LLOYD'S

Lloyd's emerging risk report 2021

Shifting powers

Meeting the challenges of the geopolitical landscape

In association with

Centre for **Risk Studies**
UNIVERSITY OF CAMBRIDGE
Judge Business School

Lloyd's Futureset

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1. Executive summary

1. Executive summary

In just the last decade, the geopolitical risk landscape has undergone something of a paradigm shift. The Western-dominant, American-led, liberally fiscal, status quo that defined the political world and economic growth for much of the second half of the 20th century no longer feels like a realistic barometer for how future events – wars, riots, elections, treaties – will play out on the global stage.

Instead, we face a future in which multipolarity, the equal distribution of power between two or more states, changes the behaviour of risks to the increasingly connected global system.

Today, the price of oil, elections in South America, or the failure of an emerging economy create far-reaching effects through the globalised system. In the future, the exposure to these effects will likely only grow as the structure of our globalised economy shows very few signs of ending soon.

Most of the last decade's geopolitical upheavals can be directly attributed to the fallout from the global financial crisis and the austerity measures that followed. The economic havoc generated by covid-19 has reopened many of those wounds and will carry with it new rivalries as well as the hangover of national debt.

In the short term, geopolitics is set to become more idiosyncratic and unpredictable, with raised tensions destabilising societies and flowing through to international business and markets. All will be supercharged by rapid technological change, with the automation of labour potentially rendering millions out of work. Growing global dependency on cyber networks and digital technology across all aspects of business, government, and life would make the consequences of a potential future breakdown of critical physical and digital infrastructure catastrophic.

In the medium term, the coming decade will most likely see an increase in great power competition, and further escalation of many of the proxy confrontations that have driven conflicts in the past few years.

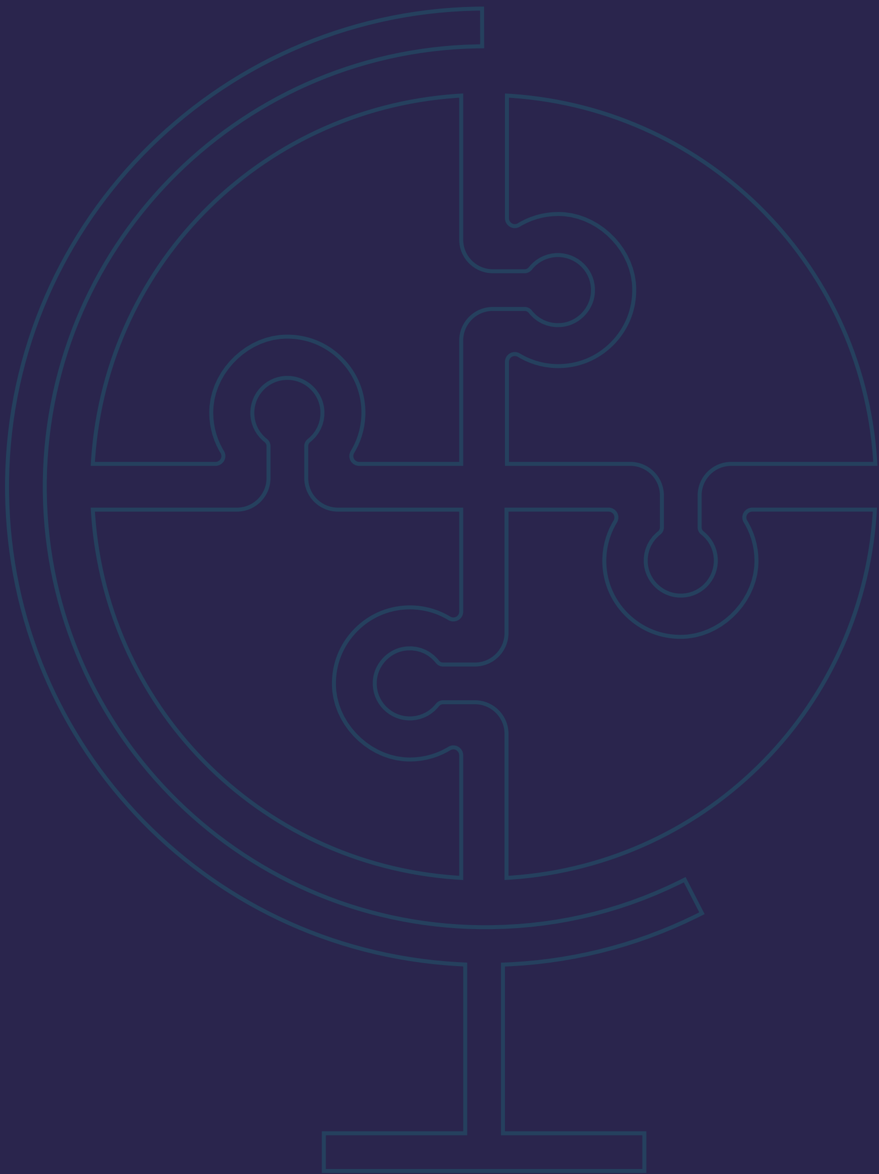
Finally, in the long term, the world will have to continue coping with existential risks that would dwarf covid-19 in terms of potential impacts, including nuclear proliferation, humanitarian catastrophes, and climate change-driven extreme weather events.

Overall, the post-pandemic decade is likely to see profound changes in geopolitical configurations, domestic balances of power, and even fundamental worldviews. The first two decades of the century have proved different to what many expected, and the next one looks no less unpredictable. What currently seems certain over the next ten years is that the current crisis will not end once the vaccine rollout is completed, lockdowns lifted, and freedom of movement re-established. Fortunately, though, it is not all about just how the virus exacerbated existing risks. The covid-19 crisis has also exposed areas of strength, resilience, and innovation that, if properly harnessed by policymakers, civil society, and business, may very well create new opportunities from the changing landscape.

This paradigm shift presents a host of new challenges to our customers which the insurance industry can support, in part. As the business world recovers from the impacts of covid-19, risk professionals will seek new and more expansive solutions to protect business interests from increasing trade tensions, currency volatility, increased social unrest, and other geopolitical perils. Section 4 of this summary report details the extensive list of insurance products already available which already caters to political and security risks, but further innovation will be needed.

There is a significant geopolitical "protection gap", which leaves vital supply chains, smaller businesses, and emerging economies highly exposed to disruption from geopolitical risks. Overall, the challenges of the geopolitical risk landscape may lead to a transformation in the relationship between insurers and risk professionals, in fostering improved data stewardship and threat monitoring across high-risk areas. The challenges and opportunities for insurers are detailed further in Section 5 of this summary report.

2. Ten core geopolitical themes: and how to mitigate them



2. Ten core geopolitical themes: and how to mitigate them

This research, carried out by Lloyd's in partnership with the University of Cambridge Centre for Risk Studies, aims to establish a high-level picture of the geopolitical risk landscape over the next one to three years across 10 key themes.

Assessing the geopolitical risk landscape

Geopolitics is a huge field, encompassing war, protest, religion, culture, trade, treaties, technology, historic rivalries, and emerging ambitions, among other factors. To provide an organised analysis of the common themes and specific risks in the current landscape, the research is separated into ten core themes. There is significant overlap and shared causation between these major themes, and discussion regarding their relationship to one another.

Under each theme we illustrate a variety of scenarios of differing probability and impact. These are not predictions or forecasts. They are within the range of things that may happen. We also indicate the main insurance product that would respond in each scenario – although in practice many may do so. See Section 4 for a description of these products. See also Appendix 1 where the list of scenarios is repeated in a single table for ease of reference.

1. The Impact of Covid-19 on Geopolitical Relationships
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Ten core themes and suggested actions for risk managers

Firstly, in this section the ten core themes will be described in order to illustrate the potential geopolitical risk landscape. We do not claim that any or all of these issues will occur but believe that they may do so with varying levels of severity. We draw a distinction between the "risk owners" within the firms we insure, and "risk managers" (recognising in some firms these may be the same person). The former are the business managers with direct line management responsibility and are directly subject to risks such as reputational damage, supply chain disruption, physical harm to infrastructure, wellbeing of staff, defence of the firms' cyber infrastructure and many other risks. Such "risk owners" are ultimately responsible for managing and mitigating those risks. Risk managers within our customers are key support colleagues who can help risk owners explore a suite of mitigation techniques including insurance. We hope that the themes raised in this paper will help risk owners, assisted by their risk manager colleagues, to carry out scenario planning exercises and explore how risk transfer and associated insurance services can help defend cashflow, balance sheets, short and medium term company goals and ultimately company brand, reputation and strategy.

1. The impact of Covid-19 on geopolitical relationships

Once the coronavirus pandemic ceases to be a public health crisis, it will have already fully transformed into a geopolitical one, with deep and long-lasting political and economic implications that will likely change the global order as we know it. The crisis has caused a global recession. To various degrees, GDP plummeted in all regions last year. The IMF estimates global economic output to have shrunk by 3.5% in 2020[1], with advanced economies projected to take the longest period to recover as the pandemic exacerbated underlying, chronic issues inhibiting growth but with losses expected to be largest among low-income countries. Overall, the virus will reshape the geopolitical landscape of the next decade and, with it, the global operating environment for businesses.

Risk	Scenario	Probability	Impact	Top Lines Triggered
Covid-19 Impact on Geopolitical Relationships				
Inflation	*Covid-19 recovery is followed by a global inflationary spiral*	Remote	Significant	Political Risk and Trade Credit
	A critical change in consumer behaviour leads to a deflationary trend	Unlikely	Significant	
	The global economy undergoes a short-lived boom before returning to pre-Covid levels	Expected	Moderate	

1 International Monetary Fund, "World Economic Outlook Update: January 2021

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2. Greater power rivalry

The US is moving away from its role as Global policeman and conflict mediator. In the background, other great powers such as Russia and China are more confidently advancing their strategic interests. The EU is also seeking greater strategic autonomy. The result of this is that businesses are operating in an increasingly unpredictable international environment. As a result, we can expect trade sanctions, tariffs, disruption of supply chains, greater regulation, and barriers to new investment. We can expect to see regional alliances forming giving preferential treatment to those involved. In response, companies may need to diversify and localise their supply chains and re-think their cross-border strategies.

Risk	Scenario	Probability	Impact	Top Lines Triggered
Great Power Rivalry				
Trade Sanctions	*Sanctions by major powers may push allied individual states to abandon planned infrastructure projects with sanctioned countries*	Unlikely	Significant	Trade Credit, Energy and Political Risk
	Limited sanctions may lead to extended talks on planned infrastructure projects – leading to delays in project completion	Likely	Moderate	
	Sanctions may be avoided between rival states, but new regulations are introduced which restrict the ability to trade or manipulate commodity values	Remote	Low	

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3. Localism vs. globalism

While globalisation began to stall a decade ago, Covid-19 is likely to accelerate the trend towards more regional and national approaches. The anti-global sentiment that has characterized Western politics in the past decade is now challenged by new tensions between major trading blocs showing no signs of abating. The anti-globalization backlash and increased protectionism pose major challenges for multinational enterprises and trade dependent firms, with Covid-19 exacerbating underlying transformations in trade, supply chain, and globalization.

In the coming years, the global trade system will likely develop into a system of large regional trade agreements, with increased cooperation within and potential tensions between nations.

Risk	Scenario	Probability	Impact	Top Lines Triggered
Localism vs Globalism				
Trade Dispute	*Major economies reshore manufacturing production back to the mainland*	Remote	Significant	Political Risk and Trade Credit
	Firms take steps to bring manufacturing and supply chains closer by nearshoring	Expected	Moderate	
	Business as usual	Unlikely	Low	

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4. Multinationals at risk

For much of the early 21st century, geopolitical risks featured relatively low in risk management discussions for major multinational firms. These assumptions began to change with the arrival of the Arab Spring and Occupy movements and then, markedly, with the conflict over Crimea.

There is now a common understanding that geopolitical strategy very often underpins the competitive business environment, and that systemically important multinationals can be seen as extensions of state borders and interests overseas, increasing their exposure to geopolitical events.

The major consequences of geopolitical risks to multinationals include: the disruption of supply, sales opportunity loss, price and currency fluctuations, and legal and reputational risk.

The geostrategies of multinationals following the pandemic will play a significant role in the process of recovery and restoring strength in the globalised economy, shoring up trade relationships and pursuing more sustainable partnerships built around improving public health and digital resiliency. Firms with strong ties to specific multinational firms should consider how their strategies would be impacted should such a major partner become impaired in some way, either globally or in a particular region.

Risk	Scenario	Probability	Impact	Top Lines Triggered
Multinationals at Risk				
Soverign Debt Crisis	*States default on their sovereign loans following repeated pandemic reoccurrences*	Likely	Moderate	Political Risk and Trade Credit
	States default create a financial contagion which causes defaults in different regions of the world	Remote	Extreme	
	Governments widely adopt policies of extreme austerity in order to safeguard pandemic recovery	Expected	Significant	

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5. Terrorism and armed conflict

Despite the occasional assertion that we are currently enjoying the most peaceful era in history, fear of conflict and political violence remains a constant in the modern world.

The causes of geopolitical conflict are deep-seated and may be endemic and, therefore, modern wars tend to be tenacious, devolving into political quagmires, drawing in foreign militias, and leading to massive displacement and years of social upheaval and unrest.

Sustained state violence, or the threat of war, contributes to instability and insurgency. In these situations, power structures become eroded and militias or other insurgent groups offer a kind of stability to the disenfranchised.

As the world moves more rapidly towards multi-polarity and increasing competition between major powers, proxy wars and their wider effects, including retaliatory sanctions, attacks, and diplomatic actions, will become more long-lasting and entrenched, cooling off for years before escalating again quickly.

Risk	Scenario	Probability	Impact	Top Lines Triggered
Terrorism and Armed Conflict				
Supply Chain Disruption	*Islamic State's encroachment causes disruption to supply chains*	Likely	Significant	Political Violence, Liability Terrorism and Trade Credit
	An attack on a major power foreign asset abroad causes a military advance into that region	Unlikely	Extreme	
	Technology innovations ruin demand of a particular material, leaving a region highly vulnerable to new insurgent threats	Remote	Low	

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6. Cyber, technology, and the new tech arms race

Cyber operations have become fully integrated into national security and regional conflict in the last decade. In 2010, the Stuxnet worm, widely attributed to a US-Israeli collaboration[2], began a new era in which cyber actions now underpin geopolitical rivalries. In 2018, however, the publication of the US' Cyber Strategy explicitly stated an intention to "defend forward" against cyber adversaries[3], heralding a transition from the age of deterrence to one in which defence and offence are one in the same.

Cyber has grown to one of the most expensive threats to businesses, with more than $5 trillion in losses annually[4] – cybercrime represents the largest transfer of economic wealth in history. Lloyd's report on *Safeguarding Intellectual Property* illustrates the impact of piracy and theft of industrial secrets for example. Fear of escalating cyber conflict has become a constant for businesses and governments alike. In the past decade Lloyd's, working with many partners, has explored and highlighted many forms of cyber threat such as attacks on energy infrastructure, failure of the cloud, global ransomware, exploitation of common vulnerabilities and supply chain attacks affecting ports and shipping. Each of these leads to hundreds of billions of dollars in economic losses. Geopolitical effects may exacerbate this either providing safer havens for criminals or leading to state sponsored campaigns. We believe our research catalogue will be useful for risk owners and managers to explore scenarios and their impacts.

Risk	Scenario	Probability	Impact	Top Lines Triggered
Cyber, Technology, and the New Tech Arms Race				
Cyber Attack	*Major powers intelligence services discover cyber-attacks carried out by rival states*	Likely	Moderate	Cyber and Commercial Property
	Major powers engage directly with rival states in cyberspace	Likely	Significant	
	Escalating cyber attacks between states in the same region force the other ones into the fray	Remote	Extreme	

2 https://en.wikipedia.org/wiki/Stuxnet
3 https://media.defense.gov/2018/Sep/18/2002041658/-1/-1/1/CYBER_STRATEGY_SUMMARY_FINAL.PDF
4 Juniper Research "The Future of Cybercrime & Security: Threat Analysis, Impact Assessment & Mitigation Strategies 2019-2024"

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7. Social discontent and local conflicts

Social unrest and discontent are set to increase in the coming years. 75 countries are expected to experience an increase in protests by late 2022, according to Verisk Maplecroft who have recently taken part in our Insurance innovation incubator-the Lloyd's Lab. Of these, more than 30 (predominantly in Europe and the Americas) will likely see significant activity.

Moral governance, social justice and inequality, and climate change will continue to drive social unrest into the future as the world adjusts to post-pandemic social expectations. These large-scale protests and riots have the potential to cause catastrophic damage to businesses. Many businesses would lose productivity due to severe damage to key facilities whilst infrastructure damage would affect their distribution and logistics operations.

Services which use a variety of new data sources will help risk owners to understand the granularity of these threats. This may be a key area where insurers can partner with such firms in future.

Risk	Scenario	Probability	Impact	Top Lines Triggered
Social Discontent and Civil Dispute				
Social Unrest	*Regular protests continue to occur in major powers*	Expected	Low	Political Violence and Casualty and Liability
	Environmental protests spread worldwide leading to global civil disorder and damage	Remote	Significant	
	Protests regularly escalate to clashes between right- and left-wing groups, leading to riots and violence	Likely	Moderate	

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8. Political change

The Arab Spring at the beginning of the decade set the mood for political change throughout the 2010s. Since the beginning of the Covid-19 pandemic alone, many other regimes in more than 100 countries have seen excessive use of emergency governmental provisions which violate international standards and widely increase discriminatory practices. Concerns over the growth of autocracy, democratic backsliding, and receding globalisation have abounded in the years since the Great Financial Crisis. The Brexit vote and the Trump election were just two major events in a global trend of diminishing globalist ideals in regions of the world that have long been major beneficiaries of the system.

Analysing the implications of political change for business invariably focuses on the outlook for Western democracies beyond all others. Change is a fundamental part of the tradition of government in Europe, Canada, Australia, and the US. Thus, sudden political change in China may not be such a significant risk to business as the rise of radical populism in the EU could be. The impacts will vary by firm and how their supply network is structured.

Risk	Scenario	Probability	Impact	Top Lines Triggered
Political Change				
Democratic Backsliding	*A significant dissenting minority of Nationalists are elected to a member states organisation Parliament*	Likely	Significant	Political Risk
	A major power votes to exit the member states organisation, leading to currency devaluation	Remote	Extreme	
	Following a series of decisive referendums, the member states organisation embarks upon a dissolution process	Unlikely	Extreme	

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9. Politics vs. economics of climate change

Climate change poses significant economic threats worldwide in the form of increased physical risks due to extreme weather conditions that could result in business disruptions and financial losses but that may also have systemic impact causing, for instance, economic recession and financial market instability.

Climate change risk has a clear geopolitical component in the energy transition that all major geopolitical players have pledged to undertake in compliance with the climate goals set out by the Paris Agreement. Over the next years, it will most likely tend to accelerate along two main dimensions: i) regulatory changes directed at fossil fuel intensive industries, and ii) the indirect effects that such changes will have once translated into market trends.

The energy transition will also be characterized by competition and a lack of coordination among major geoeconomics blocks, becoming yet another scenario for the renewed greater power rivalry. Lloyd's explored this issue with the International Institute of Strategic Studies over a decade ago in the report, *Climate change and security: risks and opportunities for business* but many of the findings remain highly valid. More recently we have worked with Vivid Economics to explore the impact of the 2-degree target on multiple sectors and with Imperial College to explore the trends in renewable energy. From a geopolitical perspective this work shows there will be winners and losers, and this may lead to tension.

Risk	Scenario	Probability	Impact	Top Lines Triggered
Politics vs Economics of Climate Change				
Tariff War	*States and member states organisations are approving unilateral high carbon tax*	Unlikely	Significant	Political Risk and Trade Credit
	Member states organisations are implementing moderate border focused carbon tax	Likely	Low	
	Business as usual	Unlikely	Moderate	

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10. Migration and demographics

Mass migration and population displacement events have occurred throughout history. Today an estimated 281 million people are considered international migrants, among whom only around 79.5 million have been moved by force. Modern migration events are caused by a myriad of often overlapping factors, the highest contributors being: conflict, economic and political instability, and environmental pressures brought on by accelerating climate change.

The current number of international migrants has already surpassed some estimates made for levels in 2050 and is set to continue rising as the issues driving migration remain unresolved.

The trend of global migration is only going up, with the number of forcibly displaced people doubling in the last decade from 40 to 80 million. It is likely that this trend will continue with the issues driving migration remaining present and intensifying in some cases. The implications of migration on businesses and their operations are varied. This risk couples tightly with climate change impacts which will be felt in the coming decades as some regions become near impossible habitats. Firms would be advised to map out such regions and think through their long-term strategies from a supply perspective here.

Risk	Scenario	Probability	Impact	Top Lines Triggered
Migration and Demographics				
Migration Crisis	*Following food and fuel shortages, a refugee crisis intensifies suddenly in neighbouring states*	Unlikely	Extreme	Political Risk and Trade Credit
	The migration into neighbouring nations increases steadily	Expected	Significant	
	Continuation of current migration rates	Unlikely	Low	

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Mitigating actions

The above list of themes and scenarios are not intended to be exhaustive but serve to illustrate some of the many ways that geopolitical factors will affect the risk landscape in future. Humanity is highly creative and since the second world war has reduced poverty, fed a rapidly increasing global population, developed multiple radically new technologies, shown a general increase in life expectancy through improved health care and pharmaceutical progress and caused a reduction in child mortality. These are great achievements and we can expect similar hope, creativity, and innovation in the coming decades. Despite this, as illustrated above, there will be many threats and we hope that the following section helps risk owners think through the actions they can take to protect their firms.

Inspired by the above themes and scenarios we propose the following list of actions for risk owners and risk managers to consider and review.

Firstly, companies should assign clear responsibility within their firm for the identification, communication, and management of geopolitical risks. Such individuals should be empowered to operate between corporate silos and have reporting responsibilities into the C-Suite assisted by clear communication processes. Geopolitical issues are often dealt with tactically but it is important to move beyond the short term to create geopolitical strategies that look out a decade with sufficient flexibility and options to be robust to many potential futures, as illustrated by our scenarios.

Wherever your base of operations is, you are likely to find that the government will provide help and guidance on operations. For example, the UK government provides expert trade staff for practical advice, reported barriers to trading, lists of countries with embargoes or sanctions and details of tax treaties to protect against double taxation. In a highly charged political environment this guidance is likely to change quickly so reviewing such information regularly in the light of response strategies will be key. The UK government website: Overseas Business Risk, gives information for UK businesses on how to identify and mitigate security and political risks when trading overseas.

It is not possible to foresee all possible future outcomes, but it is possible to develop a geopolitical risks response plan that is resilient to uncertainty. The more work that is carried out in advance to explore options, assign responsibilities, and decide on appropriate levels of risk transfer the better prepared you will be. Risk owners and managers who've embraced Enterprise Risk Management will acknowledge the benefits of this discipline to their organizations.

Whilst some geopolitical effects arise suddenly others can be signalled well in advance. Look out for upcoming elections as turning points and explore the likely behaviours of opposition parties. Consider how main infrastructure in your key regions such as electricity, transport networks, water systems, food security and the internet could be affected and the impact that would have on your operations. Our Future Cities report with Arup considers cities as systems of systems and highlights the fragility of interconnectivity.

Consider what actions you can take to guard your IP and trade secrets against the event of a major cyber-attack. Explore whether your business is proximate to any state assets that may be targeted in a state sponsored attack. See our report *Safeguarding Intellectual Property* for more information. Have you considered exploring IP insurance with your broker? Ask them whether your cyber insurance covers the key risks. Consider the benefits of parametric products for supply chain and cyber risks. These may offer you a clear trigger and fast liquidity in a geopolitical event.

How would your reputation stand up to increased environmental scrutiny? Can you build your reputation now as a buffer to potential future impacts? Can you adjust your longer-term strategy or build in options to follow different environmental paths to respond to carbon taxes, or subsidies? Is there potential for an increase in corruption in the relevant regions in either the public or private sector and how would your reputation be affected if this occurs? Could human rights violations arise and how do you ensure your operations, or those of your suppliers, are free from these, how would NGOs respond? See our report *Safeguarding Reputation* for more details. Have you considered reputation insurance? Products are available to both provide financial payments when events arise but also to provide scanning services to spot reputational risk before it manifests and event response services to help you react quickly when the need arises.

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Review likely changes to customer sentiment in affected regions. Can you help them respond to the threats and events? Is your product range future proofed? Can you innovate in advance of the need? Speak to your insurers and broker if you intend to materially change your business model to ensure your coverage is adequate.

Given the trend towards home working, can you move offices out of city centres? Will this make your workforce more resilient in zones at risk of conflict or terrorism? How will staff morale, health and wellbeing be affected by increased geopolitical stress in some regions? Do you have HR analytics in place to spot this? Have you considered your insurance arrangements in respect of this Human capital asset? See our recent report *Safeguarding Human Capital* which explores this area more thoroughly in a wider context.

Consider your supply chain exposure In the event of a post Covid short lived boom, be prepared to scale supply chains if needed. Begin now to map out the products that are most likely to be in demand. Consider financial options and derivatives and whether these can hedge sudden changes in the price of your raw materials.

Explore whether your supply chain can be diversified to facilitate flexibility and robustness in the face of geopolitical risks such as: sanctions, trade restrictions, migration effects, contract frustration, embargoes, discrimination through regulation, barriers to entry and seizure of key infrastructure or goods. Hedge currency exposures. Explore scenarios where there could be reduced access to raw materials such as those explored in our report *Unearthing Opportunity* which highlights the risks and opportunities of modern mining operations. Many businesses have an implied "social licence to operate" which can be lost rapidly following a regime change. Try to map out your suppliers beyond tier 1 (i.e. consider suppliers of your suppliers and beyond if possible; ask your suppliers to help). See our *Hidden Vulnerabilities* report for details on how these risks can be modelled. Map out your potential for Contingent Business Interruption (where an event does not directly affect your own property but impacts your supply chain), working with your broker to adapt business interruption coverage wording. Consider holding increased stocks of onshore supplies in case of disruption but don't forget the insurance implications of this such as increased fire, theft or flood risk.

Review your legal contracts with suppliers and customers from the perspective of geopolitical risks. Are there clauses that should be strengthened or reviewed in light of these changing risks? Consider any cross-default provisions where a third party is deemed to have defaulted on a second loan if they have already defaulted on the first - could this cause a cascade of bad debt issues? Check contract definitions carefully: how is war defined? Are there types of conflict that would fall short of being classified as war and therefore not trigger insurance or other protective measures? Consider the impact on your strategy should a major client re-shore their activities and no-longer seek to import your goods or services. Map out which contracts are most at risk of this.

Review your medium- and longer-term strategies for exposure to infrastructure projects. Are you overly reliant on these being completed? How would your strategy be affected if these were cancelled or delayed due to increased tensions between nation states?

Explore how a long-drawn-out conflict would affect your business compared to a short duration event – even if the property damage is the same the business interruption and other features could be very different. Explore terrorism cover: consider the limits you have purchased and whether they are sufficient: will a prolonged conflict shut down any of your major markets, how will reduced sales in that region affect your company stability? If you need to downscale, will other hazards become more relevant and should you insure those?

Determine your position within national infrastructure - are you a likely target for state-on-state cyber aimed at disrupting national life? Liaise with national governments/insurers. Have your systems assessed for any potential weaknesses and review your insurance policies to ensure you have adequate cyber coverage. Does the coverage include diagnostic services, post-event response and access to experts to advise you on options? Ensure ongoing compliance with local regulations.

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Learn from past experiences If you trade with a variety of countries some of which are more nationalistic than others – what can you extrapolate from these? Could you transfer operational practices from one region to another should their governments become more nationalistic? Your overseas colleagues could be a source of information and good practices under different regimes.

Review how past austerity measures have affected your business: ask what lessons were learned in the 2009 financial crisis and beyond. Prepare for similar impacts, should we see a return to this state of affairs, as national debts post Covid start to be addressed.

Speak to colleagues who have past experience of a high inflation era – prominent in the 1980s and early 1990s. Should an inflationary spiral arise you may need to revise your strategy and their experience will help highlight differences in business process in that environment. Such past practices will need revision, however, to take account of modern technologies, rules, and regulations that were not in place at the time. Consider the impact on your final salary pension fund (if any) and ensure your asset strategy is reshaped accordingly.

Review your insurance programme with your broker to consider coverage and any sub-limits for terrorism, war on land, contract frustration, political violence, and other impacted hazards.

Couple this activity with your scenario planning work (see box below). Ensure you consider large enough scenarios such as those with a 1 in 100 chance of occurring. Although these are individually unlikely, there are many potential geopolitical scenarios and the probability that at least one of them occurs is much higher. Do not design your insurance programme against a single or small number of scenarios – ensure it is resilient in a variety of situations. This may be more expensive but is far more likely to offer protection to events that arise in future.

Are your key assets insured adequately against terrorism and other security risks? Your broker can help review your portfolio and advise on mitigation. Products are available (see below). Also consider the risk of property becoming confiscated or nationalised.

Consider your foreign impact Consider which of your foreign assets are most at risk. Are any in high profile locations or near to government buildings? Are they iconic or likely targets for terrorism, riots, or other actions? Would they be key military targets? Consider how you would evacuate staff. Would you know how to respond if staff are taken and held for ransom? Do you have Kidnap and Ransom insurance?

Consider your exposure to any sovereign defaults. Consider current debt levels by country/region and the impact of Covid on this. Is your final salary pension fund exposed to any high-risk regions? Can you hedge risks with financial options or derivatives? Should you advise your staff to avoid certain regions in their money purchase schemes or even remove those options from the available investments – speak to your fund manager for options and ask them if they are exploring geopolitical risks and planning their response?

If you are considering an acquisition or merger then think through the longer-term geopolitical exposures and how this might affect the expected synergies from the deal

If you have an insurance captive, how might its solvency be affected by multiple geopolitical risks? Can you change its reinsurance programme structure to be more robust to these risks? Are some hazards not covered by the programme currently or sub-limited? Speak to your broker on how to address this.

Consider a variety of external data sources and modern algorithms to better understand the threat. There are a number of companies that offer services to risk managers to monitor and forecast risk levels. Using AI and new sources of data we expect to see an increase in our understanding in coming years. In our innovation accelerator, the Lloyd's Lab, we have been exploring this with two companies Verisk-Maplecroft and Moonshot. See the case studies in this paper to find out more about these experiments.

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Scenario planning

Scenario planning is a key methodology for exploring the impacts of the geopolitical themes mentioned above. This technique is regularly used by insurers to explore risks and indeed is embedded in the regulation of our industry. The Lighthill Risk Network sponsored by Lloyd's and other prominent members of the London insurance market funded the Cambridge Centre for Risk studies to write a detailed guide on this method. See *developing-scenarios-for-the-insurance-industry.pdf (lloyds.com)*

Although written for insurers we believe this paper has general relevance to risk owners and risk managers in any sector. The report states:

> *"Scenarios are stories about how the future might develop, aimed to stimulate exploration, understanding, and discussion. Based on a coherent set of assumptions about key deterministic relationships and driving forces, scenarios describe plausible futures that are intended to be scrutinised and debated. In the context of risk, scenarios provide a tool to cope with uncertainty, especially in the case of risks that are not well understood or cannot be quantified or even identified. They provide a systematic method for exploring how a complex and diverse array of risks may impact an organisation, sector, or economy; or in other words, how resilient these systems are to potential disruptions"*

We hope the description of the themes and the scenarios highlighted in this geopolitics report are a useful starting point for our customers in carrying out planning exercises. You may also wish to develop your own scenarios by examining near misses or past events that occurred but could have been worse. This approach is known as Counterfactual Risk Analysis. See our report *Reimagining History* if you want to learn more about this approach.

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Case study:
Verisk Maplecroft providing actionable geopolitical intelligence to clients

Global risk intelligence company Verisk Maplecroft (founded in 2001) has been participating in Cohort 6 of the Lloyd's Lab on the theme of Geopolitics. During their time in the Lab they have been innovating with underwriters to develop political risk solutions for the insurance industry with a particular focus on Strikes, Riots and Civil Commotion.

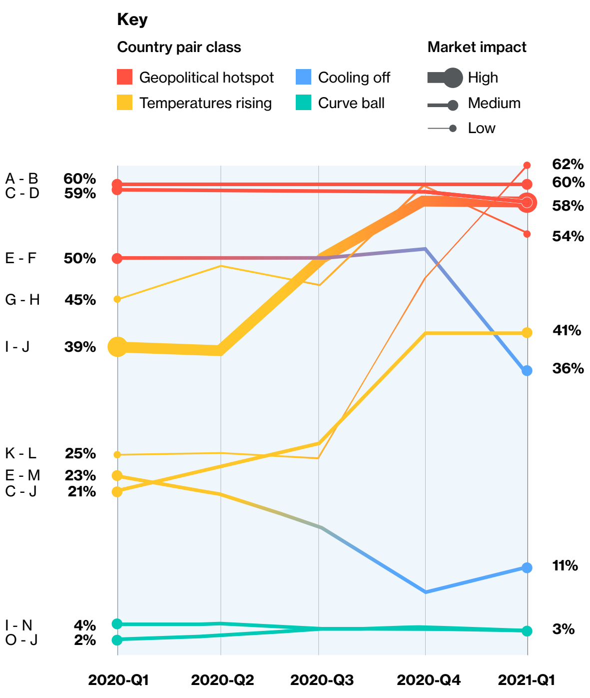
Their model covers 198 countries with individual event granularity and offers 300 indicators which underpin 51 political risk indices. They combine artificial intelligence with structured input from political risk experts to form global forecasts on how and where political risks are likely to emerge. Using the combination of new technologies with expert analyst judgements, they aim to enhance how companies and investors identify, measure, analyse and proactively manage geopolitical risks. Verisk Maplecroft's multi-year historical time series enables risk managers to explore and quantify the impact of past events.

Their data is used by companies in the financial services, energy, metals & mining, consumer & retail, and ICT sectors, who can also tap into a daily feed of analysis, direct analyst briefings, and in-depth country risk profiles. In combination, these resources are designed to help manage the full range of ESG and political risks.

An illustration of one of their tools is shown below which pairs up countries (labelled A-O below) and shows how the likelihood of military confrontation is expected to change over the coming year. Such analysis may enable risk owners to assess the potential impacts on their business plans and help risk managers to consider whether their insurance programmes are adequate or need strengthening (or relaxing) in particular areas.

Country pair class definitions

- **Geopolitical hotspot:** Country pairs most likely to engage in a military confrontation in 2021.
- **Temperatures rising:** Country pairs that have experienced the greatest increase in the liklihood of a military confrontation occuring over the past 12 months.
- **Cooling off:** Country pairs that have experienced the greatest decrease in the liklihood of a military confrontation occuring over the past 12 months.
- **Curve ball:** Country pairsthat you might expect to face a high risk of facing a military confrontation, but which our model suggests are statistacally unlikely to do so.



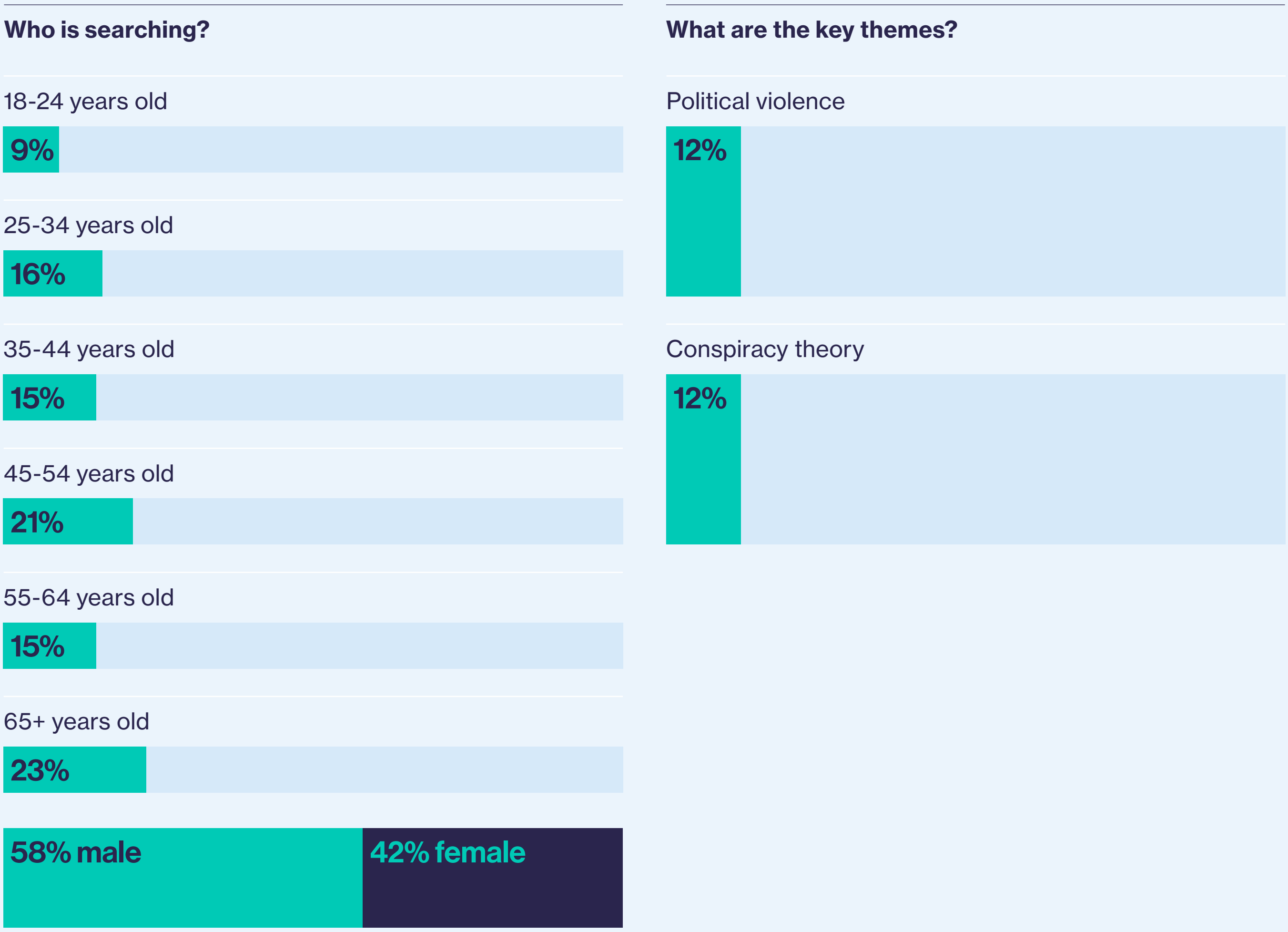
2. Ten core geopolitical themes: and how to mitigate them

Case study:
Moonshot - Working to end online harms, applying evidence, ethics and human rights

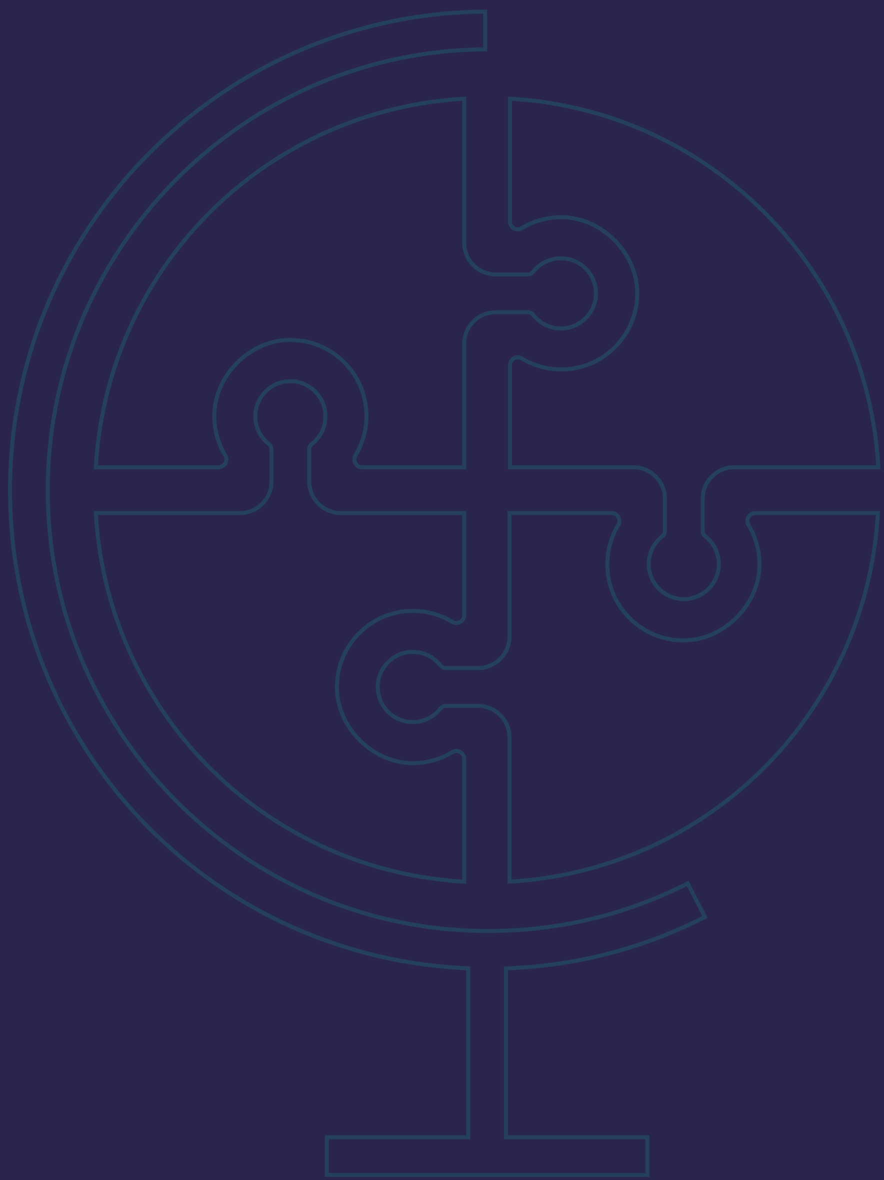
Moonshot, formed in 2015, has been in Lloyd's Lab cohort 6 working with mentors from the Lloyd's market. Their approach offers risk analytics expertise to detect and understand man-made perils such as terrorism and political violence. Their product has been designed through working with governments and major technology companies to assess and respond to terrorism threats in dozens of countries around the world.

Their approach merges hard to find data on complex man-made risks with expert-developed indicators and algorithms using thousands of heterogeneous hidden data sources on organised crime and terrorism, including: encrypted spaces, and patentable technology to extract and visualize that data at scale. Originally developed for major governments they are exploring pivoting their work for use by insurers and our clients. Their data includes data from across over 57 territories in 33 languages.

The graphic below shows an example of the insights that such analysis can bring. In this case the data has been used for a particular geographical region to see who is searching for terms that are related to political violence. The graphic shows that the key themes arising were political violence and conspiracy theories.



3. Risk happens: Key geopolitical trends of the last decade



3. Risk happens: Key geopolitical trends of the last decade

The risks we've outlined above are not new. While some may have come to the forefront recently, they have always been on risk registers in some form. Indeed, we have produced many reports over the last decade that explore multiple risks, including pandemic scenarios. While some of these are low probability but high impact events, we believe examining them can help our customers be more prepared when significant issues arise. Although any one scenario is rare there are so many potential scenarios that it is quite likely that one of them will arise.

To illustrate this, the following section explores the last decade from a geopolitical perspective. The list of shocks this contains serves to remind us of the importance to be prepared. Risk managers may be faced with incredulity when trying to raise awareness of a new risk within their firms – we hope this section can help demonstrate that the scenarios presented in this report are important to think through. Not because they will happen, but because they might. Change is a constant, the one thing we can be almost sure of is that in the future we will have a similar list of shocks when we look back on the 2020s.

Covid-19 arrived at the end of a decade of change and technological innovation, political and economic shocks. The past ten years have seen the advent of various crises – from democracy to international relations – from which we inherited an increasingly polarised geopolitical landscape and rising political and societal divides in almost every country on Earth.

The social, economic, and cultural effects of the covid-19 pandemic will add to these challenges and cast a long shadow into the next decade and beyond. The pandemic will continue to accelerate underlying trends that began in the last decade.

In fact, the 2010s began with expectations of continuity and progress. On December 17, 2010, Tunisian street vendor Mohamed Bouazizi immolated himself to protest his harassment by local authorities, setting in motion the Arab Spring. This movement was also fuelled by spiralling costs of food as a consequence of the extreme heatwave in Russia which reduced what yields leading to a wave of uprisings that swept through North Africa and the Middle East. These different events have shaken authoritarian governments in the region and beyond, and unleashed consequences that still shape the world to this day.

The Arab Spring was an attempt by politically engaged masses to topple long-standing authoritarianism regimes and, not dissimilarly from Barack Obama's election in the US two years earlier, was hailed as a victory of hope and optimism for positive, lasting change and advances in democratic values. In a couple of years, though, the dream of the Arab Spring would produce only modest political, social, and economic gains for most of the region's inhabitants and, instead, sparked horrific and lasting violence, mass displacement, and increased cultural repression.

The past ten years have been termed by some as a "decade of disillusionment". Although the Arab Spring perhaps set the tone for the decade that followed it, a major cause of the geopolitical events of the 2010s was the 2008 global financial crisis which itself contributed significantly to the economic strife and civil unrest in those already-aggrieved countries swept up in the Spring.

3. Risk happens: Key geopolitical trends of the last decade

The origin of all major economic and political events of the 2010s are, to some extent, traceable to the crisis of capitalism that erupted with the 2008 financial crisis, which shocked the pre-existing economic and political order on a scale not seen since the 1930s and shattered the well-crafted narrative of globalisation. When the 2010s began, the fabric of the globalised international liberal order, which had buoyed the working assumption of US central governance and global leadership, had already began to fray.

This process can be retraced through five, main macro-trends that characterised the past decade:

Increasing inequality and social unrest

In developed countries, the most defining economic development of the 2010s was the deep and profound financial squeeze for households. For the first time in a century, earnings in Europe did not grow compared to the previous decade. In the US, although wages rose comparatively much faster than in the Eurozone, the gap between the very rich and the very poor had increased substantially. Overall, the austerity measures implemented in the West and the downstream impacts on developing economies caused inequality to widen globally during the Great Recession, thus fuelling public dissatisfaction and sweeping social unrest worldwide. Mass protest movements challenged governments, corruption, insecurity, poverty, discrimination, and the status quo as a whole. In the West, such movements have largely been based on frustrations regarding income inequality, political posturing, and populism – from Occupy Wallstreet and Black Lives Matter, to far-right protests and the gilet jaunes movement. In developing countries, demonstrations sought to curb the power of authoritarian governments undermining individual liberty and self-determination – from the Hong Kong student and extradition protests, to Venezuelan unrest, the Arab Spring, and beyond.

Rising populism and the erosion of the free-market model

The financial crisis led to the questioning of the free-market economic model – the only model in existence for more than half of the world's population at the time. Championed by the developed world, the free-market economy, however, had been under scrutiny since 1990; income stagnation, rising inequality, and economic insecurity have roots that can be traced back to the 1970s and 1980s. In the aftermath of the 2008 crisis, however, more and more countries have demonstrated the inclination or incentive to abandon this economic model.

While the severe economic crisis in Southern Europe threatened the very survival of the Eurozone, Brexit and the election of US President Donald Trump signalled a clear crisis of public opinion for the efficacy of globalisation in those states that had traditionally been the model's fiercest defenders. The populist reaction that so distinctly emerged in 2016 was, therefore, more than just a delayed response to the Great Recession, but in that crisis found a powerful accelerating and amplifying factor. Between October 2015 and May 2016, G20 economies introduced restrictive trade measures at the fastest rate seen since the 2008 crisis. The rise of populist political parties and movements worldwide has effectively triggered a reversal of globalisation trends for the first time since the 1960s.

3. Risk happens: Key geopolitical trends of the last decade

The decline of the US' role as global policeman and the transition to multipolarity

Until around 2005, the US had actively adapted to the challenges of its post–Cold War global hegemony, embracing its role as "global policeman" and continuously checking China's growing economic prowess.

During his two terms, Barack Obama continued along this path through the Trans-Pacific Partnership (TPP) and negotiations for a Transatlantic Trade and Investment Partnership with the EU. However, immediately following his inauguration, Donald Trump curtailed trade talks with Europe and withdrew from the TPP with the outspoken goal of bringing manufacturing and energy resourcing jobs back to the US. "We are not the policeman of the world," he stressed during a commencement address at West Point in 2020.

The Trump administration inherited a public weary of the nation's extended military engagement abroad, and this turn inward towards domestic priorities had been gaining momentum on both sides of the political spectrum, not just among his electoral base. Moreover, while advanced economies suffered their worst economic crisis since the Great Depression in 2008, emerging markets – including China – escaped the crisis largely unscathed and continued to expand for much of the subsequent decade. As the US and its allies turned to domestic issues in the aftermath of the 2008 crisis, emerging countries started playing a more active, independent role in the international landscape.

Return to a state of Great Power Competition

Another key development over the 2010s was a marked return to great power rivalries. With the US progressively shrinking its footprint abroad alongside with its means and purposes, China continued to emerge as a leading political and economic power with geopolitical ambitions throughout the decade. While asserting itself in the South China Sea, Beijing has been using its economic leverage to forge strategic links with countries in Asia, Africa, and Latin America. Against this backdrop, the Trump administration's "America First" policies only enhanced China's scope for asserting that influence.

At the same time, the US' strategic adjustment has also encouraged various major regional powers to fill the vacuum left by Washington's progressive disengagement in their respective neighbourhoods (e.g., Russia in Eastern Europe and Turkey in MENA and Central Asia). As a result, states have become more assertive in their diplomacy and more aggressive in publicising their strategic competitions causing a return to a climate of multipolar power not seen since the end of WWII. But the US' inward turn does not mean that the country intends to disengage from areas perceived as vital for its national security and economic hegemony, and the return to great-power rivalry through the 2010s comes, therefore, as an inevitable consequence.

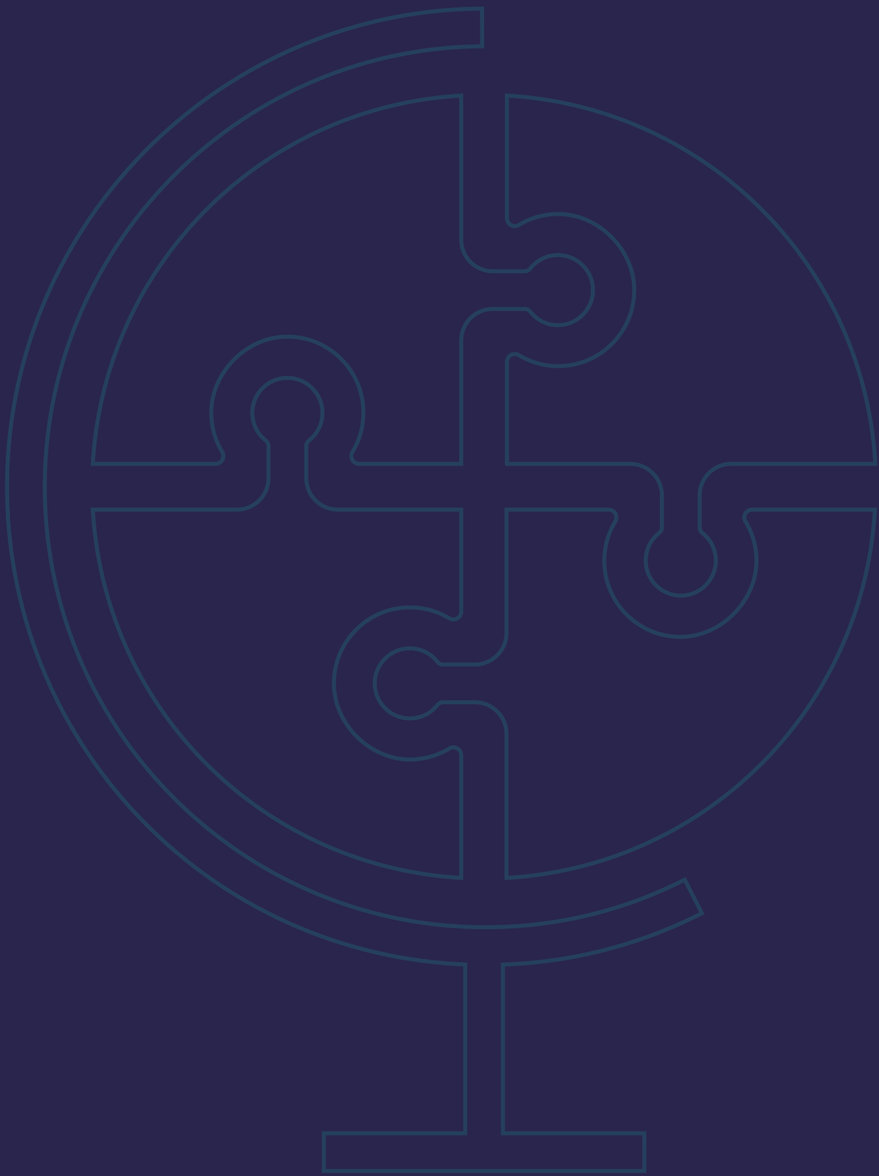
3. Risk happens: Key geopolitical trends of the last decade

Increased regional instability

The erosion of the geopolitical status quo has undermined assumptions of security and penalty surety while long-term strategic alliances are falling prey to short-term solutions to regional problems. With the rejection of the free-market model – but hardly any alternative to replace it – popular protest movements have largely been exploited and misappropriated by state and non-state actors, leading to new forms of extremism and sustained by security fears in vulnerable regions.

The Arab Spring, again, offers a very fitting example. Ten years on, the lives of people in Arab Spring countries have improved in certain aspects but worsened in many others. The impact of the mass popular uprising in many countries has been ongoing insecurity, civil disruption, the rise of corrupt regimes, and heightened sectarian violence. With the US' withdrawal from its traditional role of global mediator, the growing intervention by major powers into local conflicts around the world has contributed to the cycle of destabilisation by shifting strategic competition and projecting power into foreign battlefields (e.g., Russia and Turkey's intervention in Syria and Libya, Saudi Arabia's actions in Yemen, Iran's backing of militias in Iraq, and Saudi and Iranian proxies' confrontation in almost every corner of the Middle East). Terrorism has also grown as a result of spreading insurgency, tripling in some areas since 2010.

4. The current geopolitical risk insurance market



4. The current geopolitical risk insurance market

The following section describes the many forms of insurance that are currently available to assist with the management of geopolitical risks in their many forms. We focus here on specific specialist products. Many other insurance products may be triggered depending on the scenario such as those covering property damage, life, health, reputation, general liability, D&O, E&O – in all cases it is important to discuss the level of cover, if any, with your broker to ensure that you have adequate protection for the scenarios of most relevance to your firm.

The following section is adapted from research previously published by the Cambridge Centre for Risk Studies: ('Multi-Line Insurance Exposure Management, Data Definitions Document v1.0' 2018) and is recreated here. This research is part of a wider project on Global Exposure Accumulation and Clash (GEAC), which has created an open standard dataset of exposure across the most significant classes of business across all geographical markets. A full survey of policy types, sub-types, coverages, and exclusions, drawn from consultation with more than 130 industry professionals accompanies this work which can be found in the Multiline Data Schema Consultation reports. The section on Security and Political Risk Insurance, which is the coverage area triggered most often in the geopolitical scenarios cited above, is recreated here.

Political and security risk Insurance [5]

Political risk and security risk/crisis management insurance are different products and provide risk transfer for potential loss from political or crisis events. Political and security risk assets are typically a person, asset, or event, but can extend further to include any activity at risk of loss due to a political or security threat such as trade agreements and contracts.

Financial charges and losses can arise through violent means or government action, which can interfere with organizational operations and trade. Losses can be due to physical damage and associated interruption, but may also extend to cover devaluation, contract frustration, and other financial impacts. Political and Security Risk contracts are often able to cover risks and perils that are typically excluded from standard commercial policies.

5 The following section is adapted from research previously published by the Cambridge Centre for Risk Studies: ('Multi-Line Insurance Exposure Management, Data Definitions Document v1.0' 2018)

4. The current geopolitical risk insurance market

Security risk

Security Risk, also known as crisis management, provides insurance against losses due to a crisis event. Security Risk insurance policies, specifically Kidnap and Ransom policies, have a defined list of perils such as: Act of Terrorism, Sabotage, Riots, Strikes and/or Civil Commotion, Malicious Damage, Insurrection, Revolution or Rebellion, Mutiny and/or Coup D'état, War and/or Civil War, Counter-insurgency. This policy type does not typically provide confiscation coverage.

Kidnap followed by Ransom is a specific type of event that can be protected. Named perils in Kidnap and Ransom Policies include: Detention, Disappearance, Express Kidnap, Extortion, Hijack, Hostage Crisis, Kidnap, Political Evacuation & Repatriation, Tiger Kidnap.

The latter refers to kidnap where the individual is taken to apply pressure to another person to force them to carry out a particular action (such as compromising cyber security, espionage, carrying out a terror attack etc).

In table 1, we hope to assist risk managers highlight which areas of insurance to explore with their broker. Please note this does not constitute advice but is included to help instigate a conversation. For example, if you are concerned with bodily injury and physical damages then you may wish to explore a political violence product.

<table>
<tr><th>Issues of concern (Type of Coverage)</th><th>Type of insurance</th><th>Sub-Type of insurance</th></tr>
<tr><td>Physical Damage</td><td rowspan="5">Political Violence</td><td></td></tr>
<tr><td>Contents</td><td></td></tr>
<tr><td>Business Interruption (BI)</td><td></td></tr>
<tr><td>Bodily Injury and Physical Damage Liability</td><td rowspan="4">Premises Liability</td></tr>
<tr><td>Medical Payments</td></tr>
<tr><td>Bodily Injury and Physical Damage Liability</td><td rowspan="5">Liability Terrorism</td></tr>
<tr><td>Medical Payments</td></tr>
<tr><td>Legal Costs</td><td>Legal Protection Insurance</td></tr>
<tr><td>Damages</td><td rowspan="2">Pollution Liability</td></tr>
<tr><td>Legal Costs</td></tr>
<tr><td>Accidental Death and Dismemberment</td><td rowspan="6">Kidnap and Ransom</td><td></td></tr>
<tr><td>Ransom Reimbursement</td><td></td></tr>
<tr><td>Ransom in Transit</td><td></td></tr>
<tr><td>Emergency</td><td></td></tr>
<tr><td>Evacuation Costs</td><td></td></tr>
<tr><td>Consultancy Costs for Crisis Response Team</td><td></td></tr>
<tr><td>Release of Ship</td><td>Maritime Piracy</td><td></td></tr>
<tr><td>Physical Damage</td><td rowspan="4">Active Shooter</td><td></td></tr>
<tr><td>Excess Physical Damage</td><td></td></tr>
<tr><td>Contents</td><td></td></tr>
<tr><td>Business Interruption (BI)</td><td></td></tr>
<tr><td>Physical Damage</td><td rowspan="5">CBRN (Chemical, Biological, Radiological, Nuclear)</td><td></td></tr>
<tr><td>Contents</td><td></td></tr>
<tr><td>Business Interruption (BI)</td><td></td></tr>
<tr><td>Bodily Injury and Physical Damage Liability</td><td rowspan="2">Premises Liability</td></tr>
<tr><td>Medical Payments</td></tr>
<tr><td>Event cancellation</td><td>Contingency</td><td></td></tr>
</table>

Table 1: Types of insurance, security risk

4. The current geopolitical risk insurance market

Political risk

Political risk provides insurance against financial losses due to a political event. This can include both physical damage and economic impacts. This type of insurance provides confiscation coverages where assets are ceased. Per the Multilateral Investment Guarantee Agency: *"PRI protects against losses caused by host government actions that may reduce or eliminate ownership or control. It covers outright confiscations, expropriations and nationalizations as well as losses resulting from a series of acts that over time have an expropriatory effect".*

It is common for Political Risk policies to have CEND named perils: Confiscation, Expropriation, Nationalisation, Deprivation, but may also include Forced Abandonment/Divestiture and Import/Export Embargos.

As in the previous section with table 2, we hope to assist risk managers highlight which areas of insurance to explore with their broker. Please note this does not constitute advice but is included to help instigate a conversation. If you have a specific issue of concern (for example Non-Payment for delivered goods or services) you can read across the table to see that Structured Trade Credit products may be worth exploring.

Some of the coverages listed in table 2 have very specific meanings that have developed over time through insurance industry practice. For more details about any of the coverages listed in table 1 or 2, risk owners and managers can refer to the earlier Cambridge study mentioned above. We have specifically included definitions for Currency Inconvertibility (CI) and Transfer Restrictions/Exchange Transfer (ET), Contract Frustration, Non-honoring of Sovereign Financial Obligations in table 3 as these are less well-known.

Issues of concern (Type of Coverage)	Type of insurance
Physical Damage	Political Risk
Contents	
Business Interruption (BI)	
Bodily Injury and Physical Damage Liability	
Medical Payments	
Currency Inconvertibility (CI) and Transfer Restrictions/Exchange Transfer (ET)	
Contract Frustration	
Non-honouring of Sovereign Financial Obligations	
Physical Damage	CBRN (Chemical, Biological, Radiological, Nuclear)
Contents	
Business Interruption (BI)	
Bodily Injury and Physical Damage Liability	
Medical Payments	
Non-payment	Structured Trade Credit
Non-delivery	
Non-honouring	

Table 2: Types of insurance, political risk

4. The current geopolitical risk insurance market

Coverage	Definition
Currency Inconvertibility (CI) and Transfer Restrictions/Exchange Transfer (ET)	Political Risk Currency Inconvertibility (CI) and Transfer Restrictions/ Exchange Transfer (ET) coverage "protects against losses arising from an investor's inability to convert local currency into foreign exchange and to transfer it out of the host country. It also covers excessive delays in acquiring foreign exchange. Typically, this coverage applies to the interruption of interest payments or repatriation of capital or dividends resulting from currency restrictions. It does not cover devaluation risk."
Contract Frustration	Political Risk Insurance contract frustration coverage "protects against losses arising from a host government's breach of repudiation of a contractual agreement with an investor. Claims are usually payable only after an investor has invoked a dispute resolution mechanism (such as arbitration), has obtained an award for damages and the host government has failed to honour the award."
Non-honouring of Sovereign Financial Obligations	Political Risk Insurance Non-honouring of sovereign financial obligations coverage "protects against losses resulting from a government's failure to make a payment when due under an unconditional financial payment obligation or guarantee given in favour of a project that otherwise meets an insurer's requirements. It does not require the investor to obtain an arbitral award. This coverage is usually applicable in situations when a sovereign's financial payment obligation is unconditional and not subject to defences."

Table 3: Coverage details

5. Opportunities for innovation in risk transfer and services

5. Opportunities for innovation in risk transfer and services

This report has suggested how the geopolitical risk landscape may become more turbulent and subject to rapidly changing trends. This matters more to the global economy than it did in previous decades because commercial activity has become ever-more international and highly interconnected. Companies who operate across national boundaries are facing increased risk and are looking to their insurers as their traditional risk transfer partners to provide solutions for de-risking their operations. The insurance industry consists of insurance companies, reinsurers, brokers and intermediaries, advisory service providers, and capital investors. All have an interest in the increased opportunities provided by the uptick in global geopolitical risk.

The businesses that buy commercial lines insurance products now mainly sell their goods and services across many markets; have offices, employees, and operations in large numbers of countries; and have supply chains that span the globe. For them, increased geopolitical risk means new tariffs and regulatory barriers, nationalist sentiment swaying consumers against purchasing foreign goods, changes in the reputation of brands, sudden fluctuations in exchange rates, rising costs of raw materials, disruption to the processing and delivery of goods, increased liabilities for company officers, and events occurring that could threaten personnel and physical assets in different parts of the world.

This presents both a challenge and an opportunity for the insurance industry. Geopolitical risks have produced some of the most novel insurance innovations of the last three decades, such as national pools, private mutuals, swaps, government back-stops, and risk sharing across multiple stakeholders. Examples include the national pool which came into effect in the UK following the 1993 Bishopsgate bombing by the IRA. Another is the US insurance industry response to the 9/11 terrorism attacks of 2001, when the US government developed the 2002 Terrorism Risk Insurance Act (TRIA), re-authorized by Congress in 2015 and 2019, to enable insurers to re-enter the terrorism insurance market and restart the real estate economy. Similar models have been replicated in more than 10 other major economies since 2001.

Geopolitical clash risk

Geopolitical threats pose a particular challenge to the insurance industry because of their potential for 'clash' – i.e. the ability to cause loss to multiple lines of business in a single event.

Previous large geopolitical events have caused high levels of loss across multiple lines of business and have triggered changes to industry practice as a result. The 9/11 terrorist attacks in 2001 caused unprecedented levels of insurance claims for the time – some $40 billion – and included record levels of loss in each individual insurance line of property, casualty liability, workers compensation, life and health, auto, personal accident, and even fine art and specie.

The initial reaction of many insurance companies in 2001 was to deem terrorism 'uninsurable' and to stop offering coverages that could lead to loss in a similar event in future. The risk was judged 'uninsurable' because the losses were unexpectedly high, the clash across many lines meant it was difficult to diversify, and the peril itself was not well understood: nobody could provide an actuarial table of trended past statistics to project future losses. Terrorism risk has since become manageable for insurers: scenarios of probable maximum loss, empirical loss experience over time, government backstops, and quantitative models, have all enabled terrorism coverage to become a routine and profitable part of the insurance industry.

5. Opportunities for innovation in risk transfer and services

Exposure accumulation management for events with the potential for multi-line clash have been problematic for insurers: Insurers typically view losses, underwriting and capital allocation within siloed categories of business, because these risk classes are usually independent of each other. Increasingly sophisticated aggregation control systems, and new generations of analytics have made it easier for insurers to monitor clash aggregations and made it easier to price and reserve capital for multi-line correlations of loss. Expanding insurers ability to manage clash risk should enable more capital to be allocated to geopolitical risk coverage and to provide growth for insurers.

Geopolitical systemic risk

Systemic risks pose a significant challenge to the insurance industry because they are difficult to diversify: one of the principles underpinning the offering of insurance. Geopolitical risk has the potential to be very systemic.

In an increasingly globalised and highly interconnected system, acts of war, trade disputes, and protest movements have the potential to cause disruption far beyond traditional geographical proximity to the location of the event. Losses can occur to trading partners on the other side of the world. The linkages are not transparent. Insurers may not know who is trading with who, and how the loss may cascade through a chain of trading partners to impact an unexpected commercial policyholder.

However, for geopolitical risk and for the economic trading linkages that make it systemic, the issue is one of transparency and information. In a data-rich world, the flows and dependencies are all known by somebody, and the issue is how insurers can improve their insights into the connections and confidential trading contracts that pose the risks they manage. The digital age provides the ability to partner with policyholders in sharing secure flows of information to help insurers identify accumulation risk and loss potential.

The fact that the risk is systemic – flowing through invisible systems – does not mean that it is universal. Like most risks, geopolitical risk has winners and losers. Not all companies are affected. Some companies, sectors, and exposure types are more affected by certain loss events or types of threats than others. This makes it possible to diversify the risk and make it insurable. Insurers who can identify likely winners and losers from the different types of events, geographies, and loss characteristics can structure underwriting guidelines, accumulation controls, and capital allocation models to ensure that this diversification is properly maintained in their portfolio. The suite of scenarios developed for this report provides an outline structure for assessing exposure differentials for different characteristics of insureds, to assist with portfolio approaches to risk diversification.

Political risk insurance and the geopolitical "protection gap"

A traditional product offered for geopolitical risk is political risk insurance (PRI), which may protect against government expropriation, currency inconvertibility, physical damage, contract breach and losses stemming from political violence. PRI has been an established offering since at least the 1970s and saw significant adoption through the 1990s, and after a decline following the 2009 financial crisis, has seen steady growth again. More than 60 insurers, predominantly in US, UK and Bermuda, currently supply the coverage, which has a current market capacity of around $3.7 billion.

There may be potential for growth of PRI by extending coverage of categories of protection, making it available for more countries, and developing products that are attractive to smaller companies.

5. Opportunities for innovation in risk transfer and services

Historically, PRI was purchased to reduce unpredictability by investors operating outside a country that are highly dependent on foreign trade or operating in or investing in high-risk geographies. Although the market has expanded as more multinationals recognise their exposure to geopolitical risk, the offering remains less attractive to small and medium companies who are less aware of the risk and are less discretionary in their insurance purchasing. The coverage may have appeared expensive but often this perspective comes from a lack of understanding of the frequency or severity of risks. Brokers can help illustrate these and we hope this report will help. Should smaller companies choose to explore insurance protection they may require sophisticated but straightforward coverages to limit their vulnerability to geopolitical events if the market is to grow in this direction. Historically, geopolitical events have only pushed a little interest in political risk products; the industry must improve the accessibility and profile of these offerings to drive engagement.

The "protection gap" is typically used to describe uninsured risk to natural disasters in developing economies, but a similar gap in geopolitical protections may contribute to significant losses in future as the landscape grows more volatile and risk travels further.

Globally speaking, political risks such as civil unrest, nationalism and terrorism, are significantly higher in developing economies. Yet in such countries, insurance markets are also less mature, creating a potential protection gap. Low-penetration states such as Bangladesh, the Philippines, and Pakistan have close to no political risk protection market compared to high-penetration countries in western Europe, as well as Japan, South Korea, and Australia.

Previous work by the Cambridge Centre for Risk Studies has demonstrated that improved insurance penetration contributes directly to an improved quality and speed of response to a natural disaster. The same can be broadly assumed to be true for geopolitical risks which cause physical damage and massive disruption to the flow of commerce. Nascent industries in these developing economies could explore protection to safeguard steady economic growth. Access to capital is often harder in such regions which means that acquiring finance after any form of insurable event, geopolitical or otherwise, can be difficult. Pre-arranged financing through insurance would provide much needed liquidity at times of stress. Consumers in these underdeveloped markets, however, are extremely difficult for private insurers to reach, and often have poor access to and perception of insurance mechanisms. Steps may be taken by the industry to close the "geopolitical protection gap" by partnering with governments, NGOs or other aid agencies, transferring risk burdens to larger bodies, and participating in novel risk-pooling opportunities.

This will not be a trivial challenge since it is difficult to generate a complete view of risk. Data is often stored locally and therefore spread over multiple locations and organisations, some of which may be prevented from sharing data. Also, the aims of aid agencies are often rightly defined in terms of impacts on people: access to sanitation, water, food and in the long term, education and healthcare. So, any insurance product in this space would need to help them deliver those services and not just provide cash. Charities are exploring retaining more risks on their balance sheet to enable them to fund local response organisations where governmental donors will not. They recognise, however, that such funding is more at risk of geopolitical threats and have expressed an interest in insurance protection. Strong, long-term partnerships are therefore required. Lloyd's work with the Centre for Global Disaster protection focussed mainly on natural perils but the products explored in our paper *Innovative finance for resilient infrastructure - Lloyd's (lloyds.com)* could also be adapted for geopolitical threats.

5. Opportunities for innovation in risk transfer and services

Supply chain risk management

A large proportion of the economic exposure to geopolitical threats is in global supply chains; more than 80% of multinational wealth is tied up in a network of vendors and traders spread across the world. Steps have been taken to provide supply chain insurance products, but the market remains niche. Contingent BI cover has been available from global property insurers for 40+ years. Underwriting practices have developed in sophistication and now reflect the growing interdependencies in global trade over the past 20 years.

Supply chain insurance has proved problematic for insurers. Despite many corporations stating an interest in purchasing insurance protection for their supply chain, insurers' initiatives to make specific supply chain products available have not had widespread uptake. Corporations have found the offered products to be too expensive, too restrictive in cover, and unattractive. Insurers have found it difficult to obtain detailed exposure data about their supply chain from potential insureds, have found it complex to model, and difficult to price and put relevant portfolio accumulation management techniques into place.

Industry surveys suggest that difficulties in the current uptake of supply chain insurance results from problems in determining the appropriate level of insurance needed to cover the network from a myriad of threats[6]. Other reasons identified include the price of cover, length and complexity of the underwriting process, poor support from boards, and dissatisfaction with levels of cover offered.

Broadening the application of supply chain insurance beyond physical damage triggers will be important to attract corporates to new products and services. Non-Damage Business Interruption coverage is offered by some insurers, and ultimately products that could provide protection for a holistic suite of causes of supply chain disruption from geopolitical risks, would be of value to businesses with international supply chains.

Creating attractive insurance solutions for corporations to de-risk their supply chains could drive significant growth for the insurance industry. It will require improved data provision by the insureds, creative product design by insurers, actuarial data collection and development of analytical risk models, and meaningful capital allocation to the coverage to enable insurers to grow this class of insurance appropriately.

It may also require an evolution in the relationship between insurer and their commercial client, increasing the importance of their risk partnership rather than simply the commercial indemnification transaction: corporates are increasingly interested in operationally-important risk information, the type that insurers specialise in, and may be willing and able to provide the detailed sensitive commercial data about their supply chains that they are currently reluctant to disclose, in exchange for collaborative risk sharing.

Trends suggest that where insurers are willing to provide crisis management services, information transfer, and risk advice, alongside loss indemnification then corporate appetite for insurance services are significantly increased. To date a minority of insurers offer these services, and these tend to be in specialized areas, such as cyber insurance and Kidnap & Ransom. The issue may be one of whether these services can be added to insurance products at costs that would be attractive to the corporate, and whether insurers can adapt their business models to include these services more broadly for supply chain risk.

6 (Airmic Review of the Supply Chain Insurance Market' 2013)

5. Opportunities for innovation in risk transfer and services

Parametric solutions

Parametric insurance and capital markets solutions for a wide variety of perils have been gaining significant traction in recent years. By tying a compensation pay-out to an independently verified external occurrence of an event, this removes the cost of claims administration and has the potential to make risk transfer cheaper, more efficient and although it introduces other complexities such as basis risk where the pay-out does necessarily match the economic lost and may add expense to some parts of the contractual arrangement.

There is potential for parametric products to provide risk transfer for corporate businesses faced with geopolitical risks. Perhaps more significantly, it may enable insurers to reduce their cost of capital to offer geopolitical risk products and services to commercial policyholders by back-stopping their own exposures to extreme events with a parametric bond subscribed by institutional investors in the capital markets.

Historically, parametric solutions have been successful in providing capital to developing markets afflicted by natural disasters and extreme weather events; they are gaining increasing market prominence as a solution to physical risks impacted by climate change.

The development of parametric bonds for geopolitical risks will require the objective definition of geopolitical triggers above a certain measurable threshold that would trigger loss of concern to the stakeholders. The scenarios in this report provide potential inputs into the considerations that would be needed to provide event definitions. Investors are typically wary of man-made perils (although there are examples of bonds issued for terrorism), so there will be issues in providing legal definitions that are distanced from suspicion of moral hazard. Insurers will want to avoid basis risk by establishing that the proposed trigger correlates well with their potential losses. There are also challenges in establishing a quantifiable index, identifying an authoritative third-party accreditation agency to verify that an event has occurred that qualifies for pay-out, and a credible modelling agency to provide the analysis for an offering circular to potential investors showing that the risk of the instrument defaulting is within their risk appetite and commensurate with the coupon being offered.

These issues are likely to be tractable if there is sufficient interest in accessing external capital for addressing geopolitical risk. The parametric market is developing quickly to provide cover from a wide range of emerging high-impact, low-probability risks and it would be a natural extension to extend this to geopolitical risk. It could be a disruptive innovation for insurers, digitising both triggers and payments and eroding traditional models based on contract agreements and equity release. It is likely that parametric solutions for geopolitical risk will be explored as the risk itself rises.

Insurance clients are increasingly concerned around income volatility which can be expected to increase in line with the rise in geopolitical threats. Financial guarantee products are generally avoided by insurers due to the difficulties in managing moral hazards and also the complexity of determining specific signals from the multitude of causes of risk. Parametric products may offer a way forward for income protection where specific causes of volatility could be identified, index triggers developed and payouts calibrated to cover expected loss of income. The fixed nature of such payouts removes concerns for insurers around the boundedness and quantum of claims and the choice of index links the payout to insurable perils avoiding moral hazard.

5. Opportunities for innovation in risk transfer and services

The role of the insurer

The most significant innovation in providing geopolitical risk protection may be in the structure and relationship between businesses and the protection products they are seeking from the insurance industry. Impacts on business processes, cashflows, sudden reductions in revenues, diminishing demand in key markets, supply shock, and operational disruption are the principle concerns of enterprise risk managers in major corporations. The insurance industry currently offers products to protect against damage to property assets and harm to third parties, provide indemnification against legal bills, and offset a range of operating costs, often predicated on a narrow set of causes or legally-defined 'perils'.

The financial risks faced by international businesses as a result of the shifting geopolitical landscape are large, broader than the narrow coverages currently provided by traditional insurance products. The new era of geopolitical risks is likely to add significant volatility to the future earnings of businesses through loss potential causes that could potentially be protected by insurers. Businesses are known to want to manage the potential for sudden unexpected large shocks. The amount they spend on hedging financial volatility of currency exchange and raw material prices typically far exceeds the budget they expend on insurance protection for their assets and liabilities.

There is a major growth opportunity for insurers to provide risk transfer products and services to address geopolitical risks. It may involve defining products and services that protect corporate earnings across a wider range of potential harms and externalities rather than indemnifying a narrow range of perils and loss causes that are tied to historical origins of property protection. However, we will still need a list of identified and covered perils that are sudden and accidental – since these are the essence of insurable risks.

It may mean creating closer risk partnerships with their policyholders, acting as risk advisors, preparedness planners, and crisis managers, in addition to providing financial compensation after a loss event.

These are broad trends within the insurance industry already and are seen as key requirements for insurers to stay relevant in the age of the digital economy and technological innovation. Like many sectors of the economy, major geopolitical events will be the catalyst to accelerate pre-existing trends and will forge a new industry of risk transfer for those insurers willing to embrace it.

Given the increasing turbulence of the general risk landscape, and the demand for more bespoke coverages and underwriting agreements, the insurance industry itself must be prepared to innovate in the way that it provides service. The industry itself has access to a huge variety of data and curates' fruitful relationships with risk analysts and experts to underpin its own strategies in product design and availability.

The insurance industry has an opportunity not only to expand its commercial activities, but also to play a role in reducing the risk itself. Geopolitical risks are most acute in vulnerable nations, emerging and frontier economies. Globalisation has been good for the developing world, fuelling economic growth. The danger of increased geopolitical risk is that large corporations will retreat from investing in higher risk emerging economies. By providing products and services to de-risk some of the challenges of operating in these parts of the world, the engines of growth can be maintained in the economies that need it most. The insurance industry has the potential to improve the resilience of companies operating internationally and to contribute to improving the resilience of these growing economies to the geopolitical risks they face. The insurance industry is rightly proud of its role as the handmaiden of industry, facilitating economic growth. By helping to de-risk geopolitical risk, the insurance industry will help improve the economic resilience of the global system itself.

6. Appendix

6. Appendix

Appendix 1: Table of all scenarios

The list of illustrated scenarios is repeated in Table 4 for ease of reference.

Table 4: A summary of all ten risks, thirty scenarios, their probabilities, impacts, and top lines triggered

Risk	Scenario	Probability	Impact	Top Lines Triggered
Covid-19 Impact on Geopolitical Relationships				
Inflation	*Covid-19 recovery is followed by a global inflationary spiral*	Remote	Significant	Political Risk and Trade Credit
	A critical change in consumer behaviour leads to a deflationary trend	Unlikely	Significant	
	The global economy undergoes a short-lived boom before returning to pre-Covid levels	Expected	Moderate	
Great Power Rivalry				
Trade Sanctions	*Sanctions by major powers may push allied individual states to abandon planned infrastructure projects with sanctioned countries*	Unlikely	Significant	Trade Credit, Energy and Political Risk
	Limited sanctions may lead to extended talks on planned infrastructure projects – leading to delays in project completion	Likely	Moderate	
	Sanctions may be avoided between rival states, but new regulations are introduced which restrict the ability to trade or manipulate commodity values	Remote	Low	
Localism vs Globalism				
Trade Dispute	*Major economies reshore manufacturing production back to the mainland*	Remote	Significant	Political Risk and Trade Credit
	Firms take steps to bring manufacturing and supply chains closer by nearshoring	Expected	Moderate	
	Business as usual	Unlikely	Low	

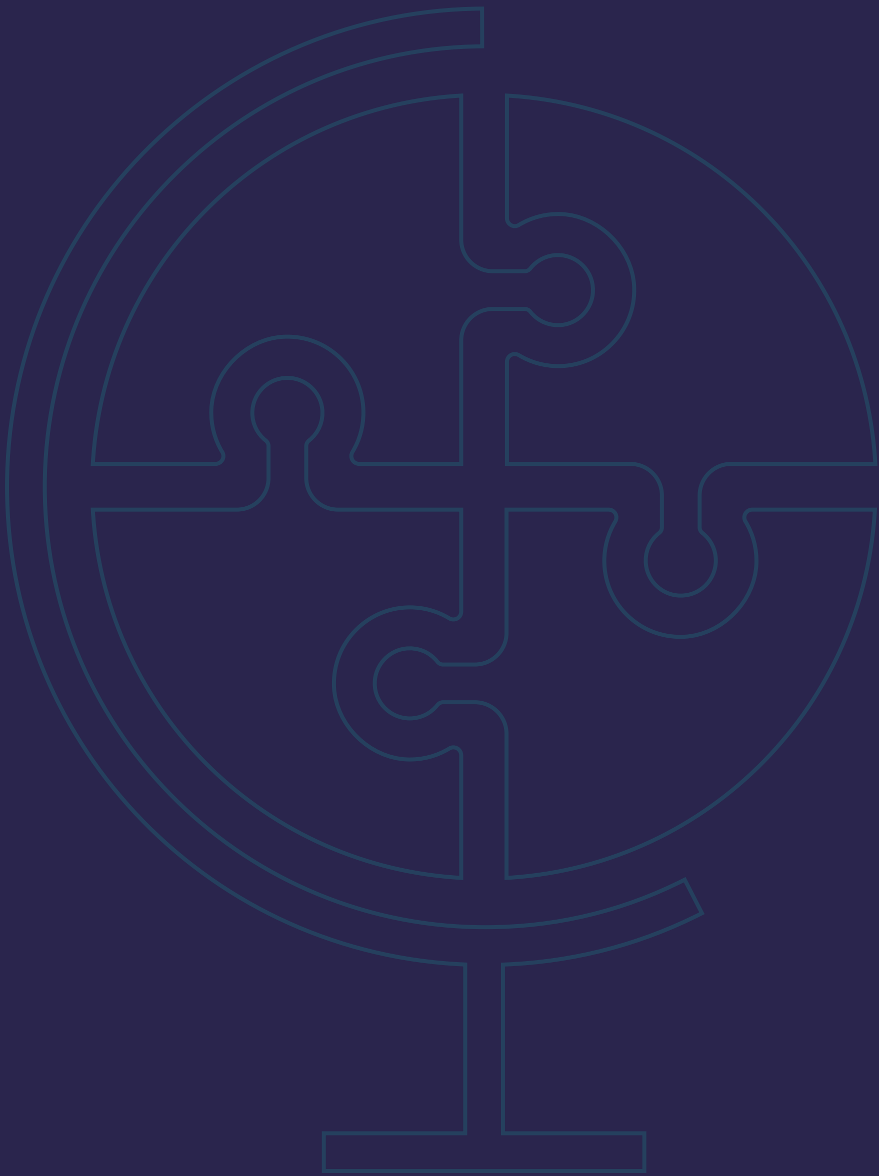
6. Appendix

Risk	Scenario	Probability	Impact	Top Lines Triggered
Multinationals at Risk				
Soverign Debt Crisis	*States default on their sovereign loans following repeated pandemic reoccurrences*	Likely	Moderate	Political Risk and Trade Credit
	States default create a financial contagion which causes defaults in different regions of the world	Remote	Extreme	
	Governments widely adopt policies of extreme austerity in order to safeguard pandemic recovery	Expected	Significant	
Terrorism and Armed Conflict				
Supply Chain Disruption	*Islamic State's encroachment causes disruption to supply chains*	Likely	Significant	Political Violence, Liability Terrorism and Trade Credit
	An attack on a major power foreign asset abroad causes a military advance into that region	Unlikely	Extreme	
	Technology innovations ruin demand of a particular material, leaving a region highly vulnerable to new insurgent threats	Remote	Low	
Cyber, Technology, and the New Tech Arms Race				
Cyber Attack	*Major powers intelligence services discover cyber-attacks carried out by rival states*	Likely	Moderate	Cyber and Commercial Property
	Major powers engage directly with rival states in cyberspace	Likely	Significant	
	Escalating cyber attacks between states in the same region force the other ones into the fray	Remote	Extreme	
Social Discontent and Civil Dispute				
Social Unrest	*Regular protests continue to occur in major powers*	Expected	Low	Political Violence and Casualty and Liability
	Environmental protests spread worldwide leading to global civil disorder and damage	Remote	Significant	
	Protests regularly escalate to clashes between right- and left-wing groups, leading to riots and violence	Likely	Moderate	

6. Appendix

Risk	Scenario	Probability	Impact	Top Lines Triggered
Political Change				
Democratic Backsliding	*A significant dissenting minority of Nationalists are elected to a member states organisation Parliament*	Likely	Significant	Political Risk
	A major power votes to exit the member states organisation, leading to currency devaluation	Remote	Extreme	
	Following a series of decisive referendums, the member states organisation embarks upon a dissolution process	Unlikely	Extreme	
Politics vs Economics of Climate Change				
Tariff War	*States and member states organisations are approving unilateral high carbon tax*	Unlikely	Significant	Political Risk and Trade Credit
	Member states organisations are implementing moderate border focused carbon tax	Likely	Low	
	Business as usual	Unlikely	Moderate	
Migration and Demographics				
Migration Crisis	*Following food and fuel shortages, a refugee crisis intensifies suddenly in neighbouring states*	Unlikely	Extreme	Political Risk and Trade Credit
	The migration into neighbouring nations increases steadily	Expected	Significant	
	Continuation of current migration rates	Unlikely	Low	

7. About the authors



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The Centre for Risk Studies is a research group at the University of Cambridge's Judge Business School. The Centre provides frameworks for recognising, assessing and managing the impacts of systemic threats. The research programme is concerned with catastrophes and how their impacts ripple across an increasingly connected world with consequent effects on the international economy, financial markets, firms in the financial sectors and global corporations. To test our research outputs and guide our research agenda, the Centre engages with the business community, government policy makers, regulators and industry bodies.

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