Ukraine: A conflict that changed the world

Lloyd's Futureset explores the medium to long term consequences of the Ukraine crisis on the risk landscape

July 2022

Foreword

The events in Ukraine have been a devastating reminder of the costs of conflict. Since Russia's incursion in February 2022, millions have been forced to flee their homes; vast swathes of land have been left destroyed or unusable; and tragically, many thousands have been killed as a result of the violence.

The crisis has also reminded us how connected our world and its risks are. At a time when societies and economies have been dealing with the lingering effects of an unexpected global health crisis – and the quickly materialising impacts of global climate change – the events in Ukraine have added another layer of complexity to an already unpredictable risk landscape. What started as a regionally confined conflict has quickly morphed into an economic, societal and environmental crisis with truly global repercussions.

The response has had to be similarly global to deal with the fallout. And in our interconnected world, businesses have again had to play a leading role in supporting society's broader objectives.

Since the start of the crisis, Lloyd's and Aon have been working to help those affected by the conflict: deploying our resources in support of the humanitarian response, and our expertise in support of the global sanctions regime to apply pressure on the Russian state and related assets. Our industry has been an active participant since the start of the conflict, offering a key financial lever in the global community's response – and we will continue to play our part as the crisis timeline extends.

Unfortunately, it is clear this conflict is far from over. The damage done has left the world in a dramatically different state than it was prior to Russia's invasion – and however the conflict develops, its impacts will remain with us for a long time to come. We must learn to live in the world it leaves behind; and as businesses, we must work to understand and navigate the complex risk terrain it continues to shape.

That is the goal this research intends to support: equipping the reader with a knowledge of the potential outcomes and ongoing implications of the conflict in Ukraine. Our hope is that the insights we have gathered will help organisations anticipate the unexpected; untangle the interconnected; and prepare for the possible. Ultimately, we hope it will enable more confident decisions in this period of uncertainty, contributing to a better informed, more resilient society.

We thank you for taking the time to read this report.

John Neal
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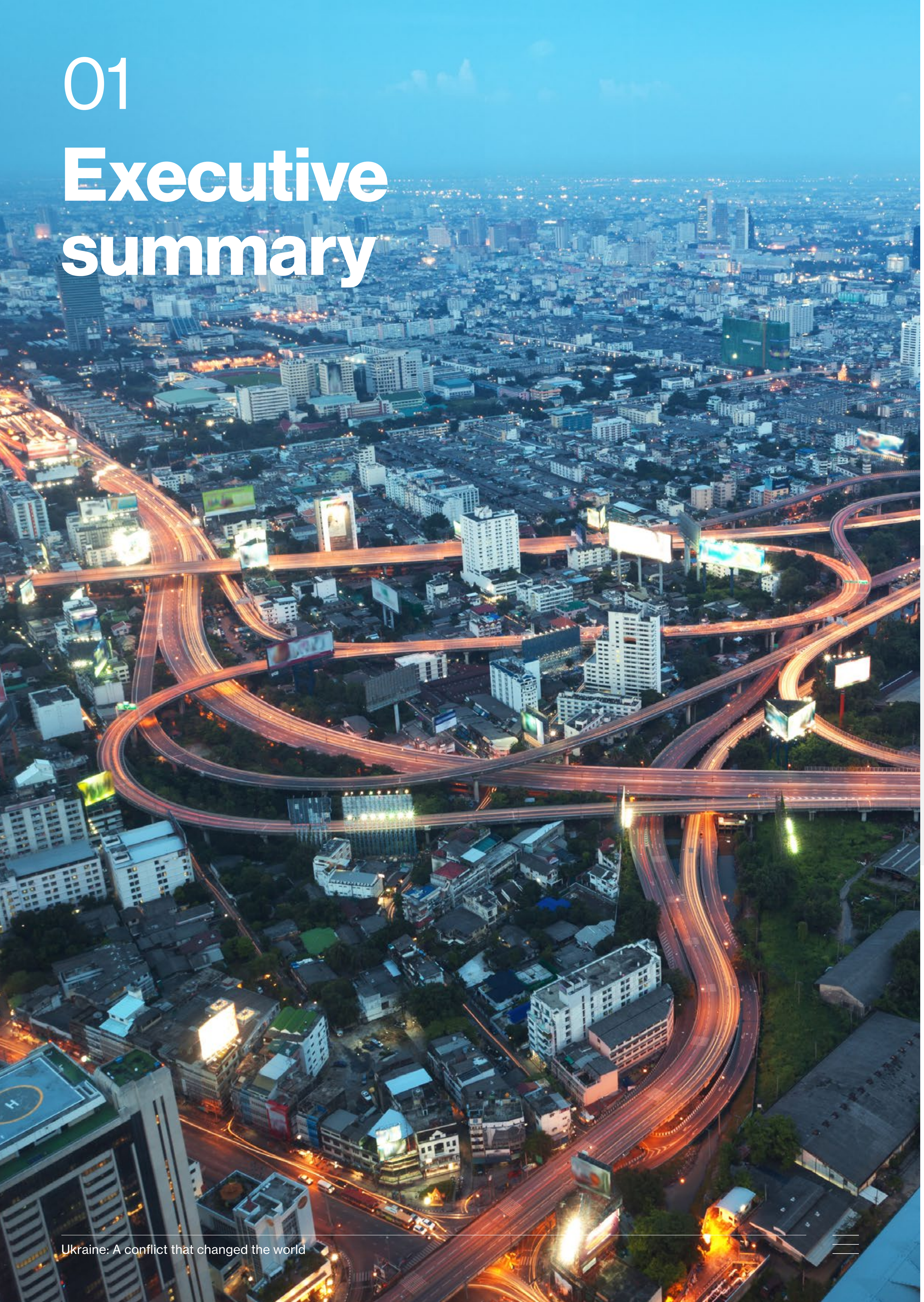


01 Executive summary

Staying a step ahead

Lloyd's Futureset was launched in February 2021 to help organisations respond to systemic events like the COVID-19 pandemic.

Our main learning from that event – outlined in our exploratory report, Supporting global recovery and resilience for customers and economies – was that society needs **high quality information**, pooled across sources of knowledge such as businesses, policymakers and academics, to build resilience against the global shocks that can knock out entire systems, sectors and regions.

But we also witnessed first-hand how **interconnected** the risk environment is. Not just in the virus's ability to travel across borders and continents – but in the ability of a health risk to quickly morph into second and third order economic, social and geopolitical risks. Many of those knock-on impacts are still playing out.

So as we respond to the crisis in Ukraine, we can surmise that this risk will not be restricted to a geopolitical event with human costs. The impacts will play out across our economic decisions, our energy mixes, our technological environment and many other arenas besides.

We cannot wait for these to crystallise before assessing the damage and drafting a recovery plan; we must take steps to prepare now. The key is resilience: adapting to our environment as it unfolds, planning for potential outcomes and mitigating as many risks as we can before they fully materialise.

We will, of course, never be able to eliminate risk completely – but as this report makes clear, businesses need to be alive to developing issues and consider their response. And the growing expectation on businesses to be a step ahead of the issues facing society means we cannot rely on the patience of customers and governments for failing to prepare for events that could realistically have been anticipated.

Scoping the possibilities

In Ukraine, the dynamic and still unfolding situation highlights the extreme volatility associated with conflict and the far-reaching ripple effects it can trigger.

Businesses wanting to launch effective risk mitigation strategies must therefore understand the range of risks arising from the conflict, and the potential scenarios that could reduce or enhance their impact.

There can be no certainties in such a situation, however experts and commentators have foreseen a number of scenarios that could play out, each with a unique degree of escalation and associated policy response from the global community[1]. The scenarios, used by this report not as an exhaustive analysis of the possible outcomes but to ascertain potential impacts across various sectors, are:

Defensive push-back – Ukraine military successes force a change in Russian policy

Protracted conflict – Support for Ukraine from an alliance of states leads to a protracted conflict

Annexation – Russia controls parts of Eastern and Southern Ukraine in a newly divided state

Collapse of Ukraine – Ukraine collapses and becomes incorporated into Russia

Escalation – Conflict escalation leading to a NATO-Russia war

These scenarios, and their impact on insurance areas like energy and cyber, are described in more detail on page 19 and throughout the report. Business responses may not be limited to short term mitigation, but require wholesale, permanent adjustments in models and planning approaches. Many businesses have already been forced to overhaul continuity plans, reassess supply chains and conduct analysis of the direct impact of geopolitical risks – all while managing the supply-side shocks of the COVID-19 pandemic. That is a significant challenge; but understanding these risks is vital to protecting customers and ensuring economic resilience.

[1] Atlantic Council, 2022; Cambridge Centre for Risk Studies, 2022; CSIS, 2022; CNBC, 2022

Understanding the impacts

Based on in-depth interviews with sector experts and practitioners, this research highlights four 'macro themes' shaping the risk environment today as a result of the crisis. The impact of these themes on businesses are summarised below.

Geopolitics. This crisis has exposed the vulnerabilities associated with globalisation in an international system in which a powerful state asserts self-interest and breaches international norms and laws. In this new dawn for globalisation, many organisations are likely to adopt hedging strategies to protect their global interests and assets as more protectionist trade policies are introduced. Countries and businesses are pivoting towards reshoring supply chains as a means to achieve self-sufficiency and more control on access to priority goods and services. This reversal of decades of trade and specialisation will inevitably make goods and services more expensive in the long term.

Inflation. Despite higher energy and commodity prices increasing profit margins in some sectors, supply side costs have increased across the economy. Most of these increased costs get passed on to the end consumer, further exacerbating price inflation, whilst businesses seeking to absorb them may face a struggle to stay afloat. Many businesses are likely to adjust their budgets for risk management solutions and reduce discretionary spend to account for inflationary pressures from supply shocks.

Economic impact. Owing to its position as a leading energy and commodity exporter in global supply chains across various industries, Russia's exclusion from international trade will have significant economic ramifications – particularly for businesses in Europe and in goods-producing industries like food and energy. Whilst the rouble has recovered from an initial shock, any persisting depreciation of the rouble would negatively affect Russia's ability to boost investment and productivity, damaging global agriculture and manufacturing and creating further risks to food and energy security. Meanwhile, the disruption to critical exports from Ukraine, such as grain, presents a significant and immediate threat to global food security.

Social transformation. As widely reported, this conflict has brought with it the fastest refugee flow in Europe since World War Two, surpassing the flow of asylum seekers at the height of the Syrian refugee crisis. Around three million people fled Ukraine in the first three weeks of the crisis and this will continue to grow as the conflict continues. The resulting displacement will contribute to labour shortages and require organisations to reconfigure their labour pools, especially in transport and logistics, to meet the rising demand on products and services.

The potential impacts are therefore far-reaching. The prominent theme throughout our analysis is that these risks are incredibly interrelated. As with COVID-19, first-order impacts have the potential to trigger second- and third-order impacts in different risk categories. As one example, take the heightened supply chain risks could increase inflationary pressures.

It is therefore critical for businesses to take a broad, informed approach to assessing, mitigating and managing risk within their organisations – while building resilience through activities such as supply chain simplification, workforce upskilling and implementing a robust cyber security framework. This crisis also calls for insurers to take a pragmatic and innovative approach to providing risk management solutions and deploying their capital to help customers and society recover and build resilience, accounting for the changed geopolitical environment and macroeconomic conditions that invalidate our previous models and methods. And finally, it calls for government, regulators and academics to invest in understanding the overlapping risks present in our sectors and societies.

Plausible scenarios

- Defensive push-back
- Protracted conflict
- Annexation
- Collapse of Ukraine
- Escalation

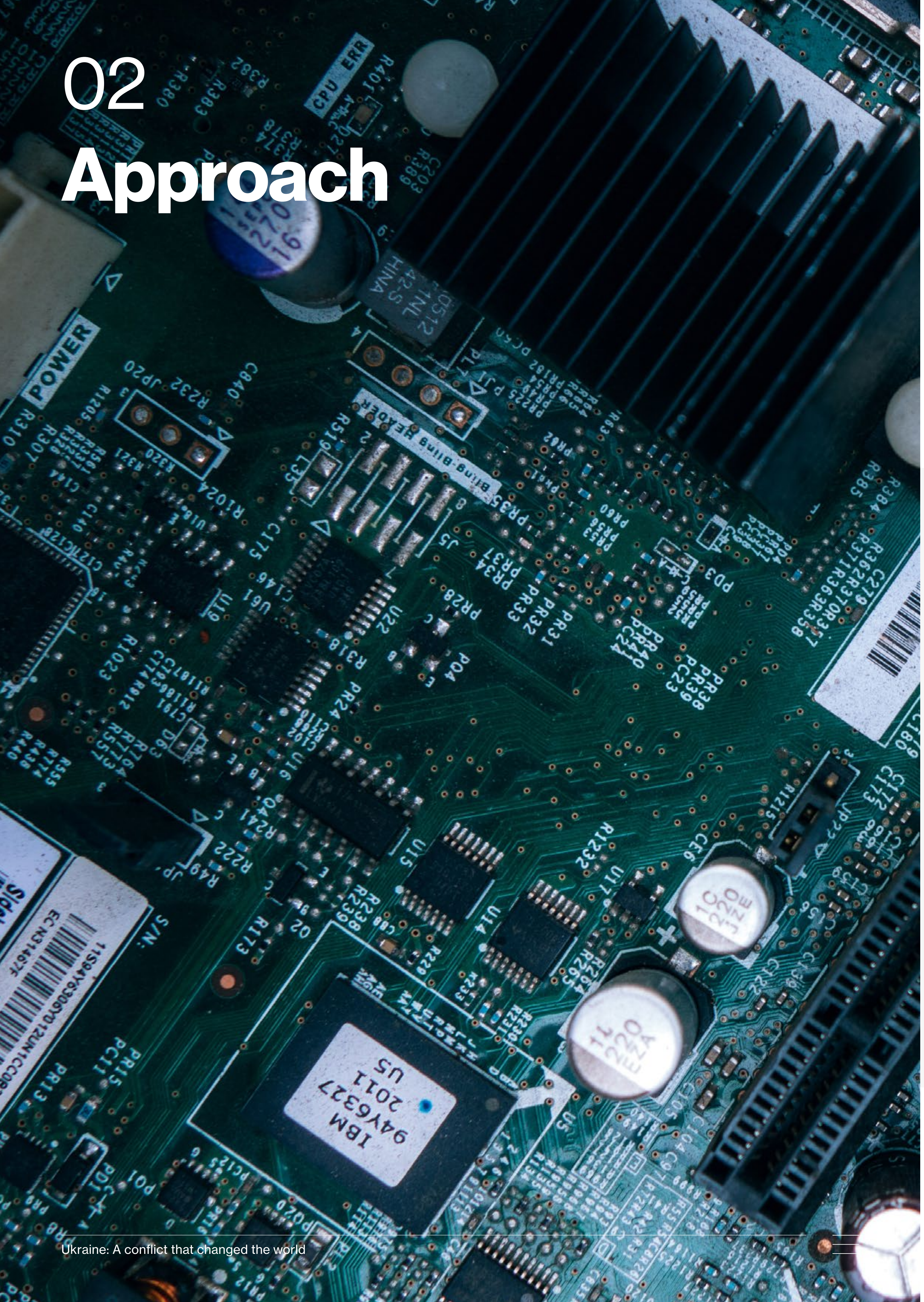
Macro themes

- Inflation
- Economic impact
- Geopolitics
- Social transformation

Market forces

- Supply chain
- Energy security
- ESG
- Climate transition
- Cyber
- Food security
- Public sentiment

02 Approach



This report is a collaborative effort between Lloyd's and Aon that aims to provide insights into the medium to long term consequences of the Ukraine crisis on the risk landscape.

We have interviewed over 75 risk and insurance practitioners, and these conversations have provided real-life, practical insights on the challenges that companies across a range of industries are facing as a result of the Ukraine conflict and how they are adjusting their risk management approaches in response. In addition to these interviews we have combined proprietary data and reports with a range of thought leadership and third-party analysis to develop insights aimed at helping people, communities and organisations in all sectors to develop greater agility and resilience in this ever-more uncertain world.

Through this research, our view is that the crisis in Ukraine will trigger significant changes in the global risk landscape. We have examined these, considering short, medium and long term implications for businesses across four macro themes:

- **Inflation** – Persistent inflation caused by higher energy, commodity and food prices
- **Economic impact** – Capital market volatility
- **Geopolitics** – Defence expenditure across Europe, US and China (the three major power blocs) and shifting changes in the world order
- **Social transformation** – Migration and mobility of workforce creates pressure on developed and developing economies alike

Seven key challenges affecting businesses were assessed in their own right and in relation to their impact on the macro themes listed above. The key challenges we have addressed are:

- **Cyber –** Growing cyber threat due to geopolitical tensions
- **Supply chain –** Disruption and cost pressures arising from transportation challenges, commodity and raw materials shortages and trade wars
- **Food security –** Production challenges and export restrictions contributing to food shortages and price rises
- **Climate transition –** Implications of energy security on net zero commitments
- **Energy security –** Ramifications of restricted oil and gas supply from Russia
- **ESG –** Businesses' ESG investment response and the impact on governance structures
- **Public sentiment –** Rising public pressures and reputational risk for governments and the private sector, driving policy and business responses

Defining the scenarios: five potential outcomes for the Ukraine conflict

Russia's invasion of Ukraine has affected economies and livelihoods well outside the conflict zone.

Given a lack of clarity for the world as to how the conflict will develop, in the graphic to the right we consider five potential future scenarios, based on commentators' analysis and the most recent events at the time of writing this report[2]. The varying outcomes of each scenario will have differing consequences on the business landscape.

01

Defensive push-back

Ukraine military successes force a Russian withdrawal

Bolstered by international assistance, Ukraine's military and civilian resistance grind Moscow's advance to a halt, preventing the Russian regime from toppling Kyiv's government and establishing a puppet regime. Russian policy towards the conflict changes and its troops are withdrawn.

Commentators have speculated on varying outcomes of this level of Ukrainian resistance:

Strategic: The conflict ends entirely on Ukraine's terms, meaning the full reclamation of Ukrainian sovereignty, including Crimea and the parts of the Donbas occupied by Russia in the years before it fully invaded in February.

Tactical: Ukraine expels Russia from the western side of the Dnieper River, establishes perimeters of defence around the areas Russia controls in Ukraine's East and South and secures its access to the Black Sea.

Ukraine remains a sovereign democracy, Europe is faced with an improved security situation, as Russia is isolated, and Ukraine grows ever closer to the West.

02

Protracted conflict

Support for Ukraine from an alliance of states leads to a protracted conflict

Russian troops take over Kyiv and install a new administration. A western-backed Ukrainian government-in-exile is formed and based outside the country.

This results in a humanitarian disaster in Ukraine, large-scale emigration and prompts a united and stronger sanctions response by the US, the EU and the UK.

There is a strong sense of unity amongst the NATO alliance, which leads to a rapid build-up of NATO troops in the region in a bid to deter further Russian invasions.

The Ukrainian insurgency takes a significant, sustained human and financial toll on Russia – which is forced to devote far more of its resources over a much longer period of time than it had anticipated.

03

Annexation

Russia controls parts of Eastern and Southern Ukraine in a now divided state

Through a negotiated settlement, Ukraine could accept a loss of territory and let Russia annex or control two allegedly pro-Russian regions of the Donbas (a coal-mining region of Ukraine that borders Russia and that Russia has occupied since 2014) as part of a compromise that prevents a full-scale Russian invasion of Ukraine.

Despite the settlement, Russia maintains aspirations to capture both Eastern and Western regions of Ukraine (from Odesa to Kharkiv), gain control of much of the defence industry (including intercontinental missile production), and deprive access to the Black Sea.

An international alliance may provide "significant military assistance" to the Western Ukrainian state to support insurgency in Eastern Ukraine.

04

Collapse of Ukraine

Ukraine collapses and becomes incorporated into Russia

Russia takes control of Ukraine and the Ukrainian government is ousted. Russia employs cyber attacks and disinformation, backed by threats of force, to cripple the country and induce regime change.

The threat of an escalation into military conflict is ever-present and a significant increase in defence spending across Europe contributes to growing inflation, exacerbated by continued energy price rises.

China may look to strengthen its relationship with a newly emboldened Russia, for example by providing aid to help Russia circumvent Western sanctions. Depending on China's response, this could lead to a fragmentation of existing trade partnerships and risk the decoupling of Chinese-Western trading relationships. China is also likely to pay close attention to the outcome of the crisis to assess its geopolitical options in the years ahead.

05

Escalation

Conflict escalation leading to a NATO-Russia war

Russia launches attacks on Western supply lines to Ukraine in NATO members' territories. This move triggers Article 5 of the NATO charter, which is a collective-defence clause – an attack on one is an attack on all. The NATO member state invokes Article 5 and NATO states begin to mobilise and respond, including the US, UK and France which possess nuclear weapons.

The growing geopolitical tensions lead to a sudden and dramatic reduction in oil and gas supplies to Europe. This, along with food production and export restrictions, contributes to an extremely high inflation environment.

Please note that these scenarios and the possible consequences or events represent an opinion only. They are not an exhaustive list, and should not be taken as factual predictions. The situation in Ukraine is constantly evolving, and events and outcomes are subject to change

[2] Atlantic Council, 2022; Cambridge Centre for Risk Studies, 2022; CSIS, 2022; CNBC, 2022

03

Potential future scenarios and implications from the conflict

Having reviewed a number of key thought leadership forecasts and interviewed a wide range of experts, we have developed five scenarios to help set out the range of possible outcomes from this conflict. These range from a Russian retreat through to an extreme conflict escalation with more actors becoming involved.

The findings from our research informed us of the likelihood of these scenarios with Scenarios 1-3 more probable than the others. Despite that, Scenario 4 should still be on the radar for businesses when approaching their risk management strategies while Scenario 5 is a potential eventuality arising out of design, accident or miscalculation which could lead to extreme structural implications and changes not seen since World War II.

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The matrix below seeks to assess how businesses may react in each eventuality, with impacts to businesses split across our four macro themes.

More likely scenarios | Less likely scenarios

	01 Defensive push-back Ukraine military successes force a change in Russian policy	**2. Protracted conflict** Support for Ukraine from an alliance of states leads to a protracted conflict	**03 Annexation** Russia controls parts of Eastern and Southern Ukraine in a now divided state	**04 Collapse of Ukraine** Ukraine collapses and becomes incorporated into Russia	**05 Escalation** Conflict escalation leading to a NATO-Russia war
Economic impact	Western companies **revert back to previously disrupted trading** routes and supply chains, which may help to restabilise the global economy Companies which had paused operations may look to **resume business in Russia** Reducing economic strains suggest that companies can **continue to push climate transition agendas**	Limited global supply of key products and goods leading to inflationary pressures and persisting global recession **China, another key supplier, uses the supply bottleneck to amplify its own supply dominance** Russia seeks to mobilise more asymmetric means of harming the West and those supporting Ukraine including the development and deployment of new and increasingly **harmful cyber tools** by non-state actors producing an increased threat to businesses globally	Companies with significant exposure to Russian and Ukrainian markets and with **insufficient risk management (such as business continuity plans) could fail to stay afloat** Firms **continue to search for alternative sources of key** imports to produce essential products such as food and energy with minimal reliance on Russia	Organisations consider **moving physical operations to neighbouring countries** **Higher due diligence costs** as companies detach themselves from Russian relations Organisations **respond to flow of refugees** by providing a salary advance, paid temporary accommodation, assistance to relocate, and financial loans	**Recessionary environment** where companies struggle for growth; Businesses go bust or lose value **Russia's exclusion from Western payment operators** with China and India potentially forming solutions to fill the gap Economies involved in the conflict see significant **increases in military production** **Significant spend on cyber resilience** as businesses prepare for an escalation of Russian attacks
Social transformation	Western regions continue to uphold **public aversion to Russian businesses**, as supported by employees, customers, and stakeholders However, **more strained industries** like energy and construction may resort to **reforming Russian trade relations** **Permanent shift in attitudes towards energy security,** with energy companies both considering multi-sourcing and increased investment in renewable solutions	New suppliers from other regions like LATAM fill the resource shortage gaps with **disparate regulatory standards** Governments **focus efforts on supporting their national economies** – for instance, there may be an increased provision of loans to farmers to ensure citizens are fed **Organisations increasingly become targets for reputational damage or cyber attack** In response, firms most at risk of cyber attacks (e.g. transportation and healthcare companies) pre-empt threat by **investing heavily in cyber resilience**	Firms continue **balancing moral integrity and profit goals**, especially those global financial institutions and oil companies seen as having a chequered history of dealing in politically sensitive environments **Persisting stakeholder expectations to meet ESG targets** mean businesses withhold from trading activity with Russia and associated regions	**Companies end all trade with Russia**, ramping up efforts to source necessary imports from other territories Growing **expectations of organisations to provide direct monetary support** to Ukrainian citizens	Unilaterally, supply chains will now be fully **focused on supporting military requirements** **Widespread abandonment of key agricultural land** with territories impacted by sustained conflict becoming 'no man's land' **Strain on healthcare organisations** in affected regions tending to those injured in action, and support those who experience repercussions of the conflict Rapid modern **technological shifts** as money pours into defence spending
Geopolitics	Depending on public sentiment and expected reputational damage, companies **consider resuming or beginning operations in Russia** Companies expand operations and products and solutions to Ukraine in a bid to rebuild the nation, such as resources to rebuild critical transport links Companies **reassess ties to regions experiencing political unrest**, such as North Africa, and draw back on exposures to those countries	Western nations seek to operate supply chains in collaboration with close allies **('friend-shoring')** Potential growth in number of businesses in neighbouring countries looking to **leverage "smuggling" routes** Businesses look to form **long-term agreements with partners to maintain price points** and keep hold of suppliers As companies have witnessed the significant business implications of conflict, they will more actively **consider policy responses to other potential crises**	Corporations emphasise **mapping out connections in their supply chains** and have to consider how to fully disconnect from Russian business Western companies increasingly **'reshoring'** when reassessing their supply chains Storage facilities or **warehousing capacity are developed** to prepare for future supply chain shocks	Corporations will now emphasise **mapping out connections in their supply chains** and have to consider how to fully disconnect from Russian business Western companies increasingly **'reshoring**' when reassessing their supply chains Storage facilities or **warehousing capacity are developed** to prepare for future supply chain shocks	**Deglobalisation is accelerated** as nations look to procure raw materials domestically Risk management teams to heavily consider **risks of damage to physical assets** (e.g. buildings, land and machinery)
Inflation	Most companies **incur short-term losses** as a result of inflation, with the expectation of prices stabilising in the near future Smaller companies that have been more severely impacted may **identify areas to cut costs and maximise profit margins as a result of operating in a high-inflation environment** (e.g. job cuts, narrowing product offering)	Extreme monetary measures could lead to **stagflation** Central banks slow to transition to tighter monetary policy leading to higher interest rates than originally anticipated **Rising costs associated with protecting physical assets** could put a financial burden on SMEs and some large organisations	Retailers accept **short-term price shocks and maintain supplier relationships** The most negatively impacted industries are **food and construction** due to significant market share of key resources across Ukraine and Russia However, at the same time, companies may seek out supplier alternatives whilst striking a balance between lower input costs and maintaining quality of output where feasible	Organisations **consider divesting parts of their business** that are high-cost and could negatively impact profitability **M&A activity could spike** as companies look to merge operations with the goal of achieving economies of scale to reduce costs	A fragmented global financial system could **change the composition of foreign exchange reserves** and cause **leading currencies such as the dollar and euro to lose their dominant role** in financial markets. Businesses with insufficient reserves or capital and poor risk management strategies may struggle to keep up with inflating prices and **subsequently terminate operations**

04

Key market forces influencing the risk landscape

With the overarching macro themes impacting all businesses globally, the following section highlights the business implications of specific challenges for the global economy, namely **cyber, supply chain, food security, climate transition, energy security, ESG and public sentiment.** Each of these market forces has been analysed against the potential effects of the five scenarios and overarching macro themes.

Cyber

More likely scenarios | Less likely scenarios

01 Defensive push-back	02 Protracted conflict	03 Annexation	04 Collapse of Ukraine	05 Escalation
– Tech companies focused on cyber security and risk mitigation solutions may see a rise in demand for services – Governments holding criminals and rogue states more accountable to reduce the exposure to cyber risks – Regulatory requirements imposed on cyber security standards and best practices globally as a result of collaboration between the US and UK governments – Western governments invest significantly in cyber defence as opposed to the historic policy of focusing on offense	– Greater magnitude of spillover effects and collateral damage due to increased sophistication in cyber weapons (both frequency and severity) – Organisations directly impacted by cyber attacks may need to rebuild their entire IT infrastructure impacting global distribution/ supply chains – Increased cost to businesses from a risk management perspective and loss of revenue as more criminal behaviour amongst hactivists is incentivised by governments – Organisations with operations in the affected regions have a significantly higher exposure to peripheral impacts of cyber attacks, especially as CEE countries are prevalent for software provider companies	– Anonymous hacking groups align themselves with either Russia or the West, increasing the frequency and severity of cyber attacks – Businesses continue high investments in cyber security and cyber risk management despite inflationary pressures – Increased investment in cyber resilience to minimise impact of cyber attacks on supply chains – Russia continues to use Ukraine as a test bed for malware, uses this maliciously against other nations, and creates more damaging malware which becomes available for other bad actors	– Collateral damage is caused by opportunistic threat actors repurposing destructive malware designed during the conflict – Increased frequency of destructive malware attacks cause affected organisations to suffer greater business interruption and potential loss of revenue if businesses are offline for weeks/ months resulting from destructive malware – Government facilities need significant investments as they are more likely targets of cyberattacks due to relatively lower cyber security resilience	– Cyber attacks could lead to potential disruption of supply chains adding to impacts from supply shock inflation – Targeted Russian cyber attacks on power reactors in Ukraine, leading to supply disruption and potential negative environmental externalities – Potential loss of physical assets due to migration of critical infrastructure as a result of a cyber conflict boosts demand for risk mitigation which comes at a higher cost – Disrupted systems for refineries and power grids may lead to the potential of loss of power for citizens and critical infrastructure such as healthcare – Successful cyber-attacks on financial institutions may lead to short-term economic failure (inability to transact domestically and internationally)

In January 2022, multiple cyber-attacks against Ukraine's government websites were recorded, with another wave disabling multiple government and bank services in the following month. From the outset of the conflict there has been a global increase in cyber-attacks, but early indications are that the number of attacks may rise as Russia continues to plan and execute cyberattacks. It takes time to plan and execute these attacks, which is why it's possible that there is a delayed growth in frequency.

As a result, businesses should expect a need to increase their cyber resilience to minimise the peripheral impacts of state-sponsored attacks and opportunistic threat actors in the wake of the crisis. This will likely lead to businesses being more well-versed in financing their risk transfer solutions while improving their appetite for more comprehensive risk management processes.

Geopolitics

Senior executives from Stroz Friedberg, Aon's cyber security risk management firm, believe that businesses worldwide have, in general, looked to Western governments for guidance around improving cyber security standards and best practice for cyber risk management. Particularly in Europe, organisations look to the UK's National Cyber Security Centre for guidelines and updates. This synchronised approach sets precedents in the industry going forward with issuance of minimum standards for organisations to adhere to, including sanctions screening as a legislative instrument instead of its traditional function as part of due diligence.

> **In the realm of cyber security, the cost of the Ukraine crisis is spread across the entire world with relatively more concentrated cyber investment in the Western world**
>
> **Director, Stroz Friedberg**

According to Aon's Head of Cyber Analytics, Ukraine has become increasingly resilient to cyber attacks as a result of acting as a 'test-bed' for the Russian state and its affiliates' offensive cyber capabilities in recent years. It now has hardened cyber defences which are supported by Western technology. Despite this Ukraine has suffered from some successful cyber attacks, including an attack on a Ukrainian power plant in 2015 that resulted in widespread electricity blackouts, and NotPetya in 2017. Both events resulted in losses to organisations globally due to collateral damage and spill-over effects. However, Russia now realises that cyber attacks are more effective outside active conflict, when executed stealthily and that there is limited harm a cyber weapon can inflict on the target when compared to combat attacks.

With Western nations becoming increasingly engaged in supporting Ukraine, they are at risk of potential retaliatory actions from Russian hackers. For instance, at the end of April 2022, multiple DDoS attacks were launched against the Romanian government in response to a state announcement that Romania would provide Ukraine with military aid. In an escalated scenario, companies based in Europe should look to further strengthen cyber security infrastructure to defend against potential attacks.

Economic impact

Since the start of the military conflict, the cost of the Ukraine crisis to the risk landscape is spread relatively evenly across the globe due to the peripheral impacts from high interconnectivity of systems and networks. The risk landscape is already at its most heightened state, yet is much more resilient to a cyber-attack, following lessons learned from the 2017 WannaCry attacks that crippled many UK healthcare systems.

The NotPetya attack in 2017 was estimated to have cost the global economy approximately $10 billion[3] – cementing the view that the severity of spill-over effects from one single attack can cause widespread collateral damage and a large aggregated loss. The peripheral impact from full-blown cyber warfare could shake up economies with long-lasting impact to businesses, not just from financial losses but damage to physical assets and even human lives in the event that critical healthcare infrastructure is corrupted. As time passes, it may be harder to distinguish between a physical warfare and asymmetric warfare. The crisis has accelerated the need to improve cyber resilience amongst organisations, highlighting the size of the protection gap in the cyber insurance market.

Another contributing factor to the growing protection gap is opportunistic threat actors who continue to make more destructive malwares by purchasing and repurposing novel malwares introduced by nation state actors from the dark web. Organisations most impacted are those with some stake in supply chains such as aviation, marine and cargo, and oil and gas companies. The likelihood is that supply chain issues may exacerbate the impact of cyber attacks, due to the challenge in acquiring replacement parts if there is a need to rebuild IT infrastructure. The compounded effects will almost certainly amplify the magnitude of revenue loss if those businesses are unable to operate online for weeks or months.

> **A conflict occurring in the same area where we have seen a large number of state-sponsored and commercial cyber events emanating from has meant that this is an enormously troubling and potentially systemic issue for the cyber insurance market. Russian boots landing in Ukraine has been the most disruptive event we have witnessed in the market**
>
> **Cyber broking leader**

[3] ABI, 2020

Inflation

As cyber risks become more complex, developing cyber resilience becomes costlier. Despite these potential additional inflationary pressures, organisations are continuing to invest in new defences and implement strong risk management and governance against cyber threats, due to the potential significant materiality of damage. Additionally, and encouragingly, many global multinationals are well-versed and proactive in their response to the level and escalation of investments in cyber solutions.

Social transformation

Criminal behaviour amongst nation state actors and hacking groups is tolerated by Russia, with the government doing very little to curb it. Prior to the crisis, most ransomware attacks emanated from Russia and Ukraine. It is evident that the conflict has exacerbated the risk of more destructive cyber weapons with anonymous hacking groups aligning themselves with either Russia or the Western allied democracies, potentially increasing the frequency and severity of those attacks. At the same time, there has been a revival of hacktivism against Russia in support of Ukraine – more than 400,000 volunteers have supported this, including hacktivist group 'Anonymous' and at least 21 other groups[4].

There is a noticeable shift from financially motivated attacks by certain criminal actors, with ransomware the main driver of cyber insurance losses, towards politically motivated attacks of a more destructive nature. This outcome would reduce the chance of ransom claims being paid but increase claim costs from business interruption and data restoration. Other criminal threat actors may seek to take advantage of the "distraction" of the cyber conflict alongside fighting in Ukraine, carrying out financially motivated attacks.

To minimise the long-term impact on the risk landscape, governments have been attempting to change the public's perception by holding criminals and rogue states more accountable, ushering in a shift in behaviour amongst organisations and ultimately reducing exposure to cyber risks. As an example, it is compulsory to report a data breach for countries that are involved in the multilateral effort to place sanctions on Russia. This effect will potentially reverberate in other countries outside the Western bloc.

Impact on businesses

Transportation and logistics: Organisations closely intertwined with key supply chain networks are at high risk of targeted cyber-attacks, due to the potential magnitude of disruption, coupled with relatively weaker cyber resilience compared to industries such as financial institutions. Firms should work closely with third-party cyber solution providers and allocate a sufficient portion of their budget to developing cyber protection.

Public sector and healthcare: As evidenced by the severity of the WannaCry attacks on NHS systems in 2017, healthcare providers and other public sector entities are also vulnerable to cyber threats. They are at high-risk of being targeted, largely as a statement of intent from Russia and their allies. As with transport companies, the government should invest heavily in ensuring sufficient cyber security exists in these sectors.

Technology: Technology sector companies are experiencing growing demand for cyber security solutions. However, there is a watchful eye on the technology industry, with companies having to pay stringent attention to data protection, chip manufacturing and other solutions potentially exposed to the conflict.

Case study: US satellite communications provider, **Viasat**, shared an incident report regarding a cyber-attack on its KA-SAT consumer-oriented satellite broadband service on February 24, the day Russia invaded Ukraine. The KA-SAT satellite network is both used intensively by the Ukrainian military and used by wind turbines across Europe – while the damage was minimal, the potential to disrupt different markets was significant.

[4] FT, 2022

Supply chain

More likely scenarios

Less likely scenarios

01 Defensive push-back

- Governments may develop trade relationships with indirect stakeholders such as China and India
- Global supply chain activities may return to pre-conflict times i.e. more engagement from seafarers and airplanes
- Governments introduce significant stimulus package to encourage domestic sources of supply including more planned construction projects to spur economic growth
- Focus on tech to improve cost efficiencies of companies operating across supply chains

02 Protracted conflict

- Budget deficits form as governments looks to finance import of essential goods
- Stricter sanctions or other political levers used against countries that are in support of or tied to Russia
- Expand block on payments to Russian allies and withhold investments across transport and manufacturing industries in affected region
- Substantial amounts of imported oil and gas to offset the excess demand experienced during peak of crisis
- Maintain sanctions against Russia and allies, further exacerbating supply chain constraints

03 Annexation

- Further establish supply relationship with Western allies and new sources (e.g. Africa and North America); Subsidise manufacturers and general imports to spur economic growth and meet demand
- Blocked ports continue to limit ease of trade across supply chains leading to increased activity for domestic transport as economies seek to become self-sufficient
- Smaller construction companies go insolvent due to long-lasting inflationary pressures
- Maintain sanctions and trade blocks against Russia; broaden scope of sanctions to Russian allies

04 Collapse of Ukraine

- Draw back on imports of certain products (e.g., reduction of oil and gas supply for private use)
- Financial institutions limit loans and capital to the funding of essential organisations (e.g. food necessities industry)
- End operations of seafarers in Black Sea region – focus on sea trade with US and development of train-related trade with EU states

05 Escalation

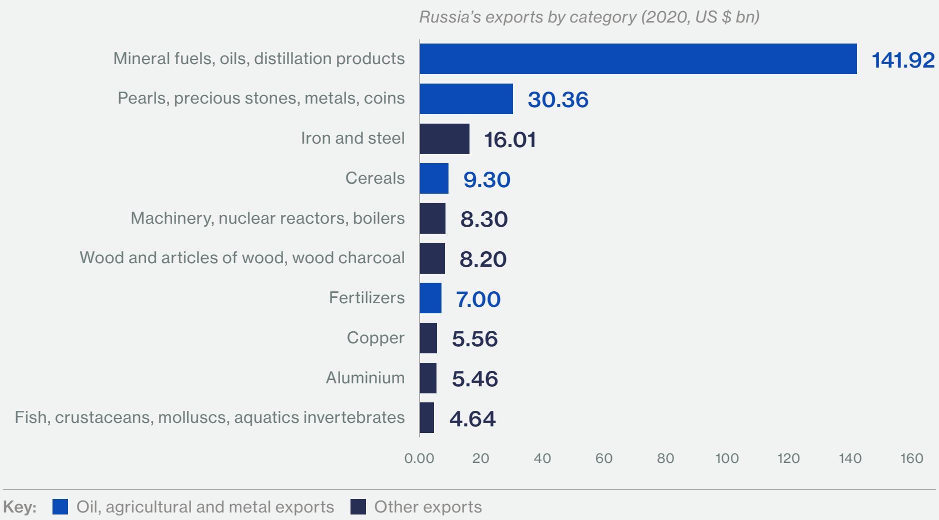
- Certain products are unable to be produced due to scarcity of certain raw ingredients
- Construction projects are unable to begin or will be unfinished for the foreseeable future
- Transportation or logistics companies may be involved in the delivery of military vessels used to bring in emergency supplies where needed
- Businesses focus supply chains on supporting military requirements

$190bn

Supply chain constraints have been worsened by the Ukraine crisis – with Russian oil, agricultural and metal exports constituting over $190bn in 2020[5], sanctions against Russia could have significant ramifications across the global energy and commodity supply markets.

[5] Deloitte, 2022

Figure 1 – Russia exports sizeable quantities of oil, metal, and agricultural commodities



Companies with international exposure or operations in Russia are also facing potential losses – they are now unable to access spare parts, insure their facilities and export their goods. Multinational corporates will assess fragilities in their global business, with decisions made on stopping, scaling-back or continuing operations in exposed regions.

Geopolitics

Due to insufficient business continuity planning, several companies are experiencing bottlenecks in production – firms should invest and develop risk management processes to plan for various supply chain shocks that may emerge from the crisis. Risk practitioners recommend that organisations start to prioritise geopolitical factors on the risk agenda, especially given the close link between geopolitics and energy security.

Countries are pivoting towards reshoring supply chains as a means to achieve self-sufficiency and avoid risks associated with importing goods. They are also seeking to operate supply chains in collaboration with close allies ("friend-shoring"). However, using alternative sources such as LATAM and Japan presents potentially increased costs and increased time to procure materials due to geographical distance. Another consideration in adapting supply chain strategies is that some key materials are not readily available from alternative sources, for example Russia holds a significant share of the global semi-conductor grade neon market (around 90%)[6].

Simultaneously, export sanctions imposed by the US and EU could exacerbate commodity cost pressures. The use of controls to restrict certain companies from supply chains has soared over recent years. Historically targeted at Chinese companies, a growing number of Russian firms have been earmarked for export controls, with Gazprom and Rosneft on a US restrictions list. US and EU export controls are already targeting action against the Russian financial sector, including state-owned banks, as a punitive tactic. At the time of writing this report, certain Russian exports such as fertilisers remain unsanctioned. If the crisis were to escalate, trade blocks against such exports could have ramifications across various industries, especially food manufacturing.

> **We are expecting the effects of supply chain issues to kick in later. It is not as apparent now because projects in construction already have their materials sourced; hence infancy projects that are still laying the foundations may be the ones which will be impacted**
>
> **Executive Director, International Construction**

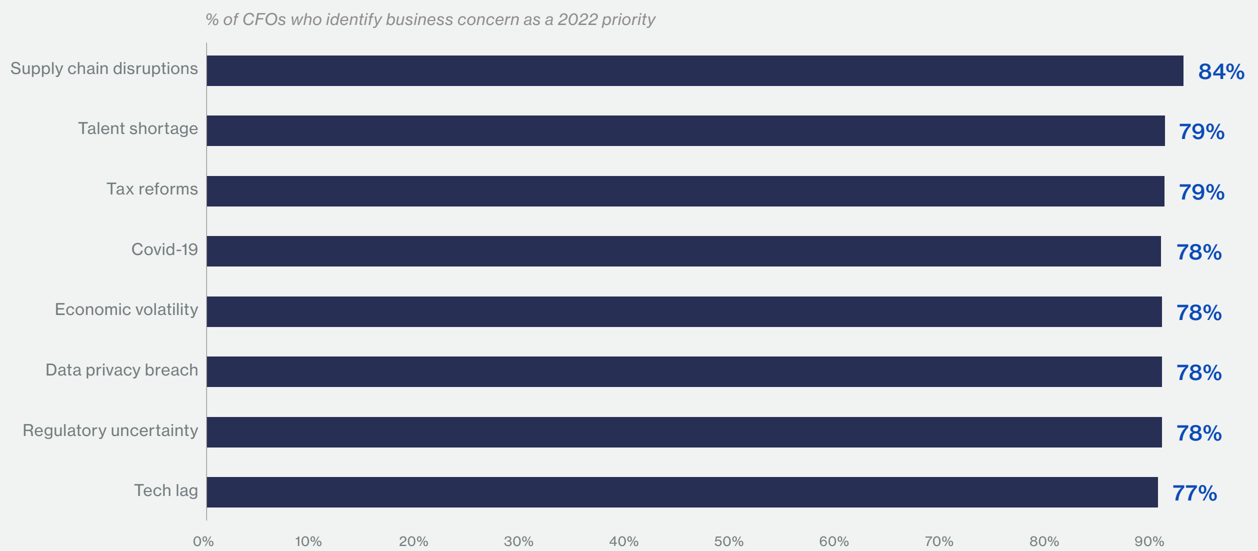
In retaliation, Russia has imposed blockades to restrict trade to Western nations. Supply blockades in regions such as the Black Sea are severely impacting critical supply routes, with Ukrainian and Russian seafarers constituting around 15% of the global shipping force. With Black Sea trading activity at a standstill, other countries in neighbouring regions are leveraging bargaining power by purchasing Russian exports and selling them on to Europe. In a prolonged and elevated conflict, further sanctions may be brought against those trading closely with Russia.

Economies in APAC (other than China, South Korea, Japan and India) and the Americas have weaker trade and investment links with Russia, but growth is still hit by weaker global demand and the impact of inflation on household incomes and spending. Many emerging economies and Central and Eastern Europe (CEE) countries with relatively strong business ties with Russia are already seeing higher country and sovereign risk premiums and currency depreciations.

[6] CSIS, 2022

Economic impact

Figure 2 – Supply chain disruptions pose greatest risk to business finance leaders



In a survey conducted by accounting firm BDO across more than 600 CFOs, supply chain disruptions are considered the biggest priority in 2022[7].

Trade blockages imposed by Russia on Ukrainian seafarers could have significant economic repercussions – experts at Allianz Trade predict that supply chain shocks and declining confidence could result in a loss of c.$480 billion in exports to Russia and EU countries in 2022[8]. With constraints on international trade increasing in severity, challenges associated with logistics and transport have significantly pushed up costs and are changing business models as companies substitute shipping for alternatives such as train transportation.

While these sanctions are punitive actions against Russia, they may inadvertently impact all markets – any persisting depreciation of the rouble would negatively affect Russia's ability to grow investment and productivity, thus impacting global agriculture and manufacturing sectors and generating further risks to food and energy security. Meanwhile, the disruption to critical exports from Ukraine, such as grain, presents a significant and immediate threat to global food security.

Multinationals with a presence in Russia are ceasing trade, with commercial air and freight routes being rerouted or stopped. These companies could incur large losses depending on exposure to the Russian market, through large asset write-offs, reduction in revenues and declines in global production. This has caused significant volatility across Russian markets – with an immediate, sharp depreciation of the rouble, which has since recovered, interest rates almost doubling to 20% and Russia's sovereign rating at the brink of default.

The Managing Director of Aon Specialties said, "Companies have been optimising their processes from a 'just in time' to 'just in case' model". This reinforces how the crisis has further exposed issues

600,000

More than 600,000 businesses globally rely on Russian and Ukrainian suppliers, with just over 90% based in the US[9]. **Finding new avenues for these products has become a priority for most organisations**

[7] BDO, 2022
[8] Insurance Times, 2022
[9] Forbes, 2022

Economic impact (continued)

with production strategies and just-in-time replenishment, with many organisations looking to diversify supply chains and introduce dual sourcing.

As such, many companies could face significant costs relating to due diligence to ensure supply chains are compliant, sanction proof and exclude business with Russia. More than 2,100 US-based firms and 1,200 European firms have at least one direct (Tier 1) supplier in Russia, with around 20% of these companies operating within software, IT and consumer services.

200,000

A further 200,000 US and European firms have **Tier 2 & 3 suppliers in Russia**[10]

Figure 3: Exposures to Russian and Ukrainian suppliers

450+
firms in the US have **Tier 1 suppliers based in Ukraine**

2,100+
firms in the US have **Tier 1 suppliers based in Russia**

15,000+
firms in the US have **Tier 2 suppliers based in Ukraine**

65,000+
firms have **connections to Russian suppliers at Tier 2**

190,000+
firms in the US have **Russian or Ukrainian suppliers at Tier 3**

Voluntary suspension of shipments further amplifies the challenges. Cargo ships in the region have been halted, putting pressure on cargo capacity, and raising concerns about further supply chain disruptions. Shipping conglomerate Maersk have suspended all shipments to and from Russia except for food and medicine. Other organisations such as Ocean Network Express and Mediterranean Shipping Company (MSC) have implemented similar suspensions.

At the same time, there are further strains on traded goods with major payment operators such as Visa and Mastercard suspending operations in Russia. Businesses that interact with Russian markets are concerned that certain exports may go unpaid for, leading to growing interest in trade credit solutions. However, growing demand for these solutions is not being satisfied, as insurers operating in this market are currently refraining from insuring goods or services that are being exported to Ukraine and Russia.

[10] Interos, 2022

Inflation

A lag in response to inflationary pressures means the actual severity of the impact has not been fully priced into final goods and services for consumers. However, a reliance on Russia and Ukraine's energy and agricultural commodities, and critical minerals across European nations will highly likely lead to a rise in global commodity prices. In an escalated state, sanctions and counter-sanctions could limit available supply in the market, further accelerating price increases.

The mounting costs are impacting specific industries, especially construction and manufacturing. Construction projects already underway will not be as impacted as those in their infancy, with live projects benefiting from long-term agreements that protect against price shocks, while cost levels accelerate for newer projects.

As part of their risk management strategies, companies are looking to proactively drive down costs to reflect changes in commodity prices, while working closely with suppliers to ensure they are well positioned for a range of future outcomes. Part of this risk analysis will include the need to regularly revisit customer pricing to ensure they remain competitive while maximizing margins.

High inflation has forced central banks to tighten monetary policy while entering an economic slowdown, which carries further risks of recession. Policy interest rates were raised by 1% on average in the major advanced economies and by 1.5% in the emerging-market economies since the start of 2020[11], as Ukraine crisis has compounded an existing trend following the easing of COVID-19 restrictions and existing supply chain challenges.

Six out of eight

US interest rate rises since the early 1980s have led to global recession

If monetary measures are too extreme, the world risks stagflation: a drop in output alongside a prolonged period of inflation similar to the conditions experienced in the 1970s. However, if steps are not taken to limit the potential damage inflation brings, we may see worsening inequality and livelihoods threatened.

> Hope is not a good strategy for addressing inflationary pressures

Social transformation

The impact of the limited supply of key imports is likely to be worsened by an emerging refugee crisis, with up to seven million refugees seeking safety from the attacks in Ukraine. As such, many countries will likely struggle to meet growing needs and may look for "loophole" strategies, importing products indirectly from Russia via neighbouring nations.

Impact on businesses

Energy: With Russia and Ukraine positioned as key energy exporters, global companies will need to find alternative energy sources, potentially resuming relationships which previously paused due to political tensions (e.g. imports from Iran). Energy companies may also look to change business structures to accommodate different raw energy types, such as develop infrastructure that can successfully convert and refine LNGs from the US.

Construction and manufacturing: Price increases and shortages of supplies are expected across key construction materials such as aluminium, steel, nickel and timber. With a voluntary suspension of shipments and various closed ports around the Black Sea, supply chains to construction firms are likely to worsen.

Case study: According to **Molior London**, which monitors construction in London, private housing construction projects have halved in the past 5 years. This is largely a result of rising construction costs and development taxes, worsened by an increasing supply crunch. For manufacturers, **Volkswagen** and **BMW** have been closing assembly lines in Germany due to the shortage of wiring harnesses manufactured in Ukraine by the German company Leoni. Tyre manufacturer, **Michelin** recently announced it would close some plants in Europe due to logistics issues created by the conflict.

[11] OECD, 2022

Food security

More likely scenarios

01 Defensive push-back

- Governments implement temporary fiscal policies to soften the impact of food price inflation (e.g. subsidies in the short-term) and increase investment in domestic production of raw ingredients to encourage food independence
- Food manufacturers may restart trade with Russia, who are a significant wheat exporter. However companies with continued operations in Russia (to provide essentials to the citizens) may face reputational backlash

02 Protracted conflict

- Significant subsidies for investment in food and agricultural tech to develop domestic production of raw ingredients
- Government incentivises schemes to encourage citizens to enter the farming industry
- Ships carrying food supplies, raw ingredients and/or fertiliser could be attacked, thus disrupting the distribution of supply
- Businesses have to restructure their operating models to incorporate cheaper food ingredients
- Retailers accept short-term price shocks and maintain supplier relationships
- Food manufacturers may look to increase number of long term agreements with suppliers to lock in supply and price

03 Annexation

- Countries may keep trade blocs and sanctions in place against Russia and annexed regions – increasing imports of food materials from alternative sources such as LATAM
- Manufacturers find multiple sources of raw ingredients or commodities to build a smoother supply chain that isn't reliant on Russia; Collaborate with neighbouring economies to form new food supply chains
- Sanctions extended to fertiliser supplies from Russia causing further disruption to farming / agricultural production

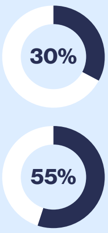
Less likely scenarios

04 Collapse of Ukraine

- Loosened food safety conditions to relax regulations on the import of other foods (potentially at the expense of worsened food quality)
- Retailers unable to maintain price points, leading to significant price increases for customers; Increased use of cheaper, lower quality suppliers
- The agriculture industry may focus on innovative and sustainable agricultural methods (crop technologies)
- Abandonment of key agricultural land as territories become "no mans land"

05 Escalation

- Threat of famine and draught; Damage to crops, storage facilities and processing plants should conflict escalate
- Food manufacturers may focus production on low-cost foods to meet minimum nutrition requirements
- With certain key ingredients such as sunflower oil coming from Ukraine, global markets may be challenged in the way they make foods with alternative ingredients
- Financial institutions may increase provision of loans and funding to farmers to ensure citizens are fed



Ukraine and Russia's position as major exporters of wheat (combined output accounts for **30 percent of global supply**) and **sunflower oil** (combined output at **55 percent of global supply**) has led to severe disruptions to food supplies as a consequence of the crisis[12]

Russia and Ukraine together account for around **30% of global exports of wheat, 20% of corn, mineral fertilisers and natural gas, and 11% of oil**[13]

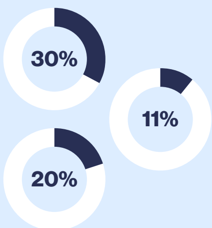
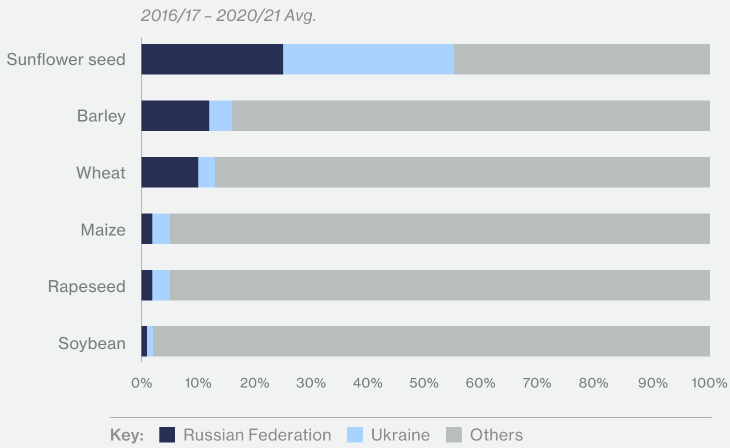


Figure 4 – Share in global production of selected crops



Source: FAO XCBS systems

[12] Mckinsey, 2022
[13] FAO, 2022

Nations are targeting food independence – as early as 2023. We may see farmers start to use new crop technologies that offer biologics to bring improved plant health and soil fertility benefits, leading to an increase in the yield of crops. However, as this will take time to have a real impact, to fill the short-term shortage, companies in regions such as Latin America are being encouraged to increase supply but will likely need to meet varying and demanding regulations from Western states.

Geopolitics

Russia's military action has caused an increase in food insecurity across Ukraine with food supplies shrinking quickly in the fighting zones and elsewhere.

Countries not directly involved in the conflict are also suffering insufficient food importation, with nations across North Africa and the Middle East particularly vulnerable to food shortages. These nations are also seeing increased regional volatility and further socio-political tensions. Syria, Yemen, and Lebanon have all been affected by regional conflicts and any further disruption in food supply will likely heighten tensions.

> Food safety environments and standards differ greatly between countries therefore it is not as simple and straightforward to replace imports like-for-like
>
> **Food & Beverage Specialty Leader**

With a strained global food supply, some economies are prioritising domestic provision of food to citizens and thus creating food export barriers to usual international trading partners. This aspect of deglobalisation is already exemplified by India who prevented wheat exports in Q2 2022.

Food security is also compromised within Ukraine. On 27 June, mounting evidence through CCTV and drone footage suggested that Russian forces have allegedly stolen grain and other key produce from occupied areas of Ukraine, as well as destroying farmers' premises and equipment.

Economic impact

With supply shortages already apparent prior to the conflict, the FAO Food Price Index reached a new historical high in February 2022, 21% above its level a year earlier and 2.2% higher than its previous peak in February 2011[14].

Russia and Ukraine are major exporters of fertilisers and other materials essential for the production processes of Western and Asian food, beverage, and agriculture businesses. However, the occupation of Ukraine has led to widespread destruction of farm property and processing factories, which will have to be rebuilt once the conflict ends, as well as the abandonment of agricultural land and crops.

Multinational clients will likely have factories based in territories that are exposed to the conflict, with certain key input ingredients unable to be produced. These companies ought to reconsider their business model, either examining alternative means of producing the same final product (i.e. ingredient substitutes) or pivoting to selling alternative goods altogether.

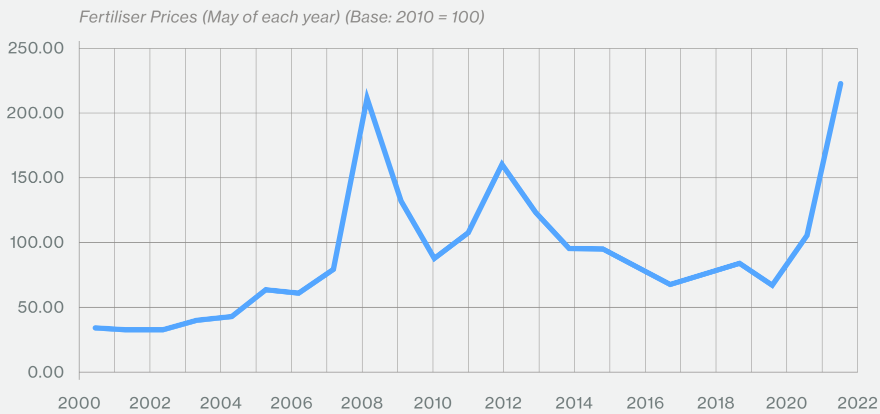
> Several multinational clients exited Russia very quickly, primarily due to reputational damage while others decided to pause operations as they didn't know how the crisis would pan out. However, many of these entities had production and distribution facilities with employees in those regions so it has been difficult for them to 'turn off the tap'
>
> **Food & Beverage Specialty Leader**

[14] FAO, 2022

Inflation

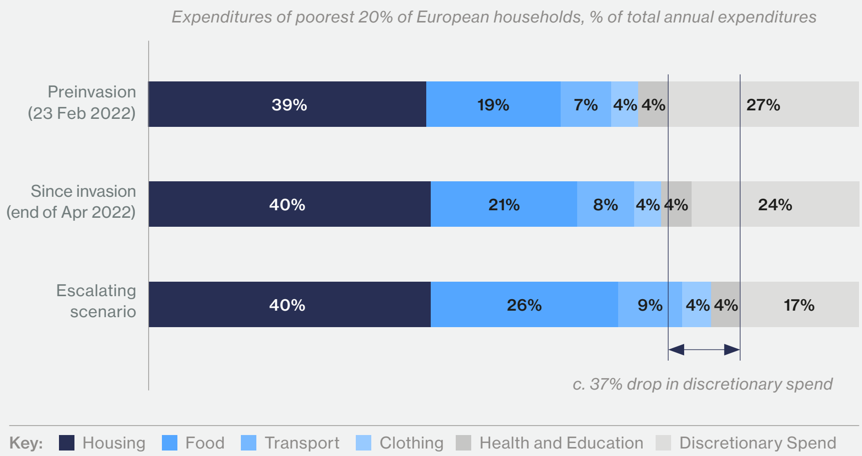
Prior to the conflict, international food prices had reached an all-time high. This was mostly due to supply chain disruptions caused by COVID-19, but also to high prices of energy, fertiliser and all other agricultural services. International benchmark prices of fertilisers rose significantly throughout 2021, with many quotations reaching all-time highs. The most significant increases were across nitrogen fertilisers, stemming from the price of urea (an important raw material for the chemical industry) having risen by 250% over the past 12 months[15].

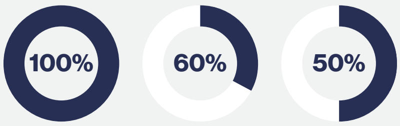
Figure 5 – Fertilisers: world bank commodity price data



Whilst developed countries are taking steps to manage inflationary pressures, developing countries highly dependent on food imports are now more vulnerable to food insecurity and less able to insulate themselves. This is particularly true in the MEA region where countries reliant on wheat from Ukraine and Russia and have few alternative supply options.

Figure 6 – Expenditure of poorest 20% of European Households





Somalia, Lebanon and Yemen get **100%, 60% and 50% of their wheat from Russia and Ukraine** respectively[16]

While consequences will be more severe for emerging economies, Western countries are also grappling with a cost-of-living crisis largely caused by a rise in food prices. Low-income households, who spend large proportions of their incomes on food and staple ingredients, are most adversely impacted.

↓12%

Since the beginning of the conflict, discretionary spending of the poorest 20% of European households **has dropped by 12% due to increases in costs associated with food and transport**[17]

[15] World Bank, 2022
[16] FAO, 2022
[17] Mckinsey, 2022

Social transformation

The impact of the invasion on Ukrainian citizens is profound, with about 10.2 million Ukrainians estimated to need access to food and livelihood services (FSL) in March-August 2022, with a further influx of those in need of FSL expected across the coming months[18]. According to early estimates from ACAPS, around 29% of people in Ukraine are currently facing food shortages, having to reduce food intake and the number of meals[19]. Additionally, farmers are facing challenges in delivering product to markets because of fuel shortages and disruptions in commercial transportation. This is further accentuated by much of Ukraine's workforce being diverted to the military effort.

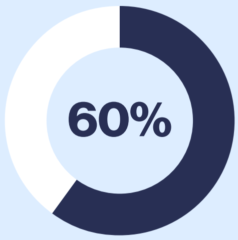
Humanitarian organisations are facing difficult decisions, forced to choose between feeding fewer people or feeding more with reduced food rations. In the current emergency state, the World Food Programme relies on locally sourced food in Ukraine to support people inside the country where necessary, and is supplementing supplies by shipping ready-to-eat foods to travelling refugees.

Many countries that are highly dependent on imported foodstuffs and fertilisers, including several Less Economically Developed Country (LEDC) and Low-Income Food-Deficit Country (LIFDC) groups, rely on Ukrainian and Russian food supplies to meet their consumption needs. Many of these countries had already been struggling with the impacts of high international food and fertiliser prices prior to the crisis. Several countries rely on wheat exports from Ukraine and Russia and their shortage could lead to famine, particularly in Africa.

Food shortage and inflation will result in increased political instability. In a prolonged scenario, this could lead to social unrest and national conflict. Other countries in the Middle East and North Africa have also been politically unstable in the past decade and a lack of food may draw them into conflicts. Egypt is the largest importer of wheat in the world, with over 80% of imports coming from Russia and Ukraine[20]. Globally, over 40% of the population is currently unable to afford a healthy diet[21], any increase in food prices could develop social unrest – rapid food price increases in 2011 were a contributing factor to protests experienced as part of the Arab Spring.

Other prominent food material exporters are facing separate issues in plugging the gap left by Russia. For instance, Argentina's exports during the ongoing season will also likely remain limited by government efforts to control domestic inflation, while Australia has reached its maximum shipment capacity. Brazil, the world's largest importer of fertilisers, was already expecting low crop yields this year due to persistent drought and is now pushing to increase domestic production of products.

Climate change make it more likely that these crises will become endemic and there have been multiple recent droughts in a variety of regions such as Morocco, California and Canada. Poor harvests in other parts of the world could amplify the impact of the Ukraine crisis on global food supply chains[19].



Latin America has experienced weather struggles in the past two years, while the **US currently sits in a weather pattern as a result of which 60% of the country is experiencing long-term drought** that is expected to continue[22]

[18] UNOCHA. 2022
[19] ACAPS, 2022
[20] CTGN Africa, 2022
[21] FOA, 2021
[22] World Economic Forum. 2022

Impact on businesses

Technology: Although the process may take significant time, technology firms are dedicating resources to building food and agriculture technology to encourage domestic food production and a regenerative agricultural environment. Companies should seek opportunities to partner with food and beverage businesses, identifying ways to best support them in achieving business objectives.

Transport and logistics: As with energy security, there is likely to be a global shift in food independence which may reduce the demand for transport services. However, in the short-term, nations are looking for alternative sources for key raw ingredients (for instance, Latin America) and may look to logistics companies for best practices in forming new supply chains. Companies should, however, remains cognisant of other external factors influencing food production (e.g. drastic droughts across the Americas).

Food and beverages: As with oil and gas, Russia and Ukraine are leaders in key raw ingredient exports, especially wheat. Nations historically reliant on these exports are looking for alternative sources such as North Africa and South America. Food companies should also consider (i) re-engineering production of final products with alternative ingredients (ii) focusing production efforts on foods produced by ingredients that are minimally impacted by these supply chain constraints.

Public sector and healthcare: Increasing subsidies for companies producing essential foods should be a priority for the public sector. Additionally, the government should look to support those from lower-income households who may face difficulties in purchasing food amid price increases.

Case study: Retailers such as **Tesco** have tried to maintain a price point, but the quantum of inflationary increases is making it difficult to sustain. For instance, multinational beverage company **Diageo** openly stated in investor calls that they are planning for a 10-15% increase in prices.

Climate transition

More likely scenarios | Less likely scenarios

01 Defensive push-back	02 Protracted conflict	03 Annexation	04 Collapse of Ukraine	05 Escalation
– Energy companies tied to stricter regulatory requirements and greater costs associated with higher environmental standards – Costs to governments arise from the lack of adherence to environmental standards due to accelerated transition causing harm to communities and environments – Stable renewable energy production could be limited by the amount of input from the source leading to long-term investments in battery storage – Increased financing and construction of renewables projects	– Disruption of key materials for electric vehicle production impacts their trading performance and operations – Electric vehicle manufacturers may demand for alternative battery chemicals to combat rising prices and drive better profitability – Secondary sanctions on Russian allies and other annexed countries further limits supplies of key materials required for climate transition – Governments may form relationships with new allies for key mineral resources required for green technology – Grid instability due to exponential use of renewables could lead to cost-of-living crisis and potential recession – governments may ramp up monetary policy	– Governments may ease regulations and licensing for production companies to ensure a mixed slate of energy sources to meet domestic demands – Pro-oil/coal political parties become opportunistic to reboot traditional energy infrastructure – Financial institutions may partner with governments to provide more capital for sustainable financing instruments (green bonds) – Governments may boost necessary infrastructure, leading to accelerated but disrupted climate transition with potential spill-over effects to biodiversity	– Countries reliant on Russian oil and gas may reconsider traditional energy sources (nuclear power) to meet domestic energy demands – Governments may purchase key commodities for renewable energy from other countries similar to Russia with oppressive regimes due to lack of investment in thermal energy – Significant stimulus package for renewable energy projects to meet domestic energy demand – Need for increased output for renewable energy boosts demand for construction and manufacturing companies to develop products that support renewable energy solutions such as smart grid technology	– Destruction of renewable projects leads to increased dependency on oil & gas at inflated prices – Delay to net-zero commitments due to choke points in energy supply – Full blow-out of the military conflict contributes to significant amount of pollutants in the air, harming human lives – Extreme loss of biodiversity (along with many other significant issues) would affect mortality rate in the long term, if a nuclear war breaks out

The desire for greater independence from fossil fuels is exacerbated by the crisis and is likely to further accelerate decarbonisation initiatives. The EU has woken up to the dangers of over-reliance on energy provision from unreliable partners and is responding by accelerating its transition to renewables. More than 90% of global emissions are now covered by net zero pledges[23] which will support the renewable energy industry, suggesting this crisis could lead to an acceleration of geopolitical tailwinds for renewables. However, this cannot be achieved quickly, increasing the EU's reliance on hydrocarbons for its energy needs, re-opening coal-fired power stations and burning more coal.

There will be winners and losers in the accelerated climate transition pathway. In the short term, construction and energy giants emerge as the clear winners from the inflated demand for renewable projects while the long-term downside of a disrupted transition has potential detrimental spill over effects to communities and for biodiversity.

[23] State Street Global Advisors, 2022

Geopolitics

Countries are accelerating renewable energy take-up and seeking to better manage domestic energy supplies, while Europe is reconsidering its nuclear and coal phase out by reversing its plans to move away from nuclear power and coal solutions. Green technologies, however, require large quantities of mineral resources, many of which largely originate from Russia and its non-Western allies. Trade tensions could exacerbate the impact of supply dominance by these countries creating a bottleneck for the supply of key metal input for low-carbon technology. This may very well threaten Europe's ability to deliver its green transformation.

Europe's dependence on Russia led to talks of reopening decommissioned coal power plants despite commitments to phase out coal usage by 2030[24]. Return to coal would result in a significant increase in emissions and displaces global commitments to become net zero, as coal was responsible for over 40% of annual global carbon emissions in 2021[25].

> **The need to decarbonise will cause change in the economy leading to the disappearance of some and creation of some new industries and companies. This impact will reverberate across countries especially in Europe, which will be feeling the full brunt of the conflict due to their reliance on Russian energy**
>
> **Climate change expert**

According to the International Renewable Energy Agency (IRENA), Asia is expected to be a global leader in wind power and will account for over 60% of all offshore wind capacity installed globally by 2050, becoming the largest host of offshore wind farms in the next 20 years[26]. However, this transition may be affected as South East Asian countries may need to increase their fossil fuel stockpiles to guard against supply disruptions.

Economic impact

Energy companies have seen profits grow notably higher due to price spikes, allowing those companies the opportunity to access more capital and ultimately support the climate transition through investments in renewable energy infrastructures. According to Aon's energy business leader, oil and gas companies are walking on a tightrope that balances improved shareholder value with support for the transition, yet they will not shy away from high profits, especially with fossil-fuel-dependent economies pausing the path to decarbonisation to secure local energy needs.

However, the renewable energy output potential of each nation varies significantly depending on weather conditions. Europe has less solar power potential than North America, and sporadic winds, making sustainable energy transition significantly more difficult and costly to maintain. Smart grids can be used as a means of effectively distributing energy but this will require considerable investment in battery storage infrastructure, leading to increased import and export levels between countries. The crisis may also accelerate the opportunity for banks to partner with governments globally on sustainable financing solutions, via support for green bonds.

Inflation

Due to its intermittency issues, renewable energy is not a direct substitute for thermal energy. This volatility has significantly contributed towards a cost-of-living crisis for citizens and a potential recession in the global economy. This impact has been exacerbated by the dependency on legacy fossil fuel energy sources (coined as "fossilflation"), which contributed to the recent increase in E-Euro-area inflation, with energy accounting for more than 50% of headline inflation[27].

Another price shock to economies, but a more subtle one, is "greenflation" driven by constrained supply for significant amounts of metals and minerals, such as copper, lithium and cobalt, needed for the path to decarbonisation, especially during the transition period. Export restrictions of some of these key commodities in Russia may very well add to pressure on prices in the short term.

24 FT, 2022
25 IEA. 2022
26 IRENA, 2022
27 European Central Bank, 2022

Social transformation

Significant increase in prices of critical minerals are likely to drive new mining, manufacturing and renewable energy projects outside Russia. Evidence is seen in the dozen new nickel mines expected in the Philippines this year. This push may diversify global supplies but could also bring about a suite of environmental and social harms. Communities and environments must be protected wherever large projects like these are undertaken as the spill-over effects can be detrimental to biodiversity.

The movement of refugees across Ukraine's borders is positively correlated to carbon emissions with greater need for heavy carbon emitting transportation to move people to safer harbour. The resulting displacement of people could contribute to labour shortages, especially Ukrainian construction workers, required to drive the transition. A lack of supply of these key workers in the power and renewable industry may affect the viability of projects needed to achieve net zero commitments.

Impact on businesses

Energy: Oil companies are restructuring their business model to become energy giants, with an increasing focus on renewables and finding ways to produce a sustainable flow of energy through environmentally friendly means. As this could also support the drive for energy independence, companies will have to invest heavily in new infrastructure and expertise, and work alongside the government to encourage the public to support this transition.

Technology: As with food and agriculture, there is a growing interest in technologies surrounding carbon capture and battery storage solutions to improve the efficiency of renewable solutions. Technology firms should work in close collaboration with oil companies to identify areas where technology can make processes more efficient.

Transport and logistics: With renewable energy materials such as neon, palladium and platinum growing in demand, there may be more demand for transportation of such products.

Public sector and healthcare: In order to achieve net zero targets, major European economies may need to offer stimulus packages to major energy companies to encourage a prompter shift to renewables.

Case study: As of June 2022, **bp** is developing their hydrogen management team, as the energy company prepares to accelerate investments in low-carbon fuel. This comes following a bp announcement of their purchase of a 41% stake in an Australian renewable energy project. The IEA have also warned Europe to prepare for a total shutdown of Russian gas exports this winter, recommending governments should keep nuclear power stations open and take measures to cut public demand.

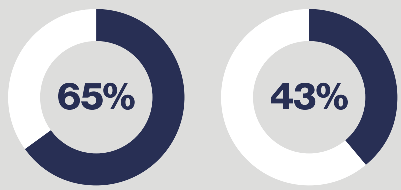
Energy security

More likely scenarios | Less likely scenarios

01 Defensive push-back	02 Protracted conflict	03 Annexation	04 Collapse of Ukraine	05 Escalation
– Sanctions are slowly reversed over a long transition period opening the door for oil and gas companies to potentially reform relationships with Russian suppliers – easing the supply side constraints on energy resources – New energy plants based on cleaner technologies (e.g. small modular reactors) are built – Energy companies are encouraged to be willing to ramp up supply and procurement of new projects in order to alleviate supply and demand shocks	– Increasing investment and production into personal energy solutions (e.g. solar panels on private properties) – Ships transporting energy and materials attacked, disrupting the movement of resources – Governments remove all red tape and regulation for drilling and hoops that companies have to jump through to get more pipelines and oil production underway All countries call upon all available coal and thermal energy resources at their disposal – Reconsideration of energy importation from Russian allies	– Three Powers (US, UK, EU) maintain energy sanctions against Russia as a multi-lateral decision – Corporations continue to develop mixed slates of energy sources to minimise risks associated with commodity price shocks and business continuity – Governments continue to review (and reverse) the decision to close nuclear energy plants – Significant investments poured into infrastructure redesign to accommodate other forms of crude and build relationships with suppliers outside of Russia	– Licensing and regulation surrounding new energy production eased to encourage mixed slate – Sizeable mining projects are accelerated to meet domestic energy demands – Western governments remove all sanctions from embargoed countries and enter into strong trading relationships with these countries (e.g. Kuwait, Iran) – Governments provide significant stimulus packages for renewable energy projects leading to a ramp up in production and maximised domestic energy output	– Planned and pre-execution energy projects, including renewables, put on pause to focus on military and defence – constraining supply of energy resources – Western countries attempt special agreements with OPEC to access sufficient energy – Governments review the option to repurpose or nationalise natural resources from private companies (e.g. energy) – Financial sanctions are put in place on companies that receive energy from Russian allies

Accelerated decarbonisation of energy and increased reliance on imported energy left Europe vulnerable to energy supply disruptions and economic shocks resulting from extraordinarily high energy prices. Almost **40% of natural gas consumed in the European Union originates in Russia**[28] making gas a particular vulnerability, especially for Germany and Italy which have a greater proportion of gas coming from Russia relative to their overall dependence on gas as an energy source.

With the entire value chain around LNG (and non-Russian natural gas) likely to experience accelerated demand, organisations will look to implement agile and lean technology advancements that can cut costs and improve extraction efficiency to increase margins while recalculating their budget for risk transfer solutions to account for inflationary pressures from supply shock.



Germany and Italy import **65% and 43% of their gas from Russia** respectively

[28] New Statesman, 2022

Geopolitics

According to Aon's Chief Broking Officer for the energy industry, a mixed slate of energy sources and suppliers will be critical to a country's energy security given the need to insulate the seasonality factor of renewable energy supply with conventional power. The effects of sanctions on Russian oil could lead to increased opportunities for EMEA countries to supply Western nations as well as historically embargoed countries such as Venezuela and Iran.

The impacts of the energy supply disruption will not be limited to Europe. The US has the oil and natural gas resources to fully supply Europe and other democracies around the world but the current physical, capital markets, regulatory and political constraints are impeding its ability to do so. The US shale sector could be a major and sustained winner from the crisis, especially in the context of the European liquefied natural gas (LNG) shock.

> **"Countries like China and India will be more pragmatic in their approach to foreign policy than Western counterparts and could step in to purchase Russian exports while West Africa and the Middle East could see opportunities to benefit from the ban on Russian exports by ramping up production to fill the gap**
>
> **Chief Broking Officer, Energy**

Economic impact

Diversification of energy sources away from Russian oil will require significant investment in infrastructure redesign and renewables. At the same time, accelerated investments in fossil alternatives may lead to long term risks from stranded assets. In the short term, cash-flow problems could arise for European energy companies who face significantly longer wait times for materials – typically 30 days for oil trading.

The increasing intensity of competition in global oil procurement is exacerbated by the limited availability of suitable alternatives for Russian crude. Reconfiguring refineries away from Russian crude will require significant infrastructural change and time to move away from suppliers. This is intensified by labour shortages from affected areas, with workers pulled into the conflict or fleeing. All of this raises the cost of production and limits energy companies' ability to ramp up production.

Inflation

Oil refineries, especially those that are configured for Russian oil, face a global competitive disadvantage as they are stopped from using Russian energy, pushing up production costs. The knock-on effect is that this cost is passed down to industrial and retail consumers, contributing to higher inflation. The government's ability to apply price caps may be limited due to the commodity's status as a global product and risk of disincentivising producers.

Businesses' budget for risk transfer solutions prior to the crisis may need to be recalculated to account for inflationary pressures from supply shock significant restructuring to realign the viability of their portfolio economics. Despite increasing profit margins in the energy sector, inflation has pushed up the cost of replacement parts and services.

Governments had already introduced a range of measures to offset the effects of the large energy price increases seen before the start of the crisis. These measures are now being strengthened to combat the "cost of living crisis". These include income support, price measures such as lower electricity tariffs for low-income households, VAT cuts on electricity and gas, reductions in excise taxes on liquid fuels and electricity and energy price freezes.

Social transformation

A reduction in knowledge sharing of best practices is a risk to the global oil and gas industry. Aon's Regulatory Risk and Compliance Director describes how, as companies look to solve risks independently, the rate of innovation within the industry is impaired. This is a result of the 'Balkanisation' of the world economy as globalisation starts to reverse. This trend has its roots in the pandemic, when the global economy suffered shocks to global value and supply chains and started to witness reshoring of supply chains leading to accelerating competition for technical standards and disintegration of these standards.

However, oil companies have a chequered history of dealing in politically sensitive environments and are therefore expected to return to Russian suppliers if it becomes politically safe to do so. The moral integrity of this phenomenon could be tested as citizens and governments grapple with the trade-off between continuing rising energy prices and further detrimental response to Russian aggression. Generally, the attitudes toward energy security have changed at the expense of energy transition.

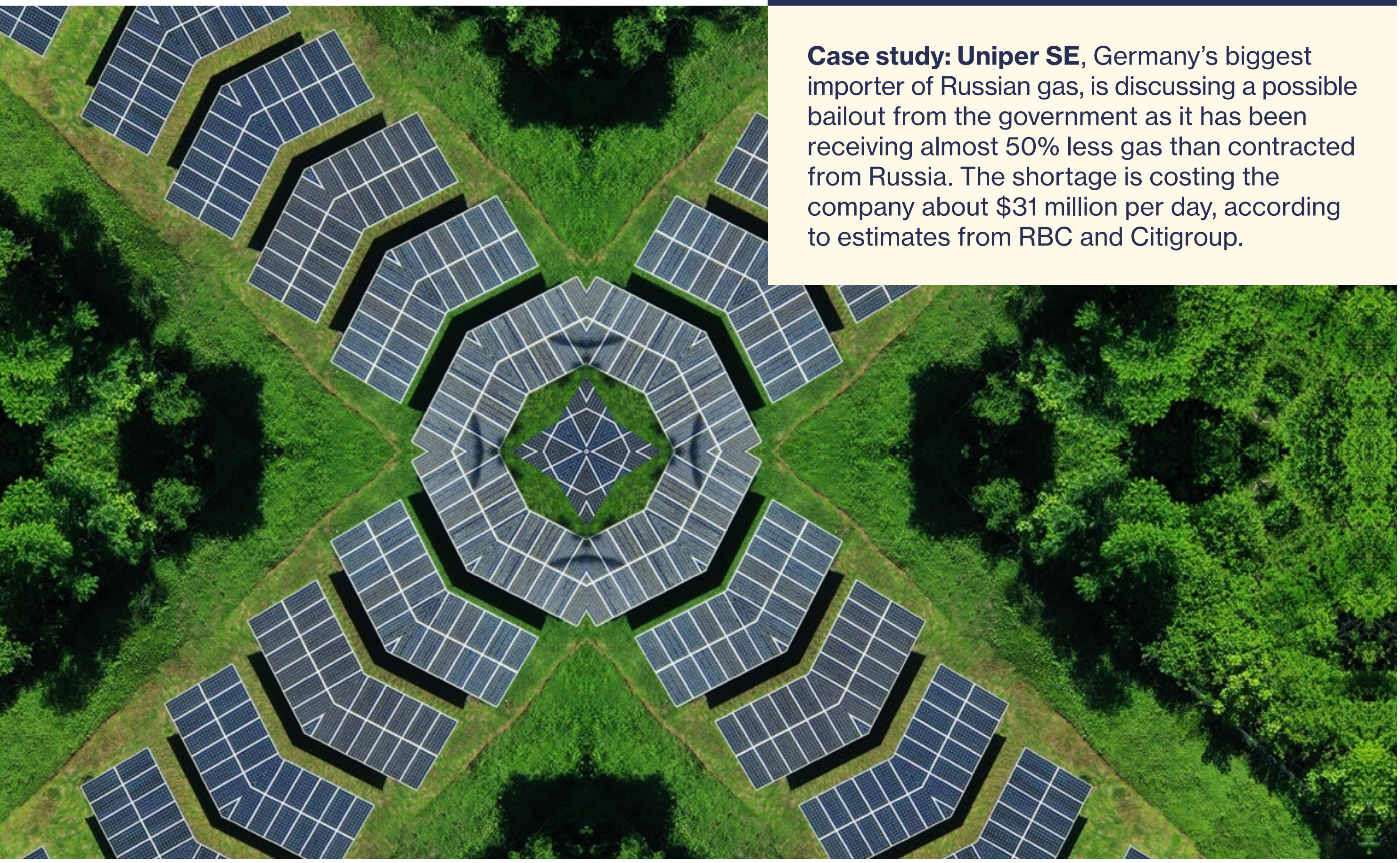
Impact on businesses

Energy: Firms have benefited from rising global oil prices – these profits could theoretically be reinvested back into the organisations to support transition to greener solutions.

Transport and logistics: As nations drive towards energy independence, there may be a reduced demand for oil and gas transportation. As such, usage of shipping and aviation fleets may decline over time. However, as energy is distributed nationally or between allied states, there may be growth of trade via roads and railways. Firms operating in this space should remain conscious of shifting demands in transportation solutions.

Food and beverages: Energy is an integral input for most food production, especially within the meat industry. Companies may need to prioritise low energy outputs due to low access and affordability of energy.

Case study: Uniper SE, Germany's biggest importer of Russian gas, is discussing a possible bailout from the government as it has been receiving almost 50% less gas than contracted from Russia. The shortage is costing the company about $31 million per day, according to estimates from RBC and Citigroup.



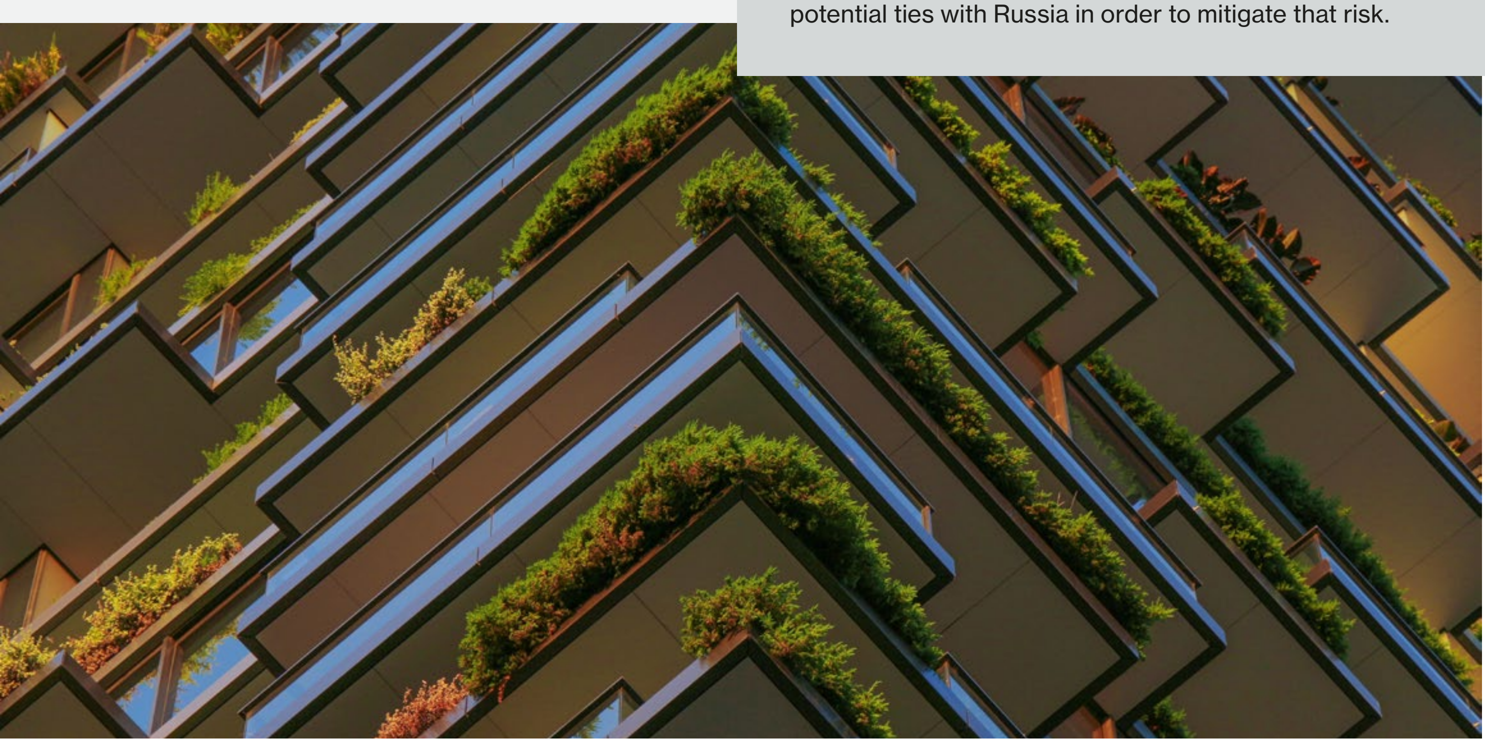
ESG

More likely scenarios | Less likely scenarios

01 Defensive push-back	02 Protracted conflict	03 Annexation	04 Collapse of Ukraine	05 Escalation
– Increased volatility of technology shares leads to reduced investor appetite for ESG funds weighted heavily in tech – Boycotting of Russian energy could lead to reduced profits and leave shareholders unsatisfied (companies exposed to class action) – Heightened stakeholder expectations reinforce ‘Social’ and ‘Governance’ frameworks in all organisations	– Increased defence budgets result in large share price gains for major Western defence suppliers – Investors reduce their portfolio exposure to assets in high-risk regions	– Aversion and divesting holdings of Russian business could cost firms a substantial amount if alternative solutions with economic viability cannot be sourced – Businesses are stepping up due diligence procedures to identify and mitigate potential ties with Russia in their supply chains	– Higher oil prices lead to investors channelling more funds into non-ESG energy stocks – Governments allow by-pass of sanctions for multinationals’ production of necessary goods in Russia and other annexed countries e.g. baby formula	– All defence companies become ‘ESG-approved’ leading to large inflow of capital and funds into defence stocks – Resources directed to addressing a humanitarian crisis, with a significant number of besieged and displaced people, and lives lost on both sides

From an ESG perspective, company performance is still being measured in returns delivered over decades and not days. As such, the immediate actions necessary to mitigate losses from catastrophic events, including the crisis in Ukraine, should be distinguished from the steps that are necessary to preserve a company’s long-term value.

Organisations face heightened expectations from employees, customers, and shareholders to see how they will align their commercial activities with societal expectations, especially global financial institutions. Companies may need to reassess their partnerships and step up their due diligence checks on suppliers and third-party vendors to identify and remove potential ties with Russia in order to mitigate that risk.



Geopolitics

Growing awareness of other geopolitical tensions including high-risk regions in the East has led several investors and asset managers to take more proactive ESG approaches by reducing their portfolio exposure to those regions. Banks have also supported pro-ESG targets, accelerating coal phase-out by 2030 and lowering the thresholds for companies that are active in the coal sector. Supporting coal industries through increased lending has continued for several years. While seemingly contrary to ESG targets, the loans were focused on providing capital to third world underdeveloped countries to support those economies.

The fluid definitions surrounding pro-ESG efforts extends to investments in military defence. Countries more at risk of annexation such as Poland have announced defence budget increases while the UK and France are considering following suit. There is an ongoing debate as to whether investing in defence companies supporting Poland and Ukraine with military supplies can be considered ethical and socially just. This leaves room for misunderstandings when boards of directors make statements on ESG and therefore exposes them to greater risk of class actions.

Economic impact

The Russian invasion of Ukraine has brought with it a greater focus on human rights violations for all investors. Investing in a country where such violations are known to exist can lead to reputational risks for investors, who will now know that public tolerance for associating oneself with such regimes is much lower than it was pre-invasion.

> “The magnitude of rising oil prices is making some investors prioritise profits over ESG commitments to outperform their returns and satisfy the financial interest of shareholders
>
> **Head of Climate Change & Responsible Investing**

Beyond private investment strategies, hosting refugees from Ukraine will require public spending on various social factors such as social and housing assistance, food provisions, medical assistance, childcare and schooling. The inflow of seven million refugees seen so far could result in a direct first year cost of at least 0.25% of EU’s total GDP[29].

Social transformation

Organisations face heightened expectations from employees, customers, and shareholders to see how they will align with societal expectations especially with global financial institutions.

Business relationships are also being scrutinised by those with a vested interest in the company – partnerships are reassessed as companies are stepping up their due diligence checks on suppliers and third-party vendors to identify and remove potential ties with Russia.

Impact on businesses

Energy: Firms will need to balance meeting short-term energy demands (through consumption of coal and other non-ESG friendly classes) with progress towards renewable energies to mostly satisfy the “E” in ESG.

Banks and financial institutions: Investors are shifting strategies from pro-ESG funds (heavily reliant on volatile technology stocks) to non-ESG oil companies as a means of benefiting from price spikes. To fulfil long-term objectives, firms may look to realign to ESG investments and forgo profitability across energy investments.

Case study: With ESG residing in the top 5 risks of most major financial corporations, **BNY Mellon** incurred severe financial penalties for misstatements and omissions about its ESG considerations across several funds in operation between July 2018 and September 2021.

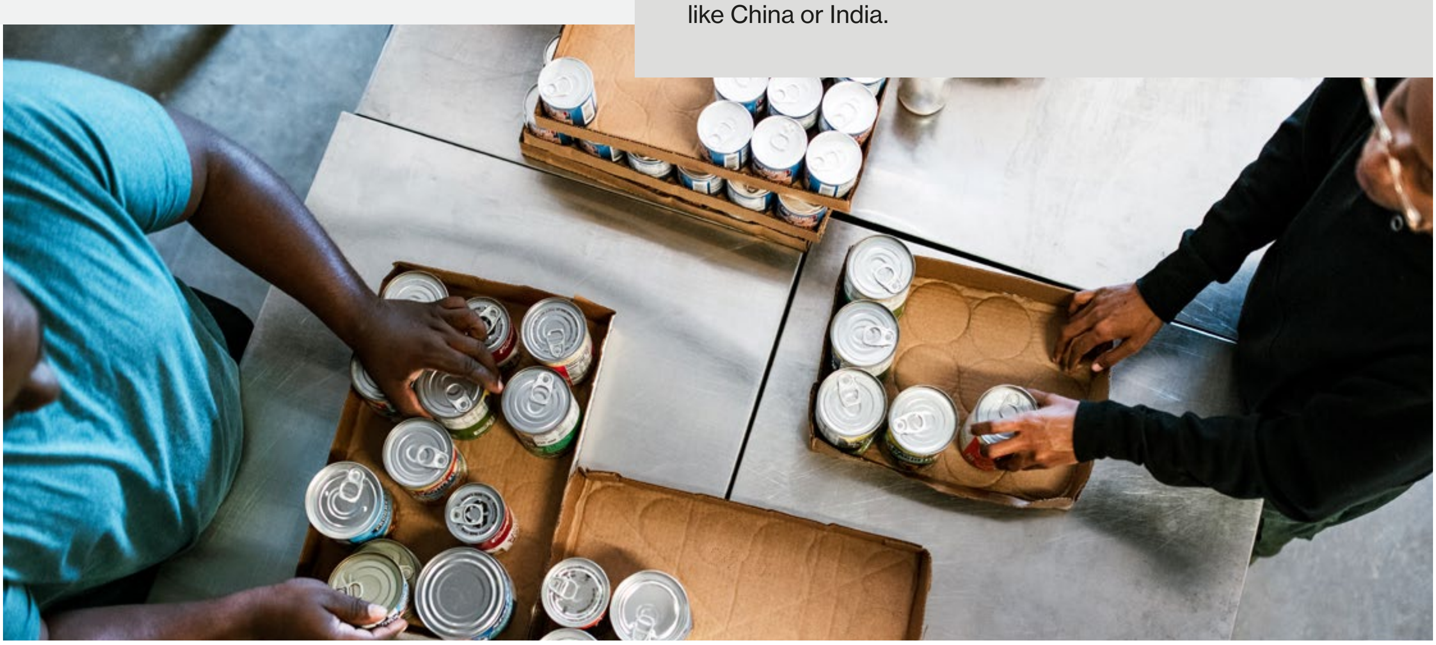
[29] OECD, 2022

Public sentiment

More likely scenarios			Less likely scenarios	
01 Defensive push-back	**02 Protracted conflict**	**03 Annexation**	**04 Collapse of Ukraine**	**05 Escalation**
– Short-term aversion to Russian business with a long-term return to normality (transition would be quicker if Putin is removed from power) – Financial systems resume payment operations in Russia but limit investments and loans to Russian businesses – Legal action taken against Russian leaders (e.g. trials for war criminals, tribunals, extraditions)	– Invest in infrastructure to protect against domestic political unrest (e.g. riots) as issues such as inflation are exacerbated – Removal of Russian citizens from other countries and seizure of oligarchs' wealth (e.g. physical assets of mansions and boats) in international territories where they may be based (e.g. UK) – Governing bodies such as EU and UN maintain sanctions against Russia as a punitive response	– Further cutbacks on operations in Russia, identifying new hub areas such as Dubai – Organisations continue to consider whether they are pausing or ending operations in Russia, which could present substantial economic risk – Ongoing support for influx of Ukrainian refugees	– Increasing awareness and potential global support across other conflicts – Invest more in military to prepare for potential future conflicts going forward	– Most international organisations cede operations in Russia and allied regions – Citizens volunteering to support war efforts (incl. joining the military) – Public action to raise money for war efforts

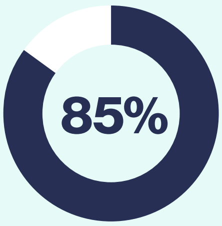
Global sentiment towards the conflict in Ukraine has largely been heavily pro-Ukrainian, with some countries traditionally considered part of the "Russian sphere" such as Slovakia and Hungary showing allegiance and support towards Ukraine. However, if the conflict continues into the long term, allegiances on both sides could be tested by political and commercial imperatives.

Most corporations are proactively exiting Russia or terminating Russian partnerships, while a handful are remaining to either provide essential goods to Russian civilians or in order to reap the rewards of healthy profit margins, potentially risking reputational damage. In the future, Russia may have to adapt to the 'new normal', for example they may trade via smuggling rings in neighbouring countries or import goods from countries like China or India.



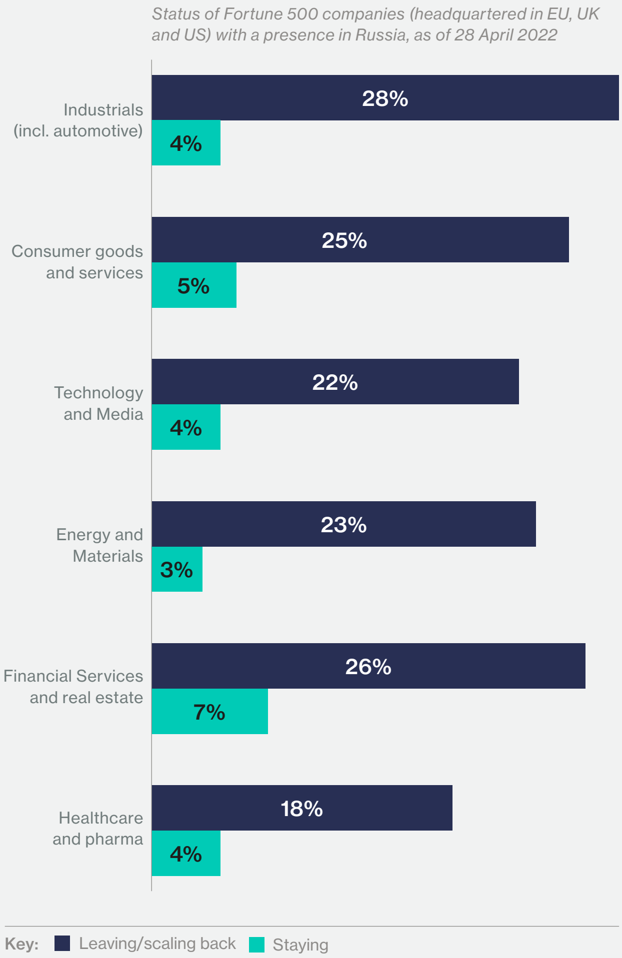
Geopolitics

There has been a "corporate exodus" with companies across the globe exiting Russia either by closing operations in the state or selling at fire-sale prices. Other firms have decided to take on no new business. There have been very few examples of companies taking no action at all.



Around 85% of Fortune 500 companies headquartered in Europe and the US with a presence in Russia have either **exited or scaled back operations in the region as of 28 April 2022[30].**

Figure 7 – Most European and US Fortune 500 companies have scaled back operations or exited Russia



While Russia faces an uphill battle to convince companies to lift economic sanctions and regain global trust, Western reliance on energy and food exports could indicate a potentially speedier response to normality if the crisis were to de-escalate.

The conflict has also led to a change in attitudes towards conflicts generally. There is a growing global apathy towards other potential future conflicts, leading to the potential emergence of a "new normal" of political unrest.

Economic impact

Having historically been considered a country of emerging economic importance, as evidenced by their presence as a G8 country until 2014, the scale of sanctions on Russia is unprecedented. As a globally integrated market across economies and infrastructure, citizens and businesses will have to be more mindful of the ownership of companies. Western economies are also taking action against high-net-worth individuals, implementing defaults on sanctioned Russian oligarchs as a result of the inability to sell their commodities and earn foreign currency, driven by public pressures.

Company leaders are actively engaged on the topic of reputational damage at board level with critical strategic decisions to make, such as whether they remain out of Russia or may return at a later stage.

Inflation

The cost-of-living crisis is leading to increasing calls across society to curb rapidly rising prices. Dangerous levels of inflation could present the risk of riots and political violence. For instance, spiralling food costs may destablise affected countries sparking widespread public anger particularly in relation to the price of bread which is a politically charged commodity.

[30] Mckinsey, 2022

Social transformation

The wave of repression in Russia, including the arrests of peaceful protesters and the manipulation of the media, is likely to impede the country's access to free information in the medium term. The use of propaganda and disinformation by the Russian regime highlights the importance of enhancing resilience to cyber attacks and designing a strategy to counter disinformation, not only from Russia but across all nations.

Reputational damage has been severe for Russia and their citizens, including those who stand against the country's participation in conflict – this may give rise to potential racially motivated discrimination towards Russians living abroad.

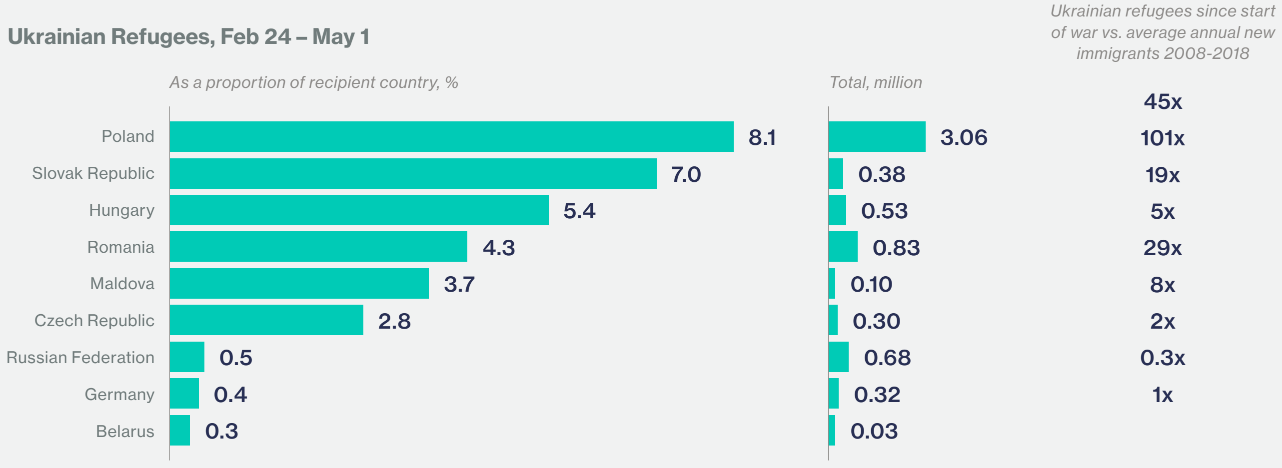
Despite the negative view of Russia in the West, certain corporations are continuing to provide essential goods to Russian citizens, justifying such support as a humanitarian effort to help innocent civilians. However, this has been a topic of contention, as those who oppose such support argue that corporations are simply supporting Russia in order to profit.

> We have to consider how the sanctions imposed on the Russian country and certain Russian individuals are affecting normal Russian civilians such as students or lecturers with temporary statuses outside of their home country. Additionally, the general public are more prone to being a target for reputational damage if perceived to be supporting Russia
>
> **Public Sector Practice Leader**

Conversely, the support for Ukraine has been more widespread, with broad support for refugees across Europe to date, though the warm welcome is on the wane in some countries[31]. Many commentators suggest that this reduced aversion to welcoming refugees could change the outlook for future individuals fleeing conflict, but providing asylum for refugees remains a deeply politicised matter and others have highlighted the stark differences in the treatment of migrants and refugees from outside Europe[32]. As of 1 May 2022, Poland, Slovak Republic and Hungary have welcomed over half of the Ukrainian refugees[33].

[31] Euroactiv, 2022
[32] Chatham House, 2022
[33] Mckinsey, 2022

Figure 8 – Countries hosting Ukrainian Refugees



17.4% of Ukraine's population displaced (7.70million) – Feb 24 – April 21

A drawn-out conflict has the potential to lead to multiple changes in the shape of future generations of the EU population. In Ukraine, the balance of gender within the country, if women choose not to return, could have a long-lasting impact on society. Neighbouring countries, as well as Ukraine, would be impacted by the spill-over effects from the fighting, such as the destruction of industrial sites and infrastructure, spilled fuel and chemicals posing significant risks to human health in years to come. Neighbouring countries, as well as Ukraine, will be impacted by the spill-over effects from the war, such as the destruction of industrial sites and infrastructure, spilled fuel and chemicals posing significant risks to human health in years to come.

Impact on businesses

Energy: Reverting to traditional energy classes such as coal may lead to reputational damage. Members of the public may also apply pressure to organisations to exit and cut off ties with Russian partners. Over the past year, increased activism has been seen from groups such as Extinction Rebellion which would be further exacerbated should coal mines and supporting energy production facilities reopen.

General: Companies with business ties to Russia (either physical operations in the region or who conduct business with Russian organisations) could potentially be exposed to reputational damage. Firms may be expected to make a strong case for continuing Russian operations (for instance, selling essential goods to Russian citizens).

Public sector and healthcare: Similarly, citizens will look to the government to impose suitable sanctions against Russia as a punitive action for globally perceived war crimes. The government could also be expected to support hard-hit industries with subsidies and fiscal stimulus.

Case study: bp had a joint venture with the Russian energy company **Rosnev** which is now being sold to remove any ties with Russia. Experts believe that the threat of scrutiny from activists could leave bp exposed to reputational damage and claims being brought by shareholders.

05

Implications for businesses

The impact of the crisis on macroeconomic themes will be felt across all industries to varying degrees.

Inflationary pressures associated with supply chain issues, such as costs of materials, labour and logistics are mounting, with companies considering a number of solutions to maintain revenue and profitability. For instance, oil and gas producers and food manufacturers will be the most impacted by inflation, largely due to Russia and Ukraine having dominant positions as major exporters of key raw materials across these industries.

Other industries may need to change business models as a result of subtle changes in trading behaviours. As each nation becomes more focused on developing domestic production to avoid geopolitical risks, transportation and logistics companies will likely need to evolve to accommodate a lower demand for international trade but growing interest in national logistics solutions.

With ESG becoming an increasingly prominent topic on corporates' risk agendas, significant resources are being allocated to dedicated ESG teams across multinational corporations to develop risk management strategies. With increased awareness and potential scrutiny from employees, customers and stakeholders, businesses could incur significant costs to adhere to ESG standards.

In order to meet public expectations, thousands of companies have exited from or paused Russian operations. Those that continue to conduct business in Russia face potential reputational damage in the affected region, which could lead to economic repercussions (for example a. decline in business due to global boycotts). Corporates are also spending significantly more on due diligence and compliance reviews to ensure any direct or indirect relationships with Russia are identified and replaced.

Aon Global Risk Management Survey

Aon's 2021 Global Risk Management Survey illustrates today's traditional and emerging corporate risk portfolio. The Survey collates responses of over 2,300 risk managers from 16 industries, spread across varying territories and company sizes. In 2021 respondents selected and rated 10 top risks that their organizations were facing:

01	Cyber Attacks / Data Breach
02	Business Interruption
03	Economic Slowdown / Slow Recovery
04	Commodity Price Risk / Scarcity of Materials
05	Damage to Reputation / Brand
06	Regulatory / Legislative Changes
07	Pandemic Risk / Health Crises
08	Supply Chain or Distribution Failure
09	Increasing Competition
10	Failure to Innovate / Meet Client Needs

The following analysis breaks down the results of this survey by industry sector and considers how each sector's risk profile has changed as a result of the conflict in Ukraine. Risks highlighted in bold indicate risks that will be further amplified by effects of the crisis.

Overview

The following table summarises the implications of each of the market forces explored in this report to businesses over the short to long term. These are assessed in greater detail over the following pages for the different industry groups expected to be most impacted by the crisis.

	Cyber	Supply chain	Food security	Climate transition	Energy security	ESG	Public sentiment
Banks and financial institutions	Minimal	Minimal	Minimal	Minimal	Minimal	Significant	Medium → Significant
Construction and manufacturing	Minimal	Medium → Significant	Minimal	Minimal	Medium → Significant	Medium	Minimal
Energy	Medium	Significant	Minimal	Significant	Significant	Medium → Minimal	Significant → Medium
Food and beverages	Minimal	Significant	Significant	Minimal	Medium	Minimal	Medium → Minimal
Public sector and healthcare	Significant → Medium	Minimal	Significant → Medium	Significant	Minimal	Minimal	Significant
Technology	Medium → Significant	Minimal	Medium	Medium	Minimal	Minimal	Minimal
Transportation and logistics	Significant → Medium	Minimal	Medium	Medium	Significant → Medium	Minimal	Minimal

Key:
- **Minimal:** Market forces will have no or minimal impact on the industry
- **Medium:** Market forces will have an indirect impact on the industry
- **Significant:** Market forces will have a clear, adverse impact on the industry

Banks and financial institutions

Cyber	Supply chain	Food security	Climate transition	Energy security	ESG	Public sentiment
Minimal	Minimal	Minimal	Minimal	Minimal	Significant	Medium → Significant

Global insurance premium: $138bn

Aon 2021 Top 10 Global Risks
(Risks in **Bold** are likely to be further amplified by effects of the Ukraine crisis):

01	**Cyber Attacks / Data Breach**
02	**Economic Slowdown / Slow Recovery**
03	**Damage to Reputation / Brand**
04	Counterparty Credit Risk
05	**Regulatory / Legislative Changes**
06	**Business Interruption**
07	**Tech Failure / System Failure**
08	Data Privacy Requirements
09	Increasing Competition
10	Failure to Innovate / Meet Client Needs

Banks are facing two key ongoing challenges in light of the conflict – balancing both ESG and profitability goals and reconsidering where business operations ought to continue. However, some opportunities have emerged, such as growing interest in a multi-purpose cryptocurrency market.

Short term: Banks are currently weighing the balance between meeting ESG objectives and maintaining profitable business. Most ESG funds are exposed to technology stocks, which have experienced notable volatility throughout the crisis. “Non-ESG” funds typically contain some exposure to oil and gas markets which has experienced accelerating price increases over the past months. Leading investors such as Warren Buffet have publicised immediate plans to invest more heavily in the energy sector to benefit from market inflation. Amid the crisis, traders have also been left stuck with unsellable Russian shares and bonds, while derivatives linked to them have been left in a state of limbo.

Medium term: Some parts of the banking industry have seen new opportunities emerge due to the conflict. There has been an influx of cryptocurrency in the dark web to enable Ukrainians to trade amongst themselves and with international companies more effectively, supporting Ukrainian conflict efforts, and helping migrants and refugees move money. Digital currencies have also been used for humanitarian purposes – ‘techno-natives’ have helped the Ukrainian government raise over $100 million in crypto donations. Cryptocurrency could become a more popular alternative for local currencies, especially in areas of conflict.

Banks and financial institutions (continued)

> A significant amount of cryptocurrency was donated to the Ukrainian government since the start of the Russian invasion. This has created an influx of crypto and crypto trades in the dark web… the volatility of the crypto market along with the conversion of fiat currencies into crypto presents a number of key risks
>
> **Head of Financial and Professional Services**

Long term: Beyond ESG implications, banks are having to reconsider business operations. Many leading organisations have looked to relocate servers elsewhere to avoid business interruption, with Dubai becoming an increasingly popular hub for companies such as Goldman Sachs.

Case study: Global bank **JPMorgan** is "actively unwinding" its Russian business despite significant exposures, stating that its decision was both commercial and "the right thing to do from a moral standpoint".

More likely scenarios

Less likely scenarios

01 Defensive push-back	02 Protracted conflict	03 Annexation	04 Collapse of Ukraine	05 Escalation
– Banks may reconsider investment exposures in high-risk regions – Conversely, Russian investments may begin to pick back up as markets in these affected regions stabilise – Payment operators such as Visa resume operations in Russia but limit investments and loans paid to Russian businesses	– Banks seek to maximise on financial market volatility to gain profits, while increasing provision of loans and funding to farmers to ensure citizens are fed	– Firms stick to existing investment strategies including international energy companies – Sustained investment in cyber security despite inflationary pressures – Banks may partner with governments for sustainable financial support such as green bonds – Closure of physical operations in Russia, with many banks relocating hubs to neighbouring regions (e.g. Dubai)	– Banks provide funds only to those organisations providing essential products (e.g. food manufacturers) – Companies expand the block on processing payments to Russian allies, and withhold investments across transport and manufacturing industries in affected regions	– Successful cyber-attacks on financial institutions may lead to short-term economic failure (inability to transact domestically and internationally) – Increased cost to businesses from a risk management perspective and loss of revenue as more criminal behaviour amongst hacktivists is incentivised by governments

Construction and manufacturing

Cyber	Supply chain	Food security	Climate transition	Energy security	ESG	Public sentiment
Minimal	Medium → Significant	Minimal	Minimal	Medium → Significant	Medium	Minimal

Global insurance premium: $115bn

Aon 2021 Top 10 Global Risks
(Risks in **Bold** are likely to be further amplified by effects of the Ukraine crisis):

01	**Economic Slowdown / Slow Recovery**
02	**Commodity Price Risk / Scarcity of Materials**
03	Cash Flow / Liquidity Risk
04	**Business Interruption**
05	Accelerated Rates of Change in Market Factors
06	**Cyber Attacks / Data Breach**
07	**Workforce Shortage**
08	Capital Availability
09	**Damage to Reputation / Brand**
10	Pandemic Risk / Health Crises

Manufacturers with a production site in affected regions may face significant challenges and potential losses from supply chain issues and from a business continuity perspective. Contractors and manufacturers will need to consider the extent to which their insurance policies provide the protection they need. In the longer term, taking risk in-house through captives or self-insurance may become increasingly prominent.

Short term: The Western allied democracies could look to push on with climate transition, raising the demand for renewable energy projects. However, a number of raw materials that are key to renewable builds are typically exported in scale by Russia (e.g. nickel is commonly used for battery storage products), thus increasing the pressures on manufacturing of products such as semiconductors. As a result, a number of manufacturers have turned their attention to supporting defence efforts – weapons production may be seen in a more positive light by the public as support of Ukraine defence companies can be viewed as social benefit.

Medium to long term: Smaller construction firms face the risk of insolvency as a result of inflationary pressures. With a typical bidding process for a particular construction project lasting up to 2 years, businesses are anticipating elevated long-term effects on inflation and therefore avoiding bidding altogether. Interest rate rises also present a sizeable hurdle for infrastructure projects – many that were due to come online this year have been paused due to rising inflation.

Construction and manufacturing (continued)

> Many construction projects' budgets were set pre-Ukraine although inflation was already impacting building materials and the wider supply chain. The conflict has caused more uncertainty, increased inflation and supply chain disruption and brought further labour shortages. Therefore, many pre-crisis projects have had to reassess their viability at the planning, design or tender stages, thereby requiring restructuring around budget availability and contract certainty around the inflation risk
>
> **Head of Construction and Infrastructure Industry Specialty, EMEA**

Case study: Renault has its second largest operations based in Russia. They have made the decision to exit by selling their assets to the Russian government, but have sustained a 5-year buy-back option.

More likely scenarios | Less likely scenarios

01 Defensive push-back	02 Protracted conflict	03 Annexation	04 Collapse of Ukraine	05 Escalation
– Increased financing and construction of renewables projects – Execution of projects that were temporarily paused	– Production companies setting up locally – e.g. UK companies with international operations may revive local production	– Smaller construction companies go insolvent due to long-lasting inflationary pressures	– Pause development of long-term projects – instead focusing efforts on building domestic supply chains – Sizeable mining projects are accelerated to meet domestic energy demands	– Planned and pre-execution projects would need to be put on pause for the foreseeable future – Companies shift operations to support war efforts and defence (e.g. Dyson building ventilators during COVID) – Potential loss of physical assets due to migration of critical infrastructure as a result of cyber attacks will boost demand for risk mitigation which comes at a higher cost – Military vessels used to bring in emergency supplies where needed

Energy

Cyber	Supply chain	Food security	Climate transition	Energy security	ESG	Public sentiment
Medium	Significant	Minimal	Significant	Significant	Medium → Minimal	Significant → Medium

Global insurance premium: $43bn

Aon 2021 Top 10 Global Risks
(Risks in **Bold** are likely to be further amplified by effects of the Ukraine crisis):

01	**Business Interruption**
02	**Commodity Price Risk / Scarcity of Materials**
03	**Regulatory / Legislative Changes**
04	**Economic Slowdown / Slow Recovery**
05	**Environmental Risk**
06	**Cyber Attacks / Data Breach**
07	Accelerated Rates of Change in Market Factors
08	**Climate Change**
09	Cash Flow / Liquidity Risk
10	**Political Risk**

Refineries are currently enjoying a significant increase in profits due to price hikes that have been exacerbated by supply constriction pressures on top of demand surge as the world exited the pandemic. However, they remain conscious of the need to detach from Russian imports and restructure their businesses in order to incorporate renewable solutions. As such, as well as their partners across the value chain, they are mapping out their supply chains in detail and considering how to permanently disconnect from Russian business.

Short term: Several organisations across the West are reverting back to traditional classes of energy (e.g. coal) to meet short-term domestic energy demands. Consequently, there are reputational damage risks associated with ramping up thermal energy production in a pro-ESG environment.

Energy companies are benefitting from rising oil prices, experiencing a significant windfall in profits. While this can support efforts to transition to renewables, higher profits also lead to greater tax revenues for governments that will be looking to fund other elements of the economy, such as addressing the food crisis.

Energy (continued)

Medium to long term: As Russia and Ukraine are exporters of key materials needed for climate transitions, such as the nickel commonly used in battery storage devices, energy companies may have to look for alternative sources.

With an increased global focus on renewables – further spurred by the conflict – leading oil companies are looking to restructure their businesses to become energy giants. This will require significant costs and investment to mitigate new risks and recruit new and relevant expertise.

Case study: Sven is an oil refinery based in Berlin, owned by Russia and configured to Russian crude. The company faces challenge or must reconfigure to other sources of oil. Significant investment is required in infrastructure and the supply chain to remodel the business.

More likely scenarios | Less likely scenarios

01 Defensive push-back	02 Protracted conflict	03 Annexation	04 Collapse of Ukraine	05 Escalation
– Reform relationships with Russian suppliers in the long-term by investing into domestic and renewable energy solutions – Willingness to ramp up supply and procurement of new projects in Russia in order to alleviate supply and demand shocks – Companies tied to stricter regulatory requirements and greater costs associated to higher environmental standards – Greater profit margins from continuing high oil prices drive an improvement in business resilience	– Russia attacks one or multiple Ukrainian nuclear plants, leading to energy security, environmental and social risks – Reconsideration of energy importation from Russian allies	– Invest significantly in infrastructure redesign to accommodate other forms of crude and build relationships with suppliers outside of Russia; significantly invest in renewable energy and climate transition – Boycotting of Russian energy could lead to reduced profits and leave shareholders unsatisfied (exposed to class action)	– Higher oil prices lead to investors channelling more funds into non-ESG energy stocks – Expand supply chains beyond Russia and allies – consider developing LNG infrastructure to form stronger partnerships with US – Governments subsidise renewable energy projects and create favourable economics to drive the transition to net zero as oil/gas companies reinvest in renewable energy technology	– Social shift in attitude towards oil sands and ramp up of production; – Enter into a special agreement with OPEC to access sufficient energy – Disrupted systems for refineries and power grids may lead to the potential of loss of power for citizens and critical infrastructure – Destruction of renewable projects leads to increased dependency on oil & gas at inflated prices – Targeted Russian cyber attacks on power reactors in Ukraine, leading to supply disruption

Food and beverages

Cyber	Supply chain	Food security	Climate transition	Energy security	ESG	Public sentiment
Minimal	Significant	Significant	Minimal	Medium	Minimal	Medium → Minimal

Global insurance premium: $80bn

Aon 2021 Top 10 Global Risks
(Risks in **Bold** are likely to be further amplified by effects of the Ukraine crisis):

01	**Commodity Price Risk / Scarcity of Materials**
02	**Business Interruption**
03	**Supply Chain or Distribution Failure**
04	**Economic Slowdown / Slow Recovery**
05	**Cyber Attacks / Data Breach**
06	**Damage to Reputation / Brand**
07	Pandemic Risk / Health Crises
08	Increasing Competition
09	**Regulatory / Legislative Changes**
10	Product Liability / Recall

With Ukraine and Russia both being significant exporters of raw food ingredients such as wheat, the crisis has exposed fragilities in supply chains and identified the need for other economies to diversify.

Short term: When sourcing ingredients from multiple international suppliers, countries may need to become more vigilant with food safety requirements due to the risk of lower quality harmful products entering food networks. Some corporations have chosen to continue operations in Russia in order to support citizens with essential goods. This has led to reputational backlash risk amongst employees, stakeholders and customers who argue that corporations are only continuing operations for commercial gains.

> “Large food producers have been marginally impacted due to profit margin compression. Their concern is focused on the sustainability of sourcing their foods in the medium to long term
>
> **Investment consultant**

Food and beverages (continued)

Medium to long term: The impacts of the conflict on global food supplies may be further exacerbated by droughts (especially in the Americas), causing insufficient key ingredients and materials to be produced. The dual effects of the conflict and drought has led to a number of food and beverage organisations investing in R&D and potential process changes to adapt to the "new normal" and become more self-sufficient.

Case study: Nestle has continued production of certain products such as baby food and water, but have paused certain "luxury" products such as coffee and chocolate, presenting logistical and reputational risks as raised above.

More likely scenarios

Less likely scenarios

01 Defensive push-back	02 Protracted conflict	03 Annexation	04 Collapse of Ukraine	05 Escalation
– Restart trade with Russia, who are a significant wheat exporter; companies with continued operations in Russia (to provide essentials to the citizens) may face reputational backlash – Increasing number of LTAs with suppliers to lock in supply and price – Diversify options for food suppliers, and develop technology or solutions to improve domestic production – Reform trade links with Russia to import raw ingredients (e.g. wheat); trade with Ukraine as ports begin to reopen	– Pause production of meats and "luxury" foods – Significant subsidies for investment in food and agri tech to develop domestic production of raw ingredients – Abandonment of key agricultural land in Ukraine as territories become "no mans land"	– Businesses have to restructure their operating models to incorporate cheaper food ingredients – With certain key ingredients such as sunflower oil coming mainly from Ukraine, global markets may be challenged in the way they make foods with alternative ingredients – Manufacturers find multiple sources of raw ingredients to build a smoother supply chain that isn't reliant on Russia – Relaxation of food safety requirements to expand options for imports	– Governments allow by-pass of sanctions for multinationals' production of necessary goods in Russia and other annexed countries e.g. baby formula – Retailers unable to maintain price points, leading to significant price increases for customers; Increased use of cheaper, lower quality suppliers – The agriculture industry may focus innovation efforts on food and agri technologies to produce raw ingredients domestically, including more sustainable agricultural methods (crop technologies)	– Food manufacturers may focus production on low-cost foods to meet minimum nutrition requirements – Draw back on production of energy-intensive products (e.g. meats)

Public sector and healthcare

Cyber	Supply chain	Food security	Climate transition	Energy security	ESG	Public sentiment
Significant → Medium	Minimal	Significant → Medium	Significant	Minimal	Minimal	Significant

Global insurance premium: $79bn

Aon 2021 Top 10 Global Risks
(Risks in **Bold** are likely to be further amplified by effects of the Ukraine crisis):

01	**Damage to Reputation / Brand**
02	**Cyber Attacks / Data Breach**
03	Failure to Innovate / Meet Client Needs
04	**Regulatory / Legislative Changes**
05	**Economic Slowdown / Slow Recovery**
06	**Business Interruption**
07	Pandemic Risk / Health Crises
08	**Failure to Attract or Retain Top Talent**
09	Increased Competition
10	Cash Flow / Liquidity Risk

Governments will need to consider several fiscal stimuli decisions, such as encouraging investment in renewables, and budget spending focused on defence. In an escalated scenario, governments would face a further burden on healthcare costs to treat citizens involved in military efforts.

Short term: There are some immediate impacts which governments will need to consider – due to risk of famine and food shortages there could be rising public tensions and political instability, especially in developing countries. This may well be heightened by inflationary pressures which could lead to national riots.

Medium to long term: While proactively dealing with these threats, government entities will need to develop cyber resilience in anticipation of potential attacks. Following WannaCry in 2017, healthcare facilities are already taking steps to strengthen their cyber security capabilities and governance to avoid such situations again.

Case study: Aon experts cited a **healthcare company** reliant on software providers with 80% of employees located in CEE with ties to Russia now facing significant peripheral impacts. The company is now due to incur large due diligence costs and possibly business restructuring.

Public sector and healthcare (continued)

More likely scenarios			Less likely scenarios	
01 Defensive push-back	**02 Protracted conflict**	**03 Annexation**	**04 Collapse of Ukraine**	**05 Escalation**
– Western governments invest significantly in cyber defence as opposed to historically focusing on offense – Cost to governments arise from the lack of adherence to environmental standards due to accelerated transition causing harm to communities and environments – Significant stimulus package to encourage domestic sources of supply	– National companies encouraged to reduce energy usage – Increased demand for healthcare as labourers' healthcare negatively impacted in affected industries such as mines and seafarers – Increased defence budgets result in large share price gains for major Western defence suppliers – Increasing focus on military efforts to defend against potential attacks from Russia and allies	– Businesses continue high investments in cyber security and cyber risk management despite inflationary pressures – Further establish supply relationship with Western allies and new sources (e.g. Africa and North America); – Subsidise manufacturers and general imports to spur economic growth and meet demand – Governments consider stronger monetary policies to curb the rapid increase in prices	– Government facilities need significant investments as they are more likely targets of cyber attacks due to relatively lower cyber security resilience – Maintain sanctions against Russia and allies, further exacerbating supply chain constraints – Ongoing support for influx of Ukrainian refugees; invest more in military to prepare for potential future conflicts going forward	– Renewable initiatives put on pause, with focus on military and defence – Budget deficits form as government looks to finance import of essential goods – Governing bodies such as the UN may push for efficient distribution of foods across member and non-member countries, and fund efforts to grow more output – Governments may offer subsidies to lower classes of citizens; – Ration schemes to ensure sufficient spread of food across population

Technology

Cyber	Supply chain	Food security	Climate transition	Energy security	ESG	Public sentiment
Medium → Significant	Minimal	Medium	Medium	Minimal	Minimal	Minimal

Global insurance premium: $21bn

Aon 2021 Top 10 Global Risks
(Risks in **Bold** are likely to be further amplified by effects of the Ukraine crisis):

01	**Cyber Attacks / Data Breach**
02	**Economic Slowdown / Slow Recovery**
03	**Failure to Attract or Retain Top Talent**
04	Increased Competition
05	Failure to Innovate / Meet Client Needs
06	**Damage to Reputation / Brand**
07	Data Privacy Requirements
08	**Business Interruption**
09	**Tech Failure / System Failure**
10	**Workforce Shortage**

With Chinese and Indian technology companies likely to benefit from the conflict through unmet demands from the West, many companies will look to offer new food and renewables technologies amid growing interest in these critical markets.

Short term: Due to a shift in competitive dynamics as sanctions persist against Russia, Chinese and Indian companies are presented with an opportunity to fill the gap and develop business in the West.

Medium to long term: The technology industry may shift focus to supporting other businesses who are adversely impacted to a large degree by the conflict. For instance, there is likely to be growing attention associated with renewables and food technologies with public and private investment growing in order to drive innovation in these critical industries. However, the creation, dissemination and use of technology could be under increasing scrutiny, including access to services, chip manufacturing and data protection.

Case study: Apple's listed products on online Russian stores have been marked "unavailable" for purchase. The company has also removed Russian state-controlled outlets from its App Store around the world except for Russia. They face calls globally to block the App Store entirely in Russia.

Technology (continued)

More likely scenarios | Less likely scenarios

01 Defensive push-back	02 Protracted conflict	03 Annexation	04 Collapse of Ukraine	05 Escalation
– Increased volatility of tech shares leads to reduced investor appetite for ESG funds weighted heavily in tech – Tech companies focused on cyber security and risk mitigation solutions see a rise in demand for services	– Organisations with operations in the affected regions have a significantly higher exposure to peripheral impacts of cyber attacks, especially as CEE countries are prevalent for software provider companies	– Greater profit margins from continuing high oil prices drive the transition to net zero as energy companies reinvest in renewable energy technology – Continued high investment in cyber security risk management despite inflationary pressures	– Focus innovation efforts on food and agricultural technologies to produce raw ingredients domestically – Focus on tech to improve cost efficiencies of companies operating across supply chains – Increased output for renewable energy will boost demand for construction of smart grid technology	– Increased cost to businesses from a risk management perspective and loss of revenue as more criminal behaviour amongst hactivists is incentivised by governments – Potential loss of physical assets due to migration of critical infrastructure as a result of cyber conflict will boost demand for risk mitigation which comes at a higher cost

Transportation and logistics

Cyber	Supply chain	Food security	Climate transition	Energy security	ESG	Public sentiment
Significant → Medium	Minimal	Medium	Medium	Significant → Medium	Minimal	Minimal

Global insurance premium: $178bn

Aon 2021 Top 10 Global Risks
(Risks in **Bold** are likely to be further amplified by effects of the Ukraine crisis):

01	**Economic Slowdown / Slow Recovery**
02	**Cyber Attacks / Data Breach**
03	**Business Interruption**
04	Pandemic Risk / Health Crises
05	**Political Risk**
06	**Regulatory / Legislative Changes**
07	**Supply Chain or Distribution Failure**
08	**Damage to Reputation / Brand**
09	Accelerated Rates of Change in Market Factors
10	Property Damage

Economies are identifying new trading routes in light of the conflict. However, we may see long-term reduced trading activity globally as countries target self-sufficiency, especially across energy and food markets.

Short term: The Ukraine crisis has disrupted key trade routes – blockades imposed on Black Sea ports have halted the activities of dozens of ships. Meanwhile, Ukrainian and Russian mariners amount to around 15% of the global shipping workforce. In the short term, this is likely to reduce the availability of skilled labour in the industry, with businesses having to attract (and invest in training) a new labour force.

In the aviation industry, aircraft lessors have been greatly impacted by the confiscation of planes in Russia, with the Russian leadership nationalising aircraft stuck in the country. From a financial perspective, lessors are well protected, whereas their capital providers could be negatively affected with billion-dollar assets stranded in Russia in an industry that was already crippled by the effects of the pandemic.

Another short-term risk that organisations face is the increased frequency of cyber attacks, both due to the potential scale of disruption to supply chains and their relatively immature cyber security solutions as compared to other industries (e.g. financial institutions).

Transportation and logistics (continued)

Medium term: With Russia excluded from Western trade, new routes are emerging between Russia and Asia, and between the West and Gulf or Central America, as companies seek to sustain import levels of energy, food, and raw material commodities for business continuity. Although new routes are forming, nations are also looking at ways to achieve some degree of self-sustainability. Transport and logistic services could be struck with a potential loss of demand in the short term due to deglobalisation.

Global multinational companies are looking at ways to develop domestic production and manufacturing to limit exposures to international risks such as conflict. In the medium to long term, we could see reduced activity from ships and increase in demand for train and motor trade (both national and transregional). The magnitude of impact on the aviation industry is less profound, as sanctions do not have a big impact on airlines.

Long term: Independence from global markets is also emerging with regards to energy security. Gas-dependent countries are realigning to traditional energy classes such as coal in order to continue meeting domestic demand. In the long term, they may look to develop sustainable renewable solutions. As such, there may be a potential reduced need for oil and gas transportation in the future and a corresponding decrease in demand for transport and logistic services. The aviation industry has learned lessons from the pandemic, particularly in relation to disaster planning. Larger airline organisations, especially national airlines, are more resilient to the impacts of the crisis due to their contribution to their economies.

Case study: Delays at the Yantian terminal in Shenzhen, one of the world's largest container terminals, has put a significant strain on the global shipping industry, worsening supply chain delays for manufacturers and retailers globally. After a week-long closure in late May, productivity has only returned to about 70% of normal levels.

More likely scenarios | Less likely scenarios

01 Defensive push-back	02 Protracted conflict	03 Annexation	04 Collapse of Ukraine	05 Escalation
– Companies utilise a mixed slate of energy sources to minimise business commodity price shocks and business continuity risks – Companies look to invest in electric solutions to reduce spend on fuel and gas	– Ships carrying food supplies, raw ingredients and/or fertiliser could be attacked, thus disrupting the distribution of supply	– Blocked ports continue to limit ease of trade across supply chains; increased activity in domestic transport as economies seek to become self-sufficient	– End operations of seafarers in Black Sea region – focus on sea trade with US and development of train-related trade with EU states	– Organisations directly impacted by cyber conflict may need to rebuild their entire IT infrastructure, impacting global distribution and supply chains – Disruption of key materials for electric vehicle production impacts trading performance and operations – Destruction of renewable projects leads to increased dependency on oil and gas at inflated prices

06

Responding to the new risk landscape

As new risks continue to emerge, businesses will need to develop risk management strategies to increase their resilience and prepare for the different potential outcomes. Following conversations with market experts who work closely with multinational corporations, this section addresses the immediate actions and long-term plans that companies should consider to best prepare for any potential business interruption.

Description	Highly impacted industries	Potential business responses: Immediate actions	Potential business responses: Long term considerations
Cybersecurity			
Recent cyber attacks have made organisations assess how they have been operating up until now, leading to increased investments in critical infrastructure and networks to protect their business from cyber threats and improved governance structure to track these risks	– Energy – Financial institutions – Healthcare – Public sector – Retail and wholesale – Transportation and logistics	– Assess vulnerabilities and identify dependence on the accessibility and availability of technology, services, and data to budget and address these critical areas – Consider sourcing solutions from third-party cyber security experts who can help to identify pain points and offer solutions – Keep financial and business information on local networks to prevent external hackers from accessing key information	– Implement a robust cyber security framework across the end-to-end value chain – Offer focused e-training to employees to avoid potential cyber threats such as email scams
Supply chain			
Simplification of supply chains are being considered in business remodelling, reducing the chances of bottlenecks, and limiting ripple effects that ultimately impact global trade flows	– Construction and manufacturing – Food and beverages – Retail and wholesale – Transportation and logistics	– Develop understanding of relevant supplier tiers to mitigate risk of exposure along the supply chain – Be transparent about their supply chain partner ecosystem to help mitigate any loss of consumer confidence as they start to demand more flexibility and resilience in situations where global supply chains span across areas of heightened geopolitical risks	– Prepare to switch to sustainable alternative sources for essential products and services – Relocate physical sites closer to demand centres informed by industry benchmarks and best practices to support cost reduction curves – Hedge risks through dual-sourcing or multi-sourcing throughout the supply chain to avoid process bottlenecks

Description	Highly impacted industries	Potential business responses: Immediate actions	Potential business responses: Long term considerations
Supply chain (continued)			
		– Mitigate risks by evaluating required levels of planned inventory and labour in the short to medium term and having discussions around business continuity plans with key suppliers to understand the extended supplier network	– Consider M&A opportunities to achieve economies of scale and consolidate a broader range of trading relations – **Food manufacturers:** quantify and finance the medium to long term impact of the crisis such as sourcing for alternative materials to produce the same quality of goods or products – **Construction and manufacturing**: due to longer time horizons for products, bigger risks are related to inflation and supply chains. If the cost of contractors is too high, they may look to cut costs in other parts of the process
Talent identification			
Organisations are focused on hiring, retaining and developing talent as the crisis has highlighted the lack of key workers due to rising demand of products and services	– Healthcare – Transportation and logistics	– Form salary- and benefits-based (e.g. bonus shares) incentives to encourage a higher number of applicants for affected industries – Investment schemes for existing employees to stimulate higher retention	– Reconfigure labour pools, especially in transport and logistics to allocate labour effectively between engineering and design, production, and logistics – Subsidise education and training for critical industries to attract more talent to the industries
Scenario modelling			
Companies are preparing for a range of eventualities and conducting scenario planning to map out the differences and implications for each scenario.	– Energy – Food and beverages – Retail and wholesale – Transportation and logistics	– Develop business continuity framework in conjunction with scenario planning – Build a dedicated risk management team (if company size permits) to work closely with other business units and communicate scenario outcomes effectively so the full business is sufficiently prepared – Work with third-party think tanks to identify, document and quantify current and prospective sanctions to incorporate in planning	– Leverage both data and qualitative inputs in planning as the implications of the conflict continue to unfold – Develop modelling to include macro forecasts across geopolitical and inflation risks

Description	Highly impacted industries	Potential business responses	
		Immediate actions	**Long term considerations**
Risk management strategies			
With several risks emerging from the crisis, companies are seeking to strengthen their resilience and risk management strategies to navigate through a myriad of business challenges	– Energy – Food and beverages – Retail and wholesale – Transportation and logistics	– Prioritise attention on which commodities or raw inputs will cause immediate challenges, identifying whether there are alternative sources or sourcing strategies to ensure customer satisfaction is fulfilled – Assess balance sheet exposures and estimate the materiality of impact. Companies can look at assets across territories in terms of aggregate values and also the systemic impacts to estimate the materiality	– Understand internal capital structures such as the mix of equity, debt and credit to reduce the risk of default. Firms can look to restructure loans, obtain new lines of credit and maintain enough cushion to mitigate the impact of inflation – Explore alternative risk transfer solutions such as ILS, captives and risk retention groups
Contract reviews			
As government sanctions and trade blocs continue to evolve, businesses need to be well-prepared for potential outcomes	– Energy – Food and beverages – Retail and wholesale	– Assess existing contracts to identify whether the contracts contain provisions or clauses that offer termination rights – Negotiate to incorporate shorter payment terms in exchange for commodity price or volume discounts as a means of incentivising suppliers	– Agree long term agreements with suppliers to fix price points and avoid prospective inflation implications
Communication with customers			
With several economic implications yet to materialise, customers may be concerned about the unknown. As such, businesses should maintain transparent communications with their end customers	– Energy – Food and beverages – Retail and wholesale	– Identify audiences (employees, customers, vendors, regulators, etc.) that need information regarding how the conflict may impact the business – Coordinate messaging through multiple methods (email, messaging, telephone)	– Continue to review audiences (employees, customers, vendors, regulators, etc.) that may need information regarding how the company is reacting to the crisis – Ensure a thoughtful procedure for regular communications is in place, including who crafts the message, who vets and approves the message, the vehicle for message distribution, and validating that the message was received in the manner in which you expected

Description	Highly impacted industries	Potential business responses	
		Immediate actions	**Long term considerations**
Business continuity preparedness			
While this is particularly applicable to those trading goods, all companies will need to consider how best to protect physical assets and employees	– All	**General response & recovery guidelines** – Establish command structure with alternatives for all issues related to response and recovery – Prioritise critical functions impacted by the crisis, each function's time sensitivity, financial & operational impact **Line Safety** – Identify and contact company personnel that may be in harm's way – If possible, provide support (e.g., money or credit, food, water, clothing, basic medical supplies) **Physical Plant Security** – Assess if the site is available for continued operations – Identify and document the extent of damage to the building(s) and surrounding areas including building systems and key equipment **Operations** – Identify and document the extent of damage to supplies, equipment, documents, computers, etc. – Assess existing and possible damage to inventory, including both raw material and finished products, to determine shipping and receiving options – If you have customised equipment, gather all drawings and photos, and contact individuals who can provide information to supply or recreate equipment elsewhere – Assess current customer orders and customer supply backlog to prioritise shipments and maximise customer fulfilment – Evaluate options for outsourcing product or services in order to maintain customer fulfilment	**General response & recovery guidelines** – Consider possible further impacts if the conflict escalates beyond the current combatants **Line Safety** – Secure transportation away from the fighting and to "safe harbor" **Physical Plant Security** – If a decision is taken to close the facility, and it is safe to do so, secure or remove critical equipment including information technology-based hardware and records. It may be necessary to physically destroy certain key equipment or IT hardware (e.g., servers or laptop hard drives) **Operations** – Begin negotiations with the outsourcing companies and your legal and procurement departments – Work with knowledgeable sources to identify, document, and quantify current sanctions (trade restrictions) on the countries involved in the conflict to determine possible negative impacts – Arrange for the movement of equipment and materials. This might include special rigging and transport trucks

07

The role of the insurance industry

Since the start of the conflict, the global (re)insurance industry has been working to help those affected by the conflict: deploying our resources in support of the humanitarian response, our solidarity in support of the global sanctions regime, and our expertise through risk advice and in force cover.

Following the conflict, the insurance industry has a formidable toolkit at its disposal to help organisations recover and build their resilience, whether removing risks from company balance sheets to reduce their exposure to the crisis; providing advice on risk mitigation and management to ensure they are prepared for a range of outcomes; or mobilising capital to support the rebuild from the crisis.

Innovation in the sector – powered by investment and collaboration – will be essential to helping to address the complex challenges that will emerge from the crisis. The (re)insurance industry has an opportunity to develop new products and new ways of sharing risk to help businesses navigate the uncertain landscape.

Leading insurers and brokers are working collaboratively to enhance products, coverage and capacity for sustainable initiatives in a bid to support **climate transition**. Comprehensive policies are already in place providing cover for risks from power installation to project interruption – alongside the risk management and advisory facilities to offer the supporting expertise. Carefully designed products can also enable insurers to help businesses mitigate risks around new low carbon technologies such as carbon capture and battery storage.

Alongside this, the insurance industry has a role to play in supporting **energy security** objectives. With European nuclear plants likely to remain open in order to meet short-term energy demands, insurers will continue to work with governments and operators to support the nuclear industry. At the same time, continued provision of carbon offset credits to companies can help clear the way for a more constructive transition to a net-zero economy. Insurance regulators, supervisors and capacity providers will set the conditions that will facilitate this transition.

To build resilience in global **supply chains** – while business interruption solutions are purchased by most companies, damage from acts of war or in occupied territories are usually excluded from such policies, limiting the breadth of support insurers can offer. However, as businesses identify and partner with alternative direct and indirect suppliers, with reduced exposure to the conflict, the insurance market will be well placed to provide a breadth of products from business continuity to trade disruption insurance and transport-affiliated coverage (such as marine hull and cargo products).

For **food security**, insurers and brokers are providing risk management services for the industry's production, processing, and distribution concerns; including protecting against agriculture risks, supply chain disruption, commodity price volatility and reputational risks. As companies seek alternative raw ingredient sources, insurers are again well placed to help companies understand the associated product recall and contamination risks.

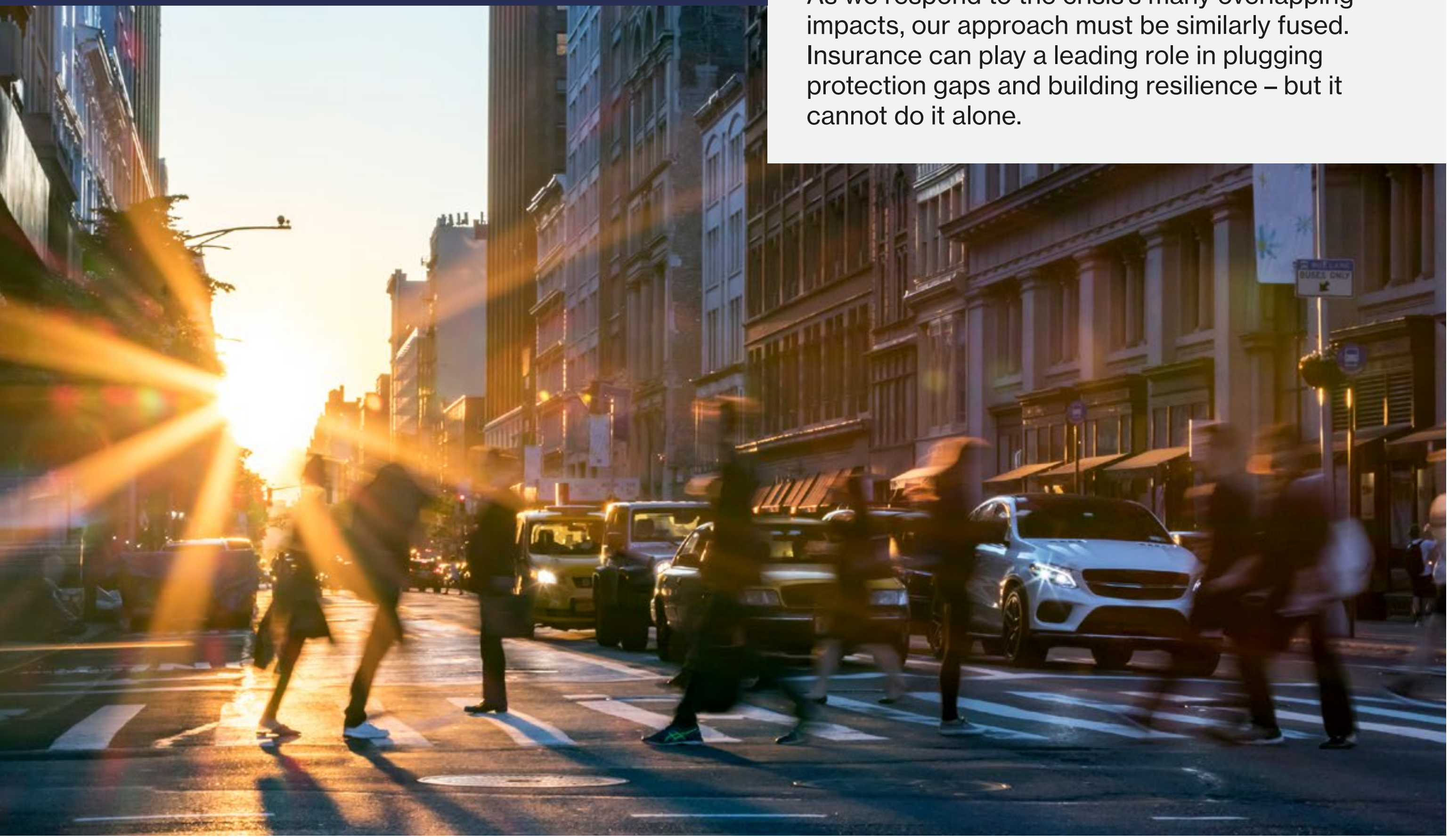
Cyber risks risks are climbing up most organisations' internal risk agendas, with malware threats becoming increasingly apparent and severe. Companies with complex supply chain networks remain most at risk, and for these firms developing cyber resilience and enhancing cyber security will be a priority. The insurance market can work closely with third party cyber specialists to offer risk management services such as stress tests, resilience training and forensic analysis to identify potential IT infrastructure exposures. Cyber insurance remains a relatively immature although still-growing market in most industrialised countries, with insurers looking to develop models to better quantify these risks and structure policies to address businesses' needs effectively and sustainably.

Western companies are likely to remain conscious of **public sentiment** and **ESG** risks arising from associating with Russia. Leading insurers provide reputation insurance and crisis management products to help businesses deal with the financial losses incurred as a result of public scrutiny and damage. Other products such as Directors & Officers (D&O) insurance will likely see increased demand, with many stakeholders looking to company boards for ways to navigate and address the impacts of the crisis.

While these are immediate solutions – many of which are already available – the insurance industry should seek to address the broader protection gaps that will emerge in a well-managed and sustainable way. Customers are looking to the insurance industry to meet this opportunity. As an industry, insurers should pool their expertise, resources and capacity to drive the product innovation that can help businesses respond and alleviate stresses on the global economy.

Policies and products aren't the only tools at the insurance industry's disposal. Insurance's central position at the heart of a functioning society – covering almost every product, asset and individual – offers it the unique ability to convene business, governments, regulators, investors and many others to take a coordinated approach to building societal resilience. As the scenarios outlined in this report make clear, the risks facing society can no longer be viewed in isolated categories; and they cannot fall to any one individual, business or industry to address. COVID-19, climate change and the invasion of Ukraine have all highlighted the systemic frailties embedded in our economies and societies – and the irreversible fusing of our world.

As we respond to the crisis's many overlapping impacts, our approach must be similarly fused. Insurance can play a leading role in plugging protection gaps and building resilience – but it cannot do it alone.



References

Supply chain

‘2022 BDO Middle Market CFO Outlook Survey’. BDO, February 2022 https://insights.bdo.com/cfo-survey

‘Supply chains top CFO business risk concerns’, CFO Dive, 18 February 2022 https://www.cfodive.com/news/supply-chains-top-cfo-business-risk-concerns/619119/

‘Ukraine Crisis Creates New Strains on Global Supply Chains’, Forbes, 6 March 2022 https://www.forbes.com/sites/edwardsegal/2022/03/06/ukraine-crisis-creates-new-strains-on-global-supply-chains/

‘Supply chain implications of the Russia-Ukraine conflict’, Deloitte, 25 March 2022 https://www2.deloitte.com/za/en/insights/focus/supply-chain/supply-chain-war-russia-ukraine.html

‘Supply chain shocks and waning confidence amid Ukraine-Russia war – Allianz Trade’, Insurance Times, 19 April 2022 https://www.insurancetimes.co.uk/news/supply-chain-shocks-and-waning-confidence-amid-ukraine-russia-war-allianz-trade/1440927.article

‘Supply Chain Disruption from the Russia Invasion of Ukraine’, Interos 23 February 2022 https://www.interos.ai/wp-content/uploads/2022/03/Interos_RussiaUkraineGlobalEcon_BP-3-copy.pdf

Cyber

‘The value of cyber insurance to the UK’, ABI, November 2020 https://www.abi.org.uk/globalassets/files/subject/public/cyber/the-value-of-cyber-insurance-to-the-uk-economy-november.pdf

Cyber Security Risk Report 2021, Aon https://www.aon.com/2021-cyber-security-risk-report

‘Ukraine war sparks revival of hacktivism’, FT, 4 Mar 2022 https://www.ft.com/content/9ea0dccf-8983-4740-8e8d-82c0213512d4

‘Russia unleashed data-wiper malware on Ukraine, say cyber experts’, The Guardian, 24 Feb 2022 https://www.theguardian.com/world/2022/feb/24/russia-unleashed-data-wiper-virus-on-ukraine-say-cyber-experts

Climate transition

‘A new age of energy inflation: climateflation, fossilflation and greenflation’, European Central Bank, 17 Mar 2022 https://www.ecb.europa.eu/press/key/date/2022/html/ecb.sp220317_2-dbb3582f0a.en.html

‘Global Energy Review: CO2 Emissions in 2021’, IEA, March 2022 https://www.iea.org/reports/global-energy-review-co2-emissions-in-2021-2

‘Future of Wind’, IRENA, October 2019 https://www.irena.org/publications/2019/Oct/Future-of-wind

‘Germany fires up coal plants to avert gas shortage as Russia cuts supply’, FT, 19 June 2022 https://www.ft.com/content/f662a412-9ebc-473a-baca-22de5ff622e2

‘How Europe is dependent on Russian gas’, New Statesman, 22 February 2022, https://www.newstatesman.com/chart-of-the-day/2022/02/how-europe-is-dependent-on-russian-gas

‘ESG Implications of the Russia-Ukraine War’, State Street Global Advisors, 8 Mar 2022 https://www.ssga.com/us/en/intermediary/etfs/insights/esg-implications-of-the-russia-ukraine-war

‘Global Energy Review: CO2 Emissions in 2021’, International Energy Agency, March 2022 https://www.iea.org/reports/global-energy-review-co2-emissions-in-2021-2

‘Future of Wind’, International Renewable Energy Agency, October 2019 https://www.irena.org/publications/2019/Oct/Future-of-wind

‘A new age of energy inflation: climateflation, fossilflation and greenflation’, European Central Bank, 17 Mar 2022 https://www.ecb.europa.eu/press/key/date/2022/html/ecb.sp220317_2-dbb3582f0a.en.html

ESG

'Economic and Social Impacts and Policy Implications of the War in Ukraine | OECD Economic Outlook', OECD iLibrary May 2022 https://www.oecd-ilibrary.org/sites/4181d61b-en/index.html?itemId=/content/publication/4181d61b-en

Energy security

The Green Leaf: Europe unplugged: can we give up Russian gas?, Algebris 28 February 2022 https://www.algebris.com/green-leaf/the-green-leaf-europe-unplugged-can-we-give-up-russian-gas/

'War in Ukraine: Twelve disruptions changing the world', McKinsey 9 May 2022 https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/war-in-ukraine-twelve-disruptions-changing-the-world

Food security

'Ukraine Conflict', ACAPS, July 2022 https://www.acaps.org/country/ukraine/crisis/conflict

'Egypt to boost local wheat production to cut on imports', CGTN Africa 28 April 2022 https://africa.cgtn.com/2022/04/28/egypt-to-boost-local-wheat-production-to-cut-on-imports

'Impact of the Ukraine-Russia conflict on global food security and related matters under the mandate of the Food and Agriculture Organization of the United Nations (FAO)', FAO 17 June 2022 https://www.fao.org/3/nj164en/nj164en.pdf

'The State of Food Security and Nutrition in the World 2021. Transforming food systems for food security, improved nutrition and affordable healthy diets for all' FAO 13 October 2021 https://www.fao.org/publications/sofi/2021/en/

'War in Ukraine: Twelve disruptions changing the world', McKinsey 9 May 2022 https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/war-in-ukraine-twelve-disruptions-changing-the-world

'High natural gas prices could lead to spike in food costs through fertilizer link', S&P Global 19 Jan 2022 https://www.spglobal.com/commodityinsights/en/market-insights/blogs/agriculture/011922-fertilizer-costs-natural-gas-prices

'UKRAINE Cluster Status: Food Security and Livelihoods (FSL)', UNOCHA 24 Jun 2022 https://reports.unocha.org/en/country/ukraine/card/vbCflPrdSn/

'The Impact of the War in Ukraine on Commodity Markets', World Bank, April 2022 https://www.worldbank.org/en/research/commodity-markets

'Warmer, drier spring to bring worsening drought to US, NOAA report predicts', World Economic Forum 1 April 2022 https://www.weforum.org/agenda/2022/04/worsening-drought-noaa-climate-change-rising-temperatures

Public sentiment

'Resentment for Ukrainian refugees grows in central and eastern Europe', Euroactiv 12 May 2022 https://www.euractiv.com/section/politics/short_news/resentment-of-ukrainian-refugees-grows-in-central-and-eastern-europe/

'Ukraine exposes Europe's double standards for refugees', Chatham House, 30 March 2022 https://www.chathamhouse.org/2022/03/ukraine-exposes-europes-double-standards-refugees

'War in Ukraine: Twelve disruptions changing the world', McKinsey 9 May 2022 https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/war-in-ukraine-twelve-disruptions-changing-the-world

Macro themes

'Four ways the war in Ukraine might end', Atlantic Council 1 March 2022 https://www.atlanticcouncil.org/blogs/new-atlanticist/four-ways-the-war-in-ukraine-might-end/

'Consumer Price Index – June 2022'. Bureau of Labor Statistics, US Department of Labor 13 July 2022 https://www.bls.gov/news.release/pdf/cpi.pdf

'War in Ukraine: Scenarios, Outlooks, and Implications for Businesses', Cambridge Centre for Risk Studies, University of Cambridge March 2022 http://risk-studies-viewpoint.blog.jbs.cam.ac.uk/wp-content/uploads/2022/03/WarinUkraine_2022Report.pdf

'How will Russia's war with Ukraine end? Here are 5 possible outcomes', CNBC, 8 March 2022 https://www.cnbc.com/2022/03/08/how-will-russias-war-with-ukraine-end-here-are-5-possible-outcomes.html

'Putin's invasion of Ukraine will knock 30 years of progress off the Russian economy', CNBC 14 March 2022 https://www.cnbc.com/2022/03/14/putins-invasion-of-ukraine-will-knock-the-russian-economy-back-by-30-years.html

'The Longer-Term Impact of the Ukraine Conflict and the Growing Importance of the Civil Side of War', CSIS, 6 June 2022 https://www.csis.org/analysis/longer-term-impact-ukraine-conflict-and-growing-importance-civil-side-war

'The Geopolitical Implications of the Russian-Ukraine Crisis', Covington, 14 April 2022 https://www.globalpolicywatch.com/2022/04/the-geopolitical-implications-of-the-russian-ukraine-crisis/

'War in Ukraine and its economic, social and environmental impact', European Economic and Social Committee 24 March 2022 https://www.eesc.europa.eu/en/documents/resolution/war-ukraine-and-its-economic-social-and-environmental-impact

'What If Russia Wins?', Foreign Affairs 18 February 2022 https://www.foreignaffairs.com/articles/ukraine/2022-02-18/what-if-russia-wins

'What if Ukraine wins?', Foreign Affairs 6 June 2022 https://www.foreignaffairs.com/articles/ukraine/2022-06-06/what-if-ukraine-wins

'Ukraine crisis and global supply chains', Interos 26 February 2022 https://www.interos.ai/ukraine-crisis-resource-center/

'Impact of government sanctions on Russia's supply chain', Interos 3 March 2022 https://www.interos.ai/blog-impact-of-government-sanctions-on-russias-supply-chain/

'Russian invasion of Ukraine: second order developments', Interos 6 April 2022 https://www.interos.ai/resources/whitepaper-russian-invasion-of-ukraine/

'Economic and Social Impacts and Policy Implications of the War in Ukraine | OECD Economic Outlook', OECD iLibrary May 2022 https://www.oecd-ilibrary.org/sites/4181d61b-en/index.html?itemId=/content/publication/4181d61b-en

Macro Themes (continued)

‘Why the Donbas is the Key to Putin’s Gambit in Ukraine’, Politico 2 February 2022 https://www.politico.com/news/magazine/2022/02/02/putins-gambit-donbas-ukraine-west-doesnt-understand-00004616

‘How war in Ukraine is reshaping global order’, The Harvard Gazette 22 April 2022 https://news.harvard.edu/gazette/story/2022/04/how-war-in-ukraine-is-reshaping-global-order/

‘China Is Not Russia. Taiwan Is Not Ukraine’, United States Institute of Peace 4 March 2022 https://www.usip.org/publications/2022/03/china-not-russia-taiwan-not-ukraine

‘What are sanctions, and are we in a new era of economic war?’ World Economic Forum, 8 April 2022 https://www.weforum.org/agenda/2022/04/what-are-sanctions-radio-davos/

‘The consequences of the war in Ukraine will be far-reaching’ World Economic Forum 29 April 2022 https://www.weforum.org/agenda/2022/04/an-unfair-war-economic-social-and-security-consequences-of-the-russian-invasion-into-ukraine/

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