Commercial Insurers Facing a Perfect Storm

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Geopolitical tensions, technology risk, and climate change rank currently as the topmost risks faced by the world due to the increase in their likelihood of occurrence and severity of impact. Though each risk in this triad has long existed, how they are changing now and gaining strength makes them a cause of concern. With simultaneous evolution, emergence of mutated and new variants, as well as their confluence, these risks are manifesting in unfathomable ways. The intertwining and metamorphosing nature of the risk-triad exacerbates the complexity and indicates the making of a perfect storm of unprecedented uncertainty. This paper analyzes the impact of the risk-triad on commercial insurers.

Keywords: Commercial Insurance, Geopolitical Risk, Technology Risk, Climate Risk, Perfect Storm

1. The Making of an Interconnected World

After World War II, a golden era of relative political stability has prevailed across the globe. Despite several instances of regional unrest, territorial clash, and strong political posturing no major war broke out. The emergence of a unipolar global hegemony and creation of the Bretton Woods Institutions (BWI) comprising the International Monetary Fund and the World Bank, helped immensely to foster global financial stability, monetary cooperation, and international trade. This fertile environment triggered the commencement of a second wave of globalization after the first wave ended with the start of World War I. The second wave progressed in concert with the second industrial revolution driving mass production and consumption. The collapse of the cold war and setting-up of the World Trade Organization (WTO) to govern global commerce ushered the third wave of globalization that paired with third industrial revolution to propel growth in communication technologies, automation and offshoring.

The three waves of globalization reshaped the trade landscape politically, economically, and technologically. An institution- and rule-based international trade governance architecture

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got established and the world was perceived to be a single marketplace for companies to grow and expand. The BWIs and WTO wielded huge economic power to enforce democratic governance in the participating countries and mitigated geopolitical risk by driving mutual economic benefits. Multilateralism became the global order and the unidirectional progress of globalization seemed to be an irreversible norm. With the emergence of a global value chain the raw materials, parts, and components got exchanged several times across many borders through a web of trade activities before they shaped into finished products. Industries embraced efficient production principles such as global sourcing, just-in-time delivery, and lean inventory management.

The first, second, and third industrial revolutions changed the course of human evolution successfully by ushering the ages of mechanization, mass production, and automation respectively. The fourth industrial revolution (4IR) that is characterized by the convergence of cyber, physical, and biological systems is currently underway. 4IR is spearheaded by the genesis and symbiotic growth of several technologies such as the internet of things (IOT), big data, artificial intelligence and machine learning (AI/ML), advanced robotics, extended reality, additive manufacturing, autonomous systems, vehicles, swarm intelligence, distributed ledger technology, quantum computing and more. Unlike the previous industrial revolutions that impacted select industries, 4IR is potentially influencing all the industries.

4IR is still in the early stages with these emerging technologies traversing through different stages of technological growth hype-cycle. Nevertheless, these technologies are already individually and collectively redrawing the contours of the industry landscape that 4IR will create. Some of these are potential transformative technologies and their convergence with others is likely to disrupt and upend all the existing business models, products, and services. The biggest change that the 4IR technologies enable is how humans relate to machines. The relationship is shifting from one of mere usage to that of collaboration and augmentation.

2. The Development of a Perfect Storm

In the interconnected, interdependent, and networked world, potential forces such as geopolitical tensions, technology risks, and climate change are seen to be working in tandem to develop a perfect storm. Though these disruptive forces have existed all through the course of human evolution, they seem to be crossing the tipping point of becoming unmanageable. They are individually striking with hitherto unseen intensity as well as interfusing and metamorphosing with others to unfold catastrophes of unimaginable proportions.

2.1 Geopolitical Risk

The success of globalization could be measured by the way it raised the living standards of people and decreased inequalities between economically developed and under-developed

countries. However, the modernization theory of economics that was propagated by globalization and religiously followed by many countries, created a few winners and many losers. It is said to have failed to eradicate national and ethnic conflicts. It has turned counterproductive by widening the inequality chasm within countries. Over the years, this inequality has led to the emergence of deep social fault lines that birthed strong political undercurrents across many countries. These movements are now appearing to precipitate all over the world, as many polarizing and aggressive leaders are getting elected to govern their respective countries. These vociferous leaders are coming out as vehement advocates of economic nationalism, protectionism, and populism. It is a matter of added concern that many of the polarizing leaders are turning out to be climate change deniers. Consequently, the economic clout and power that BWIs and WTO wielded for the past several decades is seen to decline.

Due to the resonating anti-globalization sentiments, countries are starting to dishonor treaties related to trade, economy, and action against claim change. A continuation of this trend portends to a systemic collapse of the governing institutions and reverse all the collective progress achieved in the past several decades. Concerning geopolitical risk and trade disruptions, there is a new paradoxical twist this time. These risks that were always known to be restricted to select fragile countries in the world are now spreading to erstwhile stable and developed countries that were the original architects of globalization and strong proponents of free trade. The world is now looking to brace what seemed to be unthinkable earlier - a period of divergence and transition to a complex, post-global, multi-polar world. The massive outbreak of COVID-19 pandemic during this situation is proving to be a telltale sign of the worsening scenario. The pandemic has overturned daily life and driven economies into a state of suspended animation. The fractured response against the pandemic when a unified combat is required exposes the wide divide that is brewing among and within the countries.

2.2 Technology Risk

Many of the 4IR technologies are now in the exploratory stage. While some of them are seeing serious industry adoption, many are yet to move beyond pilot purgatories. Consequently, the full potential or risk posed by these technologies even in silos are yet to be understood. It is important to note that these technologies are individually just small pieces in the hyperconnected world that 4IR is creating. As they mature, they are envisioned to work in confluence with other technologies to create an intelligent world where every entity is defined by its representative datasets and controlling algorithms. We are yet to visualize the intricacies of such a hyperconnected world, and the risks involved. With smart algorithms becoming an omnipresent driving force behind most of these

technologies, the risk frequency could increase when an autonomous system that has gone rogue repeats the same critical mistake multiple times. The impact could further worsen and create an unpredictable damage trail when the output from one autonomous system becomes the input to one or many other autonomous systems.

4IR technologies increase the risk-surface of the companies exponentially. Due to the cyber-physical-biological convergence, the conventional patterns of risk occurrence will change dramatically. New risks could arise from new perils such as data mishaps, defective algorithms, and machine-to-machine, machine-to-human, and machine-to-infrastructure communication failures. The magnitude of potential damage from cyber-risk is exploding. In a digitally hyperconnected environment, the occurrence of cyber-risk could be catastrophic in its severity. Besides, geopolitical tensions are increasingly seen metamorphosing into cyber-attacks.

2.3 Climate Risk

From time immemorial planet earth has always been exposed to risks from extreme weather events and changing climate patterns. Climate catastrophes have remained as the most potential disruptor. However, in the last few decades, a significant change in the pattern of catastrophes is being observed. Weather events such as prolonged periods of extremely high temperatures, excessive rainfall, severe floods, and droughts are seen increasing in frequency and severity. Climate change which was earlier attributed as a risk is slowly deteriorating to become an emergency. While it is intensely debated whether the sole cause for this change should be attributed to human activity or natural celestial phenomenon, the anthropogenic changes made to the earth's land, oceans, and biosphere due to the Great Acceleration of population, industry, and energy that started in the mid-20th century is undeniable.

Climate change is known to create risks across three categories – physical, transition, and liability. Physical risk can be either acute or chronic. Acute risks, also known as climate shocks, are the adverse weather events such as cyclones, hurricanes, floods, droughts, and wildfires, whereas chronic risks relate to long-term climate trends such as rising mean temperatures, changes in precipitation patterns, frequent extreme weather events like heatwaves, rising sea levels, ocean acidification, and desertification. Physical risks eventuate in economic losses arising directly from damage to property and critical infrastructure or indirectly from business interruption, affected labor force, supply chain disruptions, and resource scarcity.

The industrial revolutions have resulted in rapid urbanization and created several metro- and mega-cities all over the world. Many of these economic hubs have arisen as an

unplanned response to the globalization-driven economic compulsions. These cities are categorized as low- and middle-maturity and lack the supportive infrastructure to face the impact of extreme weather events. Nevertheless, a collapse of these financial ecosystems in a completely networked trade environment will severely impact the global economy, cause mass displacement of people, and trigger civil unrest. This could further deepen and widen the existing social fault lines and in turn fuel the geopolitical tensions.

On the other hand, transition and liability risks are relatively recent in origin. Transition risks are the financial risks that arise as businesses adjust to the low-carbon mandate. The risks could originate from policy changes, market dynamics, technological innovations, or reputational factors. Liability risks could happen because of either physical or transition risk. They arise due to the failure of businesses to mitigate climate change impact, adapt to it, disclose the risks, or comply with emerging legislative or regulatory requirements.

3. Landfall on Commercial Insurers

The interplay of the risk-triad will wreak havoc on countries, industries, human-beings, and every life form. Industries could face a partial or full stoppage of their operations, face lawsuits for failing on contractual obligations, or even declare bankruptcy. In this scenario, commercial insurers and reinsurers who provide risk coverage to these industries will face the cascading impact on their balance sheets. The excessive losses from the risk events could make providing cover to businesses a winner's curse for insurers. This could turn insurance into a perpetual hard market characterized by increased customer demand but reduced supply. Insurers who find the risks unviable to manage could even withdraw from the market.

3.1 Geopolitical Risk

Geopolitical risks arise from the action or inaction of governments. They manifest as trade wars, sanctions, embargos, expropriation of assets, forced abandonment, forced divestiture, inconvertibility of currency, alteration of contracts, import/export embargos, selective discrimination, revocation of licenses, political violence, and politically motivated regulatory changes. Insurers have skillfully analyzed the economic repercussions of geopolitical risks to provide coverage for confiscation, expropriation, nationalization and deprivation, contract frustration, structured trade credit, currency inconvertibility, the wrongful calling of guarantees, political violence, and terrorism.

Geopolitical risks are known to be low-frequency and high-severity events. Political disagreements could simmer for several years without resulting in any risk event. These event-free years will generate good returns for insurers. However, when the risk events break-out, they result in heavy pay-outs. The current change in the geopolitical risk

landscape emanates from the aggressive political and economic posturing adopted by global powerhouse countries. The change in the business environment to unstable and hostile is further increasing the probability and severity of the risk events occurring in a globalized trade landscape.

During the years of peace, a globally networked value-chain evolved. The production got concentrated in select regions where raw materials and labor was available in plenty. A well-oiled supply chain machinery was created for catering to the business needs of the companies spread all over the world. In such a networked environment, a trade disruption originating from any country could cause seismic shocks to global trade and shift the trade equilibrium. Considering the complexity of the webbed supply chain network it is difficult for insurers to calculate the accumulation of risk resulting from such disruptions. Geopolitical risks are also known to be extremely volatile. Besides, the metamorphosing nature of the risk-triad has no empirical analogue. The unpredictability regarding when, from where, and in what form a risk event could emanate makes the traditional models for assessing geopolitical risks ineffective. The fact that a specific causal-risk could change its form and strike in an entirely different form makes it a wicked problem for commercial insurers to build statistical models for predicting, quantifying, and estimating future losses.

3.2 Technology Risk

As the industrial revolutions changed the risk landscape, the insurance industry continuously reinvented itself to match the coverage needs. Nevertheless, the destabilization of the status quo and transition to a new industrial revolution is always turbulent and poses many risk uncertainties. The risks emanating from emerging 4IR technologies have the characteristics of both aleatoric and epistemic uncertainties concerning their occurrence and impact. 4IR technologies, while exposing insurers to several unknown-unknown risks also provides them with innovative tools to monitor some perils. This could potentially challenge the existing risk landscape as some old risks turn stale, new risks emerge, and some old mutate. During the transient period, the existing insurance risk models will be under increased stress.

The data deluge, complex algorithms, autonomous systems, and smart ecosystems of 4IR have the potential to redefine the nature of product liability and product recall risk. 4IR landscape in which cyber-physical-biological systems merge could expose many grey areas of coverage gap. For example, the technology errors and omissions cover in professional liability insurance protects against financial loss due to software failures but do not cover property damage or bodily injury, whereas the general liability policy covers property damage and bodily injury but excludes coverage for risks resulting due to

software. 4IR will also redefine tort liabilities and its jurisdictions of law. Currently, the liability of the loss that is caused by improper maintenance and usage rest on the insured. However, in the interconnected ecosystem where several entities collaborate, the responsibility could be spread across several stakeholders thus making it difficult to pinpoint the responsibility for the loss against a single entity. This will create ambiguous disputes where resolution becomes potentially litigious.

With 4IR increasing the risk-surface, cyber-risk is becoming a major threat for companies. Though cyber insurance has existed for over two decades, a cyber-attack in an interconnected algorithm-driven environment is unknown. It transcends regional or national boundaries and the limits of prior knowledge regarding the magnitude of the damage it could unleash. The experience from the previous cyber-attacks reveals that there is a time-delay between the attack and counter-response initiatives taken by the companies. In a networked and autonomous landscape such a delay could result in serious repercussions. Considering the complexities of interconnectedness, the estimate of the damage after a cyber , rogue or defective-algorithm attack is notified may be difficult as the extent to which the severity might deteriorate over time could make it a loss creep. Loss creep, also known as adverse loss development, arises when the losses deteriorate after being first reported.

Cyber-attacks in the recent past have increasingly exposed a major coverage gap for commercial insurers in the form of silent or non-affirmative cyber. Non-affirmative cyber refers to the contracts that are not specifically designed to cover cyber risk. So, the risk from a cyber-attack is not factored in and the terms neither include nor exclude it explicitly. When cyber-related losses occur, insurers are caught unaware. These types of losses have occurred in traditional property and liability insurance policies in the form of business interruption and reputation losses. Similar silent risks could eventuate due to other evolving technologies of 4IR where an uncontemplated failure could trigger unanticipated cascading risk events thereby affecting the risk estimates. Insurers failing to identify, assess, model and price these silent risks, could find themselves under-capitalized and incur losses.

3.3 Climate Risks

Climate risk insurance helps businesses to manage the losses from climate risk. Insurers provide climate risk coverage at micro, meso, and macro levels covering individuals, intermediaries, and countries respectively. To predict the probability of a catastrophe and estimate the losses, insurers have always considered the historical weather data of multi-year, multi-decade, or multi-century time scales. Due to climate change, the weather

events are now occurring in non-linear ways. The clime shocks are changing from low-frequency, high-severity events to those of high-frequency, higher-severity.

The decades of globalization have resulted in a networked complex business landscape where trade is driven by global value chains. The occurrence of climate shock in such an environment could result in extensive business interruption, contingent business interruption, and reputational losses. Considering the overarching nature of climate risk, assessing the accumulation of multi-line risk across the business heatmap and supply chain is becoming a greater challenge for insurers. Insurers are keen to understand their accumulation of risk to right-size their portfolios.

For the transition risks, the impact is due to re-pricing of carbon-intensive financial assets, and the speed at which such re-pricing occurs. Liability risks arise from third-party liability contracts such as professional indemnity and directors' and officers' insurance when compensation is sought from insured companies for the loss suffered due to climate risks. Litigation associated with climate change liability is an emerging risk for insurers. Investors, the public or other stakeholders could claim for the loss suffered because of the failure to mitigate climate risks or inadequate disclosures under professional liability policies.

The increasing volatility is rendering the analysis and interpretation of past patterns an ineffective tool to predict future events. Hence, insurers who are following traditional retrograde models could end up underpricing the weather risks. To bridge the trailing loss, insurers will need to revise the premiums at an increased frequency. If the revision in premium is not commensurate with the relative increase in the customers' willingness to pay it may become a challenge for insurers to sell the coverage. On the other hand, if the worsening climate makes the premium accurately incalculable, it could constrain the capacity of insurers to offer climate insurance in certain areas.

Over the last few decades, commercial insurers have been managing the increasing insured losses with alternative risk transfer (ART) products. They have successfully capitalized themselves by converting the weather-related risks into investment products and transferred the risk to investors. ART products such as insurance-linked securities (ILS) have attracted steady investments and provided stable returns to investors for several years. However, successive years of severe climate shocks have disrupted the financials of the products and investor returns. Besides, the worsening impact of climate shocks are increasing the magnitude of loss creep which makes insurers to book insufficient loss reserves. This hurts investor confidence and creates problems with reinsurers.

4. Braving the Storm

Braving is the response of the insurers to face the short and long-term impact of the risk-triad. In the short-term, the acute increase in risk presents commercial insurers with unprecedented topline growth opportunities. To benefit from this, commercial insurers are responding by recapitalizing themselves, introducing new products, taking steps to identify, assess, and quantify risk accurately, and reinventing business models by moving from loss indemnification to loss prevention. A long-term chronic increase in risk like climate change will be apocalyptic. Hence, the focus transcends beyond products to prevent further deterioration, build resilience, and to decarbonize their portfolio.

To start with, insurers are looking to reduce operational friction, increase efficiency, and improve risk management capabilities by leveraging the 4IR technologies. As their adoption increases, more loss data will become available resulting in the reduction of information asymmetry, unknown-unknown and uninsurable risks. With the help of smart algorithms that derive granular insights from the data deluge generated by the connected devices, insurers attempt to build the capability to accurately predict, assess, monitor, control, and even prevent risks.

4.1 Review of Coverage

To prevent surprises from unanticipated losses that emanate due to the transforming nature of the risk-triad, commercial insurers are revisiting their existing portfolios to analyze and model the interlinked risks and scrutinizing the policy language to clearly define the exclusions and limit their liabilities. They reassess the risks covered, sub-limits, exclusions, deductibles, waiting periods, and coinsurance requirements. To address the coverage gaps in existing products, insurers ascertain if it would require mere inclusions in the policy wordings, an add-on coverage to traditional lines of business, or a discrete stand-alone product. Some commercial insurers have already started addressing the coverage gap due to cyber-physical interactions by extending the coverage for contingent bodily injury in technology errors and omissions policies. Going forward, insurers may enforce a blanket exclusion of coverage for certain aspects such as unencrypted data, unprotected systems, or discriminatory algorithms that increase the risk vulnerability.

For filling the gaps identified in geopolitical risks, new coverage for environmental, reputational, loss of attraction, kidnap and ransom, and non-damage business interruption losses are being introduced. Geopolitical and climate risks could cause force majeure events that could be neither anticipated nor controlled. Business contracts consist of a force majeure clause that provides reprieve to a party from performing its obligations under a contract. Commercial insurers also sell force majeure insurance contracts

providing coverage for financial losses arising out of such a default. Given the growing geopolitical tensions and climate risks, the need for force majeure coverage is likely to see an uptick.

Of late, geopolitical tensions are increasingly taking the form of cyber-attacks. Consequently, cyber risk protection is slowly becoming a default ingredient in all forms of coverage. Considering the magnitude of a cyber catastrophe, insurers are starting to offer cyber- insurance as a stand-alone product apart from being sold as an add-on coverage to traditional policies. New products are being launched for reputational risks, loss of future revenue due to a fall in reputation after a breach, and the loss in value to intellectual property or data. Besides, due to the omnipresence of data and algorithms, cyber-attacks could cripple businesses in unimaginable ways. Consequently, cyber-attacks could also be considered as a force majeure event while defining contracts in the future.

For climate risks such as natural catastrophes, earthquakes, and weather exposures, insurers have been offering parametric or index-based insurance contracts to provide coverage. However, the growth has been tepid as it was restricted to select geographies and insurance lines. Due to the growing capabilities of the 4IR technologies, the basis risk which was a major challenge for the acceptance of parametric insurance is narrowing down. Following this, insurers are starting to experiment with hybrid parametric products. The resulting scope of parametric products is now expanding to cover new risks such as water-level risks and non-physical damage with the potential for business interruption.

4.2 Build Forward-Looking Risk Models

Considering the unprecedented nature of the risk-triad, insurers are starting to adopt forward-looking risk assessment models to predict risk. Insurers are building multi-scenario event-sets to quantify the potential losses as maximum foreseeable loss, probable maximum loss, and normal loss expectancy. Considering the complexities and opaqueness of the risk triggers, insurers will have to model all the extreme possibilities that could impact any contract. These are essential to determine how much cover to grant or retain and the forward-looking premiums to be charged.

Insurers and reinsurers are leveraging technologies like geographic information systems, satellite imagery, IOT, big data, advanced analytics, and AI/ML to gain additional insights on the risk-triad and improve risk assessment and pricing. Granular weather data from satellites, sensors, and third-party sources is used to facilitate continuous risk monitoring and resilience building. Insurers use AI/ML algorithms to simulate thousands of hypotheticals but probable events for creating synthetic climate scenarios, perform forward-looking stress tests on physical and transition risks, derive anticipatory

intelligence regarding vulnerabilities and risk zones, and assess their financial stability.

Going forward insurers could leverage the data from connected ecosystems such as smart buildings and smart cities, to equip themselves with remote monitoring and failure prediction capabilities. This could help them conduct stress tests to assess the business interruption and contingent business interruption impact of the risk-triad across various locations and the global value chain. Such a stress test also factors-in the ramifications from one risk changing the form to another, for example, geopolitical tensions manifesting as cyber-attacks or climate risks resulting in geopolitical tensions.

4.3 Focus on Building Resilience

Taking into consideration all the extreme risk scenarios that the risk-triad could unleash and the insights that 4IR technologies provide, insurers are stretching beyond the traditional risk remediation functions and are beginning to focus on post-catastrophe rehabilitation and financial remediation. Insurers are starting to offer comprehensive risk management solutions instead of mere risk transfer options. They are creating capabilities for pre-loss activities (prevention, preparation, and protection); at-loss activities (detection and response); and post-loss activities (recovery and improvement). The emerging technologies are used for extracting data from discrete sources to calculate the multiple risk indices in real-time, simulate various loss scenarios, perform exposure and stress analysis, and forecast the downside impact on their risk portfolios. They are partnering with the insured companies, industry bodies, and policymakers for building resilience. The resilience strategy is focused on enabling a quick return to normalcy after a loss event. To measure and monitor the geopolitical risk and resilience, risk indices at a country, and company levels are arrived at. These indices help insurers to assess the risk dynamics, the risks companies are exposed to for initiating an appropriate risk prevention approach.

Insurers are starting to focus on building cyber-deterrence by adopting an integrated approach to design, assess, and maintain resilience programs. To begin with, insurers are incentivizing the companies to build better cyber-resilience. Insurers are starting to partner with technology and insurtech companies that specialize in handling cyber risk, to offer solutions across the three risk stages – pre-breach, at-breach, and post-breach – and the four risk management activities – prepare, protect, detect and improve.

Considering the gravity of climate risk, a proper climate change response necessitates a concerted effort from every stakeholder to reduce, stop, and reverse the anthropogenic deterioration. Insurers' role in the fight against climate change is still evolving. Nevertheless, with their vast experience in protecting against weather shocks, insurers are

well-placed to advise policymakers, regulators, and companies on climate change adaptation methods and define climate-resilient policies. They will need to collaborate with other insurers and scientific agencies to establish early warning and action systems for climate change.

4.4 Ascertain Supply Chain Strength

In the globalized production ecosystem, supply chain disruption has become an important peril for business interruption. In a networked trade landscape supply chain is exposed to all three risks in the risk-triad. To manage the risks, insurers assess the supply chain vulnerabilities by identifying critical business functions, plotting interdependencies, identifying geopolitical red-flag areas, and elucidating the failure impact reduction measures. For ascertaining the strength of the supply chain, insurers will have to analyze the risks that go beyond the primary tier-one suppliers. However, this is a major challenge as the insured companies either do not have details of the entire chain or unwilling to share due to business confidentialities. Insurers will have to closely work with the insured companies to redesign their supply chain strategy for creating contingency rules and procedures for operating during a complex, high-risk event. They will have to reevaluate supply chain priorities from just-in-time or lean inventory management to affirmatively limit supply-chain liabilities.

Insurers can leverage technologies including IOT, geographic information systems, and distributed ledger technologies for optimizing transparency, proactive monitoring of the safety of goods while in-transit and suggesting safe trade routes. AI/ML is leveraged to identify, assess, quantify, and prioritize interlinked portfolio risks, derive proactive actionable insights, and suggest corrective measures. Wherever possible, insurers can even advocate de-risking measures such as finding an alternative to the critical suppliers in advance, localizing the operations, production, or markets to reduce dependency risks.

4.5 Focus on Governance

Of the three risks in the risk-triad, climate change is seen as the mother of all due to magnitude and severity. There is a growing urgency and need to intervene and for decreasing the speed of deterioration. More than merely catering to the insurance coverage requirements, insurers must play a proactive and constructive role to reduce further anthropogenic calamity. Climate scientists are proposing a transition to a lower-carbon economy. Towards this, insurers are required to take an enterprise-wide view to manage climate risks and initiate steps to ensure alignment with lower-carbon targets. They must build a robust climate risk supervision framework and incorporate principles of sustainability and integrate environment, social, and governance (ESG) factors.

Insurers must create processes and tools for routine supervision. They should establish policies to encourage companies to make annual disclosures regarding the impact of their business activities on climate change. By analyzing these disclosures, insurers can underwrite risks based on environmental factors such as carbon footprint, water stress, biodiversity, land use, toxic emissions, cleantech, and green buildings. Insurers must also promote responsible investing by evaluating their investment portfolios and reallocating their capital in green assets. Considering the seriousness, insurers need to create specialized units to continuously monitor the changing nature of climate shocks, assess the impact, initiate coordinated initiatives, and take immediate corrective steps. Insurers will have to integrate the climate risk factors into supervisory risk frameworks to assess financial risks.

5. Surviving the Perfect Storm

The future portends a period of increased geopolitical turbulence, the demise of the existing world order, and the emergence of an unknown new normal. Global trade is adjusting to thrive in an environment of localized trade landscape, emerging supply-chain alternatives and new agreements governing regional trade. In a hyperconnected algorithm-dominated world, cyber risks could become apocalyptic. Insurers need to build well-capitalized risk pools at the geographic or multi-national level. When clear patterns of cyber-risks and data points on cyber vulnerabilities emerge, insurers can create investment products like insurance linked savings (ILS) to source funds from the capital markets. The identification of liability posed by autonomous decision-making systems is a unique 4IR specific conundrum. With no historical precedence, this is bound to surprise the industry in the short-term. However, as it progresses, the disputed liability scenarios will reduce, and an unambiguous liability matrix will evolve. Insurers must take steps to navigate the transient period of industry re-definition and efficiently handle the technology risks through effective identification, assessment, right coverage definition, and accurate pricing to survive the storm and emerge stronger.

As regards the steps to combat climate emergency, concerted efforts from policymakers all over the world is required to define and implement a common action plan. However, the growing geopolitical unrest is proving to be its nemesis. The fractured response is proving to be a textbook example of the tragedy of the commons. Though the frequency and severity of the climate risk events are increasing, climate change deniers object to the framing of stringent policies and obstruct consensus building on the fightback methods and bolder commitments. Further, the emerging geopolitical tensions are counterproductive to climate change action, as countries walk out of climate agreements undoing years of effort spent in framing them. Also, a shift from fossil fuels could further aggravate the situation by changing the geopolitical power equations and relationships.

Given this scenario, insurers should shift their motive from profit to purpose to become the conscience keeper of the biosphere. Despite not being gross polluters or policy decision-makers, owing to their position to provide coverage for risks and loss incurred, insurers wield the power to influence. The growing intensity of nudge by rating agencies could force a sectoral shift towards a green economy. Insurers could start denying coverage to companies that are large patrons of fossil fuel and create a heavy carbon footprint both with their operations and investments. Insurers must start taking bolder decisions to accelerate the progress towards net-zero carbon emissions.

In sum, the industries are going through a transient period of extreme change and purpose re-definition. Only those insurers that adopt appropriate strategies to handle the risk-triad effectively and navigate efficiently will be able to take advantage of the growth opportunities to create exponential value and successfully survive the storm.

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