Russia's Impact on US National Interests

A series of primers

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Alexandra Bell
Nikolas K. Gvosdev
Joseph Haberman
Li-Chen Sim

Edited by Natasha Yefimova-Trilling
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Russia Matters

PRIMERS
2021

Russia Matters
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About Russia Matters

Russia Matters is a project launched in 2016 by Harvard Kennedy School's Belfer Center for Science and International Affairs and made possible with support from Carnegie Corporation of New York.

The project's main aim is to improve the understanding of Russia and the U.S.-Russian relationship among America's policymakers and concerned public. It does so by showcasing the best expertise on Russia and its relationships with the rest of the world by providing top-notch analysis, relevant factual data and related digests of news and analysis. Initially, the project's contributors and institutional partners will be primarily U.S.-based and its main platform for pursuing its goals will be this website.

The specific aims of Russia Matters are to help:

- U.S. policymakers and the general public gain a better understanding of why and how Russia matters to the United States now and in the foreseeable future and what drivers propel the two countries' policies in areas of mutual concern;
- Ensure that U.S. policies toward Russia are conducive to the advancement of long-term U.S. vital national interests, but that they also improve cooperation in areas where interests converge and mitigate friction in areas of divergence;
- Foster a new generation of Russia experts.

Russia Matters likewise endeavors to build bridges between academe and the policymaking community.

It is our sincere hope that this endeavor will help advance a viable, analytically rigorous U.S. policy on Russia guided by realism, verifiable facts and national interests without sacrificing opportunities for bilateral cooperation.

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Cover Image
U.S. and Russian flags side by side. Credit: Ailish Mullally / Alamy Stock Photo

Editors' Note

With a change of guard in the White House, the new U.S. administration has a chance to commission a review of U.S. domestic and foreign policies. The primers in this series are designed to facilitate such a review by detailing the impact Russia does or can have on each of five vital U.S. national interests as defined by a task force co-chaired by Graham Allison and Robert D. Blackwill. Some of the authors offer recommendations on how to best advance these interests in 2021-2024. The interests are: (1) maintaining a balance of power in Europe and Asia; (2) ensuring energy security; (3) preventing the use and slowing the spread of nuclear weapons and other weapons of mass destruction, securing nuclear weapons and materials and preventing proliferation of intermediate and long-range delivery systems for nuclear weapons; (4) assuring the stability of the international economy; and (5) preventing large-scale or sustained terrorist attacks on the American homeland. Each primer begins with an executive summary; endnote numbers in the online version of this PDF are hyperlinked.

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Russia's Impact on US National Interests: Maintaining a Balance of Power in Europe and Asia

Nikolas K. Gvosdev

Originally published Aug. 5, 2020.

Executive Summary

While Russia is not a superpower, it remains one of the few countries that both defines its interests in global rather than regional terms and retains limited but real global power-projection capabilities. Meanwhile, U.S. national security continues to be guided by the premise that the United States cannot allow another state to become the preponderant power in either Europe or Asia, the two continents Russia famously spans. This primer attempts to assess Russia's impact on a vital U.S. interest: **maintaining a balance of power in Europe and Asia that promotes peace and stability with a continuing U.S. leadership role**. Its main conclusion: As

the United States endeavors to retain favorable balances of power in both these key regions, its interests are best served by having Russia remain an independent pole within the international system rather than grow even closer with China and forge a formalized, strategic Sino-Russian entente.

Key takeaways:

- Post-Cold War efforts to replace the balance-of-power approach to foreign policy with other strategies have failed because of the resurgence of powers, primarily China but also Russia.
- Russia and China, over the last decade, have demonstrated increasing capabilities and propensities to challenge U.S. preferences and produce outcomes that clash with U.S. expectations.
- Balances of power in Europe and Asia reduce the risk of another major power being able to impose its will on the United States, while protecting U.S. interests and creating conditions for the continuation of U.S. global leadership.
- The two basic types of balancing are (a) defensive, which aims to keep adversaries out of a state's sphere of influence, and (b) transformational, in which states want to change the balance in their favor but without leading to outright conflict.
- Coalitions of European and Asian states can maintain defensive balances of power vis-a-vis Russia and China without U.S. leadership, but these coalitions would be fragile.
- The United States will find its principal partners in agreement that containing and balancing Chinese and Russian power is desirable but will find much less support for open contestation.
- The U.S. can (and should) simultaneously maintain defensive balances of power in both Europe and Asia but can only promote a transformational balance in one region or the other, not both.
- The United States must avoid a worst-case outcome where failed balancing efforts produce a formal Russia-China entente enshrined by treaty commitments, while other major powers adopt a more neutral stance than today; U.S. policy toward Moscow should not create incentives for closer Russia-China ties.

- U.S. policy toward Russia should likewise prevent further deterioration in the bilateral relationship.
- Transformational balancing is meant to promote integration and assimilation into the U.S.-led international system; however, the resulting competition may incentivize countries to compete and contest using non-traditional tools of statecraft, a.k.a. "measures short of war."
- The long-term impact of COVID-19 on the international balance of power is difficult to assess at this point, but it would be risky to assume the pandemic will tip the balance in favor of the U.S. or to use the pandemic as the basis of a grand strategy.
- A sustainable, long-term U.S. strategy vis-à-vis Russia cannot emerge as long as the United States is unable to prioritize its global and regional interests.
- Areas of disagreement or confrontation between the U.S. and Russia should not torpedo productive and necessary cooperation.
- Moving forward into the 2020s, U.S. grand strategy, in the words of two former government officials, "will need to be attuned to opportunities for downshift or détente."

Strategic Realities and American Necessities

For the last several years, the documents that provide strategic guidance to the U.S. national security establishment have maintained that the United States now finds itself operating within the context of "great power competition."[1] To borrow China's foreign policy nomenclature, the United States may retain the rank of "superpower" (*chaoji daguo*), but it must contend with a series of "great powers" (*daguo)* that have the ability to set regional agendas and have a degree of influence—and even veto power—over its preferences, starting with China and Russia, but also including countries like Germany and India.[2] As the 2017 National Security Strategy notes: "The United States must marshal the will and capabilities to compete and prevent unfavorable shifts in the Indo-Pacific, Europe and the Middle East."[3] Under such conditions, the NSS continues, the U.S. must sustain "favorable balances of power." This stance reflects the gradual petering-out of the immediate post-9/11 assessment that the United States

was threatened more by problems emanating from weak states than strong ones, but it is hardly a new position in U.S. foreign policy thinking.[4]

For much of the 20th century, the United States accepted the necessity for a balance of power in both Europe and Asia as a necessary precondition for U.S. national security. Per the strategic principle President Franklin Delano Roosevelt enunciated in his famous "Arsenal of Democracy" address (Dec. 29, 1940), "European and Asiatic war-makers should not gain control of the oceans which lead to this hemisphere."[5] Moreover, it was of vital importance that no one country gain a predominant position in the Old World, for then it would "be in a position to bring enormous military and naval resources against this hemisphere." Following World War II, George Kennan went into greater detail, with his conception of five principal "military-industrial" centers spread out across Europe and Asia and the importance for American security of safeguarding Western Europe and East Asia from Soviet domination.[i]

Kennan's dictum to prevent any hostile power or coalition from exercising control over these two main global foci—the Euro-Atlantic and Asia-Pacific basins—remains as relevant today as in 1947, even with impressive economic progress in sub-Saharan Africa and Latin America. The Indo-Pacific region hosts seven of the 10 largest militaries in the world[6] and is expected, by various counts,[7, 8] to generate half of the world's gross domestic product in the next 20-30 years. The European Union itself accounts for 22 percent of global GDP,[9] and when countries like Turkey and Russia are factored in more than a quarter of the world's economy is centered in the greater European space. In addition, three nuclear powers are based in Europe and the region's collective defense spending is greater than China's, which means that Europe has the world's second largest military budget.[10] After the United States, which outspends the next 10 nations of the world in defense and accounts for a quarter of global GDP, Europe and Asia are clearly the other principal drivers of global economic growth and the main repositories of military power. The Middle East's importance comes from its energy reserves and its strategic real estate, but it has not emerged as a defining pole of power in the contemporary international system.[11]

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i George F. Kennan, "Memoirs, 1925-1950" (Boston: Little, Brown, 1967), p. 359.

For brief periods following each of the two world wars, the United States hoped to transcend the requirement of maintaining stable, positive balances of power in favor of promoting collective security arrangements grounded in shared values that would move the international order beyond power politics. The failure of the League of Nations and the effective paralysis of the United Nations dashed those hopes. Moreover, the United States lacked the wherewithal to impose its preferred vision of global order: The Cold War occurred as a result of another near-peer competitor not only not sharing any common ideological or values-based framework with the United States, but also having opposing geopolitical interests that could not be reconciled with American national security considerations.

The end of the Cold War again offered the possibility of transcending the balance of power. The collapse of the Soviet Union and the inward focus of a post-Tiananmen Square China created what Charles Krauthammer termed the "unipolar moment"—when, for the foreseeable future, "the center of world power is the unchallenged superpower, the United States."[12] Josef Joffe argued that the United States should build on that reality to construct a new international order that would connect other global power centers to the United States in a "hub and spokes" model (what he termed "structured multipolarity") where other major actors would be incentivized to support U.S. leadership and where recalcitrants could be isolated and neutralized.[13]

These approaches were grounded in an assessment that the United States could move beyond the compromises that the Cold War balance of power had forced on Washington—chief among them, accepting that anti-liberal and anti-capitalist regimes in the Soviet Union and the People's Republic of China would be able to impose their will on parts of Earth's surface regardless of American wishes, and that these two powers would not only be able to influence international affairs but exercise a degree of veto power over U.S. actions. Moreover, to contain Moscow's and Beijing's influence, the United States had been required to partner not only with fellow democracies but with a series of authoritarian regimes in southern Europe, the Middle East and across Asia.

As appealing as the "unipolar moment" and the "hub and spokes" model were to U.S. strategists and politicians, the unique set of circumstances that created what French Foreign Minister Hubert Védrine called the American "hyperpower" were not enduring.[14] As other powers rose or resurged, and as they began to create alternatives to bypass the American hub, their ability to deter the U.S. increased while America's compellent power declined.[15] Moreover, particularly in the case of Russia and China, as Hal Brands observed, their resurgence enabled them to contest U.S. preferences "in the Western Pacific or in Eastern Europe, as a result of both disadvantageous geography and targeted military buildups by Moscow and Beijing."[16] The unipolar moment of the 1990s thus evolved into the hope of the early 2000s that emerging powers would choose to become "responsible stakeholders," voluntarily aligning their policies and preferences with those of the United States to maintain the international status quo.[17]

Throughout the 2010s, and moving into the 2020s, the United States retains its superpower status but has seen a decline in its ability to either compel or convince other major states in the international system to accept its preferences. As the Lowy Institute's 2019 Asia Power Index concluded: "[T]he United States is unlikely to halt the narrowing power differential between itself and China. Hard and soft qualities of 20th-century U.S. power endure in the early 21st century. … Nevertheless, the United States faces relative decline. … This is significant because U.S. diplomatic leadership will have to punch above a declining share of military and economic power to maintain some degree of primacy in Asia."[18] In Europe, the relative resurgence of Russia and new strains in trans-Atlantic relations have also reduced America's agenda-setting power. As Brands and Evan Montgomery point out, the strategic challenge for the United States is how to maintain its position given a number of potential challengers spread out "across three separate theaters—Europe, the Middle East and the Indo-Pacific"—where the United States cannot simultaneously impose its preferred outcomes in every region.[19] This has reintroduced the strategic imperative of the balance of power, where the United States must make choices about where to confront and where to compromise.

Those policy choices, in turn, must rest on some sense of what is most important for the nation. At the start of this century the Commission

on American National Interests identified the core U.S. national interest as preserving "the United States as a free nation with our fundamental institutions and values intact" and ensuring the international conditions required to achieve this condition.[20] The commission then broke down this overarching, vital interest into its five most pressing components—a list that, updated by two of the authors in 2011, forms the basis of this series.[21] To repeat the vital U.S. interests from the introduction: 1) preventing the use and slowing the spread of nuclear weapons and other weapons of mass destruction, securing nuclear weapons and materials and preventing proliferation of intermediate- and long-range delivery systems for nuclear weapons; 2) maintaining a balance of power in Europe and Asia that promotes peace and stability with a continuing U.S. leadership role—the topic of this primer; 3) preventing large-scale or sustained terrorist attacks on the American homeland; 4) ensuring energy security; and 5) assuring the stability of the international economy.

Two Types of Balancing

What is balancing in foreign affairs? The trick is to retain as much freedom of action as possible without tipping into an open conflict that could be detrimental to one's interests. Per Paul Saunders' formulation, a country will seek to maximize its "agenda-setting" role within the international system while minimizing the degree to which it must accept or implement the agendas of others.[22] A balance of power recognizes, as Michael Miner has observed, that states will draw from a toolbox of policy instruments—using a mix of military, economic, diplomatic and political power, among other sorts—to pursue their national objectives.[23] If the United States lacks a preponderance of hard and soft power to impose its preferences on Russia and China or to induce them to align with those preferences, then the fallback position is to create conditions for the appropriate balances in both regions.[24] At a minimum, a balance of power should be sufficiently robust to disincentivize rivals from gambling on a short, decisive war or other conflict that would upset the status quo while also incentivizing the avoidance of inflammatory or escalatory behavior. As Henry Kissinger has noted, a "balance of power" offers the prospect "that each state, in pursuing its own selfish interests, would … contribute to the safety and progress of all" by creating stable frameworks.[25]

From the middle of the 20th century, U.S. administrations shifted gradually from a defensive conception of balancing—in which great powers had spheres of influence they wanted to keep free of adversaries—to a conception we can call "transformational," which saw great powers wanting to change the balance in their favor but in a way that would not lead to outright conflict with adversaries; after the end of the Cold War, this latter view became somewhat more extreme, with Washington seeing no need to recognize adversaries' spheres of influence because the entire world seemed like the U.S. sphere.[26] Roosevelt had articulated the defensive conception of the balance of power, where rivals and competitors needed to be prevented from achieving preponderant power in Europe or Asia. It was designed primarily to prevent hostile powers from being able to impose their will on America's domestic and foreign policy choices by drawing defensive lines beyond which a competitor's influence could not extend. Roosevelt emphasized that the first goal of his balance was to avoid "agenda-taking," i.e., being forced to accept another country's agenda. Kennan's conception began with the same starting point but was more proactive: It was about maintaining a balance that would preserve peace, or at least the absence of all-out war, in the short run but also help to create conditions in the longer term that would either reduce the power of rivals or transform them into friends.[27] In other words, near-peer competitors would be turned either into non-peers or into near-peer partners. This was a balance designed to facilitate, over the long term, a greater agenda-setting role for the United States. This second approach, which Kennan termed "containment,"[28] was updated by Condoleezza Rice, when she was national security advisor, as a "balance of power that favors freedom."[29] It is a more dynamic balancing act and by necessity more interventionist, but with greater risks for clashes and conflicts.

Today, a defensive balance of power, as articulated by thinkers such as John Mearsheimer and Stephen Walt, in Europe and Asia that meets the minimal requirements for U.S. national interests would be to maintain the outer "barriers" to China's and Russia's ability to project power into the Atlantic and Pacific basins.[30] This refers not only to military maritime activity but more broadly to any extension of influence. This is to ensure, in accordance with Kennan's proposals, that the Western/Central European economic core and the East Asian manufacturers remain connected to the

United States, and that Middle East resource endowment and the Indian subcontinental emporium remain in a condition of "open doors" accessible to all but dominated by none. It would seek a series of modi vivendi in both geophysical and virtual global commons that would define accepted rules of the road rather than seeking to impose U.S. standards. To some degree, accommodation of some Russian and Chinese preferences in Eastern Europe and East Asia would be a tradeoff to ensure that Moscow and Beijing would have less incentive to form a full-fledged, formal entente (for instance, limiting the extension of U.S.-led alliances so they encompass fewer states along Russian and Chinese borders). Significantly, the defensive balance of power approach accepts that parts of Eastern Europe, Central and South Asia and Southeast Asia are less critical to maintaining deterrence, and therefore American contestation for influence in these areas is not essential for U.S. security.

A transformational balance-of-power strategy starts from the assumption that China and Russia under their current management and with their current configuration of power pose a long-term threat to the interests of the United States, but one that cannot be countered by direct action. The transformational balance of power seeks to make the costs for a direct clash with the United States too high for Moscow and Beijing to pay, but at the same time is designed to prevent either from consolidating clear and defined spheres of influence—and, more significantly, from being able to repress movements for democratic change either on their frontiers or ultimately within their own societies. This approach therefore recognizes no permanent spheres of influence or delineation of "lines" (even if it seeks to promote more informal rules of the game). The end goal is not simply to prevent great power conflict but also to promote integration and assimilation into the U.S.-led international system.

However, the resulting competition may incentivize countries to compete and contest using non-traditional tools of statecraft, the so-called "measures short of war," which would include economic tools (such as debt diplomacy) and the deployment of cyber measures.[31] Chinese military thinkers have reportedly argued that under such conditions using legal action, economic pressure or cyberattacks should move beyond traditional battlefields to target "culture, information networks, economics and

finance, natural resources and energy"—in part, to shift the struggle away from the conventional warfare capabilities where the United States still predominates into other arenas where countries like China (or Russia) can find advantage on their own terms.[32] In a similar vein, while there is much that remains unclear[33] about the "Afghan bounties story"[34] (allegations that Russian military intelligence made payments to Taliban elements and organized crime to target U.S. forces in Afghanistan), the basic charge fits into this playbook: an approach that avoids direct confrontation in favor of using proxies to roll back American influence.[35]

Transformational balancing might also prove to be difficult to pursue simultaneously against two major powers in two different regions, Europe and Asia, with the possibility of an added theater in the Middle East. The United States would be challenged both by the demands of active balancing, as well as holding together disparate coalitions of allies and partners in both Asia and Europe.[36] One of the critical reasons that the Obama administration's efforts to "rebalance" U.S. attention and priorities to the Asia-Pacific region faltered after 2014 was that the pivot was based on an assessment that Russia would not actively challenge the status quo in Europe, allowing for more assets to be shifted eastward.[37] Moreover, transformational balancing against both Moscow and Beijing would only serve, as Graham Allison warns, to convince both Russia and China that, despite their differences, they are better served by working closer together against the United States.[38]

American policymakers are divided over their assessments of the challenges posed by both Russia and China, as well as the timing for action. Even assuming that most people would accept the characterization reached by James Dobbins, Howard J. Shatz and Ali Wyne—that "China presents a greater geoeconomic challenge to the United States than Russia does," that "Russia is a more immediate and more proximate military threat to U.S. national security than China" and that "China presents a regional military challenge and a global economic one"—[39] it does not follow that there is one standard approach to dealing with great power competitors. Russia has one toolbox it uses to challenge American preferences: so-called "hybrid warfare" techniques,[40] well-developed informational "sharp power" instru-ments,[41] limited but genuine military power-projection capabilities outside

of its immediate region and control over vital resources;[42] China's toolbox is different: growing maritime influence[43] and its large checkbook[44] for wielding influence via economic, trade and financial projects. Nor is it clear which power must be contained first. One could propose a defensive bal-ance against Russia to contain its more revisionist impulses, which remain geographically limited, while focusing attention and resources on the long-term effort vis-a-vis China across the entire world, or one could argue in favor of pursuing transformational balancing against Russia, even at the risk of letting Chinese power grow, to change the balance in Eurasia so as to deprive China in the longer run of a more effective partner that would be capable of distracting and entangling the United States.[45] Strategists must decide whether Russia should be prioritized given the immediacy of its threat or whether China's more global ambitions and reach (as opposed to Russia's more limited aims and constrained capabilities) deserve more attention.

An ambitious strategy of actively containing Russia and China simulta-neously would also require that America's Asian and European allies be prepared to expand their contributions in both theaters.[46] Yet U.S. allies are divided on this question. Not surprisingly, there is a wide variance between the stands taken by countries like Poland in Eastern Europe and Japan in East Asia. In Poland, Russia is seen as the immediate threat that must be addressed, while China is either not perceived as a problem or is a much longer-term concern.[47] In contrast, Japan has been reluctant to impose major penalties on Russia for its revisionist activities in Eastern Europe if doing so weakens Russia's ability to serve as a partial counterbalance to China or drives Moscow closer into Beijing's embrace.[48]

There are also domestic political realities that any U.S. government must take into account. There is little public support for broadly trans-formational agendas in either Europe or Asia, whereas one can detect clear trends in favor of American retrenchment and even partial disen-gagement.[49] Thus, as Evan Sankey has pointed out: "Despite America's advantage in raw national power, it has repeatedly demonstrated that it lacks the patience and risk tolerance to prevent determined adversaries from making local gains, especially given its commitments elsewhere in the world."[50]

Thus, we must assess whether there have been changes in either Europe or Asia that are dangerous to U.S. national security, as opposed to just being "less desirable" in an ideal assessment. Then, we must apply the same criteria that Roosevelt, in 1940, had identified as any guide to American action: 1) could existing powers in Asia and Europe create balances against aggressive and revisionist powers without American involvement; 2) could existing powers do so with offshore assistance from the United States; or 3) was direct American participation in the European and Asian balances of power required? Finally, we must determine whether the U.S. should engage in defensive or transformational balancing and whether to prioritize the Russian or the Chinese challenge.

The Revisionist Resurgence of Russia and China

Most Americans who are interested in foreign affairs take as their starting point the observations made by James Lindsay and Ivo Daalder that the international order as it emerged during the 1990s is the norm that must be defended: After the Cold War, the "success of American policy ... means that no power—not Russia, not Germany, not a united Europe, and not China or Japan—today poses a hegemonic threat to Eurasia. In this new era, American foreign policy will no longer pivot on geography. Instead, it will be defined by the combination of America's unrivaled power in world affairs and the extensive and growing globalization of world politics."[51]

In practical terms, and based on the paradigm described by Joffe, this meant that the U.S. expected to take the lead in shaping not only the global security architecture but also regional ones. In these processes, other major powers would be invited to cooperate and, indeed, there was hope, as former U.S. ambassador to Russia Michael McFaul put it, that "Russia's capacities [as a great power] did not automatically mean there would be conflict."[52] However, while Washington would allow for their voice, it would not permit their veto.[53] Instead, the United States would exercise "adult supervision" and try to dissuade other great powers from, in essence, acting like great powers.[54]

The European powers and Japan, which have their own ways to influence Washington, were prepared to work within this state of affairs, but, of the major powers in the world, as Andrew Krepinevich has pointed out, it is Russia and China that are the most likely to pursue revisions.[55]

This is because both Moscow and Beijing have major disagreements with the post-Cold War order.

In more concrete terms, what that order entailed, in Europe, was that Russia would acquiesce to subsequent waves of enlargement for the North Atlantic Treaty Organization even if there was no guarantee for Russian membership and influence. In Asia, China was likewise expected to defer to American preferences for regional security. In global affairs, despite being veto-wielding members of the United Nations Security Council, both powers were encouraged to accept American assessments and vote accordingly, with the passage of the key U.N. resolutions on Iraq in 1990-1991 as the gold standard whereby other powers would accept the U.S. lead for addressing international security problems.[56]

Instead, since the beginning of the new millennium, Russia and China have increasingly adopted, in the terminology of Aglaya Snetkov and Marc Lanteigne, the position of the "loud dissenter" and the "cautious partner"—both prepared to defy U.S. preferences or put forward their own counter-proposals—either to stymie American action or to force compromises on Washington.[57]

The standing American assumption has been that the benefits Russia and China have gained from the U.S.-led international order would outweigh any of the losses in influence. However, from Moscow's and Beijing's perspective, they seek not to overturn that order completely but to reduce and renegotiate the U.S. role.[58] As then-Chinese Foreign Minister Yang Jiechi pointed out at the 2010 Munich Security Conference: "We deserve a chance to express our views on how things in the world should be run. What we are trying to do, like other countries, is to improve the international mechanisms to make sure that both developing and developed countries will benefit from our cooperation in the future. We are offering our views and we have the modesty to listen to others. It has

always been the tradition of China. But I think we also deserve a hearing of one kind or another. … One country or a few countries definitely cannot decide the future of the world."[59] Russian President Vladimir Putin, for his part, was much more blunt in his address to the State Duma on March 18, 2014. Speaking about the status quo of the post-Cold War order, he declared that it was shaped when Russia "was going through such hard times … that realistically it was incapable of protecting its interests." He offered his metaphor of the Russian wish to pursue revisions to that order as follows: "If you compress the spring all the way to its limit, it will snap back hard. You must always remember this."[60]

That Russia and China might be dissatisfied with aspects of the international system would not be important unless they had the wherewithal and ability to exercise a veto over U.S. preferences or impose their own will, even in their immediate geographic neighborhoods, in defiance of American pronouncements. What has changed over the last decade is the relative decrease of American power vis-à-vis Russian and Chinese capabilities and increased assertiveness in their own proximate neighborhoods. For Russia, this has primarily been a focus on reasserting its interests in Eurasia, the northern Middle East, the Arctic and central and southern Europe, although Moscow has also been willing to assert itself in other parts of the world. China's ambitions start with establishing itself as the leading power in the Asia-Pacific region and to take steps to springboard into other parts of the world.

With successive post-Cold War U.S. administrations having defined "democratic enlargement" as the status quo, any delay, pause or stop in that process could be defined as revisionism.[61] Rice's definition of a "balance of power that favors freedom" is effectively challenged if the balance no longer permits unlimited enlargement and expansion and instead shifts the U.S. focus back toward defending existing lines of influence and attachment.

As gaps have opened up[62] between America's rhetoric and promises and what it can actually deliver,[63] other countries have been incentivized to hedge their bets by seeking alternatives—and at a time when other powers, starting with Russia and China, have increased their capabilities. Former Sen. Jim Webb (also a former secretary of the navy) identifies the U.S.

decision to invade Iraq in 2003 and other interventions in the Middle East as the proximate cause of the shift in the distribution of power within the international system.[64] By causing rifts with key allies, and focusing U.S. attention and resources on these operations, it provided the opening for other powers, especially China, to expand their influence and reach. Subse-quently, the 2008-2009 global financial crisis, the Obama administration's reluctance to enforce its red lines[65] and the political disruptions caused by the actions of the Trump administration are also seen as further erod-ing America's ability both to direct the global system and to predominate in specific regions of the world.[66]

Since 2007, Russia and China have both, separately and in concert, engaged in a series of initiatives designed to reduce U.S. influence and rebalance both regional and global distributions of power and influence more in their favor. Without commenting on the ultimate efficacy or success, we can summarize these efforts as follows:

- In the European theater, Russia has used force to separate Abkhazia and South Ossetia from Georgia (in 2008) and to annex Crimea and foment separatism in the Donbas in Ukraine (in 2014). This built on earlier efforts to degrade the sovereignty of those states (for instance, by issuing Russian passports to Georgian and then Ukrainian citizens so as to create a basis for interference in their affairs). In so doing, Moscow effectively halted the prospect of further eastward NATO enlargement despite U.S. legislation defining expansion as a U.S. policy objective.[67] Russia has partially completed a series of new energy infrastructure projects that reduce the ability of Ukraine and other Central European states to influence Russian energy exports to Europe, while cementing stronger economic linkages to key European states including France, Italy and Germany, and again doing so in spite of U.S. legislation designed to forestall these plans.[68] Russia was able to launch the Eurasian Economic Union in 2015 and take the first steps toward regional integration under its watch, rather than under the direction of Western institutions.[69] Russia's intervention in Syria and other out-of-area operations have also demonstrated the possession of (albeit limited) power-projection

capabilities beyond its immediate region and an ability to sustain those operations.[70] Finally, Russia's military modernization has enabled Moscow to develop anti-access/area denial zones in the Arctic, Baltic and Black sea basins that raise the costs for any U.S. or allied activity in those zones.[71]

- Throughout Asia (and beyond to Africa and Europe), China has launched its Belt and Road Initiative designed to link some 70 countries and reorient trading patterns and supply chains to be centered in China.[72] Over the last decade China has displaced the United States as the leading trade partner of every state in the Asia-Pacific region, sometimes by a factor of two.[73] Since 2007 China has been more active in asserting its claims in the South China Sea and rejecting U.S. definitions and preferences for how maritime disputes should be settled—and even suggesting that the United States has no role to play, while extending its perimeters in both the South and East China seas.[74] In May 2018, Adm. Philip Davidson, about to take charge of the U.S. Indo-Pacific Command, bluntly acknowledged: "China is now capable of controlling the South China Sea in all scenarios, short of war with the United States."[75] China is also working to extend its "string of pearls" facilities westward from northeast Asia to southwestern Asia to extend its range of activities.[76] All of this is changing the overall balance of power in the region in China's favor.[77]

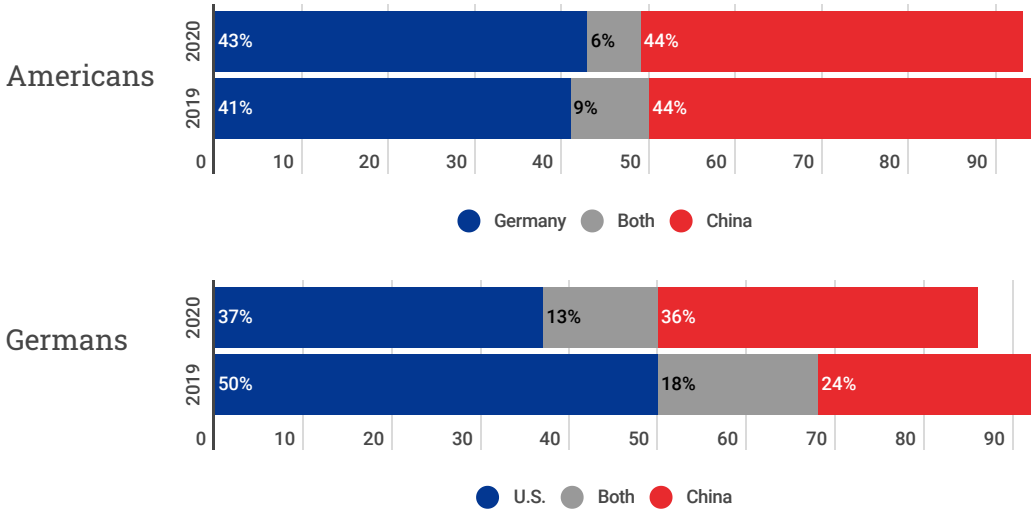
The economic influence generated by the Belt and Road, combined with China's development of power-projection capabilities, changes the nature and scope of Chinese influence. As Nadege Rolland, senior fellow at the Washington-based National Bureau of Asian Research, concludes, China's goal is to increase its "political and strategic influence" and to broaden that influence "in countries that are potential providers of natural resources, as well as future markets, and gain allies in international arenas such as the United Nations at a time when the U.S. is pulling back."[78] Similarly, as Parag Khanna points out: "Much as we see China continuing its military doctrine of probing for opportunities, it will still seek to use BRI [the Belt and Road Initiative] as an umbrella for increasing its geographic connectivity, supply-chain efficiency and commercial leverage with key states in Asia, the Middle East and beyond."[79]

Initially, these actions by Moscow and Beijing were separate and uncoordinated—Russia's efforts to define a "zone of privileged interests"[80] in Eastern Europe and Eurasia, and China's imperative, per Mark Tokola's conclusion, to guarantee that "countries on its periphery will not counter Chinese interests."[81] When it became clear, however, that the United States would continue to contest these efforts, Russia and China found common ground in partnering to offset American advantages.[82] Russia did not contest China's desire for security around its frontiers while, as Paul Bolt and Sheryl Cross have discussed, China was prepared to support Russian political and security predominance in Eurasia (while expecting that China would exercise greater economic leverage).[83] Beyond that, in the last decade, Russia and China have worked together (and with other rising powers) to create new hubs that bypass the United States. The Shanghai Cooperation Organization has evolved from a mechanism originally designed to settle border disputes into an embryonic security organization, and Russia and China have increased their military cooperation both in the framework of the SCO and in bilateral formats in a manner that, as Richard Weitz concluded, now has "greater potential to challenge the vital security interest of the United States and its allies."[84] Russia and China reached out to Brazil, India and South Africa to set up an alternate global forum (BRICS) and laid the foundations for a possible alternative to the Western-dominated World Bank, while China has also created an alternative to the U.S.-inspired Asian Development Bank. China and Russia now form a reliable tandem in the U.N. Security Council[85] and have taken the first steps toward reducing the use of the U.S. dollar as the world's reserve currency.[86] At the same time, China has taken the lead in seeing how it can leverage market mechanisms and educational opportunities in terms of acquiring U.S. and Western skills and technologies with the ultimate aim of reducing the Western lead in advanced technology and to further level the military playing field.[87] Ultimately, China and Russia are creating alternatives to be able to route around global and regional institutions in which the U.S. plays a role—the so-called "world without the West" approach.[88]

Finally, China has embarked on a defined strategy of becoming a greater player in European affairs. In some cases, this comes about via its partnership with Russia, especially in terms of military engagement—such as joint drills in the Baltic, Black and Mediterranean seas.[89] Overwhelmingly,

however, China is planting its flag in Europe via investment[90] and finding ways to influence European affairs and weaken any common Western position vis-à-vis China, especially on matters of trade and technology;[91] examples of this approach include the "17+1" format with Central and Eastern European nations and signing up European states as part of the Belt and Road Initiative.

Percent of Americans/Germans who say it is more important for their country to have a close relationship with each other, China or both:



Source: Pew Research Center. "Don't Know" and "Neither" volunteer categories not shown.

In short, Russia and China have more of a voice in European and Asian affairs and, by extension, in global affairs than the United States may like. Russia has fended off further NATO enlargement on the territory of the ex-USSR and has forged partnerships with key U.S. European allies, like Italy, Germany and Turkey, which allow for some of Russia's preferences to be extended into the councils of the Western alliance. America's partners in Asia are now more inclined to hedge between Washington and Beijing rather than automatically side with the United States in any dispute with China.

At the same time, while Brands notes that "China and Russia ... are chipping away at American influence in East Asia, eastern Europe and the Middle East," neither China nor Russia have successfully breached any of America's core red lines. No American ally in Asia has repudiated or

denounced treaty commitments binding them to Washington, and NATO has no plans to dissolve at any point.[92] If "democratic enlargement" further into the greater Eurasian core has been halted, the defensive perimeters in Europe and Asia remain intact, for now. It is also important to note, as Simon Saradzhyan has stressed, that Russia and China are not allies but keep their relationship at the level of a strategic partnership, with both countries still preferring to retain their freedom of action and not be constrained by obligations to the other.[93] But does all of this mean that a stable balance has been achieved?

Measuring Power and Assessing Balances

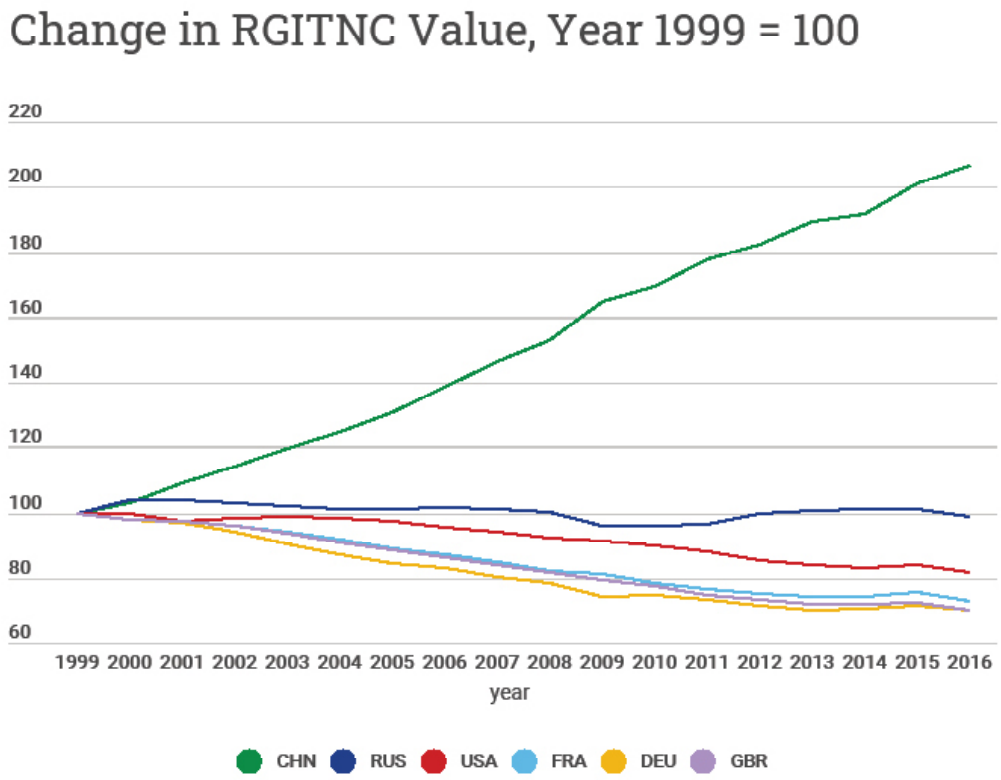
If one is to develop a group of "great powers"—adapting the criteria[94] used by Walter Russell Mead and Sean Keeley and matching it to rankings[95] of the world's largest economies—then, after the United States, one usually ends up with Germany, Britain, France, India and Japan, alongside Russia and China. In Europe, the EU's population base and economic potential (500 million people and $10 trillion in GDP) dwarf Russia's (145 million and $1 trillion, respectively). In Asia, similar trends[96] can be observed vis-à-vis China as countries like Japan, Korea, India, Vietnam, Indonesia and the Philippines also increase defense budgets and capabilities.[ii]

On paper, even without the United States, Russia and China ought to be reasonably balanced in their neighborhoods by other major powers. French and British defense spending combined essentially balances Russia's expenditures, and most European countries are committed to a strategy German Chancellor Angela Merkel labels as "deterrence and dialogue" with Moscow.[97] When one adds Europe's "middle powers" into the mix, then European states acting in coalition should be able to balance Russia. Using the research collected by Richard Connolly, combined Japanese and Indian defense spending approximates some three-fourths of Chinese expenditures, and when other middle Asian powers are factored in,

ii Military budget comparisons can be misleading, because the ruble or renminbi can buy more in defense capabilities than a simple comparison with dollars or euros would suggest. Re-examining through the lens of the purchasing-power-parity metric suggests that, after the United States, the next largest military spenders were China, India, Russia, Saudi Arabia, France, the United Kingdom and Japan.

a rough parity between China and other Asian states is achieved.[98] Not surprisingly, Japan[99] under Prime Minister Shinzo Abe and India[100] under successive prime ministers have been looking to solidify trade and security ties among Asian nations precisely to be in a better position to counterbalance China. As T.V. Paul points out, in the wake of Chinese pressure, India has formed "limited coalitions with the United States, Japan, Australia and some ASEAN countries."[101] The Indian concept of the "crescent of cooperation" is meant to provide a counterbalance to China's "string of pearls" and to promote closer security ties throughout the region.[102]

Yet confidence in the idea that China and Russia can be balanced by coalitions of their neighbors has eroded over the past decade. The work done by Saradzhyan and Nabi Abdullaev in 2018 shows that for the past two decades, Western states have all seen relative declines in national power, while Russian power has remained relatively stable and Chinese and Indian power have increased.[103] The Lowy Institute classifies China's and Russia's power as continuing to rise, while the United States but also Japan and India are effectively treading water. When power is broken down into components (economic resources, military capabilities, etc.), the picture becomes more troubling.[104] As Saradzhyan and Abdullaev note, if one relies on a metric they call the "Revised Geometric Index of Traditional National Capabilities (RGITNC)," which includes "countrywide population, urban population, energy consumption, military expenditures and value-added manufacturing," then Russia's national power has remained constant between 1999 and 2016 (a 0.98 percent decline); however, "the power of Italy, Germany, Britain, France and the U.S. decreased, respectively, by 34.17 percent, 29.6 percent, 29.6 percent, 26.85 percent and 18.47 percent. The same period saw the power of China and India … grow by 106.53 percent and 29.84 percent, respectively."[105] The Lowy Institute's criteria define China as an "emerging superpower" based upon an analysis of military capabilities, economic resources and diplomatic relationships. Over time, China is amassing power that cannot be easily balanced. As Hervé Lemahieu points out, "Within its region, China's defense budget is 56 percent larger than those of all 10 Association of Southeast Asian Nations (ASEAN) economies, Japan and India combined."[106]



But raw statistics only tell part of the story. As Ashley Tellis points out, it is necessary to take the raw materials of power and shape them into "operationally effective" practices that can achieve results.[107] In his assessment of China's naval capacity, for instance, James Holmes makes the important point that "capability is catching up with aspiration"—something that can also be said of Russian military capabilities.[108] Adrian Hyde-Price further specifies the makeup of a great power as a state that defines its national interests in broad-based, systemic terms, has a willingness to use power and has the ability to project power beyond its borders.[iii] In the ways a country like China (or for that matter Russia) will be able to wield power, the Lowy Institute concludes, "long-term political will and defense economics will be deciding factors."[109]

What this has meant, in Asia, as Stephen Burgess has concluded, is that "China has shifted the Asian strategic balance through robust diplomatic and economic engagement and military pressures. Using aid, trade and investment, China has developed influence with most Southeast Asian countries and has been stressing U.S. allies and partners and causing some

iii Adrian Hyde-Price, "European Security in the Twenty-First Century: The Challenge of Multipolarity" (Routledge, 2007), 38.

to hedge."[110] In the greater Eurasian space Russia has been somewhat successful in pushing back against Western influence and re-extending its own influence not only in former Soviet republics but in parts of southern and central Europe.[111]

Based on these metrics, we can come to two major conclusions: First, the balance of power in both Europe and Asia have tilted in Russia's and China's favor, but neither Beijing nor Moscow can exercise decisive hegemony at this time. However, China and Russia can overshadow any one other major power in Europe or Asia.

Is the United States Needed?

If a core U.S. security concern, as Hans Morgenthau noted in 1968, is to prevent the rise of a hegemonic power in Eurasia, does this require the U.S. necessarily becoming involved in continental affairs?[112] What if the United States were to turn inward? Would this current balance hold over time? This question has increased salience at a time when U.S. domestic politics has turned against the notion of creating new economic blocs—for instance, the Trans-Pacific Partnership and the Transatlantic Trade and Investment Partnership—that were originally envisioned as extensions of America's security relationships in Europe and Asia.

This is the crux of the problem: Without the United States, coalitions of European and Asian powers can only defensively balance against Russia and China—and even then only if they remain united and their power remains consistent. Indeed, American integrative power, in both Europe and Asia, has been crucial in knitting together and sustaining these coalitions. Moreover, the United States has been able to add the capacities of small and medium powers to these coalitions. (The drawback, however, is that many U.S. allies fill niche capabilities and assume that they will be acting in support of a U.S.-led effort, rather than being able to operate in a "standalone" fashion.)[113]

Thus, if these coalitions fracture, the dikes holding Moscow and Beijing in check will give way. Thus, it is not surprising that both Russia and China have actively pursued policies designed to undermine the

solidarity and cohesion of such coalitions—using an entire toolbox ranging from economic incentives and diplomatic action to cyber tools and the deployment of so-called sharp power. China's successful efforts to use economic and diplomatic pressure to fracture ASEAN states[114] and frustrate Indian and Japanese efforts to develop a more robust coalition, and Russia's more mixed record[115] in developing pro-Russian tendencies among EU and NATO members, suggest that both Moscow and Beijing understand the strategic importance of frustrating the emergence of strongly unified coalitions in both Europe and Asia. In particular, as the foreign affairs committee of the European Parliament warned in 2016: "The Russian government is aggressively employing a wide range of tools and instruments, such as think tanks…, multilingual TV stations (i.e. Russia Today), pseudo-news agencies…, social media and internet trolls, to challenge democratic values, divide Europe, gather domestic support and create the perception of failed states in the EU's eastern neighborhood."[116] Russian efforts continue in the wake of the 2020 coronavirus pandemic[117] to try to undermine European solidarity, while China's line is that the pandemic has shown American global leadership to be illusory.[118]

To some extent, both Chinese and Russian missteps have helped to keep the coalitions balancing them intact. In particular, China's inability to reach an accommodation with India and Beijing's pursuit of maximalist claims against New Delhi,[119] including in spring 2020,[120] have continued to incentivize India to reach out to other Asian states and to the U.S. for support. Yet earlier bouts of more creative Chinese diplomacy have shown the possibility that India, under the right circumstances, could achieve a modus vivendi with China.[121] Similarly, more agile Russian engagement of the main powers of Europe, especially France and Germany, might produce both a willingness to compromise[122] with Russia and to rebalance[123] trans-Atlantic ties.

After a major tabletop exercise in summer 2019 explored the ramifications of a U.S. disengagement from Europe, its organizers concluded that "it becomes clear that without U.S. security guarantees, the principles of European unity and mutual solidarity were quickly challenged and Europe was at serious risk of splitting into different camps"—with one of those camps more prone to accommodate Russian demands.[124] Under such

conditions Russia would be able to increase its influence in and leverage over European affairs. Thomas Wright reaches a similar conclusion for Asia—that U.S. disengagement would not lead to greater Asian integration but that individual countries (with the exception of Japan) would work to accommodate China and accept its position to set the regional agenda.[125] The perception that the U.S. is "absent without leave" in the larger Indo-Pacific basin creates conditions for countries not to unite against China but to individually, on a bilateral basis, negotiate terms with China.[126]

Given the risks of a major loss of influence in both Europe and Asia should the United States turn inward, U.S. policymakers must decide to what extent an active U.S. role and direct U.S. participation is needed in creating and maintaining regional balances. Before turning to those options, however, we must address a situational question: Will the twin crises of 2020—the COVID-19 pandemic and the oil price collapse—reverse the trends that have been observed over the last decade and so remove the necessity for U.S. action?

COVID-19 and Oil Price Collapse

Two "gray swan" events—a pandemic and major disruptions in energy markets—raise the question as to whether pre-existing vulnerabilities in Russia and China will be exacerbated, causing one or both to be unable to sustain their challenge to the U.S. These vulnerabilities include brittle political systems, Russia's dependence on energy export revenue and China's debt overhang.

Russia was already coping with Western sanctions that acted as a drag on its economy before coronavirus hit, but the combined impact of the pandemic and low energy prices are going to pull its economy into negative territory, while opening up budget deficits.[127] The massive "national projects" designed to jump-start economic growth and position Russia to retain its great power status via Arctic development may be delayed or suspended.[128] All of this suggests that the Kremlin will begin to scale back its plans both for domestic development and for expanding Russian influence in the world and will try to reduce points of confrontation with the West.[129]

For China, even before 2020 started, there were clear signs that the Belt and Road Initiative was running out of steam,[130] both as Chinese firms reassessed likely profits and risks and as other countries revisited the fine print on Chinese loans and decided that the strings attached to China's foreign direct investment was not welcome.[131] But events in the wake of the coronavirus pandemic have accelerated these problems. China's economy contracted for the first time in decades in the first quarter of 2020, by nearly 10 percent; delivery of component parts for BRI projects have been held up as China's economy was on lockdown; and concerns cropped up about the sustainability of some of the projects. The Oxford Business Group has concluded: "Chinese capital resources are likely to be mobilized to meet domestic needs in the short term, which could translate into reduced investment in the BRI's more peripheral markets over the next 12 to 24 months. Combined with the fact that many of the countries signed up to BRI projects face escalating foreign debt pressures, the stage may be set for a long-term reorientation toward more strategic and cost-efficient infrastructure projects, which meet clearly defined domestic or regional demand."[132] One of the most significant components of the Belt and Road, the China-Pakistan Economic Corridor, has been especially hard hit. In his assessment, Andrew Small of the German Marshall Fund concluded: "The full-scale version is not really in the cards. It's going to land in a far more modest place than envisaged. It's not going to be a game changer."[133] Other reports suggest that budgetary pressures and the need to cushion the economic shock of the pandemic will cause China to lower its defense spending,[134] while the artificial islands in the South China Sea, heralded as a game-changing factor that demonstrated China's ability to shift the regional balance of power, may already be deteriorating.[135] China has also been put on the defensive for its handling of the pandemic, which has impacted its international standing and has led to questions about its reliability as a partner.[136]

On the other hand, the United States and its allies are being impacted as well by the economic downturn and the pandemic. The overall global economy is expected to shrink by 3 percent in 2020;[137] the economic impacts in China that may affect its great-power-projection capabilities are also dragging down the economies of the other developed states. The health and economic damage in the United States is likely to reorient future

spending away from national security; Gen. David Barno and Nora Bensahel bluntly warn national security practitioners that a result of the crisis may be that "economic recovery and preparing for domestic threats like pandemics will be far greater concerns for most Americans than threats from foreign adversaries."[138] No matter what, spending increases to support a more robust program to contain and roll back Russian and Chinese influence may not be in the cards.[139] Indeed, cuts in foreign assistance to deal with domestic needs could provide China with the opportunity to regain some of its lost influence, in Asia and further afield, should Beijing be able to proffer aid while Washington cannot.[140]

Moreover, some of the concerns raised about the strength of European or Asian solidarity in the face of a Russian or Chinese threat are amplified by the coronavirus pandemic, which has been reducing trust in coalitions, a trend most noticeable in Europe.[141] At the same time, despite taking damage, Russia and China have lower-cost options for continuing to push back and establish their zones of interest.[142] Given that Russia has shown a degree of resilience and creativity in dealing with setbacks, and that any decline by China is matched by declines in the West, it would therefore be risky to assume that the pandemic and economic crises of 2020 will rebalance power and influence in favor of the United States.[143]

Unlikely Outcomes

Given the mismatch in power and capabilities between Russia and China,[144] and the reality of Moscow's steady decline in the coming years versus China's ascension to near-superpower status, strategists have questioned whether this creates opportunities to balance Russia and China against each other or whether the two partners might even end up in open clashes reminiscent of the Sino-Soviet rivalry during the Cold War.[145] These contemplations reflect the conclusion reached by former Secretary of Defense James Mattis in 2018 that there is "little in the long term that aligns Russia and China" and that there is a "natural non-convergence of interest" between Russia and China that makes their cooperation ephemeral.[146]

At the end of the first decade of the 2000s there was talk about a possible "G-2" between the United States and China, a proposal coined by Zbigniew Brzezinski and Fred Bergsten, or the related "Chiamerica" concept coined by Niall Ferguson and Moritz Schularick.[147] Behind these ideas was the notion that Beijing and Washington would regulate global affairs—and, by implication, China, having a guaranteed position of status, would be less inclined to support Russian efforts to maintain its zone of privileged interests in Eurasia. However, as Ferguson acknowledged at the end of 2019, this concept is effectively dead due to the ongoing deterioration of U.S.-China relations, and with it any idea that China would work with the United States to restrain or restrict Russian influence.[148]

Even without Chinese support, there may still be an interest in focusing attention on Russia as the primary strategic challenger and to concentrate on containing Russia even at the expense of more attention to the Asia-Pacific. However, as Nicholas Eberstadt reminds us, "the Indo-Pacific, then as now, will be the locus of global economic, political and military power—and will remain so for at least the coming generation, possibly much longer."[149] The snap-back to Europe that took place after 2014 undermined the confidence America's Asian allies had in the priority of their region in American strategic planning,[150] on top of existing concerns that the U.S. might accommodate Chinese preferences—and heightened fears that the rebalance was about getting other states in the region to contain the Chinese for Washington.[151] But deprioritizing the focus on China now could complicate American strategy in several years; as assessed by former assistant secretaries of defense and state, Elbridge Colby and Wess Mitchell: "The West must recognize that it will either pay now or pay later to contain China."[152] This may prove untrue if Russia is so weakened in the next 12 to 36 months that dual containment, in both Asia and Europe, can take place without much involvement by the United States; however, all indicators are that Russia will be diminished but not knocked out by the current crisis.

Former deputy national security advisor Bob Blackwill along with other American and Russian strategic thinkers have mulled a different proposal: one where China's rise reaches a point of such threat to both Russia and the United States, along with other powers like Germany and India, that it would impel the creation of a China-balancing coalition.[153] Under such

conditions, either the West would make a tacit acknowledgment of Russia's zone of interests in the Eurasian space, or the threat to Russian survival would be so dire that the luxury of viewing the United States and NATO as the primary threat to Russian security would no longer be tenable.

Today, the Sino-Russian relationship involves its own delicate balances. Russia and its strategic partner India are concerned about the rapid rise of Chinese power, and this concern sustains their security and economic relationship and is the basis for Russian interest in using India as a partial counterweight to China in the greater Eurasian space.[154] Yet China has seemingly accepted the need to limit and regulate its ambitions in Eurasia in order to tap down competition with Moscow that could disrupt the more beneficial aspects of the strategic partnership with Russia.[155] China-Ukraine relations demonstrate the extent to which Beijing, in pursuing its own economic interests, is not prepared to fundamentally challenge Russian preferences.[156] For Moscow to really sour on Beijing, China would have to be much more aggressive in moving against Russian interests—intervening against Moscow's preferences concerning regime succession in Central Asia, or funding geoeconomic projects that would directly compete with core Russian interests. This could only occur in conditions where U.S.-China relations were improving and Beijing no longer needed the partnership with Russia.[157] At the same time, Russia would need to believe it would be possible to reinvigorate its relationships with the West.[158]

Given the importance Xi Jinping and Putin have placed on crafting the Russia-China partnership, neither seems interested in throwing away the benefits to pursue what might be ephemeral gains, like greater Chinese influence in Eurasia or the promise of a new U.S.-Russia relationship. As Paul Stronski and Nicole Ng concluded: "With both countries seeing greater threats to their security emanating from the West than from each other, it is unlikely that the shifting power dynamics in the Russian-Chinese bilateral relationship will cause the partnership between Moscow and Beijing to slow. Both in fact have more to gain from working together to try to contain the West—specifically U.S. power—than in confronting each other."[159] However, neither country is pushing for a fully integrated alliance, and there are important differences in how each country views

its interests that currently preclude such a development. As Saradzhyan and Wyne pointed out:

> **Today's Russian-Chinese partnership can safely be expected to keep growing deeper as the two governments take pains to increase bilateral trade and investments, while also advancing their multilateral cooperation projects, such as the SCO and BRICS. But despite this convergence of interests, China-Russia relations may epitomize the Chinese proverb "same bed, different dreams": Putin's ambition is to retain Russia's positions in the bilateral relationship even as Russia continues to grow weaker relative to China; the rising China, in contrast, is looking to expand its clout not only vis-à-vis Russia, but also in neighboring regions and globally.**

Thus, an important objective for U.S. policy is to ensure that balancing against Russia and China does not create conditions where both Moscow and Beijing, for their own reasons, believe that their only option is to move toward an actual alliance.

The Most Dangerous Scenario

Prior to his death, Brzezinski warned that the "most dangerous scenario" for U.S. security would be "a grand coalition of China and Russia."[160] While U.S. policy in Europe and Asia should seek to shape what Colby calls "favorable balances," it is important that the United States not take risky steps that could backfire and create a worse outcome.[161] This would include taking steps that seem to suggest that U.S. security cannot be insured unless there is regime change in Moscow and/or Beijing, or adopting maximalist definitions of U.S. interests in every region so that the end result is that no Chinese or Russian disagreement with U.S. preferences can be permitted to stand.

This remains a risk because U.S. policy—and in some cases actual statute—impel the United States to push back on Russian or Chinese influence if third parties wish to take actions that Moscow or Beijing believe imperil their own vital interests. In Asia, for instance, the United States has determined that its defense commitments (with Japan and the Philippines) include territory and maritime zones that are disputed with neighbors, including China, and in theory require the United States to defend those claims should Manila or Tokyo ask for U.S. support. In Europe, the NATO Freedom Support Act of 2007 commits the United States to support the admission of Ukraine, Georgia and Moldova to the alliance. Unless a future administration is willing to walk back such commitments, various proposals for deconfliction—such as creating a series of neutral states on the Kazakhstan or Azerbaijan models—will not be possible. Moreover, maintaining extensive transformational balances to reshape Eastern Europe or Southeast Asia requires a great deal of U.S. investment and a willingness to counter Russian or Chinese activity without tipping over into actual conflict. This is likely only in conditions where Russian or Chinese power has been negatively impacted, reducing their ability, per the Tellis formulation, to be able to promote their preferential outcomes.

On the other hand, if a policy of dual containment is handled poorly, the first result could be to solidify the Russia-China relationship as a true entente, with China taking the momentous decision to abandon its traditional policy of no binding alliances.[162] But this same policy might not automatically lead to China's and Russia's neighbors flocking to rally under the U.S. banner. Paradoxically, a closer Russia-China relationship could unravel the current coalitions in Europe and Asia that are essential to any successful American balancing strategy. If the United States was perceived as being rash and unreliable, and if Moscow and Beijing were more deft with their statecraft, they might succeed in enticing key European players into a "grand bargain" that would delineate spheres of influence between China and Europe, set contractual obligations in play for governing trade and technology and ensure a guaranteed Eurasian role for Russia.[163] China might agree to limits on its presence "west of Suez" and ensure Russian compliance in return for Europeans' agreeing that there would be no role for Europe to play in Asia-Pacific affairs.[164] In Asia, Russia and China could seek to reassure other countries—notably India—that possible conflicts

could be mediated through the SCO or other such mechanisms without needing to rely on uncertain U.S. guarantees.[165] Given the U.S. withdrawal from the Trans-Pacific Partnership, China could use its Regional Comprehensive Economic Partnership to demonstrate that it is willing to moderate its demands for regional influence in return for acceptance of its leadership.

A core U.S. assumption is that the Xi and Putin administrations are likely to overreach and be clumsy in wielding their influence, which will redound to American advantage. However, if Beijing and Moscow become more adept at statecraft, the risk would be different: Important states whose participation in the U.S. balancing strategy is essential could move to a position of greater neutrality if faced with possible involvement in any clash between Washington, on one hand, and Moscow and Beijing on the other. We have already had a small example of this at work, when the United States was unable to prevent some of its key European and Asian partners from signing on to participate in the Asian Infrastructure Investment Bank in 2015, despite significant pressure from Washington.[166] As David Dollar concluded, the "AIIB episode reveals clearly that Asian and European countries do not want to choose between China and the United States."[167] In the AIIB example, even American treaty allies chose to take part in a Chinese-led initiative over curtailing or containing Beijing's influence. This set a precedent that the United States will need to avoid repeating—where allies and partners of the United States reach accommodations with Moscow or Beijing that have the impact of reducing the effectiveness of U.S.-led coalitions in Asia and Europe.

A Defensive Focus for the Near Future

No matter what course of action the current and future U.S. administrations embark upon, any proposed strategy will have to be acceptable within a domestic U.S. political context. As much as Barack Obama was derided for his formulation of the "leading from behind" approach, the United States will work primarily through the agency of its regional allies and partners.[168] Barring the start of a massive conventional conflict, it is unlikely that the United States will be willing to carry the bulk of the burden for a new Cold War-style confrontation with Russia and China.[169]

For the immediate future, focusing on defensive balancing of both Russia and China is the most sustainable approach. This strategy would build on the so-called "porcupine defense"—strengthening the capabilities of American partners in both Europe and Asia to push back against both conventional and non-conventional forms of pressure from Russia and/or China without requiring a large presence of American forces and materiel, because the large-scale deployment of U.S. forces may prove more difficult in a post-pandemic environment and in constrained budgetary environments.[170] It would focus attention on reducing dependence on supply chains running through China (and a lesser extent Russia) and promote greater trade and technological innovation between the United States and its core partners. Given likely reductions in defense spending in Asia, Europe and the United States, the focus would need to be on promoting greater security self-sufficiency on the part of U.S. allies, in part so the United States could pivot to deal with crises in either part of the world and ensure that the two European and Asian coalitions would not fracture.[171]

Under this strategy, Colby sees the tasks for the immediate future in defensive terms—keeping China and, by extension, Russia on their side of the lines and unable to dictate to America or its allies—rather than focused on creating conditions for the immediate transformation of China (or Russia) itself.[172] While not recognizing any formal spheres of influence, the United States would seek to deescalate contestations in the borderlands surrounding Russia and China and would be more accepting of the approaches taken by states like Kazakhstan or Azerbaijan where partial accommodation of Russian or Chinese concerns is balanced with partial integration or involvement with Western-led institutions.[173] Building on Richard Haass' concept of nonpolarity, a defensive balancing strategy should be matched with efforts to ensure that key states in Europe and Asia that lie outside the formal treaties binding others to the United States can function as pressure-release valves by reducing the potential or incentive for conflict between major power centers.[174] Policies like the multi-vector approach developed Kazakhstan's Nursultan Nazarbayev or the "balanced neutrality" embraced by Azerbaijan's Heydar Aliyev have sought to reduce zero-sum competition by finding ways to accommodate competing interests while allowing these countries to retain their independent freedom of action. For instance, Azerbaijan is both a "dialogue partner" of the SCO

and has partnerships with NATO and the EU. Baku manages its interactions with the major powers so that the fundamental equities of each are not foreclosed;[175] it has, for example, not only distributed equity in key energy projects to American and European firms but also ensured that Iranian, Indian, Chinese, Japanese and Russian companies are represented. This follows on the Colby and Mitchell conclusion that, moving forward into the 2020s, U.S. "grand strategy will need to be attuned to opportunities for downshift or détente."[176]

Implications for US Policy Toward Russia

Grandiose proposals for resets between the United States and Russia are impractical and unfeasible given the current set of international and domestic factors in both countries.[177] Nor is Russia likely to experience a major collapse that will suddenly remove it from the ranks of the great powers and end America's "Russia problem."[178] Nor can the United States decide to eschew the pursuit of strategic stability with a coequal power in the nuclear weapons realm.

However, U.S. policy toward Russia has suffered from a critical flaw: the American insistence on Russian compliance with a whole host of U.S. preferences without much thought about the costs and consequences for the core vital interests of the United States. Somehow, the United States believes that it can bring to bear financial, economic or even military pressure on Moscow without Russia having any commensurate ability to impact U.S. security. Indeed, over the last seven years there has been a sense that taking steps that push Russia closer to China is not a problem despite the risks that a closer Russia-China entente pose to U.S. interests. Moreover, the dysfunction that has emerged in the relationship has led to a lack of prioritization, so that every Russian transgression or disagreement with Washington is seen as meriting an all-out response.

Instead, U.S. strategists need to focus on the following set of questions.

How does the U.S. relationship with Russia impact the maintenance of the vital American interests spelled out earlier in this primer in the Euro-Atlantic and Asia-Pacific theaters? Given Russia's own sets of capabilities and

interests, to what extent does the promotion of peace and stability—as well as a continuation of a U.S.-led regional order and coping with China's emergence as the world's second major power—require cooperation as opposed to competition and confrontation with Moscow? In short, where does Russia fit within the American conception of the balances of power in both Europe and Asia that are most advantageous to U.S. interests?

The principal conclusion is that the core mission of the U.S.-Russia relationship moving into the 2020s is to disincentivize further Russia-China convergence. Every new defense agreement, every new intelligence collaboration, every new diplomatic coordination in international institutions adds needless complication for U.S. and allied interests. Russian and Chinese officials are frank in their evaluations of areas where their interests overlap or converge, but also where the two countries have important differences in perspectives and priorities. China, for instance, has abstained on questions about the status of Crimea, neither recognizing nor condemning the annexation. China has also pursued Belt and Road projects and investments in Azerbaijan, Georgia and Ukraine that would compete with Russian desires to control access points between Asia and Europe. Similarly, Russia pursues its own policies—a close strategic partnership with India and Vietnam and a growing economic relationship with Japan, all of which have the secondary impacts of strengthening these three states vis-à-vis China. Russia and China have developed what we might term a "2-C" paradigm for their partnership: outlining areas of cooperation and setting down parameters for where, when and how they will compete. Yet there are clear limits as to how far this can go. Russia understands the finiteness of the "Chinese lifeline" Beijing was willing to offer to help Moscow deal with Western sanctions and pressure after the incursion into Ukraine, while China understands that Russia will not come to Beijing's defense or even necessarily promote China's claims—for instance, against Vietnam in the South China Sea.[179]

In 2018, the dialogue for a "Sustainable Bipartisan U.S. Strategy Towards Russia," informally known as the Mayflower Group, produced the outlines of what might be termed a "3-C" paradigm for the U.S.-Russia relationship: cooperate, compete and confront.[180] It is designed to mitigate the current lose-lose dynamic where areas of disagreement or confrontation—over

Ukraine, Syria, election interference or energy sales—spill over to torpedo productive and even necessary cooperation (in areas such as arms control or nuclear non-proliferation). Not only does this create problems for the United States, this dynamic also negatively strains relationships with key allies. The U.S. desire to punish Russia for its transgressions, especially with regards to Ukraine, has not allowed discretion to recognize Germany's or Japan's need for balancing condemnation of Russian actions (such as the invasion of Ukraine) with economic and security interests that arise from the closer geographic proximity these countries share with Russia.[181] In addition, key allies—starting with Germany and Japan—worry that a weakened Russia will be driven into an even closer embrace with China and that this threatens their own national interests—Germany's because of the loss of markets and influence, Japan's because of Russia's increased willingness to sell even more high-technology arms and weapons systems, eroding Japan's qualitative advantages.[182] For other allies, there is no desire to put the Ukraine issue at the center of their own relations with Russia—and yet they remain potentially subject to U.S. sanctions for continuing their business, economic and security ties with Russia. In turn, all of this serves as one of the major drivers pushing Russia closer to China.[183]

The United States needs to regain a degree of flexibility in its relations with Russia—to incentivize progress in the areas of most divergence while holding the defensive line firm in Europe, especially in terms of honoring security guarantees. Here, American strategists should examine the German approach to reconciling competing imperatives regarding Ukraine and Russia in how Berlin handled the energy-transit question: authorizing the construction of the second Nord Stream line but insisting that Russia commit to continued energy transit via Ukraine as one of its export routes.[184] The compromise produced a Ukraine-Russia gas deal at the end of 2019[185] and the restarting of efforts to achieve a settlement to the Donbas conflict.[186] One hope is that this type of diplomacy will help rebalance Russia's relations between China and the West—and create conditions for tapping down other areas of conflict.

Great power competition cannot be conducted on the basis of "shoulds"—what other powers "ought" to be doing. Instead, it must rest on the deft application of carrots and sticks. The United States enters the 2020s with

considerable advantages: a global network of allies (which neither Russia nor China possesses), a dynamic and innovative economy, the world's reserve currency and a conventional military force unparalleled in its ability to deliver and sustain force far from the continental United States. Effective management of those resources should permit the United States to remain the de facto chairman of the board of the international system while reducing the risk of destabilizing conflict.

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Russia's Impact on US National Interests: Ensuring Energy Security

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Executive Summary

Energy—and the heat, light and power it provides—is the lifeblood of modern civilization. One economist called it "not just another commodity, but the precondition of all commodities,"[1] inextricably linked with water and food security,[2] an input for almost all goods and services that has been correlated to military might,[3] economic growth[4] and the well-being of citizens.[5,6] Consequently, energy security is perceived to be a critical component of national security by countries diverse in culture, size and energy abundance.

Although many countries are simultaneously energy consumers and producers or exporters, they can usually be categorized as predominantly one or the other. The U.S., however, straddles the consumer-exporter divide almost equally: It is the world's largest consumer of crude oil but also currently its largest producer, as well as the world's largest exporter of petroleum products and the world's third largest exporter of natural gas. This makes energy security relatively more complex in the U.S., involving significant trade-offs and juggling. Russia, meanwhile, is one of the world's three largest energy producers and exporters and intends to sustain this position through an expansion in production and exports of oil and gas. Russia is also one of the great powers with whom the U.S. is engaged in geostrategic competition; it can and has drawn upon energy statecraft, among other tools, to try to advance its national interests, sometimes while constraining U.S. options for foreign policy. No other country better meets these two criteria—major energy producer and geopolitical near peer.

This primer strives to discern Russia's impact on the United States' vital interest in ensuring its energy security, which the author defines as **the availability of a diverse range of energy resources that are reasonably priced and resilient to disruptions and which exhibit an acceptable level of environmental sustainability**, both in the recent past and over the next five years. That impact can be summarized as follows: While Russia has a negligible effect on the availability of energy in the U.S., it exerts significant influence on U.S. gasoline prices—which, in turn, affect the U.S. economy as a whole—and it constrains the diversity of export markets for U.S. oil and natural gas. At the other end of the spectrum, Russian nuclear power, coal and renewable energy policies have minimal impact on U.S. energy security. In terms of U.S. energy systems' resilience, Russia has not caused any known disruptions but has been accused of cyber intrusions with the potential to adversely affect U.S. energy supplies. More of the same can be expected over the next five years: The lack of meaningful structural reforms to Russia's sanctions-hobbled economy means a continued dependence on hydrocarbon exports, while a post-pandemic recovery of energy demand will result in even fiercer competition for market share. A more detailed breakdown follows.

Availability: Russia's impact on the availability of energy to U.S. consumers is minimal. Russian petroleum—crude oil and refined petroleum products combined—accounted for less than 6 percent of the total imported in 2019 (about the same as Saudi Arabia's but incomparably less than Canada's 48.5 percent), and less than 1.5 percent of U.S. energy consumption in total.[7] Russian natural gas made a high-profile appearance in the U.S. in 2018, but that was a stopgap measure;[8] overall that year Russian gas made up less than 0.5 percent of U.S. imports.[9] Russian coal imports, meanwhile, accounted for about 0.01 percent of U.S. coal consumption in 2018.[10] Russian uranium for use in U.S. nuclear power plants made up 13 percent of total U.S. purchases of the fuel in 2018, but even that accounts for only a bit more than 1 percent of total U.S. energy consumption (and the problems faced by the United States' own nuclear industry have little to do with Russia's nuclear energy exports).[11]

Diversity: Russia's impact on the diversity and sources of the U.S. energy mix is minimal (see above on availability); Russian energy exports, however, play a major role in constraining the diversity of export markets for U.S. oil and gas, and to a much lesser extent coal. This trend is likely to persist as energy exports and revenues contribute significantly to Russia's coffers: According to a JP Morgan report, in 2018 oil revenues made up 41.5 percent of federal government revenues in Russia but less than 3 percent in the U.S., excluding corporate income tax.[i]

Energy prices: Russia has a significant impact on the affordability of gasoline for U.S. consumers since the global price of crude oil makes up over half the retail cost of domestically sold gasoline, which in turn affects the economy overall. The price of oil is partly shaped by Russia's decisions on the volume of oil supply and export through its shared governance of OPEC+ and this also impacts the profitability of U.S. oil companies; this impact can probably be mitigated, however, through U.S. diplomacy with Saudi Arabia. In the gas sector, Russia's pipeline gas exports to Europe and China put downward pressure on the price of U.S. exports of liquefied natural gas, or LNG. (The reverse—that U.S. LNG exports put downward

i "Russian Oil and Gas," CEEMEA Equity Research, JP Morgan Cazenove, March 30, 2020.

pressure on Russian pipeline gas prices—is also true, albeit to a relatively smaller degree.)

Resilience to disruptions: Russia has a minimal impact on disruptions of physical supplies of energy sources to U.S. power plants and refineries (see availability and diversity above). It is also not responsible for the relative lack of attention paid to U.S. strategies, including demand management, meant to increase resilience to energy disruptions. Russia and its proxies, however, have been classified as major perpetrators of cyberattacks, including breaches of corporate networks with access to critical infrastructure such as power grids and nuclear facilities. U.S. energy systems have so far been resilient.

Environmental sustainability: The struggle for environmental sustainability plays out in parallel in the U.S. and Russia. As major producers of hydrocarbons, both countries are likely contributing[12] to the accelerating pace of climate change[13] and both have suffered as a result, with record-breaking heat waves,[14,15] raging peat[16] and forest fires[17] and, in Russia's case, dangerous accidents on thawing permafrost.[18] The U.S. has done more than Russia to increase the uptake of renewable energy and these efforts will not meet with much Russian resistance since renewable energy exports are absent from Moscow's energy strategy. Russia has allegedly funded some U.S. anti-fracking groups in an attempt to roll back global competition from U.S. shale.[19] In the case of coal, its decline in the U.S. has to do with fuel-switching due to the economics of cheaper shale gas, rather than with Russian influence.

Aside from energy security per se, Russia and the U.S. have at times wielded "energy diplomacy" in pursuit of their respective foreign policies, now with an added element of commercial competition. This creates new tensions that need managing. For example, while Washington sees Moscow as a challenge to U.S. prosperity and security, and a rival intent on undermining U.S.-Europe relations, some U.S. allies in Europe see Russian energy as an ingredient in their own prosperity.[20] Likewise, as the U.S. tries to maintain the difficult balance between low gasoline prices for consumers and strong profits for oil companies, it will have to engage in sophisticated ways with both Saudi Arabia and Russia itself. China, too, will continue to

be a significant player in the energy-diplomacy equation: While the U.S. is unlikely to replace Russia as a key energy supplier to China in the next five years, neither does it want to drive its two adversaries closer together.

Ultimately, for true energy security, the U.S. will not be able to go it alone, no matter how much oil and gas it produces. In the case of hydrocarbons this is due to the quirks and logistics of U.S. oil refining, and in the case of their main alternative, renewable energy, this is due to the globalized nature of supply chains.

Defining US Energy Security

Energy security is a nebulous concept. The term has at least 83 definitions,[21] is quantified using more than 60 different indices (with wide variation in the number of indicators used per index)[22] and varies depending on scale,[23] fuel type, time horizon and geographical location. A leading energy economist once quipped that "if you cannot think of a reasoned rationale for some policy based on standard economic reasoning then argue that the policy is necessary to promote 'energy security.'"[24]

U.S. officials and policy experts are not immune to this multiplicity of definitions. Since the 1970s, all U.S. administrations have prioritized energy security,[25] but the phrase has meant different things: energy self-sufficiency,[26] ending all oil imports, eliminating or reducing imports only from the Middle East,[27] minimizing dependence on imports[28] and even entirely weaning the country off oil. As a presidential candidate, Donald Trump hearkened back to that history, declaring in 2016 that the U.S. will "accomplish complete U.S. energy independence," no longer needing "to import energy from the OPEC cartel [Organization of the Petroleum Exporting Countries] or any nations hostile to our interests."[29]

Indeed, different government agencies and think tanks focus on different aspects of energy security. According to the U.S. Congressional Budget Office, for example, energy security in 2012 was narrowly defined as the "ability of U.S. households and businesses to accommodate disruptions of supply in energy markets."[30] For the American Security Project think tank, on the contrary, energy security involves activities far beyond U.S. borders

and even outside the realm of energy per se—namely, it is the ability of Washington "to act in its foreign policy independently of how it uses energy domestically."[31] In 2017, the U.S. Department of Energy noted that, "for the last 40 years, energy security in the United States has focused on decreasing the nation's dependence on foreign oil," but the time had come for a new, modern, holistic reconceptualization.[32] DoE's "21st-century framework," derived from the G7 meeting of May 2014, has seven points: transparent, competitive markets; diversification, including encouragement of indigenous energy sources; moving toward a low-carbon economy; enhancing energy efficiency; promoting clean, sustainable energy; improving energy systems' resilience; and establishing emergency response systems.[33]

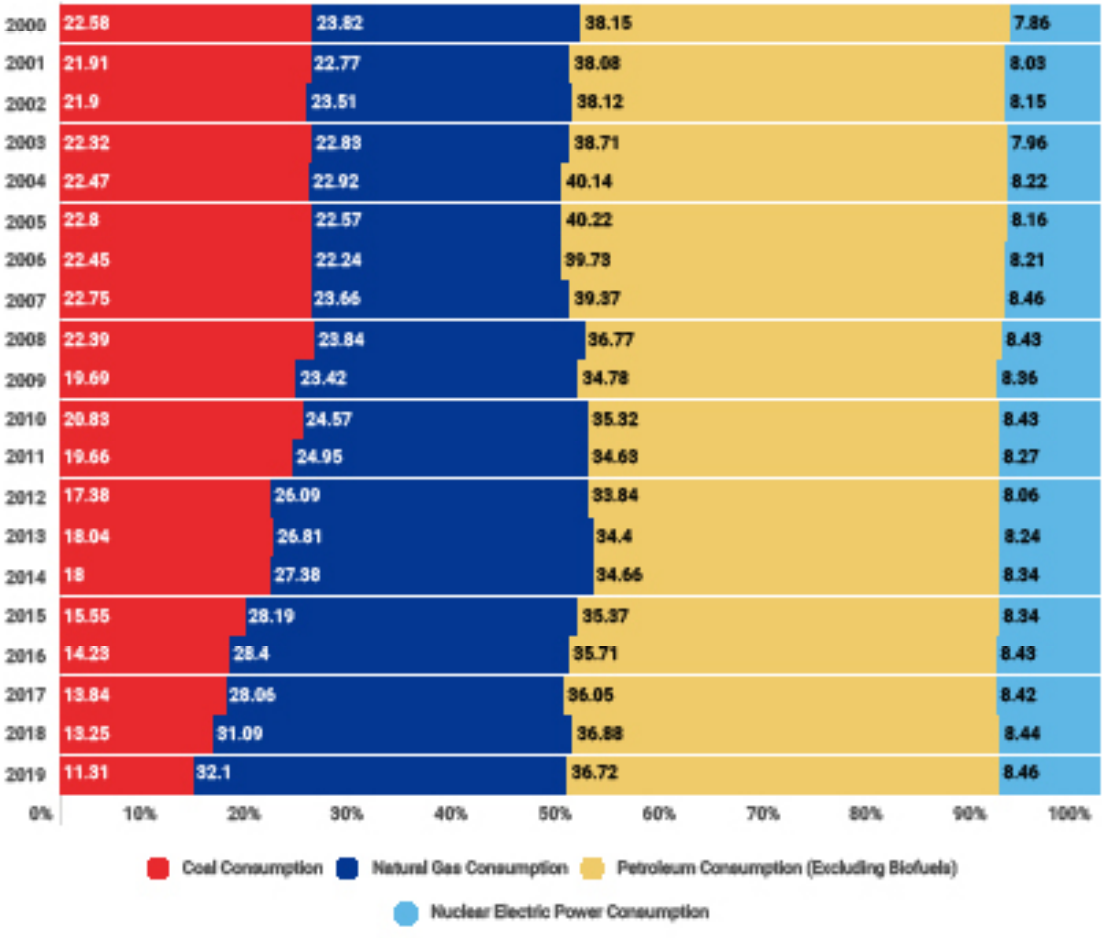
For the purpose of this primer, and based on existing literature on the topic, energy security will be defined, as stated above, as the availability of a diverse range of energy resources that are reasonably priced and resilient to disruptions, and which exhibit an acceptable level of environmental sustainability. In light of the United States' dual role as a major consumer and major producer of energy, the proposed definition encompasses considerations of both supply security (for consumers) and demand security (for producers/exporters). Each component of the definition is sure to engender some debate—i.e., what constitutes adequate diversity or reasonable prices and profits or environmental "acceptability"—but the definition overall should hold true for the foreseeable future.

Continuity and Change in US Energy Security

Before delving into the impact Russia can have on U.S. energy security, it is worth considering the changes that have taken place in this sphere in the past two decades. Most significantly, they include the so-called shale revolution and its impact on U.S. energy production, exports, jobs and foreign policy, as well as the lifting of the U.S. ban on crude oil exports in December 2015. With energy producers now able to extract previously inaccessible hydrocarbons, the United States has become the world's most energy-abundant country, while remaining its largest consumer of energy as well.[34] Though the traditional focus of U.S. energy policy on oil has been officially updated to include all forms of energy, oil and gas do still get priority.[35] These trends have also expanded

the idea of "energy prices," which now presumes not just affordability for consumers but profitability for producers and exporters. While the new indigenous supplies have improved most aspects of U.S. energy security, they have not eliminated the country's vulnerability to price and supply volatility in global energy markets. This is particularly true of crude oil, Russia's largest export.[36] The U.S. will continue to import crude oil even if it becomes a net exporter of petroleum products, as expected within the next few years, due to the particularities of its refineries and oil-related logistics. Meanwhile, the Trump administration was much more ambitious than its predecessors not only in pushing U.S. oil and gas to international markets but in using them, or the confidence they lend, to pursue geopolitical goals. These shifts are underpinned by a relatively new narrative about the promising future of the hydrocarbon industry[37] and by the rise of "neomercantilist" practices,[38] which include resource nationalism in Russia and the global reach of Chinese state-owned strategic enterprises, but have also been embraced by the Trump administration.

U.S. Primary Energy Consumption by Fuel Type, 2000-2019 (Quadrillion Btu)

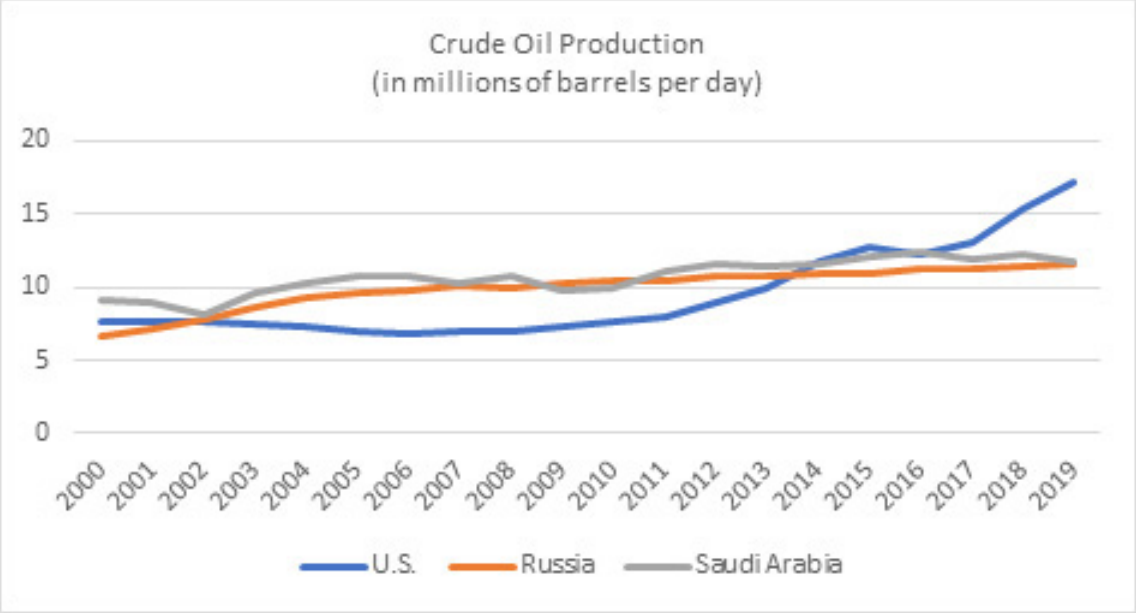


To begin, it bears repeating that availability and reliability, as well as affordability, have long been foci of U.S. energy security. This policy perspective emerged from several historical factors, among them: a wave of nationalizations after the 1950s that shifted control of oil reserves from international oil companies headquartered in the U.S. and Europe to host governments; the Arab oil embargo of 1973; and the "peak oil" narrative that emerged in the late 1990s, which predicted that the world would start running out of fossil fuels early this millennium but was discredited with the rise of new technologies.[39] U.S. energy policy has focused on increasing indigenous supplies of energy resources, in particular oil, since the 1970s. Policies included opening up new areas for oil drilling in Alaska and the Gulf of Mexico, banning exports of crude oil to maximize domestic availability, creating Strategic Petroleum Reserves to hedge against supply disruptions and increasing the use of oil alternatives such as nuclear energy to generate electricity. These were complemented by overseas engagements—through military presence, direct investments and treaties—to encourage unrestricted energy flows from the Persian Gulf, the post-Soviet region and the Americas. Demand management, such as fuel economy standards for light vehicles and energy conservation, has played a relatively less significant role in U.S. energy security policies.

In the time that Vladimir Putin has been Russia's leader, the United States' significance as an energy producer has increased immensely, particularly when it comes to fossil fuels, which make up 80 percent of the world's primary energy consumption. The U.S. has the largest volume of recoverable oil and the ninth largest proven oil reserves in the world.[40] In 2017, already the top producer of petroleum products thanks to its huge oil-refining capacity, the U.S. overtook Saudi Arabia to become the largest crude oil producer as well; according to BP, it accounted for 17.9 percent of global production in 2019 (see Figures 1 and 2).[41] U.S. shale oil alone—which went from 6 percent of total U.S. oil production in 2000[42] to over 60 percent in 2019[43]—accounted for an impressive 6.2 million barrels per day (mbpd) or 60 percent of the increase in worldwide oil-supply growth between 2008 and 2017.[44] U.S. shale gas has enjoyed an equally impressive rise, accounting for 75 percent of total U.S. gas production in 2019[45] and driving down prices so much that gas has replaced coal as the country's fuel of choice for electricity generation (38 percent vs. 23 percent,

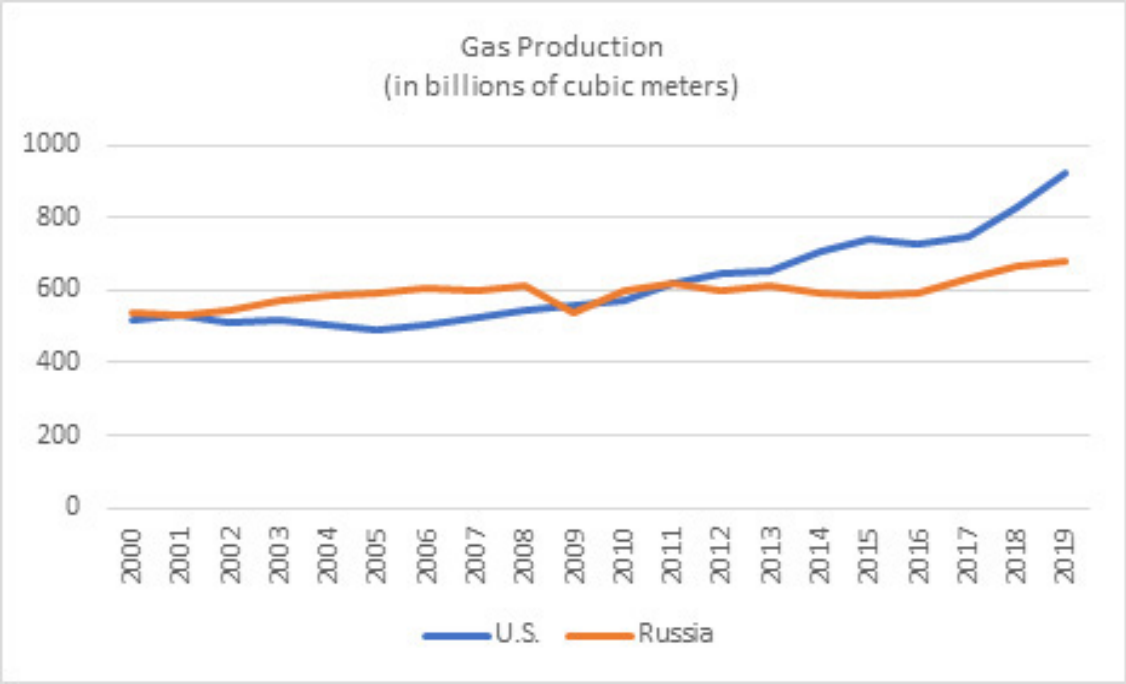
respectively).[46] The U.S. surpassed Russia in 2011 as the world's largest natural gas producer, with one quarter of global production, and the fourth largest gas reserves.[47] In addition to covering more than 90 percent of its own domestic gas consumption, the U.S. has been a net gas exporter since 2017, competing with Russia on global markets.[48] (U.S. LNG terminals originally built to receive imports of gas were subsequently reconfigured to export it.) The United States likewise has the world's largest reserves of coal.[49] And over the past decade national energy policy has continued to increase access to the indigenous energy resources available for exploration, extraction and production.

Figure 1: Crude Oil Production in the U.S., Russia and Saudi Arabia



Source: BP Statistical Review 2020[50]

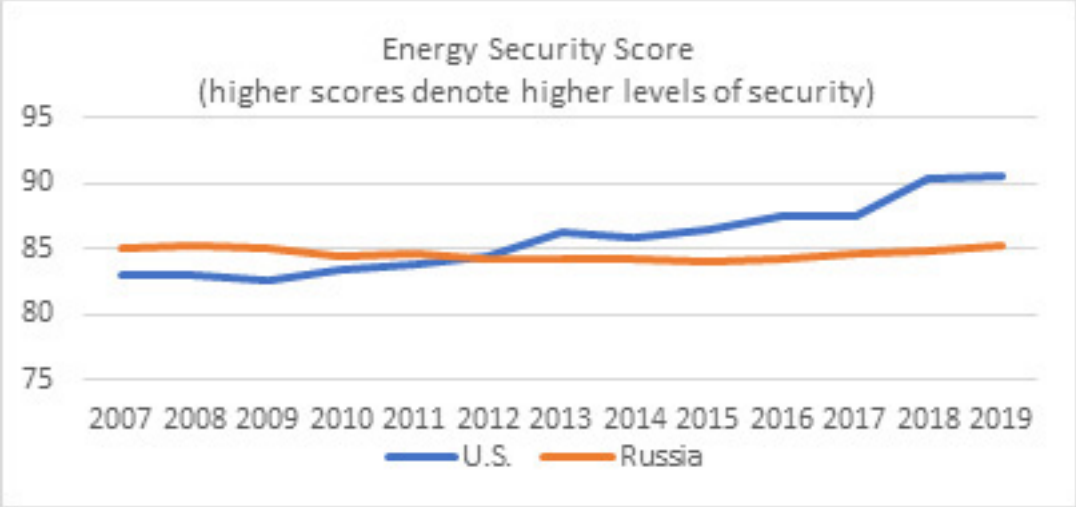
Figure 2: Natural Gas Production in U.S. and Russia



Source: BP Statistical Review 2020[51]

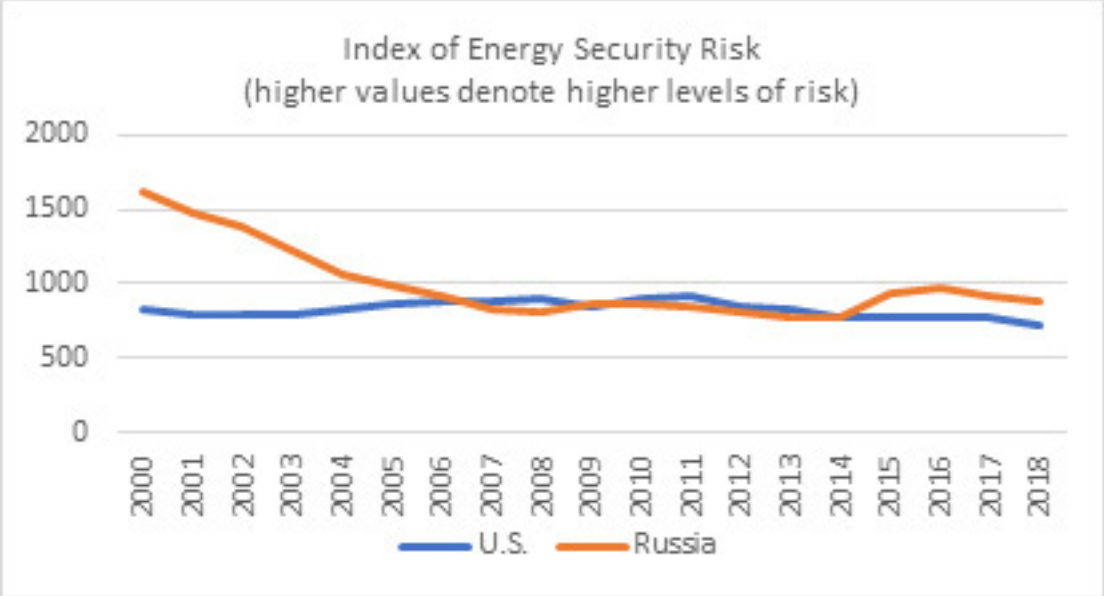
By any of the available indices, this growth in hydrocarbon production—underpinned by a regulatory environment conducive to shale resources and supported by infrastructure build-out—has improved U.S. energy security;[52] Russia's, meanwhile, has flagged or flatlined. According to the World Energy Council,[53] the United States has been more energy-secure than Russia since 2012, and the Global Energy Institute rated the U.S. as the most energy-secure among the 25 largest energy-consuming countries in 2017 and 2018, up from 11th place in 2008 (Figures 3 and 4).[54] The sustainability aspect of U.S. energy security has also improved, albeit slowly, according to Yale University's Environmental Performance Index (Figure 5), with the decline since 2016 resulting from a trade-off with other elements of energy security—namely, availability, diversity and affordability.[55]

Figure 3: Energy Security Score: U.S. and Russia



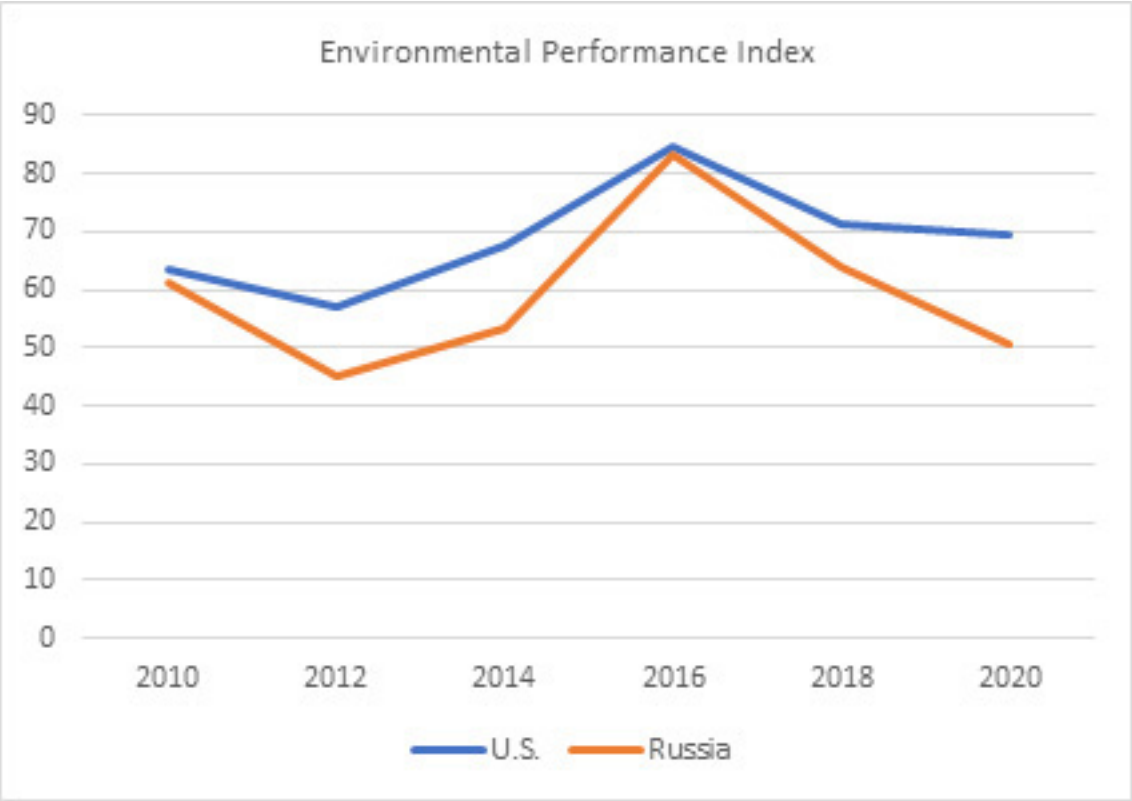
Source: World Energy Council[56]

Figure 4: Index of Energy Security Risk: U.S. and Russia



Source: Global Energy Institute, International Index of Energy Security Risk 2020[57]

Figure 5: Environmental Performance Index, 2010-2020



Source: Yale Center for Environmental Law & Policy[58]

Although the U.S. is closer to achieving energy self-sufficiency today than in the past 70 years, its new-found "energy superpower" status belies the fact that the United States continues to import more petroleum—crude oil and petroleum products combined—than it exports, and this state of affairs is likely to persist for some time due to technological and regulatory factors.[59] The world's two other top oil producers, Russia and Saudi Arabia, on the contrary, export far more than they import: Their 2019 net exports of petroleum totaled 8.9 mbpd and 8.2 mbpd, respectively, while the figure for the U.S. was -1.1 mbpd (see Figure 6). Since 2016, three-quarters or more of total U.S. petroleum imports are accounted for by crude oil, even as U.S. exports of crude oil rise.

Figure 6: U.S., Russian and Saudi Exports/Imports of Crude Oil and Oil Products (in mbpd)

	U.S.	Russia	Saudi Arabia
2016			
Exports of crude oil	0.55	5.45	7.52
Exports of oil products	4.32	2.90	0.995
Imports of crude oil	7.85	0.003	n/a
Imports of oil products	2.2	0.03	0.091
Net exports	-5.2	8.65	8.46
2017			
Exports of crude oil	0.943	5.48	7.18
Exports of oil products	4.91	3.5	1.15
Imports of crude oil	7.97	0.013	n/a
Imports of oil products	2.18	0.19	0.142
Net exports	-4.36	8.78	8.26
2018			
Exports of crude oil	1.85	5.52	7.37
Exports of oil products	5.20	3.56	1.27
Imports of crude oil	7.77	0.01	n/a
Imports of oil products	2.17	0.20	0.23
Net exports	-2.8	8.9	8.3
2019			
Exports of crude oil	2.77	5.75	7.20
Exports of oil products	5.25	3.44	1.20
Imports of crude oil	6.80	n/a	0.001
Imports of oil products	2.30	0.20	0.24
Net exports	-1.08	8.91	8.16

Source: BP Review of World Energy, 2018, 2019 and 2020.
Note: "n/a" denotes less than 0.0005 mbpd.

This inability of the U.S. to wean itself off imported crude arises for two reasons, both connected with refining. First, major refineries along the Gulf coast are configured to process heavy, sour grades of oil from the Middle East, Canada and Mexico; the refined oil products are then consumed domestically or sold overseas. To overhaul refineries to process light, sweet shale oil from U.S. fields would be an expensive undertaking, especially amid uncertainties about the shale boom's sustainability in today's "lower-for-longer" global oil-price environment. The second reason that crude oil imports will continue stems from logistical hurdles that make it expensive to transport shale from Texas to suitable refineries on the northeastern coast. A 1920 law, the Merchant Marine Act, also known as the Jones Act, mandates that shipments between two U.S. ports be on U.S.-built, U.S.-manned, U.S.-owned vessels.[60] The shortage of such ships means it can cost northeastern refineries about one-third as much to ship light crude from Saudi Arabia or Nigeria than from Texas.[61] Thus, even if the U.S. becomes a net exporter of petroleum—as it was expected to in 2020, for the first time since 1953, before the coronavirus-related drop in demand postponed that achievement by a few years—it will continue to need imported crude oil.[62] (Repealing or amending the Jones Act may change this, but it would spell big trouble for the U.S. shipping industry.)

The United States' continued reliance on crude imports means that the country remains susceptible, albeit less than previously, to price volatility in the global market—a dynamic that Russian policies can certainly affect. A 2019 study noted that a 10-percent increase in the global price of oil could trigger a decline in U.S. GDP between 0.06 percent and 0.29 percent—roughly half the decline that same 10-percent increase could cause from the early 1970s to the early 2000s.[63]

Caveats notwithstanding, the new U.S. energy abundance is forcing policymakers to look at energy prices in new ways, trying to balance the needs of consumers and energy companies. On one hand, low gasoline prices[64] are generally regarded as a boon to U.S. economic growth because they free up discretionary spending on other goods and services.[65] According to one study, every 1-cent decline per gallon in gasoline prices frees up $11 billion in spending over the course of a year.[66] The country's current-account deficit also benefitted from the shale boom, with expenditure on

crude oil and natural gas imports dropping to 0.2 percent of GDP in 2019 compared to about 1-2 percent in previous decades (see Figure 7). On the other hand, the growing significance of the oil and gas industry to the U.S. economy have muddied the commitment to low-cost gasoline and, by extension, to keeping down crude oil prices, which accounted for 59 percent of prices at the pump, on average, in 2010-2019.[67] Trump, for instance, played an indispensable role in facilitating a new OPEC+ agreement in April 2020 to reduce oil supply from over 20 countries and hence increase the price of crude oil. This is at least in part because the oil and gas sector contributes directly and indirectly to 10.3 million jobs and nearly 8 percent of the country's GDP,[68] up from less than 1 percent of GDP in the late 1990s[69] and 3 percent as recently as 2014.[70] In short, although analyses by Moody's and others conclude that low oil and gasoline prices are a net positive for the U.S. as a whole, debates will continue about balancing affordability for consumers with profitability for oil and gas companies.[71]

Figure 7: Oil and Gas Import Expenditures

Year	Imports as % of GDP, annual average	Imports in billions of dollars, annual average
1970-1979	0.45	$93
1980-1989	1.43	$117
1990-1999	0.8	$92
2000-2009	1.75	$282
2010-2019	1.05	$187
2020-2029 (projected)	-0.3	-$83

Source: Global Energy Institute, Index of U.S. Energy Security Risk[72]

Last but not least, America's new-found energy wealth has broadened U.S. foreign policy options once constrained by import dependence and has revived the pursuit of "energy dominance" through exports.[73] This applies not only to oil but to gas and is aligned with the Trump administration approach variously labeled as mercantilist nationalism,[74] neo-mercantilism,[75] resource nationalism[76] or simply protectionism.[77] It represents the view that the zero-sum, transactional rules of the market extend into international politics,[78] leaving no room for multilateral agencies, international alliances or consensual regulations if they act as a constraint on U.S. sovereignty. As recently as 2017, three leading Trump officials declared the

aim of building a "self-reliant and secure nation, free from the geopolitical turmoil of other nations that seek to use energy as an economic weapon," echoing previous administrations' concerns not just about import dependence—long the Achilles' heel of U.S. energy security—but dependence on insecure or unreliable producers like Saddam Hussein's Iraq or Hugo Chavez's Venezuela.[79] By May 2019 Trump was casting the geopolitical windfall from shale oil and gas as valuable in terms of offense as well as defense,[80] declaring that "by reducing our dependence on foreign sources of energy we have dramatically increased our power to confront our adversaries, support our friends and fight for our interests."[81]

Tensions with Iran provide one example: Early this year the availability of shale-powered U.S. exports largely muted oil markets' response to the United States' assassination of Iran's top general,[82] whereas the 1979 Iranian revolution had driven up U.S. gasoline prices by 120 percent.[83] Similarly, the decline in U.S. import dependence allowed Washington to intensify sanctions on post-Chavez Venezuela in 2019: U.S. refineries[84] were able to source cost-effective alternatives to Venezuelan oil[85] since the latter accounted for only 6 percent of U.S. imports in 2018, down from an average of 20 percent in the 1990s and 10 percent in the 2000s.[86] Energy as both statecraft and a source of economic growth[87] are, in fact, throwbacks to an earlier era when the U.S. was a leading producer of oil in the world. For instance, American investment in energy infrastructure in Europe and in former European colonies in Asia and Africa helped to counter growing Soviet influence during the Cold War.[88] The resumption of energy statecraft, however, will continue to generate controversy—both as a manifestation of American unilateralism and due to the largely privately owned structure of the U.S. oil and gas industry, which traditionally prioritizes price signals over foreign policy interests.

Russia's Impact on US Energy Security

As noted above, Russia's impact on U.S. energy security reflects Russia's stature in global energy markets, as well as the broadly adversarial relationship between the two Cold War-era rivals. Moscow's policies affect energy prices for U.S. consumers and producers, somewhat constrain the diversity of U.S. export markets and could potentially, via cyber interference, test the

resilience of U.S. energy systems to disruptions. While both countries have hydrocarbon dependencies that do not bode well for environmental sustainability, Russia has only a marginal impact on the availability of the top three fuels in the U.S. energy mix—oil, gas and coal—and only a slightly bigger impact on supplies of uranium for U.S. nuclear power plants. But its decisions on oil production and export can strongly impact prices worldwide, including the affordability of U.S. gasoline, which in turn affect the U.S. economy as a whole. And just as the flipside of affordability for consumers is profitability for companies invested in energy, so too can Russia impact both. Russia's oil, gas and uranium exports enable it to compete vigorously with the U.S. in those sectors. They also pose diplomatic challenges for Washington, especially in Europe where Russian gas and nuclear-energy activities abound. Thanks to its energy wealth, Russia is able to cooperate with traditional U.S. partners like Germany, which still regards Russian gas as a prudent choice in its energy mix,[89] and Saudi Arabia, on the stability of the global oil market.[90] In terms of resilience, thus far U.S. energy systems have held up well, but there is worry about the possibility of cyber-related disruptions caused by Russian actors.

For context, it is worth pointing out that Russian and Soviet energy supplies have long been perceived as a danger to U.S. geopolitical interests, particularly in Washington's relations with European allies. (There were periods when Russian oil was viewed as a useful counterweight to Middle Eastern supplies but these were short-lived.) During the Cold War, the U.S. saw rising levels of Soviet oil and "red gas" exports to Europe as threats to the anti-communist unity of the transatlantic alliance.[91] Two concerns were—and continue to be—paramount: European susceptibility to Moscow's influence due to dependence on Russian energy and European vulnerability to disruptions of Russian energy supplies.[92] In 2006, prompted by Russia's repeated suspensions of gas exports (usually as fallout from disputes with Ukraine),[93] U.S. Sen. Richard Lugar even proposed that NATO update its role to include the protection of member-states' energy security from Russian actions.[94] More recently, after Moscow's military intervention in Ukraine in 2014, U.S. lawmakers lent bipartisan support[95] to energy-related sanctions on Russian interests[96]—including gas pipelines, financing for future oil and gas projects and joint projects with American energy companies in the Arctic.

Under the Trump administration, this wariness and the leveraging of energy in foreign policy have become intertwined with economic rivalry as well: Since the U.S. shale boom, Russia's energy sales to Europe have become competition for growing U.S. exports of LNG, and this tension sometimes rings out in the administration's diplomacy. In 2019, for example, two senior U.S. Department of Energy officials framed U.S. LNG as "freedom gas" that can give "America's allies a diverse and affordable source of clean energy."[97] This message seems aimed chiefly at Central and Eastern European, or CEE, countries, many of which have relied on Russia for 50-100 percent of their energy supplies.[98] In 2017, Trump told CCE regional leaders that America is "committed to securing your access to alternate sources of energy, so Poland and its neighbors are never again held hostage to a single supplier of energy";[99] later that year, Lithuania reportedly became the first ex-Soviet republic to buy U.S. LNG[100] and a Polish state-owned energy company signed a five-year import deal for U.S. LNG, despite its higher cost at the time than Russian pipeline gas.[101] By 2018 the U.S. had locked horns with NATO ally Germany over gas purchases and Russia's planned Nord Stream 2 pipeline, which would bypass Poland and Ukraine;[102] the row has escalated as far as a U.S. threat of sanctions against Germany.[103] (The U.S. also announced in mid-2019 that 1,000 troops would soon be redeployed from Germany to Poland to strengthen NATO's eastern border.[104]) The linkage between U.S. energy exports and geopolitics has even emerged at the level of an individual state. In April, Republican Sen. Ted Cruz of Texas[105]—where the oil-and-gas sector accounted for nearly one-third of the state's economy in 2018[106]—described Russia's part in the recent oil price war with Saudi Arabia in starkly geopolitical terms: "We know Russia is our enemy. They act like our enemy. We treat them like our enemy."[107]

To complement this primer's analysis of Russia's impact on different components of U.S. energy security, this section will examine that impact by fuel type and a brief discussion of cyber security.

Oil

As one of the world's top three oil producers, Russia impacts U.S. energy security in two main ways: by competing for export markets, thus limiting

their diversity for U.S. exporters, and by affecting global energy prices through its decisions on the amount of oil it puts on the market. As noted in the executive summary, Russian petroleum accounted for only 5.7 percent of U.S. imported petroleum in 2019 and less than 1.5 percent of U.S. energy consumption overall.[108] (Russia's impact on oil production also affects the natural gas sector, discussed below.) Beyond the realm of energy security per se, Moscow can act as a spoiler in U.S. plans for enacting foreign policies that are linked to oil. Russia regards the oil sector as strategically important: Oil, on average, accounted for 41.5 percent of Russian federal government revenues and 44 percent of total exports between 2016 and 2019.[109] Unsurprisingly, Russia's latest Energy Strategy, approved in June 2020 for a 15-year period, places a premium on increasing the production and export of petroleum.[110] While these dynamics will persist in the short and medium term, future constraints on Russian oil production may blunt Russia's impact on U.S. energy security in the longer term.

U.S. and Russian oil producers are competing for market share in Europe and China. Europe is the largest market for U.S. oil exports after South and Central America. U.S. oil exporters increased their European market share from 5.4 to 9.5 percent between 2016[111] and 2019.[112] This pales beside Russia's 35.4 percent share in 2019,[113] but it does suggest that U.S. (and Iraqi) oil exporters have taken some market share away from Russia—at 38.1 per-cent in 2016.[114] This became possible in part thanks to the OPEC+ cap on Russian oil production in place since 2017 (see discussion below). Going forward, U.S. crude oil exports will continue to face stiff competition in Europe from Russia and other exporters, including newcomers like Guyana and Brazil. Conversely, in terms of oil product exports the U.S. should be able to comfortably retain its position as the continent's second largest sup-plier after Russia. In China, meanwhile, Russia has become one of two key suppliers to the world's largest importer of oil, whose demand single-hand-edly fueled 80 percent of global oil demand growth in 2019.[115] That year Russian crude oil accounted for 15.3 percent of China's imports, just behind Saudi Arabia's 16.4 percent.[116] U.S. petroleum exports to China lag far behind Russia's but recorded breakneck growth of 76 percent between 2017 and 2018, prior to the U.S.-China trade war.[117] U.S. oil exports are expected to grow significantly over the next few years in view of China's commitment to purchase up to $52.4 billion worth of U.S. energy to reduce

the bilateral trade deficit, rein in the trade war and prop up its fragile post-coronavirus economic recovery. The U.S., however, is unlikely to supplant Russia's importance to China as an energy supplier in the next five years. State-owned Rosneft, Russia's largest oil company, accounting for 40 percent of total oil production,[118] is contractually committed to deliver 600,000-700,000 bpd annually until 2030 (followed by reduced levels until 2035) as repayment for a series of loans from Chinese oil companies.[119] Moreover, unlike U.S. oil exports to China, most of Russia's oil is delivered via overland pipeline; this allows China to diversify away from its reliance on seaborne cargos, which make up almost three-quarters of total imports and are potentially vulnerable to interdiction by America's superior naval forces.[120]

The global market share of Russian oil exports far exceeds that of the U.S. and this will not change over the next few years for several reasons: World oil demand has been battered by coronavirus-induced restrictions and is not expected to recover until 2022 at the earliest;[121] Russia can better weather sustained low oil prices than U.S. oil companies[122] due to a lower break-even price and state support;[123] and the financial turmoil in the U.S. oil industry that has already engulfed 57 upstream[124] and oilfield services companies in bankruptcy proceedings since January 2020 will affect output and exports.[125] How the restructuring and consolidation of the U.S. oil industry plays out will bear watching.

The second way in which Russia affects U.S. energy security is through its impact on energy prices via governance of the oil market as a member of OPEC+.[126] Since December 2016, the level of compliance among OPEC+ members with decisions on oil-output levels has contributed to changes in the global price of oil. For instance, when the OPEC+ pact was in force, the average West Texas Intermediate (WTI) benchmark price for U.S. oil was $50 per barrel in 2017, $65 in 2018 and $57 in 2019. In April 2020, however, when OPEC+ producers were free to pump at will[127] because of a dispute between Russia and Saudi Arabia, the WTI price ranged from a high of $28 to a low of -$37.[ii] The resulting job losses and bankruptcies

ii Oil is traded on its future price, so the WTI price recorded in April was for U.S. oil that was physically delivered in May. Negative pricing is rare but means that U.S. oil producers were paying buyers to take oil off their hands given the perception of a lack of oil-storage capacity, since oil demand was sharply curtailed by COVID-19 related lockdowns.

in the oil sector alone are a stark reminder of how the fortunes of U.S. oil companies remain vulnerable to decisions by foreign countries, including Russia.[128] The same applies to the affordability of gasoline, another key consideration for energy security and U.S. economic growth. Since the price of crude oil, and in particular the Brent crude oil benchmark,[129] accounts for over half the gasoline price at the pump,[130] Russia's decisions on oil production and export play a large role. Realizing that most U.S. shale companies need an oil price of more than $50 to be profitable,[131] OPEC+ is determined to keep prices within the $40-to-$50 range.[132] While Saudi Arabia can usually be induced to align its oil supply decisions with U.S. interests—as demonstrated during the Persian Gulf War of 1990 and negotiations for the new OPEC+ agreement this year—the same cannot be said of Russia. This vulnerability underlines that U.S. production alone will not guarantee energy security but that it should be complemented by diplomacy, including the maintenance of the U.S.-Saudi relationship.

Over the longer term, prospects for the Russian oil industry are shaky. Studies published[133,134] prior to the new OPEC+ agreement indicate that Russian oil production will start to decline within the next five years. Reasons for this include lower productivity of ageing oil fields as well as the continuation of European and U.S. sanctions that have limited technology import and financing to develop unconventional and Arctic oil fields. Russia's declining but still large production and export volumes will continue to influence oil markets and U.S. energy security after 2030, but less sharply than is currently the case.

Thanks to its oil supplies, Russia can also diminish—or, theoretically, enhance—the effectiveness of the United States' deployment of energy statecraft. The escalation of U.S. pressure on Venezuela since 2015—when Washington declared the country to be a threat to its national security—is a case in point.[135] After the U.S. imposed crippling sanctions in 2019 against the sale of Venezuela's oil, which accounted for 95 percent of the country's export revenues, trading units associated with Russia's Rosneft were able to undermine them.[136] They bought, marketed, shipped and sold to buyers in Asia up to two-thirds of Venezuela's crude oil, or double the amount before sanctions.[137] Rosneft has since divested its Venezuela operations to avoid new U.S. sanctions on its trading arms; ironically, however,

the United States' Venezuela sanctions resulted in an uptick in U.S. imports of Russian hydrocarbon products by refineries to compensate for the loss of Venezuelan inputs.[138] In the first six months of 2020,[139] U.S. imports of Russian petroleum were 22 percent higher than the same period last year; they included around $150 million worth of products originating from a Russian refinery owned by the wife of a Ukrainian businessman sanctioned by the U.S. for his close ties with Putin.[140] Although the volume of Russian petroleum exports to the U.S. may register a 25 percent increase over 2019 levels, this is not cause for concern in terms of diversity and availability given the relatively minor role it plays in total U.S. imports of petroleum (5.7 percent in 2019).[141]

Russia's influence on U.S. energy statecraft outside of the deployment of sanctions is also noteworthy. Since 1992, U.S. energy diplomacy in the former Soviet Union has aimed at encouraging the creation of new export routes outside the control of Russia to strengthen the sovereignty of weaker, ex-Soviet energy producers.[142] Successful examples included the Baku-Tbilisi-Ceyhan pipeline for Azerbaijani and Kazakh oil, the consortium for which included three U.S. oil companies, and the Kazakhstan-China pipeline. Nevertheless, 85 percent of Kazakh oil still transits through Russian territory via partly Russian-owned pipelines.[143]

Gas

Russia and the U.S. have long been the two largest gas producers in the world, with Russia dominant in Europe and the former Soviet Union, and the U.S. preeminent in North America. Since 2016 the falling costs of LNG-related infrastructure and a surplus of U.S. gas thanks to the shale revolution have not only kept the domestic price of natural gas and electricity low[144] for households and industry but have also encouraged U.S. gas exporters to venture into non-traditional markets in Europe, Turkey, Japan, South Korea and China.[145] Consequently, U.S. LNG exports make up an expanding proportion of total U.S. natural gas exports, growing from 6.8 to 38.7 percent between 2017 and 2019. Russia's heft as a gas exporter—including its established presence in Europe and its pipeline exports to China, which, as with oil, provide an alternative to sea routes—is a major,

but not the only, factor limiting sustained growth in market share for the U.S. Competition between U.S. and Russian gas exporters is additionally colored by geopolitical considerations on both sides. (As mentioned in the executive summary, a tanker brought Russian LNG to the U.S. in 2018,[146] causing quite a stir in the media, but those supplies were a stopgap; over-all that year Russian gas made up less than 0.5 percent of U.S. imported gas.[147])

U.S. and Russian gas exporters keenly compete for customers and market share in Europe, where gas import dependency is set to rise from an already high 77.9 percent in 2018[148] to almost 90 percent by 2030.[149] This rising gas dependency stems from falling indigenous gas production in the Netherlands together with reliance on gas-fired power plants to pro-vide system stability as intermittent supplies of solar and wind power in Europe's energy mix gradually increase. Russia boasts unrivalled struc-tural advantages for imports of natural gas by Europe and will continue to defend its position as the EU's top supplier given the significance of European gas sales to Russian state revenue. These advantages include the relatively low cost of Russia's gas (lower than all competitors bar Qatar and Nigeria),[150] its extensive network of gas pipelines, geographical prox-imity (which, in turn, begets fast delivery times), long-term contracts that lock in gas sales and decades of experience in the region. In 2018, Russia accounted for 40 percent of the EU's gas imports;[151] its 171 billion cubic meters (bcm)[152] of exports to the EU that year—pipeline and LNG combined—outstripped the U.S.'s 3.5 bcm in LNG exports by a factor of almost 50.[153] Russia's European gas sales accounted for nearly 70 per-cent of the revenues earned in 2018 by Gazprom, the state-owned giant that has a monopoly over pipeline gas exports from Russia; the company's sales accounted for 5 percent of the country's GDP that year, according to Reuters.[154]

Although U.S. gas exporters are relative newcomers to the European gas market, it is a key market for them, with Europe's share in U.S. LNG exports increasing from 14.9 percent in 2017 to 38.5 percent in 2019. This growth is largely driven by economics. The glut of domestic shale gas has driven down prices of U.S. natural gas to under $2 per million British ther-mal units,[155] or MMBtu, with the result that it is extremely competitive with

traditionally cheaper Russian pipeline gas.[156] Between January and June 2020, for example, Gazprom recorded an 18 percent decline in gas sales to Europe even though gas demand there fell only by 6.5 percent;[157] customers on long-term contracts such as Turkey[158] turned to less costly U.S. LNG even at the risk of financial penalties payable to Gazprom.[159]

Russia challenges U.S. gas exports to Europe through its competing interest of maintaining or, better yet, expanding its foothold in European gas markets, as indicated in its Energy Strategy.[160] A case in point is Nord Stream 2. A report by the consultancy Wood MacKenzie highlights that the pipeline's completion will increase Russian gas supply to Europe at the expense of LNG.[161] Constrained LNG exports will in turn result in more downward pressure on already low U.S. natural gas prices and cause revenue losses of up to $5 billion for U.S. gas producers. Russia's financial challenge to the U.S. is compounded by what some influential U.S. officials and policy shapers regard as Moscow's geopolitical strategy of using its gas to "blackmail"[162] or keep Europe dependent on Russia and to corrupt European decision-makers, political parties and media.[163] The U.S. imposed sanctions against firms, including European ones, involved in completing Nord Stream 2 through the Protecting Europe's Energy Security Act in December 2019. At the same time, there are alternative proposals for the U.S. to undercut Russia's pipeline challenge by supporting[164] the EU's financing of additional regasification terminals in Europe.[165]

Apart from its direct impact on U.S. gas exports, Russia can also indirectly affect the availability and price of U.S. natural gas because so much of it is associated gas—natural gas produced with oil from the same well. Associated gas accounts for almost one-third of total U.S. gas production,[166] so any shut-in of U.S. shale oil wells in response to low oil prices will result in a fall in gas production. Indeed, the fall in oil production by nearly 1 mbpd between January and May 2020[167] resulted in a decline in associated gas production of around 3 bcf/day.[168] Russia is implicated because it was partly responsible for the steep fall in oil prices in March-April 2020; since then, it has been determined not to let oil prices rise too much beyond $50 per barrel,[169] since higher prices would encourage a shale oil comeback. Meanwhile, less gas production should chip away at the gas glut, which preceded and has been compounded by the pandemic lockdowns, resulting

in slightly higher prices (and profits) for U.S. natural gas producers—anticipated to reach nearly $3 per MMBtu in January 2021[170] compared to about $2 per MMBtu in January 2020.[171]

Notwithstanding the above, it is important not to overestimate Russia's influence over gas as a component of U.S. energy security. Structural changes are undermining Russia's role in the global gas market. For instance, standard long-term gas contracts used by Gazprom are being replaced by shorter-term ones. According to one estimate, 75 percent of European gas was sold at spot prices in 2018 compared to just over 20 percent in 2005.[172] This offers opportunities for U.S. and other gas exporters whose pricing model offers flexibility and reduced risks for customers, particularly now when gas demand is fluid due to uncertainties about economic recovery from the coronavirus pandemic.[173] Consequently, although U.S. LNG exporters were plagued by cancellations of spot orders from Asia in mid-2020, some of this gas has been snapped up by Turkey.[174]

Moreover, with demand for natural gas projected to grow more strongly than other hydrocarbons, U.S. gas exporters face constraints apart from Russia that impact market diversity outside of North America.[175] Total U.S. LNG exports have increased exponentially from 4.4 bcm to 47.5 bcm between 2016 and 2019—more than double Russia's 20.5 bcm of LNG in 2019—and are projected to grow steadily if supported by fast-tracked approvals and private investments for new LNG export terminals in the U.S.[176] This latter caveat is significant because LNG is projected to play a larger role in global gas markets, reaching 40 percent in 2040, up from 20 percent in 2018.[177] In this regard, Russia's belated focus on LNG exports is a rising challenge to U.S. LNG; however, shipment-related issues such as winter conditions, lack of LNG carriers and the risk of U.S. sanctions on foreign-owned carriers transporting Russian gas could impede growth.[178] The ability of the U.S., which was the third largest LNG exporter in 2019, to out-produce and out-export fourth-place Russia in Europe and Asia also depends on LNG leader Qatar—specifically, on its ability to follow through on increasing its gas exports from 77 million to 126 million tons by 2027 and purchasing up to 100 new LNG carriers that will give it more control over the entire gas supply chain. (In South Korea, for instance, Qatar will be just as keen as the U.S. to take advantage of the country's coal-to-gas

switch with the goal of retaining, or better yet augmenting, market share, which currently stands at 28 percent versus the United States' 13.)

On the global stage, apart from the oft-described gas struggles in Europe, the effectiveness of Russian gas diplomacy in Asia has been mixed.[179] The former Soviet republics of Central Asia, for example, were once obliged to sell all their gas to Russia at low prices due to the absence of alternative export routes, but gas pipelines bypassing Russia have since been built. These pipelines were welcomed by the U.S. in the belief that they strengthened independence from Moscow.[180] Today, only 23.5 percent of the region's gas goes to/through Russia, while 68.2 percent is destined for China; [181]Russia's economic influence over Central Asia has correspondingly declined although it retains other forms of leverage over the region. China is another arena of Russian and U.S. gas rivalry. Since 2013, the Chinese government has embarked on a drive to improve notoriously poor levels of air quality;[182] part of this involves increasing the use of cleaner-burning natural gas at the expense of coal in power plants. This would require massive gas imports given constraints in domestic gas development,[183] with one report identifying China as the single largest contributor to global gas demand growth between 2019 and 2025.[184] At first glance, Russia's massive Power of Siberia gas pipeline to China's northeast appears to have shut out U.S. LNG exports and an opportunity to improve Sino-U.S. relations.[185] However, the pipeline was never going to be competitive in inland areas of China: In a few years, when the second phase of the Power of Siberia moves southward and toward the coast (where LNG is easily delivered), the length of the pipeline route and the cost of gas will increase and the economics may favor U.S. LNG.[186]

Ultimately, as with oil, ownership structure could constrain the ability of the U.S. to marshal gas exports to contend with Russia on the global stage. While state-owned and state-aligned companies in Russia can be pressured to act as agents of state policy, this is much less possible in the privately owned oil and gas sectors in the U.S. where thousands of independent producers make decisions based on price signals and other economic factors. Since gas is partly yoked to oil—both in terms of price indexation and associated gas production—a sustained period of oil prices under $20/

barrel in the aftermath of COVID-19 would reduce production in the U.S. and delay the "dominance" agenda.

Coal

The U.S. and Russia are both major suppliers of coal, occupying fourth and third place, respectively, among the world's net coal exporters.[187] As of 2019, they possessed the largest and second-largest proven reserves of coal—nearly one quarter of the global total for the U.S., 15 percent for Russia.[188] It isn't surprising, then, that Russian coal barely figures in the United States' own energy mix. Moreover, domestic demand for coal in the U.S. has been falling, but that, as noted earlier, has to do with the economics of fuel-switching (namely, cheaper gas). The ongoing retirement of coal-fired power plants in the U.S.[189] and the absence of plans to build new ones suggest that the country's coal industry will increasingly look to export markets.[190] In this scenario, one would expect Russian and U.S. coal exporters to compete for buyers, but each group is currently facing obstacles that have little to do with the other, such as transportation logistics and tariffs.

With coal rapidly falling out of favor in Europe due to the low-carbon energy agenda, Asia, where demand remains strong, is very much the battleground for coal exporters. Russia is aware of the need to diversify away from Europe, now its key market: Europe accounted for just over one-third of Russia's coal sales between 2016 and 2018, but the region's electricity generation from coal in 2018 was 30 percent below 2012 levels.[191] In contrast, in China—which is both the world's largest coal importer and its largest producer—and in India (the world's second largest importer) coal accounted for 58 percent[192] and 56 percent,[193] respectively, of the primary energy mix in 2018. Although coal's dominance in China[194] and India[195] is expected to decline by 2040, it will still be the main fuel in their energy mix. This is due to the availability of coal both domestically and from abroad, its cost effectiveness and the young age of their coal-fired power stations, which can operate for decades to come.[196]

U.S. coal, however, struggles to compete in Asia and is much less significant than other fossil fuels in terms of foreign market penetration and revenue. The U.S. accounted for 1.1 percent of China's coal imports and 7

percent of India's in 2018; its best performance in China since 2000 was 4.4 percent in 2013. This is largely due to high shipment costs to Asia compared to nearby coal exporters Australia—by far the largest coal exporter in the world—and Indonesia.[197] Chinese tariffs and duties stemming from the Sino-U.S. trade war have worsened the situation, adding 30.5 percent and 26 percent to the cost of metallurgical and thermal coal, respectively.[198] With India considering a ban on coal imports in 2023 to reduce the country's overall trade deficit, U.S. coal exports are unlikely to make much headway in the next five years. As for Japan, where the U.S. has a 10-percent market share, prospects for coal exports are tempered by the fact that a plan for 22 new coal-fired power plants was a downward revision from 38 plants proposed in 2018;[199] the country also plans to phase out up to 100 older plants. With a new report that the majority of recent solar and wind projects have resulted in lower electricity costs than new coal-powered plants, it is not inconceivable that Japan's demand for coal will be scaled down again.[200] While all this is grim news for U.S. coal exporters, they may spell opportunities for U.S. gas exporters, particularly since current low gas prices make gas-fired electricity competitive with coal.[201]

Russia does not significantly impede U.S. attempts to increase coal exports and gain market share, even though it exports twice as much coal. The United States' difficulties in global coal markets have little to do with Russia's actions, as noted above. Russia's own attempts to increase its 8-percent share of China's total imports is hampered by Beijing's continued imposition of tariffs on coal imports from Russia—despite the signing of a free-trade agreement between China and the Russia-led Eurasian Economic Union; this renders Russian coal less competitive with that from Australia.[202] (Russia could benefit, however, if current tensions between China and Australia over the latter's insistence on an international investigation into the origins of the coronavirus result in Chinese tariffs on Australian coal.) The Sino-Russian coal trade is also constrained[203] by the underdevelopment of railway and port facilities in new coal mining areas in the Russian Far East.[204] While coal exports are significant for the Russian budget (it is the fifth largest source of revenue),[205] conditions in Europe and China may hamper the achievement of a global export share of 25 percent, up from 15.1 percent in 2019, as envisioned in the country's Energy Strategy till 2035.[206]

Nuclear

In terms of energy availability, U.S. dependence on Russia is higher for uranium than for any other fuel, but Russian supplies make up a small fraction of the U.S. mix and the risk of supply disruptions or price hikes is well tempered by the United States' diversity of suppliers. As a competitor for markets, Russia is a powerful player on the global map of nuclear-energy production, but it has barely any impact on the vitality of the U.S. nuclear industry; the latter's myriad problems stem from global trends, economics and public opinion—not anything Moscow has wrought. Obviously, nuclear energy has much to offer in terms of environmental sustainability, but here, too, Russia plays little if any role in U.S. policies.

On global markets, nuclear energy is a sphere where Russia is clearly dominant vis-à-vis the U.S., particularly when one takes into consideration reactor exports, plant-operation services and fuel exports. Rosatom, Russia's state-owned nuclear energy behemoth, is the world's only one-stop shop for all things nuclear. It has the largest portfolio[207] in the world of ongoing construction of reactors in foreign countries,[208] partly thanks to generous financial terms backed by the Russian state, which allow poorer countries to fund construction through low-interest loans. In contrast, storied U.S. nuclear companies like Westinghouse and General Electric have had much less success and much less export support from their government. Potential clients are obliged to sign, prior to cooperation, what is known as a "123 agreement" to abide by U.S. nonproliferation principles;[209] Russia requires no such preconditions.[iii] As a result, commercial companies and policy analysts alike have warned that America's back seat to Russia and China in nuclear energy "threatens American competitiveness and national security"[210] and that "Russia and China use trade in civil nuclear technology to gain influence in regions of strategic value."[211]

Although the U.S. imports 90 percent of its uranium,[212] while Russia has large uranium reserves and hosts half of the world's uranium-enrichment capacity,[213] Russia has no significant impact on the reliability of the U.S.

iii As far as the author is aware there have been no instances of these less rigorous rules leading to lapses in nuclear security, in part because Russia is a signatory (https://www.sipri.org/sites/default/files/2019-02/eunpdc_no_61_final.pdf) to all IAEA-mandated agreements signed by nuclear suppliers on nonproliferation.

nuclear fuel cycle. America's diversity of uranium suppliers means that Russia's share (13 percent) of U.S. uranium consumption is balanced out by fuel from close allies Canada and Australia (42 percent combined) and domestic mines (10 percent), as well as other foreign sources.[214] Although the Russian state owns Uranium One, a company with mining rights in the U.S., its impact on uranium availability for U.S. nuclear plants is not unduly worrisome. Uranium One accounted for less than 6 per cent of U.S. domestic production of uranium in 2017, it is not licensed to export the uranium it mines, and any attempt to limit production is easily overcome with imports or stockpiled uranium (see below).[215] Moreover, the fact that more than two-thirds of global nuclear fuel-fabrication capacity is located in the U.S. and in allied countries in Europe and Asia means there is no problem with the availability of fuel assemblies used by reactors in the U.S. In fact, a case can be made that Russia should be concerned about attempts by Westinghouse to produce fuel that can be used in Russian-made reactors in Europe;[216] previously, Rosatom's subsidiary was the only fuel manufacturer for these reactors.

The atrophy of the U.S. nuclear industry, as noted above, has little to do with Russia. Instead, the sector's decline—and the associated loss of industrial supply chains and specialized skills—came from: global-level trends, including the falling costs of solar and wind energy;[217] the relative abundance of uranium, which makes mining less profitable;[218] high upfront capital costs and long lead times for nuclear power plants;[219] and public fears over nuclear safety. It is also a result of national-level choices in the U.S. to privilege the use of coal and gas over nuclear energy in power generation. Russia has not played a direct role in contributing to these problems.

As with hydrocarbons, Russia's primacy on the market for nuclear fuel and technologies has sparked debates about Moscow's ability to use energy as leverage over U.S. allies and other countries. The depth and duration of nuclear commerce (a nuclear plant has a lifespan of at least 60 years), along with clients' perceived dependency, have led European analysts to caution[220] that supplier countries can gain geopolitical influence over recipient countries.[221] Some U.S. analysts have likewise argued that Rosatom and its planned or ongoing nuclear-plant projects in Europe

and the Middle East—for instance, in Finland, Czech Republic, Egypt and Turkey—are inimical to America's regional clout.[222] Nevertheless, two recent reports by independent think tanks caution that "evidence of nuclear commerce serving as an effective tool of foreign policy leverage in specific instances is limited in nature and hard to substantiate."[223,224] In any case, Rosatom has thus far escaped the sanctions that have befallen its hydrocarbon peers, suggesting that U.S. policymakers are not convinced of the company's alleged malevolence or its role in Russia's muscular foreign policy.

At the same time, the current U.S. administration has recently called for the revitalization of the U.S. nuclear industry and U.S. global leadership in the sector,[225] with explicit references to the robust competition from state-owned Russian and Chinese nuclear entities.[226] In December 2019 the nuclear energy industry welcomed a seven-year reauthorization of the U.S. Export Import Bank, which relaxed the rules for providing financing solutions for exports over $10 million.[227] In February the administration asked Congress to approve $150 million in funding per year over 10 years to create a strategic stockpile of domestically mined uranium, again citing competition with Russia and China.[228] The efficacy of a stockpile is questionable, however, given the abundance of uranium and the fact that supplies from "friendly" and domestic sources more than balance out those from Russia and Kazakhstan (which has jealously guarded its sovereignty vis-à-vis Russia since independence).[229] Even small modular reactors, touted by the U.S. Department of Energy and promoted by some as game-changers for the nuclear industry,[230] are highly unlikely to generate cost-effective electricity.[231]

In any event, Russia's dominance in the nuclear energy sphere may not be sustainable at the same blistering pace for much longer. In addition to the long-term fall in demand for nuclear energy noted above—which led Vietnam, for example, in 2016 to cancel its agreement with Russia to build a nuclear power plant—Russia may have to contend with competing demands on its sovereign wealth fund. Prioritizing funds to cover the budget deficit due to lower hydrocarbon exports or to advance the national projects backed by President Vladimir Putin may leave less upfront financing available for some of Rosatom's reactor construction projects.[232] China's

nascent reactor export business would be the obvious beneficiary of such constraints and it could eventually become a formidable rival to U.S. developers of small modular reactors, although it would have to overcome some major hurdles.

Cyberattacks

As noted in the executive summary, one impact Russia could theoretically have on U.S. energy systems' resilience to disruption involves cyber intrusions. Russia and Russian proxies (along with China) have been named in at least two recent reports as high-intent and high-capability perpe-trators[233] of major cyber incidents worldwide;[234] according to one of the reports,[235] based on publicly available information, in 2006-2018 Russian actors were believed to be responsible for 98 such incidents—defined as incurring losses of more than $1 million each—although it is often difficult to determine what role, if any, the state plays in these incursions. In 2015 and 2016, researchers blamed Russian hackers for a series of power outages in Ukraine following Russia's annexation of Crimea and support of armed conflict in eastern Ukraine. As for the U.S., it took the unprecedented step in 2018 of publicly blaming the Russian government for a series of cyber infiltrations of "energy sector networks" in the U.S.;[236] this built on earlier reports of Russia-linked hacks into electric-grid, gas[237] and nuclear-power facilities.[238] A Department of Homeland Security cyber-security official told reporters at the time that no operational control systems had been breached, but that U.S. officials were wary of Russia's intent.

With an economy 10 times smaller than the U.S.'s, Russia likely sees cyber-attacks of various sorts as a relatively low-cost method of undermining the U.S. and other adversaries, and energy security can be a target. Cyberattacks are also appealing in that they are difficult to attribute definitively, hence providing a modicum of deniability of state involvement. (This logic parallels the use of Russian private military contractors in conflicts such as those in Ukraine and Syria.) Whatever Russia's role in such attacks, the reliability and availability aspects of U.S. energy security are being affected by the increasing adoption of "smart" grids, peer-to-peer electricity trading, and decentralized power generation systems, including micro-grids. While such decentralization may improve the resilience of the overall national

electricity grid, the growing number of access points also gives rise to new opportunities for disruptions, meaning that security measures will need to be improved as well.

A Renewable Future?

This primer has examined Russia's impact on U.S. energy security and the extent to which it could change over the next five years. It concludes that Russia's biggest impact comes from oil and gas—specifically, from its export of these resources and its shared governance of global oil production—which, in turn, affect U.S. gasoline prices, economic growth and foreign energy policy. At the other end of the spectrum, Russian nuclear power and coal have minimal impact on U.S. energy security, while Russian threats to the resilience of U.S. energy systems have remained latent thus far. This leaves the question of sustainability.

Over the longer term, increasing the uptake of renewable energy and of electric vehicles could offer the U.S. more robust energy security vis-à-vis Russia and greater environmental sustainability than continuing to rely on fossil fuels and nuclear energy, which produces radioactive waste.[239] Six U.S. states have already enacted laws requiring 100 percent clean electricity by 2050 or earlier and over 100 American cities, containing 15 percent of the U.S. population, are committed to the same goal. Renewable electricity and equipment can be exported and leveraged in tandem with clean-energy diplomacy; in fact, the newly reauthorized U.S. EXIM Bank was given a new mandate to commit at least 5 percent of its annual disbursements to supporting renewable energy exports.[240] Increasing the proportion of U.S. electricity powered by renewable energy resources will also reduce reliance on oil and gas, thus buffering the U.S. from Russia's impact in these markets. This is especially pertinent since solar and wind energy are not key components of Russia's energy policy: As of spring 2019, less than 1 percent of Russia's electricity was generated by solar and wind[241] and progress on future non-hydropower renewable-energy projects is slow,[242] partly due to onerous legislation that mandates 65-70 percent of construction materials for solar and wind must be produced in Russia.[243] The country, however, scores poorly on corruption (it was ranked 137th out of 180 countries in 2019)[244] and Russia is also a relatively minor player in the production of

rare earth minerals that go into components for renewable energy technologies including solar panels, wind turbines and batteries: It has a 1 percent share of global production compared to the U.S.'s share of 12 percent.[245] In this regard, some see U.S. leadership in renewable energy as the "ultimate weapon" against Russia.[246]

Nonetheless, renewable energy runs into a similar limitation as oil or gas "dominance"—namely, that it is almost impossible to be self-sufficient throughout the clean-energy supply chain,[247] which encompasses raw materials, processed materials, components, products, technology and a whole ecosystem. For example, in terms of raw materials alone,[248] the U.S. is dependent on foreign imports for 50-100 percent of various inputs required for solar panels, wind turbines and batteries. In the end, true energy security for the U.S. may only be achievable through "shared security"[249] in the context of an interdependent North American energy market alongside strong energy partnerships (hydrocarbon, renewable and nuclear) with traditional allies like Europe and resource-rich Australia,[250] with the latter already a key member of the U.S.-led Free and Open Indo-Pacific initiative.

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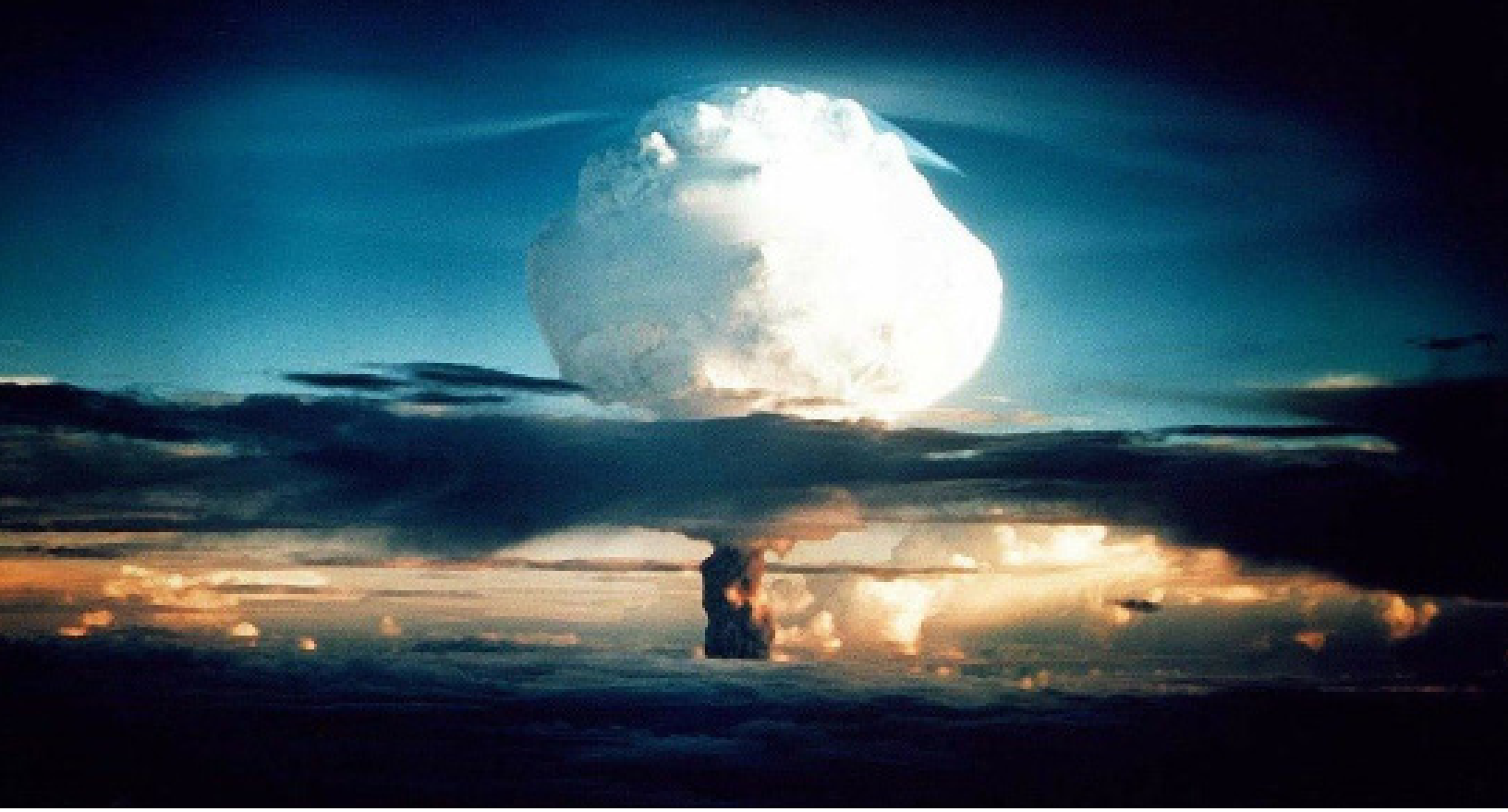

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Russia's Impact on US National Interests: Preventing Nuclear War and Proliferation

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Executive Summary[i]

Understanding the potentially apocalyptic consequences of nuclear war, it is clearly in the national security interest of the United States to reduce nuclear risks. This necessitates a multilayered effort to slow the spread of nuclear weapons and technologies, reduce nuclear stockpiles, secure nuclear materials and prevent the proliferation of delivery systems for nuclear weapons. None of these efforts can be truly successful without the help and cooperation of the Russian Federation. Indeed, the Russian

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impact on U.S. nuclear risk reduction goals cannot be overstated. Russia's arsenal constitutes over 45 percent of the global nuclear stockpile. Those weapons are coupled with delivery systems that could reach American soil in about 30 minutes, meaning Russia presents a clear and ever-present existential nuclear threat to the United States. U.S.-Russian bilateral nuclear risk reduction efforts have produced successes in the past, but those efforts are now fading and failing. Should the United States want to continue to reduce nuclear threats in the 21st century, it has no choice but to engage in a reinvigoration of nuclear policy dialogue and cooperative activities with Russia.

Nuclear tensions between the United States and Russia, and around the world, are now at the highest levels seen since the end of the Cold War. These conditions mandate that the United States take a leadership role in stabilizing the situation. That will require some immediate actions, including extending the New Strategic Arms Reduction Treaty (New START) and managing the aftermath of the collapse of the Intermediate-Range Nuclear Forces Treaty (INF).

There are also longer-term steps the United States can take to facilitate cooperation and dialogue with Russia that will aid in its goal of reducing nuclear threats. Washington, working with Moscow, will need to rebuild teams capable of producing a new generation of arms control and nonproliferation agreements. It will also be necessary to restart dialogues and deal with longstanding grievances, including treaty compliance, confusion about each other's doctrines relating to nuclear use and missile defense. These interactions should be regularized and protected from broader challenges the United States faces from Russia. Beyond that, substantive discussions over nuclear issues need to be reinvigorated and broadened to include emerging threats like hypersonic weapons and the incorporation of artificial intelligence into strategic command systems. These discussions cannot be sporadic fora in which to enumerate past grievances; rather they should encourage bold and creative thinking about the future of both arms control and nonproliferation.

Beyond nuclear arms control and nonproliferation discussions, the United States should press Russia to expand cooperation to contend with

conventional arms control challenges like the very likely collapse of the Open Skies Treaty, from which the U.S. and Russia have now both withdrawn, as well as the continuing threat of nuclear terrorism and the need for nuclear security cooperation.[1] The United States should also see if Russia has any interest in working together to expand all these efforts into multilateral formats.

Incoming U.S. President Joe Biden has long supported nuclear risk reduction measures and it is likely that his team has already considered the initial pressing challenges and how to confront them. All of the new U.S. administration's policy goals in this space will unavoidably be impacted by Russia. Through its nuclear assets, nuclear posture and political choices, Moscow affects how Washington plans and implements its own nuclear policies in arms control, nonproliferation and nuclear security. The same, of course, is true in the reverse. It is for those reasons that the two countries are "doomed to cooperate."[2]

With a renewed acknowledgement of the stakes, a stabilization of remaining structures and a commitment to substantive dialogue and adequate resources, the United States, working with Russia, can achieve its goal of reducing nuclear risks for themselves and the world.

Russia's Nuclear Assets and Posture

In order to understand how Russia's nuclear policies affect the United States, it is necessary to understand the scope and purpose of the Russian arsenal.

Despite significant reductions, the Russian nuclear arsenal and delivery systems still present an existential threat to the United States and its allies. Down from a peak of over 40,000 nuclear weapons in the 1980s, Russia currently has around 6,400. Of those, 4,000 are in the active nuclear stockpile, which includes 1,550 deployed strategic nuclear weapons.[3] There is some dispute over the exact number,[4] but Russia is believed to also possess between 1,000 and 6,000 non-strategic (i.e., shorter-range, lower-yield) nuclear weapons, emplaced on land, air and sea delivery systems.[5] The Russians are now approaching the end of a nuclear modernization program

that replaced or upgraded many Soviet-era systems. They are also pursuing a slate of "exotic" delivery systems designed to evade missile defenses.[6]

Russia's reliance on nuclear weapons in its defense strategy has been increasing since the end of the Cold War due to a perceived imbalance with NATO conventional capabilities. This is not dissimilar to the posture that the United States and NATO pursued in the early days of the Cold War, when they felt like their conventional forces could be overrun by the Soviets.

Among experts in the United States and NATO countries, the current debate over Russia's nuclear posture is centered on the conditions under which the Russians might use nuclear weapons and whether they would use nuclear weapons first.[7]

One of the facets of that concern is related to "escalate to deescalate" (E2D), specifically the concept that a country losing a conventional war could use a low-yield nuclear weapon to unreasonably raise the stakes, causing its opponent to seek terms to end the conflict and avoid an all-out nuclear war. In its 2018 Nuclear Posture Review, the Trump administration argued that Russia has an E2D policy, specifically focused on employing nuclear weapons on a limited basis in order to end a conventional conflict with NATO. Citing ample evidence, many experts argued that E2D is *not* the Russian approach, and that Russian strategists know that any use of a nuclear weapon could lead to an all-out nuclear war.[8]

In June 2020, perhaps in an attempt to quiet some of the misperceptions, the Russian government published a paper outlining its own views on deterrence.[9] While some experts believe the document did not indicate a change in military doctrine, it did provide some clarifications and insight into Russian views.[10] Framing its arsenal as a deterrent to be used only in extreme circumstances, it did reaffirm the notion that Russia would use nuclear weapons in response to any action, including conventional attacks, that "threatens the very existence of the state." The paper retains a fair bit of ambiguity, however, and some experts find that, while the bumper sticker of "escalate to deescalate" might be overly simplistic, the option

of preventive or preemptive strikes is clearly available to both the United States and Russia.[11] (See Appendix 1.)

What is also clear is that in order for the United States to pursue nuclear risk reduction efforts, it needs to get a better understanding of the Russian nuclear doctrine through direct and multi-level dialogues.

Russia's Impact on Nuclear Strategic Stability and Arms Control Goals

The United States has come to the edge of a nuclear nightmare more than once, but most notably in the form of the Cuban Missile Crisis.[12] Since then, Washington has engaged Moscow, its peer nuclear competitor, in almost 60 years of bilateral nuclear diplomacy to prevent such a nightmare from ever happening. From basic agreements over crisis communication to robust treaties involving rigorous inspection mechanisms, the United States increased its own security by engaging with the Soviet Union and later Russia. With ebbs and flows along the way, these efforts were largely shielded from the broader disputes between the two countries.

Unfortunately, the current state of what many experts call "U.S.-Russian strategic stability"[ii] is bleak. Together, the two countries possess over 90 percent of the global nuclear stockpile and the guardrails the United States built with Russia to prevent disaster are crumbling. Some treaties and agreements have expired naturally but were not replaced. Others, like the Anti-Ballistic Missile Treaty (ABM) and the INF were abandoned.

With the last major bilateral arms control agreement, New START, teetering on the edge of collapse, the United States and Russia now find themselves at a crossroads between cooperation and catastrophe. In order to avoid further deterioration of the situation, leaders in Washington must engage leaders in Moscow to stabilize what is left of their bilateral arms

ii In the traditional sense, the concept (https://www.jstor.org/stable/173725?seq=1) ~~of strategic stabili~~ty referred to deterrence through the threat of mutually assured destruction. More recently, it has become a catch-all term for matters relating to U.S.-Russian force postures, nuclear doctrines and the state of bilateral arms control.

control regime. They must then commit to creating a new generation of arms control agreements.

Russia's Impact on Nuclear Nonproliferation Goals

Preventing the further spread of nuclear weapons is among the highest security priorities for the United States and Russia can impact that goal both positively and negatively. As one of the three "depositary governments" named in the Nuclear Nonproliferation Treaty (NPT),[13] Russia has a significant amount of influence in the international bodies that deal with nonproliferation issues, including the U.N. Security Council and the International Atomic Energy Agency (IAEA). The United States has partnered with Russia on a number of nonproliferation efforts, including the P5+1 talks with Iran and Six-Party Talks with North Korea. Moscow's ability to bring economic and political pressure to bear on countries of proliferation concern can outweigh Washington's. However, Russia is also a potential source of sensitive equipment, materials and technology that could enable proliferation. That fact must be monitored and managed.

There is no doubt that the Trump administration's abandonment of the Joint Comprehensive Plan of Action (JCPOA), a.k.a. the Iran Deal, and feckless attempts to contain the North Korean program will negatively reflect on future U.S. efforts to engage in nonproliferation efforts.[14] Russia may also seek to take advantage of the United States' damaged reputation in fora like the upcoming NPT Review Conference.

Though political maneuvering should be anticipated, it should not be allowed to become a source of conflict when pursuing nonproliferation goals. Russia's commercial nuclear interests in Iran make it an indispensable partner in any future talks over Iran's nuclear program. Further, while Russia appears to prioritize stability in North Korea over requiring the country to forgo its nuclear arsenal, President Vladimir Putin's 2019 meeting with Kim Jong-un could have created some influence with the North Korean leader. That could be of use in future talks with Pyongyang. Finally, when creating a multilateral sanctions regime targeting Iran, North Korea

or any other possible proliferant, Russia would be an essential partner in enforcing those regimes.

The prevention of further proliferation to new countries is a U.S. goal, but stemming the spread of nuclear weapons is in everyone's interest. The incoming administration should seek to engage Russia in a wide-ranging dialogue on proliferation prevention with that in mind.

Russia's Impact on Nuclear Security Goals

Nuclear terrorism is a probability-low and consequence-high threat to the United States. Given the size of Russia's nuclear weapons and material stockpile, the United States has had an interest in mutual work to secure and safeguard these assets.[15] Current unclassified estimates suggest that in addition to its nearly 6,400 nuclear warheads, Russia has about 679 tons of highly enriched uranium (HEU) and around 190 tons of separated plutonium, located in buildings and bunkers throughout the country.[16] Experts and observers do have concerns about the safety of these materials and Russia's recent attention to and investments in nuclear security. Those concerns are not new.[17]

Following the end of the Cold War, the United States was extremely worried about the sale or theft of nuclear weapons or materials from the various newly independent states that made up the former Soviet Union. Through efforts like the Cooperative Threat Reduction Program, the United States worked with Moscow to reduce those threats.[18] Overall, security and accounting for Russia's weapon-grade fissile materials has dramatically improved over the past 25 years, but there are still major weaknesses stemming from the threat environment in which Russia operates, including major corruption and the potential for insider theft. How well Russia has managed COVID-related risks to nuclear security is still to be determined; it has been reported[19] that workers at two of Russia›s 11 nuclear power plants[20] have contracted COVID.

Despite the long history of U.S.-Russian cooperation on securing nuclear materials and facilities,[21] cooperation has faltered and now, in some cases,

it is prohibited.[22] Russia has terminated a 2013 bilateral agreement on nuclear energy research and development, as well as a 2010 agreement with the U.S. Department of Energy on converting six Russian research reactors to low-enriched uranium fuel. The two countries are also in a standoff about the future of the Plutonium Management and Disposition Agreement (PMDA),[23] which committed each country to dispose of at least 34 tons of their weapons-grade plutonium stockpiles—enough for thousands of nuclear weapons.[24] Putin suspended Russia's participation in this agreement in 2016,[25] citing U.S. inability to fulfill its requirements, as well as non-nuclear issues such as NATO expansion and economic sanctions relating to Russia's activity in Ukraine.[26] Five years later, the dispute remains, as do the plutonium stockpiles (although Russia has processed some plutonium into MOX fuel as stipulated by the PMDA).[27]

Resolution of all current nuclear security disputes will take effort, but there are mechanisms that can facilitate progress. While Russia's support for the Nuclear Security Summit (NSS)[28] process initiated by former President Barack Obama waned[29] for political reasons,[30] the United States and Russia still co-chair the Global Initiative to Combat Nuclear Terror-ism (GICNT).[31] The GICNT has 89 participating states, including every nuclear-armed state except North Korea. The work of the group should be supported and expanded in the years to come. The further exchange of best practices, discussion of common challenges and technological cooperation will help the countries and the world better manage and control the threat of nuclear terrorism. Some U.S. experts have also recommended reforming bilateral nuclear security cooperation by sharing expertise, jointly developing approaches to cope with new threats and lifting a congressional restriction on funds for defense nuclear nonproliferation.[32]

Immediate Actions

Understanding that U.S. nuclear policy goals and objectives are influenced and impacted by Russia, there are a few tasks that the incoming Biden administration should pursue as a matter of practicality and urgency.

First, the United States and Russia should decide on the future of New START. Fortunately, the actual extension of the treaty can be done through

an exchange of diplomatic notes. On the U.S. side, per the 2010 Senate Resolution of Ratification, the Senate does not need to approve the extension, but it does need to be informed.[33] If the administration wants a new or augmented deal, that would require the advice and consent of the Senate. On the Russian side, the extension does need to be formally approved by the State Duma, parliament's lower house, but that can be accomplished quickly.[34]

The Biden administration now has about two weeks in which the U.S. and Russian presidents can agree to extend New START. The new president has already publicly signaled his support for extension, citing the predictability and stability New START affords and the need for time to negotiate new agreements, which will require lengthy and difficult discussions over scope and verifications measures.

The United States and Russia do not have to extend New START for the maximum five years allowed under the treaty. Some experts contend that the United States should choose to extend the treaty for a smaller period of time (or several smaller periods of time, if that proves legal) with the hopes that it would spur efforts toward a new, expanded treaty negotiation that would include more Russian nuclear weapons and delivery systems. Such a strategy would likely create one or multiple crisis points each time the treaty was set to lapse again.

The United States and Russia could also choose to let the treaty expire and seek negotiation of a new New START-like agreement. This option would have little global support, including among U.S. allies, and it would leave the two countries without any on-the-ground or regularized insights into each other's strategic arsenals. While the parties could seek a continuation of stabilizing activities, like a voluntary data exchange in the interim period, there would be no guarantee that either side would consent to such activities outside of a formal agreement.

In the end, the decision should be clear: From both a security and economic perspective, extension just makes sense. Entering the next 75 years of the nuclear age with no legally binding constraints on the world's two largest nuclear arsenals defies logic and reason. New START has worked

and will continue to, if faithfully implemented by both sides as it has been since taking effect. It offers predictability and stability that allows for clear-eyed force structure planning. Neither side can buy the kind of intelligence that the treaty provides. Even if the two countries tried and did divert time, resources and energy into gathering this intelligence independently, instead of through consensual data-sharing and verification, the resulting information would not be as good. Besides, with the COVID-19 crisis far from over, it would be foolish to spend resources on things that could be effectively free. The extension would also give both parties more time to decide on what comes after New START, including when and how to include China, France and the United Kingdom in such discussions.

The second pressing practical matter relates to dealing with the aftermath of the INF Treaty's collapse, which has dramatically raised the danger of an intermediate-range (IR) missile race. While neither side is likely to concede any fault over the situation, the consequences of the collapse can and should be managed. The United States should pause and review any Trump-era plans to develop ground, sea and air-launched IR missiles, press Russia to outline its own plans regarding IR missile production and deployment and reciprocate. This transparency effort would not just be useful on a bilateral basis, but also for countries that are concerned about IR missile proliferation around the globe. In order to be successful, Russia would need to acknowledge, rather than accept, the U.S. charge that the 9M729 missile is an intermediate-range system and incorporate the missile into the transparency effort.

Washington should then engage Russia to open a dialogue specifically focused on the prevention of an IR missile race. This dialogue could cover a range of issues, including prohibitions on nuclear-armed IR missiles and specific geographic restrictions on IR missile deployments. With this added stability, the two countries could discuss what future bilateral or multilateral controls on IR missiles could look like, while also engaging other IR missile-possessing states in the conversation.

Next Steps: Rebuild, Restart, Resolve, Reinvigorate

Having dealt with the most pressing nuclear challenges that Russia poses for the United States, Washington should then turn to next steps, while acknowledging there is a lot of old baggage that is getting in the way. The Obama administration's attempt to "reset" the relationship with Russia was much maligned, but the desire to create a clean slate from which to operate was understandable.[35] Resetting might just be a step too far, as it implies that slights and offenses, both real and imagined, can be forgotten. The Russians perceive that the United States withdrew from the ABM Treaty and other agreements, like the Iran deal and Open Skies, without just cause. The Americans perceive that Russia has been and is continuing to engage in multiple treaty violations.[36] Saying a reset button has been hit does not change that reality. That is why the United States should think about future engagement with Russia as the continuation of a long and sometimes difficult process that has ably served the security of both countries. In order for the process to continue yielding benefits, perhaps the incoming Biden administration can consider some different "re"-prefixed verbs: rebuild a team, restart a dialogue, resolve to deal with key grievances and reinvigorate the dialogue by including new topics.

Rebuild a Team

To create a new generation of nuclear risk reduction structures and agreements, the United States will need to rebuild its capacity for dialogue and diplomacy. On the U.S. side, shifting priorities, natural retirement,[37,38] neglect and bureaucratic obstacles have reduced the number of people working on U.S.-Russian strategic stability, nonproliferation and nuclear security. While the Russians are not as transparent about their staffing issues, one can assume they are experiencing similar challenges. New staff should be hired en masse and properly integrated with old guard experts in order to better support the transfer of historical knowledge. Not only will it be necessary to increase the number of people working on this matter, it will also be imperative that a range of technical, scientific, legal, political and language experts be brought into the fold. Diversity should also be

promoted, both in terms of gender and background.[39,40,41] With the myriad U.S.-Russian nuclear challenges on the horizon, leaving more than half of the population out of the conversation is unwise.

Restart a Dialogue

With bigger, more diverse teams in place, the United States should work with Russia to restart a general dialogue about a range of nuclear risk reduction issues. This is easier said than done. Skeptics in the United States will point to Moscow's continued interference in U.S. politics, Russian treaty compliance and sporadic interest in further progress on nuclear risk reduction as evidence that engagement is not worth the effort. Russian critics, for their part, can point to two decades' worth of destructive U.S. withdrawals from treaties and agreements, sometimes with specious justification, as proof that the United States cannot be trusted to keep its word. The inability of the United States and Russia to save the INF Treaty seems like a clear demonstration of a lack of motivation and will to engage in the difficult work of creating and maintaining mutual restraints.

Of course, tackling these challenges has been made more difficult by the COVID-19 pandemic. In-person meetings come with safety concerns and it does not appear that the United States and Russia have a mutually acceptable set of secure online communications tools for the purpose of substantive dialogue, much less negotiations.

Even faced with those constraints, it is in the U.S. national security interest to convene and sustain a new, robust and multilayered dialogue between the two nations. These conversations should not be confined to small groups of diplomats, nor should they consist of one- or two-day interactions. Various groups of experts from all relevant parts of the U.S. and Russian governments should engage in regular, open-ended conversations. Non-governmental dialogues should also be encouraged. While COVID-19 continues to impede in-person meetings, secure online communications should be established and used. When in-person meetings are again possible, they should take place in a neutral setting. Geneva and Vienna have been common sites for discussions and negotiations in the past, but they

are also crowded with international bureaucracies, curious reporters and even the ghosts of past arguments and failures. Perhaps a little metaphorical breathing room would help facilitate a more productive dialogue. Given multiple European countries' interest in supporting global arms control and non-proliferation matters, it would not be difficult to find a new venue or venues. Discussions on short-term next steps could range from future nuclear reductions and controls on delivery systems to non-strategic nuclear weapons and the blurring between strategic and conventional military planning, as well as a bilateral effort to globalize cooperative threat reduction activities. Furthermore, any self-imposed or legislatively mandated restrictions on military-to-military and lab-to-lab exchanges should be lifted and the interactions should become a standard occurrence or even a semi-permanent activity.[42]

These dialogues can and would help rebuild the muscle memory needed to strengthen existing U.S.-Russian nuclear risk reduction structures and regimes, as well as the next generation of those structures and regimes.

Resolve to Deal with Key Grievances

The airing of complaints, misconceptions and accusations that happens at formal and informal nuclear weapons policy events between the United States and Russia has become a tedious ritual. The process also wastes valuable time that should be reserved for the future, not the past. Bold as the suggestion may seem, it might be time for both sides to accept that dealing with these grievances would be far more productive than complaining about them. Not every problem can be resolved, but attempting to minimize a problem's ability to obstruct larger conversations is a worthy endeavor. For example, any substantive dialogue with Moscow is likely to be impeded by U.S. charges of Russian treaty violations, U.S. missile defenses and misperceptions about each other's nuclear doctrines.

Treaty Violations

The United States has leveled a number of serious compliance charges against Russia over the years, from concerns to accusations of outright material breach.[43] Those charges often elicited countercharges

from Moscow. At this point, there are very few security treaties or agreements that are excluded from these accusations. That has led to a situation in the United States wherein critics of arms control efforts contend that there is no use in making agreements with Russia since violations would be sure to follow.[44] While walking away from several treaties, including the INF and Open Skies, over cheating allegations, the Trump administration has also woven the idea that "treaties must be enforceable" into its talking points.[45] Trump administration officials never defined exactly what "enforceable" means or would entail, but the punitive tone did not make dialogue with Russia any easier. While the Biden administration might take a different tone and approach, critics will continue to point to Russian treaty violations. There is no easy solution to this problem. Moscow denies every charge, even in the face of incredibly strong evidence, and the United States will not just ignore two decades of compliance determinations that outline an uncomfortable pattern.[46] At a base level, the two parties can respectfully acknowledge the disagreements over compliance and endeavor to avoid the further erosion of existing agreements. That will not help with political critiques in the United States. In pursuing further agreements, the new White House will have to make the case that each agreement should be weighed on its own merits and contribution to security. The Kremlin, for its part, should conduct a clear-eyed review of why Russia keeps ending up on the receiving end of compliance accusations. If the two sides cannot better manage this, they might find that there are no more treaties over which to fight.

Missile Defense

Over the past few decades, both the Russians and the Americans have pursued missile defense programs, but it is the United States that has heavily invested in such systems at multiple ranges. Russia's objections to the U.S. pursuit of a national missile defense system have resulted in diplomatic collateral damage.

Most important, the cycle of accusations, counteraccusations and the related development of weapons systems is quickly spinning the two countries into a full-fledged arms race. One could argue that the Russians have overblown the threat of missile defense: The U.S. national missile defense

program, the Ground-Based Midcourse Defense system, is neither aimed at nor capable of intercepting Russian intercontinental ballistic missiles. U.S. officials argue that U.S. regional assets, like Aegis Ashore and THAAD, are limited in scale and ostensibly not aimed at Russian assets. Experts have undercut some of those arguments, demonstrating that some systems could have offensive capabilities.[47] Further, Moscow clearly has an eye on the future of U.S. capabilities and did not miss the talk of "defending the U.S. homeland" against "the emerging threats" from Russia in the Trump administration's 2019 Missile Defense Review.[48] Indeed, increased investments in U.S. missile defenses have been perceived by Russia as an attempt to undermine its deterrent. In response, Russia has invested in increasing both the number and sophistication of delivery systems specifically designed to evade, overcome and defeat U.S. ballistic missile defenses.[49] The new missile defense-evading delivery systems have prompted U.S. calls for increased spending on both offensive and defensive systems. The entire process makes it easy to understand why the Strategic Arms Limitation Treaty (SALT), the first nuclear restraint agreement between the United States and the former Soviet Union, was coupled with the ABM Treaty.

It is clear that to move forward on strategic stability, both sides will have to figure out how to find middle ground on the issue of missile defense. Perhaps the first thing to do is once again agree to the fact that there is an inextricable connection between offensive and defensive weapons systems and that connection must be better managed.

If Washington wants both a limited missile defense program and an improved strategic stability with Moscow, it will need to take Russian concerns about threats to their deterrent seriously. Washington will also need to accept that, despite long efforts to change this reality, there is no such thing as complete invulnerability. Leaving the serious technical issues and political pressures aside, the United States would be well-advised to link missile defense investments to broader threat reduction efforts.

If Russia's goal is a new treaty or agreement with the United States that limits missile defenses, Moscow should say so, but rehashing complaints about the ABM Treaty withdrawal does nothing to improve current security conditions. Russia will have to determine the level of U.S. missile

defenses with which it would be comfortable, for example, systems intended to deal with smaller, distinct missile threats. Moscow could also agree to engage in sustained missile defense cooperation and transparency discussions with the United States.

Overall, both sides, despite ideological differences and distrust over these matters, should expand dialogue about the purpose and future of missile defense. That dialogue could also include dealing with missile proliferation around the world. After all, arms control agreements have intercepted and destroyed far more enemy missiles than any missile defense system has or could.

Misperceptions About Doctrine

The lack of truly substantive dialogue between the two countries has served to exacerbate misconceptions and misunderstandings about nuclear doctrines in the United States and Russia. Early in any serious bilateral nuclear risk reduction dialogue, it will be necessary to outline and address those possible misperceptions and misunderstandings. For example, the supposed Russian policy of E2D and recent U.S. investments in low-yield submarine-launched ballistic missiles will likely draw questions from the respective capitals. Relevant, high-ranking Trump administration officials publicly admitted that they had not discussed the E2D issue with their Russian counterparts.[50] While quiet conversations may have transpired subsequently, the Biden administration should move to engage Russia in a more public discussion on E2D and broader nuclear doctrine matters. A broader discussion of how the United States (along with NATO) and Russia might find themselves in a conventional conflict is also overdue.

Reinvigorate Dialogue with New Topics

In addition to handling major disagreements, it will also be important for the United States and Russia to reinvigorate the substance of their dialogue. Topics can and should include new—and novel—delivery systems, tactical nuclear weapons, possible proliferant states, nuclear security cooperation, the weaponization of space, autonomous weapons systems with lethal capabilities, offensive cyber capabilities, additive manufacturing,

unmanned aerial vehicles, artificial intelligence, precision-strike weapons and the blurring of the distinction between conventional and strategic systems. No relevant or applicable topic should be precluded, as all of these technologies will affect future stability.[51] At the same time, neither side should insist on handling every topic at once.

As the two countries look to the future, it is also worth reviewing the structure and value of previous efforts to reduce tensions and the chance of conflict.[52] (See Appendix 2.) In fact, the impressive volume of U.S.-Russian risk-reduction measures could provide ideas for dealing with strategic stability challenges in the 21st century.

It will also be necessary for both countries to exponentially increase current internal investments in future verification technologies that can help underpin future arms control, nonproliferation and nuclear security agreements. These investments will be necessary—because in order for parties to have confidence in new agreements they will need to have confidence in the verifiability of said agreements. Russia should also reassess its lack of participation in the International Partnership for Nuclear Disarmament Verification[53] (IPNDV)[54]. The effort is producing positive results on both a diplomatic and practical level. Indeed, general cooperation with private industry and academia on verification technology development can yield useful contributions. No matter the origin, new, mutually acceptable technologies for warhead detection, continuous monitoring and remote sensing could enable the creation of an entirely new set of bilateral and multilateral agreements. While budgets will be tight in the wake of COVID-19, these investments would pay dividends. Of course, it is not just tools that are needed. New verification techniques will be necessary. Previous initiatives like the U.S.-Russia Joint Verification Experiment can serve as a guide for new technical cooperation projects.[55]

Seeking Broader Cooperation

Beyond the big-ticket strategic issues, there are other security questions with which the United States and Russia must contend. For example, the United States will not get very far with Russia on nuclear risk-reduction efforts without addressing long-standing and new conventional threats,

including those posed by dual-use technology and delivery systems. They will also have to deal with the fact that the agreements that have underpinned conventional security across the Euro-Atlantic region—the Conventional Forces in Europe Treaty, the Vienna Document and the Open Skies Treaty—are coming apart at the seams. These agreements, along with accident-prevention agreements,[56] are vital for preventing conventional conflicts that could escalate into nuclear ones. Both government[57] and independent scholarship[58] on the future of conventional arms control in Europe can provide a starting point for renewed dialogue. Trust deficits and disparate threat perceptions will have to be managed in such dialogues, so moving forward will require political will.

The United States can also push for more substantive activities in the P5 Process. This decade-old effort facilitates discussion between the five nuclear weapons states recognized by the NPT on the subject of their disarmament commitments under the agreement. Moving past dialogue and into distinct actions will require U.S. and Russian leadership. After all, China, France and the United Kingdom have not spent the last half century negotiating and implementing nuclear limitation and reduction agreements. Perhaps the P5 could look to the past for future inspiration. For example, the P5 could discuss the multilateralization of the 1973 Prevention of Nuclear War Agreement[59] or the creation of more crisis communication tools. Overall, the group can draw lessons from the U.S.-Soviet Strategic Arms Limitation talks.[60] Then-President Richard Nixon referred to SALT I as "the beginning of a process that is enormously important that will limit now and, we hope, later reduce the burden of arms, and thereby reduce the danger of war."[61] That seems as relevant a goal today as it was then. The venue could also provide an opportunity to start some critical conversations about global intermediate-range missile proliferation and the implications of non-nuclear strategic threats, like advanced biological weapons, on strategic stability. The United States and Russia could also challenge the P5 to engage in "preemptive" arms control, precluding concepts and actions that would have a deleterious effect on strategic stability before they are enacted.

Conclusion

The size and scope of the Russian nuclear arsenal and infrastructure present an existential threat to the United States. For that reason, Russia can and will continue to impact U.S. plans and policies regarding arms control, nonproliferation and nuclear security goals. Of course, there is no sense in mincing words: The United States does not trust Russia and it is easy to understand why.[62] The feeling is undoubtedly mutual. Dealing with Moscow, especially in the wake of unprecedented cyberattacks directed at U.S. federal agencies, will be politically fraught for the new administration.[63] That does not change the fact that the United States and Russia are still just a few bad decisions away from the end of the world. Scientific experts estimate that a U.S,-Russian nuclear exchange based on current understandings of force postures would result in more than 90 million casualties within hours, not to mention the longer-term damage to health, property and climate.[64] That is why the United States can and should engage Russia to deal with immediate nuclear threats, while also working to enhance and expand dialogues on nuclear risks in a regularized fashion. It will also be necessary to assess and process both long-standing complaints and new and emerging challenges. (The latter category includes cyber threats, considered briefly in Appendix 3.)

There is no other rational course of action. As has been outlined by scholars in vivid detail, the United States was lucky to escape the Cold War without a nuclear conflagration.[65] There is no guarantee that luck will last forever and the nuclear threat from Russia remains. If the reduction of nuclear dangers and the prevention of nuclear war is a priority for leaders in Washington, then partnering with Moscow is essential—and unavoidable.

About the Author

At the time of this writing, Alexandra Bell was the senior policy director at the Center for Arms Control and Non-Proliferation.

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Appendix 1: Limited Nuclear Strikes, or 'Escalate to Deescalate'

Both Russia and the United States keep open their options for using limited nuclear strikes to deescalate (that is, to end) and win conflicts. This fact highlights a dangerous problem that remains with us from Cold War days—the risk of a conventional conflict escalating into a nuclear war.

In January 2020, Kevin Ryan, a retired U.S. Army brigadier general and former defense attaché to Russia, published a paper with Russia Matters exploring whether Moscow indeed espouses a strategy of "escalate to deescalate"—essentially, a plan to use limited nuclear strikes in a conventional conflict to "shock an adversary into suing for peace."[1] U.S. military officials have believed since at least 2015 that this is the case and American policymakers have "already ordered the development of new weapon systems and capabilities to ensure Russia's plan cannot work against the United States," Ryan wrote. "Russia's political leaders, however, say they don't have such a plan and that 'escalate to deescalate' doesn't exist in their doctrine at all."

Since Russia's war plans, like most countries', are classified, Ryan tried to determine whether an "escalate to deescalate" policy exists by relying on "unclassified documents, professional articles and public statements." He concluded that both Russia and the United States do consider "using nuclear strikes to deescalate (that is, to end) and win conflicts." And although Moscow does not officially call this escalating to deescalate, the phrase has been useful insofar as it "has focused military experts, political leaders and the general public on a dangerous problem that remains with us from Cold War days—the risk of a conventional conflict escalating into a nuclear war." Some details of Ryan's argument are summarized below; the original paper includes a good list of suggested readings on the topic.

What Does the US Mean When Accusing Russia of an 'Escalate to Deescalate' Policy?

- The phrase "escalate to deescalate" first appeared in American briefings and documents, not Russian. While the term may mean different things to different people, Ryan's paper uses a definition

based on June 2015 congressional testimony by then-Deputy Secretary of Defense Robert Work and vice chairman of the Joint Chiefs of Staff, Adm. James Winnefeld[2] (and essentially repeated in the Defense Department's 2018 Nuclear Posture Review):[3] A Russian strategy that seeks to deescalate (i.e., end) a conventional conflict through coercive threats including limited nuclear use.

- The idea behind "escalate to deescalate" is not at all new or unique to Russia. As Jay Ross, a U.S. Army Reserve nuclear weapons officer, wrote in an April 2018 article, the strategy's conceptual underpinnings follow from seminal books by Harvard professor Thomas Schelling and were "part of the American strategy lexicon until the end of the Cold War."[4]
- The concept of using nuclear weapons to manage the escalation or deescalation of a conflict was a very real strategy used by both Russia and the U.S. during the Cold War. And it remains a part of American nuclear strategy today. Department of Defense 2019 Joint Publication 3-72, Nuclear Operations, says: "Employment of nuclear weapons can radically alter or accelerate the course of a campaign. A nuclear weapon could be brought into the campaign as a result of perceived failure in a conventional campaign, potential loss of control or regime, or to escalate the conflict to sue for peace on more favorable terms."[5]

Russian Denial of 'Escalate to Deescalate'

- Russian policy makers acknowledge that they think about using a nuclear weapon to deescalate a conflict, but with a caveat: From the president to the official military doctrine, Moscow's stated position has been that Russia might use a nuclear weapon first only if the survival of the Russian state were at risk.[6]
- President Vladimir Putin reiterated this point in October 2018: "In our concept of nuclear weapons use there is no preemptive strike… Our concept is a retaliatory-offensive strike [*otvetno-vstrechny udar*].[i] … This means we are prepared to, and will use, nuclear weapons only when we are convinced that someone, a potential aggressor, is attacking Russia, our territory."

- Putin and other Russian officials point to their public strategic doctrine documents to support their claims, emphasizing that the phrase "escalate to deescalate" is not there. Doing so is, frankly, pointless: In Russian parlance, military doctrines are not intended as "how we fight" manuals, and how Russian leaders might employ nuclear weapons would not be part of these doctrinal documents.

Examining the Evidence for 'Escalate to Deescalate'

- While Russia, like most countries, classifies its plans for military operations, professional articles and papers on the subject strongly support the contention that Russian nuclear thinking includes using limited nuclear strikes to deescalate a conflict, even in cases where the survival of the Russian state is not at risk.
- Russian nuclear experts have been debating how to use the Russian nuclear arsenal to guarantee the country's security since at least the late 1990s, when Russia was in economic and military free fall.
- One of the first people to describe this debate to Westerners, in a 1998 report, was Nikolai Sokov, a former Russian Foreign Ministry officer—and Soviet negotiator for START I and II—turned American citizen. "Overall," he wrote, "the perception of an imminent threat [to Russia] has created a host of (still rather poorly developed) theories analogous to American doctrines of limited nuclear strike, flexible response, limited war, escalation dominance, etc. The purpose is to enable nuclear weapons to achieve a broad variety of missions when less than survival of the country is at stake."[7]
- The vigorous brainstorming described by Sokov continued after his paper was published. In 1999, a senior Russian missile troops and artillery officer and two co-authors wrote an article suggesting that nonstrategic nuclear weapons—smaller-yield weapons used on the battlefield—could be used in a phased approach to intimidate an adversary while the threat of using strategic nuclear weapons—longer-range weapons aimed at the adversary's homeland—would deter the opponent from further escalation.
- Discussions about the possible uses of nuclear weapons took place among Russia's academic, legislative and civilian defense experts

as well. Again, Russia's poor economic and conventional military condition, and the threat posed by NATO, loomed large in their thinking.

- Writing in 2000, Alexei Arbatov, a Russian scholar who was deputy chairman of the State Duma's Defense Committee at the time, described the new role nuclear weapons had to play, reflecting the views of the security establishment and arms negotiation community: "Just as NATO employed a nuclear first-use strategic concept during the decades after 1945 (when NATO needed to emphasize its nuclear forces in order to offset its conventional force vulnerabilities), Russia has chosen the same strategy. Since 1993, it has adopted a nuclear first-use strategic concept in order to deemphasize the weaknesses in its conventional military forces."[8]
- In a separate 2008 paper, Arbatov added to his thinking, writing that in certain situations "Russia may decide to selectively initiate the use of nuclear weapons to 'deescalate an aggression' or to 'demonstrate resolve,' as well as to respond to a conventional attack on its nuclear forces, command, control, communications and intelligence (C3I) forces (including satellites), atomic power plants and other nuclear targets." (The term "demonstrate resolve" might prompt accusations that Arbatov is opening the door for a preemptive use of nuclear weapons; but, taken together with Arbatov's numerous other writings, in which he repeatedly sees Russian nuclear use only in response to aggression, it seems unlikely he intended this to be an exception.)
- Russian military experts have advocated investing in the development of a better conventional force. However, as recently as 2015, two colonels writing in the elite Defense Ministry journal "Military Thought" contended that "not enough attention is being paid" to the creation of adequate conventional capabilities and Russia must, therefore, continue to rely on nuclear forces to provide the necessary escalation to convince an adversary like the U.S. or NATO to end operations. The authors, furthermore, advocated the earliest possible use of a nuclear retaliatory-offensive strike in the event of a conflict—within minutes of an aggressor's attack.
- While Russian military writing provides a clear indication that "escalate to deescalate" is an existing concept in Russian nuclear

thinking, an examination of Russia's military exercises provides a less clear answer. Western analysts make a good case that Russian forces do practice the use of tactical nuclear weapons in their large-scale combined arms exercises (perhaps more than half a dozen times since such exercises resumed in 1999), but it is not clear from the evidence that they practice using those weapons for the narrow purpose of "escalating to deescalate"—namely to end a conflict.

Does 'Escalate to Deescalate' Include Preemptive or Preventive Strikes?[ii]

- Although some military thinkers—including the authors of the 2015 "Military Thought" article mentioned above—have supported preemptive or preventive strikes, and despite some Russian press reports that missile units have practiced preemptive strikes (uprezhdayuschy udar), senior government officials have uniformly maintained that they do not advocate those kinds of nuclear strikes.[9]
- One notable exception may be Nikolai Patrushev, who has been the secretary of Russia's National Security Council for over a decade. In October 2009, as a new military doctrine was being finalized, he informed an Izvestia newspaper reporter that the forthcoming doctrine would allow for Russia to launch preemptive nuclear strikes: "There are a variety of prospects for using nuclear weapons depending on the situation and intentions of the likely adversary. In situations critical for national security, a preemptive (preventive) nuclear strike against an aggressor is not excluded."[10]
- Ultimately, preemptive and preventive nuclear strikes were not part of the 2010 military doctrine (or of the latest 2014 version), at least not in the unclassified portions. It is not clear whether Patrushev's comments revealed something from the doctrine's classified nuclear annex or reflected an internal debate among security elites, which was still ongoing five years later.

ii Translators use both "preemptive" and "preventive" to translate the Russian word "*preventivny*." In American military terminology there is a distinction: "Preventive" strikes occur before any threat is imminent and "preemptive" strikes occur on the eve of an attack by an adversary. In his October 2018 comments Putin was saying that neither kind of strike is part of Russian nuclear doctrine. (A second Russian term sometimes translated as "preemptive" is "*uprezhdayuschy*.")

- In his 1998 article, Sokov observed that Russian policies about using nuclear weapons, either in a first or a retaliatory strike, could be intentionally vague: "After all, if there exists even a miniscule chance of escalation to the nuclear level, no NATO country would think about challenging Russia; at least this follows from a Schelling-like analysis which is popular in Russia."[11]

In short, we cannot be sure whether Russia's understanding of "escalate to deescalate" includes preemptive or preventive nuclear strikes. Patrushev suggested yes; Putin suggested no. The reader must decide.

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Appendix 2: Agreements That Help Russia and US Not Stumble Into War

Apart from arms control treaties, the U.S. and Russia have more than a dozen bilateral agreements meant either to prevent military incidents and accidents or to build confidence between the countries' governments and militaries. While not perfect, they have helped ensure against an "accidental war" between the two nuclear superpowers. According to Russia Matters founding director Simon Saradzhyan, Washington and its NATO allies should consider developing a unified position in order to approach Moscow about formal negotiations on ways to multilateralize some of the existing bilateral U.S.-Russia agreements; Russian and Western leaders should also make sure their military commanders do not take actions that increase the risk of unintended conflict.

During the Cold War, a handful of extremely tense incidents[1]—most notably the Cuban Missile Crisis of 1962[2] and the Able Archer exercises of 1983[3]—brought the U.S. and Soviet Union to the brink of nuclear war. To stave off catastrophe, Washington and Moscow have concluded more than a dozen bilateral agreements, plus some that are multilateral, which have helped them avoid a "hot war" over the past 80 years. These include deals both to prevent unintended military incidents and to build confidence. Earlier this year, Russia Matters founding director Simon Saradzhyan took a systematic look at the documents in question and at steps that could be taken to further enhance such safeguards; this section summarizes his findings, including an expanded list of key agreements.[4]

In particular, Saradzhyan argued, the U.S. and its NATO allies should work toward a unified position that would help them approach Russia about multilateralizing some of the most significant U.S.-Russian agreements, thereby reducing the chance of "accidental war" between Moscow and the alliance. Currently, Russia's agreements on preventing dangerous military incidents cover some NATO members but not others. For example, some alliance members—including the United Kingdom, Germany, France, Italy, Norway, Spain, the Netherlands, Canada, Greece and Portugal—have agreements with Russia similar to the 1972 U.S.-Soviet Agreement on Prevention of Incidents on and Over the High Seas,[5] and Canada and Greece

also have agreements with Russia akin to the 1989 U.S.-Soviet Agreement on Prevention of Dangerous Military Activities;[6] however, almost a dozen NATO member states have no such agreements with Moscow, even when they abut seas. These include Albania, Bulgaria, Croatia, Latvia, Lithuania, Romania and Slovenia. Nor are there any multilateral NATO-Russia (or NATO-Collective Security Treaty Organization) agreements on preventing dangerous military incidents, although a NATO-Russia memorandum of understanding on avoiding and managing such incidents has been discussed in Track 2.[7]

The 1989 agreement on preventing dangerous military activities—which one Harvard scholar called a "watershed" in Soviet-American military relations—is particularly worth multilateralizing, in Saradzhyan's view.[8] NATO and Russia could discuss including concrete mechanisms for preventing incidents in such existing multilateral agreements as the 2011 Vienna Document[9] and the Convention on International Civil Aviation,[10] including, perhaps, a requirement for warplanes to fly with their transponders turned on at all times while in international airspace.[i] The U.S. and its NATO allies should also, of course, discuss options for managing the aftermath of the collapse of the Open Skies Treaty of 1992, which the U.S. and Russia have both recently abandoned.[11]

In addition to enhancing the legal framework for preventing dangerous incidents, Russian and Western leaders should make sure their military commanders do not take actions that increase the risk of an unintended conflict, according to Saradzhyan.

Last but not least, the sides should seriously consider how to prevent incidents with potentially dangerous consequences in a domain that did not exist during the Cold War: cyber. Now that the U.S.[12] and Russia[13] both have cyber troops—not to mention the role of computer technologies across the military more broadly, including in command and control—miscalculations in this domain could lead to an accidental war and should be prevented at all costs.

I. Agreements on preventing military incidents and accidents

I.A. Bilateral U.S.-Russian agreements on preventing military incidents and accidents

I.A.1. U.S.-Soviet Memorandum of Understanding Regarding the Establishment of a Direct Communications Link, 1963[14]

Highlights:

- The hotline system is located at the Pentagon's National Military Command Center and was first used by the U.S. and Russia in 1967 during the Six-Day War.[15]
- Since its establishment, the hotline has undergone multiple technological upgrades; it is reportedly tested once an hour by operators on both sides.[16]
- The hotline is meant to avoid war; U.S. President Barack Obama used it in October 2016 to warn Putin against using hackers to disrupt the U.S. election.[17]

Operational status: Remains in force.

I.A.2. U.S.-Soviet Agreement on Measures to Reduce the Risk of Outbreak of Nuclear War (Accidents Measures), 1971[18]

Contents include:

- A pledge by both parties to take measures each considers necessary to maintain and improve its organizational and technical safeguards against accidental or unauthorized use of nuclear weapons;
- Arrangements for immediate notification should a risk of nuclear war arise from such incidents, from detection of unidentified objects on early warning systems or from any accidental, unauthorized or other unexplained incident involving a possible detonation of a nuclear weapon;

- Advance notification of any planned missile launches beyond the territory of the launching party and in the direction of the other party.

Operational status: Remains in force.

I.A.3. U.S.-Soviet Agreement on Prevention of Incidents on and over the High Seas, 1972[19]

Contents include:

- Not interfering in the "formations" of the other party;
- Avoiding maneuvers in areas of heavy sea traffic;
- Requiring surveillance ships to maintain a safe distance from the object of investigation so as to avoid "embarrassing or endangering the ships under surveillance";
- Using accepted international signals when ships maneuver near one another;
- Not simulating attacks at, launching objects toward or illuminating the bridges of the other party's ships;
- Informing vessels when submarines are exercising near them;
- Requiring aircraft commanders to use the greatest caution and prudence in approaching aircraft and ships of the other party.

Operational status: Remains in force.

I.A.4. U.S.-Soviet Agreement on the Prevention of Nuclear War, 1973[20]

Contents include: Agreement by the signatories that:

- "An objective of their policies is to remove the danger of nuclear war and of the use of nuclear weapons";
- They "will refrain from the threat or use of force against" each other;

- "If at any time relations … involve the risk of a nuclear conflict," then they "will immediately enter into urgent consultations with each other and make every effort to avert this risk."

Operational status: Remains in force ("of unlimited duration").

I.A.5. U.S.-Soviet agreement on prevention of dangerous military activities, 1989[21]

Contents include: "Each Party shall take necessary measures directed toward preventing dangerous military activities, which are the following activities of personnel and equipment of its armed forces when operating in proximity to personnel and equipment of the armed forces of the other Party during peacetime:

- "Entering by personnel and equipment of the armed forces of one Party into the national territory of the other Party owing to circumstance brought about by force majeure, or as a result of unintentional actions by such personnel…
- "Interfering with command and control networks in a manner which could cause harm to personnel or damage to equipment of the armed forces of the other Party.
- "Hampering the activities of the personnel and equipment of the armed forces of the other Party in a Special Caution Area[ii] in a manner which could cause harm to personnel or damage to equipment;"
- The agreement covers not only personnel but also "any ship, aircraft or ground hardware of the armed forces of the Parties."

Operational status: Remains in force.

ii "'Special Caution Area' means a region, designated mutually by the Parties, in which personnel and equipment of their armed forces are present and, due to circumstances in the region, in which special measures shall be undertaken in accordance with this Agreement."

I.A.6. Moscow Declaration by U.S. President Bill Clinton and Russian President Boris Yeltsin, 1994[22]

Contents include:

- "The presidents announced that they would direct the detargeting of strategic nuclear missiles under their respective commands so that by not later than May 30, 1994, those missiles will not be targeted. Thus, for the first time in nearly half a century—virtually since the dawn of the nuclear age—the United States and Russia will not operate nuclear forces, day-to-day, in a manner that presumes they are adversaries."

Operational status: Unclear.

I.A.7. U.S.-Russia memorandum on safety of flights in Syria, 2015[23]

Contents include:[iii]

- Specific safety protocols for aircrews to follow, including maintaining professional airmanship at all times and the use of specific communication frequencies;
- Provisions for the creation of a ground communications link (established) between the two sides in the event air communications fail;[24]
- Provisions for the formation of a working group to discuss any implementation issues;
- Covers coalition aircraft;[25]
- The U.S. has also told Russia where its special forces are in Syria so that Russia would not bomb them.[26]

Operational status: Remains in force.

iii Pentagon spokesman Peter Cook said the full text of the memo would not be released at Russia's request, according to Reuters; Army Gen. Lloyd Austin, then head of U.S. Central Command, signed the protocol on the U.S. side.

I.A.8. U.S.-Russian agreement of early November 2017 on dividing line in Syria.

- U.S. and Russian officers reportedly agreed on the Euphrates River as a dividing line in Syria and on a system of advance notifications prior to any river crossings.[27]

Operational status: Unclear.

I.B. Multilateral agreements on prevention of military accidents and incidents

I.B.1. International Regulations for Preventing Collisions at Sea, 1972[28]

Signatories include: U.S., Russia, China

Contents include:

- Every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision;
- Every vessel shall at all times proceed at a safe speed so that she can take proper and effective action to avoid collision and be stopped within a distance appropriate to the prevailing circumstances and conditions;
- Every vessel shall use all available means appropriate to the prevailing circumstances and conditions to determine if risk of collision exists;
- When two power-driven vessels are meeting on reciprocal or nearly reciprocal courses so as to involve risk of collision each shall alter her course to starboard so that each shall pass on the port side of the other;
- When two power-driven vessels are crossing so as to involve risk of collision, the vessel which has the other on her own starboard side shall keep out of the way and shall, if the circumstances of the case admit, avoid crossing ahead of the other vessel;

- A vessel restricted in her ability to maneuver when engaged in an operation for the maintenance of safety of navigation in a traffic separation scheme is exempted from complying with the Rule [on traffic separation schemes] to the extent necessary to carry out the operation.

Operational status: Remains in force.

I.B.2. Code for Unplanned Encounters at Sea, 2014[29]

Signatories include: Australia, Brunei, Cambodia, Canada, Chile, China, France, Indonesia, Japan, Malaysia, New Zealand, Papua New Guinea, Peru, the Philippines, Russia, Singapore, South Korea, Thailand, Tonga, the United States and Vietnam

Contents include:

- Calls for naval warships and planes to maintain a safe separation between vessels;
- When conducting exercises with submarines, surface naval ships should consider the display of appropriate signals to indicate the presence of submarines;
- Naval ships should generally avoid the simulation of attacks, discharge of signal rockets and weapons, illumination of navigation bridges and aircraft cockpits, aerobatics and simulated attacks in the vicinity of ships encountered;
- Does not apply to coastguards.[30]

Operational status: Remains in force but is non-binding.

II. Confidence-Building Measures

II.A. Bilateral Confidence-Building Measures

II.A.1. U.S.-Soviet Agreement on the Establishment of Nuclear Risk Reduction Centers, 1987[31]

Highlights include:

- Each party agreed to establish a Nuclear Risk Reduction Center in its capital and to establish a special facsimile communications link between these centers;
- The centers are intended to supplement existing means of communication and provide direct, reliable, high-speed systems for the transmission of notifications and communications at the government-to-government level;
- The NRRCs do not replace normal diplomatic channels of communication or the "Hot Line," nor are they intended to have a crisis management role;
- Today the U.S. NRRC handles information exchange required by 13 arms control treaties and security-building agreements between the United States and more than 55 foreign governments and international organizations.[32]

Operational status: Remains in force.

II.A.2. U.S.-Soviet Agreement on Notifications of Launches of Intercontinental Ballistic Missiles and Submarine-Launched Ballistic Missiles (Ballistic Missile Launch Notification Agreement), 1988[33]

Contents: Provides for notification, no less than 24 hours in advance, of the planned date, launch area and area of impact for any launch of an ICBM or SLBM. The agreement says these notifications be provided through the Nuclear Risk Reduction Centers.

II.A.3. U.S.-Soviet Agreement on Reciprocal Advance Notification of Major Strategic Exercises (MSE), 1989[34]

Contents: The agreement provides for each party to give the other advance notification of one major strategic-forces exercise that includes the participation of heavy bombers each year.[35]

Operational status: Remains in force.

II.A.4. U.S.-Russian Arms Control and International Security Working Group, 2009[36]

Highlights: Established under the auspices of the U.S.-Russia Bilateral Presidential Commission, the working group was to address 21st-century challenges including:

- Enhancing stability and transparency;
- Cooperating on missile defense;
- Preventing the proliferation of weapons of mass destruction;
- Assessing common threats.

Operational status: Suspended in the wake of the Ukraine crisis.

II.A.5. U.S.-Russian Working Group on Cooperation on Information and Communications Technology Security, 2013[37]

Highlights: A White House fact sheet's section on "ICT Confidence-Building Measures" says:

- "The United States and the Russian Federation have also concluded a range of steps designed to increase transparency and reduce the possibility that a misunderstood cyber incident could create instability or a crisis in our bilateral relationship."
- "To facilitate the regular exchange of practical technical information on cybersecurity risks to critical systems, we are arranging for the sharing of threat indicators between the U.S. Computer Emergency Readiness Team (US-CERT) … and its counterpart in Russia."

- "We decided to use the longstanding Nuclear Risk Reduction Center (NRRC) links established in 1987 between the United States and the former Soviet Union to build confidence between our two nations through information exchange, employing their around-the-clock staffing at the Department of State in Washington, D.C., and the Ministry of Defense in Moscow."

Operational status: Suspended in the wake of the Ukraine crisis.

II.B. Multilateral Confidence-Building Measures

II.B.1. Conventional Armed Forces in Europe (CFE) Treaty, 1992 (adapted in 1999 to reflect disbanding of Warsaw Pact)[38]

Contents include:

- Setting equal limits on the number of tanks, armored combat vehicles, heavy artillery, combat aircraft and attack helicopters that NATO countries and then-Warsaw Pact members could deploy between the Atlantic Ocean and the Ural Mountains;
- Setting regional (flank) limits intended to prevent destabilizing force concentrations of ground equipment.

Operational status: Russia "suspended" its participation in 2007, citing the ongoing delay of the adapted treaty's entry into force among some of the signatories.[39]

II.B.2. Open Skies Treaty, 1992 (entered into force in 2002)[40]

Contents include:

- Permitting each state-party to conduct short-notice, unarmed reconnaissance flights over the others' entire territories to collect data on military forces and activities.[41]

Operational status: The U.S. withdrew from the treaty in November 2020; Russia in January 2021 announced its intention to follow suit.[42]

II.B.3. NATO-Russia Founding Act on Mutual Relations, Cooperation and Security, 1997[43]

Contents include: Statements that, in building their relationship, NATO and Russia will aim for:

- Enhanced regional air traffic safety, increased air traffic capacity and reciprocal exchanges, as appropriate, to promote confidence through increased measures of transparency and exchanges of information in relation to air defense and related aspects of airspace management/control;
- Increasing transparency, predictability and mutual confidence regarding the size and roles of the conventional forces of member states of NATO and Russia.
- Also states that NATO reiterates that, in the current and foreseeable security environment, the alliance will carry out its collective defense and other missions by ensuring the necessary interoperability, integration and capability for reinforcement rather than by additional permanent stationing of substantial combat forces.

Operational status: Remains in force but is non-binding.

II.B.4. Vienna Document on Confidence- and Security-Building Measures, 2011 (OSCE)[44]

Highlights:

- Annual exchange of military information about forces located in Europe (defined as the Atlantic to the Urals);
- Notifications for risk reduction including consultation about unusual military activities and hazardous incidents;
- Prior notification and observation of certain military activities, such as large-scale exercises;
- Compliance and verification by inspection and evaluation visits.

Operational status: Remains in force; however, the U.S. has accused Russia of "incomplete implementation" and attempts "to evade existing reporting requirements.[45]

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Appendix 3: Cyber Risks to Nuclear Command and Control Systems

While this primer does not focus specifically on the role of cyber means in preventing (or encouraging) nuclear war, there can be no doubt that information and communications technologies serve vital functions in the nuclear field and are worthy of separate consideration. One particularly sensitive topic for further discussion is cyber risks to nuclear command and control systems (NC3), sometimes also called nuclear C3I for "command, control, communication and information." This appendix summarizes some recent thinking on the topic; it is far from exhaustive.

"The New Synergy Between Arms Control and Nuclear Command and Control," Geoffrey Forden, Nuclear Threat Initiative, February 2020.[1] *Forden is a physicist and principal member of the technical staff at the Cooperative Monitoring Center at Sandia National Laboratories.*

Summary: "There are renewed worries that the U.S. NC3 might be attacked with cyberweapons, potentially triggering a war. These concerns have been present since at least 1972 when the Air Force Computer Security Technology Planning Study Panel found that the 'current systems provide no protection [against] a malicious user.' … NC3 system components of the United States and other nations become potential targets for adversaries during and immediately prior to war. One systematic way of thinking about these threats describes them by three general threat categories: misinformation introduced to the nuclear 'infosphere' that might make command authorities unaware of a nuclear attack or believe there is one when there is not; cyberattacks intended to disable or destroy nuclear weapons, preventing them from being launched when the national authority wants them to be launched; and cyberattacks intended to launch nuclear weapons under false circumstances, such as issuing counterfeit launch orders. … Some of these attacks, particularly planting misinformation into the nuclear infosphere, are more relevant for national command centers than the nuclear weapons themselves. As an illustration of a cyberattack in the misinformation category, a cyberattack on an air defense system intercepted signals sent from the radar to the command center and prevented the controllers from even knowing there was an attack underway.

Others could be aimed at the launch systems themselves. It is these later cases where embedded NC3 becomes most important. If the warheads themselves generate public/private encryption keys and do not share the private key with other elements of the nuclear enterprise, the cybersecurity of launch control can be greatly enhanced. Not doing so continues to leave the command system for launching nuclear weapons susceptible to a number of cyberattacks that have been known to jump even 'air gaps' such as those separating NC3 networks from the public internet. … Moving verification of the president's launch orders into the weapon itself can be thought of as embedding NC3 into the nuclear weapon and conversely integrating the weapon into the NC3 architecture. … In the context of NC3, enabling nuclear weapons to create their own encryption keys with PUF-based devices provides a considerable number of advantages. First, the weapon provides its own private encryption key that does not have to be stored elsewhere. Second, the same unique private encryption key is generated each time it is needed and hence cannot be accessed at other times by unauthorized users. Third, this concept mitigates the danger of a malicious insider or a foreign or terrorist actor launching or preventing the launch of U.S. nuclear weapons even if they have gained access to the NC3 system. Fourth, this concept imposes no barriers to tailoring deterrence. Finally, this solution can be implemented and still have a human in the loop before launch."

"Cybersecurity of NATO's Space-Based Strategic Assets, Beyza Unal, Chatham House, July 2019.[2] *Unal is a senior research fellow with the International Security Program at Chatham House, specializing in nuclear policy, cybersecurity, space security and NATO defense and security policy. She formerly worked in the Strategic Analysis Branch at NATO Allied Command and Transformation.*

The author discusses cyber threats to space-based components of command-and-control systems, writing that intelligence, surveillance and reconnaissance satellites, a key component of conventional and nuclear targeting and command, are "vulnerable to cyberattacks. Sensors could also be manipulated through physical or cyber means."

"Nuclear Weapons in the New Cyber Age," Page O. Stoutland, Samantha Pitts-Kiefer, Nuclear Threat Initiative, September 2018.[3] *Stoutland is NTI's vice president for scientific and technical affairs; Pitts- Kiefer is director of NTI's Global Nuclear Policy Program.*

This report summarizes the findings of an NTI study group on cyber risks to nuclear weapons systems. The report concludes that command-and-control systems are vulnerable to attack, although catastrophic intrusions that would result in the unauthorized launch of a nuclear weapon, for example, are "less credible than other scenarios." The report quotes Adm. James A. "Sandy" Winnefeld on the critical nature of NC3 and its vulnerability: "Nuclear command and control is the under-appreciated 'fourth leg' of the nuclear triad. Without highly reliable, high speed communications … the other three legs are of no use. Thus, in a world of increasingly acute cyber threats, it is only fitting that due regard be given to the threat that cyberattacks could potentially pose to this vital fourth leg." In a Q&A accompanying the report, Stoutland said that it is impossible to ensure that any systems relying on cyber are completely safe; because of that, ideally, the highly critical systems in the triad should rely on cyber as little as possible—and preferably not at all (even if that comes at a performance/efficiency cost).[4]

"Entanglement as a New Security Threat: A Russian Perspective," Alexey Arbatov, Vladimir Dvorkin, Pyotr Topychkanov, Carnegie Endowment for International Peace, November 2017.[5] *Arbatov is the head of the Center for International Security at the Primakov National Research Institute of World Economy and International Relations; Maj. Gen. Dvorkin (retired) is a chief researcher at the center and previously served as director of the Russian Defense Ministry's Fourth Central Research Institute; Topychkanov was a fellow at the Carnegie Moscow Center's Nonproliferation Program.*

The authors write: "Given the high level of secrecy about these issues [i.e., cyber threats to Russian nuclear weapons and their C3I systems], it is impossible to say anything even remotely specific about the possible implications of cyber weapons for nuclear escalation risks. Moreover, because the command-and-control systems of strategic nuclear forces are isolated and highly protected, they are, in all probability, not vulnerable

to cyberattacks. Radio channels for communicating with and controlling satellites—especially missile early-warning assets—are more vulnerable. Disabling these channels or using them to create false warning of a missile attack could spark an unintended nuclear war, especially while the United States and Russia both have in place plans and systems for launching intercontinental ballistic missiles (ICBMs) upon warning of an incoming attack. (This danger may be exacerbated if long-range, high-precision hypersonic glide vehicles were deployed in the future because land-based radars could not confirm in a timely manner that an attack using such weapons was taking place, meaning ICBMs would have to be launched only upon receiving warning from satellites.) Because the consequences of cyber interference with C3I systems may include a spontaneous nuclear exchange, such an action is highly unlikely to be taken by any of the world's great powers. It is more likely to be initiated by terrorists, or by rogue states in a crisis situation. The danger could be reduced by cooperation between the great powers in formulating a set of rules and procedures for detecting and exchanging information about, and jointly attributing the source of, cyberattacks."

"The Underappreciated Risks of Entanglement: A Chinese Perspective," Tong Zhao, Li Bin, Carnegie Endowment for International Peace, November 2017.[6] *The authors were senior fellows in CEIP's Nuclear Policy Program.*

On cyber threats to NC3 they write: "It is no secret to Chinese experts that the U.S. government is exploring the option of using cyber weapons to undermine potential enemies' strategic missiles and nuclear C3I systems during a crisis to prevent the enemies from launching such missiles. There have been open reports that the U.S. military has conducted serious studies on this subject. Most significantly, then President Barack Obama's administration reportedly intensified the U.S. pursuit of such 'left of launch' capabilities against North Korea in 2014. Chinese analysts have demonstrated an acute awareness of the potential vulnerabilities of the country's nuclear C3I system, particularly against cyber infiltrations. … If a state is concerned about the cyber vulnerability of its nuclear C3I system, it faces two options: It can plan to use nuclear weapons early, before this system is undermined, or it can deploy a backup C3I system that does not rely on cyber networks at all as an emergency alternative. … The continued U.S.

investment in new military technologies—such as cyber weapons that could interfere with C3I systems, unmanned vehicles that could threaten enemy SSBNs and hypersonic weapons that could create considerable ambiguity—will also motivate other countries, including China, to follow suit and compete technologically. Such emulation could increase entanglement and complicate escalation management in the future."

"Task Force on Cyber Deterrence," U.S. Department of Defense Defense Science Board, February 2017.[7]

The board concluded that "the DoD must devote urgent and sustained attention to boosting the cyber resilience of select U.S. strike systems (cyber, nuclear, non-nuclear) and supporting critical infrastructure in order to ensure that the United States can credibly threaten to impose unacceptable costs in response to even the most sophisticated large-scale cyber-attacks. In effect, DoD must create a second-strike cyber resilient 'Thin Line' element of U.S. military forces to underwrite deterrence of major attacks by major powers."

"Resilient Military Systems and the Advanced Cyber Threat," DoD Defense Science Board, March 2013.[8]

This older report recognizes and describes the threat of NC3 sabotage and recommends building "'true' Out-of-Band Command and Control for the most sensitive systems" as a security response.

Russia Matters student associate Thomas Schaffner researched and wrote the entries for this appendix, with research support by Anastasiia Posnova.

Endnotes for Appendix 3

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Russia's Impact on US National Interests: Stability of the International Economy

Joseph Haberman

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Executive Summary

In 2011, a task force on U.S.-Russian relations, led by Graham Allison and Robert D. Blackwill, identified the preservation of international economic stability as one of five vital U.S. national interests.[1] In recent years, the United States has certainly faced major challenges that threatened the stable functioning of the global economic system, such as the 2008 Great Recession or the ongoing COVID-19 pandemic. The goal of this primer is to assess how Russia and the various threats Washington sees emanating from Moscow impact this vital U.S. interest.

American policymakers rarely frame U.S.-Russian relations in economic terms. Both by the size of its economy and by its share in U.S. trade, Russia is not a major economic player. Nonetheless, Russia adeptly uses the limited resources at its disposal, whether in terms of diplomatic influence, military might, raw materials or geographic position, to assert itself globally. Because of its reliance on fossil fuels for budget revenue, Moscow has its own vested interest in a robust international economy. But U.S. policymakers should not ignore Russia's role as a potential disrupter of global economic stability, which I define here as the basic functioning of economic activity across borders and resilience to major shocks or crises.

There are at least five areas in which Russia poses a challenge to this stability and to related, albeit less vital, U.S. interests:

- **Fossil fuels:** Fossil fuels lie at the center of Russia's political economy and its influence abroad. Its two largest energy exports, oil and natural gas, largely require international economic stability to continue filling Russian coffers, but each one poses challenges to discrete U.S. economic interests. First, Russia's fiscal reliance on oil revenues incentivizes the Kremlin to keep prices high while preserving Russia's global market share. The first of these competing objectives risks hurting American consumers by pushing up gasoline prices, while the second creates competition for U.S. oil exporters. Second, some experts fear that Russia's preeminence in European gas markets gives it undue leverage over its customers, many of whom are U.S. NATO allies. Russia is diversifying into new Asian markets, which could strengthen this leverage while also competing with U.S. firms. None of these challenges threatens economic stability on a global scale. In the long term, a global transition away from fossil fuels may ultimately undermine these aspects of Russian statecraft.
- **Cyber security:** The 2017 malware attack known as NotPetya, which Western investigators attributed to the Russian military, gravely disrupted international commercial shipping and cost the global economy an estimated $10 billion or more in damages. This is the biggest Russia-related attack to have affected economic activity worldwide in recent years. While the precise economic

toll of Russian cyber activities is difficult to measure, U.S. officials have attributed numerous other malicious cyber operations to the Russian state and Russian nationals, sometimes acting with the state's tacit approval. One of the cyber threats most worrying to U.S. policymakers is the potential for damage to the United States' critical infrastructure, whose incapacitation could destabilize both the U.S. and global economy.

- **De-dollarization:** In order to minimize the impact of recent Western economic sanctions, which rely on the importance of the U.S. dollar to international finance, the Russian government has embraced a policy of "de-dollarization"—both to lessen its own dependence on the currency and in pursuit of a broader mission to dislodge the dollar from its global role altogether. However, the relative insignificance of the Russian economy means it will likely be unable to succeed in this second pursuit without the cooperation of larger powers like China.
- **International shipping in the Arctic:** Among the economic consequences of climate change is the likely emergence of Russia as a more significant player in international trade. As the planet warms, ice along Russia's Arctic coast will continue to melt, creating the conditions for its Northern Sea Route to become an increasingly viable alternative to existing intercontinental sea lanes. While this could benefit the global economy overall, it could also allow Moscow to exert greater control over shipping, potentially threatening U.S. freedom of navigation. However, in the long term, if enough ice melts, a more direct transpolar passage could eventually allow shipments to circumvent Russia's jurisdiction altogether.
- **Nuclear weapons:** Arguably the most important dimension of the U.S.-Russian relationship is nuclear arms control. These two countries collectively possess roughly 90 percent of the world's nuclear weapons, and each retains the ability to destroy the other within 30 minutes. Though this is not obviously an economic issue, nothing could be more destructive to global economic stability—to say nothing of human civilization as we know it—than an outbreak of nuclear war.

Introduction

American policymakers rarely frame U.S.-Russian relations, or the threats posed by Moscow, in economic terms. This is in stark contrast to Western discourse on the evolving competition with China, whose economic model and international influence is often explicitly described as a challenge to U.S. economic interests and the liberal economic order more broadly.[2]

Indeed, the sources of Russian power do not lie primarily in its economic heft. In terms of nominal GDP, Russia was the 11th largest economy in the world in 2019, with a 2 percent share of the world's total.[3] By contrast, the United States accounts for almost a quarter of the world's productive output (24.4 percent), with China in second place at 16.3 percent of global GDP. The picture looks better for Russia when you take purchasing power parity (PPP) into account, which brings Russia up to sixth place, though even by that measure the country represents only 3 percent of the global economy.[4]

In terms of global finance, Russia is also not a significant player. None of Russia's banks made it into the first tier of The Banker's 2020 rankings of top banks,[5] nor were any included in the Financial Stability Board's 2019 list of 30 global systemically important banks.[6] Meanwhile, Moscow ranked only 62nd among the world's most competitive financial centers, according to the 2020 Global Financial Centers Index.[7]

Despite being the world's largest country by territory, Russia has only the 9th largest population. Its 145 million residents account for under 2 percent of the world's 7.8 billion inhabitants. And as the global population continues to rise,[8] Russia's is shrinking.[9]

Furthermore, as far as the United States is concerned, Russia is simply not a major trading partner.[10] In 2019, according to U.S. data provided to the IMF, the United States exported $5.8 billion worth of goods to Russia, accounting for less than 0.4 percent of all U.S. exports. That same year, the United States imported $22.3 billion worth of goods from Russia, representing 0.9 percent of all U.S. imports. Not only is U.S.-Russian bilateral trade small, but it has also been shrinking over time. Between 2013 and

2019, the value of U.S. exports to and imports from Russia declined by 48 percent and 17.7 percent, respectively.[i] As Chris Miller,[11] a historian who has written two books on Russian and Soviet economy, puts it, "Russia supplies almost nothing to the U.S. that can't be bought from other suppliers"; while there are a few minor exceptions, such as goods related to space, "in economic terms, the U.S. almost never thinks about Russia."[ii]

Given the miniscule scale of trade between the two countries, it might be natural to assume that Russia plays a minimal role in U.S. economic interests. This is not entirely true. As many analysts have observed, Russia has consistently been able to "punch above its weight"[12, 13, 14, 15] in foreign affairs. Its economic influence is no different. Despite the size of its economy, Moscow has exploited the limited resources at its disposal, whether in terms of diplomatic influence, military might, raw materials or geographic position, to assert itself internationally and challenge the basic structures and terms of the U.S.-led economic order.

The 2011 task force mentioned in the executive summary identified "assuring the stability of the international economy" as a vital U.S. interest, though it didn't lay out a precise definition. For the purposes of this primer, I will define "global economy stability" as the basic functioning of economic activity across borders and resilience against major shocks or crises. The intention of this series is to explore Russia's impact on vital U.S. national interests, so I will focus primarily on those aspects of the global economy that are most directly relevant to the United States.

Potential threats to global economic stability include, *inter alia*:

- Interruptions to the predictable flow of oil and natural gas in global and regional energy markets, respectively;
- Malicious cyber operations that lead to the disruption or destruction of critical infrastructure that facilitates economic activity;
- The loss of the U.S. dollar's status as the preeminent reserve currency and preferred medium of exchange for international transactions; and

- The use of coercion to fray international norms, such as the freedom of navigation, that lie at the core of liberal trade relations.

So to what extent does Russia pose a threat to this stability? It has leveraged its abundant natural resources to exert influence on both global and regional energy markets; it is the alleged source of malign global cyber activity that risks disrupting the flow of economic activity worldwide; it has enacted various policies, both domestically and with its regional partners, to circumvent the dollar and potentially dislodge it as the world's reserve currency; and it has begun exploiting the effects of climate change to position itself in a more central role in global shipping. Finally, as the only other nuclear superpower, Russia retains the capacity to unleash massive destruction on the global economy, to say nothing of human civilization and life as we know it.

With the crucial exception of nuclear weapons, these challenges don't represent existential threats to the global economy. Russia's limited resources can only stretch so far and, indeed, Russia's economic influence often falls short of Moscow's strategic ambitions. These shortcomings, discussed below, should qualify any analysis of Russia's role on the global stage, but they do not merit discounting it altogether.

Energy

Fossil fuels lie at the center of Russia's political economy and its influence abroad. Its two largest energy exports, oil and natural gas, largely require international economic stability to continue filling Russian coffers, but each one poses challenges to discrete U.S. economic interests. First, Russia's fiscal reliance on oil revenues incentivizes the Kremlin to keep prices high while preserving Russia's global market share. The first of these competing objectives risks hurting American consumers by pushing up gasoline prices, while the second creates competition for U.S. oil exporters. Second, some experts fear that Russia's preeminence in European gas markets gives it undue leverage over its customers, many of whom are U.S. NATO allies. Russia is diversifying into new Asian markets, which could strengthen this leverage while also competing with U.S. firms. None of these challenges threatens economic stability

on a global scale. In the long term, a global transition away from fossil fuels may ultimately undermine these aspects of Russian statecraft.

Oil

The global economy—and the United States specifically—continues to run largely on oil. In 2019, the entire world consumed approximately 100 million barrels of petroleum per day, one fifth of which was consumed by the United States, despite its population being only 4.3 percent of the world's total.[16]

Washington has long considered the stable functioning of international oil markets to be a vital national interest. This sentiment was made most explicit by President Jimmy Carter, who declared in his 1980 State of the Union address that the United States would repel "by any means necessary" any attempt to disrupt to the free flow of oil through the Persian Gulf.[17]

The global economic landscape has changed dramatically since the 1970s and '80s, when the United States was significantly more dependent on foreign energy sources. With the recent advent of the so-called shale revolution, domestic firms have dramatically increased production and are now major exporters on the global market. The United States' transformation into an energy exporter has helped insulate domestic consumers from the sorts of external shocks that plagued the country under the Carter administration.

Nonetheless, the past year has demonstrated that the U.S. energy sector is not immune to outside forces. Most significantly, the ongoing COVID-19 pandemic has dramatically curtailed global economic activity and, consequently, demand for oil. While this may benefit domestic consumers, who benefit from lower prices, the collapsing demand hurts U.S. firms that depend on high prices to maintain a profit.

The pandemic represents a demand-side crisis, but the United States also remains at least somewhat vulnerable to supply-side shocks by foreign powers, which threaten to disrupt the predictable functioning of international economic activity, at least insofar as it benefits the United States.

Russia is one country that retains an ability to exert major influence on international oil markets.

Russia is the world's second largest exporter of oil, with a global market share of roughly 12 percent in 2019.[18] The revenue from hydrocarbon sales accounts for almost two-thirds of export earnings[19] and 40 percent of the Kremlin's federal budget,[20] which is designed to balance with an oil price of $42 per barrel.[21] Given the direct relation between oil and the state, Moscow has a vested interest in both keeping prices high and maintaining its market share.

Russia has been able to exert influence on the global price of oil by cooperating with some of its main competitors. In 2016 Russia joined a pact with Saudi Arabia and other OPEC countries—known as OPEC+—to limit oil production and thus maintain high prices despite the downward pressure coming from the influx of U.S. shale exports. As Li-Chen Sim shows in an earlier Russia Matters primer on U.S. energy security, this coordination helped keep oil prices between $50 and $67 per barrel between 2017 and 2019.[22]

This ability to drive up oil prices has potentially adverse implications for the U.S. economy, which remains at least somewhat vulnerable to energy price shocks. In that same primer, Sim writes that "a 10-percent increase in the global price of oil could trigger a decline in U.S. GDP between 0.06 percent and 0.29 percent," although she notes that this is roughly half the impact that a similar shift would have caused between the early 1970s and early 2000s.

However, Russia's desire for high oil prices conflicts with its other primary objective: preserving its market share. While high prices ensure steady revenue and stability for the Russian state budget, they also create the economic conditions for competitors, notably private American companies, to increase their own exports and erode Russia's position in global markets.

This tension between high prices and market share contributed to the eventual breakdown of the OPEC+ agreement. When Saudi Arabia proposed further production cuts in March 2020, Russia refused. As Russian

oil giant Rosneft's spokesperson explained, such a deal "made no sense from the standpoint of Russian interests" because it would "open up the way for expensive American shale oil."[23] Saudi Arabia responded to Russia's refusal by flooding the market with cheap oil, causing prices worldwide to plunge, including one moment on April 20 when the U.S. benchmark West Texas Intermediate fell to a historic low of -$37.[24]

U.S. producers were particularly vulnerable to collapsing prices. The fracking technology at the core of the shale revolution requires a higher breakeven price to remain commercially viable, and sustained low prices have hit the industry hard. According to Haynes and Boone, LLP, 102 North American firms in either oil and gas production[25] or oilfield services[26] filed for bankruptcy in the first eleven months of 2020, the large majority of them based in the United States.

Additionally, the American oil industry lacks several macroeconomic safeguards that have thus far helped Russia weather the economic fallout.[27] Russia has been able to finance its budget shortfall through its state-run National Wealth Fund, filled with previous years' surplus oil revenues. Furthermore, the ruble's floating exchange rate acts as an additional shock absorber to mitigate the damage, as a depreciating currency lowers the cost of production relative to its foreign-denominated export revenues.

Of course, Russia's ability to influence the global price of oil should not be overstated. It is only one of multiple critical players in the market. While the advent of OPEC+ in 2016 showed that the oil cartel needed Moscow's participation to stabilize the market, that compact's disintegration in March 2020 demonstrated the limits of Russia's influence. It could certainly spoil a deal—with destabilizing consequences—but it could not unilaterally dictate prices. Notably, the eventual deal between OPEC and Russia to cut production and end the price war was partly the result of a diplomatic intervention by U.S. President Donald Trump.[28]

Natural Gas

The European market for natural gas is one arena where politics and economics clearly intersect. Russia has long been Europe's largest gas provider, a dynamic that many analysts and officials worry gives Moscow undue leverage over its customers, many of which are U.S. NATO allies. Those countries that lack sufficient alternatives may feel compelled to acquiesce to Moscow's political demands, lest they provoke a major disruption to the market. This fear is not baseless, but it ignores the economic factors behind Russian decision-making. Moscow, too, is dependent on its European customers and has its own vested interest in maintaining stability in the region's gas market.

Indeed, Russia is the dominant player in the European natural gas market, supplying over 38 percent of all EU gas imports in 2019. This dependence on Russian gas, however, is not evenly distributed throughout the bloc; eleven countries (Bulgaria, Czechia, Estonia, Latvia, Hungary, Austria, Poland, Romania, Slovenia, Slovakia and Finland) rely on Russia for over 75 percent of their natural gas imports.[29]

One way the United States has challenged Russia's dominance over the European energy markets is by attempting to derail construction of the Nord Stream 2 pipeline,[30] which would allow Russia to increase its natural gas exports to Europe and thus cement the latter's dependence on Russian gas.[31] Washington's efforts have included sanctions against firms participating in the project as well as diplomatic pressure against European partners like Germany, which has been resistant to join the United States in opposing the pipeline.[32] While U.S. pressure had been temporarily successful in holding up the project, which is over 90 percent complete, construction on the pipeline resumed this month.[33]

Natural gas is a much less fungible commodity than crude petroleum.[34] Whereas a decrease in one country's oil supply can be substituted by another country filling the void, gas sales are more dependent on physical pipeline infrastructure. While liquified natural gas (LNG) technology does create the potential to make the market more fluid, Europe remains heavily dependent on pipelines. In the first quarter of 2020, 40 percent of the EU's

natural gas imports came from Russian pipelines, while only 28 percent came in the form of LNG.[35]

As multiple analysts have written,[36,37] this dependence leaves Europe vulnerable and beholden to Moscow. Without sufficient alternative sources for energy, European governments may refrain from acting too boldly against Russia's interests—for instance, standing up to Russian aggression in the region or responding to human rights abuses—lest they provoke a major disruption to the energy market.

This fear is founded in recent history. In 2009, for instance, a contractual dispute between Ukraine and Russia—heightened by mounting political tensions—led Moscow to shut down the flow of gas in the middle of winter.[38] While specifically targeting Ukraine, the disruption spread deep into Europe, as countries relying on Russian gas imports via Ukraine were cut off for two weeks.[39] The gas shortage was felt as far west as France, though the impact was concentrated most heavily in southeastern Europe, where the lack of heating forced many schools and businesses to close.

The 2009 gas crisis only lasted 14 days, which limited the damage dealt to the European economy. Nonetheless, the shut-off highlighted Europe's vulnerability were Russia ever to deploy its "energy weapon" in a more sustained and destructive manner.

Were Russia to shut down the flow of natural gas into Europe for a sustained period of time, what would the consequences be for European economic stability? Scholars have researched this very question, with varied results. One 2017 study found that a major disruption could cause European gas prices to rise by an average of 28 percent, with the Baltic countries and Finland experiencing increases of over 50 percent.[40] It also found that electricity prices would rise by an average of 12 percent, with some countries like Germany and the United Kingdom facing a price hike of over 20 percent. In contrast, another study concluded that "at the aggregate level of the whole economy … the effects of Russian natural gas export bans are negligible for Europe."[41]

Of course, such a scenario would entail Russia willingly cutting off its own gas exports to Europe, something it is not inclined to do. While Europe may be dependent on Russia for energy imports, the reverse is also true: Europe is by far Russia's largest export market for its natural gas industry. Of the 247.9 billion cubic meters of natural gas that Russia exported in 2018, 80 percent went to Europe.[iii] Russia and Europe are thus mutually interdependent, and a major disruption to the regional gas market would affect both sides.[42]

True, Russia has sought to diversify its market by looking eastward. In 2019, Gazprom, Russia's leading state-owned gas company, began operating its Power of Siberia pipeline to China. The project is not yet operating at full capacity, but it is projected to provide China with as much as 38 bcm per year for the next 30 years.[43] Meanwhile, Gazprom has reportedly begun studying the feasibility of constructing a second pipeline to China, which could potentially handle as much as 50 bcm per year.[44]

Additionally, Russia is seeking to expand its LNG industry, which would increase its market flexibility and allow it to more successfully compete in Asia. In October 2019, Putin optimistically predicted that Russian production of LNG could reach 120-140 million metric tons (roughly 165-193 bcm) per year by 2035, and production has indeed begun expanding.[45] For example, Russia's Novatek has partnered with France's Total and China's CNPC and Silk Road Fund to establish a major LNG project in Russia's northern Yamal peninsula, whose energy exports will be largely oriented toward Asia. While these sales to Asia will not fully eliminate Russia's dependence on the European market, Niklas H. Rossbach writes that "having two important markets increases Russia's energy security as an exporter."[46]

Another important caveat to Russia's energy dominance over Europe is the increasing diversity of supply and heightened competition. Lithuania and Poland have begun developing infrastructure to import LNG, a method of delivery that would free European markets from their dependence on pipelines, which would in turn make natural gas markets more flexible and

iii Defined by BP as European members of the OECD plus Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Cyprus, Georgia, Gibraltar, Latvia, Lithuania, Malta, Montenegro, North Macedonia, Romania, Serbia and Ukraine.

fuel worldwide competition.[47] While still a relatively minor player in the regional market, the U.S. LNG industry has quickly increased its presence on the continent, exporting 17.2 bcm to the EU in 2019, a more than fivefold increase over the previous year.[48] Qatar and Nigeria have also increased their share in European gas markets.[49] Indeed, Russia's share of the market, while still dominant, is showing signs of slipping. As mentioned above, Russia provided 45.7 percent of all natural gas imports to the EU in 2019, a decrease of two percentage points from 2018.[50] Gas prices, too, are down to a multi-year low—a result of both increased supply and a decrease in demand due to the pandemic-induced economic recession.[51]

In attempting to secure its position within both oil and gas markets, Moscow recognizes that it needs to maintain a major role in these sectors to ensure its continued economic vitality and geopolitical influence. It therefore doesn't seek to destabilize the global economy as such, for it relies on these markets for its own well-being. Nonetheless, its efforts at self-preservation, including a willingness to participate in price wars and to threaten gas shut-offs, have demonstrated the potential for destabilizing consequences.

In the long term, the extent to which Russia is able to exert influence over energy markets relies on continued global demand for the fossil fuels it is able to provide in abundance. As the world transitions toward renewable energy sources, these elements of Russian statecraft will become increasingly irrelevant. In fact, as energy analyst Tatiana Mitrova has written, "It is highly likely that the coronavirus crisis will amplify and accelerate trends for decarbonization, decentralization and digitalization, especially in Europe."[52] It's not yet clear how Russia will adapt to this changing economic landscape.

Cyber Security

The 2017 malware attack known as NotPetya, which Western investigators attributed to the Russian military, gravely disrupted international commercial shipping and cost the global economy an estimated $10 billion or more in damages. This is the biggest Russia-related attack to have affected economic activity worldwide in recent years. While the precise economic toll of Russian

cyber activities is difficult to measure, U.S. officials have attributed numerous other malicious cyber operations to the Russian state and Russian nationals, sometimes acting with the state's tacit approval. One of the cyber threats most worrying to U.S. policymakers is the potential for damage to the United States' critical infrastructure, whose incapacitation could destabilize both the U.S. and global economy.

Malicious cyber activity takes on a variety of forms, from petty fraud to state-orchestrated operations against an adversary's critical infrastructure, such as Russia's July 2008 attacks against Georgia's internet systems or the 2009 Stuxnet attack allegedly carried out by the United States and Israel against Iran's nuclear weapons program.

Beyond these obviously geopolitical operations, states also deploy their cyber capabilities for various economic objectives. As Blackwill and Jennifer Harris wrote in their 2016 book on the economic dimensions of statecraft, "in addition to massive theft of commercial intellectual property, geoeconomically directed cyber capabilities provide governments the means to bring down individual companies, undermine entire national economic sectors and compromise basic infrastructure from electrical grids to banking systems."[iv] These efforts complement traditional statecraft, as economic degradation leaves an adversary more susceptible to coercion.

The NotPetya attack is perhaps the most infamous example. On June 27, 2017, dozens of Ukrainian banks, government ministries, state-owned enterprises and private firms were all infected with malware that irreversibly disabled computers by encrypting their master boot records.[53] British intelligence later assessed that the Russian military was "almost certainly" behind the attack, seeking to disrupt Ukraine's financial, energy and government institutions.[54] However, the attack's "indiscriminate design" led the damage to quickly spread worldwide. The self-propagating virus soon infected roughly 12,500 computers across 65 countries, hitting a wide range of targets, from hospitals to large multinational corporations.[55] All told, NotPetya caused more than $10 billion in damages, according to a White House estimate.[56]

iv Blackwill, Robert and Jennifer Harris, "War by Other Means: Geoeconomics and Statecraft," Harvard University Press, 2016, p. 60. https://www.cfr.org/book/war-other-means

Spectacular shocks like NotPetya grab the world's attention, but cyber threats vary greatly in scale, contributing to massive annual economic losses. Just how much damage is done, however, is difficult to measure. One challenge is that targeted firms often face an incentive not to report cyberattacks, lest they face the reputational repercussions of appearing insecure.[57] Another problem is the lack of a consensus about what constitutes cybercrime and how the damage should be measured. As a result, estimates vary widely. For example, a 2018 joint report by McAfee and the Center for Strategic and International Studies estimates the global annual costs of cybercrime to be roughly $600 billion;[58] by contrast, the Herjavec Group has reported that cumulative damages in 2015 amounted to $3 trillion and will grow to an annual cost of $6 trillion by 2021.[59]

Even more difficult than measuring the total costs of cybercrime is attributing attacks to specific actors. Sophisticated individuals and groups have developed a range of tools and techniques to hide their tracks, often making it nearly impossible to identify them—let alone a state sponsor.[60] For example, in 2019 U.S. and British intelligence warned that a Russian group known as Turla had obscured its identity for years by hacking into Iranian servers and using them as the launching point for its cyber operations. As a result of these and other tactics, there are few if any reliable numbers for the precise impact of cyber operations coming out of Russia, either from private or state-affiliated actors.[61]

Nonetheless, there have been important efforts to record cyber operations and identify state sponsors, when possible. The Council on Foreign Relations' Cyber Operations Tracker, for example, has identified 92 operations sponsored by the Russian government since 2005, 17 of which have occurred in 2020 alone.[62] These include an attack in May in which Russian hackers exploited IT supply chains to compromise the networks of German critical infrastructure sectors, as well as a worldwide phishing campaign in March to steal credentials from various government, private sector and civil society organizations.

Malign cyber activity poses a greater risk than just the financial burden it can inflict. As noted in the most recent National Security Strategy, cyberattacks allow adversaries to "seriously damage or disrupt critical

infrastructure, cripple American businesses, weaken our federal networks and attack the tools and devices that Americans use every day to communicate and conduct business."[63] The U.S. government defines 16 economic sectors as critical infrastructure—including the healthcare industry, water systems, nuclear energy and transportation—whose "incapacitation or destruction would have a debilitating effect on security, national economic security, national public health or safety or any combination thereof."[64] These sectors thus represent the clearest way that cyberattacks could directly threaten U.S. economic stability, potentially reverberating worldwide.

In April 2018, the Department of Homeland Security, the FBI and the British National Cyber Security Centre released a joint report warning of the threats posed by Russian cyber operations. The agencies detail how malign actors compromise the digital networks used by both public and private organizations, including providers of critical infrastructure. The report expresses "high confidence" that cyber actors linked to the Kremlin are conducting such "attacks to support espionage, extract intellectual property, maintain persistent access to victim networks and potentially lay a foundation for future offensive operations."[65]

The Russian government denies its involvement in these and other cyberattacks. Nonetheless, the country cannot be ignored as the United States builds its cyber security systems' resiliency against malicious interference.

De-Dollarization

In order to minimize the impact of recent Western economic sanctions, which rely on the importance of the U.S. dollar to international finance, the Russian government has embraced a policy of "de-dollarization"—both to lessen its own dependence on the currency and in pursuit of a broader mission to dislodge the dollar from its global role altogether. However, the relative insignificance of the Russian economy means it will likely be unable to succeed in this second pursuit without the cooperation of larger powers like China.

Since the Russian annexation of Crimea and Moscow's instigation of a proxy war in eastern Ukraine, U.S.-Russian relations have been largely

shaped by economic sanctions. Levied by the United States and its partners in retaliation against Russia's aggression, the sanctions cut off Russian individuals and firms from access to Western capital and markets. Experts vary on how much damage these sanctions have done. While the IMF estimates that sanctions have suppressed Russian economic growth by an average of 0.2 percent per year since 2014,[66] economists at Bloomberg have suggested that by 2018 the Russian economy was 10 percent smaller than it would have been had sanctions never been levied.[67]

The current U.S. sanctions regime exists in tandem with a series of similar sanctions from the European Union, which has much deeper trading ties with Russia. The EU, as a bloc, is Russia's largest trading partner, while Russia ranks fifth among the EU's, with bilateral trade in goods amounting to €232 billion ($271 billion) in 2019—over nine times the $28 billion in bilateral trade between Russia and the United States in 2019.[68] This cooperation promotes the image of a unified Western front against Russian behavior.

Were the United States to operate unilaterally, however, it would still have the means to economically isolate Russia despite the two countries' relatively limited bilateral trade. This is in large part because of the power of the U.S. dollar.

The establishment of the post-World War II economic order at the Bretton Woods conference in 1944 codified, among other things, the preeminence of the dollar in international finance. The delegates agreed to maintain stability in foreign exchange rates—critical to ensuring smooth international trade relations—by pegging international currencies to the dollar, which would itself be fully convertible to gold. Although President Richard Nixon upended this arrangement when he unilaterally ended the dollar's convertibility to gold in the 1970s, the dollar has retained its place at the center of international finance and trade.

The dollar's dominance manifests in various ways. It is the preeminent global reserve currency, making up a little over 60 percent of worldwide foreign reserves. It is also the accounting unit for many cross-border transactions, including major commodities like oil. Furthermore, according to

a 2019 estimate by the Bank for International Settlements, 88 percent of foreign currency exchanges included the dollar on one side of the transactions.[69] Finally, approximately 40 percent of all debt is denominated in dollars.

Alongside its various economic benefits—such as the ability to cheaply borrow money internationally—the dollar's enduring role as the world's preeminent currency provides the United States with a powerful diplomatic tool. Global dependence on the dollar gives Washington diplomatic leverage in the form of sanctions that cut off adversaries from U.S. financial institutions and, as a result, their access to the dollar. At least in theory, the financial strain of being isolated from the dollar should prove more unbearable than the political costs of reversing whatever behavior triggered the sanctions.

As a result, the Russian government has pursued a policy of "de-dollarization" to lessen its dependence on the currency and build the capacity to conduct business without it. Since 2013, it has significantly decreased the share of dollars in its foreign currency reserve, from 40 percent in 2013 to only 23 percent today.[70] It has also begun issuing more of its debt in rubles and euros. Furthermore, Rosneft, Russia's state-owned oil conglomerate—and one of the entities under U.S. sanctions—now denominates its contracts in euros, rather than dollars. It also sought to expand currency swap agreements with various trading partners including India, Iran, Turkey and China—Russia's largest individual trading partner—which would allow it to conduct bilateral trade in national currencies and thus avoid the need for dollar transactions.[71]

While these efforts could plausibly enhance the Russian economy's resilience and flexibility to circumvent the dollar-based system of global finance, they do not on their own constitute a threat to the dollar's place as the globally preeminent reserve currency. Given the relatively small scale of the Russian economy and its foreign reserves, the Kremlin's political decision to move away from the dollar will be unlikely to tip the scales unless and until more powerful countries do the same.

As of November 2020, Russia held $580 billion in international reserves, roughly $130 billion of that in dollars (based on the 23 percent figure cited above).[72] This represents $100 billion fewer dollars than would presumably be held had the Kremlin maintained its 40 percent dollar share, all else being equal. In a global system where dollar reserves amount to $6.9 trillion, that $100 billion amounts to approximately 1.5 percent of all dollars held in reserves.[73] While not negligible, the influence Russian macroeconomic policy can have on the dollar pales in comparison with China, which is estimated to hold approximately $2 trillion in dollars in its foreign reserves.[74]

In fact, Russia has long sought to cultivate an international movement to transition away from the dollar. One of the first items discussed in 2009 at the inaugural BRIC summit—a multilateral forum consisting of Brazil, Russia, India and China, which expanded to BRICS in 2010 with the addition of South Africa—was the need to influence the international monetary system to make it more "diversified, stable and predictable." While not saying so explicitly in the group's press release, Russia at least understood this pursuit to mean ending the global dominance of the U.S. dollar as the preeminent reserve currency.[75]

Both Moscow and Beijing have also developed and begun linking alternative systems to the Society for Worldwide Interbank Financial Telecommunications (SWIFT), the Belgium-based network that facilitates international financial transactions between banks. Russia's System for Transfer of Financial Messages (SPFS) and the China International Payment System (CIPS) both provide the potential for the two countries to circumvent the existing infrastructure, which in the past has acquiesced to Western pressure to cut off access to certain sanctioned entities (most notably, Iranian banks in 2012 and again in 2018).

Most recently, at their 11th annual summit in November 2019, the BRICS countries' leaders reportedly discussed plans to develop a common payment system for intra-bloc trade. Kirill Dmitriev, head of the Russian Direct Investment Fund (RDIF) and a member of the BRICS Business Council, explained that such a system could "encourage payments in national currencies and ensure sustainable payments and investments

among our countries, which make up over 20 percent of the global inflow of foreign direct investment."[76] This plan could also entail the creation of a BRICS-specific cryptocurrency, although there have been no major developments with regards to these plans since 2019.

Despite these efforts by the Russian government and its partners to lessen dependence on the dollar and ultimately dislodge it from its role as reserve currency, the dollar's role in the global economy remains strong for now. As of the second quarter of 2020, $6.9 trillion USD was held worldwide in foreign currency reserves, constituting 61.26 percent of the total.[77] The absolute number of dollars held in reserve has grown by over $2 trillion since the fourth quarter of 2015.[78] While the number of dollars being held has increased, however, the currency's proportional share of all foreign reserves has fallen—down from 65.75 percent in Q4 of 2015.

Economics journalist Sebastian Mallaby argues that the dollar's position as global currency will likely endure for some time because of its network effects: "Savers all over the world want dollars for the same reason that schoolchildren all over the world learn English: a currency or a language is useful to the extent that others choose it ... So long as global capital markets operate mainly in dollars, the dollar will be at the center of financial crises—failing banks and businesses will have to be rescued with dollars, since that will be the currency in which they have borrowed. As a result, prudent central banks will hold large dollar reserves. These network effects are likely to protect the status of the dollar for the foreseeable future."[79]

International Shipping in the Arctic

Among the economic consequences of climate change is the likely emergence of Russia as a more significant player in international trade. As the planet warms, ice along Russia's Arctic coast will continue to melt, creating the conditions for its Northern Sea Route to become an increasingly viable alternative to existing intercontinental sea lanes. While this could benefit the global economy overall, it could also allow Moscow to exert greater control over shipping, potentially threatening U.S. freedom of navigation. However, in the long term, if enough ice melts, a more direct transpolar passage could eventually allow shipments to circumvent Russia's jurisdiction altogether.

The Northern Sea Route (NSR) is a passage along 2,600 nautical miles of Russia's Arctic coast, from Murmansk in the northwest to Provedeniya in the northeast extremes of the country. Currently, the route does not represent a viable large-scale option for shipping, given the hazardous icy passage, which is only accessible three months a year. Major shipping firms have expressed their reluctance to use the NSR, including Denmark's Maersk, France's CMA CGM and Germany's Hapag-Lloyd. There is a litany of reasons to be hesitant, from concerns over damaging the fragile Arctic ecosystem to the various costs that keep the NSR commercially unviable, such as high insurance premia and the need for expensive specialized vessels that stand idle for most of the year.[80]

Some of this will likely change as temperatures increase. A 2015 study by the CPB Netherlands Bureau for Economic Policy Analysis found that the melting of the ice caps could open up the NSR for an increased flow of international trade, diverting ships from established southern routes through the Suez Canal.[81] The NSR can cut down travel between Europe and Asia by as much as a third; according to The Economist, ships moving between South Korea and Germany would take 34 days to travel through the Suez Canal and only 23 days via the NSR.[82] Roughly 8 percent of world trade currently travels through the Suez, and the CPB study suggests that up to two-thirds of this volume could be re-routed through the Arctic, including as much as 15 percent of Chinese trade. Indeed, an upward trend can already be observed: Whereas only 37 transits occurred through the route in 2019, that number grew to at least 62 in 2020, representing a one-year increase of 67 percent.[83]

As the NSR becomes more commercially viable, it will likely become the focus of a growing dispute over maritime jurisdiction. An increasingly large proportion of global economic activity will soon fall within areas that Russia claims as its territorial or "historic" waters. As a result, Moscow will likely feel within its rights to subject passing ships to various domestic laws and regulations, such as a 2019 policy requiring all foreign-flagged ships to seek advance permission before passing through the route.[84] The legitimacy of these policies, however, is widely disputed, as both scholars and foreign officials have challenged Russia's legal jurisdiction over the route. Rather,

they have argued that the NSR falls within international waters, which provides ships with various legal protections under international law.

Specifically, Russia's practices in the NSR deny foreign vessels the freedoms of innocent passage and transit passage, laid out explicitly in the U.N. Convention on the Law of the Sea (UNCLOS)—a treaty the United States has not ratified.[85] As Sean Fahey of the U.S. Coast Guard explains, these legal developments "raise renewed concerns over the extent to which Russia may use domestic law to control access to the Northern Sea Route in a manner inconsistent with the law of the sea."[86] Outgoing Secretary of State Mike Pompeo has publicly condemned Russia for these policies and other "provocative actions" in the region, which he considers "part of a pattern of aggressive Russian behavior in the Arctic."[87]

Despite condemnations from U.S. officials, commercial firms from other countries, including U.S. allies like Canada, have repeatedly complied with Russia's Arctic policy. While not necessarily recognizing the validity of these regulations, they have made the business decision to abide by them nonetheless. This, Fahey warns, could have adverse long-term effects, as widespread acquiescence evolves into customary norms that eventually shape international law to the detriment of the freedom of navigation.

The violation of these freedoms in the Arctic would directly challenge a central tenet of U.S. foreign policy dating back to the nation's founding: protecting the freedom of the seas. This has frequently been evoked as a guiding force for U.S. policy, including in both world wars.[88] More recently, the 2017 National Security Strategy makes explicit that "free access to the seas remains a central principle of national security and economic prosperity."[89]

However, as the ice continues to melt and the Arctic circle begins experiencing regular periods completely without ice, commercial vessels may gain access to a new and more direct route over the North Pole itself. Such a transpolar passage, which could emerge as soon as 2050, would allow China and other Asian countries to circumvent established shipping lanes along either the Russian or Canadian coasts.[90] This could risk depriving

Russia of some of the benefits that it is otherwise slated to accrue as a result of global warming.

Nuclear Arms Control

Arguably the most important dimension of the U.S.-Russian relationship is nuclear arms control. These two countries collectively possess roughly 90 percent of the world's nuclear weapons, and each retains the ability to destroy the other within thirty minutes. Though this is not obviously an economic issue, nothing could be more destructive to global economic stability—to say nothing of human civilization as we know it—than an outbreak of nuclear war.

The United States and Russia remain the only two countries on the planet that have the capability of destroying life as we know it. A 2019 study explored the worst-case scenario of how a breakdown in strategic stability could bring about a "nuclear winter."[91] In short, an all-out nuclear conflagration would likely release enough soot and smoke into the atmosphere to dramatically reduce surface solar radiation, engulfing most of the northern hemisphere in sub-zero temperatures for a sustained period of time. Agricultural growing seasons would diminish—in some areas by as much as 90 percent. The result would be an unimaginable disruption to the planet's ability to grow food and sustain life. As the Federation of American Scientists has put it, "a nuclear winter would cause most humans and large animals to die from nuclear famine in a mass extinction event similar to the one that wiped out the dinosaurs."[92]

Even a limited nuclear conflict would be catastrophic. A separate 2019 study simulated a regional war between India and Pakistan to map out the economic destruction that less than 1 percent of the world's nuclear arsenal could unleash.[93] Specifically, food production would be severely disrupted: Staple crop yields would fall by an annual average of 11 percent for at least five years, with areas above 30°N experiencing losses of 20-50 percent. While existing food reserves and global trade may withstand that shock for the first year, persistent multi-year losses would soon spread worldwide, causing "adverse consequences for global food security unmatched in modern history." That, of course, would all be in addition to the immense

suffering and destruction of the communities directly impacted by the conflict.

Even a single detonation of a low-yield nuclear weapon can have drastic economic consequences.[94] A 2006 report by the RAND Corporation analyzes one scenario involving a hypothetical terrorist attack in Long Beach, California.[95] (While a terrorist attack is obviously different from a state-orchestrated military strike, it is nonetheless valuable as a demonstration of these weapons' destructive potential). That report found that a single 10-kiloton nuclear bomb in the Port of Long Beach—a critical global shipping center—could kill 60,000 people, cause as much as $1 trillion in immediate damage, and send massive disruptive shocks across the global economy.

As the existing pillars of the nuclear arms control regime continue to collapse—from the 2019 U.S. withdrawal from the Intermediate-Range Nuclear Forces Treaty to the pending lapse of New START in February 2021—it is important to have a full picture of what is at stake. The economic consequences are not the only—or the most important—factor to consider. Nonetheless, a necessary precondition for a stable global economy is a world in which nuclear weapons are secure and the opportunities to use them are restrained.

Conclusion

The sections above have detailed the various ways in which Russia either does or could potentially disrupt the global economy. Granted that Russia's impact on economic stability worldwide is nothing like that of the 2008 financial crisis or the current COVID-19 pandemic, there are several impacts worth noting. Russia has exploited its rich abundance in natural resources to become a major energy exporter, though its ability to influence global markets is limited. Whether directing them at the governmental level or not, Russia is a major source of globally disruptive cyber activity that threatens the flow of economic activity and the critical infrastructure that societies rely on. It has shifted its own macroeconomic policies and the manner in which it conducts bilateral trade to circumvent the dollar, while trying, perhaps unrealistically, to dislodge the currency from its central

role altogether. It is positioning itself to take advantage of the ecological consequences of climate change, which would allow it to capitalize on a new northern shipping route as an opportunity to exert political influence. Finally, Russia's role as a global nuclear superpower endows it with a unique ability (along with the United States) to end all aspects of human society as we know it.

About the Author

At the time of this writing, Joseph Haberman was a research associate in Russian studies at the Council on Foreign Relations.

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Russia's Impact on US National Interests: Preventing Terrorist Attacks on US Homeland and Assets Abroad

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Executive Summary

What kind of impact can Russia have on U.S. attempts to prevent large-scale or sustained terrorist attacks on the American homeland, a vital national interest for Washington? This primer assesses this question by reviewing the past history of U.S.-Russian interaction in the counterterrorism domain and looking ahead to near-term terrorism challenges that the U.S. may face, and Russia may influence, one way or another. Its key judgment is that although combatting terrorism is unlikely to provide the basis for transforming the troubled U.S.-Russian relationship into a strategic partnership, Russia has demonstrated a strong ability to help the United

States prevent terrorist attacks on U.S. targets. In assessing future prospects, we must remember that counterterrorism cooperation is not binary but exists in varying degrees. Bilateral cooperation on threat warnings has been ongoing for more than 20 years and few people, even Russia hawks, think that should stop. Joint operations, however, would be a bridge too far, considering the adversarial state of U.S.-Russian relations. This does not mean there is nothing more the two sides can do in terms of sharing both intelligence and expertise.

This primer will illustrate the following points:

- Over the past two decades, Russia has made a significant contribution to preventing attacks on the United States by providing valuable intelligence and logistical support after September 11 that helped our fight against al Qaeda and the Taliban. It also warned U.S. authorities about the radicalization of Tamerlan Tsarnaev, one of the Boston Marathon attackers, in 2011; while that intelligence failed to prevent the attack, the reasons seem to lie mostly in the handling of the information by the U.S. side.[1]
- The primary terrorist threats facing the United States today include Islamist groups such as Islamic State, or ISIS, and al Qaeda, as well as domestic groups on the far right and far left,[2] with the possibility ever looming that terrorists anywhere in the world might gain access to nuclear materials. As one of the world's foremost repositories of nuclear weapons, materials and expertise, Russia can play a leading role[3] in combatting nuclear terrorism.[4]
- Counterterrorist cooperation can take many forms, including: the provision of threat warnings; intelligence sharing about terrorist groups and their membership, plans, operations and locations; cooperation to understand and counter the ways that individuals can be radicalized and become prone to extremist acts of violence; and operational and logistical cooperation to kill or capture terrorists, disrupt plots and undermine terrorist financial networks. Moving beyond basic sharing of threat warnings to more extensive operational cooperation, however, requires a significant degree of trust between the U.S. and Russian governments and their intelligence services that is currently lacking.

- Counterterrorist cooperation with Russia can indirectly discourage Russian support for terrorist groups that oppose the United States but pose little threat to Russia, including extremists based in the American homeland. Gaining an explicit Russian commitment to refrain from supporting extremists in the United States, however, would probably require an American pledge not to support political opposition in Russia.
- It is difficult to imagine a scenario in which the Russian government would actually facilitate large-scale or sustained terrorist attacks on the American homeland given the dangers such action would pose to Russia's own security, but Russia-based extremists like those who have joined ISIS and oppose the Russian government do pose a potential threat to the United States. Just as it warned the U.S. government about Tamerlan Tsarnaev's radicalization in 2011, Russia can share intelligence about these extremists that can help the United States protect itself against them.

Gauging Russia's impact on the key American security interest of preventing terrorist attacks on U.S. soil is a slippery endeavor. Counterterrorism is an arena in which failures are almost always exposed in public, but successes tend to remain closely held secrets. Moreover, simply enumerating instances where sharing threat intelligence or conducting joint operations has thwarted terrorist plans can tell only part of the story. Bilateral cooperation can potentially serve American interests more broadly by encouraging restraint on key counterterrorist matters, such as whether Moscow provides weaponry to states that the United States considers sponsors of terrorism, such as Iran. Yet, despite the inherent difficulties in demonstrating impact, it is likely that Russia has made important contributions to American efforts to prevent large-scale or sustained terrorist attacks on the United States and its interests over the past two decades.

Fundamentals of Counterterrorism Cooperation

Before assessing the impact of past U.S.-Russian cooperation and evaluating the prospects for the future, it is necessary to define what terrorism is and to examine the various ways that states generally can cooperate against terrorism. There is no universally accepted definition of terrorism; the United Nations has been deadlocked for years in an attempt to produce an agreed-upon definition, with efforts foundering on the insistence by some member states that violent acts in support of national liberation or self-determination should be excluded. Title 22 of the United States Code defines terrorism as "premeditated, politically motivated violence perpetrated against noncombatant targets by subnational groups or clandestine agents."[5] The Homeland Security Act of 2002 states that terrorism means any activity that "(A) involves an act that—(i) is dangerous to human life or potentially destructive of critical infrastructure or key resources; and (ii) is a violation of the criminal laws of the United States or of any State or other subdivision of the United States; and (B) appears to be intended—(i) to intimidate or coerce a civilian population; (ii) to influence the policy of a government by intimidation or coercion; or (iii) to affect the conduct of a government by mass destruction, assassination or kidnapping."[6] Russian law similarly defines terrorism as violence aimed at exercising influence over governmental decision-making by violating public security or frightening the population.

Combatting terrorism, more than most threats, is largely an intelligence challenge, concentrated on uncovering the particulars of plots by terrorist groups or lone-wolf individuals in order to prevent them. But terrorists are a notoriously hard intelligence target. Unlike state actors, terrorists rarely conduct large-scale military exercises that can be observed and tracked, and they tend not to frequent diplomatic functions or hold public gatherings. They are often difficult targets for technical intelligence collection; the late al Qaeda leader Osama bin Laden reportedly stopped using cell phones and fax machines to make it more difficult for U.S. intelligence to track him, and today's extremists often employ encrypted messaging apps for communicating. Even in instances when trained intelligence officers speak the terrorists' native language fluently and possess sufficient cultural

knowledge to blend in socially, penetrating a terrorist cell with a human agent is a formidable challenge. Terrorist cells are typically small, close-knit and suspicious of would-be collaborators that they do not already know. For these reasons, it is often vital to cooperate with foreign intelligence services that might be better positioned to recruit, track or capture local terrorists.

Some measure of trust between the would-be intelligence partners is critical to success in these matters. As noted above, counterterrorist cooperation takes a variety of forms: intelligence sharing about terrorist groups and their membership, plans, operations and locations; cooperation to understand and counter the ways that individuals can be radicalized and become prone to extremist acts of violence; and operational and logistical cooperation to kill or capture terrorists, disrupt plots and undermine terrorist financial networks. The deeper the trust between the partner services, the more extensive their cooperation can be, and the greater their chances of success. With less trust, cooperation becomes more tightly constricted and tends to focus on basic levels of activity that do not expose a service or its sources to as much risk.

A Complicated US-Russian History

Even in cases where there is little trust between intelligence services, however, some degree of counterterrorist cooperation is still possible. Counterterrorist cooperation between Washington and Moscow dates back to one of the darkest periods of the Cold War. In 1983, the CIA and KGB established a secret communications channel under the code name Gavrilov—purportedly[7] named after an 18th-century Russian poet[i]—in order to discuss particularly sensitive security threats. According to a former senior Soviet intelligence officer quoted by the Los Angeles Times, "information was exchanged at the highest levels, especially on possible terrorist threats, and this channel was quite effective."[8] While neither side has been specific about what counterterrorist assistance was rendered, officials on both sides have indicated generally that they regarded such cooperation during this period as helpful, despite the fact that the two services were otherwise engaged in fierce competition around the world, including most notably in Afghanistan.

Little information has been published about U.S.-Russian counterterrorist dialogue in the 1990s, after the Cold War ended and the Soviet Union collapsed. Moscow was focused for much of the decade on the threat in Chechnya, worried that militant Islamists in that breakaway region were receiving aid from al Qaeda and related extremist groups in Central Asia and the greater Middle East. There are numerous indications that Russia was interested in gaining support from the United States on this matter, but there are few specifics in the public domain about bilateral counterterrorist discussions. By 1998, however, after Vladimir Putin became head of Russia's Federal Security Service (FSB)—and Osama Bin Laden issued a public declaration of war against the United States—Moscow stepped up efforts to persuade U.S. officials of links between al Qaeda and Chechen extremists,[9] to convince Washington that Russia and the United States faced a common terrorist threat and to press for cooperation to kill Bin Laden in Afghanistan.[10] These efforts appeared to founder on U.S. suspicions that Russia was exaggerating links between Chechens and Islamic terrorist groups,[11] and on Washington's preferred policy at the time of capturing and prosecuting, rather than killing, Bin Laden.[12]

The picture changed following al Qaeda's attacks on the United States on Sept. 11, 2001, and the United States and Russia began a period that marked the high point of bilateral counterterrorist cooperation. Putin had telephoned President George W. Bush two days before the attacks to warn that Russian intelligence had detected signs of an incipient operation, something unspecific but "long in preparation," coming out of Afghanistan.[13] Then, following the attacks, Putin was the first foreign leader to call the White House and offer support. In a subsequent televised address to the Russian people, he bucked the recommendations of nearly all his senior advisors and announced that Russia would provide logistical, intelligence, humanitarian and diplomatic support to U.S. counterterrorist efforts in Afghanistan. U.S. national security advisor Condoleezza Rice praised Russia's help: "Russia has been one of our best allies in terms of intelligence sharing, in terms of support for American operations that have taken place in Central Asia—this has been an extremely important relationship for us."[ii] President Bush, in turn, hosted Putin at his ranch in Crawford,

ii Baker, Peter and Susan Glasser, "Kremlin Rising: Vladimir Putin's Russia and the End of Revolution," Potomac Books, 2007, p. 138.

Texas, and the two leaders attended a special session[14] of the president's daily briefing, sending a strong signal of U.S. intent to share terrorist threat intelligence with Moscow.[iii]

Despite such goodwill and a significant degree of early cooperation, U.S.-Russian counterterrorist partnership soon ran into a number of obstacles that blunted each side's enthusiasm. Some of these—including Russian concerns about U.S. withdrawal from the Anti-Ballistic Missile (ABM) Treaty and the launch of the Iraq war, on the one hand, and growing American objections to increasingly illiberal Russian governance, on the other—had little to do directly with counterterrorism, but they more generally eroded trust and increased suspicions between the two sides. Even on the specific issue of counterterrorist cooperation, the two sides had contrasting perceptions of the nature of the threat. Russia had suffered a series of high-profile terrorist attacks in the late 1990s and early 2000s in Moscow and other cities, including hostage-taking and bombings of apartments, planes and trains.[15] But for Moscow, such terrorist acts were deeply intertwined with political separatism, particularly in the North Caucasus, where Russian officials believed that Islamic radicals hoped—as Putin put it in 2004—"to tear off a big chunk" of Russia and create a caliphate.[16] Russians had experienced the breakup of the Soviet Union about a decade earlier and they worried that foreign extremists in Saudi Arabia, Pakistan and other parts of the greater Middle East were stoking radical forms of Islam inside Russia that could result in the disintegration of the Russian Federation itself. By contrast, U.S. officials were not particularly worried at the time that terrorists might try to carve off pieces of U.S. territory or attempt to take power in the United States or neighboring countries, and Washington had long been reluctant to associate itself too closely with what it regarded as an unnecessarily brutal Russian military effort in Chechnya. Rather, our concerns focused on the ways that hatred of fundamental American freedoms and resentment of U.S. power and influence in the Middle East could prompt groups of foreign extremists such as al Qaeda to mount discrete terrorist attacks on our citizens and institutions. As a result, U.S. officials did not see a close connection between terrorist threats to America and the violence Russia was experiencing in its North Caucasus.

iii See p. 261 of Priess, David, "The President's Book of Secrets: The Untold Story of Intelligence Briefings to America's Presidents from Kennedy to Obama."

These differing concerns colored U.S. and Russian efforts to cooperate practically against terrorists on multiple levels. In the area of intelligence sharing, each side grew disappointed with the other's contributions. Once the United States had succeeded in driving the Taliban from power in Kabul, U.S. officials started doubting the quality of Russia's counterterrorist intelligence beyond Afghanistan and began to suspect that Moscow was simply attempting to exploit intelligence-sharing channels to convince the United States that Chechen separatists were linked to al Qaeda. As four CIA veterans complained last year, "the Kremlin turned every request into a focus on Russian domestic terrorism, leading those engaged with the Russians on the counterterrorism exchange to label the program as the 'Global War on Chechen terrorism.'"[17]

Russia was certainly eager to get U.S. intelligence on Caucasus-based groups that it perceived as Islamic extremists, but ran into U.S. insistence on differentiating between Chechen separatists—who refrained from targeting civilians—and terrorists (who did not).[18] Russian officials had long protested the West's willingness to provide political asylum to Chechen oppositionists and they objected to the fact that some private American organizations were continuing to support and fund the Chechen rebellion despite Washington's declared goal of counterterrorist partnership with Moscow.[19] How would Americans feel, they wondered, if Moscow were to allow al Qaeda members to live and raise funds in Russia? Such concerns fueled mutual mistrust and quickly caused intelligence sharing to sputter.

Going beyond intelligence sharing into coordinated counterterrorist operations proved even more problematic—in part due to each side's perception that the other was contributing to dangerous forms of radicalization and instability. The United States had long objected to Russia's brutality and human rights abuses in dealing with Chechnya and U.S. officials remained loath to provide even indirect support for the Russian effort there, worrying that Moscow's strong-arm tactics would contribute to radicalization and extremism. (There is some credibility to this argument, as noted in the 9/11 Commission Report,[20] as well as other[21] studies.[22]) Similarly, as the United States launched a series of military and paramilitary operations in Iraq, Libya and Syria aimed not just at the narrowly focused elimination

of terrorists but at the broader political transformation of authoritarian states, the Russian government grew increasingly concerned[23] that American sympathy and support for groups opposing Arab despots were effectively destabilizing the region rather than producing better governance and reducing terrorism.[24] (Some Western analysts,[25] including British intelligence officials,[26] shared these concerns as well.[27])

These differences in threat perception concerning third-country political movements—which included differences in diagnosing the related problems and prescribing solutions—came to a head in Syria, after the Assad regime's brutal suppression of protests in 2011 flared into full-fledged civil war. Both the United States and Russia opposed ISIS as that group extended its rule into Syria's western region, and Moscow grew particularly concerned as several thousand Russian militants traveled to Syria and Iraq to fight with ISIS (compared with only a few dozen from the United States),[28] while some of those who chose to stay in Russia established an ISIS vilayat in the North Caucasus in 2014-2015.[29] The U.S. and Russian governments each announced operations against ISIS fighters, while ostensibly searching for ways they might cooperate against their common foe. But their quest for such cooperation foundered on the two sides' starkly contrasting views of the origins of the ISIS threat and of the best path to stability in Syria.[30] U.S. officials largely attributed the ascendance of ISIS in western Syria to the Assad regime's brutality toward Syrian citizens, which led to a loss of Assad's moral authority, a rise in radicalization and a general breakdown in governance. Accordingly, Washington believed the path toward restoring order lay in a transition from Assad to some form of more legitimate leadership, coupled with targeted operations against ISIS. By contrast, Russia's 2015 National Security Strategy argued that the U.S. and NATO had had a large hand in the emergence of ISIS through their "practice of overthrowing legitimate political regimes" and "the policy of double standards pursued by some states in the area of struggle against terrorism."[31] In Moscow's eyes, the path toward stability lay in bolstering the Assad regime and working with it to defeat a wide range of Syrian opposition fighters, including not only ISIS but also some groups reportedly supported by the United States. Thus, although the United States and Russia both oppose ISIS in Syria, each believes the other's approach has played a large part in worsening the Syrian problem, not resolving it.

Despite the problems that have limited broader counterterrorist cooperation, the two countries have an ongoing channel for discussing issues related to terrorism and exchanging threat intelligence.[32] Russia's FSB warned the FBI and CIA in 2011, for example, that Tamerlan Tsarnaev, one of two naturalized brothers who later bombed the Boston Marathon, had been associating with militant Islamists in Russia's North Caucasus.[33] Whether U.S. investigators failed to follow through on the matter after concluding that he had no links to terrorists previously identified by the United States, or whether Russian *officials* failed to provide sufficient information to enable the United States to take action, is a matter of dispute between the two sides. In December 2017, Putin telephoned President Donald Trump to thank him for the CIA's sharing of threat intelligence that had led to Russia's arrest of an ISIS terrorist cell planning to bomb the Kazan Cathedral in St. Petersburg.[34] Such instances demonstrate that Washington and Moscow can and do share urgent terrorist threat information that can have an important impact on their security interests, despite their mutual suspicions and broader bilateral tensions.

The Path Ahead

Much has changed since the United States and Russia pursued a strategic counterterrorist partnership some two decades ago. Conducting a global war on terrorism is no longer the primary focus of U.S. foreign and security policy. In 2006, the U.S. director of national intelligence devoted the first 10 pages of his 25-page worldwide threat assessment briefing to terrorism;[35] in 2019, terrorism ranked third in the DNI briefing behind cyber operations and the proliferation of weapons of mass destruction among salient global threats.[36] A recent Pew poll indicates that more Americans now see infectious disease as a major threat faced by the United States than terrorism.[37] Russia, meanwhile, has done much to contain the problem of terrorism emanating from its North Caucasus, and the terrorist threat posed by what was once called the "arc of crisis" along Russia's southern periphery no longer appears so acute.

Another noteworthy change is that terrorism by U.S.-based extremists has become a more serious concern for American experts; however, Russia's impact on this threat category currently seems minimal. Last fall, for

instance, the U.S. Department of Homeland Security issued an assessment concluding that domestic "ethnically motivated violent extremists," specifically white supremacists, now pose "the most persistent and lethal [terrorist] threat" to the United States.[38] A report released around the same time by the Center for Strategic and International Studies estimated that two-thirds of domestic terror plots and attacks in the first eight months of 2020 had been executed by such groups.[39] While the DHS assessment posited that Russia will continue "to aggravate social and racial tensions" and "undermine trust in U.S. authorities," both of which could theoretically contribute to domestic radicalization, neither DHS nor CSIS linked Russia to the U.S.-based extremist terror threat.

Moreover, numerous reports by media,[40] think tanks[41,42] and scholars[43] have tried to describe Russia's place as a beacon or hub for ultra-nationalists—including some from the U.S.—going back as early as the 1990s.[44] However, again, evidence remains thin[45] at this point that Moscow has provided support[46] for actors from this category who could do damage to the United States. While Russia has tolerated the Russian Imperial Movement (RIM),[47] which Washington designated a global terrorist group in April 2020,[48] national security scholar Mariya Omelicheva argued last June that RIM's "presence in North America has been negligible."[49] Far-right groups that pose a "greater risk to U.S. society" in her opinion include The Base,[50] reportedly led by a U.S. national[51] who lives in Russia.[52] It is unlikely, in my view, that Russia would materially either abet or interfere with such groups' activities in the United States absent open U.S.-Russian conflict or a significant improvement in bilateral relations. Aiding them would risk a dangerous U.S. backlash; cracking down on them would risk provoking segments of Russia's political spectrum that Putin has sought to coopt rather than eliminate. (Domestically, too, Russia, which is heavily reliant on migrant labor,[53] has been involved in a tricky balancing act over the past two decades — condoning some nationalist demonstrations and groups,[54] while cracking down on more radical organizations and xenophobic hate crimes.[55])

Still, much remains the same. The possibility of large-scale or sustained terrorist attacks on the United States or Russia has not disappeared, even if the threat appears less urgent and the level of popular alarm has

inched downward. Both countries continue to be concerned that the dangers posed by al Qaeda and ISIS, while diminished, have not gone away. The 2017 U.S. National Security Strategy warns that "jihadist terrorist organizations such as ISIS and al Qaeda are determined to attack the United States and radicalize Americans with their hateful ideology" and that "terrorist groups continue to pursue WMD-related materials."[56] Russia's 2016 Foreign Policy Concept states that "the growing threat of international terrorism is one of the most dangerous realities in today's world."[57] Washington and Moscow share an enduring interest in preventing terrorist attacks on their homelands, and the effectiveness of each government in detecting and neutralizing terrorist plans would almost certainly improve through some degree of intelligence sharing and complementary, if not necessarily joint, counterterrorist operations.

One promising example from the past involves bilateral cooperation on combatting nuclear terrorism. Since 2006 the U.S. and Russia have co-chaired[58] the Global Initiative to Combat Nuclear Terrorism,[59] which has become a useful platform for detecting, preventing and responding to nuclear terrorist threats worldwide, uniting nearly 90 states in the effort.[60] Washington and Moscow have also worked closely to secure nuclear materials more generally,[61] with an invigorated counterterrorism component after 9/11, though these efforts have been curtailed over the past seven years as relations have deteriorated.[62]

Even those U.S. officials skeptical of broader U.S.-Russian counterterrorist cooperation recognize that there is a basic moral imperative to share threat intelligence with Moscow when Russian lives are in imminent danger.[63] That moral imperative is particularly strong when it comes to combating nuclear terrorism, an issue in which the two countries share strong interests and have unique responsibilities. The internet has made acquiring the know-how necessary for constructing elementary nuclear bombs a simple matter, and globalized travel and commerce have made it easier for terrorist groups to get access to the materials and equipment they would require. Al Qaeda has long sought nuclear weapons and North Caucasus-based terrorists have reportedly surveilled nuclear weapons storage facilities, threatened to use radiological bombs and even plotted to seize a submarine armed with nuclear weapons.[64] Former presidents Barack Obama

and George W. Bush cited nuclear terrorism as the biggest threat to U.S. security. Cooperation between the United States and Russia, who together hold more than 95 percent of the world's nuclear weapons and most of its weapons-grade nuclear material, is particularly important for uncovering and unraveling terrorist schemes to obtain and use some form of nuclear technology.

Moreover, the United States has an interest in some level of cooperation with Russia as a means of discouraging support for terrorist groups or state sponsors of terrorism that might be threatening to U.S. interests. According to a declassified version of a Special National Intelligence Estimate on Soviet support for terrorism in 1982, the USSR provided direct and indirect support to some state sponsors of terrorism and revolutionary movements, such as Libya and certain Palestinian groups, but the evidence that it supported "nihilistic, purely terrorist groups" was "thin and contradictory."[65] Today, with Americans increasingly contending with violent right- and left-wing domestic groups and concerned that Russians are using social media to exacerbate our societal divides, the United States has a clear interest in avoiding a worst-case situation in which Moscow is advising, training, funding or arming domestic American terrorists. Although counterterrorism cooperation would not by itself prevent Russia from pursuing such a course, the prospect of losing beneficial cooperation could affect Russian calculations on aiding American extremist groups and bilateral counterterrorist channels provide a forum in which to raise these concerns. Gaining explicit Russian agreement to refrain from such activity, however, would almost certainly require an American pledge to refrain from supporting Russian political opposition groups.

Such interests suggest that Washington should maintain some level of threat-intelligence sharing with Moscow, even if neither side retains any aspiration to make counterterrorist cooperation the foundation for a broader strategic partnership. Russia has impressive intelligence capabilities in and around its immediate neighborhood, where many international terrorists are based, and as its threat intelligence on Afghanistan and Tsarnaev showed, it can be a genuine help in detecting and defusing terrorist plots when it wants to be. Russia remains interested in counterterrorist cooperation with the United States, calling in its Foreign Policy

Concept for "a broad international counterterrorist coalition with a solid legal foundation, one that is based on effective and consistent inter-state cooperation without any political considerations or double standards, above all to prevent terrorism and extremism and counter the spread of radical ideas."[66] At a minimum, neither government wants to turn off the bilateral channel of terrorist threat intelligence that has benefited both sides.

Whether the two countries go beyond intelligence sharing toward broader counterterrorist cooperation will depend to a great degree on a host of domestic political factors that neither government fully controls. Most significantly, each country has come to believe that the other is using information technology to exacerbate its rival's social divides and weaken or even overthrow the other's government. Such perceptions will be powerful obstacles to significant bilateral cooperation of any kind for as long as they remain dominant.

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