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Geopolitical risk dashboard

BlackRock

July 25, 2023

Geopolitical Risks – July update

The Ukraine war and fraught U.S.-China relations have ushered in a new era of global fragmentation and competing defense and economic blocs – a marked departure from the globalization and geopolitical moderation of the post-Cold War period. As competing blocs firm up, multi-aligned countries with valuable resources and supply chain inputs look set to grow in power and influence. Their alignment with multiple blocs is likely to rewire global economic and energy relationships.

Geopolitical events historically have had a short-lived impact on markets and economies, our analysis of 68 risk events since 1962 finds. This has changed in the new, more volatile regime described in our 2023 midyear outlook. Today we see geopolitics as a persistent market driver, with direct and long-lasting effects. Economic growth is more vulnerable to geopolitical shocks, in our view.

We see a world favoring national security and resilience over efficiency. Absent significant, tech-driven productivity gains, that could lower output and increase inflation over time. Our BlackRock Geopolitical Risk Indicator, which tracks market attention to geopolitical risks, sits close to its historical average. With a range of risks on the horizon, we believe markets may be underappreciating the potential market impact of geopolitical events.

Key highlights this month include:

- We keep our *U.S.-China strategic competition* risk rating at a high level. The trajectory of relations remains negative and presents significant risks for investors. A series of visits by senior U.S. officials to China shows that leaders are seeking to put a floor under the relationship. We believe any thaw will be fragile though, subject to events and actions by both sides.
- We maintain a high likelihood of *Gulf tensions*, but several recent positive developments have reduced frictions among the key players. The principal risk remains a military confrontation over Iran's nuclear program.
- We reinforce our high likelihood rating for the *Russia-NATO conflict*. In Ukraine, we do not see a diplomatic solution in the near term. The failed mutiny in Russia raises concerns about the regime's long-term stability.

Our dashboard features both data-driven market attention barometers and judgment-based assessments of our top risks. We show market attention to each risk, assess the likelihood of it occurring over a six-month horizon and analyze its potential market impact.

Our BlackRock Geopolitical Risk Indicators (BGRIs) track market attention to each risk using mentions in brokerage reports and financial news stories. They integrate natural language processing and machine learning techniques. This assessment helps determine when geopolitical risks start to appear on investors' radar screens – and when they start fading.

We also have developed a market movement measure that we believe gives us insights into how asset prices are responding to geopolitical risks. It integrates analysis from our Risk & Quantitative Analysis (RQA) team and its Market-Driven Scenarios (MDS) for each risk.

The gauge's score is based on how similar the market environment is to the MDS assumptions and how much the MDS-related asset prices have moved over the past month. See the "How it works" section. We also list the three assets that we see as the key variables of each MDS.

We continuously update our risk scenarios and refine our methodologies. Our scenarios are hypothetical and do not reflect all possible outcomes. Our market movement analyses are not recommendations to invest in any specific investment strategy or product.

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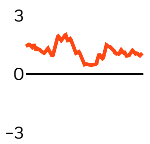
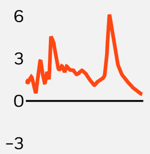
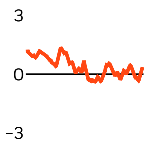
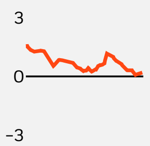
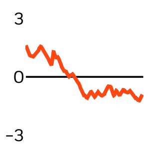
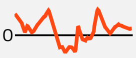
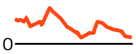
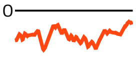
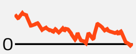
BlackRock **Investment** Institute

Top 10 risks by likelihood

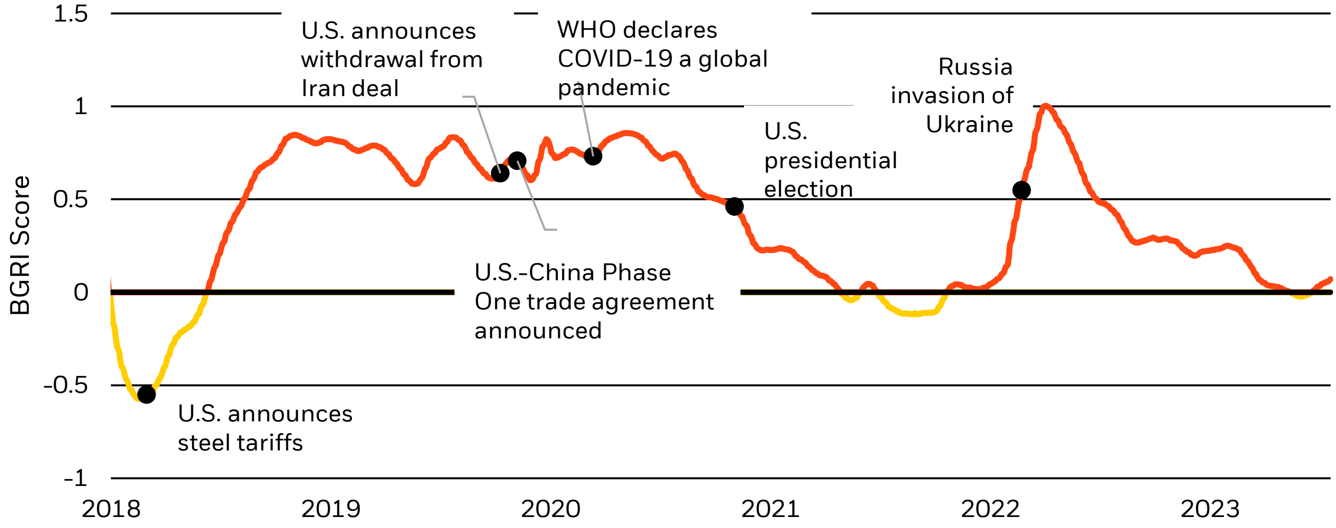
Risk	Description	Market attention since 2019	Likelihood	Our view
1 **U.S.-China strategic competition**	China takes military action against Taiwan or asserts claims in the South China Sea by force.		High	We see U.S.-China relations on a negative trajectory. A series of visits by senior U.S. officials to China shows leaders are seeking to put a floor under the relationship. Any thaw is likely to be fragile and subject to events and actions of both sides. The risk of accidental or intentional escalation is high, in our view. Taiwan remains the biggest flashpoint. We believe the U.S. Congress and some presidential candidates will keep pressing for increased support for and closer relations with Taiwan, raising tensions. We do not see military action in the near term but see the risk increasing over time. China has demonstrated a willingness to pressure Taiwan, presenting risks for investors. An important milestone will be the Taiwan presidential elections in January 2024.
2 **Russia-NATO conflict**	The war in Ukraine becomes protracted, raising the risk of escalation with NATO. Western financial, energy and technology sanctions on Russia continue to mount.		High	Russia's invasion of Ukraine is the largest, most dangerous military conflict in Europe since WWII. We do not see a diplomatic solution in the near term. Russia's spring offensive underwhelmed, and Ukraine's counter-offensive is making slow progress. An extended war of attrition is likely, and the failed mutiny in Russia raises concerns about the regime's long-term stability. There is a significant risk of accidental or intentional escalation. The most likely long-term outcome is a political, economic and military standoff between the West and Russia. Despite not admitting Ukraine as a NATO member, Western allies set forth a long-term commitment to Ukraine's security, essentially making Ukraine a de-facto member of the Western security umbrella. Ukraine will also require Western economic support over the long term.
3 **Major cyber attack(s)**	Cyber attacks cause sustained disruption to critical physical and digital infrastructure.		High	We see cyber attacks increasing in scope, scale and sophistication amid mounting geopolitical competition and rapid technological advancement. Critical government and private sector networks and infrastructure are vulnerable. Artificial intelligence (AI) could dramatically alter the threat landscape, increasing the risk of attacks and misinformation, while also providing defensive tools. Repeated attacks could cause significant economic and market disruption. The U.S. National Cybersecurity Strategy classifies ransomware as a national security threat and calls for more regulation and minimum standards for an expanded number of sectors.
4 **Global technology decoupling**	Technology decoupling between the U.S. and China significantly accelerates in scale and scope.		High	Strategic competition between the U.S. and China is driving global fragmentation as the two pursue targeted decoupling, focused especially on technology. The U.S. is likely to adopt additional controls limiting China's access to key technologies, including semiconductors, cloud computing, quantum and AI, and will likely implement a mechanism to review outbound investment in select Chinese technologies. U.S. allies in Europe and Japan are pursuing similar measures. Beijing has reinforced the importance of technological self-sufficiency and taken steps to respond to U.S. measures, including announcing export controls on metals key to advanced technologies.
5 **Gulf tensions**	Iran nuclear talks collapse, and tensions escalate, raising the risk of a regional conflict.		High	There has been a general de-escalation of tensions in the region, including a restoration of diplomatic relations between Saudi Arabia and Iran as well as between Syria and members of the Arab League. The Abraham Accords and U.S. diplomatic efforts are enhancing cooperation between Israel and Arab states. However, increasing violence in the West Bank and Gaza could inhibit further progress. Confrontation over Iran's nuclear program remains a significant risk. We do not see a revived nuclear deal as likely, but informal efforts to limit Iran's nuclear program could ease tensions. The closer Iran gets to being able to produce and deploy a nuclear weapon, the higher the likelihood of military action against Iran, in our view.

Risk	Description	Market attention since 2019	Likelihood	Our view
6 **Major terror attack(s)**	A terror attack leads to significant loss of life and commercial disruption.		Medium	Al-Qaida has reorganized under new leadership and remains a threat. The group's relationship with the Taliban in Afghanistan is of particular concern for Western officials. ISIS is also resurgent in Afghanistan and in Syria, increasing the risk of attacks on Western targets domestically and abroad at a time when Western governments are focused on other policy priorities. The U.S. administration has underscored the growing risk of domestic terrorism, calling it the most serious and persistent terrorist threat to the homeland. We see the threat increasing given a polarized U.S. political backdrop and the 2024 presidential election.
7 **Emerging markets political crisis**	Ripple effects from the Ukraine crisis severely stress EM political systems and institutions.		Medium	The slowing pace of U.S. interest rate hikes and the weaker U.S. dollar have eased pressures on EMs. Challenges include the slowdown in global economic activity, China's restart losing steam, and the long-term costs of fragmentation. We expect divergence in EM outcomes. Some middle-income EMs, like Brazil and Mexico, may be able to ease policies and offset downward growth pressures. EMs with high debt levels such as Egypt and Pakistan could face hurdles. We worry about a lack of global cooperation on debt relief. ASEAN countries could benefit from shifting trade patterns caused by U.S.-China tensions.
8 **North Korea conflict**	North Korea pushes ahead with its nuclear buildup and takes provocative actions such as missile launches.		Medium	North Korea has rebuffed talks with the U.S. and escalated provocations. This includes threatening rhetoric, public rallies, record numbers of missile tests, an attempt to launch a military reconnaissance satellite, and exhibits of new weapons capabilities. South Korea and Japan are bolstering defenses in response, and the U.S. has deployed its largest nuclear-armed submarine to South Korea as a deterrent. We do not see an imminent threat of regional conflict but think tensions will worsen this year. This could include more long-range missile tests, further development of tactical weapons and a seventh nuclear test. We believe markets are underappreciating this risk.
9 **Climate policy gridlock**	Developed economies fail to increase public investment or take action to achieve net-zero emission targets.		Medium	The Ukraine war has brought energy security to the fore, but we believe the crisis will also accelerate the transition to a lower-carbon world. The energy shock will likely boost decarbonization plans in Europe amid a race for clean energy leadership, as the continent responds to the Inflation Reduction Act (IRA) that is driving investment in the U.S. Though the IRA's provisions are stoking tensions between the U.S. and its allies, we believe the legislation will ultimately be catalytic for increasing global investment in clean energy. A divided U.S. Congress means further U.S. legislative action is unlikely in the short term. Multilateral organizations are under pressure to adopt climate finance reforms ahead of COP28 in November.
10 **European fragmentation**	The energy crunch and inflationary pressures lead to a populist resurgence and economic volatility.		Low	The war in Ukraine triggered a strong impulse toward European unity. The U.S. Inflation Reduction Act also has motivated European capitals on supporting domestic industry in the global race for clean tech leadership. Progress has been made on reforming EU fiscal rules, with a possible deal by year end. A coalition government collapse in the Netherlands highlights the divisive nature of immigration, yet the recently agreed EU migration deal marks a positive step. The EU is considering measures to restrict exports and investment to China. We expect debate on the final scope, but the bloc is largely aligned on the need to de-risk from China, in our view.

Sources: BlackRock Investment Institute, with data from Refinitiv. Data as of July 2023. Notes: The "risks" column lists the 10 key geopolitical risks that we track. The "description" column defines each risk. "Market attention" is a graphical snapshot of recent movement in the BlackRock Geopolitical Risk Indicator (BGRI) for each risk. The BGRI measures the degree of the market's attention to each risk, as reflected in brokerage reports and financial media. See the "how it works" section on p.7 for details. The table is sorted by the "Likelihood" column which represents our fundamental assessment, based on BlackRock's subject matter experts, of the probability that each risk will be realized – either low, medium or high – in the near term. The "our view" column represents BlackRock's most recent view on developments related to each risk. This is not intended to be a forecast of future events or a guarantee of future results. This information should not be relied upon by the reader as research or investment advice regarding any funds or security in particular. Individual portfolio managers for BlackRock may have opinions and/or make investment decisions that may, in certain respects, not be consistent with the information contained herein.

Geopolitical risk framework

BlackRock Geopolitical Risk Indicator



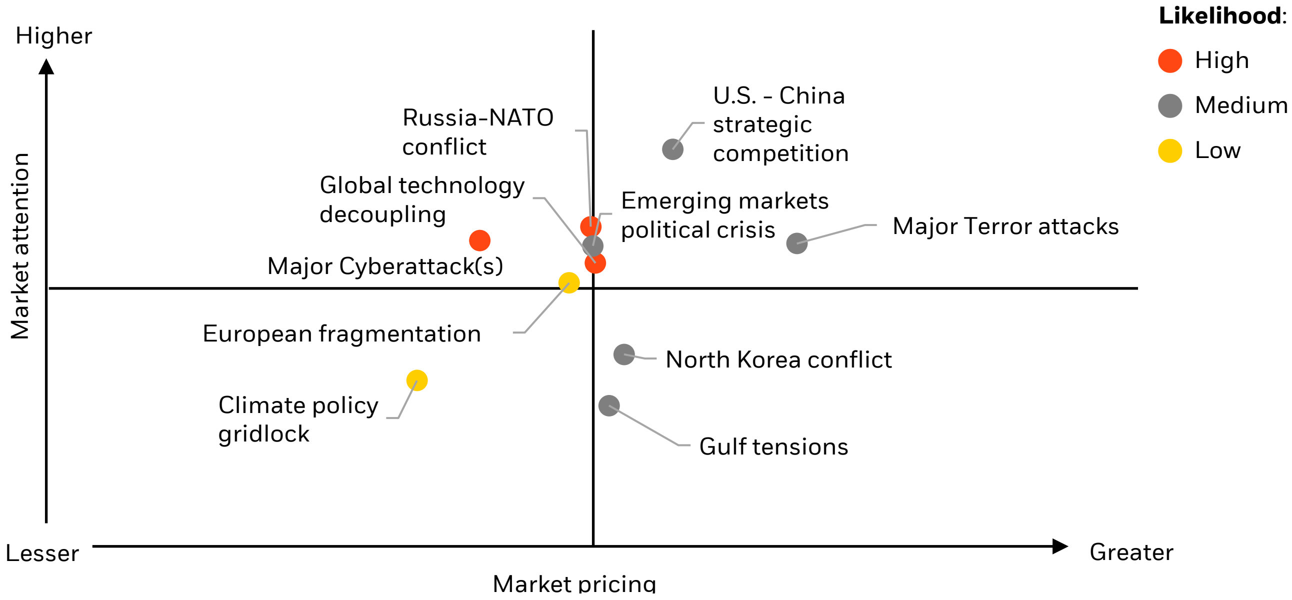
Forward-looking estimates may not come to pass. Source: BlackRock Investment Institute. July 2023. Notes: The BlackRock Geopolitical Risk Indicator (BGRI) tracks the relative frequency of brokerage reports (via Refinitiv) and financial news stories (Dow Jones News) associated with specific geopolitical risks. We adjust for whether the sentiment in the text of articles is positive or negative, and then assign a score. This score reflects the level of market attention to each risk versus a 5-year history. We assign a heavier weight to brokerage reports than other media sources since we want to measure the market's attention to any particular risk, not the public's.

The BlackRock Geopolitical Risk Indicator aims to capture overall market attention to geopolitical risks, as the line chart shows. The indicator is a simple average of our top-10 risks. The indicator has declined from its 2022 highs and sits just above its historical average. Across our top-10 risks, markets are most focused on *U.S.-China strategic competition.*

We keep our *U.S.-China strategic competition* risk rating at a high level and see any potential thaw in the relationship as fragile. We maintain a high likelihood of *Gulf tensions* amid the persistent threat of military confrontation over Iran – though recent developments have reduced frictions among the key players. Market attention to *Gulf tensions* and *North Korea conflict* is low. These risks could have an outsized impact on markets if they come to fruition.

Risk map

BlackRock Geopolitical market attention, market movement and likelihood



Forward-looking estimates may not come to pass. Source: BlackRock Investment Institute. July 2023. Notes: The vertical axis depicts the market attention to each of our top-10 risks, as reflected in brokerage reports and financial media and measured by the BlackRock Geopolitical Risk Index (BGRI). The horizontal axis shows our estimate of the degree to which asset prices have moved in accordance with our risk scenarios (horizontal axis). See the "How it works" section on p.7 for details. The color of the dots indicates our fundamental assessment of the relative likelihood of the risk – low, medium or high, as per the legend. Some of the scenarios we envision do not have precedents – or only imperfect ones. The scenarios are for illustrative purposes only and do not reflect all possible outcomes as geopolitical risks are ever-evolving. The chart is meant for illustrative purposes only. This material represents an assessment of the market environment at a specific time and is not intended to be a forecast of future events or a guarantee of future results. This information should not be relied upon by the reader as research or investment advice regarding any funds, strategy or security in particular.

Key scenario variables

How to gauge the potential market impact of each of our top-10 risks? We have identified three key "scenario variables" for each – or assets that we believe would be most sensitive to a realization of that risk. The chart below shows the direction of our assumed price impact.

Geopolitical risk	Asset	Direction of assumed price impact
U.S.-China strategic competition	Taiwanese dollar	▼
	Taiwanese equities	▼
	China high yield	▼
Russia-NATO conflict	Russian equities	▼
	Russian ruble	▼
	Brent crude oil	▲
Major cyber attack(s)	U.S. high yield utilities	▼
	U.S. dollar	▲
	U.S. utilities sector	▼
Global technology decoupling	Chinese yuan	▼
	U.S. investment grade	▼
	Asia ex-Japan electrical	▼
Gulf tensions	Brent crude oil	▲
	VIX volatility index	▲
	U.S. high yield credit	▼
Major terror attack(s)	Germany 10-year government bond	▲
	Japanese yen	▲
	Europe airlines sector	▼
Emerging markets political crisis	Latin America consumer staples sector	▲
	Emerging vs. developed equities	▼
	Brazil debt	▼
North Korea conflict	Japanese yen	▲
	South Korean won	▼
	South Korean equities	▼
Climate policy gridlock	U.S. building products sector	▼
	U.S. construction materials sector	▼
	U.S. utilities sector	▲
European fragmentation	Italy 10-year government debt	▼
	EMEA hotels and leisure	▼
	Russian rouble	▼

Source: BlackRock Investment Institute, with data from BlackRock's Aladdin Portfolio Risk Tools application, July 2023. Notes: The table depicts the three assets that we see as key variables for each of our top-10 geopolitical risks – as well as the direction of the assumed shocks for each in the event of the risk materializing. The up arrow indicates a rise in prices (corresponding to a decline in yields for bonds); the down arrow indicates a fall in prices. Our analysis is based on similar historical events and current market conditions such as volatility and cross-asset correlations. See the "implied stress testing framework" section of the 2018 paper Market-Driven Scenarios: An Approach for Plausible Scenario Construction for details. For illustrative purposes only. The scenarios are for illustrative purposes only and do not reflect all possible outcomes as geopolitical risks are ever-evolving. This material represents an assessment of the market environment at a specific time and is not intended to be a forecast of future events or a guarantee of future results. This information should not be relied upon by the reader as research or investment advice regarding any funds, strategy or security in particular.

How it works

The quantitative components of our geopolitical risk dashboard incorporate two different measures of risk: the first based on the market attention to risk events, the second on the market movement related to these events.

Market attention

The BlackRock Geopolitical Risk Indicator (BGRI) tracks the relative frequency of brokerage reports (via Refinitiv) and financial news stories (Dow Jones News) associated with specific geopolitical risks. We adjust for whether the sentiment in the text of articles is positive or negative, and then assign a score. This score reflects the level of market attention to each risk versus a five-year history. We use a shorter historical window for our COVID-19 risk due to its limited age. We assign a heavier weight to brokerage reports than other media sources since we want to measure the market's attention to any particular risk, not the public's.

Our updated methodology improves upon traditional "text mining" approaches that search articles for predetermined key words associated with each risk. Instead, we take a big data approach based on machine-learning. Huge advances in computing power now make it possible to use language models based on neural networks. These help us sift through vast data sets to estimate the relevance of every sentence in an article to the geopolitical risks we measure.

How does it work? First we augment a pre-trained language model with broad geopolitical content and articles representative of each individual risk we track. The fine-tuned language model then focuses on two tasks when trawling though millions of brokerage reports and financial news stories:

- classifying the relevance of each sentence to the individual geopolitical risk to generate an attention score
- classifying the sentiment of each sentence to produce a sentiment score

The attention and sentiment scores are aggregated to produce a composite geopolitical risk score. A zero score represents the average BGRI level over its history. A score of one means the BGRI level is one standard deviation above its historical average, implying above-average market attention to the risk. We weigh recent readings more heavily in calculating the average. The level of the BGRIs changes slowly over time even if market attention remains constant. This is to reflect the concept that a consistently high level of market attention eventually becomes "normal."

Our language model helps provide more nuanced analysis of the relevance of a given article than traditional methods would allow. Example: Consider an analyst report with boilerplate language at the end listing a variety of different geopolitical risks. A simple keyword-based approach may suggest the article is more relevant than it really is; our new machine learning approach seeks to do a better job at adjusting for the context of the sentences – and determining their true relevance to the risk at hand.

Market movement

In the market movement measure, we use Market-Driven Scenarios (MDS) associated with each geopolitical risk event as a baseline for how market prices would respond to the realization of the risk event.

Our MDS framework forms the basis for our scenarios and estimates of their potential one-month impact on global assets. The first step is a precise definition of our scenarios – and well-defined catalysts (or escalation triggers) for their occurrence. We then use an econometric framework to translate the various scenario outcomes into plausible shocks to a global set of market indexes and risk factors.

The size of the shocks is calibrated by various techniques, including analysis of historical periods that resemble the risk scenario. Recent historical parallels are assigned greater weight. Some of the scenarios we envision do not have precedents – and many have only imperfect ones. This is why we integrate the views of BlackRock's experts in geopolitical risk, portfolio management, and Risk and Quantitative Analysis into our framework. See the 2018 paper Market Driven Scenarios: An Approach for Plausible Scenario Construction for details. MDS are for illustrative purposes only and do not reflect all possible outcomes as geopolitical risks are ever-evolving.

We then compile a market movement index for each risk.* This is composed of two parts:

1. Similarity: This measures how "similar" the current market environment is to our expectation of what it would look like in the event the particular MDS was realized. We focus on trailing one-month returns of the relevant MDS assets.
2. Magnitude: This measures the magnitude of the trailing one-month returns of the relevant MDS assets.

These two measures are combined to create an index that works as follows:

- A value of 1 would means that asset prices reacted in an identical way as our MDS indicated.
- A value of zero would indicate that the pattern of asset prices bears no resemblance at all to what the MDS for a particular risk would indicate.
- A value of -1 would indicate that asset prices are moving in the opposite direction to what the MDS would indicate. Markets are effectively betting against the risk.

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