UNDERSTANDING
A NEW ERA
of STRATEGIC
COMPETITION

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EXECUTIVE SUMMARY

UNDERSTANDING A NEW ERA OF STRATEGIC COMPETITION

With the release in 2022 of the new U.S. National Security Strategy and unclassified summary of the National Defense Strategy, the United States has confirmed the existence of a new era in defense planning: Replacing a focus on non-state extremist groups with an overriding emphasis on threats posed by near-peer major powers. This new focus was heralded by the 2017 National Security Strategy and 2018 National Defense Strategy, and it is now clear, especially in the wake of Russia’s invasion of Ukraine, that the emphasis will persist. Yet even now, years into an embrace of such strategic competitions as the core of national security planning, the United States lacks a clear framework for understanding these competitions, a precise theory of what they are essentially about, and an objective diagnosis of where they stand.

This study, performed for the Under Secretary of Strategy and Force Development office within the Office of the Under Secretary for Policy in the U.S. Department of Defense, addressed those issues. To do so, the research team reviewed historical cases and theoretical work on major-power competition and rivalry; literature on national power and competitiveness; and assessments of Russian and Chinese goals and strategies in the current competition. We conducted especially detailed analyses of the U.S.-China competition for influence and sources of power. And we gathered extensive economic, military, and geopolitical data to assess the status of the competitions. This report outlines several top-level findings derived from this research, illustrated by a small portion of the data we gathered.

U.S. LEADERS SHOULD CONSIDER FOUR ESSENTIAL CATEGORIES TO CONCEPTUALIZE AND ASSESS MAJOR-POWER COMPETITIONS

Our review of historical rivalries and their outcomes supported a simple, four-part framework that can be used to understand and assess the status of a strategic competition. The text box at right lays out these four elements. Most of the summary report that follows is devoted to examining each of these four areas in detail.

THE FORMULA FOR U.S. COMPETITIVE SUCCESS IS DOMESTIC STABILITY AND VIBRANCY COMBINED WITH STRONG GLOBAL ALLIANCES, NETWORKS, AND PARTNERS

FRAMEWORK FOR ASSESSING A COMPETITION BETWEEN MAJOR POWERS

1. OVERALL CONTEXT FOR THE COMPETITION
   - The environment in which the competition is unfolding
     - A more multipolar world system
     - Challenges to the neoliberal model
     - Fourth Industrial Revolution
     - Rise of vulnerable infospheres
     - Climate change and crisis

2. NATIONAL POWER AND COMPETITIVENESS
   - The critical components of domestic national power and vibrancy that support competitive standing
     - Overall productive capacity of country
     - Ability to build frontier technologies
     - Fiscal agility
     - Effectiveness of governance
     - Level and effectiveness of military resources

3. INTERNATIONAL POSITION AND INFLUENCE
   - Elements of global posture, power, and influence that shape a nation’s relative position
     - Economic posture and engagement
     - Military posture and engagement
     - Paradigmatic and ideological competition
     - Alignment of key states

4. THE SHAPE AND STANDING OF BILATERAL COMPETITIONS
   - Specific clashing interests and objectives that define the nature of the bilateral contests
     - Core national interests
     - Areas where interests clash or intersect
     - Frequency of areas of competition
UNDERSTANDING A NEW ERA OF STRATEGIC COMPETITION

The factors most commonly associated with success in strategic competitions involve a combination of a vibrant domestic base—economic growth, strength in frontier industries, and political and social legitimacy and stability—combined with a favorable alignment of global geopolitical power. This basic combination can take different forms, including the extent to which a favorable balance of global power relies on a state's own capabilities versus those of its allies and partners, but it is the essential formula for success in major-power competitions across history and is likely to be so again today.

THE UNITED STATES MUST COMPETE IN A WORLD OF HEDGING POWERS

Few countries in the world perceive the danger posed by either Russia or China to be as urgent as the United States currently does. Many critical emerging powers have tightly held doctrines of geopolitical independence or non-alignment; even some U.S. allies, especially in Asia, are reluctant to formally take sides in the U.S.-China competition. As it pursues these competitions, the United States will seldom be able to dictate solutions or obtain reflexive support for competitive policies to the degree it would like.

U.S. COMPETITORS HOPE—AND PLAN—TO SUCCEED SHORT OF WAR

Both China and Russia aim to achieve their strategic objectives without engaging in major warfare, if possible. They wish to do so for various reasons, including the desire to remain legitimate in the eyes of the world community and to preserve respect for U.S. military power and the risks of nuclear escalation. This is not to sug-

THE IMPACT OF THE COVID-19 PANDEMIC ON STRATEGIC COMPETITION

The foundational research for this analysis was largely completed before the onset of the COVID-19 pandemic in early 2020. For this report, we have updated several key measures to take account of the current and projected economic and diplomatic effects of the pandemic. In the main, however, we find that national objectives, strategies, and alignments remain as they were before the pandemic, albeit adjusted at the margins. The essential findings of this study remain valid.

CHINA, RUSSIA, AND THE UNITED STATES HAVE SURPRISINGLY FEW IRRECONCILABLE INTERESTS—BUT SHARPLY CONFLICTING AMBITIONS THAT ARE LIKELY TO PRODUCE RECURRING CRises

Our assessment of the bilateral interests in the two competitions suggests that the United States and both Russia and China have relatively few vital interests that are irreconcilably opposed. All parties to these competitions desire greater relative influence and power. But there are few if any core elements of national survival or security over which they are engaged in irreconcilable, zero-sum clashes with the others. In theory, these competitions can be managed short of conflict.

THE COMPETITION IS MOST CENTRALLY ABOUT INFLUENCE OVER THE CHARACTER OF THE INTERNATIONAL SYSTEM

The bilateral competitions with Russia and China have many elements—military, economic, and geopolitical. But, particularly with respect to China, they represent most fundamentally an effort to shape the dominant rules, norms, and institutions of the international system. This suggests, among other things, that the United States could remain the predominant military power yet see its standing in the competition lag if it loses influence over the international order. Ensuring U.S. competitive advantage demands greater attention to non-military aspects of the contest, especially the domains of information and economic statecraft.

THE UNITED STATES REMAINS IN A STRONG COMPETITIVE POSITION

Russia is a significant military power with a large nuclear arsenal, and stable relations with Moscow should be a high priority. But Russia cannot rival the United States for global influence: Its domestic economy has powerful constraints, it is not a global technological leader, and it has very limited allies. In the more challenging competition with China, the United States also retains enduring advantages, including the global balance of geopolitical alignment and the persistent strength of its dynamic, open economy. As a result, the true story
of this bilateral relationship is not one of a “power transition” but of China joining the United States as one of the world’s two dominant powers. The United States, for example, is likely to maintain a decisive lead in alliances, partnerships, and security networks; U.S. global influence in norms, values, and institutions should, if carefully managed, remain dominant as well.

SETS OF EMERGING TECHNOLOGIES AND REVOLUTIONARY OPERATIONAL CONCEPTS THREATEN HABITUAL U.S. WAYS OF WAGING WAR

The primary risk in defense policy is likely not that the United States will fall behind in one system or a small number of them, or that it will have insufficient forces for major contingencies. Instead, military competitions tend to shift with inflection points in how wars are fought, as well as the operational concepts and supporting technologies associated with those changes. Emerging technologies ranging from autonomous systems to artificial intelligence create the potential for just such an inflection point over the next decade—and U.S. rivals are working to take advantage of the change to undermine the effectiveness of traditional U.S. military concepts of operations. Of course, the United States has the opportunity to embrace and leverage these emerging technologies as well, should it provide sufficiently flexible and innovative to do so.

MUCH PROGRESS HAS BEEN MADE IN U.S. COMPETITIVE POSITION, BUT CRITICAL GAPS REMAIN

The U.S. government, led by the Department of Defense, has begun to address many of the priorities suggested by this analysis. But this work highlights several specific areas which require additional attention and in some cases resources: Institutional reforms in the U.S. national security bureaucracy; changes in policies to ease the challenge of working closely with allies and partners; improved tools for competing short of war; bringing new operational concepts to fruition; and developing strategies for working productively with hedging nations.

IDENTIFYING NATIONAL PRIORITIES

Based on these and other findings, this report points to priority areas for investment that our research suggests would have significant value in contributing to the U.S. competitive advantage. The underlying theme of these recommendations is the critical importance of investing as much in the essential national foundations of competitive strength as in outward applications of power.

NATIONAL PRIORITIES IDENTIFIED BY OUR RESEARCH INCLUDE THE FOLLOWING:

- Maintaining economic and financial strength and flexibility
- Sustaining a lead or share of the lead in emerging technologies and industries
- Protecting the information environment of the U.S. homeland
- Developing tools and techniques to engage in ongoing competition with adversaries
- Preserving leading U.S. influence in global institutions

IN TERMS OF DEFENSE INVESTMENTS, OUR ANALYSIS IDENTIFIED THE FOLLOWING PRIORITY AREAS:

- Avoid significant lag in military applications of frontier technologies
- Avoid vulnerability to novel packages of technologies and operational concepts used to generate decisive military effects
- Invest in military and paramilitary capabilities to compete below the threshold of major war
- Invest in and promote policies to sustain and deepen alliances
- Develop concepts and joint force capabilities to achieve assigned objectives in regional contingencies and long-range power projection missions in the short and long terms
INTRODUCTION
UNDERSTANDING A NEW ERA OF STRATEGIC COMPETITION

The idea that a strategic competition with other major powers now forms the core challenge for U.S. foreign and defense policy is now well established. Yet there is no consensus about what this shift means. Commentators use such terms as “competition,” “rivalry,” and “great-power competition” to mean different things. There is no agreement about what the competition is most essentially about, the most important priorities, or how countries succeed. The Russian invasion of Ukraine has brought new intensity to the competition, but the long-term implications of the war remain unclear.

Part of the challenge is that the United States has fallen out of practice in managing geopolitical rivalry since the end of the Cold War. The 2002 version of the U.S. National Security Strategy argued that “Today, the international community has the best chance since the rise of the nation-state in the seventeenth century to build a world where great powers compete in peace instead of continually prepare for war”—essentially declaring large-scale national rivalries to be a thing of the past. It has been decades since the U.S. national security community had to grapple with the prospect of such rivalries. More broadly, the United States has not witnessed the start of a new era of overarching geopolitical competition since 1945–1950—and the emerging form of competition promises to be far more complex than the bilateral contest of warring systems that characterized the Cold War.

In short, while there is a general consensus that the United States is now in a new era of strategic competition, there is not yet a clear understanding of what that means, what forms it could take, or how the United States can best position itself to succeed. This project, undertaken for the U.S. Department of Defense, sought to provide insight on these questions.

PRIMARY RESEARCH GOALS

To provide such insight, the project had four primary goals:
1. Develop a research-based framework for understanding the competition and assessing its status.
2. Gather data in categories suggested by the framework to provide a snapshot of the competition today, and where it appears to be headed.
3. Identify decisive areas of competition, and assess the current status of the competition in those areas.
4. Develop general insights and policy options relevant to a comprehensive understanding of the competition.

This report offers a summary of selected project findings in each of these four areas. First, we review evidence about the goals and objectives of the major players in each current competition and then define a four-part framework to understand strategic competitions. We then review key facts and trends in each area of that framework: the international environment for competition; the measures of national power and competitiveness, measures of international position and influence, and the specific aspects of the major bilateral competitions between the United States and both Russia and China. We conclude by offering major findings from the study on U.S. priority efforts and policies.

A NEW STRATEGIC LANDSCAPE

Much of the research for this project was completed before the COVID-19 pandemic crisis struck the world in early 2020. All of it was completed before Russia’s invasion of Ukraine in February 2022. Those crises are likely to have significant implications for the environment in which the strategic competition unfolds—the intensity and level of instability of the rivalries, resources available to major powers, the relative focus on global as opposed to domestic security issues, geopolitical relationships, and much more. However, our assessment is that essential national interests and ambitions, and the fundamental drivers of competition, remain unchanged and have, in some ways, been intensified by these crises.

Russia’s aggression in Ukraine has transformed the general context for these rivalries. It has placed the United States into a far more zero-sum position regarding the Putin regime and its ambitions. While the United States has rightly rejected the goal of regime change in Moscow, it will never again be able to have regular relations with this Russian government. As this report is published, the potential for further escalation and a more destructive war remains very real. Massive U.S. and Western sup
port for Ukraine has entrenched the rivalry with Russia and resurfaced long-standing concerns about the U.S. defense industrial base. And China’s position of de facto support for Russia, and its own intensifying rhetoric about its contest with the United States, suggest that the war in Ukraine is deepening the U.S.-China rivalry as well.

**COPING WITH UNCERTAINTY**

One challenge in assessing data on the status of these strategic competitions, and especially in considering possible forecasts for how they could unfold over time, is incorporating uncertainty into our analysis. Intense debates rage, for example, about a topic as fundamental as China’s gross domestic product (GDP) and GDP growth rate: Some observers believe that official statistics for both are substantially overstated. All projections about the future incorporate critical assumptions that shape their estimates—about the future international environment and the policies of various actors. Even relatively more reliable estimates like demographic trends can shift over time.

International politics is a classic complex adaptive system characterized by intense amounts of dynamic feedback and many nonlinear processes. Many central elements of the current competitions could play out in dramatically different ways. The war in Ukraine, for example, could spawn dozens of different implications depending on its further course and how it ultimately resolves. U.S. strategy must prepare for many possible outcomes, rather than a single future.

This study incorporated several approaches to deal with uncertainty:

- The general analysis of the nature of competitions was grounded in historical and theoretical analyses that aimed to identify consistent patterns within the larger complexity.

- In considering economic projections, we reviewed multiple sources and cross-referenced their assumptions, data sources, and forecasts.

- Our assessments of the status of competition in various issue areas incorporated limits and qualifications where the data were uncertain or conflicting.

- We have highlighted potential uncertainty ranges in several economic projections.
COMPETING for WHAT?

Goals, objectives, and interests provide a critical conceptual lens to understand what the main participants are competing for and the essence of the competition.

To have a sense of how it is doing in a competition with rivals in the international system, any state must comprehend what it is trying to achieve, the ambitions of others, and how those goals and ambitions interact. Without a clear and or agreed-upon set of goals and objectives, there is no way to judge success or failure.

We sought to develop a set of potential U.S. objectives for strategic competition and make an initial comparison with Chinese and Russian goals. We undertook several parallel lines of research to do this:

• We reviewed historical and theoretical literatures to discover what great powers commonly compete for in such rivalries.
• We looked at official statements of U.S. national interests in national security documents to gain a modern historical sense of U.S. national security goals.
• We surveyed official Chinese and Russian policy and strategy documents, as well as open source literature on their strategies, to identify their current objectives.

The graphic on page 7 describes the results of this research, and proposes five fundamental U.S. objectives for the emerging strategic competition.

WHAT DO HISTORY AND THEORY SAY ABOUT THE FOCUS OF COMPETITIONS?

This is not the first time that major powers have faced off in geopolitical competitions. Our review of historical cases and theoretical literature on great-power rivalries pointed to characteristic areas of competition—places where major powers typically vie for power and influence:

• relative power (economic and military)
• domestic security
• status and prestige
• resources
• territorial claims
• values and ideology
• power to shape the character of the system and paradigm (norms, values, rules, institutions).

This set of factors, derived in part from rich historical cases like the rivalry between Great Britain and Germany that ran from the late 19th century through World War II, is a good starting point for thinking about the likely focus points—and relative goals and objectives—of the United States, China and Russia today.

SAMPLE HISTORIC COMPETITION CASE STUDY
United Kingdom–Germany, 1898–1945

REAL BRITAIN ECLARES WAR ON GERMANY
WHAT THE EMERGING COMPETITION IS ABOUT: U.S., CHINESE, AND RUSSIAN GOALS AND OBJECTIVES

Competitions do not arise by accident; they are the product of clashing interests and objectives on the part of major powers. Any assessment of the character of a strategic competition must begin with an evaluation of those interests and objectives. This analysis of relative goals and objectives provides an initial indication of the true core or essence of the emerging contest: it is a competition for the character of the international system more than for specific forms of military power or the outcomes of specific geopolitical disputes.

Predominant elements of the competition involve the contest for leadership of the international system and its institutions, rules, norms, processes, and informal coalitions; the value orientation and practical interest-based alignment of major geopolitical actors; and leadership in key emerging technology areas.

CLASH OF OVERARCHING GOALS AND OBJECTIVES

CHINA

KNOWN OBJECTIVES
• Maintain Chinese Communist Party rule and domestic stability at home
• Continue economic growth at high levels
• Maintain favorable global/regional environment
• Dominate selected technological areas
• Gain dominant position in selected key markets
• Continue establishing basis for resolution; Taiwan claim first, South China Sea issues later

ASSESSED OVERARCHING GOAL
• Continue progress toward regional primacy and global leading power status

RUSSIA

KNOWN OBJECTIVES
• Ensure regime security and stability; avoid foreign meddling and political instability
• Achieve regional hegemony, including consolidating influence over the “near abroad”
• Reinforce great-power status
• Neutralize Western threats to regime security and gain influence through political and informational means
• Maintain strategic nuclear parity with the United States

ASSESSED OVERARCHING GOAL
• Reclaim great-power status and control over periphery

UNITED STATES

PROPOSED U.S. OBJECTIVES*
• PRESERVE THE SECURITY OF THE HOMELAND AND DOMESTIC POLITICAL INSTITUTIONS from direct attack and/or manipulation—physical or virtual and informational
• BOLSTER AND PROTECT THE FOUNDATIONS OF NATIONAL PROSPERITY through domestic competitiveness, access to markets, security from predation by others
• AVOID REGIONAL HEGEMONY BY OTHERS by preserving the security of allies and the sovereign independence and helpful alignment of key strategic actors
• AVOID MAJOR WAR AND PRESERVE STABLE RELATIONS with competitors allowing for at least minimal coordination on issues of mutual interest
• SHAPE THE DOMINANT GLOBAL PARADIGM and, in the process, promote and underwrite liberal values and norms

ASSESSED OVERARCHING GOAL
• Maintain predominant international position and influence over the global order

* Objectives derived from analysis of multiple U.S. National Security Strategy documents, proposed by RAND analysis
We used multiple methods to capture the essence of strategic competition and evaluate its status today.

This project used multiple lenses to gain insight on the strategic competitive landscape and to support data-informed qualitative judgment. A phenomenon as complex as a multi-party strategic competition cannot be reduced to simple indexes or models; data and correlations can contribute to understanding, but they cannot provide definitive guidance. Thus, we used a range of historical, theoretical, case-based, and data-driven research methods, summarized at right.

**THE RESULTING RESEARCH SURVEYED A SIGNIFICANT SET OF LITERATURE AND DATA:**

- **100s of articles in four major distinct categories of international relations**
- **>75 historical rivalries examined; conducted in-depth analysis of five**
- **100s of reports + articles on Chinese and Russian competitive goals**
- **100s + 10,000s independent variables + data points that integrate into power indexes**

An initial task was to build an analytical framework to conceptualize strategic competition. Such a framework provides a roadmap for understanding the key factors that determine the nature and outcome of such competitions. This framework appears on page 9.

**RESEARCH APPROACHES**

**HISTORY AND THEORY**
Review classic great-power competition, dyadic rivalry, and national power literatures

**POWER AND COMPETITIVENESS**
Review and assess indexes of national power and elements of competitive advantage

**ANALYSIS OF INDICATORS AND DATA**
Identify more than 100 indicators of domestic and international components of competition and review current data

**SYSTEMS ANALYSIS**
Derive criteria for successful systemic strategies from complexity theory and systems dynamics literatures

**FUTURES MATCHING ANALYSIS**
Review major long-term trend and risk analyses, review competitors’ long-term strategies

**ASSESSING CHARACTER OF SPECIFIC COMPETITIONS**
Research and collect data on each competitive area, identify criteria for priorities

**MAPPING BILATERAL COMPETITIONS**
Analyze U.S. vs. Russian or Chinese interests, mapping interaction and identifying conflicts

Sources used in this research are listed in the Bibliographic Note at the end of the report.
An initial focus of our research was to generate an analytical lens to help make sense of the enormously complex phenomenon of a multipolar competition. Our review of historical cases and the strategies and tactics of current competitors pointed to four core areas of importance: the global context in which a competition is unfolding, the sources of domestic power of the competitors, their relative international power and influence, and the precise conflicts of interest and ambition between the competitors. These four areas comprised our framework for analysis and initial approach to assessing the strategic competition.

### FRAMEWORK COMPONENTS

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<th>OVERALL CONTEXT FOR THE COMPETITION</th>
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<td>Understand how aspects of international context—such as geopolitics and economics—and trends shape the strategic competition environment.</td>
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### NATIONAL POWER AND COMPETITIVENESS

| Assess relative standing on key measures of ability of nations to serve as engines of competitive strength. |

| Overall productive capacity of country |
| Ability to build frontier technologies |
| Fiscal agility |
| Effectiveness of governance |
| Level and effectiveness of military resources |

### INTERNATIONAL POSITION AND INFLUENCE

| Assess current standing, sources, and underlying drivers of relative international standing. |

| Economic posture and engagement |
| Military posture and engagement |
| Regional and expeditionary contingency capabilities |
| Paradigmatic and ideological competition |
| Alignment of key states |

### MAPPING BILATERAL COMPETITIONS

| Assess and measure the leading areas of mutual confrontation and current status of the competition. |

| Core national interests |
| Areas where interests clash or intersect |
| Frequency of areas of competition |

Subsequent sections of this report lay out key findings and insights in each area of the framework, starting with the nature of the strategic context and its implications for the competition.
OVERALL CONTEXT

Trends and factors shaping the strategic competitive environment

Any strategic competition unfolds in a larger context—geopolitical, economic, social, military, and ecological. Major trends underway in each of these areas can strengthen or weaken major competitors. Countries that align themselves with the “spirit of the age” can gain a competitive advantage; those that fail to keep up with the demands of the context, or to use its opportunities to their benefit, will slip behind. The emerging global context could have especially dramatic effects on the strategic competition: The world arguably stands at an inflection point—in terms of politics, technology, and the character of warfare—that presages dramatic change. Major powers that compete effectively will ride the wave of these changes rather than being placed at a competitive disadvantage.

HISTORICAL TRENDS

An important source of insights on the current competition is the rise and fall of strategic competition and rivalry throughout modern history. A general pattern emerged: Periods of more zero-sum competition and warfare gave way to times when states reined in their ambitions and cooperated to achieve a degree of collective security. Each era offered lessons in the sources of competition.

COMPETITIVE ENVIRONMENT PARADIGM: 1789–2000

Revolution and Napoleon: Economic and social unrest are catalysts for revolution. A period of war followed between Napoleonic France and shifting alliances of other European powers.

Concert of Europe: A great-power-centric agreeement to achieve a balance of power brought about general acceptance of a practice of restraint and not acting unilaterally in response to a crisis.

Competition reemerges: Anti-liberalism and nationalism, fueled by social inequality, economic problems, and rising pan-Germanic populism, resulted in social upheaval and territorial conflicts.

League of Nations: After WWI, a period of order-building occurred to create a league that codified principles such as respect for territorial integrity and political independence.

Revisionist powers: World order was undermined by aggressive policies of revisionist powers; rearmament emerged; economic crisis fuels protectionism; rise of fascism and anti-liberalism.

Multilateral institutions: In the post-WWII era, building on the foundation of the United Nations, the United States led the creation of a thick web of multilateral institutions.
THE EMERGING STRATEGIC ENVIRONMENT: FIVE LEADING TRENDS

Our research identified five dominant trends shaping the emerging strategic environment for competition.

1. **MULTIPOLAR WORLD SYSTEM**
   A move away from a unipolar model toward a broader, more varied set of leading powers

2. **CHALLENGES TO PREVAILING NEOLIBERAL MODEL**
   Rise in inequality, globalization, socioeconomic ferment, and other factors boost populist and nationalist dynamics

3. **FOURTH INDUSTRIAL REVOLUTION**
   AI, robotics, biotech, renewable energy, advanced manufacturing, and 5G networks establishing new industry with potential revolutionary effects on modern economies

4. **RISE OF VULNERABLE INFOSPHERES**
   Developed nations’ information environments increasingly susceptible to manipulation from various forms of cyber intrusions and attacks, efforts to shape public perception and economics

5. **CLIMATE CHANGE AND CRISIS**
   Persistent effects from rising temperatures, environmental effects of warming, and accompanying political debates

IMPLICATIONS FOR COMPETING EFFECTIVELY

- **Countries that master the “fourth industrial revolution”—artificial intelligence (AI), advanced manufacturing, autonomous and robotic systems, and other elements of the emerging industrial age—will gain significant advantages in both civilian and military power.**

- **Information is the hub of competitive advantage.** Sustaining effective and secure information networks and a healthy information environment for politics and society is indispensable to competitive success.

- **In a more multipolar world order, being the hub of coalitions of like-minded major and middle powers will be a major advantage.**

- **One persistent aspect of the context is the role of a deeply institutionalized international order; countries that have disproportionate influence over its norms, rules, and institutions will have an advantage.**

- **Existing political and social structures face powerful challenges, partly because they have failed significant proportions of their populations; countries that respond in ways that reaffirm the legitimacy of their governing systems will gain relative advantage.**

- **Fulfilling the goals of national security policies now demands addressing climate change, which poses accelerating threats to all nations.**
MEASURES of NATIONAL POWER and COMPETITIVENESS

Assessing the domestic determinants of competitive success

History is fairly clear on one critical aspect of strategic competitions: Major powers do well or poorly in such contests largely as a function of whether their national economies, societies, and political systems are vibrant engines of competitive power.

IDENTIFYING THE INDICATORS OF COMPETITIVE SUCCESS

We reviewed dozens of indicators (a mostly complete list is below) to assess the current state of the domestic determinants of competitive success. Our goal was to identify a subset that would provide a more focused assessment of the state of the domestic characteristics of competitive advantage. We used a number of means of doing so that included classic economic theory; empirically validated indicators in national power; a process of assessing overlap and mutual inclusion (some factors can serve as proxies for others); and comparison of indicator results to determine outliers.

- GDP in PPP and market exchange rate (MER) terms
- GDP growth rates
- Per capita GDP
- Labor productivity
- Value added per worker
- Household spending growth; per capita consumption growth
- Levels of capital formation; capital-to-asset ratio; relationship of fixed and gross capital formation and growth
- Domestic credit available to private sector
- National savings rates, as %/GDP
- Number, amounts of nonperforming loans
- Standing in key technology areas
- Total trade; levels of imports and exports; total %/GDP
- Total national wealth measures
- Government expenditure as %/GDP
- Levels of debt, public and private: gross external
- Net foreign assets, official reserves
- Merger and acquisition activity
- Natural resource imports, exports
- Foreign exchange reserves by currency
- Currency swaps, especially involving RMB
- Inequality across social groups
- Measures of human flight, brain drain
- Government spending as %/GDP
- National R&D investments; public, private; total and as %/GDP
- Numbers of applications for patents, industrial design patents, trademark applications
- Applications for triadic patents
- Numbers, capability of nuclear weapons
- Defense spending, as %/GDP and total government spending
- Polling data on legitimacy of major social institutions
- Polling data on legitimacy of government and specific components (head of state, legislatures)
- Measures of effectiveness of public policy, civil service, public institutions
- Degree to which laws are respected and enforced
- Corruption measures
- Public opinion on sense of national belonging, local belonging, social trust
- Educational participation
- Numbers of top-ranked universities
- Technological sophistication of exports
- Index of technological sophistication of manufacturing sector
- State fragility indexes
- Threats to state security indexes
- Competing national power indexes
- Measures of intergroup tensions
INSIGHTFUL INDICATORS

Our research suggested that a few telling indicators provide the most important insight into each of these five categories:

- GDP in PPP and MER terms
- GDP growth rates
- Labor productivity
- Total trade; levels of imports and exports
- Export technological sophistication
- Standing in key technology areas
- Applications for triadic patents
- Domestic credit available to private sector
- National savings rates, as % of GDP
- Levels of debt, public and private
- Polling data on legitimacy of major social institutions
- Corruption measures
- Polling data on legitimacy of government
- Degree to which laws are respected and enforced
- Defense spending
- Threats to state security indexes
- Numbers, capability of nuclear weapons

ASSESSING NATIONAL POWER AND COMPETITIVENESS: 5 LEADING FACTORS

Based on this analysis, our research suggests a total of five factors as being especially important for assessing the status of domestic national determinants of competitive success. The sections that follow survey evidence in these five categories.

OVERALL PRODUCTIVE CAPACITY

In the pages that immediately follow, we focus first on national productive capacity. We explore different metrics that reflect productive capacity, with a strong focus on measures of GDP. We examine other measures of relative economic standing, such as wealth and per capita GDP, and explore the potential value of a statistic representing the logarithm of economic growth—something that emphasizes the importance of shifting growth rates and has implications for relative economic power.

ABILITY TO DOMINATE FRONTIER TECHNOLOGIES

A second primary domestic determinant of competitive success is a country’s ability to develop, produce, and employ frontier technologies—in a sense, the technology and innovation index of its overall economy.

CAPACITY TO GENERATE SPENDING POWER AND DISCRETIONARY RESOURCES

The third domestic determinant of competitiveness is a government’s ability to generate discretionary resources essential to investments in competitive actions. A country may have a very large GDP, but most of its national expenditure may be captured by inflexible social programs, interest payments on accumulated debt, or other requirements that leave very little room for competitive policies or initiatives. Such discretionary spending is essential for a country to be agile and responsive—to be able to direct significant and sudden resources toward new priorities.

QUALITY OF NATIONAL INSTITUTIONS

The fourth domestic determinant of competitiveness is the quality of national institutions. The literature on growth, development, and national power identifies many factors as helping to account for outcomes in relative power and competitive success, in both peace and war. Arguably the most consistent and widely applicable of these factors is the quality of national institutions and their ability to sustain the rule of law, effective property rights and transactions, the efficient enforcement of policies and regulations, the efficient and effective application of resources, and other qualities. Good institutions are the mirror image of the weak-rule-of-law, corrupt, kleptocratic situation found in many states unable to translate resources into effective domestic strength.

MILITARY RESOURCES AND CAPABILITIES

The fifth domestic determinant of competitiveness is the effectiveness of military investment. It is difficult to identify reliable and comparable numbers for overall defense spending or spending on particular capabilities.
OVERALL PRODUCTIVE CAPACITY

Productive capacity of an economy is the foundational competitive measure.

History and theory offer a clear and consistent message that a country’s basic economic productive output is the essential basis of its competitive strength—and the most common measure of such output is GDP. Every measure of national power begins, and some end, with some sort of qualified measure of a country’s GDP. As we will see, that is not the end of the story: Some countries do a far better job of generating effective national power from their overall economic strength. But GDP does provide a baseline for an analysis of the competition.

In the same way, policies to sustain and accelerate economic performance are the necessary starting point of any competitive strategy. The basic story of productive capacity over the past 30 years is straightforward: China has gained substantially on the relative position of the United States, whereas Russia has grown slowly but remained, in overall productivity terms, an afterthought to the United States and China. Measured by purchasing power parity (PPP), China’s economy is already larger than the U.S. economy, and some projections suggest that, measured in market exchange rate (MER) terms—a direct and equivalent, dollar-for-dollar comparison—it will overtake the United States sometime between the mid-2020s and mid-2030s. Still, even this narrative must be substantially qualified by another trend, which is represented below by the “log” of GDP—a way of representing the simple fact that China’s economy may not overtake America’s in real terms for some time, if ever.

ECONOMIC PRODUCTIVITY TRENDS WEAVE A MORE COMPLEX STORY: THE TWO ECONOMIES ARE MOVING TOWARD A CONVERGENCE OF GROWTH RATES

China’s slowing growth rate is a natural process for a maturing developing economy. If the United States can generate growth in the range of 3%, the two economies are moving toward convergence of growth rates rather than a perpetual Chinese advantage.

**REAL GDP PPP AND GDP MER**

<table>
<thead>
<tr>
<th>Year</th>
<th>U.S. PPP</th>
<th>China PPP</th>
<th>Russia PPP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>20.2</td>
<td>35.3</td>
<td>3.4</td>
</tr>
<tr>
<td>2010</td>
<td>21.4</td>
<td>40.5</td>
<td>4.2</td>
</tr>
<tr>
<td>2020</td>
<td>22.6</td>
<td>45.7</td>
<td>5.0</td>
</tr>
<tr>
<td>2030</td>
<td>23.8</td>
<td>50.9</td>
<td>5.8</td>
</tr>
<tr>
<td>2040</td>
<td>25.0</td>
<td>56.1</td>
<td>6.7</td>
</tr>
<tr>
<td>2050</td>
<td>26.2</td>
<td>61.3</td>
<td>7.5</td>
</tr>
</tbody>
</table>

**LOG REAL GDP**

- **U.S.**
- **China**

The “log” of GDP measures compounding changes in the rate of growth over time. Its emphasis on the annualized change in GDP tells an important story: China’s growth rate has been slowing (and indeed may have been exaggerated for some years).

**SOURCES:** OECD, *Economic Outlook*, No. 103, 2018; World Bank, *World Development Indicators*; PwC, *The World in 2050*. Different sources offer somewhat different figures for each category. These trend lines also shift slightly depending on which normalization figure is used, but the essential characterization of the trends remains consistent across sources.
ECONOMIC MUSCLE AND PRODUCTIVE CAPACITY: CHINA IS NOT RACING PAST THE UNITED STATES TO A POSITION OF UNQUESTIONED DOMINANCE

The better way to think about it—even as China’s economy continues to rise—is of two countries converging into a bipolar economic balance. It is the emergence of two peer competitors, not a simple and unqualified “power transition.”


NOT A SIMPLISTIC STORY OF A “POWER TRANSITION”: CHINA’S LOOMING CHALLENGES

China’s slowing growth rate is partly symptomatic of a larger and more complex reality. There are many reasons to believe that, over the coming decade, the fundamental narrative about China’s rise will change from an unqualified success story to a more qualified, in some cases rocky, tale of an economy, society, and government facing multiple inherent weaknesses and challenges.

China will join the United States as one of the world’s two dominant economies, may well eventually grow larger than the U.S. economy even in MER terms, and will retain tremendous ability to generate power from its basic productive capacity. But that process will become more difficult. We have already seen the first signs of this as Chinese outbound foreign investment has slowed significantly in recent years, as depicted at right, in part due to the government issuing stricter metrics for Chinese firms engaging in Belt and Road Initiative projects to reduce overseas debt and, in 2020, because of the effects of COVID-19. Multiple data points we reviewed highlighted persistent U.S. relative strengths and emerging challenges to Chinese economic growth.

Two areas of U.S. advantage—GDP per capita and total wealth—speak to the fact that the U.S. economy is vastly more advanced than China’s, a fact with implications for technological progress and other economic factors.

GDP PER CAPITA | 2019, 2022
(in thousands, current USD)

<table>
<thead>
<tr>
<th>U.S.</th>
<th>CHINA</th>
<th>RUSSIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>76.0</td>
<td>65.0</td>
<td>10.1</td>
</tr>
</tbody>
</table>

TOTAL DOMESTIC WEALTH | 2020
(in trillions, current USD)

<table>
<thead>
<tr>
<th>U.S.</th>
<th>CHINA</th>
<th>RUSSIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>126.3</td>
<td>74.8</td>
<td>14.1</td>
</tr>
</tbody>
</table>

VALUE ADDED PER WORKER | 2019
(Industry, in thousands 2015 USD)

<table>
<thead>
<tr>
<th>U.S.</th>
<th>CHINA</th>
<th>RUSSIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>2.7</td>
<td>11.5</td>
</tr>
</tbody>
</table>

Gross value added (GVA) per worker speaks to the productive output of the economies.

CHINA’S DEMOGRAPHIC CRISIS

The Chinese Communist Party’s strong efforts to control population may have been too successful. The country now faces a stark demographic decline, with a total fertility rate (children per family) officially estimated at 1.7 but probably closer to 0.9-1.1—far below the replacement rate of just over 2. If this trajectory does not change, China’s population could fall by two-thirds over the coming century.

The percentage of China’s population over the age of 65 is projected to triple by 2050. A gradually ebbing, and aging, population could have a number of strategic effects:

• significant fiscal implications in terms of reduced revenues, high pension costs
• disruptive effects on the role of the extended family in Chinese social life, including its role in providing a social safety net (especially for people over 65)
• suppression of innovation and growth as fewer people feel free to pursue creative, risky entrepreneurial efforts, given the increased burden of caring for the elderly.

CHINA’S PROJECTED POPULATION | 2020–2100

<table>
<thead>
<tr>
<th>2020</th>
<th>2100</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.4 BILLION</td>
<td>400-480 MILLION</td>
</tr>
</tbody>
</table>

The percentage of China’s population over the age of 65 is projected to triple by 2050. A gradually ebbing, and aging, population could have a number of strategic effects:

• significant fiscal implications in terms of reduced revenues, high pension costs
• disruptive effects on the role of the extended family in Chinese social life, including its role in providing a social safety net (especially for people over 65)
• suppression of innovation and growth as fewer people feel free to pursue creative, risky entrepreneurial efforts, given the increased burden of caring for the elderly.
ABILITY TO DOMINATE FRONTIER TECHNOLOGIES

A country’s ability to develop, produce, and employ frontier technology is a second determinant of competitive success.

Historical evidence on rivalries among major powers points to the critical role of advanced technology: Countries that dominate the leading industries of the period, which become global leaders in innovation and technological development and application, tend to gain military and geopolitical superiority. China has sought not only economic productivity but also technological parity with— and eventual superiority over—the United States for decades. Advances in science and technology have been part of the Chinese strategy since Mao; in the past 20 years, Beijing has directed immense resources into research and development (R&D), high-tech industries, purchase and theft of intellectual property and established technologies, and other avenues to high-tech progress.

The results have been impressive: As depicted below and at the top of the next page, these efforts have generated measurable outputs in R&D spending, patent applications, research output, and competitive technology firms.

CHINA IS CATCHING UP TO THE UNITED STATES IN TERMS OF R&D SPENDING AND PATENTS

**R&D SPENDING | % OF GDP, 1996–2017**

<table>
<thead>
<tr>
<th>Year</th>
<th>U.S.</th>
<th>China</th>
<th>Russia</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>0.5%</td>
<td>1.5%</td>
<td>1.0%</td>
</tr>
<tr>
<td>2005</td>
<td>1.0%</td>
<td>2.5%</td>
<td>2.0%</td>
</tr>
<tr>
<td>2010</td>
<td>2.0%</td>
<td>3.0%</td>
<td>2.5%</td>
</tr>
<tr>
<td>2015</td>
<td>2.5%</td>
<td>3.5%</td>
<td>3.0%</td>
</tr>
<tr>
<td>2020</td>
<td>3.0%</td>
<td>3.45%</td>
<td>2.14%</td>
</tr>
</tbody>
</table>

**PATENT APPLICATIONS | PER RESIDENT, 2000–2017**

<table>
<thead>
<tr>
<th>Year</th>
<th>U.S.</th>
<th>China</th>
<th>Russia</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>22,777</td>
<td>293,904</td>
<td>3.0%</td>
</tr>
<tr>
<td>2005</td>
<td>22,777</td>
<td>293,904</td>
<td>3.0%</td>
</tr>
<tr>
<td>2010</td>
<td>22,777</td>
<td>293,904</td>
<td>3.0%</td>
</tr>
<tr>
<td>2015</td>
<td>22,777</td>
<td>293,904</td>
<td>3.0%</td>
</tr>
<tr>
<td>2020</td>
<td>22,777</td>
<td>293,904</td>
<td>3.0%</td>
</tr>
</tbody>
</table>

**Total numbers of patent applications can reflect government demands for patent filings more than actual technological advancement. But they do signal general societal patterns and represent one imperfect measure of a society’s innovative dynamism.**

**Resident patent applications for China surpasses the U.S. with 229,096 on record.**

China’s output of patent applications has grown exponentially to over 1,245,700 in 2017.
OVERALL STORY: CHINA IS RISING TO THE STATUS OF A GLOBAL PEER OF THE UNITED STATES, THOUGH NOT ON A TRAJECTORY TO RACE PAST THE UNITED STATES AND ACHIEVE GLOBAL DOMINANCE

The trend here is similar to that for productive capacity in general. From the standpoint of the technological competition, potential U.S. policy responses are fairly clear: reversing recent budget cuts in basic research and boosting funding for federal R&D and academic research, both basic and applied; additional scholarships and other programs to support the development of new generations of researchers; efforts to build technology ecosystems among friends and allies; prioritized identification of key capabilities of industries and places where the involvement of Chinese firms must be selectively curtailed; and intensified efforts to interdict Chinese technology and intellectual property theft.

OTHER MEASURES INDICATE TREMENDOUS CHINESE PROGRESS IN HIGH TECHNOLOGY

China increased its output of science and technology research articles by 381% over a 13-year period, surpassing the United States.

SCIENTIFIC AND TECH JOURNAL ARTICLES | 2003, 2016

<table>
<thead>
<tr>
<th>Year</th>
<th>U.S.</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>321,785</td>
<td>88,621</td>
</tr>
<tr>
<td>2016</td>
<td>428,185</td>
<td>496,885</td>
</tr>
</tbody>
</table>

The United States and China now have roughly equal numbers of the top global internet companies, a significant change from two decades ago.

TOP 20 GLOBAL INTERNET GIANTS | 2000, 2018

<table>
<thead>
<tr>
<th>Year</th>
<th>U.S.</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td>2018</td>
<td>11</td>
<td>9</td>
</tr>
</tbody>
</table>

Chinese technology continues to dominate in the manufacturing world, with high-tech exports experiencing a steady rise, while the United States has lagged.

HIGH-TECHNOLOGY EXPORTS | 2010, 2020

<table>
<thead>
<tr>
<th>Year</th>
<th>U.S.</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>166.8</td>
<td>474.3</td>
</tr>
<tr>
<td>2020</td>
<td>141.5</td>
<td>757.7</td>
</tr>
</tbody>
</table>

BY OTHER MEASURES, CHINA’S RISE IS LESS SIGNIFICANT: THE UNITED STATES CONTINUES TO DOMINATE KEY ASPECTS OF THE TECH COMPETITION

China still lags the United States in several important technological areas. The statistics on its R&D advances are almost certainly inflated: When the Chinese government put out the directive to researchers and scientists to produce patents, they did so—but most do not represent truly competitive technologies. China’s advances in areas like AI, moreover, still trail in critical measures of systemic innovation and dynamism, which China’s system is less able to deliver.

A better measure of research output is “triadic patents,” which are filed simultaneously in the United States, the EU, and Japan, signaling an innovation that is internationally competitive.

TRIADIC PATENT APPLICATIONS | 2000, 2019

<table>
<thead>
<tr>
<th>Year</th>
<th>U.S.</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>0.08</td>
<td>0.08</td>
</tr>
<tr>
<td>2019</td>
<td>5.60</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Even given its growing sophistication, China’s economy still has a relatively much smaller number of scientific and technological researchers—though the immense size of its total population helps make up the difference.

Employed researchers (per one thousand employed workers)

<table>
<thead>
<tr>
<th>Year</th>
<th>U.S.</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>0.96</td>
<td>15.63</td>
</tr>
<tr>
<td>2017</td>
<td>2.24</td>
<td>12.88</td>
</tr>
</tbody>
</table>

CHINA’S TECH SECTOR DEPENDS ON IMPORTS | 2019

Spent on imports of semiconductors:

- $300–350 billion

% of desktop computing using Microsoft Windows:

- 88%

% of high-end medical devices imported:

- 80%

OVERALL STORY: CHINA IS RISING TO THE STATUS OF A GLOBAL PEER OF THE UNITED STATES, THOUGH NOT ON A TRAJECTORY TO RACE PAST THE UNITED STATES AND ACHIEVE GLOBAL DOMINANCE

To counter China’s progress, policymakers and the private sector must focus on building the necessary capabilities at home, joining forces among allies, and out-innovating China’s system for itself.


OTHER MEASURES INDICATE TREMENDOUS CHINESE PROGRESS IN HIGH TECHNOLOGY

China increased its output of science and technology research articles by 381% over a 13-year period, surpassing the United States.
CAPACITY TO GENERATE DISCRETIONARY RESOURCES

A third domestic competitive determinant is a government’s ability to generate discretionary resources essential to making investments in competitive action.

THE CONSTRAINTS ON U.S. FEDERAL NON-DEFENSE SPENDING

One of the more remarkable changes in the U.S. fiscal position has come through the effects of historically low interest rates. Even with the enormous surge in U.S. borrowing, before the recent rise in inflation and interest rates, net interest outlays were projected to decline from 1.6% of GDP in 2020 to 1.1% of GDP (less than $300 billion per year) in 2024–2025, before rising again to a near-term projected peak of 2.2% (or $664 billion) in 2030—still short of earlier forecasts that saw them rising well above 3% of GDP. Nonetheless, while a once-feared catastrophic effect may be some years off, these projections still reflect immense, and rising, sums that constrain U.S. fiscal flexibility and strategic agility. The latest CBO projections suggest that total federal debt will hit 185% of GDP by 2051. Absent changes to current law, interest payments on the federal debt are projected to average $808 billion per year between FY23 and FY32, and to reach 7.2% of GDP by 2052—which, as a proportion of GDP, would be more than double what the nation now spends on defense.

If interest rates were to rise even a few percentage points, this would add trillions to U.S. debt obligations over the next decade and the fiscal situation would darken very rapidly. And the longer-term prognosis after 2030 remains uncertain.

Russia’s debt-to-GDP ratio is lower but so are its sources of national income. Constraints on government resources from the collapse of oil prices, sanctions, and other difficulties forced a defense spending cut in 2017. China’s own growing debt problem similarly forced cutbacks in foreign direct investment.

**The Fiscal Challenges of an Aging Workforce**

China is aging more quickly than any developing country ever has, leading to a decline of the workforce. Various sources offer different estimates of China’s plummeting worker-to-retiree ratio and the possible deficit in current pension programs:

- **Worker-retiree ratio**
  - 6.5 in 2000
  - 1.5–2.2 by 2050

- **Up to $11 trillion yuan**
  - Deficit in pension programs
  - (US $1.64 trillion)

**China’s Debt Growing as Economy Slows** 2014–2020

Various sources differ in their estimates of the size of Chinese debt, but the trend lines and general magnitude of the problem are consistent in all sources: China’s total public and private debt has reached new highs compared with the size of its economy, and has the prospect of becoming a real danger to future growth and economic stability.

**Russia’s Economic Challenge**

Several factors are contributing to a slowing economy. Corruption and national control of key industries—state-owned enterprises (SOEs)—prevent efficient investment and international competition needed to drive growth and the proportion of small and medium-sized enterprises (SMEs) in the economy as compared to EU countries.

**Russia’s Projected Population Decline** 2020–2050

Long-term demographic collapse due to a low birthrate will begin to shrink Russia’s workforce by almost a million people per year; one estimate projects the population could fall from ~145.9 million to 135.8 million by 2050.

**Economic Effects of Ukraine War and Sanctions on Russian Economy**

- Various estimates suggest Russian economy will contract 10% or more in 2022
- Imports have collapsed by over 50%, car sales down 75%
- Technology restrictions already having severe effect on manufacturing
- Over 1,000 international firms, with over $600 billion worth of investments in Russia, have curtailed activities, wiping away three decades of investment progress

**Sources:** UN World Population Prospects; Frank Tang, “China’s State Pension Fund to Run Dry by 2035,” South China Morning Post, April 12, 2019 (reporting Chinese Academy of Social Science findings); World bank forecasts and calculations; “World Bank Cuts Russian Economic Growth Forecast to 1% in 2019,” Reuters, October 9, 2019; “China Eyes Economic Goals for Next Year as Debt Levels Soar,” Bloomberg, December 15, 2020; World Bank, Russia Economic Report, No. 42, December 2019; Russian SME percentage from OECD and World Bank analyses; Russian GDP projections from IMF World Economic Database, accessed August 2022.
QUALITY OF NATIONAL INSTITUTIONS

A fourth measure of domestic competitive determinants is the quality of national institutions.

The literature on growth, development, and national power identifies many factors as accounting for outcomes in relative power and competitive success, in both peace and war. Arguably the most consistent and widely applicable of these factors is the quality of national institutions and their ability to sustain the rule of law, effective property rights and transactions, the efficient enforcement of policies and regulations, the efficient and effective application of resources, and other qualities. Good institutions are the mirror image of the weak-rule-of-law, corrupt, kleptocratic situation found in many states unable to translate resources into effective national power and influence.

The charts in this section represent a number of well-established indicators—both objective indexes and public opinion polling—used to assess the quality of national institutions. In these measures, higher scores reflect better-quality governance. As these charts indicate, in the competition with Russia and China, the United States has traditionally held a significant advantage across many metrics—though recent trends in U.S. polarization and political gridlock threaten to weaken this advantage.

This is an index of multiple objective measures of violence, risk ratings, and perceptual scores for political stability.

This is a World Bank Governance Indicator composed of multiple perceptual and statistical measures of corruption. Rule of law is the extent to which laws are respected and enforced.

NOTE: CCP = Chinese Communist Party.
SOURCE: Data on state fragility, control of corruption, and rule of law from World Bank, Worldwide Governance Indicators, 2019.
U.S. AND DEMOCRATIC ADVANTAGES IN INSTITUTIONS REMAIN SIGNIFICANT—THE QUESTION IS WHETHER THEY ARE DURABLE

The United States continues to enjoy a significant lead over its primary rivals in most measures of institutional quality, which are likely to play a central role in long-term success.

The two indexes below are widely used to combine several variables into an overall portrait of national institutional health and effectiveness. Despite China’s rise, its governance institutions remain less effective, reliable, transparent, and globally trusted than those of the United States. Russia fares even worse, and is unlikely to improve following the widespread crackdown on domestic dissent and civil society that has accompanied its 2022 invasion of Ukraine.

**GLOBAL COMPETITIVENESS INDEX** | **INSTITUTION RANKING 2018**

<table>
<thead>
<tr>
<th>RANK</th>
<th>COUNTRY</th>
<th>VALUE (0–100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NEW ZEALAND</td>
<td>81.6</td>
</tr>
<tr>
<td>2</td>
<td>FINLAND</td>
<td>81.0</td>
</tr>
<tr>
<td>3</td>
<td>SINGAPORE</td>
<td>80.7</td>
</tr>
<tr>
<td>4</td>
<td>NETHERLANDS</td>
<td>77.9</td>
</tr>
<tr>
<td>5</td>
<td>SWITZERLAND</td>
<td>77.1</td>
</tr>
<tr>
<td>6</td>
<td>HONG KONG</td>
<td>76.9</td>
</tr>
<tr>
<td>7</td>
<td>UNITED KINGDOM</td>
<td>76.8</td>
</tr>
<tr>
<td>8</td>
<td>NORWAY</td>
<td>76.7</td>
</tr>
<tr>
<td>9</td>
<td>SWEDEN</td>
<td>76.0</td>
</tr>
<tr>
<td>10</td>
<td>DENMARK</td>
<td>75.9</td>
</tr>
<tr>
<td>11</td>
<td>CANADA</td>
<td>75.5</td>
</tr>
<tr>
<td>12</td>
<td>LUXEMBOURG</td>
<td>75.2</td>
</tr>
<tr>
<td>13</td>
<td>UNITED STATES</td>
<td>74.6</td>
</tr>
<tr>
<td>14</td>
<td>ICELAND</td>
<td>74.3</td>
</tr>
<tr>
<td>15</td>
<td>AUSTRALIA</td>
<td>73.6</td>
</tr>
<tr>
<td>16</td>
<td>GERMANY</td>
<td>73.5</td>
</tr>
<tr>
<td>17</td>
<td>IRELAND</td>
<td>73.1</td>
</tr>
<tr>
<td>18</td>
<td>AUSTRIA</td>
<td>72.7</td>
</tr>
<tr>
<td>19</td>
<td>UNITED ARAB EMIRATES</td>
<td>71.8</td>
</tr>
<tr>
<td>20</td>
<td>JAPAN</td>
<td>71.1</td>
</tr>
<tr>
<td>21</td>
<td>FRANCE</td>
<td>69.5</td>
</tr>
<tr>
<td>22</td>
<td>MALAYSIA</td>
<td>68.7</td>
</tr>
<tr>
<td>23</td>
<td>TAIWAIN</td>
<td>68.5</td>
</tr>
<tr>
<td>24</td>
<td>ISRAEL</td>
<td>66.3</td>
</tr>
<tr>
<td>25</td>
<td>SOUTH KOREA</td>
<td>65.4</td>
</tr>
<tr>
<td>26</td>
<td>SPAIN</td>
<td>64.5</td>
</tr>
</tbody>
</table>

**GOVERNMENT EFFECTIVENESS INDEX** | **WORLDWIDE GOVERNANCE INDICATOR, 1996–2020**

The index reflects “security, property rights, social capital, checks and balances, transparency and ethics, public-sector performance, future orientation of government, and corporate governance.”

The index reflects “perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government’s commitment to such policies.”

**SOURCES:** World Economic Forum, Global Competitiveness Index 4.0 (2018 rankings, first-pillar Institutions); World Bank, GovData 360, Government Effectiveness Value; World Bank, World Governance Indicators.
MILITARY RESOURCES AND CAPABILITIES

The United States is and will remain in a strong competitive position on many aspects of the military balance. It is difficult to determine clear and comparable numbers for overall defense spending or spending in particular categories, such as procurement. Significant debates exist over the actual size of Russian or Chinese military spending. It may be inaccurate to compare U.S., Chinese, and Russian defense budgets in gross terms because so much of what China and Russia procure—especially salaries for troops—is bought locally and thus subject to adjustments for purchasing power parity (PPP). The figure below applies a PPP estimator to the three countries’ defense budgets; looked at through this lens, China and Russia’s defense resources together roughly equal those of the United States.

Despite the United States remaining in a strong competitive position in terms of the military balance, our analysis highlights two areas of significant concern:

1. the U.S. fiscal situation, which could impose severe constraints on U.S. military resources in the future
2. the effort by Russia and China to neutralize U.S. combined arms concepts of operations with asymmetric effects in specific areas of vulnerability, including electronic warfare, information warfare, cyber, and space.

Sources: Figures on military spending from the Stockholm Peace Research Institute and the International Institute for Strategic Studies.
PERSPECTIVES ON THE EMERGING MILITARY BALANCE: THREE KEY ISSUES THAT WILL HELP SHAPE MILITARY ADVANTAGES OVER TIME

1. DECISIVE TECHNOLOGIES
Given overall U.S. military superiority, U.S. rivals have been seeking various forms of silver bullets to neutralize U.S. advantages—a specific technology, or basket of them, that can paralyze an enemy, especially in the first days of a war. Russia and China have invested in various forms of information warfare with such a goal, most notably the “system destruction” and “informatized warfare” concepts being developed by China and summarized below. Should they succeed, these capabilities would have effects on the overall military balance well beyond the shifting spending and investment totals outlined on page 24. A leading goal for U.S. defense policy must be to build resilience against such information system-focused attacks.

This is the most likely area of military vulnerability for the United States.

ADVERSARIES WILL LOOK TO DISRUPT THE U.S. “SYSTEM OF SYSTEMS” by fracturing and blinding the collection, exchange, and analysis of information using a mix of
- general cyber capabilities
- electronic warfare
- disinformation and perception manipulation techniques
- attacks on U.S. space-based surveillance and information transmission capabilities (including GPS location systems).

2. NEW WAYS OF WAR
The character of warfare may be in the process of a significant transformation, with increasing emphasis on information attacks, unmanned systems (including swarming concepts), and artificial intelligence-driven decisionmaking. Whether or not a comprehensive transformation occurs, such capabilities will play an increasingly central role in warfare in the coming decades. Russia and China are both making significant investments in many of these categories with an eye to leapfrogging U.S. military dominance—transcending the superiority of current-generation U.S. military systems and operating concepts with radically new ways of fighting. If the United States does not keep pace, it risks seeing its military superiority erode in the transition to these new ways of fighting.

Proliferated unmanned systems—including swarming drones—could pose significant threats to existing military systems.

3. 21st CENTURY OPERATIONAL CONCEPTS
Typically, nations do not achieve military superiority through advances in individual technologies. They do so by mastering some integrated military approach or operational concept, like the German Blitzkrieg or the U.S. system-of-systems concept of precision-guided warfare, that draws together multiple technologies into an overall campaign design that creates a decisive advantage over other militaries. Much current focus of the military competition is on the net balance in specific technology areas or combat systems. Ultimately, however, their effect will be filtered through operational concepts; an emphasis on conceptual thinking demands as much emphasis as military systems.

New operational concepts—During WWII the German army had developed an innovative doctrine to return mobility to warfare, to outman and outgun the enemy

ADVANCED DISINFORMATION TECHNIQUES—Techniques that create radical doubt about the validity of information about events

“VIRTUAL SOCIETAL WARFARE”—Comprehensive attacks on an enemy’s domestic information networks—its Internet of Things, critical infrastructure, communications, and algorithmic decision-making processes—to paralyze its society and military responsiveness

SYSTEM-OF-SYSTEMS CONCEPT—During Operation Desert Storm in 1991, the United States employed an integrated multi-domain approach to devastating effect.

FUTURE CONCEPTS—Most operational concepts being developed today share many of the same essential principles: the holistic integration of systems in many domains, dispersal and concealment, a dominant role for information attack, and a growing role for unmanned systems.

MASTERING THESE EMERGING STRATEGIC AND OPERATIONAL CONCEPTS, AND SHIFTING INVESTMENTS TO ACQUIRE THE NEEDED SYSTEMS, WILL BE A CRITICAL MEASURE OF COMPETITIVE ADVANTAGE
All the major trend lines today—Russia’s “New Generation Warfare,” U.S. “multi-domain operations,” China’s “informatized warfare”—speak to increasingly holistic approaches to conflict that achieve decisive effect by attacking a comprehensive set of military and non-military targets. New technologies are providing an ability to reach into enemy homelands with relative impunity. Given its high societal and military dependence on advanced information networks and its lack of recent investment in domestic informational resilience, the United States may be especially vulnerable to such forms of aggression.

NOTE: References for this analysis are included in the Bibliographic Note.
MEASURES of INTERNATIONAL POSITION and INFLUENCE

Assessing the degree to which competitors are gaining or losing relative influence in the international system

If domestic measures of national strength and energy are one crucial component of understanding any strategic competition, international measures of position and influence tell the other half of that critical story—the way the competitors’ national capabilities and strategies are playing out in measures of relative competitive standing. This section reviews four key categories of such measures, listed on the following page, to offer a sense of what areas are most critical to competitive success and where the competition stands today. This section focuses almost exclusively on the U.S.-China competition; in terms of the vast majority of these measures, Russia is simply not a major international player. The data tell a consistent story: China is a global economic powerhouse and is making headway in discrete channels of influence—but U.S. standing across all these measures still significantly outpaces both China and Russia.

IDENTIFYING THE INDICATORS OF COMPETITIVE SUCCESS

In this component of the study we reviewed dozens of indicators of the current and prospective international standing of the United States, China, and Russia.

• GDP in PPP and MER terms
• Imports and exports; total percentage of GDP
• Exports to and imports from China as proportion of national totals in Asia
• Natural resource imports, exports
• Foreign exchange reserves by currency
• Currency swaps, especially involving Chinese RMB
• Participation in international institutions
• Participation in free trade agreements
• UN voting patterns
• Public statements and official positions of governments on key policy issues
• Foreign direct investment (FDI) inflows, outflows
• FDI stocks (inbound and outbound)
• Private corporate investment patterns, totals; overseas investments, total value of transactions
• Industrial composition of investments
• Regional and country composition in investments
• Greenfield investments
• Public favorability ratings of key actors and institutions: U.S., Russia, China, EU, UN, NATO
• Beliefs in Asia about relationship with China, partnership or rivalry
• Perceptions of threat of Chinese military power
• Specific investment total, pattern of deals identified by China as part of Belt and Road Initiative
• Foreign aid programs, trends
• Relative military resources of U.S., Russian, Chinese friends and allies
• Sources of competitive advantage in regional military contingencies
ASSESSING INTERNATIONAL POSITION AND INFLUENCE: 4 LEADING CATEGORIES

Our historical research, evidence from current Chinese strategies and investments, and assessment of the effect of various competitive behavior suggest that four categories of international position and influence will be especially critical to determining relative success in the competition. These are listed below, along with several specific, measurable indicators that are especially useful to assess that category.

A  ECONOMIC POSTURE AND ENGAGEMENT

This category refers to relative competitive standing in key economic categories, such as proportion of national trade, foreign direct investment (FDI), and economic aid.

B  ALIGNMENT OF KEY ALLIES AND PARTNERS

A second primary international determinant of competitive success is the degree to which a major power enjoys the active or tacit support and geopolitical affiliation of other countries. This category includes various indexes of alignment developed for the study.

C  IDEOLOGICAL AND PARADIGMATIC INFLUENCE

The third international determinant of competition is the degree to which a major power exercises predominant influence over the ideas, rules, norms, and institutions that govern a prevailing paradigm. This category includes such measures as public attitudes toward major powers, role in international institutions, and an index of ideological affinity.

D  MILITARY ENGAGEMENT AND POSTURE

The fourth major category of competitive standing internationally is the global and regional military posture and degree of military engagement of the major powers. This includes such measures as basing, access agreements, military exercises, and training missions.
ECONOMIC POSTURE AND ENGAGEMENT

The first category of international position and influence measures a country’s ability to generate international power through trade and regional financial interdependencies.

One possible source of power for China is the creation of powerful trade and financial dependencies throughout the Indo-Pacific region. Countries heavily dependent on China as an export market, and Chinese imports as part of production chains, are already making clear that they are reluctant to openly challenge Beijing on some geopolitical issues. Indicators such as the relative importance of trade with China to a country’s economy and incoming and outgoing FDI can provide a sense of the trends in regional economic interdependence.

CHINA’S RISE AS A GLOBAL TRADING POWERHOUSE

These figures are from prior to the COVID-19 pandemic and its associated trade effects, and also before the range of U.S. trade actions against China. Both will end up altering the profile of U.S.-China trade and China’s trade globally, but it is not yet clear how much.

In 1995, China’s global trade surplus totaled $178B. By 2017, the surplus increased to $420B.

||| |
|---|---|---|---|
| Exports to U.S. | Imports from U.S. | TRADE SURPLUS |
| $25B | $16B | $178B |
| $2T | 1T | 0 |

In 1995, China’s global trade surplus totaled $178B. By 2017, the surplus increased to $420B.

SOURCE: UN Comtrade.

NUMBER OF TOP 100 GLOBAL COMPANIES

<table>
<thead>
<tr>
<th>Year</th>
<th>U.S.</th>
<th>CHINA</th>
<th>RUSSIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>29</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>2019</td>
<td>36</td>
<td>23</td>
<td>3</td>
</tr>
</tbody>
</table>

Today, Chinese companies make the Fortune 500 list 119 times with a combined revenue of $7.9T; almost one quarter of the $32.7T in revenue generated by all 500 companies.

SOURCE: Fortune Global 500.
**ECONOMIC ENGAGEMENT: TRADE AND FINANCIAL INTERDEPENDENCY**

One measure of relative dependence on China is a snapshot of a country’s total trade portfolio, to see where China sits and what countries make up the balance—and in particular exports, which are closely tied to countries’ GDP. Exports to China are a critical component of most countries’ export portfolio—but China’s influence is balanced by the role of the United States, Indo-Pacific countries, and other states.

**TOTAL TRADE WITH CHINA | TOP 15 BY % OF COUNTRY GDP | 2010 | 2017**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>2010</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vietnam</td>
<td>11</td>
<td>19</td>
</tr>
<tr>
<td>2</td>
<td>Malaysia</td>
<td>16</td>
<td>22</td>
</tr>
<tr>
<td>3</td>
<td>Cambodia</td>
<td>19</td>
<td>27</td>
</tr>
<tr>
<td>4</td>
<td>Singapore</td>
<td>32</td>
<td>43</td>
</tr>
<tr>
<td>5</td>
<td>Burma</td>
<td>30</td>
<td>44</td>
</tr>
<tr>
<td>6</td>
<td>South Korea</td>
<td>19</td>
<td>22</td>
</tr>
<tr>
<td>7</td>
<td>Laos</td>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td>8</td>
<td>Thailand</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>9</td>
<td>Philippines</td>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td>10</td>
<td>Australia</td>
<td>11</td>
<td>19</td>
</tr>
<tr>
<td>11</td>
<td>New Zealand</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>12</td>
<td>Pakistan</td>
<td>23</td>
<td>32</td>
</tr>
<tr>
<td>13</td>
<td>Bangladesh</td>
<td>30</td>
<td>32</td>
</tr>
<tr>
<td>14</td>
<td>Indonesia</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>15</td>
<td>Japan</td>
<td>11</td>
<td>15</td>
</tr>
</tbody>
</table>

**CHINESE OVERSEAS LENDING | 2000–2017**

**SELECT COUNTRY EXPORT PROFILES | 2017**

- **U.S.**
- **CHINA**
- **VN, MY, KR, ID**
- **OTHER INDO-PACIFIC**

No 1. China has become the leading economic relationship for all major countries in Asia—and a significant economic partner for many countries outside the region. This fact has significant implications for the competition: Few states in Asia are likely to be willing to place these economic ties at risk with steps in peacetime viewed as provocative by Beijing.

No 2. China has become a dominant provider of financing for major infrastructure projects, which is a leading focus of the Belt and Road Initiative and an area where private investors are not active.

No 3. However, even countries that are heavily dependent on China for trade have diversified trading relationships, and China still accounts for a relatively low percentage of incoming FDI. Economic dependence on China has leveled off in most cases; it is not continuing a permanent upward trend. In addition, China’s own economic challenges have led to significant dips in outbound FDI over the past several years.

No 4. China’s economic statecraft is also typically less coordinated and tightly focused on achieving diplomatic gains than generally assumed. China’s investments are often driven by company profit-seeking as much as strategic factors.

**CHINA’S LENDING BOOM**

Starting in about 2006–2007, China’s overseas lending began a steady and dramatic rise—but there are limits to this trend. Only a handful of developing countries have extremely large debt (20% or more of GDP) owed to China; many (Brazil, Egypt, India, Indonesia, Malaysia, Mexico, Nigeria, South Africa and others) owe less than 2% of GDP. Some countries that owe much more have seen their debt totals decline as a percentage of GDP since 2014–2015. Nonetheless, China has attained a leading position in global finance and holds debt of 10% or more of GDP from a number of strategically important developing nations, including Ethiopia, the Maldives, Mozambique, Niger, Samoa, and Vanuatu.

**RESOURCES:** Chinese FDI from World Bank, World Development Indicators. Data on Chinese overseas lending from Sebastian Horn, Carmen M. Reinhart, and Christoph Trebesch, China’s Overseas Lending, National Bureau of Economic Research, Working Paper No. 26050, July 2019, and Boston University Global Development Policy Center, China’s Overseas Development Finance database.
ALIGNMENT AND KEY ALLIES AND PARTNERS

The second category of international position and influence deals with the overall alignment—in terms of alliances, partnerships, shared interests, and other measures of geopolitical orientation—of world politics.

Nations with more powerful and reliable groups of friends, allies, and partners have historically enjoyed tremendous competitive advantages. This factor has arguably been the leading U.S. competitive advantage since 1945, and especially since 1989: The United States has been aligned on the most important security issues with countries comprising the dominant share of world GDP and military power. Whether this alignment remains favorable will be a critical determinant of the emerging competition.

MEASURES OF COLLECTIVE STRENGTH AND POWER: UNITED STATES, RUSSIA, AND CHINA

In this category of international measures of competitiveness, the United States arguably has the single most prominent competitive advantage.

Any competitor that builds and sustains a predominantly supportive coalition of states will have a tremendous competitive advantage across many issue areas. A critical trend, however, is the relative decline between now and 2060 of U.S. allies compared to the key non-aligned category. Sustaining good ties with India, Brazil, Indonesia, Mexico, and other emerging powers will be critical to sustaining this advantage.

1 U.S. allies include NATO, Japan, South Korea, Australia, and the Philippines. For this measurement we included Pakistan as a formal Chinese ally. Russia’s formal allies are defined as countries in the Collective Security Treaty Organization (CSTO).

2 Assigning the leading or key non-aligned countries was a subjective exercise, though it involved a research-based assessment of several different measures. The list includes India, Indonesia, Malaysia, Vietnam, Singapore, Brazil, and Mexico.

Sources: GDP data from World Bank, GDP (current US$), dataset. Military spending data from Stockholm International Peace and Research Institute, Military Expenditure Database. Figures are from 2019 and predate the effects of the COVID-19 pandemic.
GEOPOLITICAL ALIGNMENT INDEX: THE "HEDGING" MIDDLE

We assessed current alignment of a set of 20 focus countries based on a comprehensive “tilt” index of geopolitical activities. The alignment index factors (listed below) were assessed individually per country with an overall degree assigned. What emerged from this exercise is a clear essential finding: The “hedging middle” is the key focus of alignment competition.

### INDEX FACTORS

1. **Existence of formal military alliance with either the United States or China**: Binary yes/no variable; existence of alliance = 3 points in index
2. **Security cooperation (history and scope)**: Arms sales, defense coproduction, exercises, professional military education exchanges, basing, access agreements; maximum score of 3 for extensive cooperation across all areas, 0 for no significant security cooperation relationship
3. **Views among country’s elite toward the United States and China**: Qualitative expert assessment based on multiple RAND studies; 2 = very favorable to U.S.; 1 = favorable to U.S.; 0 = neutral; –1 = unfavorable to U.S./favorable to China; –2 = very unfavorable to U.S./favorable to China
4. **Position on regional issues**: Review of national positions (if any) on Southeast Asian territorial disputes, Hague ruling on South China Sea, human rights, and informal level of ties to Taiwan; maximum 2 points for strongly critical stance toward China
5. **Security strategy threat analysis**: Does the country call out either the United States or China as threat/risk; 2 = very strongly, 1 = moderately; 0 = not at all or neutral
6. **Territorial dispute with China or United States**: Existence of a territorial dispute with China, 1 point
7. **Composite of UN voting history on 17 major resolutions**: Maximum 1 point for record highly favorable to one or another competitor

### IDENTIFICATION CRITERIA

1. Geographic/regional diversity
2. Strategic significance (GDP, military power, regional role)
3. Appear to be high-priority targets of influence for China
4. Identified in one or more U.S. strategy documents as being significant for U.S. national interests

### LESSONS OF THE DATA

**No. 1.**

Global geopolitical alignments remain highly favorable to the United States: In terms of allies, partners, and countries whose interests are broadly in accord, the United States has the opportunity to remain at the hub of a predominant global network.

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**No. 2.**

A leading secondary trend is the existence, especially in Asia, of a major bloc of nations committed to remaining non-aligned and attempting to hedge without taking sides in the U.S.-China competition.

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NOTE: The existence of formal military alliance index factor is adjusted based on status of alliance.
IDEOLOGICAL AND PARADIGMATIC INFLUENCE

In global strategic competitions, nations gain advantage through their role in ideological and system-level competitions. The U.S. comparative advantage over the Soviet Union in these areas was a major factor helping to account for the outcome of the Cold War. In addition to its domestic vibrancy, the United States' ideas and example, and its role in global economic, cultural, and military networks, proved far superior. China is seeking to compete in these same areas today, and the rivalry for influence over the system and its ideas will be a major focus of the coming competition.

COMPETING FOR SYSTEMIC INFLUENCE: CATEGORIES AND RELATIVE U.S. ADVANTAGE

<table>
<thead>
<tr>
<th>KEY CATEGORIES</th>
<th>POSITION</th>
<th>EXAMPLES</th>
<th>+ U.S. ADVANTAGE</th>
<th>— U.S. DISADVANTAGE</th>
<th>NO CLEAR ADVANTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE CATALYSTS: FOUNDERAL NARRATIVES AND TOOLS</td>
<td>+</td>
<td>Prevailing legitimation narratives—favored socioeconomic ideas, norms</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>—</td>
<td>Information operations tools</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>+</td>
<td>Entertainment and media networks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>THE MAGNETS: GRAVITATIONAL FORCES</td>
<td>+</td>
<td>Military alliances and coalitions</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>/</td>
<td>Size of economy, investments, loans, economic assistance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>+</td>
<td>Reserve currency status</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>+</td>
<td>Language</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>THE HIGHWAYS AND LINKAGES: CRITICAL NETWORKS</td>
<td>/</td>
<td>Global production chains</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>+</td>
<td>Financial networks</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>/</td>
<td>Control of ports, shipping assets, routes</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>—</td>
<td>Information networks (5G)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>THE CONSTRAINTS: ARCHITECTURE OF RULES/TREATIES/CONVENTIONS</td>
<td>+</td>
<td>International trade and financial norms</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>/</td>
<td>International maritime law</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>+</td>
<td>Arms control treaties / agreements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>THE SCAFFOLDING: INTERNATIONAL INSTITUTIONS</td>
<td>+</td>
<td>Intergovernmental institutions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>+</td>
<td>Regional political and security organizations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>+</td>
<td>Corporations</td>
<td></td>
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</tbody>
</table>

IN THIS CATEGORY OF INTERNATIONAL MEASURES OF COMPETITIVENESS: THE UNITED STATES RETAINS LEADING POSITION IN THE SYSTEMIC COMPETITION

One of our most important findings is that major powers that shape the international system to their goals and values—its ideas, narratives, cultural habits, institutions, rules and norms—gain a major competitive advantage. Our research on the history of major-power competitions and current U.S., Chinese, and Russian strategies pointed to a number of major categories of systemic advantage that the United States currently retains.

SOURCE: RAND analysis of a broad mix of quantitative and qualitative metrics of different aspects of the competition, ranging from financial data to government strategy documents. See Bibliographic Note for more details.
UNFAVORABLE ATTITUDE TOWARD CHINA | SELECT COUNTRIES

REGIONAL MILITARY BUILDUP: Japan has declared an intention to get to 2% of GDP in defense spending; Australia in 2022-2023 is projected to spend over 7% more on defense.

TOUGHER STANDARDS FOR CHINESE INVESTMENT: EU-China comprehensive agreement shelved.

INVESTMENTS IN EFFORTS TO BUILD ALTERNATIVE SOURCES OF KEY SUPPLIES AND REDUCE DEPENDENCE ON CHINA: Rare earth materials, supply chain components.

POLITICAL, SOCIAL, AND CULTURAL AFFINITY INDEX: 20 FOCUS COUNTRIES

INDEX ESSENTIAL FINDINGS

• Most focus countries are full democracies; leading indicator of affinity

• Several have histories of war/conflict with China and strong historical ties with United States

• Public opinion favors United States and is growing in most cases

• U.S. popular culture, English language still dominate

EDUCATION OUTREACH: FOREIGN STUDENTS IN SELECT COUNTRIES FROM CHINA

One traditional way that countries, especially leading global powers, spread their influence, norms, and cultural values is through education—both students they host from abroad and their own young people who travel abroad to study. On both of these measures, China has exploded as a major player, especially in the enormous numbers of Chinese students studying abroad.

LESSONS OF THE DATA:

No 1.

The United States continues to lead most aspects of international ideological and systemic competition. As a source of ideas and values, a leader of institutions, and a setter of rules and norms, the United States remains far ahead of China—at least for the time being. Recent U.S. political and economic crises and polarization are doing serious damage to perceptions of U.S. reputational leadership.

No 2.

China is making the most progress in the more material and investment-related areas of systemic competition, such as information networks and ports.

No 3.

China is also increasingly seeking to gain influence within existing international institutions as well as creating parallel Chinese-led institution networks.

MILITARY ENGAGEMENT AND POSTURE

Measuring the relative global military posture of the major powers as a basis for competitive advantage

This final category of the international measures of position and influence surveys measures of global military standing. These do not relate to direct comparisons of military forces, but rather the competitive architecture of each major power’s military presence. Measures include bases, access agreements, and military engagement activities, such as exercises, educational exchanges, and training missions.

MILITARY COOPERATION: OVERSEAS MILITARY AID AND EXERCISES/MILITARY ENGAGEMENT ACTIVITY

Gaining influence and strategic advantage through security cooperation offers a potentially lasting competitive advantage. Despite notable Chinese and Russian security cooperation programs, the combined U.S. and European budget contributions continue to dwarf those of competitors. However, legacy commitments in the Middle East leave the U.S. security cooperation portfolio partly misaligned to the demands of the strategic competition with China and Russia, located in the U.S. Indo-Pacific Command and U.S. European Command areas of responsibility, respectively.

TOTAL ANNUAL SECURITY/MILITARY AID
(in billions USD)

U.S. 2018: 13.7
EUROPEAN UNION 2017: 7.7
AUSTRALIA 2019-20: 1.4
CHINA* 2018: 0.1–0.15
RUSSIA* 2018: 0.3–1.1

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Australia established the “Pacific Step Up” program to compete with China for influence specifically in the Pacific Islands and for security cooperation activity in Southeast Asia.


U.S. SECURITY AID BY U.S. COMBATANT COMMAND, 2013–2018
(in billions USD)

$4.5B – 2018
U.S. overseas security aid has been overwhelmingly directed in the CENTCOM area of responsibility.

** Excludes Afghanistan and Israel.

* Figures for Chinese and Russian military aid are estimates based on the best available open source information. The Russian figures include a category of the Russian budget (Implementation of International Agreements in the Sphere of Military-Technical Cooperation) that includes military assistance but also base construction and other security tasks. Russia also provides aid through donated equipment, and for these amounts we assessed the total set of Russian publicly available aid deliveries with a calculation of average cost for relevant equipment. Based on these and other sources, we believe that a total of $300 million–$1 billion per year in total Russian military assistance represents a reasonable order of magnitude estimate. In the Chinese case, we used best official Chinese statements of aid as well as open source reporting on specific cases of military aid relationships.
**Military Aid: Conventional Arms Transfers**

Russia is a leading arms merchant, accounting for 21 percent of global arms transfers from 2014 to 2018 (second behind the United States) and is an established provider to former Soviet countries.

**Total Russian Arms Transfers and Top 10 Recipients | 2013–2018**

<table>
<thead>
<tr>
<th>Country</th>
<th>Total # of Arms Transfers</th>
<th>2013–2018 Total in USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>16</td>
<td>1,014.6M</td>
</tr>
<tr>
<td>India</td>
<td>15</td>
<td>204.1M</td>
</tr>
<tr>
<td>Serbia</td>
<td>11</td>
<td>1,014.6M</td>
</tr>
<tr>
<td>Pakistan</td>
<td>8</td>
<td>150.0M</td>
</tr>
<tr>
<td>Norway</td>
<td>7</td>
<td>20.5M</td>
</tr>
<tr>
<td>Tunisia</td>
<td>6</td>
<td>20.5M</td>
</tr>
<tr>
<td>Thailand</td>
<td>5</td>
<td>150.0M</td>
</tr>
<tr>
<td>United States</td>
<td>4</td>
<td>20.5M</td>
</tr>
<tr>
<td>France</td>
<td>3</td>
<td>150.0M</td>
</tr>
</tbody>
</table>

**Share of Global Arms Transfers | 2014–2018**

- **U.S.**: 36%
- **China**: 5.2%
- **Russia**: 21%

**Change in Share of Global Arms Sales | 2014–2018**

- **U.S.**: +29%
- **China**: +2.7%
- **Russia**: -17%

**Military Exercises**

Comparing military exercise activity is difficult for several reasons. A wide range of activities fall under that general category, from tiny visits involving a handful of troops to massive exercises involving tens of thousands of personnel. Overall numbers do not measure the rigor of exercises; U.S. and European-led exercises are generally of greater sophistication and higher quality than Russian or Chinese activities and involve other partners of higher capability levels.

**Top 10 Bilateral Exercise Partners for Russia and China | 2013–2019**

- **Belarus**: 19
- **China**: 16
- **India**: 15
- **Serbia**: 11
- **Pakistan**: 8
- **Mongolia**: 8
- **Norway**: 7
- **Uzbekistan**: 6
- **Australia**: 5
- **France**: 5
- **United States**: 5
- **Vietnam**: 5
- **Indonesia**: 5
- **Singapore**: 5
- **Lebanon**: 5
- **Japan**: 5
- **Kazakhstan**: 5
- **Philippines**: 5
- **Tajikistan**: 5
- **Turkey**: 5
- **Tajikistan**: 5
- **Egypt**: 5
- **Belgium**: 5
- **Cuba**: 5
- **Estonia**: 5
- **India**: 5
- **Kuwait**: 5
- **Kyrgyzstan**: 5
- **Moldova**: 5
- **Oslo**: 5
- **Philippines**: 5
- **Romania**: 5
- **Russia**: 5
- **Sweden**: 5
- **United Kingdom**: 5
- **Vietnam**: 5

**Lessons of the Data:**

The basic lesson of measures of military engagement is that the United States remains far and away the world’s leading security cooperation and military engagement provider—followed closely by its European allies. Several other allied democracies, including Japan and Australia, conduct or participate in important military engagement activities as well. Russia and China tend to work primarily with either traditional security partners or else developing nations interested in help with their security sectors; both are taking opportunities as they arise to bolster security ties. But neither has a global profile of security engagement that yet remotely approaches that of either the United States or the countries of the EU.

**Sources:** Stockholm International Peace Research Institute data on Russian conventional arms; RAND analysis; DoD, Assessment on Defense Implications of China’s Expanding Global Access, December 2018.
MAPPING the BILATERAL COMPETITION

National Interests, Converging Areas of Competition, and U.S. Goals

The historical and theoretical foundation of our research offered insights about the way that strategic competitions and rivalries work in general terms. We also sought to understand the nature of the two leading specific competitions. To do so, we outlined (1) the core national interests of the United States, China, and Russia, (2) the resulting national objectives for each, and (3) areas where they clash (or opportunities for coordination).

• We began by working with RAND Russia and China subject-matter experts (SMEs) to identify key Russian and Chinese areas of national interest. In the process, we examined the ways in which each of the three states interpret their interests—the subjective and sometimes idiosyncratic ways in which they conceptualize issues like domestic security, prosperity, and regional influence.

• We then located and mapped specific areas of competition that emerged from these interests. After an initial effort to do so, we workedshopped the results with Russia and China SMEs to gain additional reliability in the assessments, and then conducted a frequency analysis to determine which kinds of competition recurred most across the various categories.

• Finally, we defined U.S. policy goals for each area of conflict.

IDENTIFYING AREAS OF THE COMPETITION

The table at right identifies the most important and most common areas of competition with China and Russia, and we draw more general lessons from this exercise in the graphic at far right. Russia’s invasion of Ukraine shows how collections of interest clashes—such as over the balance of the European security order—can suddenly escalate into much more intense crises. But it does not alter our fundamental assessment of the map of the U.S.-Russia competition.

For readers interested in the full detail of the mapping exercise, we have laid out the basic findings across the following two sets of pages. They characterize places where interests, as they are conceptualized by the three actors, conflict. At points of conflict between interests, we identify the specific issue areas in which the United States and each of these rivals are likely to compete, as well as likely U.S. objectives in each area. The method provides a way of identifying areas of conflict that are most common as well as U.S. capabilities that may be most crucial across a range of conflicting interests.

PRIORITY AREAS OF COMPETITION WITH CHINA

MOST IMPORTANT AREAS:

- Independence of U.S. media and political institutions
- Maintaining a lead in defense-related technologies
- Sustaining a positive orientation of strategic partners
- Economic influence in Asia
- Leadership in global and regional financial and technical institutions
- Leadership in international organizations

MOST COMMON AREAS:

- International norms and rules
- Economic and political influence in key countries
- Influencing the alignment of key countries
- Influence or predominance in international institutions
RESULTS OF MAPPING THE BILATERAL COMPETITION: 4 MAJOR LESSONS

This exercise offers several major lessons.

1. CONTEST FOR LEADERSHIP OF THE INTERNATIONAL SYSTEM
   The core of the competition is reflected in a contest to dominate overarching sources of power and influence in the international system—its institutions, trade and financial flows and the organizations and processes that govern them, monetary power, rules and norms, and softer issues of values, ideas, and narratives. The competition is in many ways a contest for leadership of the international system and for predominant reputation and legitimacy within that system.

2. CONTEST FOR ALIGNMENT OF MAJOR GEOPOLITICAL ACTORS
   The competition is in part a contest for the value orientation and practical interest-based alignment of major geopolitical actors. Influencing their alignment—and investing in the tools necessary to do so, such as economic assistance, security assistance, partnering and engagement activities, the diplomatic instruments of power, and information tools to shape narratives and opinions—constitutes a critical priority for the United States.

3. COMPETITION FOR EMERGING TECHNOLOGY DOMINANCE
   These competition maps reemphasize the importance, especially with regard to China, of the struggle for leadership in key emerging technology areas.

4. THE GROWING RISK OF SUDDEN, UNEXPECTED CRISSES
   Our analysis suggests that the United States has relatively few vital and irreconcilable interests in its competitions with China and Russia. Yet as Russia’s invasion of Ukraine and rising tensions with China over Taiwan make clear, the clash of even more-limited interests is posing an increasing risk of sudden crises.

PRIORITY AREAS OF COMPETITION WITH RUSSIA

MOST IMPORTANT AREAS:
- Preserving a secure nuclear balance
- Influence over European security order
- Maintaining a favorable or stable balance of cyber power
- Control over international financial system

MOST COMMON AREAS:
- International norms and rules
- Influencing the alignment of key countries
- Economic and political influence in key countries
- Regional military balance in Europe
- Economic policies and norms
- Influence or predominance in international institutions
<table>
<thead>
<tr>
<th>SECURITY OF THE HOMELAND</th>
<th>DOMESTIC STABILITY/REGIME SECURITY</th>
<th>NATIONAL PROSPERITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEVELOPMENT OF SPACE CAPABILITIES</td>
<td>CONTROL OF INFO./MEDIA SPACE IN CHINA</td>
<td>CHINESE ACCESS TO ADVANCED MILITARY-APPLICABLE TECHNOLOGIES</td>
</tr>
<tr>
<td>i. U.S. advantage in space fighting capability upheld</td>
<td>i. Opportunities for U.S. info-tech firms in Chinese market expanded</td>
<td>i. Chinese access to key military-applicable tech controlled</td>
</tr>
<tr>
<td>ii. Strategic stability in space capability strengthened</td>
<td>ii. Autonomy of U.S. media firms in China respected</td>
<td></td>
</tr>
<tr>
<td>iii. Exposure of space assets in potential conflict limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEAD IN DEFENSE-RELATED TECHNOLOGIES</td>
<td>LEAD IN KEY TECHNOLOGIES WITH BROAD APPLICABILITY</td>
<td></td>
</tr>
<tr>
<td>i. U.S. strengthens leadership in advanced defense-related technologies</td>
<td>i. U.S. global leadership in advanced tech strengthened</td>
<td></td>
</tr>
<tr>
<td>(SEE 1:E) NUCLEAR BALANCE</td>
<td>ii. Chinese theft of U.S. advanced tech controlled</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iii. Chinese efforts to compel U.S. tech transfers halted</td>
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</tr>
</tbody>
</table>

| SECURITY OF DOMESTIC POLITICAL INSTITUTIONS | B | |
|--------------------------------------------|--|
| LEADERSHIP IN GLOBAL/REGIONAL FINANCIAL AND TECH INSTITUTIONS | E | |
| ECONOMIC INFLUENCE OUTSIDE ASIA | G |
| INTERNATIONAL BEHAVIOR OF CHINESE FIRMS | F |
| CONTROL OF INFO./MEDIA SPACE IN CHINA | |
| i. Opportunities for U.S. info-tech firms in Chinese market expanded | |
| ii. Autonomy of U.S. media firms in China respected | |
| | |
| LEAD IN KEY TECHNOLOGIES WITH BROAD APPLICABILITY | |
| i. U.S. global leadership in advanced tech strengthened | |
| ii. Chinese theft of U.S. advanced tech controlled | |
| iii. Chinese efforts to compel U.S. tech transfers halted | |
| RELATIVE OPENNESS OF CHINA'S ECONOMY | |
| i. Expand access to Chinese market for U.S. companies | |
| ii. Encourage Chinese adoption of international standards | |
| NATIONAL PROSPERITY | C | |
| LEADERSHIP IN GLOBAL/REGIONAL FINANCIAL AND TECH INSTITUTIONS | |
| i. Maintain market-based access for U.S. firms | |
| ii. Limit Chinese state influence over market access | |
| (SEE 3:F) LEADERSHIP IN GLOBAL/REGIONAL FINANCIAL AND TECH INSTITUTIONS | |
| (SEE 3:F) ECONOMIC INFLUENCE IN ASIA | |
| (SEE 3:F) ECONOMIC INFLUENCE OUTSIDE ASIA | |

<table>
<thead>
<tr>
<th>MILITARY CAPABILITIES OF U.S. ALLIES</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEADERSHIP IN GLOBAL/REGIONAL FINANCIAL AND TECH INSTITUTIONS</td>
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<tr>
<td>(SEE 3:F) LEADERSHIP IN GLOBAL/REGIONAL FINANCIAL AND TECH INSTITUTIONS</td>
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<table>
<thead>
<tr>
<th>NUCLEAR BALANCE</th>
<th>3</th>
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<tbody>
<tr>
<td>LEADERSHIP IN GLOBAL/REGIONAL FINANCIAL AND TECH INSTITUTIONS</td>
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<tr>
<td>(SEE 3:F) LEADERSHIP IN GLOBAL/REGIONAL FINANCIAL AND TECH INSTITUTIONS</td>
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</tbody>
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<table>
<thead>
<tr>
<th>STRENGTH OF INTERNATIONAL NORMS AND STANDARDS—HUMAN RIGHTS, DEMOCRACY</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEADERSHIP IN GLOBAL/REGIONAL FINANCIAL AND TECH INSTITUTIONS</td>
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<tr>
<td>(SEE 3:F) LEADERSHIP IN GLOBAL/REGIONAL FINANCIAL AND TECH INSTITUTIONS</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>STRENGTH OF INTERNATIONAL NORMS AND STANDARDS—MILITARY INTERVENTION, CYBERSPACE</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEADERSHIP IN GLOBAL/REGIONAL FINANCIAL AND TECH INSTITUTIONS</td>
<td></td>
</tr>
<tr>
<td>(SEE 3:F) LEADERSHIP IN GLOBAL/REGIONAL FINANCIAL AND TECH INSTITUTIONS</td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th>INT’L STATUS OF TIBETAN + UIGHUR GROUPS</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEADERSHIP IN GLOBAL/REGIONAL FINANCIAL AND TECH INSTITUTIONS</td>
<td></td>
</tr>
<tr>
<td>(SEE 3:C) INTERNATIONAL BEHAVIOR OF CHINESE FIRMS</td>
<td></td>
</tr>
<tr>
<td>TERRITORIAL/MARITIME CLAIMS</td>
<td>INFLUENCE OVER THE PERIPHERY</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>4.</td>
<td>5.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>FREEDOM OF MOVEMENT IN SOUTH CHINA SEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. International freedom of movement through South China Sea upheld</td>
</tr>
<tr>
<td>ii. Sovereignty, territorial disputes peacefully resolved</td>
</tr>
<tr>
<td>iii. Support allied and partner capabilities to defend claims</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ORIENTATION OF POTENTIAL STRATEGIC PARTNERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Limit Chinese-Russian cooperation</td>
</tr>
<tr>
<td>ii. Encourage Indian support for U.S.-led order</td>
</tr>
<tr>
<td>iii. Encourage other Asian states’ support for U.S.-led order upheld</td>
</tr>
</tbody>
</table>

(SEE 3:F) ECONOMIC INFLUENCE IN ASIA

(SEE 3:F) LEADERSHIP IN GLOBAL/REGIONAL FINANCIAL AND TECH INSTITUTIONS

(SEE 3:F) ECONOMIC INFLUENCE OUTSIDE ASIA

LEGEND

AREA OF COMPETITION (single instance)
- i. U.S. goal linked to area of competition
- ii. U.S. goal linked to area of competition

AREA OF COMPETITION (recurring area)

<table>
<thead>
<tr>
<th>STATUS OF TAIWAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Taiwan’s status peacefully resolved</td>
</tr>
<tr>
<td>ii. Taiwan maintains credible deterrence against threat of Chinese invasion</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHINESE TERRITORIAL CLAIMS AGAINST JAPAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Senkaku status peacefully resolved</td>
</tr>
<tr>
<td>ii. Japan maintains credible deterrence against potential Chinese aggression and restrained from provoking China</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>REGIONAL RISK TOLERANCE FOR DPRK DENUCLEARIZATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Retain freedom of action in pursuing denuclearization of DPRK</td>
</tr>
<tr>
<td>ii. Retain freedom of action in deterring DPRK aggression</td>
</tr>
</tbody>
</table>

(SEE 5:F) SECURITY ARRANGEMENTS IN E. AND SE. ASIA

(SEE 3:F) SECURITY ARRANGEMENTS IN EAST AND SOUTHEAST ASIA

<table>
<thead>
<tr>
<th>CHINESE MILITARY SUPPORT FOR POTENTIAL U.S. ADVERSARIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Limit Chinese military support to Iran</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECURITY ARRANGEMENTS IN EAST AND SOUTHEAST ASIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Maintain preeminence of U.S. regional security arrangements</td>
</tr>
<tr>
<td>ii. Limit growth of alternative arrangements that marginalize U.S.</td>
</tr>
<tr>
<td>iii. Maintain U.S. predominant influence in Pacific Island states</td>
</tr>
</tbody>
</table>

(SEE 3:F) ECONOMIC INFLUENCE OUTSIDE ASIA

(SEE 3:F) LEADERSHIP IN INTERNATIONAL ORGANIZATIONS

- i. U.S. maintains leadership role in existing international organizations |
- ii. Constrain influence of Chinese alternative institutions |
- iii. Limit Chinese influence in existing international organizations |

(SEE 5:D) ORIENTATION OF POTENTIAL STRATEGIC PARTNERS

(SEE 4:F) INFLUENCE IN DETERMINING INTERNATIONAL LAWS, RULES REGARDING TERRITORIAL AND MARITIME RIGHTS

(SEE 2:F) STRENGTH OF INTERNATIONAL NORMS AND STANDARDS—HUMAN RIGHTS, DEMOCRACY

(SEE 2:F) STRENGTH OF INTERNATIONAL NORMS AND STANDARDS—MILITARY INTERVENTION, CYBERSPACE
<table>
<thead>
<tr>
<th>SECURITY OF THE HOMELAND</th>
<th>REGIME SECURITY OF PUTIN-LED STATUS QUO</th>
<th>NATIONAL PROSPERITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NUCLEAR BALANCE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>i. Reinforcing strategic stability</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii. Countering perceived nuclear</td>
<td></td>
</tr>
<tr>
<td></td>
<td>imbalance</td>
<td></td>
</tr>
<tr>
<td><strong>BALANCE OF SPACE CAPABILITIES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>U.S. advantage in space fighting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>capability upheld</td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>Strategic stability in space</td>
<td></td>
</tr>
<tr>
<td></td>
<td>capability strengthened</td>
<td></td>
</tr>
<tr>
<td>iii.</td>
<td>Exposure of space assets in</td>
<td></td>
</tr>
<tr>
<td></td>
<td>potential conflict limited</td>
<td></td>
</tr>
<tr>
<td><strong>BALANCE OF CYBER POWER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Security of critical infrastructure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>assured</td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>Security of key government and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>private networks assured</td>
<td></td>
</tr>
<tr>
<td>iii.</td>
<td>Effectiveness of U.S. offensive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>cyber capabilities maintained</td>
<td></td>
</tr>
<tr>
<td><strong>(SEE 1:A) NUCLEAR BALANCE</strong></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td><strong>GEOGRAPHICAL ORIENTATION OF FORMER SOVIET STATES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Strengthen U.S./NATO security relations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>with former Soviet states</td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>Support EU integration of regional</td>
<td></td>
</tr>
<tr>
<td></td>
<td>states</td>
<td></td>
</tr>
<tr>
<td>iii.</td>
<td>Maintain credible prospect of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>eventual EU/NATO membership</td>
<td></td>
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<tr>
<td>iv.</td>
<td>Prevent aspirant country interest in</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EU/NATO membership</td>
<td></td>
</tr>
<tr>
<td>v.</td>
<td>Support Georgia’s territorial</td>
<td></td>
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<tr>
<td></td>
<td>integrity</td>
<td></td>
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<tr>
<td>vi.</td>
<td>Support democracy in the region and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>maximize U.S. regional influence</td>
<td></td>
</tr>
<tr>
<td><strong>CONVENTIONAL MILITARY BALANCE IN EUROPE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Deter Russian aggressions against U.S.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>allies</td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>Prevent Russian escalation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>dominance</td>
<td></td>
</tr>
<tr>
<td>iii.</td>
<td>Reduce risk of inadvertent conventional</td>
<td></td>
</tr>
<tr>
<td></td>
<td>conflict</td>
<td></td>
</tr>
<tr>
<td>iv.</td>
<td>Limit militarization of Arctic that</td>
<td></td>
</tr>
<tr>
<td></td>
<td>could threaten U.S. allies</td>
<td></td>
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<tr>
<td><strong>DEVELOPMENT OF BALLISTIC MISSILE DEFENSE IN EUROPE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Implement European Phased Adaptive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Approach (EPAA)</td>
<td></td>
</tr>
<tr>
<td><strong>(SEE 1:D) GEOGRAPHICAL ORIENTATION OF FORMER SOVIET STATES</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>POTENTIAL ENERGY MARKET COMPETITION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Facilitate U.S. energy exports</td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>Prevent OPEC-Russia price collusion</td>
<td></td>
</tr>
<tr>
<td><strong>POTENTIAL FOR EXCLUSIVE TRADING ZONES THAT EXCLUDE RUSSIA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Support implementation of EU Association Agreements</td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>Further EU enlargement and create TTIP-like agreement with EU</td>
<td></td>
</tr>
<tr>
<td><strong>POTENTIAL ARMS MARKET COMPETITION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Minimize third-country purchases of major Russian weapon systems</td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>Cultivate “swing state” partners for purchases of U.S. arms</td>
<td></td>
</tr>
<tr>
<td>iii.</td>
<td>Avoid losing current major U.S. arms purchasers</td>
<td></td>
</tr>
<tr>
<td><strong>ECONOMIC ORIENTATION OF FORMER SOVIET STATES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Maintain U.S. standards of corporate governance internationally</td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>Prevent Russian SOE trade with sanctioned countries</td>
<td></td>
</tr>
<tr>
<td>iii.</td>
<td>Limit Russian SOE access to sensitive markets</td>
<td></td>
</tr>
<tr>
<td><strong>LEADERSHIP IN GLOBAL AND REGIONAL FINANCIAL AND TRADING INSTITUTIONS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Ensure continued U.S. influence over World Bank/IMF/World Trade Organization</td>
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<td>ii.</td>
<td>Minimize relevance of Eurasian institutions</td>
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<td><strong>UTILITY OF SANCTIONS AND CONTROL OVER INTERNATIONAL FINANCIAL SYSTEM</strong></td>
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<td>i.</td>
<td>Maintain centrality of dollar in global trade and finance</td>
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<td>ii.</td>
<td>Ensure compliance with U.S. sanctions</td>
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<td><strong>SOURCES OF EUROPEAN ENERGY SUPPLIES</strong></td>
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<tr>
<td>i.</td>
<td>Minimize EU reliance on Russian gas</td>
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<td>ii.</td>
<td>Minimize Gazprom’s leverage over its European customers</td>
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<td><strong>NUCLEAR BALANCE</strong></td>
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<td>2.</td>
<td>i. Maintain preeminence of U.S. regional security arrangements</td>
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<td></td>
<td>ii. Limit growth of alternative</td>
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<td></td>
<td>arrangements that marginalize the U.S.</td>
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<td><strong>STATUS OF CRIMEA</strong></td>
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<td>i.</td>
<td>Prevent states from recognizing the</td>
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<td>annexation of Crimea</td>
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<td><strong>U.S. SECURITY ROLE IN ASIA</strong></td>
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<td>i.</td>
<td>Maintain credibility of U.S.</td>
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<td>status in U.S.-led security relations</td>
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<td>ii.</td>
<td>Maintain aspirant country interest in</td>
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<td>U.S.-led security arrangements</td>
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<td><strong>STRENGTH OF INTERNATIONAL NORMS AND STANDARDS—HUMAN RIGHTS, DEMOCRACY</strong></td>
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<td>i.</td>
<td>International human rights norms</td>
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<td>strengthened</td>
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<td>ii.</td>
<td>Promote democratic governance and</td>
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<td>reforms</td>
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<td><strong>STRENGTH OF NORMS GOVERNING GLOBAL COMMONS, INTERVENTIONS</strong></td>
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<td>i.</td>
<td>Norms regarding global commons (e.g.,</td>
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<td>cyber, space, maritime) domains</td>
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<td>favor U.S. interests</td>
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<tr>
<td><strong>STRENGTH OF DEMOCRATIC NORMS, INCLUDING FREEDOM OF EXPRESSION, RELIGION, AND PRESS</strong></td>
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<tr>
<td>i.</td>
<td>Prevent further erosion of democratic norms in Russia</td>
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<td>ii.</td>
<td>Resist disinformation and media</td>
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<td>manipulation in U.S. and allies</td>
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<td><strong>STRENGTH OF LIBERAL ECONOMIC NORMS</strong></td>
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<td>i.</td>
<td>Maintain rules-based global trading</td>
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<td>system</td>
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<td>ii.</td>
<td>Maintain U.S. standards of corporate</td>
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<td>governance internationally</td>
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<td><strong>INFLUENCE OVER THE PERIPHERY</strong></td>
<td><strong>SHAPING INTERNATIONAL ORDER</strong></td>
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<td><strong>4.</strong></td>
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**(SEE 1:D)** GEOPOLITICAL ORIENTATION OF FORMER SOVIET STATES

**(SEE 3:D)** ECONOMIC ORIENTATION OF FORMER SOVIET STATES

**COOPERATION BETWEEN U.S. AND ITS ASIAN ALLIES**

1. Maintain preeminence of U.S. regional security arrangements

**INFLUENCE OVER EUROPEAN SECURITY ORDER**

1. Ensure continued U.S. leadership in European security
2. Minimize Russian influence on European security

**INFLUENCE OVER THE ASIA-PACIFIC REGIONAL ORDER**

1. Minimize anti-U.S. Russia-China collaboration
2. Maintain preeminence of U.S. regional security arrangements
3. Limit growth of alternative arrangements that marginalize U.S.

**LEADERSHIP IN INTERNATIONAL ORGANIZATIONS**

1. Ensure continued U.S. ability to set the agenda of international organizations
2. Keep third-country support for U.S. leadership

**WILLINGNESS OF U.S. TO ENGAGE IN JOINT DECISIONMAKING ON GLOBAL ISSUES**

1. Avoid constraints that could prevent U.S. freedom of action on vital issues

**(SEE 5:E)** INFLUENCE OVER EUROPEAN SECURITY ORDER

**(SEE 5:E)** INFLUENCE OVER THE ASIA-PACIFIC REGIONAL ORDER

**INFLUENCE OVER MIDDLE EAST REGIONAL ORDER**

1. Maintain preeminence of U.S. security arrangements
2. Minimize Russian regional influence

**UTILITY OF SANCTIONS AND CONTROL OVER INTERNATIONAL FINANCIAL SYSTEM**

1. Maintain centrality of dollar in global trade and finance
2. Ensure compliance with U.S. sanctions

**INTERNATIONAL BEHAVIOR OF SOES**

1. Limit Russian SOE access to sensitive markets
2. Prevent Russian SOE trade with sanctioned countries
3. Ensure that Russian SOEs operate internationally according to established market standards

**(SEE 1:A)**NUCLEAR BALANCE

**(SEE 1:D)** GEOPOLITICAL ORIENTATION OF FORMER SOVIET STATES

**(SEE 3:D)** ECONOMIC ORIENTATION OF FORMER SOVIET STATES

**NOTES:** OPEC = Organization of the Petroleum Exporting Countries, TTIP = Transatlantic Trade and Investment Partnership.
CONCLUSION

SEVERAL MAJOR LESSONS AND THEMES EMERGED FROM OUR ANALYSIS:

1. First, the baseline for success in strategic competition is the same as it has always been for great powers—foundational national dynamism, economic strength and a competitive position in leading industries and frontier technologies. Those qualities are the basis for all other competitive priorities. Dealing with leading domestic challenges, from corrupted information environments to societal polarization to rising inequality, is a precondition for the long-term success of U.S. global leadership and competitive advantage.

2. Second, the competition is, in many ways, over the essential character of the international system—its institutions, rules, norms, narratives, and values—and the United States must prioritize competitive capabilities in these areas. Dominance in the prevailing paradigm has offered tremendous competitive advantages to the United States, creating a larger context in which broadly accepted norms and values push world politics in directions favorable to U.S.

3. Third, the trajectory of the U.S.-China balance of power is not a “power transition” as classically defined. China is rising to become a leading actor in world politics, alongside but not surpassing the United States. Over time, India, the European Union, and a more forceful Japan will also be among the world’s leading powers. Meanwhile many nations in Asia are determined to push back against Chinese coercion. The prospect of outright regional, let alone global, Chinese primacy is slim.

4. Fourth, multilateralism can be a tremendous U.S. competitive advantage and a force multiplier, especially when dealing with China. Ensuring positive, sustainable, and mutually beneficial relationships between the United States and its existing and key potential future allies will therefore remain an essential element of success in the broader competition.

5. Fifth, in operational military terms the greatest risks in the competition are that a competitor will develop niche technologies in support of a revolutionary operational concept that threatens existing U.S. ways of waging war, or that critical dependencies will hamstring U.S. efforts in any extended conflict. The United States must prioritize both efforts to mitigate such concepts and new concepts of its own to sidestep rivals’ intent.

6. Sixth, information security is increasingly an equally essential basis for competitive success. China and Russia have each identified the information environment as a leading area of competition. Vulnerability in this competition will be social as much as it is military.

7. Seventh and finally, the major areas of competition demand an increasingly collaborative effort across the U.S. government, including steps to enhance non-military tools of statecraft.
PRIORITY INVESTMENTS AND POLICIES FOR COMPETITIVE SUCCESS

Our general conclusions highlight two broad sets of priorities for U.S. emphasis and investment in a strategic competition. First, reflected in the list below, are the broad national and general international investments suggested by our work:

### NATIONAL AND INTERNATIONAL INVESTMENTS

- Sustain effective productive capacity of the nation
- Maintain financial strength and stability
- Maintain lead or share of lead in emerging industries and technologies
- Protect information environment of homeland, allies, and partners
- Lead strong formal alliances
- Enjoy predominant position in international economic order
- Assemble and maintain predominant friendly alignment of leading powers in world politics (beyond formal allies)
- Develop tools, techniques to engage in ongoing geopolitical and geo-economic competition below the threshold of war
- Preserve leading influence in global institutions and rules
- Generate dominant global value system, narrative(s)

The analysis has also pointed to priorities for defense policy and investment. These broadly flow from the central insights that, while major warfighting preparedness remains essential, major U.S. competitors do not largely seek to achieve their objectives through these means. Moreover, history does not suggest many examples of rivalries that have been decided by imbalances in a single military capability or technology.

### DEFENSE PRIORITIES

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>EXAMPLES</th>
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<tbody>
<tr>
<td>Avoid significant lag in military applications of frontier technologies</td>
<td>Investments in areas such as AI, quantum computing, directed energy, hypersonics, biotechnology, and other identified areas of competitor focus</td>
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<tr>
<td>Avoid vulnerability to packages of technologies and operational concepts used to generate decisive military effect</td>
<td>Investments in intelligence, technologies, and operational concept development in areas of information/cyber and electronic warfare, autonomous and swarming systems, and space warfare</td>
</tr>
<tr>
<td>Investments in military and paramilitary capabilities to compete below the threshold of major war</td>
<td>Information competition functions; Coast Guard and other non-military maritime capabilities; force design and application for engagement activities; intelligence, surveillance, and reconnaissance systems</td>
</tr>
<tr>
<td>Investments and policies to sustain and deepen alliances</td>
<td>Senior leader engagements; military assistance; security cooperation activities, specifically exercises and funding for International Military Education and Training/professional military education; English language training programs</td>
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<tr>
<td>Concepts and joint force capabilities to achieve assigned objectives in regional contingencies/long-range power projection missions in the near and long terms</td>
<td>General Service and DoD priorities for potential regional contingencies, specifically long-range fires, additional stockpiles of precision weapons, continued force modernization, and development of new operational concepts</td>
</tr>
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</table>
CONCLUSION

ADDRESSING AREAS OF NEED IN U.S. STRATEGIES FOR COMPETITION

The basic conclusions and recommended areas of priority focus in this analysis will look familiar to U.S. Defense officials and national security analysts. The good news is that U.S. national security policy is already aware of and acting on many of them: Strengthening ties with allies, investing in infrastructure and key technologies areas, working to enhance information resilience, and efforts to address critical dependencies for the United States and its allies in areas such as rare earth materials, energy, and semiconductors. The United States has rallied European and global efforts to respond to Russian aggression in Ukraine, which has accelerated some efforts to address these issues. We would highlight the following areas as those which need further emphasis and attention—competitive efforts that are relatively under-appreciated or gaining insufficient resources.

INSTITUTIONAL REFORMS TO SECURE THE GREATEST EFFECT FROM EVERY DOLLAR SPENT. In areas such as procurement and acquisition, talent management, and Joint doctrine, the regulatory, bureaucratic, and conceptual constraints on U.S. efforts are as big a barrier to success as lack of resources. To tune the U.S. competitive engine for long-term rivalries, such reforms are essential.

WILLINGNESS TO TAKE RISK TO DEEPEN ALLIANCE EFFECTIVENESS. In areas such as arms and technology transfer and information sharing, many barriers to stronger collaboration remain. These also deter some emerging nations from working more closely with the United States in the security realm, in part because they cannot count on timely equipment deliveries. Efforts to streamline the ability to work closely with others is a critical priority in a more multilateral context.

CAPABILITIES, STRATEGIES, AND ORGANIZATIONS TO PREVAIL IN THE COMPETITION SHORT OF WAR. The United States continues to lag in developing and adequately funding strong institutions and programs for informational, economic, and diplomatic statecraft. This priority includes building competition-related capabilities in each of the military services and providing the resources, staff, and policies to sustain influence in international organizations and processes.

INNOVATIVE DEFENSE STRATEGIES AND CONCEPTS. Emerging approaches to warfare emphasize the operational effect of aligning efforts across parts of the Joint force and multiple domains of activity. Concepts for integrating military effects—concepts which remain largely theoretical today—are likely to be just as important as the type or number of any single weapon system or capability.

STRATEGIES AND POLICIES FOR WORKING EFFECTIVELY WITH HEDGING POWERS. Many countries refuse to take sides in the U.S. strategic competitions with China and Russia. Some of this hesitancy reflects states that are concerned about China or Russia but also have illiberal political systems and clash with certain norms for which the United States rightly stands. Yet U.S. strategy must develop more detailed, long-term, and flexible strategies for working with leading hedging powers to avoid an unfavorable shift in geopolitical alignments.

As these examples suggest, the requirements for effective long-term competition are as much about institutional and policy reform and effective strategy as they are about bigger budgets. The United States has the inherent systemic capacity to compete effectively and has begun to make investments in needed areas of competitive advantage. The remaining steps are especially challenging insofar as they demand that the United States confront entrenched institutional habits, take calculated risks, and accept limits to some of its goals.
The findings in this report are derived from research into hundreds of historical and theoretical treatments of competition as well as extensive datasets on current and historical issues and the recent literature on Russian and Chinese approaches to competition. The report’s findings reflect the subject matter expertise and professional judgment of the RAND project team in integrating this information; this note specifies sources that support individual findings.

Our analysis was informed by the literature surveys and other research completed for a previous RAND study: Michael J. Mazarr, Jonathan Blake, Abigail Casey, Tim McDonald, Stephanie Pezard, and Michael Spiras, Understanding the Emerging Era of International Competition: Theoretical and Historical Perspectives, Santa Monica, Calif.: RAND Corporation, RR-2726-AF, 2018, which is available online at www.rand.org/t/RR2726.

We also drew on in-depth recent RAND case studies of strategic rivalries conducted for a forthcoming RAND study on the stability of strategic balances (Michael J. Mazarr, Samuel Charap, Abigail Casey, Irina A. Chindea, Christian Currinden, Alyssa Demus, Bryan Frederick, Arthur Chan, John P. Godges, Eugeniu Han, et al., Stabilizing Great-Power Rivalries, Santa Monica, Calif.: RAND Corporation, RR-A456-1, 2021, available online at www.rand.org/t/RRA456-1). Specifically, we reviewed and conducted new research on the following rivalries as examples of competition (with selected references used for each):

- Great Britain–Germany
- Great Britain–France
- France–Germany
- China–Japan
- United States–Soviet Union
- United States–Great Britain

Additional and renewed research for this study surveyed the literature on international rivalry, great-power competition, power transition, and competition. Leading sources included the following:


Lacey, James, ed., Great Strategic Rivalries: From the Classical World to the Cold War, New York: Oxford University Press, 2016.


Page 7: WHAT THE COMPETITION IS ABOUT

Our assessment of the competitors’ interests and objectives in the present competition was derived from extensive RAND work on this issue in the past several years, including the following:

Charap, Samuel, Alyssa Demus, and Jeremy Shapiro, eds., Getting Out from “In-Between”: Perspectives on the Regional Order in Post-Soviet Europe and Eurasia, Santa Monica, Calif.: RAND Corporation, CF-382-CC/SFDF, 2018. As of June 28, 2021:
https://www.rand.org/pubs/conf_proceedings/CF382.html

Charap, Samuel, Jeremy Shapiro, and Alyssa Demus, Rethinking the Regional Order for Post-Soviet Europe and Eurasia, Santa Monica, Calif.: RAND Corporation, PE-297-CC/SFDF, 2018. As of June 28, 2021:


Chivvis, Christopher S., Andrew Radin, Dara Massicot, and Clint Reach, Strengthening Strategic Stability with Russia, Santa Monica, Calif.: RAND Corporation, PE-234-OSD, 2017. As of June 28, 2021:

Dobbins, James, David C. Gompert, David A. Shlapak, and Andrew Scobell, What’s the Potential for Conflict with China, and How Can It Be Avoided? Santa Monica, Calif.: RAND Corporation, RB-9657-A, 2012. As of June 28, 2021:
https://www.rand.org/pubs/research_briefs/RR9657.html


Dobbins, James, Howard J. Shatz, and Ali Wyne, Russia Is a Rogue, Not a Peer; China Is a Peer, Not a Rogue: Different Challenges, Different Responses, Santa Monica, Calif.: RAND Corporation, PE-310-A, 2019. As of June 28, 2021:

Frederick, Bryan, Matthew Povlock, Stephen Watts, Miranda Priebe, and Edward Geist, Assessing Russian Reactions to U.S. and NATO Posture Enhancements, Santa Monica, Calif.: RAND Corporation, RR-1879-AF, 2017. As of June 28, 2021:
https://www.rand.org/pubs/research_reports/RR1879.html

Gompert, David C., and Hans Binnendijk, The Power to Coerce: Countering Adversaries Without Going to War, Santa Monica, Calif.: RAND Corporation, RR-1000-A, 2016. As of June 28, 2021:
https://www.rand.org/pubs/research_reports/RR1000.html

Gompert, David C., Hans Binnendijk, and Bonny Lin, Blinders, Blunders, and Wars: What America and China Can Learn, Santa Monica, Calif.: RAND Corporation, RR-768-RC, 2014. As of June 28, 2021:
https://www.rand.org/pubs/research_reports/RR768.html


Pages 10–13: UNDERSTANDING THE CONTEXT FOR COMPETITION

In addition to other work cited in this note, our conclusions were shaped by numerous RAND studies specifically outlining trends in the national security context, including the following:


We also reviewed several external trend analyses. For the calculation of projected GDP of guiding coalition members on page 13, we relied on various sources.


Any such projections necessarily rely on many assumptions. Different projections use different calculations of GDP, not only between market exchange and purchasing power parity measures but also in terms of current versus constant dollars and other measurement choices that can dramatically affect total numbers over the long term. This figure is meant only to suggest large-scale economic power relations among China, Russia, and the guiding coalition, not to represent a precise economic analysis or forecast. In this projection, we represent China’s 2035 total as a range, for example, because of significant gaps in assumptions made by a number of existing projections (including the official targets of the Chinese government’s economic plan) and because of the poor quality of much data on the Chinese economy.
Pages 14–15: **Measures of National Power and Competitiveness**

To identify these measures we reviewed an extensive literature on national power and the ways of assessing it, including the following:


Lowy Institute, Asia Power Index, dataset, 2019. As of June 28, 2021: https://power.lowyinstitute.org


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Page 16: **Overall Productive Capacity**

Sources for these data are given in the relevant figures and include the following:


World Bank, World Development Indicators, dataset.
Page 17: **NOT A SIMPLISTIC STORY OF POWER TRANSITION**

Background sources on power transition include the following:


**Data for the graphics comes from sources specified in the figures, including the following:**


International Monetary Fund, *World Economic Outlook*, dataset, October 2018.


World Bank, *World Development Indicators*, dataset.

Page 19: **CHINA’S TECHNOLOGY STANDING**

Some of the direct sources for the numbers cited in the graphs are listed on that page. More general recent treatments of the strengths and weaknesses of China’s technology advances include the following:


**Page 21: RUSSIA AND CHINA SOCIAL AND ECONOMIC CHALLENGES**


**Page 22: NATIONAL INSTITUTIONS**

Sources for the data on national institutional quality are cited in the graphics on the page and rely largely on several World Bank indexes of governance quality. Broader sources that we relied upon in our assessment of the role of institutions in competition include the following:


**Pages 24–25: SOURCES OF MILITARY ADVANTAGE**

Sources that contributed to our thinking on these emerging components of military competition include the following:


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**Page 28:** ECONOMIC POSTURE AND ENGAGEMENT


United Nations, Comtrade Database.

Page 29: CHINA'S ECONOMIC STATECRAFT AND INFLUENCE

The basic data here comes from World Bank, World Development Indicators. Other sources consulted to inform our findings include the following:


Pages 30–31: ALIGNMENT OF KEY PARTNERS

Our analysis of this issue was informed by a slate of recent RAND studies on the perspectives and approaches to competition of key states. This work has involved extensive secondary work, as well as in-person and virtual field work interviewing officials, scholars, and experts in key countries. Some of this work remains ongoing, but several published examples include the following:


Pages 32–33: **IDEOLOGICAL AND PARADIGMATIC INFLUENCE**

These findings rely on extensive research conducted for a component of this project dealing with the U.S.-China competition for influence. It involved collecting data in the categories described on these pages (and others), and review of a range of sources on the character of influence. These included the following:


MILITARY ENGAGEMENT AND POSTURE

This analysis relies in part on dozens of RAND studies that have examined U.S., Russian, and Chinese military investments, capabilities, and posture. Some of them are cited in the “Sources of Military Advantage” section. Research sources that spoke directly to the status of competition in global military engagement and security cooperation included data available on the official websites of the governments of Australia, France, Germany, Italy, Japan, Singapore, and the United Kingdom, as well as the European Union, the North Atlantic Treaty Organization, and the following:


Security Assistance Monitor, Arms Sales Dashboard, dataset.

_____., Security Assistance Database, Military Aid Dashboard, dataset.


The U.S. strategic focus has increasingly turned to major-power competition, but there is currently no framework for understanding U.S. competition with near-peer rivals China and Russia. U.S. competitive success requires a broad-based understanding of the economic, geopolitical, and military dimensions of these rivalries coupled with strategic policy action and investment.

The research reported here was completed in June 2021 and underwent security review with the sponsor and the Defense Office of Prepublication and Security Review before public release.

This research was sponsored by the Office of the Deputy Assistant Secretary of Defense for Force Development and Strategy in the Office of the Secretary of Defense. It was conducted within the International Security and Defense Policy Center of the RAND National Security Research Division (NSRD), which operates the National Defense Research Institute (NDRI), a federally funded research and development center sponsored by the Office of the Secretary of Defense, the Joint Staff, the Unified Combatant Commands, the Navy, the Marine Corps, the defense agencies, and the defense intelligence enterprise.

For more information on the RAND International Security and Defense Policy Center, see www.rand.org/nsrd/isdp or contact the director (contact information is provided on the webpage).