

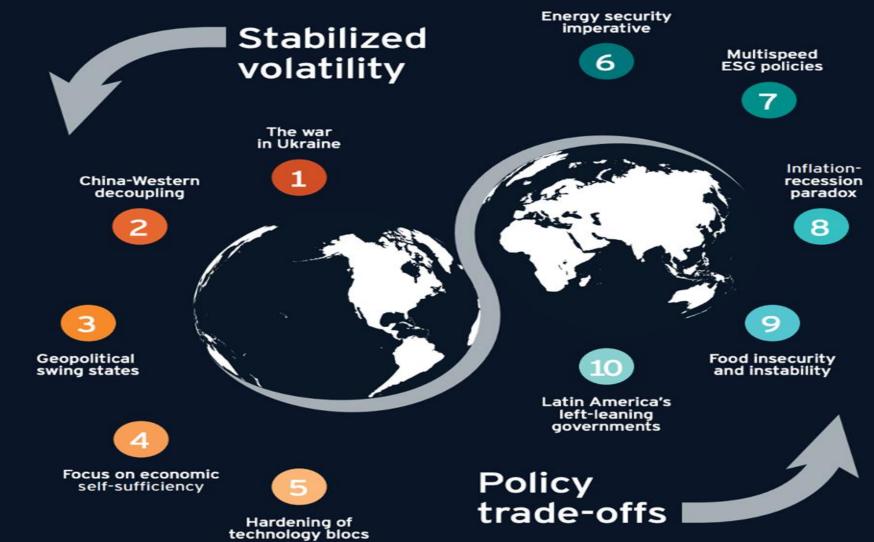


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Top 10 geopolitical developments in 2023





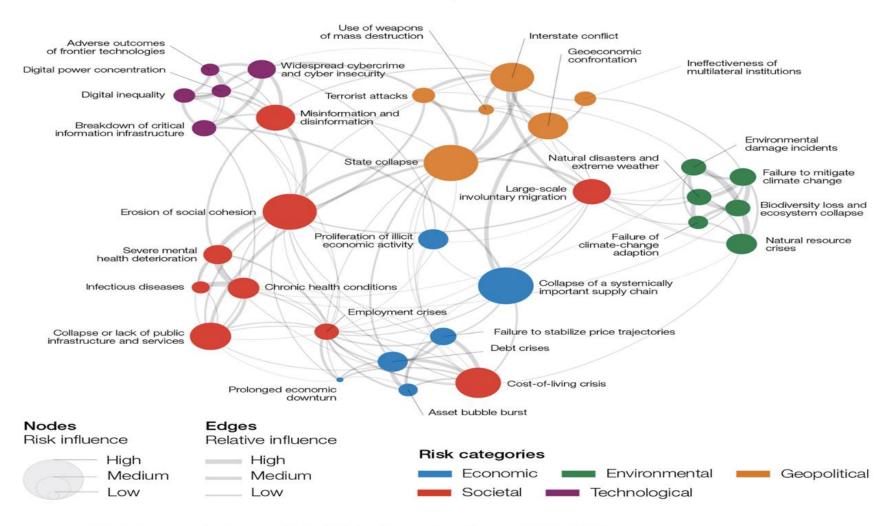
Global risks ranked by severity over the short & long term





ECONOMIC FORUM

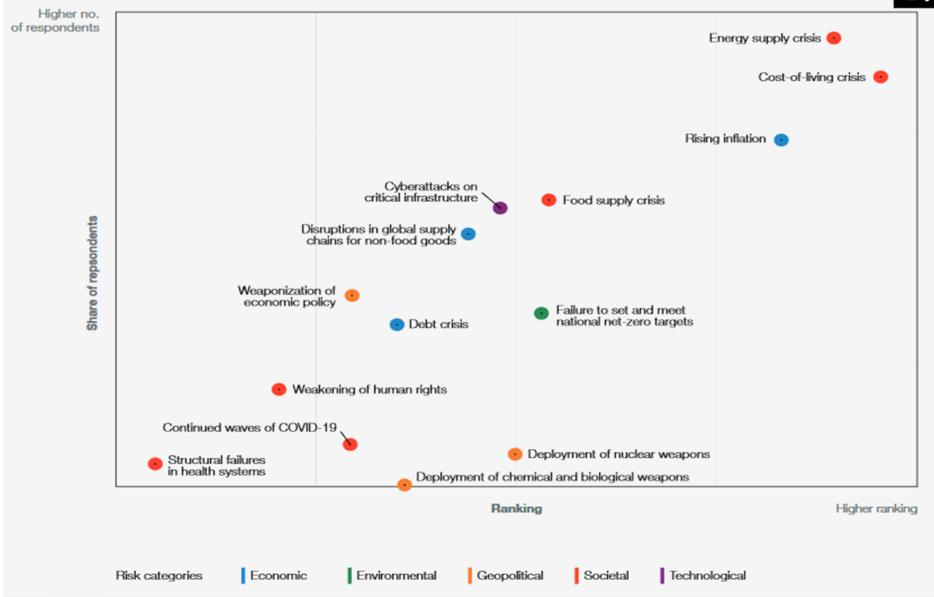
Global risks landscape: an interconnections map



Source: World Economic Forum, Global Risks Perception Survey 2022-2023

Global Risks 2023:Today's Crisis





Impact of geopolitical developments



2021 2022 2023 * War in Ukraine China-Western decoupling Disentangling US-China interdependence Evolving great power relations Middle powers on the global stage Geopolitical dynamics in the Indo-Pacific Geopolitical swing states Increasing intervention in supply chains Neo-statism on the rise Focus on economic self-sufficency Geopolitics of technology and data Technology nationalism intensifies Hardening of technology blocs * Energy security imperative Reinvigorated climate policy agendas Climate change-political risk nexus Multispeed ESG policies Tipping point for emerging market debt Inflation-recession paradox * Food insecurity and instability * Green minerals resource nationalism Latin America's left-leaning governments Geopolitics of COVID-19 A two-tiered world Another wave of social unrest Inequality and the push for redistribution * New development for the year Toward European strategic autonomy Expansion of the Brussels effect Source: EY Geostrategic Outlooks for US policy realignment 2021, 2022 and 2023 * Rise of cyber piracy

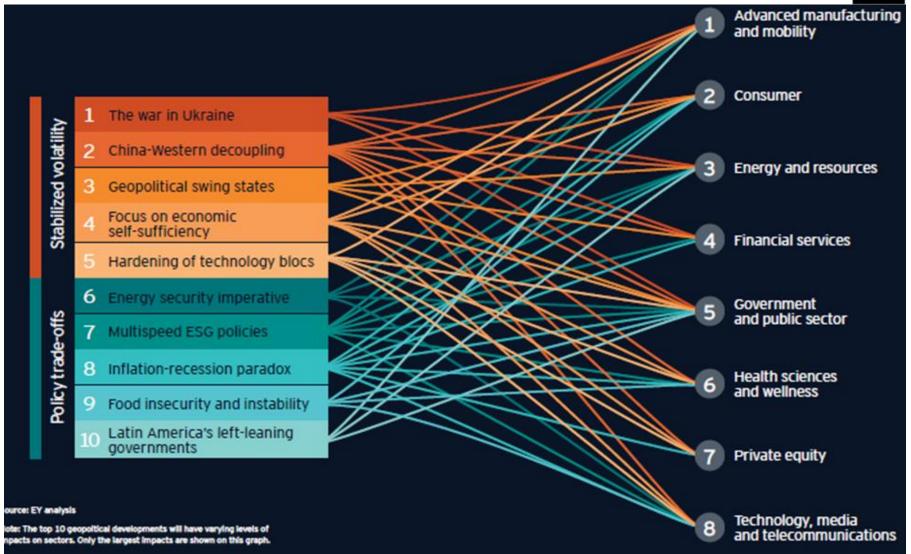
Top Macro risks for 2023

- Rogue Russia
- Maximum Xi
- Weapons of mass disruption
- Inflation shockwaves
- Iran in a corner
- Energy crunch
- Arrested global development
- Divided States of America
- Tik Tok boom
- Water stress



Market themes and Business impacts





Geopolitics 1: Russian Invasion of Ukraine





- In 2023, the war in Ukraine initiated the most significant shift in geopolitical relations with significant regional and global political and economic impacts.
- The risk that this becomes a war of attrition will increase the longer it continues.

• Business Implications-

- ➤ More sanctions impacting business.
- Supply disruptions and higher prices.
- ➤ Geopolitical relationships redefine risks and opportunities.

Geopolitics 2: China-US Decoupling

 In 2023, Washington and Brussels will impose new restrictive policies explicitly or implicitly targeted at China.

 China will seek to expand international economic relationships that do not rely on the US dollar and may promote raising capital in domestic markets.

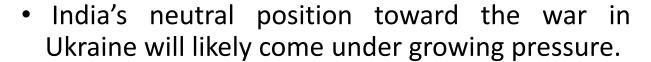
Business Implications:

- ➤ Growth and investment opportunities diverge.
- ➤ Supply chain reorientation.
- ➤ Reputational and compliance risks abound.



Geopolitical Swing States

 In 2023, India, Brazil, Turkey and Saudi Arabia will be among the most influential geo-political swing states.



- Brazil will pursue an independent foreign policy, likely continuing energy ties with Russia, engagement in multilateral.
- Turkey sells drones to Ukraine and opposes some sanctions on Russia.
- Saudi Arabia will continue to shift away from its historical partnership with the US.







Hardening Technology Blocs

In 2023, technology will continue to be a strategic area of geopolitical competition, with policies likely to expand through new trade and investment controls.

 Strict technology export controls in response to the war in Ukraine have effectively cut Russia off from developed-market technologies.

 The US, the EU, Japan and their allies will likely further restrict China's access to critical technologies

China is poised to respond using new export control laws

 Proliferating regulations and legal frameworks in influential markets such as China, Indonesia and India are likely to complicate digital operations.

Energy Security Priority



- Energy security became the top priority for European policymakers in 2022
- Prioritize seeking new energy trading relationships and invest in emerging technologies such as green and blue hydrogen.
- Sustainability policies and goals largely vary on energy endowments of each country.
- There may be more attention to geopolitics as the new "G" in ESG.

Multispeed ESG



- ESG has skyrocketed in CEOs' agenda list but faces an uncertain regulatory environment due to geopolitical tensions.
- Due to the Ukraine War, Governments and companies will face difficulty in achieving their net-zero goals.
- Social policies will also diverge.
- Governance issues will prioritize facilitating non-financial corporate reporting of ESG issues, establishing ESG roles and mandates across company boards.

Food Security and Instability

• Global food prices hit an all-time high in March 2022 and will likely remain a major challenge in 2023.

 War in Ukraine will limit global supply of nitrogenbased fertilizers, affecting countries reliant on Ukrainian agricultural exports such as Egypt, Indonesia and Pakistan.

 Governments will be challenged to stabilize prices amid elevated interest rates and high import costs.

• **Business Implications:**

- > Limited supply chain options.
- > Higher costs and reduced demand.
- > Human capital challenges



THE RISE OF AI

• Success in creating effective Artificial Intelligence could be the biggest event in the history of our civilization. Or the worst. So we cannot know if we will be infinitely helped by AI, or ignored by it and side-lined, or conceivably destroyed by it.

Stephen Hawking





The explosive growth of Chat GPT

- In the last few months, stories about the rapid acceleration of AI technology have made headlines around the world
- Goldman Sachs reported that generative AI has the potential to automate around 300 million full-time jobs worldwide
- The rate of change in AI appears to have already exceeded our capacity to predict or control what it does next.

ChatGPT Sprints to One Million Users

Time it took for selected online services to reach one million users



Source: Company announcements via Business Insider/Linkedin









AUTONOMOUS WEAPONS

LOSS OF HUMAN JOBS

ARTIFICIAL INTELLIGENCE BIAS

ARTIFICIAL INTELLIGENCE DANGERS

ARTIFICIAL INTELLIGENCE TERRORISM

INVASION OF PRIVACY





Areas of Concern



ChatGPT-4 was tasked to identify the implications of AI for leadership, and it did a remarkably good job by highlighting four main areas of concern:

- Jobs losses
- Potential bias
- Loss of control
- An Al arms race

Risk Levels of AI

Application-Level

Performance Risk

- Errors
- ·Bias
- Opaqueness
- Performance instability

Enterprise Risk

- Reputation
- Financial performance
- Legal and compliance
- Discrimination
- Value misalignment

Security Risk

- Adversarial attacks
- Cyber intrusion & privacy risks
- Open source software risks

Economic Risk

- Job displacement
- Enhancing inequality
- "Winner takes all" power concentration

Control Risk

- Lack of human agency
- Detecting rogue AI and unintended consequences
- Lack of clear accountability

Societal Risk

- Misinformation and manipulation
- Intelligence divide
- Surveillance and warfare

AI & Quantum computing increases Cyber security risk





Cyber risk quantification (CRQ) and residual risk calculation



Network intrusion detection and prevention



Case review optimization through document digitalization



4. Automation of cybersecurity controls



5. Alert investigation and qualification



Malware detection, analysis, and prevention



Phishing and spam detection and filtering



Countering advanced persistent threats (APT)



Identifying domain names generated by domain generated algorithms (DGA)



10. Prevention of zero-day attacks



Cyberthreat hunting and penetration testing



12. Al-based antivirus software



13. Behavioral modeling and analysis



14. Combating Al threats

