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703.566.9463

INFO@GLOBALGUARDIAN.COM

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The relative peace and stability that American hegemony fostered after World War II, and especially in the post-Cold War period, is very much over. In 2024, there are more separate conflicts than at any point in history and revisionist countries are banding together in unprecedented ways, ushering in a new

"Consider what is in the realm of possible. Corporate America can sometimes lack imagination, but every possible outcome deserves your consideration — and your preparation."



Dale Buckner, CEO and President, Global Guardian

multipolar era. The stabilizing elements of the international system that have been taken for granted, including American preeminence, freedom of navigation, nuclear non-proliferation, and the use of conflict as a last resort are eroding, quickly. There is no going back to the world of 2019. Amid the tumult, corporations face increased physical, social, and cyber risks from state, non-state, and individual actors.

With this in mind, Global Guardian's Intelligence Analysts highlight several pertinent geopolitical developments to help make sense of the current and future global security picture. The report looks forward, assessing trends within the next twelve to thirty-six months and beyond. Ultimately, the goal of this report is to evaluate emerging risks and their impacts with a focus on how they will shape future safety and security concerns for global businesses and international travelers.

THE TAIWAN "QUARANTINE": TO WIN WITHOUT FIGHTING?

Over the past eight years, the People's Republic of China (PRC or China) has telegraphed the gray zone strategy for the Republic of China (Taiwan) that it will likely continue to pursue over the coming years. All things being equal, China is more likely to achieve its goal of reunification with Taiwan without eliciting a major war than through an invasion. While less disruptive than a traditional conflict, a blockade or embargo of Taiwan would have dire ramifications for supply chains and the global economy.

Taiwan is of paramount political and strategic importance to the Chinese Communist Party (CCP) and its leader, Xi Jinping. The CCP seeks to reunify with Taiwan ahead of 2049, modern China's centennial birthday and the hundredth anniversary of the end of the Chinese Civil War, which ended when the CCP expelled the nationalist Kuomintang (KMT). Beijing believes that Taiwan should be reunified with the Chinese mainland, ideally peacefully, though it does not rule out force. However, while previous CCP leaders implied a certain patience regarding reunification — partially due to their military and internal political constraints — President Xi is more assertive in his rhetoric, and unlike his predecessors, he has yet to secure a historic policy victory to cement his legacy. Taiwan — and its political and geostrategic dividends — is now in Xi's sights.

Following the 2019 protests against Beijing's increased control over Hong Kong, the prospects of a peaceful reunification of Taiwan with the mainland are dim. Today, little more than 10% of the Taiwanese population want to unify with China, and a small but growing proportion of the population would like full independence, a red line for the CCP. Beijing has made it clear it is willing to use force to bring Taiwan under its control. The window for forcible integration of Taiwan is open, but it will start to close at the end of the decade. The United States (U.S.) military estimates that the People's Liberation Army (PLA) will be militarily ready to invade Taiwan by 2027. Between the January 2024 election of William Lai as Taiwan's President, and the upcoming 2024 U.S. presidential election where we expect both presidential candidates will likely spar over who is "tougher on China," tensions are set to increase. The window for Chinese reunification is closing but there are many avenues for Beijing to hasten its timeline.

TO INVADE OR BLOCKADE, 'TIS THE QUESTION?

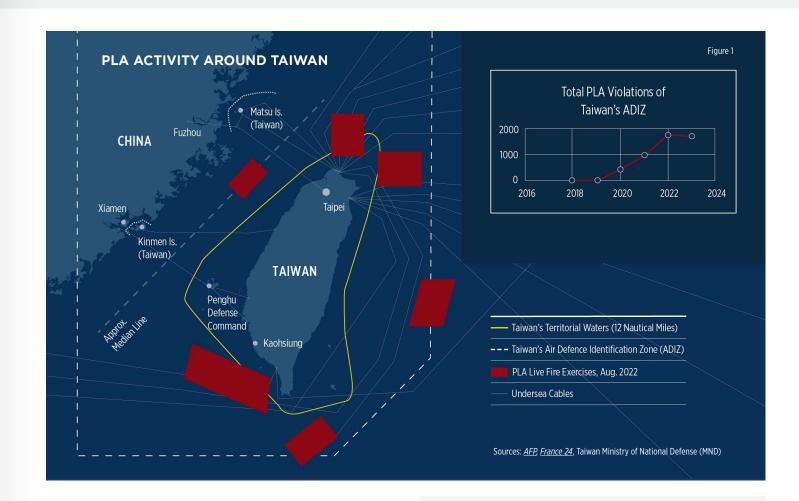
A full-scale invasion of Taiwan by China would be a risky endeavor and require extensive military resources. An invasion is not Beijing's first choice. A prolonged

conflict with the United States — the world's strongest military and nuclear armed power — could pose regime ending economic harm and loss of life. The Taiwan Strait — which separates China from Taiwan — spans 145 kilometers (90 miles) and is prone to extreme weather and monsoons for much of the year. Seaborne invasions are thus only possible in periods of calm from May to July and in October. Having witnessed the effectiveness of modern area denial weapons and sea drones in Ukraine, a Chinese invasion, while practicable, would be challenging and risky.

Moving hundreds of thousands of troops across the Taiwan Strait would require weeks and thousands of ships. Each journey across the strait would take several hours, giving Taiwan (and those who come to its defense) time to target the crossing vessels, assemble forces at likely landing areas, and construct defenses. In addition, it would be impossible for the PLA to hide its preparations from satellite reconnaissance. Frequent comparisons of a Taiwan invasion to D-Day fail to mention the latter's impossibility in today's ubiquitous surveillance environment. Forced reunification is the CCP's option of last resort. A costly invasion can only be justified if all other options are exhausted. A better option for reunification plays to China's strengths and Taiwan's weaknesses.

Taiwan, an island nation, is uniquely vulnerable to blockade. Indeed, Taiwan is the <u>sixth</u> most-visited destination for container ships, relying on vital <u>imports</u> to survive: 70% of Taiwan's food, 88% of its <u>energy</u>, and 50% of precursors for locally produced pharmaceuticals are imported. While Taiwan has an estimated food storage capacity of around one million tons and locally produces fruit, vegetables, and rice, it could only <u>subsist</u> for six to 10 months without food imports. Similarly, Taiwan's current energy inventories can only support Taipei's needs for a <u>limited time</u> — five months of oil, 40 days of coal, and 10 days of natural gas.

A formal or *de facto* blockade of Taiwan is the logical continuation of the status quo (figure 1). The costs for Beijing are much lower than going to war and it gives decision makers the ability to calibrate, escalating or deescalating the situation depending on Taipei and Washington's diplomatic and military moves. In turn, a blockade puts China in the driver's seat to control its negotiating position and places the responsibility for escalation on the U.S. or Taiwan. If China can isolate Taiwan and discredit the U.S. security guarantee, then war could be averted. But should circumstances dictate, a blockade could either incrementally or rapidly morph into a full invasion. A hot war between China and a U.S.-led coalition to include Taiwan, Japan, and others would likley follow.



CHINA'S NEXT STEPS

China's policy towards Taiwanese reunification is a carrot and stick approach whereby Beijing rewards Taipei's alignment with economic incentives and more collegial rhetoric, and punishes non-alignment with economic sanctions, military intimidation, and more bellicose rhetoric. The current hung parliament will provide Beijing the ability to carry out both overt and covert destabilization operations to undermine Taiwan's democratic system and harm the ruling Democratic Progressive Party's (DPP) image. China has poor relations with the DPP and incoming President Lai, who Beijing views as a "separatist."

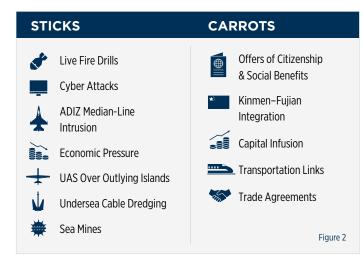
Cross-strait integration and development will be one of the carrots Beijing employs. Known as the "New Four Links" (water, electricity, energy, and bridges), efforts will be made to connect Taiwan's outlying islands in Penghu County, Lienchiang County (Matsu), and Kinmen with Fujian province. In 2021, the National People's Congress unveiled plans to build a bridge and tunnel to Kinmen to be completed by 2035. Given the political preference of its inhabitants — only 10% voted DPP — Kinmen will be the place China tries to "legally" create a fifth column in Taiwan.

GRAY ZONE OPERATIONS

Gray zone operations are military actions that lie in the space between non-belligerence and open kinetic war, designed to achieve a particular political end. The purpose of gray zone warfare is to erode the status quo and create a legal or military *fait accompli* without risking a direct military confrontation. This strategy involves a long-term and incremental joint, military, political, psychological, economic, and diplomatic coercion campaign of escalation designed to attrit an opponent's will, resolve, and resources. The belligerent can maintain a degree of deniability without crossing the threshold of open war.

In terms of sticks, China will continue its gray zone warfare: live fire drills with PLA Navy (PLAN) warships encircling the island, cyberattacks on government websites and financial institutions, manned and unmanned overflights of Taiwan's Air Defense Identification Zone (ADIZ), and covert attacks on undersea cables (figure 2).

The logical conclusion of China's carrots and sticks strategy is to set the stage for a formal or informal blockade. There are four possible scenarios that naturally flow from one to the next.



BLOCKADE SCENARIOS

GRAY ZONE EMBARGO:

A gray zone embargo represents a continuation of the status quo. China boasts the world's largest coast guard, the Chinese Coast Guard (CCG), and the Chinese Maritime Militia (CMM) that commands over 1000 vessels, which acts as its gray zone fleet. In this scenario, China would use a combination of kinetic and non-kinetic means to create uncertainty, promote its psychological warfare campaign against Taiwan, and to drive a wedge into the U.S.-led security architecture of the Asia-Pacific region. Here, the CMM would sporadically cut undersea cables (never more than a few at a time); the PLA would conduct live fire drills more frequently, closing off Taiwan's airspace and sea lanes for longer and longer durations; and the CCG would sporadically and arbitrarily start to harass Taiwan-bound merchant ships. In turn, this would create political pressure within Taiwan, spook investors, and drive risk premiums up. By leveraging economics and Taiwanese domestic politics in this way, China could both further isolate Taipei and promote divestment away from Taiwan. In doing so, Beijing could better control the Taiwanese political discourse in favor of reunification.

QUARANTINE:

In a "quarantine" scenario, the CGC or CMM would inspect merchant ships leaving or entering Taiwan or force them to divert to the mainland. The goal here would not be to lay siege and prevent food and other critical supplies

from entering Taiwan, rather it would demonstrate to both Taiwan and the international community that China maintains sovereignty over Taiwanese territory. Beijing could call this embargo a quarantine and convey its "peaceful" intent to block movement of certain "contraband" products — ostensibly weapons but it could search and seize anything — rather than implement a blockade, a *casus belli* for war.

China would frame this activity as a police action to prevent a domestic "rebellion," leveraging its ties to the Global South and United Nations Security Council (UNSC) membership to shield it from blowback at intergovernmental fora. The CMM would also destroy some of the undersea cables with fishing nets "accidentally" to slowly throttle Taiwan's communication access in an incremental fashion. The PLAN could also lay sea mines in certain corridors to channel traffic into areas for interdiction with the additional benefit of raising risk premiums on goods to Taiwan.

BLOCKADE:

This scenario is one rung above the embargo on the escalation ladder and would leverage the CMM, CCG, and possibly the PLAN, to interdict all inbound shipping to Taiwan. The goal would be to erode Taiwanese and Western resolve to combat the blockade. A blockade would act as the next step following a quarantine and could follow the pretense of military materials or dual-use materials being found on Taiwan-destined shipments.

KINETIC BLOCKADE:

The kinetic option, a *prima facie* act of war, would be the most escalatory option, and the likeliest to lead to war. In the scenario, the PRC would declare a formal blockade, deploy sea mines, and attack any merchant ship bound for Taiwan. A kinetic blockade could induce the U.S. — and its partners to include Japan and others — to "break" the blockade with freedom of navigation missions that could lead to a high-stakes game of chicken that would force China to fire on an American vessel to maintain the blockade. The economic consequences of any of the above scenarios would be global and severe.

A MAJOR SHOCK

Taiwan is the most important node of the strategically and economically critical semiconductor supply chain. Taiwan holds a 20% share of global semiconductor fabrication (production) capacity, 37% of the world's logic chip fabrication, and 92% of the world's advanced logic chip production capacity. Even a partial blockade would have dire effects on semiconductors given the vast number of inputs required for production and the world's dependance on cutting-edge chips. When Taiwanese and Chinese outputs are combined, they produce 31% and 23% of the world's computer and electronics and electrical equipment

respectively. The Institute for Economics and Peace conservatively <u>estimates</u> that a Chinese blockade of Taiwan would lead to a drop in global economic output of USD \$2.7 trillion in the first year, amounting to a 2.8% decline in global GDP. Similarly, Bloomberg's model — which shares assumptions with the kinetic blockade scenario — <u>predicts</u> that a blockade would lead to a global GDP contraction of 5%, with U.S. GDP dropping by 3.3%, Taiwan by 12.2% and China by 8.9%.

The Taiwan Strait is one of the most vital shipping lanes on the planet, acting as the main artery for trade originating from East Asia. Half the world's container ships and 80% of large container ships pass through the strait, which is home to China's largest ports: Shanghai, Dalian, and Tianjin. Regardless of the tightness of the blockade and the Western policy response, two of the second-order effects are certain: the blows to both trade finance and to insurance risk premiums.

Financial institutions annually provide between six to eight trillion dollars in trade finance to exporters and importers around the world. Following a blockade, these institutions would be wary of exposure to lending projects in East and Southeast Asia, as blockade-related shipping delays could lead to defaults by importers and exporters. In the case of a blockade, vessels may need to divert around the eastern side of Formosa (Taiwan's main island) rather than through the strait resulting in delays. After the Chinese military closed off six zones in the Taiwan Strait in August 2022, the number of ships operating there decreased from about 250 per day to just 15-20 ships. To compound these increased costs, trade insurance premiums would skyrocket fearing exposure to war risks and the risk of being caught up in Western sanctions. Bottom line, financing and insuring goods transiting the Strait will be very difficult and expensive to substitute should China blockade Taiwan.

Finally, Taiwan functions as a key node in the Asia-Pacific communications system with 14 undersea cables linking Taiwan to the global communications architecture. Undersea cables either originating in or passing through Taiwan connect the countries in the region to the internet (figure 3). The Strait of Luzon (between Taiwan and the Philippines) is the third most important data

GLOBAL IMPACT OF A BLOCKADE



ELECTRONICS

- Microchips
- Consumer electronics
- Automotive
- Defense/aerospace



SHIPPING

- Trade finance
- Insurance risk premiums
- Delays



COMMUNICATIONS

Undersea Cables Link Taiwan To: China, Japan, Malaysia, South Korea, Singapore, Taiwan, Philippines, Guam, U.S., Thailand, Vietnam, and the SeaMeWe-3 cable which connects the Asia Pacific to Europe

Figure 3

highway on the planet after Egypt and the Malacca Strait. The cutting or damaging of these lines could cause serious communication disruptions in other countries in the region, especially in countries where telecom ownership is a monopoly. The private companies that service these cables would be loath to stand up to Chinese authorities to fix the cables and risk sanction or direct confrontation. So once disrupted, these lines would probably not be repaired until the conclusion of a blockade.

KEY TAKEAWAYS

Taiwan is the epicenter of Cold War 2.0. and the window for Chinese reunification is now open. While an invasion is possible, a blockade is the most likely method Beijing will deploy to wrest control of Taiwan. A blockade is the natural progression of the status quo and it would provide Beijing many ways to escalate at a pace of its choosing. Depending on a blockade's reception, it could also be a precursor to an invasion of Taiwan. From communications to trade, a blockade of Taiwan would be the most impactful event of the century thus far with immense global economic repercussions.

RUSSIAN PMCS POST-WAGNER



Yevgeny Prigozhin's 2023 mutiny and subsequent death have led to a reshuffling of — but not an end to — Russia's use of quasi-state actors like the Wagner Group to conduct destabilizing gray zone operations abroad. Other Russian private military corporations (PMCs), backed by various oligarchs, have now stepped into the post-Prigozhin gap to assimilate some of Wagner's considerable assets in Africa, albeit under more direct control of the Kremlin. Russian influence operations organized along the model of Wagner's activities in Africa threaten to continue into Latin America, the Balkans, and Southeast Asia. The Russian "PMC Model" threatens international corporations everywhere it is applied, with firms in the extractive sectors most at risk.

The Wagner Group (WG) rose to prominence in 2014 during Russia's initial invasion of Ukraine, facilitating the formation of "indigenous" anti-Ukrainian paramilitary groups in the Donbass. In Africa, the group developed an effective "regime security for resources" scheme. But the group is perhaps best known for its former leader Yevgeny Prigozhin's public feud with Ministry of Defense (MoD) leaders Shoigu and Gerasimov. The feud between MoD leadership and Prigozhin culminated in the latter's failed mutiny in June 2023 and his subsequent assassination in August 2023. This episode led to questions of Putin's control and

doubts surrounding the future efficacy of such PMC-led gray zone operations. In the aftermath of Prigozhin's death, the Kremlin has assumed more direct control of Wagner's operations in Africa and ushered in a new era of state-directed PMC activity in areas of Russian interest abroad.

RUSSIA IN AFRICA: CAR CASE STUDY

In its increasingly isolated international position, Moscow needs Africa and its resources more than ever. The main service the Kremlin has to offer would-be partners is what Russia is best positioned to provide: regime stability by any means. Russian fighters are involved in counterinsurgency, anti-rebel, and security activity in the Central African Republic (CAR), Mali, Libya, Mozambique, and Sudan. Russian PMCs, including Wagner, have also conducted political and commercial operations in Burkina Faso, Cameroon, Madagascar, and Zimbabwe. Russia's activities in CAR best encapsulate the Russian PMC model.

In 2018, Wagner fighters made their first appearance in CAR as military instructors alongside Russian weapons shipments (figure 4). In late 2020, as a coalition of

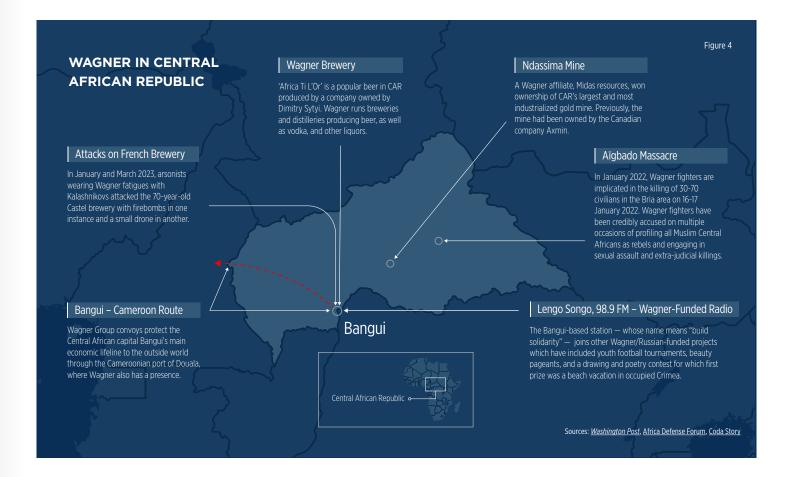
rebel factions launched an offensive during elections, Russia's posture in CAR changed dramatically. Wagner's mission switched from advisory to direct combat. The Central African government forces managed to repel the rebel advance with Wagner's aid and Faustin-Archange Touadéra subsequently won reelection in 2021.

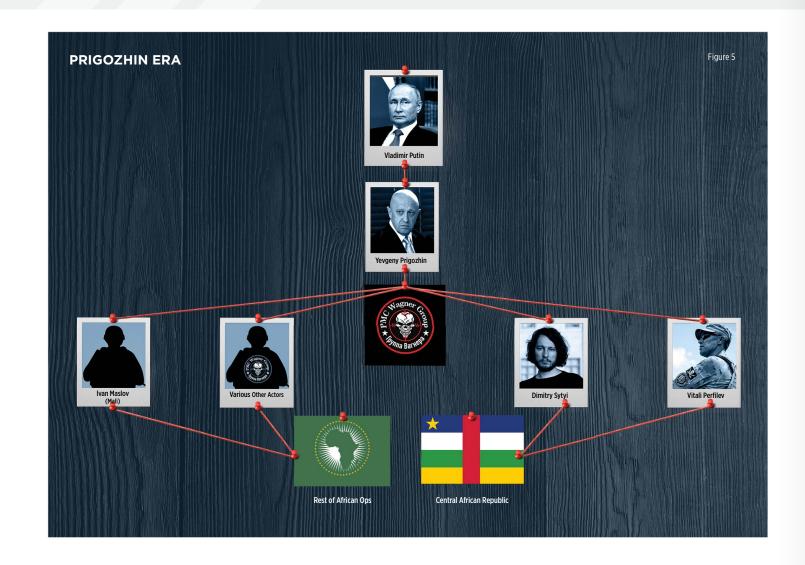
With the aid of Wagner, Touadéra's government has since slid precipitously towards authoritarianism. Wagner operatives provide security for high-ranking officials in the Touadéra regime. Central African soldiers trained by Wagner even wear the WG skull insignia on their uniforms. Wagner Group convoys protect the Central African capital Bangui's main economic lifeline to the outside world through Cameroon.

In exchange for securing Touadéra's power, Wagner (and Russia) were renumerated with resources and influence. A Wagner affiliate, Midas Resources, won ownership of CAR's largest gold mine, which, prior to violence in 2013, was legally controlled by the Canadian company Axmin. The First Industrial Company, another Wagner enterprise, runs breweries and distilleries that sell beer, vodka,

and other liquors. Wagner also started a radio station, newspapers, and at least one Orthodox church. Wagner officials also enjoy high-ranking posts in CAR with offices in the Presidential Palace. In the case of Dimitry Sytyi — the once-head of Wagner's civilian operations and propaganda in CAR — Touadéra's confidence may have saved him from being ousted along with former Wagner military chief for the country, Vitali Perfilev.

Wagner's rregime-security-for-resources scheme in CAR is part of a more extensive model that Russia uses across the continent, and indeed the world. Many of the countries that host Wagner and other Russian PMCs are ruled by regimes whose primary concern is maintaining power in the midst of armed insurgencies, ethno-religious conflict, and chronic instability. The combination of fragile states and abundant resources grants the Kremlin access to its needs in exchange for its comparative advantage: the means to repress. The guiding issue for Russia in pursuing foreign influence is not engendering stability, but rather managing instability, both abroad, and at home.





RUSSIAN PMC MODEL POST-PRIGOZHIN

While Prigozhin's near-exclusive control (figure 5) of Wagner's regime securing operations returned dividends abroad, it manifested in acute, regime-threatening instability at home. Prigozhin fell out of favor, but Wagner's institutional knowledge of, and dealings in, Africa did not. The Kremlin has instead dissolved and integrated Wagner into a new network (figure 6) of PMCs and holding companies under the control of Russia's military intelligence agency (GRU). The new system, rebranded as the Africa Corps headed by Deputy Defense Minister Yunus-Bek Yevkurov, was announced on an MoD-associated Telegram channel, as well as on Rossiya 1, a Russian public broadcast channel.

For Yevkurov, the task of bringing Wagner to heel is likely personal, following his detention and public humiliation by Prigozhin during his June 24 seizure of Rostov-on-Don. Under Yevkurov, the new acting chief of African operations is Andrei Averyanov, the former head of GRU covert ops. He is the man responsible

for the 2018 botched assassination attempt on Sergei Skripal, a Russian defector in Salsbury, England. Averyanov now oversees a cast of GRU and foreign intelligence (SVR) officers (including Sytyi's new boss in CAR, SVR officer Denis Pavlov), as well as an opaque set of PMCs. These groups — of which the most visible are the PMCs Redut and Konvoy — act as a middle ground between Wagner Group's autonomy and deniability, and the more accountable structures of the GRU and SVR.

However, the line obfuscating the GRU's direction of these PMCs is thin. Redut, led by former paratrooper Konstantin Mirzayants, presents itself as a PMC of the same character as WG. However, its units operate under GRU officers, and its funding comes from close associates of Putin. Fighters recruited to the organization sign contracts with Redut, but in multiple cases <u>documented by Ukrainian intelligence</u>, captured Redut fighters reported that they had been assigned to existing military units and paid by the MoD. Family members seeking benefits on behalf of a Redut fighter killed in Ukraine published letters they received from the Russian government asserting that no such legal entity as Redut exists within Russia,



Sources: <u>Africa Report, Le Monde</u>, <u>All Eyes on Wagner</u>, <u>Dossier Center</u>

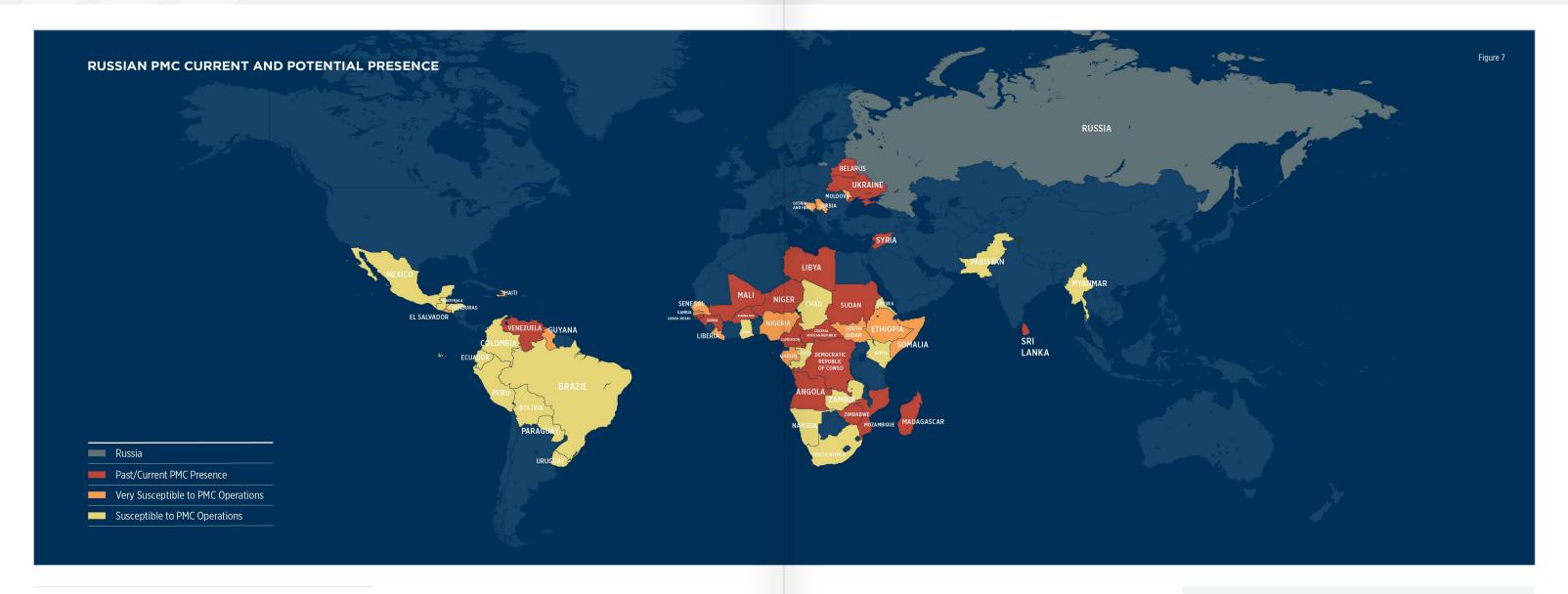
despite the dead soldier in question having received the state award of the Order of Courage from the MoD.

Redut's origins trace back to 2008 when the group was founded by oligarch, close associate of Putin and ex-KGB operative, Gennady Timchenko, to guard his Middle Eastern assets. Redut is also associated with, and likely receives funding through, the Russian aluminum magnate and oligarch Oleg Deripaska. Deripaska, another close associate of Putin, was sanctioned by the United States (U.S.) in 2018 for interference in the 2016 election and was found in court to have successfully recruited an FBI counterintelligence agent to help him and his associates evade sanctions.

Konvoy PMC shows similar signs of acting, principally, as a front for MoD and GRU operations. Konvoy's founder and leader, Konstantin Pikalov, was a Cossack activist and worked in private security prior to the invasion of Ukraine. In July of 2018, Pikalov entered the Central African Republic as a Wagner security instructor.

Correspondence shows that he had a multi-year relationship with military translator and GRU operative Stanislav Poluzanov. Though Pikalov had registered multiple iterations of Konvoy as a private security company without significant success prior to the war in Ukraine, in the fall of 2022, as the manpower crunch began to set in for Russia, Konvoy began receiving substantial sums of money from Putin's childhood friend, judo partner, and oligarch, Arkady Rotenberg.

By institutionalizing the African operations under the MoD but retaining aspects of Wagner's opaque structure through Redut and Konvoy, the Russian state can maintain some deniability but assert much greater control. Most importantly, no single actor currently could hold the African operations hostage as Prigozhin did. Far from representing a departure from the Wagner model of operation, the new Africa Corps system has given the Russian PMC model new longevity, threatening to extend it to places as of yet unaffected by the Russian quasi-State influence model.



NEW FRONTIERS

Many of the conditions that make Africa attractive for PMC operations exist across several other contentious regions of the world (figure 7). As the gulf between Russia and the international community widens, Moscow may search further afield for the resources and influence it needs to sustain its struggle against the U.S.-led international order. Critically, these operations do not need to succeed in bringing Russia either material or direct influence in order to achieve Moscow's goal. A successful gray zone operation, for Russia, is any action that degrades the global stability that acts as the liberal order's main source of legitimacy. The more Russia can chip away at the public goods the liberal order provides, the more it can exploit legitimate grievances in pursuit of its ends. The new frontiers that Russia may seek to explore with its GRU-PMC model are areas where democracy, stability, and internationalism are already on the back-foot.

In Southeast Asia, Myanmar's regime is on its back-foot as a confederation of democratically inclined ethnic armed groups and anti-junta forces gains ground in the country's long-standing civil war. With large natural gas reserves and a strategic Indian Sea port, Myanmar would represent a critical foothold in Southeast Asia for Russia, allowing it to secure trade with its main strategic partner, China.

In Latin America, Russian information operations have found fertile ground. Of all the Latin American countries, only Costa Rica has supported the United States' efforts to sanction Russia. Russian PMC's have had a direct presence in Venezuela since 2019 when Wagner was enlisted to provide security for President Maduro during contested elections. And Maduro directly alluded to Vladimir Putin's goal of a "multi-polar world" when he proposed the formation of a Latin American bloc to mitigate U.S. influence. The region, similar to Africa, hosts a large extractive sector, anti-Western sentiment, and multiple ongoing decades-long armed conflicts.

In the Balkans, Russia's historical friendship with Serbia has been strengthened under the Serbia's far-right president Aleksandr Vucic. In 2016, a GRU unit headed by current Africa chief Andrey Averyanov and a crew of Serbian nationalists attempted coup in Montenegro to prevent that country from joining NATO. Then in June 2023, Serbian nationalists directly attacked NATO peacekeepers in Mitrovica, Northern Kosovo. In September 2023, Serbian militants attacked Kosovar policemen in a siege on a monastery. And in November 2023, the Bosnian Ministry of Defense claimed to have evidence of Russian paramilitaries training Serbian nationalists in Republika Srpska, a breakaway component of Bosnia and Herzegovina. Currently, Serbia's president Vucic is facing popular opposition for a rigged election. Russian media have already labeled it a "new Maidan" in reference to Ukraine's 2014 revolution, opening the door for increased destabilization operations to undermine Kosovo, a NATO member.

KEY TAKEAWAYS

The Russian PMC model did not die with Prigozhin. The corrective measures that Putin and the Kremlin have taken in response to Prigozhin's mutiny have made Russian gray zone operations more robust, and more reliable for its authoritarian partners in the Global South. As demonstrated by attacks on French companies in CAR, not only Western governments, but Western citizens and corporations are in danger of being targeted by Russian PMCs in countries where they operate. Russian private military corporations are just one example of the multitude of state-backed threats facing companies. As the commercialization of conflict continues, the risk of unfair competition, lawfare, and IP theft grows.

THE AIR DEFENSE PROBLEM

Access to efficient standoff fires is lowering the cost of offensive actions for a wide range of actors, increasing geopolitical instability. The proliferation of drones, rockets, missiles, and other stand-off fires is currently precipitating conflict by granting state and non-state actors alike access to effective low-cost offensive capabilities. The current systems available to counter such attacks impose lose-lose trade-offs on defenders forced to pick between protection and cost as seen in Ukraine, the Caucuses, and throughout the Middle East.

THE NEW ERA OF STANDOFF FIRES

Standoff weapons encompass a wide variety of systems principally defined by their user's ability to avoid reciprocation. These systems conditionally defy the precept that targets that can be engaged can engage back. In previous eras of warfare, standoff fires were limited to long-range, ground-based fires and munitions delivered via expensive airframes. Today's era is defined, instead, by the availability of difficult-to-detect and easily replaced drones, rockets, and missiles. These allow actors to pursue offensive actions across a broad range of escalation levels without risking a prohibitive amount of blood or treasure.

In the late twentieth century, conducting a successful offensive action required either a willingness and ability to sustain heavy casualties, or an ability to invest in casualty reducing standoff fires. An offensive-minded small state could only invest in an air force at the expense of its ground forces. A defensive-minded-state could mitigate or negate the effectiveness of the offensive state's air force through relatively cost-effective anti-air assets and could instead, invest the resources it saved on ground capabilities.

Now, the dynamic is reversed. In the twenty first century, advanced standoff capability — the ability to reliably hit an enemy, regardless of their air defense (AD) capacity or distance from the attacker's territory — has been democratized. Previously, other state and non-state actors could only partake in offensive actions in their immediate vacinity with ground forces. States lacking first-tier militaries were also deterred from actions that might incur a great power intervention. But now, many state and non-state actors can reliably hit targets from a distance via drones, rockets, and missiles. In addition, many actors can now overwhelm air defenses through volume — a tactic called "saturation" — allowing them to pursue aggressive action in their immediate surroundings.

ACCESSIBLE AIR CAMPAIGNS

The 1991-1994 First Nagorno Karabakh War between Azerbaijan and Armenia resulted in an Armenian victory after six years of fighting despite Azerbaijan's more advanced airframes. In the 2020 Second Nagorno Karabakh War, however, Azerbaijan won a decisive victory in just 44 days after achieving effective air superiority through drones.

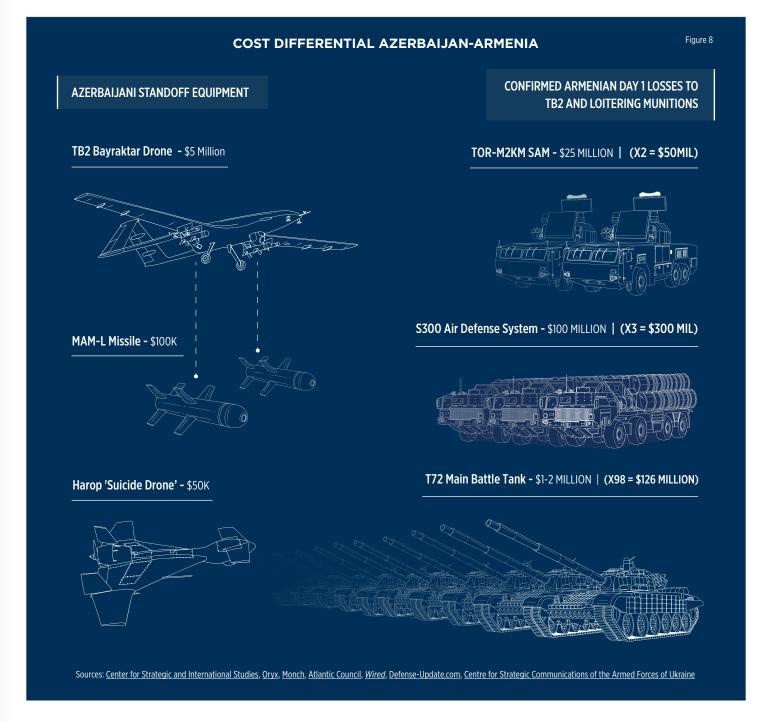
Azerbaijan identified Armenian air defenses by flying modified 70-year old AN-2 biplane decoys (>USD \$100 thousand) over Armenian positions to reveal their AD assets for subsequent targeting by Israeli-made "suicide drones" (USD \$50 thousand - USD \$100 thousand). With free reign of the airspace, Azerbaijan then employed reusable Turkish TB-2 Bayraktar drones (USD \$5 million) to destroy high value and hardened targets. The relatively low cost of Azerbaijani drone operations is contextualized by the scale of Armenian losses (figure 8). Armenian forces lost more than USD \$907,445,000 worth of equipment to drones alone on the first day of the conflict.

By investing in standoff fires, Azerbaijan inflicted a decisive defeat on a peer-level competitor, achieved its territorial objective, and lost relatively little in terms of men and material. In the early 1990s, it took Armenia four years to capture Nagorno Karabakh at the cost of 6,000 dead and 20,000 wounded.

THE COST OF DOING BUSINESS

Azerbaijan's use of cost-effective standoff fires to achieve tactical success in support of its territorial goals demonstrates the changing cost-benefit analysis of aggression for state actors. But the cost-effectiveness of these fires makes them strategically valuable even if their use is not tactically successful. If the one-sidedness of the 2020 Nagorno Karabakh war exemplifies the offensive potential of disparity of fires, Ukraine shows that parity of fires does not constitute a strategic defense.

Despite both Russia and Ukraine having top-tier air defense systems, neither has been able to prevent the other from conducting long-range strikes into their territory. The fact that Russia routinely hits Ukrainian population centers and energy infrastructure does not prevent Ukraine from striking back, sometimes deep inside Russian territory.



Standoff fires afford the attacker a substantial ability to influence the defender's action by forcing them into a series of lose-lose choices. Russia's use of Shahed-131/136 drones, for example, puts Ukraine in a no-win situation economically. The Shaheds used by Russia cost roughly USD \$50 thousand each. The most reliable interceptor available to Ukraine to destroy a Shahed, an S300

missile, costs roughly USD \$1 million. But if Ukraine chooses not to intercept the Shahed, it could go on to damage or destroy any number of targets more valuable than the interceptor, not least of which the S300 launcher, costing roughly USD \$100 million. Regardless of their choice, the Ukrainians are frequently forced into an equipment exchange loss of USD \$950 thousand or more.

Similarly, Hamas forces Israel into a situation where a successful interception still constitutes a strategic loss. Though the munitions used by Hamas vary in design and capability, a typical rocket Hamas fires at Israel has an estimated cost of just USD \$600. In comparison Israel's interceptors — excluding the associated costs of the radar arrays, guidance computers, and other infrastructure that comprise the Iron Dome system — cost USD \$60 thousand a piece (figure 9). In a situation where the Iron Dome is 100% effective (it is typically north of 90% effective), the exchange of value is 100 to 1 in Hamas' favor.

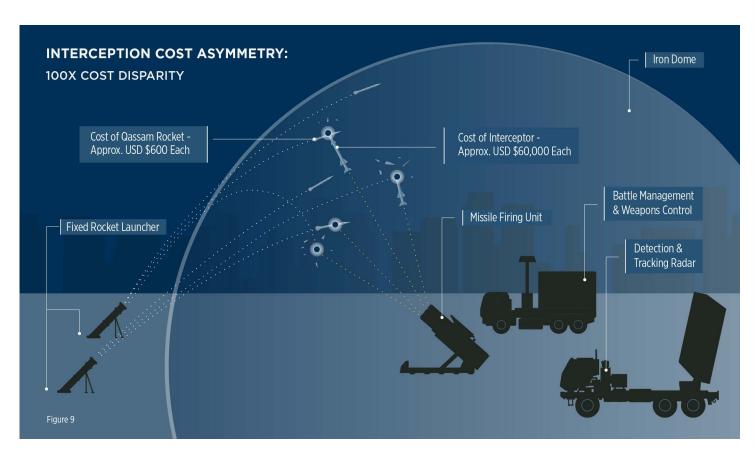
DETERRING DETERRENCE

Prior to the proliferation of standoff munitions, non-state actors like Hamas had limited options for successfully attacking a stronger force. The issue for Hamas was getting close enough to Israeli targets to hit them without getting hit first. Through rocket and missile attacks — in addition to other unconventional means — they were able to force interventions onto territory they control in Gaza where they can use their "home-field advantage" to incur losses on Israeli forces.

While standoff fires — or even the threat of standoff fires — can force an intervention, they can also deter one. The People's Republic of China has a long-

standing and publicly stated goal of reunifying with the Republic of China by force, if necessary. The main impediment to China's pursuit of this policy has been the threat of United States (U.S.) intervention on the side of Taiwan. Despite China's proximity to Taiwan and substantial military advantage over Taiwanese forces, the weight of American force projection has given Chinese planners pause for decades. The United States' ability to park its substantial naval forces anywhere in the world has dampened China's "home-field advantage" with regard to Taiwan.

However, in the new era of standoff proliferation, China's substantial stockpile of carrier-killing hypersonic and ballistic missiles has led to new calculations. The Chinese military can now leverage the offensive advantages of standoff munitions to select targets, mass fires, and overcome American interception capabilities. China is in possession of the world's largest intermediate ballistic missile stockpile and has developed the first ever anti-ship ballistic missile. While these missiles are not cheap with costs in the tens of millions of dollars per unit, a U.S. aircraft carrier costs roughly USD \$13 billion. While China may lack the capability to control the sea and airspace necessary for regional aggression, it has invested heavily in anti-access and area denial (A2/AD) capabilities including missiles that could make an American intervention too costly to stomach.



Sources: Center for Strategic and International Studies, University of Colorado

Through standoff munitions designed to deny an intervention force the ability to comfortably intervene, China could deter American deterrence, and free itself room to maneuver in its near abroad. This does not immediately endow China with the ability to attack Taiwan directly with their own force projection — although China does boast three aircraft carriers and a growing amphibious lift capacity — but it does free Beijing's hand to engage in more aggressive blockade actions that may yield the same result.

SOLUTIONS

Defending against contemporary standoff fires poses a twofold problem. On a tactical level, attackers select the time and place allowing them to saturate defenses. Furthermore, due to the relative expense differential between the cost of an interception and the cost of a munition, standoff fires cannot be effectively defended against on a strategic level.

Current interceptors are essentially the same category of device as the munitions they are designed to destroy: missiles to destroy rockets or missiles. As a rule, it is easier for a munition to hit something big, slow, and predictable, like a powerplant or an aircraft carrier, than it is for an effector to hit something small, fast, and unpredictable, like a hypersonic cruise missile.

There are technologies in development that break this rule by changing the delivery method of the destructive payload, for example, making the interceptor into a different category of device from the thing it is intercepting (figure 10). While some are promising, all have their advantages and disadvantages, and none are currently viable in the near term.

DANGER IN THE GAP

Standoff fires in the form of drones, rockets, and missiles have become cheap and plentiful enough that actors previously excluded from their use now have access. The democratization of access to these weapons is having a significant destabilizing effect on global politics by lowering the costs of offensive actions. Hamas is able to hit Israeli population centers; the Houthis can conduct a naval

blockade with no navy; Azerbaijan was able to conduct an American-style air campaign without an American-style air force; and China may be able to deny the U.S. Navy the ability to intervene safely in a potential Taiwan conflagration. The gap between offensive and defensive capacities results in a deterioration of global order observable in the spate of new state and non-state conflicts, from Ukraine, to the Caucuses, to the Middle East.

FUTURE AD TECHNOLOGIES Figure 10 **DIRECTED ENERGY WEAPONS** Pros Use directed lasers to destroy ordnance Infinite ammunition Light speed interception Cons • Ineffective in rain or dust · Requires line of sight RAIL GUNS Pros Use bursts of electromagnetic energy to launch an inert projectile at extreme speed Cost-effective Powerful Cons · Needs a direct hit to work • Rails decay each use **AERIAL MINEFIELDS** Pros Use drones and/or balloons to drop material in path of ordnance Cheap · Reverses cost disparity Cons · Reduces force mobility Requires robust command & control

KEY TAKEAWAYS

Developments in standoff fires represent a disruption to longstanding trends in the disparities between rich, technologically advanced militaries and poorer, less advanced militaries. This disruption will manifest itself in destabilization globally and an increased emphasis on deterrence over defense. The reduced security of previously untouchable states and the newfound ability of previously impotent states to project force will create new stresses on the already strained unipolar global order. A range of new actors — including China and Iran — can use these fires to "deter deterrence" thus freeing themselves to act more aggressive regionally.

Figure 11

LOSS OF THE SEAS: GLOBAL SUPPLY CHAINS AT A CROSSROADS

For the last 500 years, globalization hinged on the free movement of goods, guaranteed by a hegemonic sea power: first Great Britain and then following WWII, the United States (U.S.). But today, freedom of navigation can no longer be taken for granted. As global temperatures rise and with state and non-state actors demonstrating abilities to block vital shipping lanes, supply chain risks are poised to rise.

Globalization is predicated on the free movement of goods across vast geographies. Today, 90% of all global trade is facilitated by sea, with shipping container volume expected to triple by 2050. Merchant shipping relies on certain trade routes to move goods efficiently. There are eleven major chokepoints where maritime traffic navigates constricted areas to pass from one main body of water to another (figure 11). Control over these waterways has always been coveted, often bringing with it lucrative rents and geostrategic advantages. Until the last century, many of these chokepoints were patrolled and controlled by the British Empire. Following World War II, patrol largely fell to the U.S. and control largely fell into the hands of newly decolonized states.

But today, the lack of physical, security, and environmental stewardship over maritime checkpoints is endangering international trade. The "Axis of Disorder" — China, Russia, North Korea, and Iran — is contesting the world order in a time when the sticks that used to keep the peace and maintain free and open waterways are no longer as sharp.

Threats of force and economic sanctions are now less effective tools of statecraft in the new multipolar environment where Russian oil revenue has actually increased since the West began sanctioning it in 2022. After all, China and India are the two current largest crude importers and the sanctions are being circumvented by a "dark fleet" that now accounts for 10% of all tankers on the seas.

With both climate-related and geopolitical disruptions abound, the safety of shipping lanes is no longer guaranteed. These threats are not going away anytime soon. Rather, they are set to increase in this current environment.





CURRENT CHOKEPOINTS AT RISK



KEY STAKEHOLDERS: Türkiye (since 1936)

The Bosphorus Strait connects the Black Sea to the Mediterranean Sea.

It serves as an important transit point for grain, foodstuffs, and fertilizer. Together, Russian and Ukrainian nitrogenous fertilizer exports accounted for 28% of the global market in 2022 and prior to the war, <u>Ukraine produced</u> 50% of the world's sunflower oil. Several non-littoral states also rely on the Bosphorus for international shipping by way of the Danube River. Central Asian states and Azerbaijan also rely on the Bosphorus for oil exports through the Caspian Sea Pipeline to Russian ports on the Black Sea.

PRIMARY RISK: Geopolitical

The Black Sea is currently a theatre of war between Russia and Ukraine. Ukraine has innovated with the pervasive and effective use of uncrewed surface vehicles (USVs), allowing it to threaten Russia without a conventional navy. In addition to multiple instances of Russian and Ukrainian attacks on each other's civilian shipping, there have been at least four instances of floating mines damaging ships or washing up on shore. This has impacted insurance with war risk premiums for Black Sea shipping reaching 10% of hull value, exceeding the cost of hiring the cargo ships.

A majority of Ukraine's foodstuff exports run through the Bosphorus to developing countries where food prices have an outsized impact on economic and political wellbeing. When Ukraine was allowed to resume grain shipments via the Black Sea, global food prices dropped almost 20%, highlighting the macroeconomic impacts of the war on the global grain market. The threat to shipping in the Black Sea will remain until there is a comprehensive resolution to the conflict. A scenario that merely freezes the conflict would likely include attacks on merchant vessels with USVs and or mines, as the belligerents target each other's economic interests.



KEY STAKEHOLDERS: Panama (since 1999)

The Panama Canal facilitates movement from the Atlantic to Pacific Oceans.

It is the primary route for maritime trade between the U.S. East Coast and East Asia and is critical for the movement of agricultural goods from the Western to the Eastern hemisphere. Six percent of the world's maritime commerce flows through the Panama Canal and it is the most economical method of moving goods from one side of North America to the other. The Canal shortens the maritime journey from New York to Los Angeles by roughly 11 thousand kilometers (seven thousand miles) or twenty-two days.

PRIMARY RISK: Climate

October 2023 — peak rain season — marked the region's <u>lowest</u> rainfall since 1950. As a result, Gatun Lake which feeds the locks of the canal, has partially dried up. The normal water level for November is 26.4 meters (86.7 feet) and <u>this year</u>, it was 24.3 meters (79.8 feet). The shortfall has decreased how many ships can travel through the canal by <u>40%-50%</u>. Last-minute Canal booking slots, which are auctioned, have been sold for prices as high as 10 times the normal transit fee (USD \$400,000).

The current dry spell is attributable to an El Niño event. Panama experienced its three driest consecutive <u>years</u> from 2013 to 2015, also during El Niño events. The variable behavior of the El Niño-Southern Oscillation (ENSO) challenges scientists in establishing a direct correlation with climate change. Still, projections by the <u>Intergovernmental Panel on Climate Change</u> suggest an uptick in the frequency of intense El Niño and La Niña episodes in the century ahead. El Niño events result in warmer global temperatures, drought, and heightens the potential for other extreme weather incidents.



KEY STAKEHOLDERS: Yemen (since 1967), Djibouti (since 1977), Eretria (since 1993)

The Bab el-Mandeb Strait connects the Mediterranean via the Red Sea to the Indian Ocean via the Gulf of Aden.

Around 10% of overall global trade volume and 12% of all seaborne oil travel through this chokepoint. Bab el-Mandeb also facilitates the internal movement of half of the Middle East's goods. The Asia-Europe alternative to transiting Bab el-Mandeb consists of routing around the entirety of Africa, a 35% longer journey. Owing to its strategic location, and the Strait's history of piracy, the U.S., China, France, Italy, China, Japan, and the United Arab Emirates all posses military bases abutting the Strait.

PRIMARY RISK: Geopolitical

Piracy emanating from Somalia is a perennial issue. But since 2015, when the Iranian-backed Houthi Movement took control of most of Yemen's Red Sea coast, attacks on commercial shipping have become a major threat. The Strait is a key fixture of Iran and Israel's hybrid war and since November 2023, the Houthis have been targeting transiting vessels with unmanned drones and anti-ship missiles.

Shipping volume through the Strait has now dropped by 70%. The Freightos Baltic Index (Fbx), the Global Container Freight Index that tracks the global average price per 40-foot container, is up 200% and Mediterranean-East Asia freight has spiked by over 500% since December 2023, following several shipping lines halting traffic through the Red Sea. Meanwhile, the Houthi embargo has decreased Egypt's income from the Suez Canal by 40% year-to-date, exacerbating Cairo's dollar shortage and broader economic woes. Without abatement, the loss of this key revenue may begin to destabilize Egypt. It is possible that the Houthis will soon start to damage the undersea cables that traverse Bab el-Mandeb.



KEY STAKEHOLDERS: Egypt (since 1956)

The Suez Canal provides entry to the Mediterranean Sea in the north from the Red Sea to the south.

The Suez Canal bypasses Africa, making it the quickest sea route between Asia and Europe. Between 10% and 12% of global trade transits through the Suez Canal, including around 30% of all cargo container ships. The Suez is also home to 16 undersea cables, making it one of the most important nodes in the global telecommunication system. Approximately 17% of the world's internet traffic travels along these cables.

PRIMARY RISK: Climate

On 21 March 2021, the *Ever Given*, a 400-meter-long containership traveling from Tanjung Pelepas, Malaysia, to the Port of Rotterdam, Netherlands, became lodged in the canal obstructing all traffic for six days. By 28 March 2021, over 400 ships were waiting to navigate the canal amounting to USD \$1 billion of direct economic damage and holding up roughly USD \$60 billion of <u>trade</u>. Weather conditions played a large role in the beaching of the *Ever Given*.

The incident was preceded by 43.6°C (110°F) heat and 112 kph (70 mph) winds. The combination of poor visibility and extreme winds grounded the vessel. Compared with today, extreme heat events reaching 45°C (113°F) in this region are expected to double by 2050. These extreme temperatures dry the soil, leading to major sandstorm events which reduce visibility, increasing the likelihood of future storm-related canal blockages. This event demonstrates how weather events — which are expected to worsen — can threaten critical trade routes and disrupt global supply chains.



The Strait of Hormuz offers passage from the Persian Gulf to the Indian Ocean.

KEY STAKEHOLDERS: Iran, Oman (Since 1951)

Twenty-one percent of global petroleum liquids pass through this vital artery. Asias' energy security and the stability of oil prices depend on the free flow of merchant vessels through this chokepoint.

PRIMARY RISK: Geopolitical

Iran has long weaponized its geography. In the 1980s and resuming again in 2019, Iran has employed hijacking and mining in this Strait. On 11 January 2024, Iran seized an oil tanker involved in a U.S.-Iran dispute, precipitating American intervention in the Red Sea against the Houthis. Iran has many anti-ship capabilities it can use to shut down the Strait of Hormuz. The possibility exists, should Iran wish to escalate and generate leverage vis a vis the U.S. and Israel, that Tehran places mines in the Strait or even uses more attributable measures including anti-ship cruise missiles, hijackings, and small boat attacks to disrupt the global energy supply.

Panama owns and operates the Panama Canal, Egypt owns and operates the Suez Canal, Türkiye controls the Bosphorus Strait, Iran *de facto* controls the straits of Hormuz and Bab el-Mandeb, and China has the capacity to disrupt freedom of navigation in the seas it touches. Apart from the English Channel and straits of Gibraltar, Denmark, and Malacca, the continuity of global trade is largely out of the control of Western-friendly governments (figure 12). The current Houthi Red Sea embargo already poses the greatest threat to freedom of navigation since WWII. The high seas are where the end of Western hegemony is most visible.



Trade routes have become a major avenue for geopolitical competition, another way for adversarial states to contest Western interests. As it stands today, friendly governments are only in control of one-third of the chokepoints connecting global sea lanes. Meanwhile, members of the Axis of Disorder can feasibly threaten access to 64%. Hostile states or non-state actors with geographic proximity to key maritime chokepoints are enabled to blackmail the West into granting concessions or tolerating destabilizing behavior in exchange for access, a tactic that could be used in Taiwan in the not-too-distant future.

FUTURE CHOKEPOINTS AT RISK



EAST CHINA SEA KEY STAKEHOLDERS: China, Taiwan, Japan, South Korea

SOUTH CHINA SEA KEY STAKEHOLDERS: China, Philippines, Vietnam, Malaysia, Indonesia

The South and East China Seas are the world's busiest shipping lanes, facilitating all Asia-Pacific passage to the rest of the world. They are the beating heart of global trade.

FUTURE RISK: Geopolitical

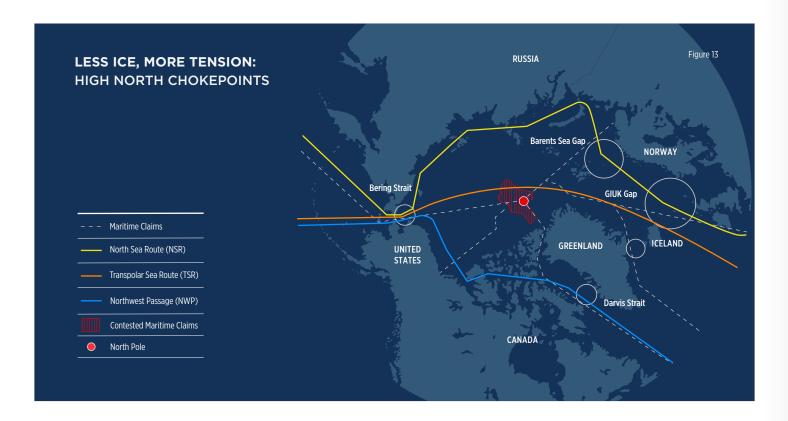
This region features three warm territorial disputes between China and its neighbors, including Japan, Taiwan, Vietnam, and the Philippines. With high tensions, any major incident, including a blockade of <u>Taiwan</u> or naval incident in disputed waters, has the potential to disrupt these sea lanes. China has tools to apply varying levels of naval pressure in pursuit of its regional territorial goals, including its use of the world's largest and most sophisticated naval mine capabilities, a gray zone fleet (maritime militia and coast guard), and extensive naval anti-access area denial (A2/AD) tools.

SYNCHRONOUS SHOCKS AHEAD?

When it rains, it pours. Major geopolitical shifts have a cascading influence on other major events, as opportunities are weighed against new or fleeting windows. The closing of two or more maritime chokepoints simultaneously would have dire macro-economic consequences. The pandemic-induced supply and demand whiplash resulted in a surge of inflation in 2022. While the current monetary environment is tighter globally, making demand cooler than it was in 2021-2022, a second chokepoint going offline on top of Bab el-Mandeb, could have a major inflationary impact. The International Monetary Fund (IMF) estimates that for every doubling of shipping costs, inflation rises by 0.7% and that the effects of shocks in shipping have a lagging inflationary toll, only peaking an average of one year after the initial shock.

Today, three of the major chokepoints are under pressure: the Bosphorus and Bab el-Mandeb straits, and the Panama Canal. With the specter of a more direct confrontation between the U.S. and Iran, there is a possibility that Iran escalates its maritime activity around the Hormuz Strait, where one-third of all traded oil passes through. If oil prices go up, everything goes up. Parallel energy and shipping shocks could trigger deep recessionary effects. If the Houthis — without a real navy — can close a shipping lane, imagine what a more advanced naval power is capable of?

Tomorrow, the world will be warmer, and non-state actors will be able to wield USVs, like Ukraine has in the Black Sea to strike Russian navy and merchant vessels, to interrupt shipping. And so will China and Russia, two nations heavily invested in sea power. With increased Chinese maritime aggression and the strengthening web of countervailing alliances forming in the East and South China seas, the water ways and chokepoints of the Asia-Pacific — the center of mass of the global economy — may soon be seriously disrupted. From a Chinese blockade of Taiwan and reciprocal U.S. interdictions of China-bound cargo in the Malacca Strait to another environmental disaster hampering another chokepoint, synchronous pressures on multiple chokepoints are likely. As the global security order continues to fray amid a warming Arctic, the security of trade routes will continue to pose a problem.



LONG-TERM CHOKEPOINTS AT RISK

The Arctic is the fastest warming part of the planet. While the Arctic is mostly frozen now, its sea ice is receding by about 80,550 square kilometers per year, creating the possibility of iceless seasons next decade, starting as soon as 2030. Access to previously unpassable waterways and irretrievable resources will soon come online. The Arctic Sea will be home to three major waterways, the Northern Sea Route (NSR) that falls mainly within Russia's internal waters and is already in use, the Northwest Passage (NWP) that falls mainly within the internal waters of Canada, and the Transpolar Sea Route (TSR) that bisects the Arctic passing over the North Pole (figure 13).

GIUK GAP KEY STAKEHOLDERS: Denmark, Iceland, United Kingdom

BERING STRAIT KEY STAKEHOLDERS: U.S., Russia

Connects the Pacific and Arctic oceans.

DARVIS STRAIT KEY STAKE HOLDERS: Denmark, Canada Connects the North Atlantic (Labrador Sea) to the Arctic Ocean.

BARENTS SEA GAP KEY STAKE HOLDERS: Russia, Norway, Finland Connects the Barents Sea with the North and Norwegian seas between Norway and Svalbard.

FUTURE RISK: GEOPOLITICAL

Russia has reopened tens of Arctic Soviet-era military bases and has recently invested heavily in ports, infrastructure, and vessels to develop and protect the Northern Sea Route. Russia has more ports, airstrips, icebreakers, ground force bases, and population centres in the Arctic than does NATO. Russia and China have tools to conduct gray zone warfare on Western economic interests by disrupting future shipping in the region.

KEY TAKEAWAYS

Geopolitical and climate risks are making supply chains increasingly vulnerable. Today it's the Red Sea, tomorrow it could be the Taiwan Strait and, in the future, the Arctic waterways. These risks are inflationary as moving goods becomes more expensive. Just-in-time inventory management and supply chain efficiency are now relics of the past. The time is now to assess and address supply chain vulnerabilities as the seas become less stable.

STRATEGIC INSTABILITY: THE AGE OF NUCLEAR BLACKMAIL

Revisionist powers are increasing aggression in their neighborhoods, a trend that may soon involve nuclear brinksmanship. Indeed, Russia has already used nuclear threats to advance its interests during the opening stage of its invasion of Ukraine. As China, Russia, Iran, and North Korea continue to cooperate, coordinate, and advance their missile programs amid an eroding balance of deterrence, nuclear blackmail may become a more normal feature of geopolitics.

EMBOLDENED AXIS OF DISORDER

While China, Russia, Iran, and North Korea may have different interests, they are united in their opposition to the United States (U.S.)-led international order. This "Axis of Disorder" benefits from weakening America's geopolitical positions in Eastern Europe, the Middle East, and in the Indo-Pacific, and would like to remove the American military presence from their neighborhoods. All members face U.S. containment — both physically, with proximately stationed U.S. troops and U.S.-backed local foes, and economically.

Today, the global order is being challenged on four major fronts by the Axis of Disorder, whose members see an opportunity to reshape the existing global order. To this end, inter-Axis coordination is reaching unseen levels since the onset of the 2022 Russia-Ukraine War. Russia has received millions of artillery rounds from North Korea and ballistic missiles in exchange for technical assistance on its spy satellite and missile programs, and there have been several high-profile meetings including a leaders summit last year. Iran has provided Russia with drones and ballistic missiles in exchange for modern military hardware and technical support. While China is less involved in actively manufacturing disorder, it stands the most to gain strategically by an overstretched U.S. China has also been quietly helping its partners circumvent sanctions and buying up Russian and Iranian oil. The Axis members are expediting and advancing the conventional and nuclear arms programs of one another.

If the U.S. preponderance of force is successfully challenged and reversed in one region, it will make the other regions more susceptible to revision. A Russian, Iranian, Chinese, or North Korean victory on one front, will signal to the others that the U.S. is a "paper tiger." The most significant — and novel — way to realize new regional balances of power is through the threat of nuclear force.







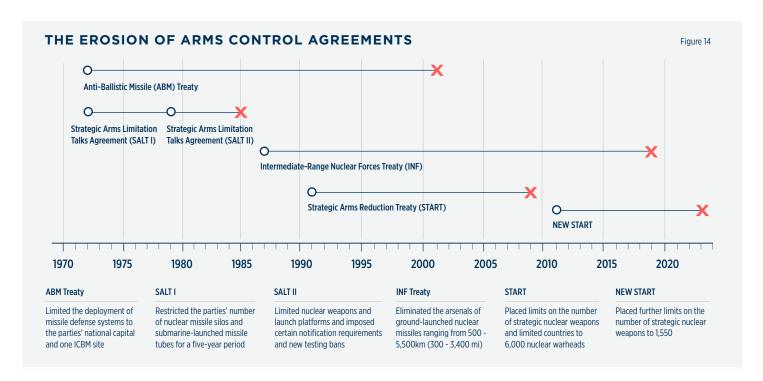
STRATEGIC INSTABILITY

Strategic stability is when there are no incentives to launch a nuclear first strike. A nuclear power is incentivized to initiate a first strike when the advantages are significant, and/or the repercussions of failing to act first are grave. The U.S., Russia, and China (and possibly North Korea) possess second-strike capabilities. Since a first strike cannot eliminate the enemy's strategic arsenal, it would trigger a devastating exchange.

During the Cold War, each side developed and diversified their strategic nuclear arsenals to ensure that a preemptive strike by an adversary could not completely eliminate their strategic capabilities in the initial phase of a conflict. To further strategic stability, the U.S. and Soviet Union agreed to many arms control measures aimed at diminishing any first-strike incentives. However, the international arms control regime has faltered over the last two decades and the

last remaining treaty was made null by Russia in 2023 (figure 14). Meanwhile, Russia and China have invested in theater nuclear weapons, an area where the U.S., France, and the United Kingdom have not.

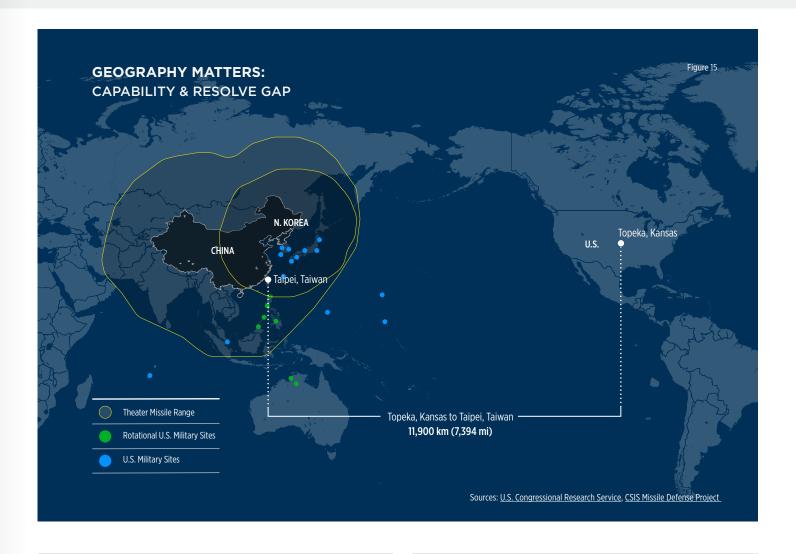
Beijing and Moscow hold the view that nuclear weapons can serve a coercive purpose, diverging from the conventional deterrent theory which posits their role as purely preventive against nuclear engagement. Instead, they see nuclear threats as a means to facilitate aggressive actions with the strategic aim of deterring the U.S. from coming to the aid of allies, including Taiwan or South Korea in the Western Pacific, Israel or Saudi Arabia in the Middle East, or the Baltic states in Eastern Europe. Nuclear weapons can also be used to regain the initiative in a conventional conflict that they are losing. On a strategic level, deterrence is being challenged by advances in delivery systems, but it is still holding. However, on a theater level, a dangerous deterrence gap exists.



DETERRENCE GAP

Nuclear weapons, like other capabilities, are tools. Tools need to match their specific purpose. Through various arms control agreements — that China never signed on to — the U.S.' theater-range nuclear arsenal has atrophied, especially in Asia. In Asia, the U.S. removed its nuclear forces in 1991 and retired its nuclear capable cruise missiles. The U.S. doesn't have ground-based, low-yield nuclear short- or intermediate-range ballistic or cruise missiles forward deployed in the theaters where their adversaries do. America's low-yield nuclear arsenal consists

of gravity bombs, dropped from an aircraft, and a limited number of submarine launched missiles. In the heat of a conflict with a near-peer adversary like China, with robust anti-access and area denial (A2/AD) capabilities and the element of surprise, the U.S.' forward deployed tactical theater-level nuclear delivery systems cannot be relied upon to promptly deliver a proportionate response. Using a strategic nuclear weapon in this scenario, while it would be the quickest and most surefire response, could lead to a nuclear exchange on both home fronts, making it a very risky option. This is especially true given how low the direct threat is to the home front (figure 15).



RESOLVE GAP

Following the Great Recession and the "Forever Wars" in Afghanistan and Iraq, America has grown less interested in using its blood and treasure to uphold the world order by militarily intervening abroad. The stakes are not imminently clear to the average voter and America's geographic proximity to the potential theatres creates a cognitive gap atop the feasibility gap. China, Russia, North Korea, and Iran have more at stake in their own neighborhoods than the U.S. does. These regimes are able to make sacrifices that the U.S. and Western nations cannot. As autocracies, their blood and treasure is more dispensable, especially when the blood is their proxy's. It is not clear whether or not the current or future American president would be willing to use nuclear weapons to protect a distant ally, thereby risking the home front and potentially sinking the global economy. Thus, the lack of credibility behind American deterrence erodes strategic stability. Strategic instability incentivizes brinkmanship, a showdown where neither party wants to back down or let the other side win, even though not backing down can be very dangerous.

MEDIUM-TERM NUCLEAR BLACKMAIL SCENARIOS

China: China could conduct a nuclear test at sea during a blockade of Taiwan and threaten to use a theater-level device should the U.S. intervene or attempt to break a blockade or thwart an invasion.

Russia: Russia could threaten to deploy tactical theater nuclear weapons against Ukraine to prevent defeat or threaten the Baltics in the future.

North Korea: North Korea could threaten nuclear use as it conventionally strikes South Korean military units on the disputed islands in the Yellow Sea to prevent U.S. intervention. North Korea could leverage its threats to force Washington or Seoul into accepting some type of settlement to gradually move the status quo in Pyongyang's favor. Additionally, in the event of a Chinese blockade or invasion of Taiwan, North Korea could use the threat of nuclear use to prevent intervention as a two-front conflict erupts over the future of the Asia Pacific region.

THE IRAN PROBLEM

Countries no longer can be expected to relinquish their nuclear programs. The end of the Cold War ushered in a brief period of denuclearization. Soviet successor states relinquished the nuclear weapons they possessed in exchange for security assurances from Moscow. Meanwhile, *Pax Americana* and the U.S. security guarantee was enough to prevent developed countries from adopting a nuclear self-help approach.

However, the U.S. invasions of Afghanistan in 2001 and Iraq in 2003, and NATO's 2011 intervention in Libya made clear the reality that the most effective means of guaranteeing regime survival is nuclear deterrence (figure 16). In the unipolar era, sanctions combined with the credible threat of force were enough to dissuade countries from nuclearizing. But today, Americas's relative coercive

— military and economic — power has decreased. In 1991, the U.S. was the sole superpower with the ability to project force globally, representing 26% of global GDP. Today, the U.S. faces adversaries with advanced standoff and area denial capabilities with half its 1991 share of global GDP. With the relative strength of the Axis of Disorder, the balance of incentives favors nuclearizing.

For Iran, a revolutionary power, both the spread of its ideology and the open confrontation against its adversaries are paramount to preserving its internal and external legitimacy. The Islamic Republic portrays itself as the leading Islamic power, protector of the region's Shia minority, and the global anti-imperialist vanguard, the sworn enemy of U.S. and Israel. Even without having developed nuclear warheads, the Islamic Republic has already been able to extract rents and sanction relief from the U.S. and the international community to provide it enough incentives not to breakout.

	DANGERS OF DENUCLEARIZATION				
	1990 s	2000s	2010 s	2020 s	
LIBYA		Cibya denuclearizes (2003)	NATO intervenes in Libya (2011)		
UKRAINE	O		Russia intervenes in Ukraine Civil War and annexes Crimea (2014)	Russia invades Ukraine (2022)	

Figure 16

THE POST-OCTOBER 7TH MIDDLE EAST

The October 7th Attacks and the ensuing conflict have altered the regional security paradigm. Iran is flexing its muscles, highlighting both its capabilities and that of its proxies. Together, Iran's ballistic missile program, its proxies, and nuclear program, serve to deter foreign intervention by increasing the regional and global costs of any military attacks on its soil or attempts at regime change.

But Iran is now in an uncomfortable position after appearing to be caught flatfooted by Hamas' barbaric pogrom. Tehran is about to lose its spearhead for attacking Israel in Hamas, and Hezbollah – the cornerstone of Iran's proxy network – is locked into an exchange of costly blows with Israel without

gaining much strategically. Should the regional balance tilt too far away from Iran's perceived favor, it could adopt the nuclear option – Iran could breakout.

Current estimates have Iran able to produce the requisite fissile material for a single nuclear device in 12 days and up to 10 weapons within four to five months. According to Gen. Mark Milley, chairman of the Joint Chiefs of Staff, Iran could fabricate a nuclear warhead in a matter of months, should it choose. Iran is a threshold nuclear state and depending on the current regional situation, could make the decision to breakout at any given point. Tehran has left decision makers in Washington and Jerusalem between a rock and hard place: prevent a nuclear Iran and possibly face devastating conflict or wait until Iran goes nuclear and face the possibility of Iran continuing to cause regional mayhem but under the protection of a nuclear umbrella.



PREVENT

It is both the U.S. and Israel's policy to prevent Iran from obtaining nuclear weapons. While the U.S. has favored a diplomatic and economic approach, Israel has been employing spycraft, assassination, and sabotage to slow Iranian progress. Yet these policies have failed. Iran is now a nuclear threshold state. Israel, with both the Holocaust and now October 7th in living memory, takes existential threats very seriously. The strategic balance in the Middle East is no longer tenable for Israel given its acute vulnerably that has been put on full display. Hundreds of thousands of citizens are displaced and there will be growing political pressure to create the security conditions for them to safely return home. While it is possible for a deal with Hezbollah to be struck, preventing further escalation, the head of the snake biting Israel is in Iran. Israel has a history of preventative military action to eliminate strategic threats, a trend that we see continuing in the near future (figure 17).

A NUCLEAR IRAN

A nuclear Iran, like other members of the Axis, could use the threat of nuclear action to further its revisionist goals. These include ousting U.S. troops from the region, becoming the regional hegemon, and eliminating Israel. To these ends, it could use the threat of theater nuclear weapons to deter external intervention into the region as its proxies continue to dominate Lebanon, Syria, Iraq, Yemen, and the Palestinian Territories. In this scenario, Iran could continue to militarily pressure Israel and try to use the threat of blocking shipping to force the international community to acquiescing to its demands. American troops would continue to come under fire and Western business interests would be pushed out if its domain. These proxies could be used to coerce the countries not under Iranian influence into granting Tehran political, economic, and strategic concessions leading to further conflict and instability. In addition, Saudi Arabia. the United Arab Emirates, and Türkiye would most likely rush to acquire nuclear weapons in response to an Iranian breakout, facilitating a rapid proliferation in an area with strong irredentism, deep ethno-religious cleavages, and brittle and unpopular regimes subject to rapid collapse could have disastrous consequences.

KEY TAKEAWAYS

An overstretched and conflict-averse America now faces a more coordinated and emboldened axis of revisionist powers that are primed to use nuclear blackmail to dominate their neighborhoods in the coming years. China may use nuclear threats to deter U.S. military involvement as it attempts to reunify with Taiwan. In addition, a wider conflict involving Iran appears likely, be it to prevent Tehran from leveraging a nuclear umbrella or to combat an even more emboldened Iran that is backed by the threat of nuclear force.

OUTLOOK AND KEY TAKEAWAYS

Since the end of WWII, there has been a global order. During the Cold War, there were two major poles of power which led to proxy fighting but little direct confrontation. Following the Cold War, America experienced its unipolar moment when it could enforce rules and norms — a major deviation from the mean in terms of peace and prosperity. But this moment is over.

The War in Ukraine was a major inflection point, ushering in a new and more dangerous epoch. Owing to the rise of China and India, the proliferation of missile and drone technology, the atrophying of U.S. partner's defense capabilities, and the war weariness of the American public, a new multipolar reality is beginning to sink in. This era will feature less rule enforcement, blurred lines between commerce and statecraft, and lower barriers to entry for conflict. The "domino theory" that once permeated Cold War decision making is now being turned on its head, where the fall of one of America's partners could spell the falling of the next.



END OF INTERVENTION?

The unipolar moment was predicated on a shared understanding that the United States' military and economic power was preeminent and uncontestable. Washington would use this unprecedented power to intervene politically and militarily against threats to international order, be it wars of conquest, crimes against humanity, or threats to the freedom of navigation. All three parts of this understanding are now coming into question. More and more actors are using these systems to enter the ranks of "near-peer" competitors that can contest U.S. dominance.

The proliferation of anti-access and area denial (A2/AD) weaponry now allows regional powers to pose credible threats to potential intervention forces. For example, the Iran-backed Houthis in Yemen are effectively blockading the Red Sea, under the assumption that there is no political will for the U.S. or other powers to

uproot them by putting boots on the ground. In Asia, China's DF-21 or DF-26 "carrier killing" missiles can make Pentagon decision makers think twice about responding to an invasion of Taiwan.

What's more, Iran, Russia, China, and North Korea have developed or are currently developing robust nuclear capabilities in addition to their conventional forces. These technological developments coincide with the decline of American political unity and an increasingly entrenched war-weariness. The result is a shrinking gap in capabilities and a growing gap in resolve where intervention in a foe's backyard is more fraught. A continuation of the present trend could spell the end of intervention, the possible use of nuclear blackmail, and with it, the beginning of a new era of revanchist aggression where "the strong do what they can and the weak suffer what they must."



THE COST OF CONFLICT

The cost of aggressive actions by state and non-state actors alike has been lowered by the proliferation of inexpensive high-tech weaponry. At the same time, the factors that used to prevent conflict, including international alliance systems, nuclear deterrence, and multilateral interventions, have lost much of their weight. The result is a geopolitical landscape where a range of actors stand to win more than they stand to lose by going to war. As the wars in Ukraine and the Middle East have demonstrated, geopolitical conflict can severely disrupt supply chains, market access, and commodity prices. The stable business environment cultivated through peace and globalization is ending and the new era of instability presents a multitude of risks for individuals and corporations.

Countries such as China and Russia have adopted an all-of-society approach to their struggle against liberal internationalism, granting them *de facto* control of their respective private sectors. International companies must now contend with the presence of state-backed enterprises in commercial arenas who play by a different set of rules. From Chinese harassment of American businesses in China to Russian private military corporations attacking French breweries in Africa, state-backed enterprises are able to thumb the scales of normal market competition. In addition, the boycotts of major American brands over the war in the Middle East and Western businesses' divestment out of Russia have cost companies billions of dollars. Decision makers need to quickly adjust to a world where brands face more blowback and where intellectual property, markets, and resources are all fair game in a contest of states.



SYNCHRONICITY

New opportunities arise within the fleeting light of closing windows of opportunity. Destabilizing dynamics tend to converge. The coronavirus pandemic and the War in Ukraine highlighted the fragility of global supply chains. But they also demonstrated a trend where independent geopolitical developments can have mutually reinforcing effects. In 2022, these synchronous events combined to severely disrupt supply chains, which contributed to global inflation, which in turn helped drive civil unrest across the world. Unrest across the Sahel led to a wave of coups which degraded the regional order and led to the escalation of insurgencies. Armed conflict in the Global South leads to more people seeking asylum in the

Global North which exacerbates internal political divisions and reduces the international community's ability to foster peace and stability.

Globalization has made the world a small stage for an ever-denser network of threats which — increasingly — tend to cascade. In the near future, the Houthis current activity in the Red Sea — and the U.S.-led intervention — may lead to a situation where Iran decides to block the Strait of Hormuz. Similarly, a Chinese blockade or invasion of Taiwan may prompt North Korea to seize the moment to attack South Korea. With the 2024 U.S. Presidential Election around the corner, the stage is set for disruptive geopolitical or weather events in one region to cause major, world changing events elsewhere.

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