of returning to their damaged home.
- No income for most affected businesses and hence no motivation for re-opening



▪ Through period of extended social distancing

- Delays in managing claims, in proceeding with repairs and in achieving recovery
- Post-Event Loss Amplification impacts raise losses (for 'deterioration vulnerability', 'claims inflation' and 'coverage expansion').
- Challenge in situations where there is an overlap of catastrophe and pandemic causes of loss (as in a closed hotel, restaurant, bar or store)
- Insurance rebates for failed businesses?

4. Looking forward, what are the challenges of developing a pandemic insurance solution?



Looking forward, what are the challenges of developing a pandemic insurance solution?

- **Protection gap deliberately expanded since 2002-3 SARS**
 - Clauses added to many policies since the SARS outbreak to exclude pandemic coverage
 - Insurance industry cannot manage pandemic risk through standard principles of risk diversification
 - Affects whole world (no international diversification)
 - Affects stock markets and global economy (No investment and Insurance diversification)
 - Actions in one country cannot be contained from other countries near and far
- **What would it take to create a series of pooled national pandemic funds?**
 - In OECD countries impacts of Covid-19 response on business interruption around \$5Trillion
 - Assume Covid-19 catastrophe is the 1% annual probability ('100 year')event
 - Would need to accumulate >\$50 Bn annual contribution towards a \$5Trillion fund (from what would be perceived as a new tax on business)
 - Would need to be invested in assets completely uncorrelated with pandemic economic impacts (if such assets exist?)
 - Only a government can accomplish this (?)

Some early conclusions

Summary impact



Class of Business	Anticipated impact
	Contingency Event / media cancellation
Personal Accident & Travel Delay / cancellation	Relatively High
Trade Credit & Surety	Relatively High
Life and A&H Extreme mortality Medical expenses	Relatively High
Property Non-damage BI extensions	Relatively Low
Liability D&O, PI and E&O GL / Workers Comp. / EL	Relatively Low

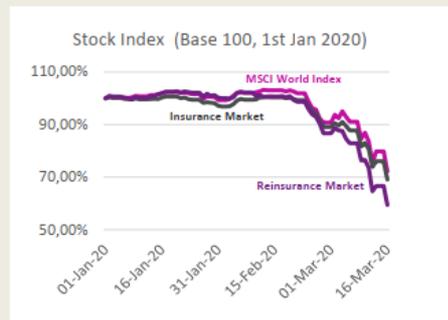
Insured losses are **still materialising**

Focus by LOB



Questions over coverage will impact the (re)insured loss

Market Impact



(Re)insurer share prices fall, solvency margins healthy

Looking forward?



EXTREMUS
Versicherungs-AG

GAREAT
Garde de l'Assurance et de la Réassurance des risques Atmosphériques et de Terrestres

POOL^{Re}
REINSURANCE POOL

NHT / door de Verreende

CONSORCIO DE COMPENSACION DE SEGUROS

Australian Government
Australian Reinsurance Pool Corporation

Are future solutions likely to involve **pooling arrangements?**



Please contact us



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