As more financial institutions embrace digital innovation, risks emerge that could threaten the stability of the financial system. Some of these risks originate from a single sector. Either way, they could proliferate and become systemic without appropriate management.

To understand what these technology-driven risks look like, the World Economic Forum (the Forum) and Deloitte consulted over 100 financial services and technology experts in the development of a new report, Pushing through undercurrents. This group shared more specific perspectives on the forces behind technology-driven systemic risk in the insurance sector. You can learn more in the full report from the Forum, and the executive summary from Deloitte.

---

**Risk 1: Vulnerabilities in parametric insurance smart contracts**

**What could go wrong?**

Because smart contracts are designed to automatically execute, any programming flaws or security vulnerabilities could result in substantial insurance losses. The risk is growing because:

- Smart contracts could be undermined by coding errors in their blockchain networks
- The immutability feature of smart contracts makes it harder to resolve errors in a timely manner
- Reliance on external data sources that could be manipulated exposes smart contracts to risks
- The evolving regulatory and legal landscape creates uncertainty around the enforcement of smart contract agreements

This risk could become systemic if, for example, a breach in third-party data causes multiple insurers to make wrongful payouts on their smart contracts.

**What sectoral and regional forces could amplify the risk?**

- Unclear legal and regulatory standards governing digital contracts
- Underdeveloped technological infrastructure
- Limited knowledge of how smart contracts operate

**How can the industry mitigate it?**

<table>
<thead>
<tr>
<th>Goal</th>
<th>Mitigation opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyber and operational resilience</td>
<td>• Audit smart contract source codes</td>
</tr>
<tr>
<td></td>
<td>• Adopt best practices and use safe programming languages</td>
</tr>
<tr>
<td>Robust governance</td>
<td>• Reinforce governance mechanisms in smart contracts</td>
</tr>
<tr>
<td>Regulatory and legal coverage</td>
<td>• Include smart contracts in existing regulatory and legal frameworks</td>
</tr>
</tbody>
</table>
Risk 2: Growing protection gap for catastrophic cyberattacks

What could go wrong?
Financial institutions’ ability to recover from large-scale cyberattacks may be diminishing as insurers begin to limit their exposure. The risk is growing because:

- Cyberwarfare tactics are increasingly being used to accelerate geopolitical tensions between nation states
- Generative AI is lowering barriers to entry for cyber criminals (e.g., using ChatGPT to create malware)
- Funding from nation states enables sophisticated, high-impact attacks
- Limited ability to predict and defend against large-scale cyberattacks is helping to make cyber insurance less affordable

This risk could become systemic if, for example, a cyberattack cripples multiple banks or critical third-party providers that are covered by the same insurer.

What sectoral and regional forces could amplify the risk?
- A large network of third-party service vendors
- Limited availability of cybersecurity diagnostic data
- Lack of cross-border coordination between governments

How can the industry mitigate it?

<table>
<thead>
<tr>
<th>Goal</th>
<th>Mitigation opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative sources of capital to cover growing cyber risks</td>
<td>• Raise funds in private markets through insurance-linked securities</td>
</tr>
</tbody>
</table>
| Public-Private support to prevent or absorb cyberattack damage | • Stress-test cyber underwriting risk and financial resilience
• Create resource centers that offer access to cybersecurity tools and services |
| Intelligence on cyberattack damage | • Quantify cyber risk damage to measure portfolio exposure to cyber threats |

To learn more about technology’s impact on systemic risk in banking, including examples, please see pages 71-81 of the full report.

Contacts

Neal Baumann
Financial Services Industry leader
Deloitte Global
nealbaumann@deloitte.com

Rob Galaski
Vice-Chair and Managing Partner
Deloitte Canada
rgalaski@deloitte.ca

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited (DTTL), its global network of member firms, and their related entities (collectively, the “Deloitte organization”). DTTL (also referred to as “Deloitte Global”) and each of its member firms and related entities are legally separate and independent entities, which cannot obligate or bind each other in respect of third parties. DTTL and each DTTL member firm and related entity is liable only for its own acts and omissions, and not those of each other. DTTL does not provide services to clients. Please see www.deloitte.com/about to learn more.

Deloitte provides industry-leading audit and assurance, tax and legal, consulting, financial advisory, and risk advisory services to nearly 90% of the Fortune Global 500® and thousands of private companies. Our people deliver measurable and lasting results that help reinforce public trust in capital markets, enable clients to transform and thrive, and lead the way toward a stronger economy, a more equitable society, and a sustainable world. Building on its 175-plus year history, Deloitte spans more than 150 countries and territories. Learn how Deloitte’s approximately 415,000 people worldwide make an impact that matters at www.deloitte.com.

This communication contains general information only, and none of Deloitte Touche Tohmatsu Limited (“DTTL”), its global network of member firms or their related entities (collectively, the “Deloitte organization”) is, by means of this communication, rendering professional advice or services. Before making any decision or taking any action that may affect your finances or your business, you should consult a qualified professional adviser. No representations, warranties or undertakings (express or implied) are given as to the accuracy or completeness of the information in this communication, and none of DTTL, its member firms, related entities, employees or agents shall be liable or responsible for any loss or damage whatsoever arising directly or indirectly in connection with any person relying on this communication. DTTL and each of its member firms, and their related entities, are legally separate and independent entities.

© 2023. For information, contact Deloitte Global.