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The tip of the iceberg

Technology's impact on systemic risk in financial services

This infographic highlights the key takeaways of a report developed by The World Economic Forum and Deloitte entitled, **"Beneath the Surface: Technology-driven systemic risks and the continued need for innovation,"** which aims to:

- Identify the potential short and long-term risks stemming from the increased use of technologies in financial services
- Deconstruct the identified risks and explore the potential scenarios that can emerge as these technologies become more prevalent, and their implications on the financial system
- Explore plausible mitigation strategies and how innovation and the technologies themselves can help to mitigate risks

Key findings

The study has led to six key findings about the role that technology plays in creating, amplifying, and mitigating systemic risk in financial services.

Unregulated and partially-regulated financial players are contributing to a disproportionate share of systemic risk.

Big Tech companies, for example, can quickly turn into large financial gatekeepers without being subject to the full breadth of regulation. Decentralized finance models can seamlessly operate outside of regulatory structures, posing risks to financial stability, consumer protection and market integrity.

An entity's systemic importance is currently determined based on the size of its book, which is becoming less relevant than its size of network.

The distinction is important because both size of book and size of network are indicators of an entity whose failure can cause instability in the financial system. Although, the former has strict capital requirements and supervisory scrutiny, its focus lacks direct attribution to non-financial players.

New interconnections are rarely bilateral.

Technology has changed how entity-to-entity relationships are established. As the number of digital links between service providers grows, actors will need to comprehensively understand their exposure to risk across the entire ecosystem.

Investments in forward-looking risk prevention and detection are required to manage growing stochastic events.

The growing frequency of exogenous shocks (e.g., cyberattacks, climate change) is putting traditional risk models to the test. Without more effective data-sourcing techniques, the compounding effects of exogenous shocks could significantly compromise actors, nations, and the global financial system.

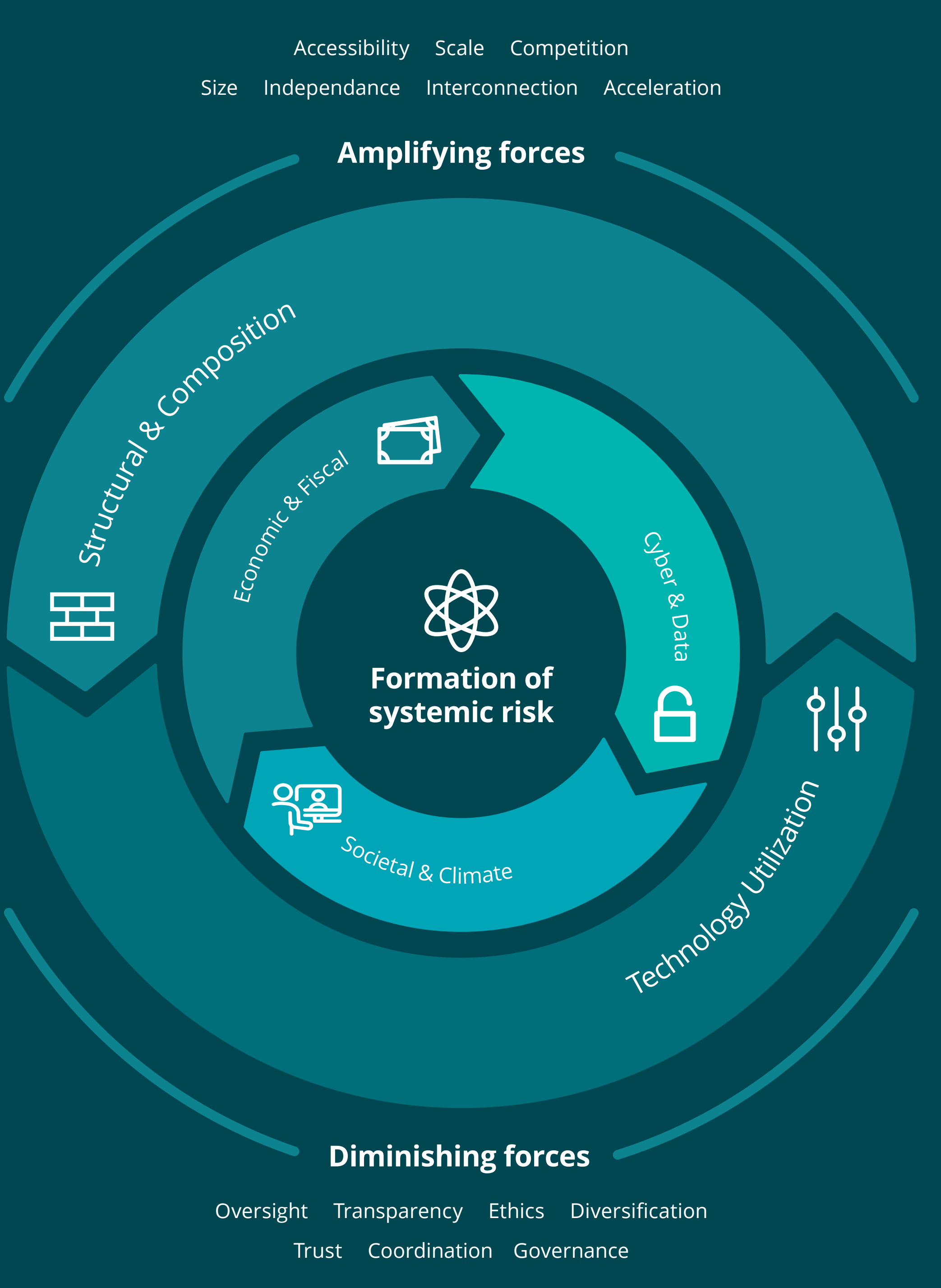
Multilateral global alliances are essential to tackle financial crime and cybercrime.

Governments struggle with the bandwidth or legal consistency to share personal identifiable information across borders for crime prevention. Global players can overcome inconsistent national approaches by working together to resolve common issues.

Addressing systemic risk must start with basics like a shared taxonomy and coherent frameworks.

Fragmented efforts and siloed information make it hard to prevent systemic risk. They can also make it more challenging for non-risk focused executives to integrate, improve, and apply mitigation techniques. These root issues must be solved before technology can be deployed to successfully mitigate against systemic risk.

Sources of systemic risk



Structural & composition

Some risks stem from the state of competitive dynamics in the financial services ecosystem. One example is too many institutions relying on too few outsourced technology vendors, creating concentration risks. Another is the regulators' challenge to keep up with innovation, resulting in a patchwork of requirements and fading boundaries between new players, business models, technologies, and traditional institutions.

Technology utilization

New technologies used in financial services can also create risks. Algorithms and deficient models can produce biased decisions or redundant feedback loops from the input data, the technology itself, or the people who operate the technology. AI models and algorithms can also return results that are inexplicable or lacking in context.

Economic & fiscal

Financial and macroeconomic conditions can put the safety and soundness of the global financial system at risk. Consider credit risk management constraints and the increasing displacement of funds that traditional financial institutions ordinarily hold. There's also the possibility of digitized trading and asset classes leading to market volatility and sell-offs.

Cyber & data

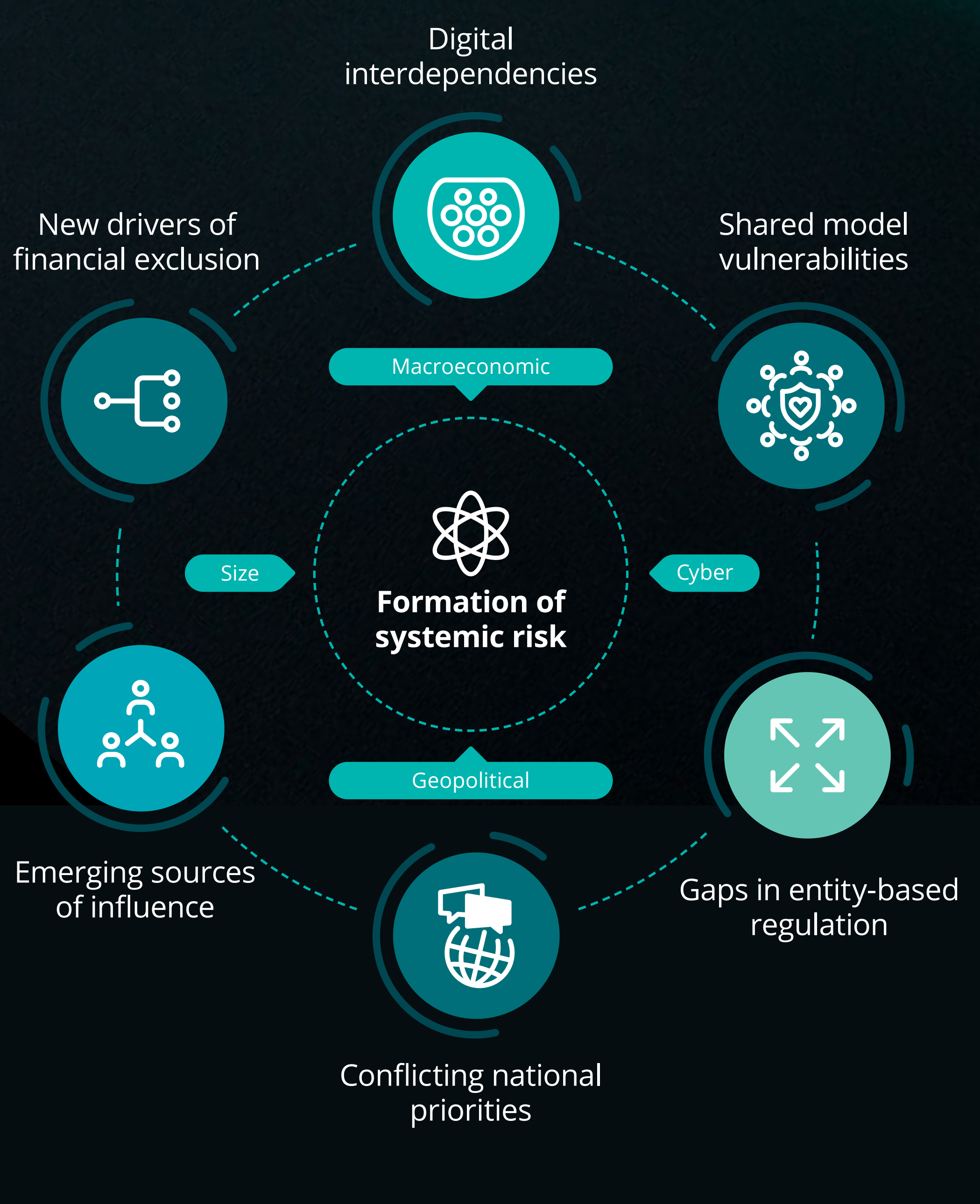
The use of data can be a source of risk, as can practices for either exploiting or safeguarding information technology. Malicious actors can take advantage of ineffective digital authorization or authentication controls, for instance. They can also exploit vulnerabilities associated with the rise of data portability and consumer connectivity.

Societal & climate

Finally, risk can arise from human interactions with one another and the natural world. The growing prevalence of misinformation, for example, can prompt wide-scale faulty decision-making among consumers, actors, and markets. And rising geopolitical tensions can launch a wave of cybersecurity events, financial crime, and intellectual property protectionism.

These sources—ones that create loss or drive uncertainty in financial services—can converge to create systemic risks. A look across the convergence of sources of risk reveals six recurring themes where technology is creating or amplifying systemic risk. We'll unpack those themes next.

Systemic risks from technology



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