War in Ukraine: Risk Impact

BCG Global Advantage and Risk & Compliance Practice Areas

Prepared: 31 March 2022
**Introduction to this document**

The war in Ukraine is above all a political and humanitarian crisis…

Russia’s invasion of Ukraine has led to a serious humanitarian crisis. BCG condemns this attack and the violence that is killing, wounding, and displacing so many people.

The top priority in moments like these must be the safety and security of people. Corporates, governments, and non-for-profit organizations should focus on supporting the people in Ukraine, Russia, Europe, and globally affected (physically and mentally).

It is the duty of political, societal, and business leaders to navigate through this crisis. The intent of this document is to inform discussions and decisions on the global economic impact as well as the sanctions, regulatory and risk impact of the war in Ukraine.

The situation surrounding Ukraine is dynamic and rapidly evolving - this document reflects information and analysis as of 31 March 2022. It is not intended as a prediction of future events and is shared only as a resource for BCG and client conversations.
IMPACT ON RISK

The war in Ukraine marks a tectonic shift in the global business landscape, one with multiple short- and long-term strategic implications for companies.

Leaders must not only mitigate the risks to their business models caused by price shocks, supply disruptions, and sudden shifts in demand. They must also navigate the risks to their corporate reputations as they comply with sanctions and grapple with whether to suspend Russian operations or pull out entirely—as well as the potential consequences for their personnel and assets in Russia.

In addition, companies should weigh risks that could arise under several scenarios if the conflict broadens. What if sanctions are extended to third countries or business partners that decide to assist Russia, for example?

As the war unfolds, companies will need to shift their focus from managing the emergency to reassessing the risk and sanctions compliance landscape. This assessment should cover customers and connected third parties. Companies should review their global operations and businesses under a range of scenarios, as well as their preparedness for potential cyberattacks. In addition to immediate tactical moves, companies need a strategic action plan to mitigate risks and make their organizations more resilient to future disruption.
Perspective on risk impact

- Sanctions and policy actions
- Risks for companies
- Implications for companies
## Risks rooted in global tectonic shift arising from the war

**War in Ukraine has elicited unprecedented international response, including sanctions and policy actions that generate uncertainty for the global economy. Drivers of company risk arise from this context**

### Sanctions & policy actions

| Measures targeting Russia | Increasing number of trade controls on strategic imports/exports (e.g., dual-use military-civilian items), ~3,650 sanctions targeting Russian individuals, corporations, and financial system. Further policy actions disrupting business, diplomatic and cultural ties |
| Retaliation by Russia | Russia restricting exports of agriculture, industrial equipment, social media (e.g., Facebook). Companies with Russian operations have limited options to protect assets and operations |
| Uncertainty | Risk of further escalation (e.g., secondary measures, asset seizures), accelerated long-term decoupling (e.g., parallel financial, energy & tech systems) and potential actions taken by other countries (e.g., Eurasian Economic Bloc) |

### Risks for companies

| Strategic | Risks to business models and reputational concerns, with significant impact on portfolio decisions (e.g., localization) and short to medium-term priorities (e.g., company decarbonization targets and initiatives) |
| Business & Operational | Potential top-line disruptions from price and demand shocks, supply shortages and cyber attacks |
| Financial | Increasing financial distress, but remains below COVID levels given the lower direct systemic impact – yet uncertainty from 2nd order risk implications |

### Implications for companies

| Regulatory compliance | Map exposures to new and escalating trade compliance requirements, sanctions and policy actions across footprint, financial transactions, and supply chain. Identify and implement proactive controls against potential liabilities |
| Scenario-based planning | Shift to continuous stress testing and trigger-based actions to rapidly adapt to new contexts, ensuring comprehensive coverage of direct and indirect risk exposure |
| Build resilience | Build buffer to secure critical services (e.g., dual sourcing) |

Note: BCG does not provide legal or regulatory advice; Source: BCG analyses and experience

Prepared: 31 March 2022
Perspective on risk impact

▷ Sanctions and policy actions

▷ Risks for companies

▷ Implications for companies
# 4 types of sanctions and policy actions applied on Russia, increasing risk across industries

## Sanctions/policy actions

<table>
<thead>
<tr>
<th>Types of measures</th>
<th>Selected applied measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trade Policies</strong></td>
<td>Halted sale of dual-use components</td>
</tr>
<tr>
<td></td>
<td>Banned imports of Russian energy</td>
</tr>
<tr>
<td></td>
<td>Cancelled certification of Nord Stream II</td>
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<tr>
<td></td>
<td>Banned Russia ships from docking</td>
</tr>
<tr>
<td><strong>Individual/Corporate</strong></td>
<td>Seized assets (e.g., yachts, houses) from sanctioned oligarchs and lawmakers</td>
</tr>
<tr>
<td></td>
<td>Froze bank accounts linked to sanctioned oligarchs &amp; lawmakers</td>
</tr>
<tr>
<td><strong>Financial Institutions</strong></td>
<td>Removed selected Russian banks from SWIFT</td>
</tr>
<tr>
<td></td>
<td>Froze assets of Russia’s Central Bank</td>
</tr>
<tr>
<td><strong>Diplomatic/Other</strong></td>
<td>Closed access to airspace for Russian flyovers</td>
</tr>
<tr>
<td></td>
<td>Barred Russia from most sporting competitions, incl. Paralympics, FIFA, UEFA, etc. (global)</td>
</tr>
<tr>
<td></td>
<td>Russia expelled from Council of Europe</td>
</tr>
</tbody>
</table>

**Note:** BCG does not provide legal or regulatory advice; information is non-exhaustive. 1. US extends sanctions on companies that are ≥50% owned by sanctioned individuals/entities. 2. Sanctions laws are complex; not all countries’ legal regimes follow the above categories strictly e.g., US comprehensive sanctions on the Ukrainian regions of Crimea, Donetsk, and Luhansk essentially preventing all business dealings. Source: Tony Blair Institute for Global Change (As of March 22nd, non-comprehensive); Government reports; Press clippings; BCG analysis
# Measures applied on Russia expected to have far-reaching risk impact

**Prepared: 31 March 2022**

**First-order impact**

<table>
<thead>
<tr>
<th>Sanctions/policy actions</th>
<th>Inability to import strategic products (e.g., repair parts)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inability to export key products (e.g., oil &amp; gas, agricultural output)</td>
</tr>
<tr>
<td></td>
<td>Difficulty to circumvent measures (e.g., shipping via 3rd countries)</td>
</tr>
</tbody>
</table>

## Second-order ramifications

<table>
<thead>
<tr>
<th>Supply chain shortages at global scale (e.g., palladium, nickel)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term risk of losing competitiveness for critical sectors deploying imported tech (e.g., O&amp;G exploration, Auto)</td>
</tr>
<tr>
<td>&quot;No business&quot; long-term stance by risk-averse companies</td>
</tr>
<tr>
<td>Foreign currency reserves drainage (mainly USD)</td>
</tr>
</tbody>
</table>

| Sanctions affecting companies owned by targeted individuals (e.g., Chelsea FC) |
| Effects on entities supporting transactions related to sanctioned individuals (e.g., international banks) |
| Cryptocurrencies under closer scrutiny |

| Pivoting of Russian financial system to alternative currencies (e.g., RMB) |
| Western banks operating in Russia closing operations and risking assets seizure |

| Diplomatic and cultural isolation |
| Strategic government-to-government relations halted |

| Ceasing cultural and intellectual exchanges (e.g., sports, R&D, academics) |
| Inability to align on long-term global challenges (e.g., Climate Change, space exploration) |

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**Non-exhaustive**: BCG does not provide legal or regulatory advice; information is non-exhaustive. Source: Government reports; Press clippings; BCG analysis.

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**"Western" Allies**

<table>
<thead>
<tr>
<th>Individual/Corporate</th>
<th>Sanctioned individuals and corporates unable to access capital, foreign assets or travel to certain destinations</th>
</tr>
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<table>
<thead>
<tr>
<th>Financial Institutions</th>
<th>Financial Institutions based in Russia unable to access foreign currency, assets and capital markets</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Diplomatic/Other²</th>
<th>Diplomatic and cultural isolation</th>
</tr>
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<table>
<thead>
<tr>
<th>Trade Policies</th>
<th>Inability to import strategic products (e.g., repair parts)</th>
</tr>
</thead>
</table>

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**Note**: BCG does not provide legal or regulatory advice; information is non-exhaustive. Source: Government reports; Press clippings; BCG analysis.
Retaliation is under way; limited choice for companies operating in Russia

Three options for foreign companies, all of which raise reputational risk

1. **Continue 'business-as-usual' operation**

2. **Cease operations**
   - Potentially, face risk of expropriation and/or criminal charges

3. **Transfer assets** to a local 'business partner' shareholder
   - Challenge to attain a fair market value for transferred assets
   - e.g., Major O&G players faced potential significant write-offs from the sale of Russian assets

**Focus | Selected Russian actions**

- **Banned exports** of machinery, equipment and agricultural products to certain countries
  - Pressuring Western consumers and companies

- **Re-registered foreign-leased planes** from Bermuda to Russian registry
  - Exposing Western lessors to $ billions of write-offs

- Proposed legislation allowing **seizure or expropriation of foreign-owned assets** in Russia
  - Exposing owners to write-offs

Note: BCG does not provide legal or regulatory advice; information is non-exhaustive. Source: Government reports; Press clippings; BCG analysis
Outlook | Key uncertainties for sanctions, policy actions, and global decoupling

NON-EXHAUSTIVE, KEY QUESTIONS TO CONSIDER REGARDING MEASURES

**Allied measures over Russia & others**

How effectively will US/EU/Allies enforce the sanctions, policy actions and anti-circumvention measures? (e.g., transshipment via 3rd countries to Russia)

Will secondary sanctions/policy actions be imposed upon countries aligned with Russia?

Will the scope of measures intensify with escalation (e.g., EU ban on O&G imports)?

Will allies attempt to regulate cryptocurrency to prevent black market and evasion by sanctioned individuals/companies?

Would sanctions and policy actions remain in place after a diplomatic resolution to the conflict? If so, for how long?

**Retaliatory measures by Russia & others**

Will Russia escalate its retaliatory measures? E.g.,
- Seize assets of foreign firms that leave the country
- Restrict foreign ships from entering Russian ports
- Cut gas supplies to the EU

Will other countries retaliate? (e.g., Eurasian Economic Union bloc, incl. Kazakhstan, Belarus, Armenia)

Will Russian sourcing be re-localized and parallel value chains be created with aligned trading partners?
- Re-sourcing of critical materials, parts and equipment
- Alternative technology platform
- Parallel payments infrastructure and financial system

Note: BCG does not provide legal or regulatory advice; information is non-exhaustive. Source: Government reports; Press clippings; BCG analysis
Hypothetical scenario | If China provided 'material support' to Russia, it could face implications that would significantly impact the global economy.

"[President Biden] described the implications and consequences if China provides 'material support' to Russia.

White House press release March 18, 2022

'Material support' could translate in the application of secondary sanctions and policy actions, impacting a larger, more globally-interlinked economy (e.g., China), which would put much more pressure on the global economy.

Note: BCG does not provide legal or regulatory advice; information is non-exhaustive. 1. Total value of 2019 imports (CIF), WITS 2. Total value of 2019 exports (FOB), WITS 3. Top 100 global banks based on 20 assets, S&P Global 4. Based on 2021 revenue per Fortune 4. In country (domestic) revenue (Retail + corporate + other banking) % 5. 2019 data for Russia - based on outbound global payments only, excl. credit cards; value of Russia x-border payments/ value of x-border global payments BCG Trade Finance Model. 6. Fortune 2019 7. Thomason Reuters "Top 100 Global Tech Leaders" 8. Gross domestic spending on R&D, OECD Source: BCG Trade Finance Model; WITS; OECD S&P Global; Fortune; China State Administration of Foreign Exchange; BCG analysis.
AGENDA

War in Ukraine: Risk Impact

- Perspective on risk impact
- Sanctions and policy actions
- Risks for companies
- Implications for companies
Three broad types of risks for companies with potential widespread impact

**NON-EXHAUSTIVE – MOST RELEVANT RISKS**

**Strategic & Reputational**
- Risk to achieve business objectives over the long-term
- Business model viability threats from long-term changes in demand patterns
- Strategy adjustments imposed by reputational concerns over conflict
- Change of strategic priorities with long-term impact (e.g., CO2 targets)

**Business & Operational**
- Top line risk driven by shocks to price and demand
- Risk of critical commodities supply shortages causing business continuity issues/disruptions and cost increases
- Threat to cybersecurity driven by conflict tensions or boycott attempts

**Financial**
- Liquidity risks driven by cash shortages rooted in business/operational disruptions
- Risk of financial disruption due to stress propagation along own business network
- Uncertain financial markets outlook (e.g., commodities, currency risk, etc.)

Risks are interconnected, reinforcing each other in a highly uncertain context

High uncertainty for companies – Details in next pages

Source: BCG analysis and experience
Russian operations not only a financial concern, but also a reputational one

BCG Investor Survey¹
United States - March 2022
Investor perspectives on companies that continue operations in Russia

Unwilling to invest in companies with operations in Russia
73%

Would invest only if exposure to Russia is marginal (e.g., <3% of revenues)
20%

Companies suspending or scaling down business ties with Russia²
+460

Direct risks and indirect reputational ramifications for companies

First-order risks

Western consumers & business partners boycotting companies with Russian presence
- e.g., Renault decided to suspend activities in Russia after public opinion reacted to its presence³

Investors potentially halting investment or divesting from companies with Russian operations
- e.g., Norway’s Sovereign Wealth Fund, with c. $3B invested in Russian stocks, to exit Russian holdings⁴

Ties with sanctioned entities/individuals forcing divestments or business strategy shifts
- e.g., Manchester United F.C. cancel their sponsorship deal with Russian state-owned airline Aeroflot⁵

Second- & third-order ramifications

Companies adopting a "no business" policy with Russia and/or aligned countries to prevent future reputational issues

Insecurity of assets and personnel in Russian territory following suspension of operations

Players from non-sanctioning countries may seize opportunity to gain market share in Russia, strengthening competitive position

Disruption to international supply chains given loss of production capacity

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Operational – Supply Chain | War in Ukraine to create further impacts in an already stressed supply chain post-COVID context

Companies highly concerned with supply chains

Companies' sentiment on supply chain risk: proportion of references to supply chain risk per earning call transcript

Values indexed for Jan 2017

Companies' sentiment on supply chain risk

Ukraine conflict on top of an ongoing global supply chain crisis, exacerbating companies' concerns

Start of Covid Pandemic

COVID spike (07/20)

Supply chain crisis due to Pandemic-induced logistical bottlenecks

Start of Ukraine War

4 key supply chain risks boosted by the war

<table>
<thead>
<tr>
<th>Commodity shortages &amp; price volatility</th>
<th>Difficulty sourcing and higher key commodities prices</th>
<th>Increase in key commodities prices since Jan/22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product sourcing</td>
<td>Inability to source manufactured goods and inputs</td>
<td>Potential fewer vehicles produced in the world in 2022</td>
</tr>
<tr>
<td>Demand 2nd order effects</td>
<td>Slowdown in manufacturing / inability to import</td>
<td>Russia, Ukraine and Belarus share of EU imports</td>
</tr>
<tr>
<td>Logistics</td>
<td>Higher logistics costs due to capacity and fuel impact</td>
<td>Increase in jet fuel prices month by month</td>
</tr>
</tbody>
</table>

1. BCG investor and company sentiment measurement proprietary tool, NL Analytics and BCG Center for Growth and Innovation Analytics. Measured as % of referents to supply chain risk in context of risk per earning call transcript. 2. Estimated – official data of pandemic start could differ among countries. 3. Nickel, Wheat, Crude Oil data Mar/2001 – Mar 7, 2022. 4. IHS Market global vehicles forecast. 5. IHS for Jan-Dec 2021. 6. IATA: Europe-Asia, Asia-North America most heavily hit by airspace closure, Based on CTKs (cargo ton kilometers) over the past 12 months.

Source: BCG analysis and experience.
Russia possesses leading cyber capabilities, and evidence of increasing attacks on Ukraine

**Russia has outsized cyber capabilities...**

Russia has longest-established and strongest cyber-offensive capabilities, outsized for nation size

Top 5 countries out of 50 with highest Cyber Capability Index - offensive capability (Harvard Belfer Center)

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<tr>
<td>Russia</td>
<td>67</td>
<td>65</td>
<td>61</td>
<td>59</td>
</tr>
<tr>
<td>US</td>
<td>65</td>
<td>65</td>
<td>61</td>
<td>59</td>
</tr>
<tr>
<td>China</td>
<td>61</td>
<td>59</td>
<td>59</td>
<td>59</td>
</tr>
<tr>
<td>Germany</td>
<td>59</td>
<td>59</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>UK</td>
<td>55</td>
<td>55</td>
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GDP ($T)

<table>
<thead>
<tr>
<th>Country</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russia</td>
<td>1.5</td>
</tr>
<tr>
<td>US</td>
<td>20.9</td>
</tr>
<tr>
<td>China</td>
<td>14.7</td>
</tr>
<tr>
<td>Germany</td>
<td>3.8</td>
</tr>
<tr>
<td>UK</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Est. official cyber dept³

<table>
<thead>
<tr>
<th>Year</th>
<th>Russia</th>
<th>US</th>
<th>China</th>
<th>Germany</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990s</td>
<td>2010</td>
<td>2015</td>
<td>2017</td>
<td>2020</td>
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</tbody>
</table>

**...and has been alleged to have been behind destructive NotPetya cyber attack in 2017**

- UK, US, and AUS attributed attack to Russia⁵
- Targeted Ukraine, spreading across EU & globe, impacting multinationals (e.g., Merck, DHL, etc.)

**Evidence of increasing cyberattacks on Ukraine**

US & UK accredited Feb 15 cyberattacks on Ukraine's critical infrastructure, incl. Defense Ministry & banks⁴ to Russia

~10x Increase in cyber attacks on Ukraine⁶

Leaders should consider four key cyber threats, and potential for contagion from original target

- **Geopolitical** - Direct attacks on Ukraine (e.g., defense ministry, banking system) prior to invasion
- **Retaliatory** - Multinationals & Governments anticipate retaliation for sanctions & aid provisions
- **Reconnaissance** - Allegations of reconnaissance performed against countries' critical infrastructure
- **Activism** - Attacks from non-state backed groups motivated by ethical/moral views

Financial distress growing but below COVID levels because of a lower direct systemic impact – uncertainty from second-order risk implications

Increasing financial stress, but below COVID levels

Elevated global financial stress

First-order risks

Threat to liquidity buffers from hefty margin calls on derivatives and difficult receivables collection

Increased default risk on Russian/Ukrainian loans

Potential for Russia/ Ukraine sovereign debt default

Rising interest rates affecting banks' balance sheet and top line, as well as companies refinancing terms

Impact varies based on exposure

Second- & third-order ramifications

Solvency issues/default following sustained liquidity drains from margin calls and/or unpaid receivables

Propagation of solvency/credit issues to network of financially distressed entities (e.g., suppliers)

Lower money supply to the economy, with potential effects on production, consumption and unemployment

Deteriorating credit for Russia & Russian entities

- Fitch downgraded Russian Sovereign Debt to "C" and Ukrainian to "CCC"
- Moody credit agency downgraded at least 95 Russian & 3 Ukrainian corporates

Index incorporates 5 indicators: credit, equity, funding, safe assets & volatility

Global OFR FSI index, Mar 2019 – Mar 2022

>0 indicates stress levels above average

Global FSI index, Mar 2019 – Mar 2022

1. Global OFR FSI index is a daily market-based snapshot constructed from 33 financial variables incorporating five categories of indicators: credit, equity valuation, funding, safe assets and volatility, FSI shows stress across US, other advanced economies & emerging markets 2. Fitch Ratings Agency 3. Moody's as of Mar 10 Source: Reuters, Bloomberg, BCG analysis and experience
War in Ukraine: Global Update and Risk Impact

AGENDA

- Perspective on risk impact
  - Sanctions and policy actions
  - Risks for companies
    - Implications for companies
Companies should re-assess their operational and risk environment to build resilience via scenario-based planning

Short-term

Shift focus from managing the emergency to re-assessing the risk and sanctions landscape (e.g., new/escalating trade requirements)

Include customers and connected 3rd parties in compliance screening and risk assessment

Example in Banking
Payment network analysis to map cash flow interactions within company network/supply chain and identify indirect exposure to Russian/Ukrainian entities

Example in Manufacturing
Idiosyncratic scenarios to stress supply chain vulnerability – e.g., loss of suppliers due to conflict spillovers, risk of sanction evasion via transshipment, logistics costs disruption

Mid-to-long-term

Assess stress scenarios, incorporating direct and indirect risks along company vulnerabilities (e.g., risk of sanction evasion via 3rd parties)

Adopt an agile approach in reviewing decisions and implementing controls against potential liabilities

Review and assess scenarios on an ongoing basis to address uncertainty and ensure trade and sanctions compliance

Build a resilience buffer by identifying and securing delivery of critical business services (e.g., dual sourcing)

Source: BCG experience & analysis
Mitigation actions can range from tactical to structural based on urgency or complexity

<table>
<thead>
<tr>
<th>Sanctions</th>
<th>Current &amp; potential</th>
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</thead>
<tbody>
<tr>
<td><strong>Tactical actions</strong></td>
<td><strong>Structural actions</strong></td>
</tr>
<tr>
<td>✓ Develop action plan to mitigate immediate impact on business network (e.g., suppliers)</td>
<td>✓ Pressure test denied-party screening and CDD(^1) process (e.g., larger screening scope, new screening logics)</td>
</tr>
<tr>
<td>✓ Verify denied-party screening and CDD(^1) data collection/storage processes</td>
<td>✓ Conduct ongoing connected parties screening</td>
</tr>
<tr>
<td>✓ Verify/Remediate denied-party screening and CDD(^1) data quality</td>
<td>✓ Consider method to detect/prevent circumvention via trade finance</td>
</tr>
<tr>
<td>✓ Strengthen sanction clauses on existing commercial agreements, and consider certification of higher-risk 3rd-parties</td>
<td>✓ Implement on-/near-shoring initiatives</td>
</tr>
<tr>
<td>✓ Include/Develop geo-political dimension in risk management framework (e.g., indicators, escalation mechanism)</td>
<td>✓ Permanently discontinue operations in select geographies</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Other risks</th>
<th>Strategic &amp; reputational</th>
</tr>
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<tbody>
<tr>
<td>✓ Increase inventory of critical inputs/parts</td>
<td>✓ Diversify supply chain (e.g., dual sourcing)</td>
</tr>
<tr>
<td>✓ Increase liquidity/cash conversion cycle</td>
<td>✓ Strengthen priority cyber controls against typical vectors and invest in cyber resilience</td>
</tr>
<tr>
<td>✓ Raise cyber awareness at all org. levels and increase monitoring frequency</td>
<td>✓ Review Incident Response, Business Continuity and Disaster Recovery plans</td>
</tr>
<tr>
<td>✓ Engage routinely in tabletop exercises/war-gaming against cyber attacks</td>
<td>✓ Engage in debt restructuring</td>
</tr>
<tr>
<td>✓ Re-assess hedging strategy</td>
<td>✓ Increase capital/equity buffers</td>
</tr>
</tbody>
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1. Customer Due Diligence. Source: BCG experience & analysis

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