



Managing Systemic Risk in the (Re)insurance Market

Systemic risk can broadly be defined as the risk of collapse of an entire financial system or entire market. Furthermore, when orientated within the (re)insurance market, systemic risk can be described as a risk that has the contagious ability to affect either many different lines of business across diverse geographies at once, or impact a single line of business profoundly.

COVID-19 neatly illustrated the ability of a single peril or risk to simultaneously impact numerous lines of insurance business across the globe. Governmental reforms that were implemented post the Great Financial Crash in 2007/2008, “proved successful in preventing the failure of large financial firms that would otherwise result in ‘bailouts’... but [were] unsuccessful in creating a more resilient financial system that could withstand sudden shocks without resorting to large-scale government intervention to maintain stability at the first signs of panic.”¹

While the (re)insurance industry proved resilient throughout the pandemic, with COVID-19 losses largely managed within the industry’s expected earnings tolerance, the limitations on coverage provided were not well understood in advance and did not support as meaningful a response to the substantial loss that occurred as many desired. As a result, the (re)insurance industry has not provided broad economic backing. Instead, governments had to step in to provide financial support to safeguard society, their citizens and their economies.

A SINGLE SYSTEMIC RISK CAN CREATE TREMENDOUS VOLATILITY

A more recent example of systemic risk related loss, albeit on a smaller scale, is the Russia-Ukraine crisis, where contingent aviation war, a very specific speciality class, has originated one of the largest exposures. If all of the current estimated aircraft exposure were a total loss and claimed successfully under these specific policies, expected losses could exceed \$12 billion.² The coverage at this time looks to be concentrated with fewer insurers than a regular major risks airline placement. Thereby illustrating how a single systemic risk can create tremendous volatility, which leads to considerable loss for a narrowly defined line of business.

The past few years have shown that the interconnectedness of the world reaches far beyond the digital means of trading. We are more connected than ever before in terms of geopolitical relations, our ability to communicate via social media, and our ability to collectively react to a singular event. There are, as a result, now more avenues than ever to create systemic risk. When considering how the (re)insurance market should evolve to provide a meaningful response to systemic risk, we should recognise the current leading types of systemic risk that the market faces: cyber, pandemic and climate.

Cyber: Due to the increase in global connectivity, and the growing trend to digitalise both the workplace and the home, which was exacerbated by COVID-19’s requirement to create a virtual workplace, the potential for a cyber-loss of a systemic nature has grown significantly. The threat is evolving rapidly, aggravated by a preponderance of bad actors seeking to use a cyber-attack as another weapon in today’s geopolitical battlefield. In 2019, Guy Carpenter and CyberCube collaborated to develop a view of the potential U.S. cyber industry insured loss from a range of different cyber catastrophic scenarios.³ To date, there has not been a systemic cyber event that has generated such financial loss to

the global economy that it is considered an earnings or capital event for the (re)insurance industry, but the sector must be prepared. At that time, the study found the costliest cyber catastrophe scenario is widespread data loss from a leading operating systems provider with potential to generate up to \$23.8 billion of insured loss. The likelihood of this scenario is the lowest (beyond the 1:300 year return period).⁴

Pandemic: COVID-19 has shown us how a global pandemic can create systemic risk exposure with an ability to contaminate multiple sectors of the economy and society at once. While it is still difficult to determine the ultimate COVID-19 loss estimate, the publicly available reported total at the end of Quarter One 2022 is \$53.2 billion. Crucially, COVID-19 caused both insurance liabilities and severe (although temporary) asset depreciation; thereby impacting both sides of the balance sheet, causing (re)insurers to consider this eventuality for the first time.

Climate: Our weather patterns are becoming more volatile due to the effects of climate change. Unchecked, it has the ability to profoundly change our weather and our ability to manage the subsequent consequences. The weather volatility that we are experiencing now can already be considered systemic due to its global effect on many jurisdictions and areas of the economy simultaneously. *The Sixth Assessment Report (AR6) on the Physical Science Basis of Climate Change* was released by the Intergovernmental Panel on Climate Change (IPCC) in August 2021. Although not specifically quantified, the IPCC was highly confident that economic damages “are projected to be lower at 1.5°C than at 3°C or higher global warming levels.”⁵

The (re)insurance industry is in the business of solving risk management needs, so how do we grow to meet these dynamic and systemic drivers of risk?

PUTTING NEW RISK CAPITAL TO WORK:

Despite record recent large loss years (in excess of USD 100 billion for 3 of the last 5 years) the industry’s risk capital base has remained at very healthy levels with total dedicated insurance capital in 2021 increasing 2.8% from year-end 2020 (“trapped capital” is estimated at less than 5%).⁶ Growth has been fuelled both by alternative or ILS capital flowing in from non-traditional capital sources (pension funds, hedge funds, money managers etc., so-called ‘ILS funds’) and an increasing traditional capital base. Moving forward, it will be important to innovate new ways to utilise this pool of capital to help insurers and reinsurers manage their risk, and capital more efficiently, which will in turn allow the industry to underwrite systemic risks more effectively. In order for this to happen, certain conditions need to become available:

- Risk modelling science needs to rapidly evolve to the point where cyber aggregation, pandemic contagion and climate change frequency and severity are better understood. Advancement will aid risk quantification, the pricing of risk, and therefore, the ability to transfer it off public balance sheets into the private (re)insurance market. Examples of improved modelling would include advances made in blast modelling for terror, capturing the latest sea and riverine flood defence information when modelling flood, and identifying points of technology failure when simulating cyber risk aggregation for attacks against industrial control systems.
- A modelling evolution needs to go hand-in-hand with advanced risk management, mitigation, and risk adaptation strategies, a process which will be essential in order to control risk aggregation and aid insurability.
- To most productively engage alternative capital, ILS funds need to see ILS deals that are simple to comprehend and straightforward in appearance to their stakeholders.⁷ Much progress has been made with the first Terror ILS transaction (Baltic Re) sponsored by Pool Re, and similarly, the U.S. Government’s FloodSmart Re series of ILS issuances has paved the way for more flood-specific cat bonds.

PRIVATE PUBLIC PARTNERSHIPS (PPPS):

The current inability of the (re)insurance industry to assume risk types that may have the potential to be systemic in nature means that the protection gap (the difference between economic losses and insured losses after an event) continues to rise, especially as the world becomes more interconnected. In the aftermath of COVID-19, we witnessed unprecedented governmental support across many countries, driven by the need to respond quickly to financial losses suffered by businesses and consumers that were not covered by insurance. In these instances, government can be considered to act as the “insurer of last resort”, expeditiously protecting citizens and economies. However, this elevated level of contingent liability held by governments puts pressure on the public purse, and increases the need to find more sustainable alternatives. Public-private-partnerships (PPPs) are an effective way of introducing risk transfer to the private (re)insurance market via a hybrid public/private insurance scheme. There are many current examples of such schemes, and several (such as Flood Re, the UK flood pool) at their heart have the central objective of promoting financial resilience via improved risk mitigation along with the goal of rendering government support redundant over time.

HOWEVER, THIS ELEVATED LEVEL OF CONTINGENT LIABILITY HELD BY GOVERNMENTS PUTS PRESSURE ON THE PUBLIC PURSE

As highlighted above, several natural peril and terror pools have also successfully attracted new forms of private capital, both traditional and non-traditional, to manage these emerging risk types through the use of improved risk quantification, which can be attributed to enhanced modelling techniques. Discussions are ongoing in many territories regarding the implementation of new pooling arrangements for cyber risk due to both the low levels of cyber insurance cover generally purchased, and the potential for a cyber-event to impact very large swathes of economies both nationally and internationally. Indeed, the UK Government has recently been instrumental in promoting a new, “Resilience UK” initiative, which is designed to promote greater financial resilience to unanticipated systemic shock events not covered by current insurance.

By ever evolving and adapting the (re)insurance industry can successfully respond to these looming challenges, not only to close protection gaps and thereby promote greater societal and economic resilience, but also to ensure that the industry continues as a key innovator functioning as “society’s risk manager”. ■

1 – U.S. Congressional Research Service. Financial Regulation: Systemic Risk. (R47026; Feb. 1, 2022), by Marc Labonte.

2 – Airline-type aircraft only, under operating leases, known to be in Russia and after inclusion of 50% of aircraft with an unknown current location. All aircraft market values have been uplifted to reflect an estimate of agreed values, with individual lessor policy exposures capped by any known policy aggregate limits.

3 – Guy Carpenter and CyberCube, (O’Brien et al., 2019) Looking Beyond the Clouds – US Cyber Insurance Industry Cat Loss Study. <https://www.marshmclemann.com/content/dam/mmc-web/insights/publications/2020/october/Beyond-the-Clouds.pdf> (Though the cyber market as a whole is still developing, the U.S. is more mature than rest of the world in terms of product penetration and industry data collection. Due to the litigation climate and regulatory environment in the U.S., there has been greater cyber product adoption so it was chosen as the first market to study. Subsequent global cyber insurance market reports are planned).

4 – *Id.*

5 – IPCC, 2022: Summary for Policymakers. Climate Change 2022: Impact, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Hans-O. Pörtner et al.] https://report.ipcc.ch/ar6wg2/pdf/IPCC_AR6_WGII_SummaryForPolicymakers.pdf.

6 – Source: Guy Carpenter.

7 – Johansmeyer, Tom. *The Cyber Insurance Market Needs More Money*. Harvard Business Review, 10, Mar. 2022. <https://hbr.org/2022/03/the-cyber-insurance-market-needs-more-money>.

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