

## Measuring National Power: Is Vladimir Putin's Russia in Decline?

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### Executive Summary

As Vladimir Putin embarks on another six-year term as Russia's president, Western pundits and policymakers are left wondering whether his reelection means that Moscow's muscular policies toward America and other Western powers will continue or even escalate. But what is the reality of Russian power in the Putin era? Is Russia a rising, declining or stagnating power? How does its standing in the global order compare to other nations, including the United States, China and European powers? This report by Simon Saradzhyan, director of the Russia Matters Project at Harvard's Belfer Center for Science and International Affairs, and Nabi Abdullaev, a lecturer at the Moscow School of Social and Economic Sciences, seeks to systematically answer these questions, which have been the subject of considerable debate in recent years. While some scholars have expressed the view that 21st-century Russia is in decline, others have dubbed it the No. 2 nation in the post-Cold War world.

Gauging Russia's performance is important because the country continues to have a profound effect on America's vital national interests and on the global order in the 21st century. To begin with, Moscow's possible positions on issues central to U.S. national interests powerfully impact America's security. The size and reach of Russia's nuclear arsenal make it the only country that

can destroy the U.S. in half an hour. Without Russia's cooperation, efforts to contain the proliferation of nuclear weapons—whether among countries or non-state actors—are bound to fail. Also, whether Russia enters a full-blown military-political alliance with China will have far reaching consequences for the future of the global order. And the list goes on: Moscow's cooperation remains essential in preventing Afghanistan from relapsing into a failed state, where the likes of al-Qaeda and ISIS could thrive again, plotting to attack the Western world. Russia has veto power on the U.N. Security Council, which allows Moscow to block any decision the U.S. may want adopted there. Russia's potential as a spoiler, therefore, is difficult to exaggerate. Russia is also the largest country in the world, and transit through its territory—particularly as Arctic ice melts—can be important not only for the global economy, but also for American security, as the U.S.-led campaign in Afghanistan once showed. Finally, Russia has been the largest supplier to the world's energy market for much of the past decade, and while the U.S. is increasingly self-sufficient in gas and oil, its European allies are not. Russia's ability to impact all these issues of vital importance to the U.S. and its allies is to a large extent determined by its national capabilities—specifically, whether they are growing or shrinking. As important, America's and other great powers' policies toward Russia, and vice versa, are largely determined by how these countries' leaders view Russia—as a rising power or a declining one.

To determine whether Russia is rising, declining or stagnating, the authors of this report have measured changes in Russia's national power by analyzing a broad range of data, including economic output, energy consumption, population, life expectancy, military expenditures, government effectiveness, patents and even tourist visits. For a comparative perspective, Russia's national power has been measured, first, in terms of the world as a whole and then alongside several categories of “comparands,” including key competitors and peers: five of the West's leading powers, all four fellow members of the BRICS group, all former Soviet republics except the Baltic states and selected countries whose economies depend heavily on the production of hydrocarbons.<sup>1</sup> To quantify their results the authors used variations of three existing models for measuring national power developed by Western and Asian scholars and devised a fourth experimental model. The research period, 1999-2015 or 2016 (depending on the most recent available data), was chosen because it begins after Russia's economic free fall of the 1990s and corresponds with Putin's time in office.

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1 For comparisons in this category the authors have selected six countries that rely on oil and gas for 40 percent or more of their budget revenues.

## Key Findings

- Contrary to claims of Russia's imminent demise, two of the three models<sup>2</sup> used to measure the country's power vis-à-vis the world as a whole indicate that it has grown in the 21st century, while the third showed a decline of less than 1 percent. All four methods used to compare Russia to the above-listed comparands show that it has gained on its five Western competitors while remaining behind the U.S. in terms of absolute national power. (One of the methods also showed Russia's national power to be less than Germany's in absolute terms.) Russia's gains, however, were not continuous over the research period and appear to be petering out as its economy struggles to regain the robust rates of growth it enjoyed in the first decade of the century and as Russia's demographic improvements continue to lag behind the growth rate of the global population.
- When comparing Russia to its peers—the post-Soviet republics, hydrocarbon-dependent countries and fellow members of the BRICS group—three of the four methods show the country to be neither the top nor bottom performer in terms of the growth of its national power. Significantly, according to most of these measures, Russia has lagged behind China and India both in the rate of growth of national power and in absolute power. The authors posit that Russia's decline relative to China and its rise relative to its Western competitors could have been among the factors that made Moscow more accommodating toward Beijing, on one hand, and more assertive in its competition with the West in the post-Soviet neighborhood, on the other, emboldening the Russian leadership to stage military interventions in Georgia and Ukraine. If that proposition holds true, then monitoring changes in national power can help to predict nations' behavior toward their competitors and peers.
- The authors' research reaffirms the proposition that the post-Cold War period of global unipolarity is coming to an end and that the world is returning to an era of competition among great powers. Two of the four methods used show that China has overtaken the U.S. in terms of national power, while the other two show that the U.S. has so far retained the No. 1 ranking but that the gap between the two is narrowing. China, however, remains far from becoming the sole dominant global power in the mold of America in the early 21st century or the British Empire in the late 19th. It remains to be seen whether the emerging multi-polar global order will be a new edition of the Concert of Nations among great powers—in which, as Moscow hopes, Russia will play an indispensable role—or will

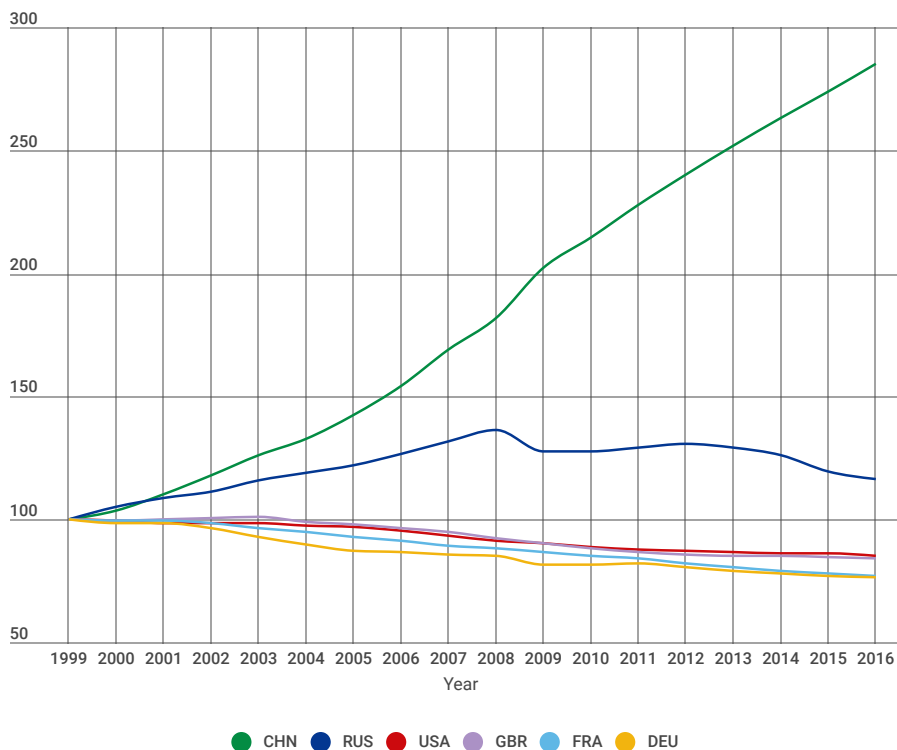
2 One is a single-variable method and the other two are modifications of multi-variable methods. Only these three methods were used to measure Russian power vis-à-vis the world as a whole, while all four methods were used to compare Russia to individual countries.

be based on relentless competition among these powers. One thing is clear: Russia's place in the emerging world order will depend on whether or not it continues to rise.

## Results by Research Method

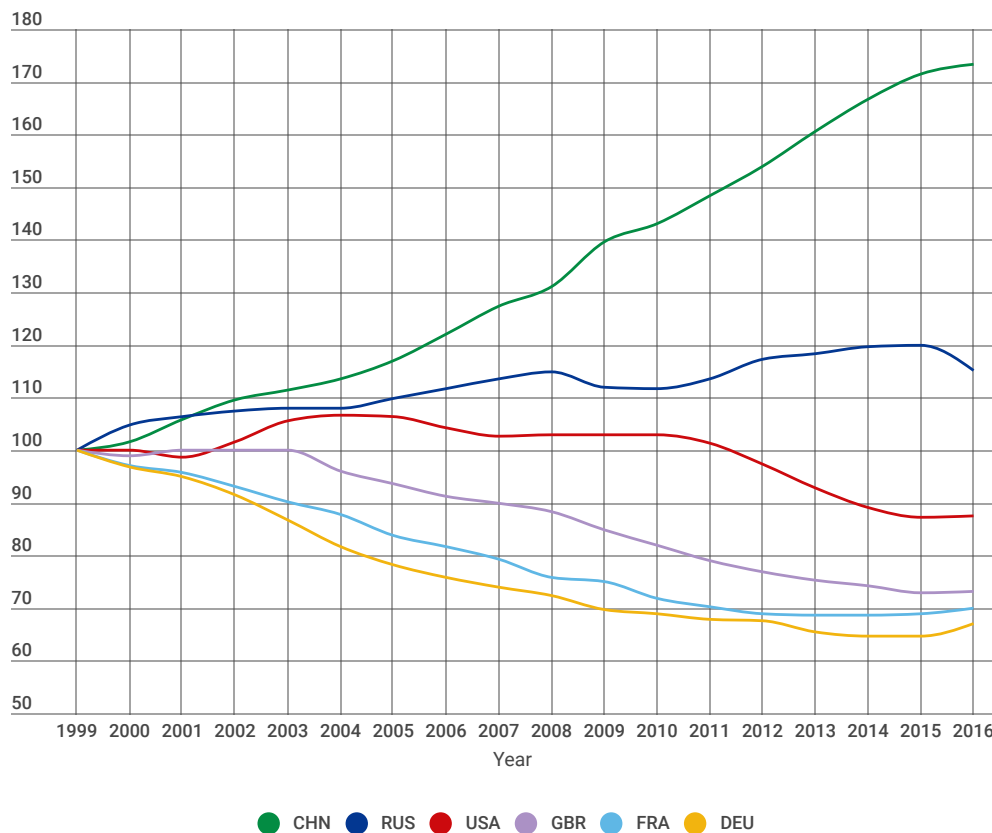
1. The only single-variable approach used by the authors was the Gross Domestic Product Index (GDPI), which measures the ratio of Russia's GDP to that of the world as a whole and to the GDPs of individual countries (in terms of purchasing power parity, or PPP, in constant 2011 international dollars). This method of measuring national power shows Russia to have gained on the world as a whole in 1999-2016 and on all five of its Western competitors, whose share of global GDP declined by double digits while Russia's rose by 3 percent. Russia's performance vis-à-vis its BRICS peers landed it right in the middle of the group in terms of rate of growth. Russia's share of global GDP was the largest among the hydrocarbon-dependent countries in 2016, but four of the six outperformed Russia in terms of rate of growth, as did all the former Soviet republics except Ukraine. In absolute terms, Russia's GDP on the index was behind China's, the United States', India's and Germany's, but ahead of the rest of the comparands.

### Change in value of GDPI, Year 1999 = 100



- The second model for measuring national power was devised by Chin-Lung Chang of Taiwan's Fo-guang University. It takes into account a nation's "critical mass" (its population and land mass), GDP and military strength. According to this calculation Russia's national power grew by 10.31 percent in 1999-2016, a faster rate than all of its Western competitors. A comparison within the BRICS group reveals that Russia lagged behind China and India in terms of rate of growth of power but surpassed South Africa and Brazil. Russia also lagged behind most of its post-Soviet and hydrocarbon peers in terms of rate of growth of power, but its absolute power was greater than that of its post-Soviet and hydrocarbon-producing peers.

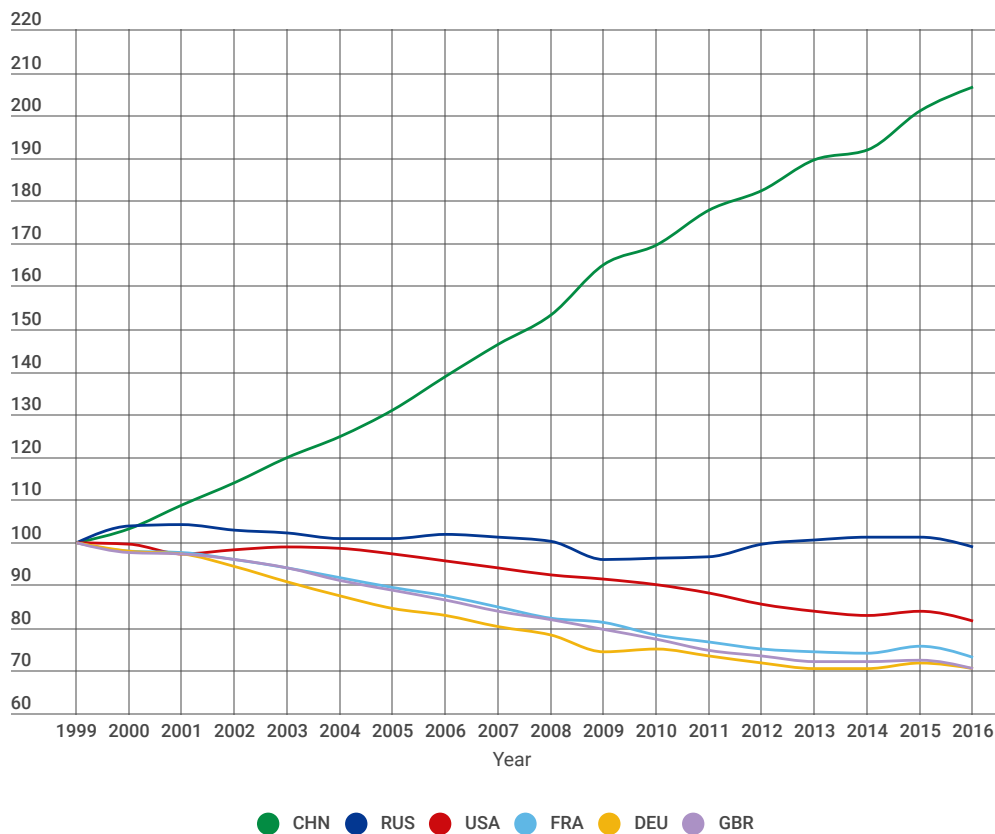
## Change in Value of National Power as Measured by Chin-Lung's Formula, Year 1999 = 100



- The variables used in the third model, the Revised Geometric Index of Traditional National Capabilities (RGITNC), include countrywide population, urban population, energy consumption, military expenditures and value-added manufacturing. Under this method,

Russia's national power decreased by 0.98 percent from 1999 to 2016. In comparison, the power of Italy, Germany, Britain, France and the U.S. decreased, respectively, by 34.17 percent, 29.6 percent, 29.6 percent, 26.85 percent and 18.47 percent. The same period saw the power of China and India, Russia's BRICS peers, grow by 106.53 percent and 29.84 percent, respectively, while the power of Brazil and South Africa declined by 14.42 percent and 4.39 percent, respectively. Most of Russia's post-Soviet peers also saw their power increase in the research period, as did Russia's hydrocarbon peers, with the exception of Venezuela, which declined by 38.68 percent. In terms of absolute power, Russia ranked the fourth-most powerful nation, behind the U.S., China and India.

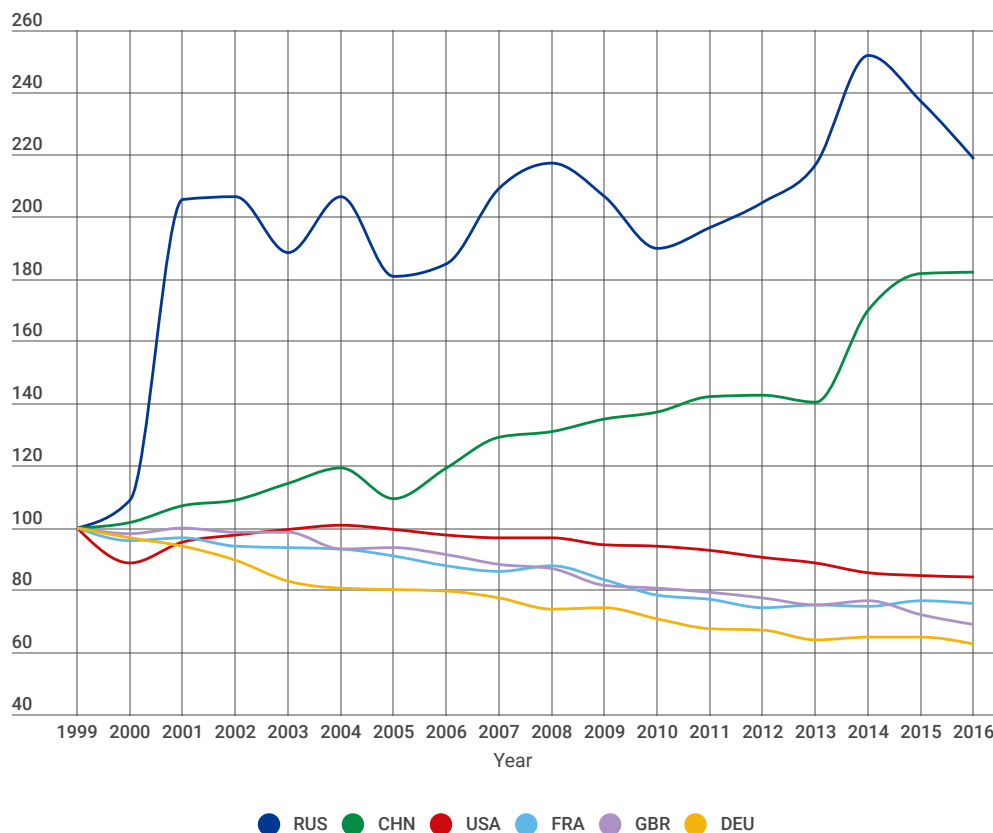
## Change in RGITNC Value, Year 1999 = 100



- The fourth model for measuring national power is adapted from American intelligence analyst Ray S. Cline's index of the perceived power of nations. This Experimental Index of National Power (EINP), as the authors have termed it, measures national resources, including territory, population, economic power, military power and technological prowess, along with a nation's "capability to employ resources," i.e., government effectiveness. Using

this model, Russia's national power grew by 118 percent between 1999 and 2016. In comparison, U.S. national power declined by 16 percent, while that of Italy, Germany, Great Britain and France—all of which cut their military budgets during this period—declined by 57 percent, 38 percent, 31 percent and 25 percent, respectively. Russia's national power also expanded faster than any of the few BRICS, ex-Soviet and energy-producing peers for which data is available, including China and India. The dramatic growth in Russia's national power was largely fueled by an increase in government effectiveness as defined by the World Bank (101 percent). The authors also attempted to account for soft power, defined here as a nation's attractiveness in the eyes of other nations. The method they came up with, dubbed the Experimental Index of National Power with Soft Power (EINPSP), was used to measure the national power of the U.S., China and Russia for 2007-2016—the only years for which comparable data was available. While Russia trailed the U.S. and China in the absolute value of its national power, its power grew by 15 percent; America's, by contrast, declined by 13 percent, while China's grew 41 percent. However, the results of the EINPSP have been excluded from this report's final tally because it lacks a sufficient number of countries to make any meaningful comparisons.

## Change in EINP Value, Year 1999 = 100



## Conclusion

While yielding differing results, nearly all the models used by the authors refute the notion that Russia's national power has been in decline in the 21st century. Russia's resources—as evidenced by the absolute value of its national power, no matter what method of measurement is applied—ensure that Moscow will remain a global player that affects the Western world and the global order in profound ways for years to come. Paradoxically, the impact on America's national interests promises to be profound even under drastically different scenarios for Russia's evolution: The U.S. and its allies would obviously find it difficult to benefit if Russia's rise transforms it into the kind of superpower that the U.S.S.R. once was; a failing Russia, however, would not be good news for the U.S. either, given that America's adversaries might then be able to tap its resources and capabilities, including the world's largest nuclear arsenal, with or without the Kremlin's consent. To be sure, Moscow still faces formidable challenges in maintaining or increasing its national power in the 21st century. Whichever way those trends shift, the rest of the world should be tracking them closely. Both competitors and partners of Russia would do well to shape their policies toward this country based on a realistic assessment of its national power rather than on some far-flung forecasts of its “inevitable collapse.”

## I. Literature Review, Methodology and Research Design

A review of international scholars' writings on post-Soviet Russia demonstrates that the view that the country is in decline is not uncommon in the West. In 2002, for example, Thomas Graham of Yale University referred to “the precipitous decline of Russian power”<sup>3</sup>; Olga Oliker and Tanya Charlick-Paley of RAND expressed a similar view.<sup>4</sup> Such assessments were justified at the time, in the authors' view. After all, as shown in the charts below, Russia was then still smarting economically, demographically and militarily from the disintegration of the Soviet reincarnation of the Russian empire.

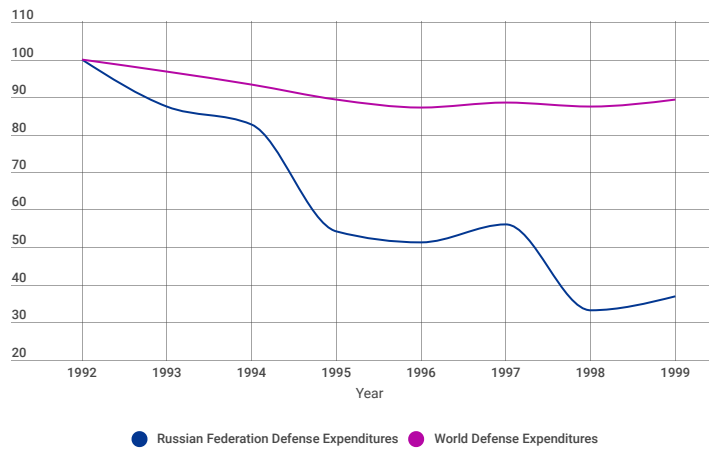
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3 Graham, Thomas E. *Russia's Decline and Uncertain Recovery*. Carnegie Endowment for International Peace, 2002.

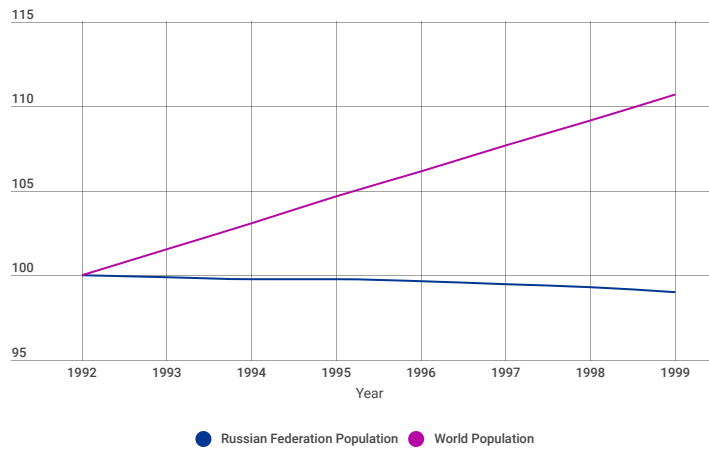
4 Oliker, Olga and Tanya Charlick-Paley. *Assessing Russia's Decline: Trends and Implications for the United States and the U.S. Air Force*. Rand Corporation, 2002.



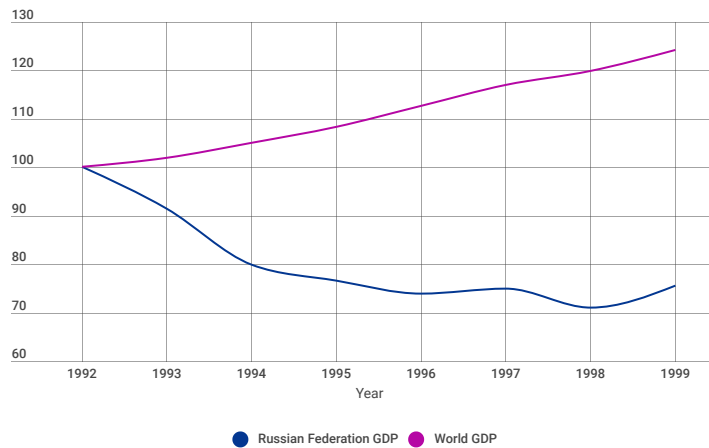
## Change in Defense Expenditures Value, Year 1992 = 100



## Change in Population Value, Year 1992 = 100

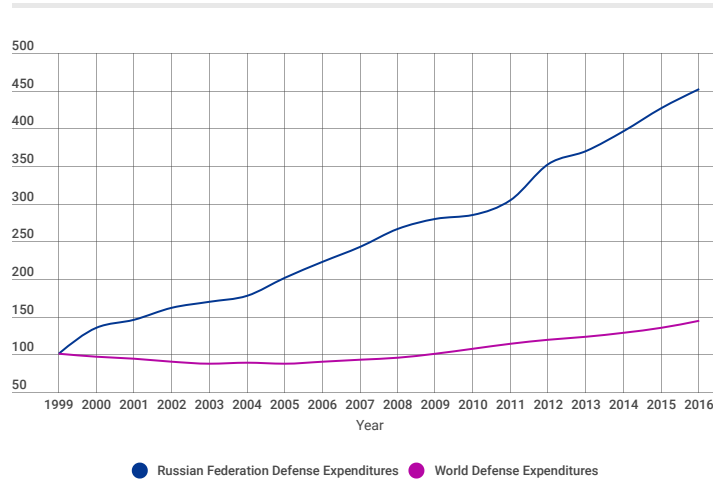


## Change in GDP Value, Year 1992 = 100

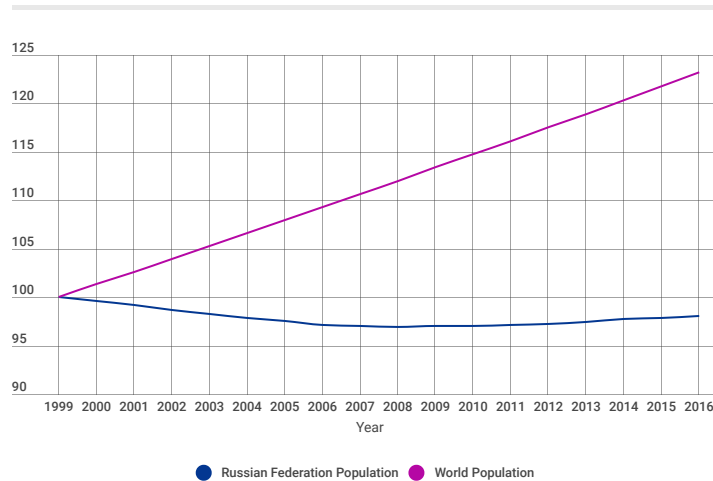


It was not until after the devaluation of the ruble and a rebounding of oil prices in the late 1990s that the Russian economy started to grow consistently, fueling remarkable improvements in the economic, demographic and military components of Russia’s national power (see charts below). Reflecting upon these improvements, Yu-Shan Wu of the Institute of Political Science at Taiwan’s Academia Sinica has asserted that “Russia’s rise under Putin is unquestionable.”<sup>5</sup> The director of the state-owned Russian Public Opinion Research Center (VTsIOM), political scientist Valery Fyodorov, made a comparable claim in 2008, saying that Putin’s Russia was rising, while the United States and Europe suffered from economic recession and geopolitical crises.<sup>6</sup> Neither Fyodorov nor Yu-Shan backed their claims with any robust measurements of national power.

### Change in Defense Expenditures Value, Year 1999 = 100

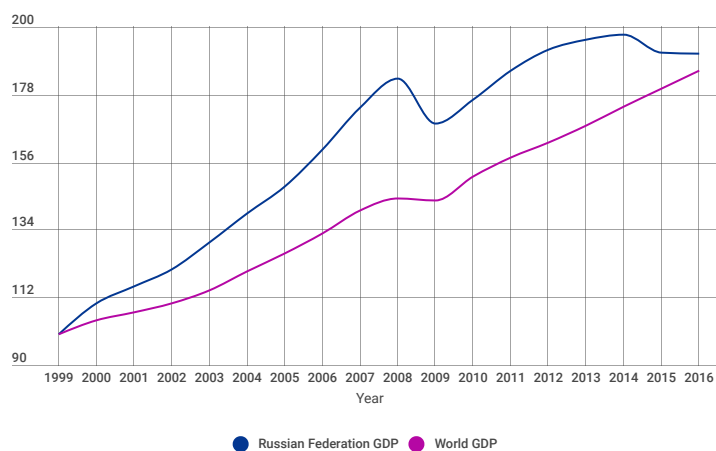


### Change in Population Value, Year 1999 = 100



5 Wu, Yu-Shan. “Russia’s Foreign Policy Surge: Causes and Implications,” *Issues and Studies*, Vol. 45, No. 1 (2009): 117-162.  
 6 “Valery Fyodorov’s Online Conference,” All-Russian Center for Public Opinion Research, Feb. 26, 2008.

## Change in GDP Value, Year 1999 = 100



In Western discourse, the view of Russia as a declining power has persisted in the 21st century, though most of its adherents, whose works have been reviewed for this report, have not revealed how they define the country’s decline, over what period of time and relative to what countries. Scholars who have recently professed the view that 21st-century Russia is declining include Stephen Kotkin of Princeton University,<sup>7</sup> Doug Bandow of the Cato Institute<sup>8</sup> and Harvard professors Joseph Nye<sup>9</sup> and Stephen Walt.<sup>10</sup> The Washington, D.C.-based Jamestown Foundation has even launched a special project entitled “Russia in Decline” to give the floor to scholars supporting this view. That project culminated in the publication of a 200-page book with the same title in May 2017. Some scholars claim that 21st-century Russia is not just declining but nearing collapse. Proclamations of Russia’s demise became so frequent at one point that they prompted Paul Starobin, a contributing editor at the *National Journal*, to write a critique called “The Eternal Collapse of Russia.”<sup>11</sup> Starobin’s 2014 commentary failed to stem the flood of doomsaying, however. Alexander Motyl of Rutgers University penned a piece for *Foreign Affairs* in 2016 on what he defined as the “coming Russian collapse.”<sup>12</sup> That collapse was already underway, according to Lilia Shevtsova, a Russian scholar affiliated with the Brookings Institution: “Russia’s agony has begun,” Shevtsova proclaimed in a March 2015 article in *The American Interest*.<sup>13</sup> Andrei Movchan of the Carnegie Moscow Center described Russia as a “sinking ship” in a December 2015 report.<sup>14</sup>

7 Kotkin, Stephen. “Russia’s Perpetual Geopolitics,” *Foreign Affairs*. April 18, 2016.

8 Bandow, Doug. “Here Is How America Can Bring Peace to Ukraine,” *The National Interest*. Nov. 13, 2017.

9 Nye, Joseph. “The Good News and the Bad,” *The National Interest*. Nov. 28, 2016.

10 Walt, Stephen. “What Will 2050 Look Like?” *Foreign Policy*. May 12, 2015; Walt, Stephen. “The Collapse of the Liberal World Order,” *Foreign Policy*. June 26, 2016.

11 Starobin, Paul. “The Eternal Collapse of Russia,” *The National Interest*. Aug. 28, 2014.

12 Motyl, Alexander. “Lights Out for the Putin Regime. The Coming Russian Collapse,” *Foreign Affairs*. Jan. 27, 2016.

13 Shevtsova, Lilia. “Has the Russian System’s Agony Begun?” *The American Interest*. March 17, 2016.

14 Movchan, Andrei and Alexander Sychev. “Lezhim na dne i ne barakhtayemsa,” Carnegie Moscow Center. Dec. 20, 2015.

More than two years after these stark diagnoses, however, Russia has yet to collapse, succumb to agony or sink, which raises the question: Is Russia really in decline? Or has it “not been in free fall” at all, remaining the No. 2 nation in the post-Cold War world, as claimed by Chin-Lung Chang of Taiwan’s Fo-guang University<sup>15</sup> based on his measurements of national power? Or is Russia rising and falling simultaneously, as claimed by Andrew Kuchins of Georgetown University, who is among the few scholars to explain exactly how one should go about measuring Russia’s performance?<sup>16</sup> Or, maybe, Russia has been rising, while its Western competitors have been declining, as proclaimed by Fyodorov of VTsIOM? In short, is Russia a declining, stagnating or rising power and compared to whom? To answer this key question, the authors of this report need to establish: (1) what constitutes national power, what elements it comprises and for what purpose it is employed<sup>17</sup>; (2) how to measure national power; (3) what other nations Russia’s national power should be compared to; and (4) what period is appropriate for these measurements.

## How to Define National Power, Its Elements and Purpose

There is no consensus among scholars of national power on what constitutes such power, its purpose or how to measure it.<sup>18</sup> Max Weber famously observed that “‘power’ (Macht) is the probability that one actor within a social relationship will be in a position to carry out his own will despite resistance, regardless of the basis on which this probability rests.”<sup>19</sup> To Hans Morgenthau power “may comprise anything that establishes and maintains the control of man over man... [and] covers all social relationships which serve that end, from physical violence to the most subtle psychological lies by which one mind controls another.”<sup>20</sup> When it comes to national power per se, Wolfgang S. Heinz and Hugo Frühling have defined it as “the integrated expression of whatever means the nation disposes effectively, during the period observed, to promote, under the direction of the state, in domestic and external ambits, the attainment and sustenance of national objectives.”<sup>21</sup> Norman Padelford and George Lincoln in their 1954 work defined national power “as the sum total of the strength and capabilities of a state harnessed and applied to the advancement of its na-

15 Chang, Chin-Lung. “A measure of national power.” In *Proceedings of the 2004 International Seminar at the National University of Malaysia, Bangi, Malaysia*. 2004: 1617.

16 Kuchins, Andrew C. “Russian Power Rising and Falling Simultaneously,” *Strategic Asia 2015–16: Foundations of National Power in the Asia-Pacific*, eds. Ashley J. Tellis, Alison Szalwinski and Michael Wills. November 2015.

17 As David Baldwin noted, “The analytical perspective of relational power prompts one to ask, ‘Power to get whom to do what?’” Baldwin, David A. “Power and International Relations” in *Handbook of International Relations*, eds. Walter Carlsnaes, Thomas Risse-Kappen, Thomas Risse and Beth A. Simmons. Sage, 2002.

18 For one instructive review and analysis of methods of measuring national power, see: Treverton, G.F. and S.G. Jones. *Measuring national power*. RAND Corporation, 2005.

19 Weber, Max. “The Fundamental Concepts of Sociology,” *Max Weber: The Theory of Social and Economic Organization*, trans. A. M. Henderson and Talcott Parsons. Free Press, 1947: 87-157.

20 Morgenthau, Hans J. *Politics Among Nations: The Struggle for Power and Peace*. Alfred A. Knopf, 1978: [4-15](#).

21 Heinz, Wolfgang S., and Hugo Frühling. *Determinants of Gross Human Rights Violations by State and State Sponsored Actors in Brazil, Uruguay, Chile and Argentina: 1960-1990* 59. Martinus Nijhoff Publishers, 1999.

tional interests and the attainment of its national objectives.”<sup>22</sup> A more recent primer on political science has defined national power as “the sum of all resources available to a nation in the pursuit of national objectives.”<sup>23</sup> While offering broad descriptions of national power and the purposes for which it may be used, none of the aforementioned definitions gives a full, specific list of the elements constituting national power. Many scholars have attempted to offer such specifications. Some, such as Eric Moore, have posited that national power can be defined as nations’ economic might and that measurement of countries’ GDP or GNP is sufficient for comparisons of national power.<sup>24</sup> In fact, according to David Baldwin’s review of studies of power, “most indices of overall national power rely primarily on GNP.”<sup>25</sup> In contrast, Russian scholar Pobisk Kuznetsov proposed measuring energy consumption to gauge a country’s standing in the world.<sup>26</sup> The authors agree that it is important to measure countries’ economic performance to track their rise and fall; after all, great powers of the past and present could not have afforded overall development or the application of such instruments and facilitators of “national rise” as technological prowess, military power and diplomacy without some degree of economic expansion, whether intensive or extensive. However, the measurement of just one parameter, be it GDP or energy consumption, is not sufficient to gauge whether countries are rising or falling relative to each other. After all, the emergence and continuation of economic growth in a country is conditional on the availability of certain resources, of which the quantity and quality of human capital are of increasing importance. Also, economic growth does not always translate into increases in national power. Rather, that growth creates opportunities for the development and application of the aforementioned instruments of national rise, which, if skillfully applied, can help a country gain on its competitors.

The need to capture the multifaceted nature of countries’ rise and fall explains why scholars of national power have gone beyond measuring their economic performance. For instance, Yan Xuetong, a professor at Tsinghua University and one of China’s authorities on national power, proposes measuring the personnel strength of national armed forces in addition to measuring GDP.<sup>27</sup> Xuetong has distinguished four main characteristics of nations’ comprehensive power (CP): military power (M) and economic power (E), which constitute nations’ hard power, as well

22 Padelford, Norman Judson, and George Arthur Lincoln. *International politics: foundations of international relations*. Macmillan, 1954.

23 Dooley, Kevin L., and Joseph N. Patten. *Why Politics Matters: An Introduction to Political Science*. Nelson Education, 2012.

24 “I define national power as each nation’s annual gross domestic product or GDP,” wrote Eric Moore in his recent book on Russian-Iranian relations. Moore, Eric D. *Russia–Iran Relations Since the End of the Cold War*. Vol. 32. Routledge, 2014.

25 Baldwin, David A. “Power and International Relations” in *Handbook of International Relations*, eds. Walter Carlsnaes, Thomas Risse-Kappen, Thomas Risse and Beth A. Simmons. Sage, 2002.

26 Kuznetsov, Pobisk, Oleg Kuznetsov and Boris Bolshakov. *Sistema priroda - obshchestvo - chelovek: ustoychivoye razvitiye*. Dubna, 2000.

27 Xuetong, Yan. “The rise of China and its power status,” *The Chinese Journal of International Politics* 1, no. 1. 2006: 5-33; “Famous Chinese political scientist Yan Xuetong on the prospects for bilateral relations: I do not understand why Russia does not insist on forming an alliance with China,” *Kommersant*, March 17, 2017.

as cultural power (C) and political power (P), which constitute nations' soft power.<sup>28</sup> Chin-Lung Chang also takes stock of a country's population, total landmass and defense expenditures in his study of national power.<sup>29</sup> Western scholars who believe that a single-variable measurement is insufficient to measure national power and suggest aggregate indices for such measurements include Norman Alcock, Alan G. Newcombe,<sup>30</sup> Joel Singer, Melvin Small,<sup>31</sup> Wilhelm Fucks,<sup>32</sup> Stephen G. Brooks, William C. Wohlforth<sup>33</sup> and Ray Cline.<sup>34</sup> Cline, whose formula the authors of this report have built upon to develop their own method of measuring national power, has defined the "perceived power of nations" as a "mix of strategic, military, economic and political strengths and weaknesses." In Cline's view, national power is "determined in part by the military forces and the military establishment of a country but even more by the size and location of the territory, the nature of frontiers, the populations, the raw-material resources, the economic structure, the technological development, the financial strength, the ethnic mix, the social cohesiveness, the stability of political processes and decision making, and finally the intangible quality usually described as national spirit."<sup>35</sup> Kenneth Waltz has suggested that measurements of national power should include the size of population and territory, resource endowment, economic capability, military strength, political stability and competence.<sup>36</sup> Hans Morgenthau has observed that determinants of national power include quality of government, political stability, national morale and public support.<sup>37</sup> More recently, Domício Proença and Eugenio Diniz have posited that national power is composed of five "co-equal, autonomous and interdependent expressions: the political, economic, military, psychosocial and, later, the scientific-technological."<sup>38</sup> Barry Posen has looked at nations' manufacturing, war potential, national income and percentage of GDP spent on defense for his comparison of power of the world's leading countries.<sup>39</sup> Stephen G. Brooks and William C. Wohl-

28 In Xuetong's view, a nation's comprehensive power (CP) is calculated as follows:  $CP = (M + E + C) \times P$ . Xuetong, Yan. *Ancient Chinese Thought, Modern Chinese Power*, eds. Daniel A. Bell and Sun Zhe. Princeton University Press, 2011.

29 Chang, Chin-Lung. "A measure of national power," *Proceedings of the 2004 International Seminar at the National University of Malaysia, Bangi, Malaysia*. 2004: 1617.

30 Alcock, Norman Z., and Alan G. Newcombe. "The Perception of National Power," *Journal of Conflict Resolution*. 1970: 335-343.

31 Singer, Joel David, and Melvin Small. *The Wages of War, 1816-1965: A Statistical Handbook*. John Wiley & Sons, 1972.

32 Fucks, Wilhelm. *Formeln zur Macht* 6601. Deutsche Verlag Anst., 1965.

33 Brooks, Stephen G., and William C. Wohlforth. "The Rise and Fall of the Great Powers in the Twenty-first Century: China's Rise and the Fate of America's Global Position," *International Security* 40, no. 3. 2015: 7-53.

34 Cline, Ray S. *The power of nations in the 1990s: a strategic assessment*. University Press of America, 1993.

35 Ibid.: 29.

36 Baldwin, David A. "Power and International Relations" in *Handbook of International Relations*, eds. Walter Carlsnaes, Thomas Risse-Kappen, Thomas Risse and Beth A. Simmons. Sage, 2002.

37 Morgenthau, Hans, "Politics Among Nations. The struggle for power and peace." *Nova York, Alfred Kopf* (1948). Cited in Baldwin, David A. *Power and International Relations* in Carlsnaes, Walter, Thomas Risse-Kappen, Thomas Risse, and Beth A. Simmons, eds. *Handbook of international relations*. Sage, 2002.

38 Proença Jr, Domício, and Eugenio Diniz. "The Brazilian View on the Conceptualization of Security: Philosophical, Ethical and Cultural Contexts and Issues," *Globalization and Environmental Challenges*. Springer Berlin Heidelberg, 2008: 311-320.

39 Posen, Barry R. "From Unipolarity to Multipolarity: Transition in Sight," *International Relations Theory and the Consequences of Unipolarity*. 2011: 317-341.

forth look at nations' military, economic and technological capacity to measure their rise and fall.<sup>40</sup> These two authors have observed that in peacetime military capability can "have spinoffs in both the economic and technology arenas" and can also help to further nations' economic interests.<sup>41</sup> In his review of literature on power in international relations David Baldwin observes that most indices of overall national power rely primarily on GNP, but are sometimes supplemented with demographic and military measures.<sup>42</sup> Robert Lieber has listed population, natural resources, economy, scientific research and technology capabilities, military power and attractiveness to immigrants among factors that form nations' power.<sup>43</sup> In his work on Russia's national power, Kuchins looks at GDP, capital flows, natural resources, human resources, high technologies, innovation, military expenditures and military personnel, among other factors.<sup>44</sup> Finally, total population, urban population, energy consumption, iron and steel production, military expenditures and military personnel have all been used to calculate the popular Correlates of War (COW) index.<sup>45</sup>

If one were to adhere to what David Baldwin has called the classical, realist balance-of-power theory, as the authors do, then one would have to agree that a country's power needs to be measured in comparison to other countries.<sup>46</sup> As Xuetong of China's Tsinghua University noted in his study of China's rise, "power status connotes relativity."<sup>47</sup> In "The Rise and Decline of Nations," Mancur Olson also argued that ascents and descents in the global hierarchy should always be measured relative to other countries.<sup>48</sup> While differing on specific elements of national power and these elements' proportional weight, those of the aforementioned scholars whose studies of national power have external validity in the authors' view agree that human, territorial, economic, military and technological resources all need to be measured. Building on those studies of power that are rooted in the realist school of thought, which posits that nations seek to maximize their net power relative to each other, the authors define national power for the purposes of this report

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40 Brooks, Stephen G., and William C. Wohlforth. "The Rise and Fall of the Great Powers in the Twenty-first Century: China's Rise and the Fate of America's Global Position," *International Security* 40, no. 3. 2015: 7-53.

41 Ibid.

42 Baldwin, David A. "Power and International Relations" in *Handbook of International Relations*, eds. Walter Carlsnaes, Thomas Risse-Kappen, Thomas Risse and Beth A. Simmons. Sage, 2002.

43 Lieber, Robert J. *Power and Willpower in the American Future: Why the United States Is Not Destined to Decline*. Cambridge University Press, 2012.

44 Kuchins, Andrew C. "Russian Power Rising and Falling Simultaneously," *Strategic Asia 2015-16: Foundations of National Power in the Asia-Pacific*, eds. Ashley J. Tellis, Alison Szalwinski and Michael Wills. November 2015.

45 [Correlates of War](#) index.

46 Baldwin, David A. "Power and International Relations" in *Handbook of International Relations*, eds. Walter Carlsnaes, Thomas Risse-Kappen, Thomas Risse and Beth A. Simmons. Sage, 2002.

47 Xuetong, Yan. "The rise of China and its power status," *The Chinese Journal of International Politics* 1, no. 1. 2006: 5-33.

48 Olson, Mancur. *The Rise and Decline of Nations: Economic Growth, Stagflation, and Social Rigidities*. Yale University Press, 2008.



as follows:<sup>49</sup> National power constitutes a combination of a country's human, territorial, economic, military, technological and other resources that the country's leaders can employ at will in the short term, with the support of the majority of their compatriots in the longer term, for the purpose of maximally advancing its vital national interests, as defined by national consensus in that country, in the absence of a major inter-state war.<sup>50</sup> It is important to emphasize here that while a ruling elite, especially in authoritarian countries, can employ national resources as they see fit in the short term, even dictators require the national public's buy-in to continue using national resources for longer-term endeavors, hence the aforementioned need for a national consensus.<sup>51</sup>

## How to Measure National Power?

In addition to the single-variable method of measuring national power based on economic output, various scholars have proposed multi-variable methods. The authors of this report have chosen to review the following multi-variable methods because (a) they are among the most cited in the literature on the subject and/or (b) they represent methods used for measurements of national power not only in the West but also in Asia. (As explained in more detail below, these measurements are intended to apply only to times of peace, not war.)

The Composite Index of National Capability (CINC), used to calculate the aforementioned COW index, remains one of the most cited indices for measuring national power and is calculated as the arithmetic mean of the following ratios:

- TPR = ratio of country's total population to world's total population;
- UPR = ratio of country's urban population to world's urban population;<sup>52</sup>
- ISR = ratio of country's steel production to world's steel production;
- ECR = ratio of country's primary energy consumption to world's primary energy consumption;
- MER = ratio of country's military expenditures to world's military expenditures;

49 See David Baldwin's chapter for description of this and other theories of power in international relations. Baldwin, David A. "Power and International Relations" in *Handbook of International Relations*, eds. Walter Carlsnaes, Thomas Risse-Kappen, Thomas Risse and Beth A. Simmons. Sage, 2002.

50 For one attempt to compare a hierarchy of U.S. and Russian vital national interests see: Saradzhyan, Simon. "[Keys, Hurdles, Strategies: US-Russia Relations Under Trump](#)," *Russia Matters*, January 20, 2017. For one estimate of Chinese vital national interests see: Saradzhyan, Simon and Ali Wyne. "Sino-Russian Relations: Same Bed, Different Dreams?" Routledge, publication pending. For U.S. national interests, see: Ellsworth, Robert, Andrew Goodpaster and Rita Hauser. "America's National Interests: A Report from The Commission on America's National Interests, 2000," Commission on America's National Interests, July 2000.

51 While the following example is imperfect because it relates to wartime, it is worth recalling that Soviet dictator Joseph Stalin addressed the Soviet people as "Brothers and Sisters" as well as "Comrades" in his radio address calling on them to rise up and stop the onslaught of the Nazi war machine in 1941.

52 Data on urban population taken from the World Bank's [World Development Indicators](#) database.



- MPR = ratio of country's military personnel to world's military personnel.

Each of these ratios is calculated by dividing a country-specific total by the global total. However, the CINC approach may produce inaccurate results when the number of countries for which data are available (for the calculation of global totals) changes from year to year, according to Kelly Kadera and Gerald Sorokin.<sup>53</sup> To address this flaw in the CINC these two researchers have proposed measuring the geometric mean of the aforementioned ratios, introducing what they refer to as the Geometric Indicator of National Capabilities (GINC). At the same time Kadera and Sorokin ignore the fact that just like CINC, the GINC fails to account for changes in the global economy: Both of these indices rely on measuring steel production to gauge the economic capability of nations even though, in the view of this report's authors, this cannot accurately reflect the capabilities of post-industrial economies in the 21st century.

Asian scholars have also proposed their own multi-variable methods of measuring national power. For instance, Chin-Lung of Fo-guang University measures national power using the following formula:<sup>54</sup>

- Power = (critical mass + economic strength + military strength)/3, where:
- Critical mass = ([nation's population/world total] \* 100) + [nation's area/world total] \* 100)
- Economic Strength = (nation's GDP/world GDP) \* 200
- Military Strength = (nation's military expenditures/world military expenditures) \* 200

Chin-Lung's method can be appropriate for measuring the traditional power of states throughout the centuries, but, like the CINC and GINC, it fails to take into account new elements of national power that have emerged in recent years, such as technological prowess or innovative capabilities.

While the CINC, GINC and Chin-Lung's formula rely only on concrete variables to calculate national power, there exist alternative multi-variable measurements that include less tangible aspects of power as well. One popular multi-variable approach using such variables is Cline's.<sup>55</sup> His formula for calculating perceived power (PP) of nations is as follows:

53 Kadera, Kelly and Gerald Sorokin. "Measuring National Power," *International Interactions* 30, no. 3. 2004: 211-230.

54 Chang, Chin-Lung. "A measure of national power," *Proceedings of the 2004 International Seminar at the National University of Malaysia, Bangi, Malaysia*. 2004: 1617.

55 Cline, Ray S. *World Power Assessment: A Calculus of Strategic Drift, 1975*. Westview Press, 1975. Cline, Ray S. *The Power of Nations in the 1990s: A Strategic Assessment*. University Press of America, 1993.

PP = (C + E + M) \* (S + W), where:

- PP = perceived power
- C = critical mass = population + territory (Cline set the maximum value of critical mass at 200, including a maximum of 100 for territory and a maximum of 100 for population)<sup>56</sup>
- E = economic capability = GDP + GDP per capita + volume of foreign trade (Cline set the maximum perceived power for economic capability at 200)
- M = military capability = military personnel + defense expenditures (Cline set the maximum perceived power for military capability at 100, including a maximum of 50 for the nuclear component of that capability and a maximum of 50 for the conventional component)
- S = strategic purpose (Cline set the maximum perceived power for strategic purpose at 100)
- W = will to pursue national strategy (Cline set the maximum perceived power for will at 100)

## To Which Countries Should Russia Be Compared?

As stated above, this report compares Russia's national power to the world as a whole (wherever possible). It also compares Russia's national power to: (1) five of the West's leading powers; (2) members of the BRICS group; (3) all former Soviet republics except the Baltic states; and (4) select hydrocarbon-dependent economies. The first group includes some of Russia's key Western competitors: the United States, Germany, the UK, France and Italy. These countries have been chosen because in the authors' view they constitute a representative sample of the Western world: They include the West's largest economy, Western Europe's four largest economies and all of the West's nuclear powers. The second group includes Brazil, India, China and South Africa. The third group includes 11 of Russia's post-Soviet neighbors: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. The Baltic states have been excluded from this group because their EU and NATO memberships have set them on quite a different trajectory. The fourth group includes six countries that rely on oil and gas for 40 percent or more of their budget revenue: Saudi Arabia, United Arab Emirates, Nigeria, Venezuela, Iran and Kuwait.

56 Cline, Ray S. *The Power of Nations in the 1990s: A Strategic Assessment*. University Press of America, 1993.

## What Should the Research Period Be?

As noted in the executive summary, the authors propose to measure Russia's performance against the aforementioned states and the world as a whole for the period 1999-2015 or 2016, depending on the most recent available data and whether the authors could credibly extrapolate missing data for 2016. The reasons for choosing 1999 as the baseline are multiple. First, all the claims about Russia's decline in the 21st century reviewed by the authors for this report were made during Putin's rule, which began in 1999. Moreover, some of the scholars who have made these claims use them to draw conclusions about how Putin's Russia should be treated, given its hypothetical decline. One reason the authors chose not to start measuring Russia's performance from an earlier point is that various manifestations of Russia's decline in the first years after the Soviet collapse have been the subject of many academic articles that were well-grounded in substantive evidence. The authors do not contest the proposition that post-Soviet Russia was in decline for most of the last decade of the 20th century. To measure fluctuations in Russia's national power in the 21st century, the authors have conducted 18 waves of annual measurements wherever data are available for the entire period of 1999-2016 or when extrapolations could be reasonably be made to account for missing data.

## II. Measuring National Power

The authors measure Russia's national power by taking the following steps:

Step 1. The authors used a single-variable approach to individually measure the ratio of Russia's GDP<sup>57</sup> to that of the world as a whole in terms of purchasing power parity (PPP) in constant 2011 international dollars, as well as to the individual countries to which Russia will be compared. This method will be referred to hereafter as the Gross Domestic Product Indicator (GDPI). It is being used because of its popularity even though, as the authors have argued above, it is not effective in capturing the multi-dimensional nature of national power.

In addition to economic output, the authors also measured a number of other parameters for Russia, its competitors and the world as a whole in keeping with the multi-variable approach, including:

- Energy consumption;<sup>58</sup>

57 Data on GDP taken from the World Bank's [World Development Indicators](#) database.

58 Data on energy consumption taken from the [U.S. Energy Information Administration's](#) online database.

- Total population size;<sup>59</sup>
- Life expectancy;<sup>60</sup>
- Military expenditures;<sup>61</sup>
- Total land area;<sup>62</sup>
- Triadic patents.<sup>63</sup>

The GDPI method of measuring national power shows Russia to have gained on the world as a whole and on all five of its Western competitors in 1999-2016. The research period saw Russia expand its share of global GDP by 3 percent, while the U.S., UK, France, Germany and Italy saw their shares of global GDP decline by 26 percent, 27 percent, 33 percent, 33 percent and 43 percent respectively, over the same period. Using the same method<sup>64</sup> to measure Russia's performance against the BRICS countries reveals that Russia has landed in the middle of this five-member group in terms of rates of growth. When compared to the hydrocarbon-dependent countries Russia's share of global GDP was the largest among them in 2016, but four of the six outperformed Russia in the rate of growth, the exceptions being Iran and Venezuela. Russia's rate of GDP growth lagged behind all but one of the former Soviet republics, namely Ukraine. In absolute terms, Russia's GDP on the index was behind China's, the United States', India's and Germany's, but ahead of the rest of the comparands.

GDPI PPP	Y1999	Y2016	% change in 2016 compared to 1999	Annual average % change
CHN	0.071300423	0.177055521	148.32%	8.24%
USA	0.206359654	0.153725752	-25.51%	-1.42%
IND	0.041886763	0.071954038	71.78%	3.99%
DEU	0.048596216	0.032632895	-32.85%	-1.82%
RUS	0.030999259	0.03194076	3.04%	0.17%
BRA	0.031692313	0.025971987	-18.05%	-1.00%
GBR	0.03128609	0.022965284	-26.60%	-1.48%
FRA	0.03387605	0.0227071	-32.97%	-1.83%
ITA	0.033208472	0.018763003	-43.50%	-2.42%
SAU	0.014017036	0.014524857	3.62%	0.20%
IRN	0.013288044	0.013243889	-0.33%	-0.02%
NGA	0.005477579	0.00901513	64.58%	3.59%
ZAF	0.006933074	0.006113387	-11.82%	-0.66%
ARE	0.004863432	0.005550127	14.12%	0.78%
VEN	0.005635198	0.003801037	-32.55%	-1.81%
KAZ	0.002233137	0.003721066	66.63%	3.70%
UKR	0.003687887	0.002918356	-20.87%	-1.16%
KWT	0.002267288	0.002488945	9.78%	0.54%
UZB	0.000984281	0.001715322	74.27%	4.13%
BLR	0.001180954	0.001419606	20.21%	1.12%
AZE	0.000534763	0.001392558	160.41%	8.91%
TKM	0.00037804	0.000790289	109.05%	6.06%
GEO	0.000234419	0.000307725	31.27%	1.74%
TJK	0.000112111	0.000215219	91.97%	5.11%
ARM	0.000140343	0.000213649	52.23%	2.90%
KGZ	0.000159564	0.00017859	11.92%	0.66%
MDA	0.000136959	0.000156634	14.37%	0.80%

59 Data on population taken from the World Bank's [World Development Indicators](#) database.

60 Data on life expectancy taken from the World Bank's [World Development Indicators](#) database.

61 Data on military expenditures taken from Stockholm International Peace Research Institute's online database on military expenditures. The expenditures were measured in constant 2015 U.S. dollars.

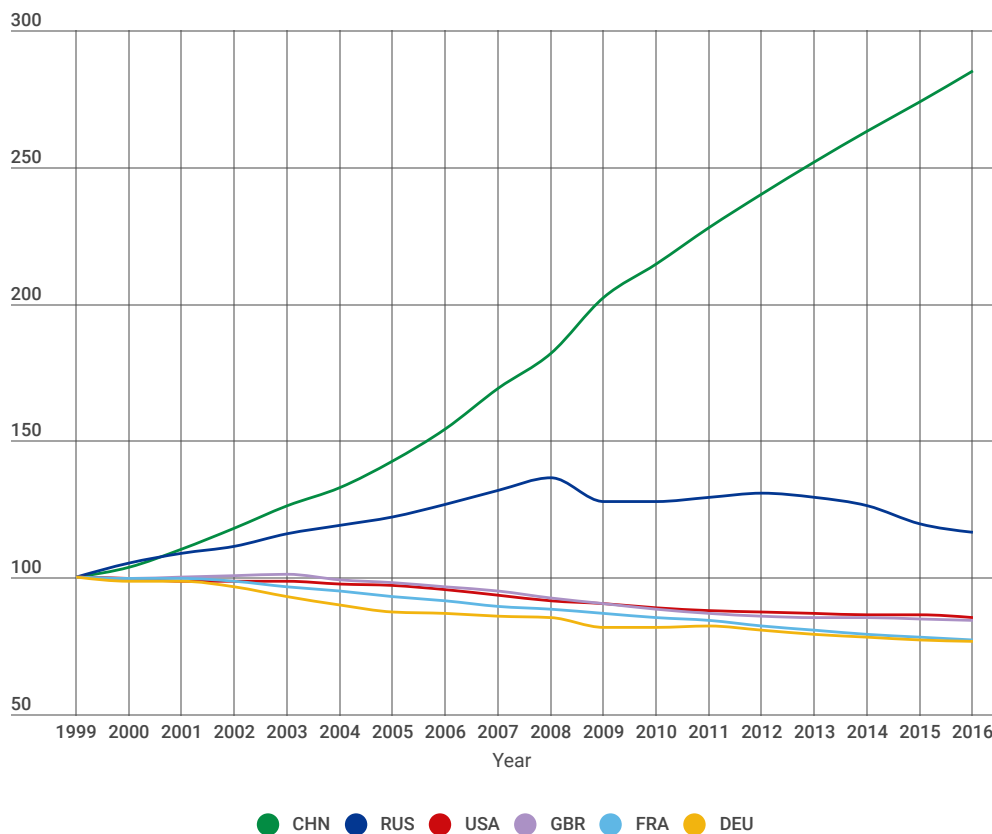
62 Measurements of total area do not include Russia's taking of Crimea from Ukraine in 2014 as this issue remains contested.

63 The OECD defines a triadic patent family as a set of patents registered in various countries (i.e., patent offices) to protect the same invention. Triadic patent families are a set of patents filed at three of these major patent offices: the European Patent Office (EPO), the Japan Patent Office (JPO) and the United States Patent and Trademark Office (USPTO). "[Triadic patent families](#)," OECD Data.

64 Data on GDP of BRICS countries, hydrocarbon-dependent countries and former Soviet republics are taken from the World Bank's [World Development Indicators](#) database and measured in PPP, constant 2011 international dollars.

It should be noted that the growth of Russia's GDPI was uneven in the research period. In spite of the fluctuations, however, Russia's share in the world's GDP remained above the base level (Year 1999) throughout the research period.

## Change in value of GDPI, Year 1999 = 100



As stated above, the authors found it necessary to measure other variables that are not commonly used in single-variable approaches as multi-variable approaches are more meaningful for gauging national power. These measurements produced rather disparate results, but they showed that the increase in economic output allowed the Russian government to boost defense expenditures, stimulate birth rates and attract more migrants, among other things.

When it comes to increasing defense expenditures Russia outpaced all of its Western competitors and the world as a whole in 1999-2016. If measured in U.S. dollars at constant 2015 prices, Russia's share in global defense expenditures soared by as much as 176 percent.<sup>65</sup> In terms of absolute

<sup>65</sup> The authors' calculations are based on defense expenditure data derived from the database of the Stockholm International Peace Research Institute (SIPRI), which estimates these expenditures in U.S. dollars at constant 2015 prices and exchange

numbers, however, the U.S. outspent Russia on defense in 2016, as it did in all other years of the research period, according to the Stockholm International Peace Research Institute (SIPRI). A comparison of Russia's military expenditures with those of its BRICS peers reveals that China has outspent its northwestern neighbor, but Russia has outspent the rest. While many former Soviet republics have outpaced Russia in increasing their military budgets during the research period, their combined military expenditures amounted only to a small fraction of what Russia spent on its military in 2016.

If defense expenditures were measured in terms of purchasing power parity rather than at market exchange rates, Russia would have probably gained on its Western competitors even more. An effort by Cambridge, Massachusetts-based Project on Defense Alternatives to measure countries' defense expenditures in PPP dollars reveals the potential scale of this underestimation of bang for the ruble, renminbi and rupee for the Russian, Chinese and Indian militaries, respectively. For example, SIPRI's estimates for 2011 put Russia fifth among the world's top five military spenders, behind the U.S., China, the UK and France, according to the project.<sup>66</sup> Russia's defense expenditures in constant dollars at the market exchange rate totaled \$58.7 billion, which was 8 percent of the U.S. defense budget of \$698.3 billion that year, according to SIPRI's numbers, as cited by the project. However, if one were to measure the expenditures in PPP constant dollars, then Russia would be ranked fourth on the list, with a minimum defense expenditure of \$88 billion, which would equal 13 percent of America's budget that year. Thus, measurement in PPP constant dollars would increase Russia's defense budget by a whopping 50 percent. Russia would also gain on such competitors as the UK and France, while India and China would gain on Russia if these countries' expenditures were measured in PPP dollars, according to the project. It follows then, that if measured in PPP dollars, the military strength component in the multi-variable indices of national power applied in this report would show Russia gaining more on some of its competitors (U.S., UK and France), while ceding ground to such peers as China and India.<sup>67</sup>

The results of the increases in Russian defense expenditures have been most visible during Russia's campaign in Syria, where Moscow employed a mostly professional force armed with modern weapons and means of command, control, navigation, reconnaissance and targeting, and supported by a rather effective information campaign. Russia's military modernization has not been limited to conventional forces. While the number of operational long-range nuclear missiles continued to decline on Putin's watch as the military had to decommission ageing Soviet ICBMs,

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rates.

66 "Top Military Spenders. Comparison of US and Other Nations' Military Spending 2010 (billions of US 2010 dollars)," Project on Defense Alternatives, Cambridge, MA.

67 For another effort to calculate defense expenditures in PPP, see: Frank, Johann and Walter Matyas. *Strategie und Sicherheit. Chancen und Grenzen europäischer militärischer Integration*, 2013.

all legs of Russia's strategic nuclear triad have received new weapons in the research period, reaffirming Russia's status as a global nuclear superpower on par with the U.S. Moreover, the Russian defense industry has not been making arms only for its national armed forces. As of 2017, Russia's Rosoboronexport, the arms export monopoly, had a portfolio of outstanding orders worth more than \$40 billion.

As Russia has gained on its Western competitors in terms of growth of GDP and military expenditures, it has also managed to stop depopulation, with its population growing in 2009-2016, according to the World Bank and Russia's Federal Statistics Service. Russia achieved this turnaround thanks to a variety of circumstances and measures, including a continued influx of labor migrants, financial stimulation of birth rates and improvements in health care.<sup>68</sup> In fact, when Jeffrey Gedmin of Georgetown University wrote in late 2014 that "in Mr. Putin's Russia, infant mortality is up and life expectancy is down," quite the opposite was happening.<sup>69</sup> The years 2005-2015 saw life expectancy grow in Russia and infant mortality decline.<sup>70</sup> A significant factor behind Russia's population growth, as noted above, is the country's continued appeal to large numbers of migrants. Contrary to then U.S. President Barack Obama's observation in August 2014 that "immigrants aren't rushing to Moscow," the Russian capital was home to over 2 million immigrants at the time.<sup>71</sup> Moreover, the number of immigrants flowing into Russia grew every year in 2004-2014, according to the Russian government's figures. While the U.S. was estimated to host nearly one-fifth, or about 46.6 million, of the world's total international migrants in 2015, U.N. data for that year show Russia in third place among host countries, with over 11.6 million international migrants; Germany, with 12 million, claimed second place.<sup>72</sup> That said, Russia's population growth came too late to reverse earlier losses within the research period. Therefore, the share of the Russian population in the global population declined by 20 percent in that period. Neither did the U.S. do well in that period with its share of world population declining by 6 percent. France's, Germany's, Britain's and Italy's shares in global population also declined in 1999-2015. Among the hydrocarbon-dependent countries, Russia has lost its one-time leadership in population size to Nigeria. In this group, Russia was the only country whose population did not grow faster than the world average. While lagging behind many peers in terms of population growth, Russia remains

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68 Much of the population growth underway in Russia since 2010 has been attributed to net gains in migration, but as the Russian government's measures to financially stimulate births and improve health care have demonstrated, you can achieve natural population growth if you are willing to spend money on it. The Russian population continued to grow in absolute numbers through 2016, despite the economic crisis of 2014.

69 Gedmin, Jeffrey. "How to Reply to Russian Propaganda," *Wall Street Journal*, Dec. 3, 2014.

70 Saradzhyan, Simon. "Putin's Russia: Claims Versus Reality," *Huffington Post*, Nov. 14, 2015. Also see: "[Claims in 2014 and 2016: Life expectancy in Russia is falling](#)," Russia Matters website.

71 Saradzhyan, Simon. "Putin's Russia: Claims Versus Reality," *Huffington Post*, Nov. 14, 2015.

72 United Nations data cited by the Russia Matters website. "[Claim in 2014: Immigrants aren't rushing to Moscow in search of opportunity](#)," Russia Matters.



the most populous country among the post-Soviet republics, with slightly more people than the combined total of the rest. Despite its declining share of the global population, Russia's 140 million-plus people ensure that the country is still among the world's 10 most populous countries.

As stated above, in addition to the single-variable approach, the authors have also employed variations of existing multi-variable approaches, selected because they are commonly found in the literature on national power. The authors have, however, modified these indices to: (a) account for relevant changes in the global economy; (b) address what the authors view as their methodological shortcomings; and (c) account for the absence or shortage of data available about these formulas' original variables. The steps taken in applying these multi-variable approaches are spelled out below.

Step 2. The authors measured the ratios of Russia's population, GDP and military expenditures to those of the world and aggregated the results into an index, using the model proposed by Chin-Lung:<sup>73</sup>

Power = (critical mass + economic strength + military strength)/3, where:


- Critical mass = ([nation's population/world total] \* 100) + [nation's area/world total] \* 100)
- Economic Strength = (nation's GDP/world GDP) \* 200
- Military Strength = (nation's military expenditures/world military expenditures) \* 200

Calculations using Chin-Lung's formula show Russia lagging behind the U.S., China and India in terms of absolute national power in 2016, but ahead of the rest of the researched countries. Russia's national power was 21 percent greater in 2016 than in 1999—surpassing all of its Western competitors in terms of the rate of growth. A comparison within BRICS reveals that Russia's power grew less than China's and India's, but more than South Africa's and Brazil's. Russia was ahead of most of its post-Soviet and hydrocarbon peers in terms of rate of growth of power, and the absolute volume of its power was greater than that of any of these two categories of peers.

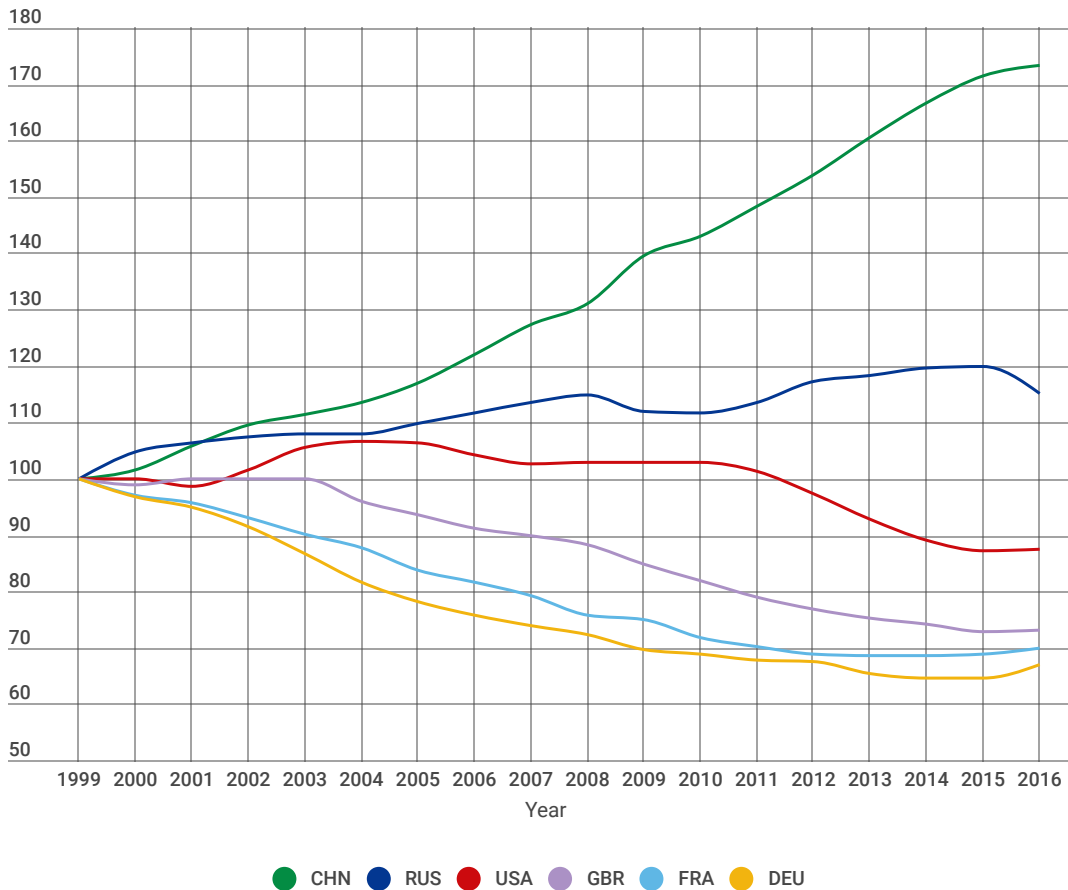
Step 3. In this step the authors applied the above-mentioned Geometric Index of National Capabilities (GINC) to the countries being researched with two modifications, explained in greater detail below: the omission of military personnel numbers and the replacement of steel output with value-added manufacturing.

73 Chang, Chin-Lung. "A measure of national power," *Proceedings of the 2004 International Seminar at the National University of Malaysia, Bangi, Malaysia*. 2004: 1617.



	Year 1999	Year 2016	% change in 2016 compared to 1999	Annual average % change
USA	43.61228274	38.07681713	-12.69%	-0.71%
CHN	16.67029488	29.3380503	75.99%	4.22%
IND	10.98956209	13.696992	24.64%	1.37%
 RUS	8.09958539	9.77208	20.65%	1.15%
BRA	6.201585408	5.714351568	-7.86%	-0.44%
DEU	6.572415334	4.25999386	-35.18%	-1.95%
FRA	6.078531501	4.127394739	-32.10%	-1.78%
SAU	3.415346288	4.097420925	19.97%	1.11%
GBR	5.571639117	4.036307875	-27.56%	-1.53%
ITA	4.790127807	2.706441791	-43.50%	-2.42%
IRN	2.000535403	2.151757962	7.56%	0.42%
NGA	1.348112371	1.750939222	29.88%	1.66%
ARE	0.87942012	1.469605845	67.11%	3.73%
ZAF	1.143367374	1.105398246	-3.32%	-0.18%
KAZ	0.942667813	1.081051012	14.68%	0.82%
VEN	1.281164339	0.714032573	-44.27%	-2.46%
UKR	0.764357028	0.680676386	-10.95%	-0.61%
KWT	0.424238807	0.441170608	3.99%	0.22%
UZB	0.316296803	0.370648002	17.18%	0.95%
AZE	0.116610315	0.23437592	100.99%	5.61%
BLR	0.197184042	0.215658375	9.37%	0.52%
TKM	0.177456862	0.203706662	14.79%	0.82%
KGZ	0.09116373	0.096844496	6.23%	0.35%
TJK	0.078385805	0.095751045	22.15%	1.23%
GEO	0.061329637	0.067500412	10.06%	0.56%
ARM	0.043204178	0.051420593	19.02%	1.06%
MDA	0.038461222	0.035975139	-6.46%	-0.36%

## Change in Value of National Power as Measured by Chin-Lung's Formula, Year 1999 = 100



While the traditional GINC measures the numeric personnel strength of armed forces, this parameter has been excluded because it fails to capture the qualitative difference between national armed forces that rely on conscription and ones in which professionals account for much or all of the rank-and-file. Measuring only the quantitative strength of military personnel, as the GINC does, would find that North Korea's military might is superior to the United States' or Russia's because the personnel of the DPRK's military and paramilitary forces total more than those of Russia or America. That, of course, would be a rather implausible proposition. Moreover, comparing numeric personnel strength of nations' armed forces would fail to capture the qualitative transformations some of these forces have undergone in the 21st century. At the same time, the index's military-expenditures component has been retained because even peacetime studies of

national power, such as this one, have to account for nations' military might. As Waltz has rightly noted, "The possibility that force will be used by one or another of the parties looms always as a threat in the background. In politics force is said to be the ultima ratio. In international politics force serves not only as the ultima ratio, but indeed as the first and constant one."<sup>74</sup>

The GINC's original steel-production ratio (ISR) has been replaced with the ratio of value-added manufacturing (VAM)<sup>75</sup> because steel production cannot accurately reflect a country's economic might in the post-industrial era, while value-added manufacturing comes closer.

The new index has been renamed the Revised Geometric Index of Traditional National Capabilities (RGITNC) and calculated as the geometric mean of the following ratios:

- TPR (total population ratio) = ratio of country's total population to world's total population
- UPR (urban population ratio) = ratio of country's urban population to world's urban population<sup>76</sup>
- ECR (energy consumption ratio) = ratio of country's primary energy consumption to world's primary energy consumption
- MER (military expenditures ratio) = ratio of country's military expenditures to world's military expenditures
- VMR (value-added manufacturing ratio) = ratio of country's value-added manufacturing to world's value-added manufacturing

Applying the RGITNC method shows Russia's national power in 2016 to be 0.98 percent less than in 1999. In comparison, the power of Italy, Germany, Britain, France and the U.S. decreased by 34.17 percent, 29.60 percent, 29.60 percent, 26.85 percent and 18.47 percent, respectively. The same period saw the power of China and India, Russia's BRICS peers, grow by 106.53 percent and 29.84 percent, respectively, while the power of Brazil and South Africa declined by 14.42 percent and 4.39 percent, respectively. Most of Russia's post-Soviet peers also saw their power increase in the research period. All of Russia's hydrocarbon peers saw their power increase too, with the exception of Venezuela, which declined by 38.68 percent. In terms of absolute power, Russia was the fourth-most powerful nation among the comparands, behind the U.S., China and India.

74 Waltz, Kenneth N. *Theory of International Politics*. Waveland Press, 1979: [113](#).

75 The official name of this World Bank indicator is "Manufacturing, value added (constant 2005 US\$)." No data were available for Russia for any but one year in the research period, so estimates for the missing years were calculated with data from the Russian [Federal State Statistics Service's](#) online database.

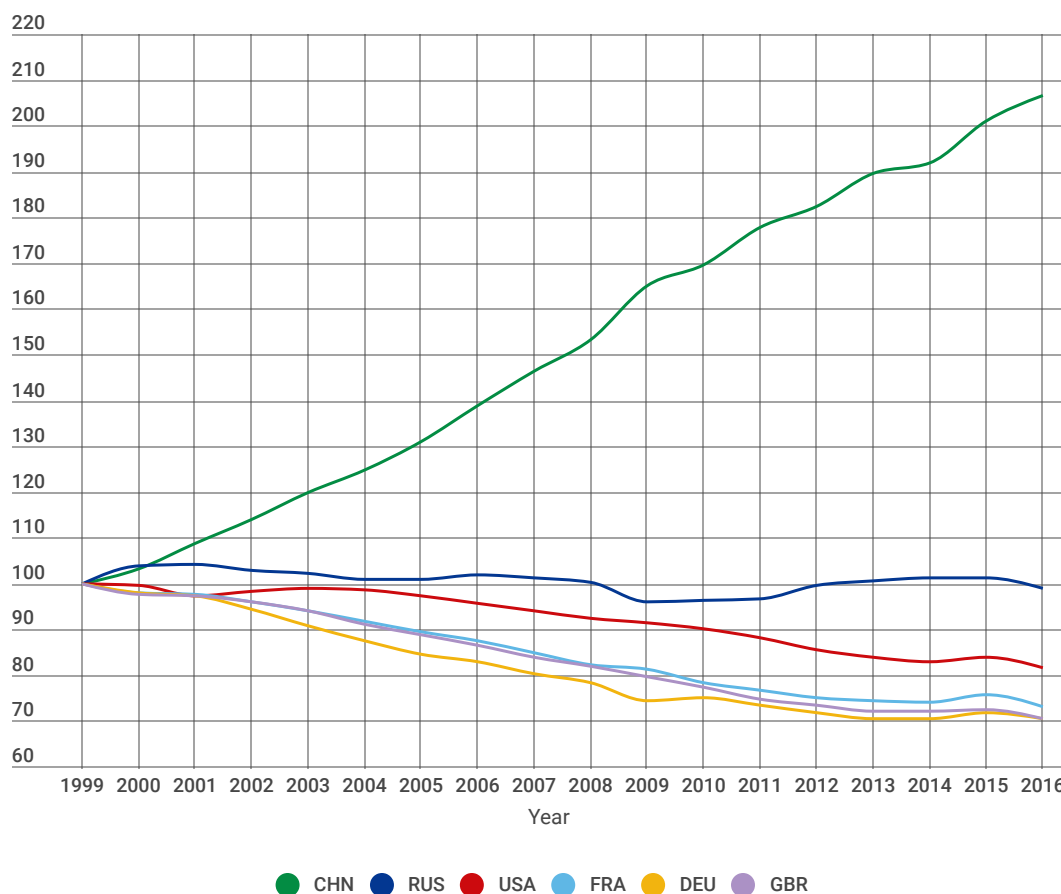
76 Data on total population and urban population taken from the World Bank's [World Development Indicators](#) database.

Step 4. The authors use Cline’s method of calculating nations’ perceived power as a departure point for constructing an experimental index of national power (EINP). Like Cline’s original formula, EINP would measure nations’ critical mass, economic strength and military strength.<sup>77</sup>

<sup>77</sup> In his influential study of “command of the commons,” Barry Posen conducts measurements of such components of military strength as numbers of aircraft carriers, nuclear attack submarines, satellites and even drones. However, while such detailed multi-variable measurement is necessary for measuring differences in nations’ military prowess, the authors of this report

RGITNC	Year 1999	Year 2016	% change in 2016 compared to 1999	Average annual change
CHN	0.095164041	0.196543805	106.53%	5.92%
USA	0.152223669	0.12410754	-18.47%	-1.03%
IND	0.048824025	0.063392401	29.84%	1.66%
RUS	0.029498494	0.029210038	-0.98%	-0.05%
DEU	0.03300228	0.023234173	-29.60%	-1.64%
BRA	0.026948518	0.023063049	-14.42%	-0.80%
FRA	0.024339271	0.017805261	-26.85%	-1.49%
GBR	0.023218389	0.016344998	-29.60%	-1.64%
ITA	0.020894894	0.013754521	-34.17%	-1.90%
SAU	0.007664372	0.010556158	37.73%	2.10%
IRN	0.008093603	0.010429944	28.87%	1.60%
ZAF	0.006007908	0.005744337	-4.39%	-0.00244%
NGA	0.00415759	0.005329937	28.20%	1.57%
VEN	0.006559894	0.004022719	-38.68%	-0.02149%
UKR	0.00491089	0.003796102	-22.70%	-1.26%
ARE	0.002127343	0.003796059	78.44%	4.36%
KAZ	0.001649639	0.002133072	29.31%	1.63%
BLR	0.001049062	0.00115213	9.82%	0.55%
UZB	0.001064392	0.001063009	-0.13%	-0.00007%
AZE	0.000742372	0.000902034	21.51%	1.19%
GEO	0.000248325	0.000296996	19.60%	1.09%
TJK	0.000224407	0.000295191	31.54%	1.75%
KGZ	0.000295049	0.000292574	-0.84%	-0.05%
ARM	0.000275357	0.000287926	4.56%	0.25%
MDA	0.000152334	0.000153764	0.94%	0.05%

## Change in RGITNC Value, Year 1999 = 100



However, while keeping the logic of Cline’s original formula, the authors will introduce significant modifications to his approach in order to fill the gaps in public knowledge about his methodology. The most important modification is the omission of two components—“national will” and “strategic purpose”—because the authors have found no explanation of how exactly Cline, who died in 1996, measured them. Instead, the authors introduce a new quantifiable variable as a proxy for measuring a government’s capability to employ national resources for advancing vital national interests<sup>78</sup>: the World Bank’s government effectiveness indicator.<sup>79</sup> The authors have also

feel that the measurement of military expenditures would suffice for their purposes as long as it is adjusted for possession of nuclear weapons and complemented by a measurement of technological prowess, which, among other things, correlates with nations’ theoretical or practical capability to develop and/or produce advanced systems, including advanced weaponry systems.

78 The authors have included the government-effectiveness component because measuring resources without measuring the ability to employ them would constitute a flawed approach. One of the leading scholars of power in international relations, David Baldwin, has criticized the power-as-resources approach as insufficient. Baldwin, David A. “Power and International Relations” in *Handbook of International Relations*, eds. Walter Carlsnaes, Thomas Risse-Kappen, Thomas Risse and Beth A. Simmons. Sage, 2002.

79 According to the World Bank, “government effectiveness captures 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 imple-

introduced a new variable in calculating national resources—technological prowess—because they believe it to be an important component of national power in the modern world. Their decision to do so is rooted in a number of recent studies of national power that underscore the importance of capturing nations’ capacity for technological innovation, including “Measuring National Power,”<sup>80</sup> “The Rise and Fall of the Great Powers in the Twenty-First Century”<sup>81</sup> and “Russian Power: Rising and Falling Simultaneously.”<sup>82</sup> “Measuring technological prowess is ... vital, especially given the nature of modern weaponry,” according to Stephen G. Brooks and William C. Wohlforth.<sup>83</sup> Nations’ technological capacity magnifies their economic capability, according to these two scholars. They write that the number of triadic patents—patents taken out in the United States, Europe and Japan to protect the same invention—“is widely accepted as a measure of technological competitiveness.”<sup>84</sup> In line with this, the authors of this report will measure technological prowess as nations’ share in the total number of triadic patents. It should be noted that alternative proxies for measuring technological prowess were considered, including countries’ share in the world’s high-technology exports, the number of patents registered in all countries and the technological-readiness pillar of the Global Competitiveness Index-2016, but none of them appeared to be as effective in capturing this variable as the triadic patents. The resultant new method will be called the Experimental Index of National Power (EINP), which of all the measurement approaches employed in this report comes closest to capturing what this report defines as national power in the 21st century. The EINP will be calculated in the following way:

EINP = national resources \* capability to employ resources, where

- National resources = critical mass + economic strength + military strength + technological prowess, where
  - » Critical mass = (country’s land area / world’s land area + country’s population / world population \* national health adjustment) \* 2,<sup>85</sup> where

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mentation, and the credibility of the government’s commitment to such policies.” A [detailed description](#) of this variable and methodology of calculating it is available on the World Bank’s website.

80 Treverton, G.F. and S.G. Jones. *Measuring National Power*. RAND Corporation, 2005.

81 Brooks, Stephen G. and William C. Wohlforth. “The Rise and Fall of the Great Powers in the Twenty-first Century: China’s Rise and the Fate of America’s Global Position,” *International Security* 40, no. 3. 2015: 7-53.

82 Kuchins, Andrew C. “Russian Power Rising and Falling Simultaneously,” *Strategic Asia 2015–16: Foundations of National Power in the Asia-Pacific*, eds. Ashley J. Tellis, Alison Szalwinski and Michael Wills. November 2015.

83 Brooks, Stephen G. and William C. Wohlforth. “The Rise and Fall of the Great Powers in the Twenty-first Century: China’s Rise and the Fate of America’s Global Position,” *International Security* 40, no. 3. 2015: 7-53.


84 Ibid.

85 Cline provided for the maximum possible values of critical mass and economic capability to be 100 percent greater than the maximum possible value of military capability in his formula. Cline did so because in his view critical mass and economic capability could be converted into additional military capability and, therefore, should have greater proportional weight.

- National health adjustment = country's population's average life expectancy / world's population's average life expectancy<sup>86</sup>
- » Economic power = country's GDP / world's GDP \* 2
- » Military power = country's military expenditure / world's military expenditure \* nuclear weapon adjustment, where
  - Nuclear weapon adjustment is equal to 1.5 for countries with over 500 deployed warheads, 1.3 for countries with numbers of warheads ranging from 100 to 499 and 1.2 for countries with fewer than 99 warheads<sup>87</sup>
  - » Technological prowess = country's triadic patents / world's triadic patents
- Capability to employ resources = indicator of government effectiveness: percentile rank among all countries.

Application of the EINP method shows Russia's national power to have grown by 118 percent in the research period. In comparison, U.S. national power declined by 16 percent, while that of Italy, Germany, Great Britain and France—all of which cut their military budgets during this period—declined by 57 percent, 38 percent, 31 percent and 25 percent, respectively. Measured using this index, Russia's national power also expanded faster than any of the few peers for which data is available, including China and India. In absolute terms Russia's national power trailed behind the United States, China's and

India's, but was greater than that of the other seven nations for which data are available. Importantly, this is one of the two methods applied that show the U.S. remaining number one in the world (the other being the RGITNC), though it also showed the gap between America and China shrinking during the research period. The dramatic growth in Russia's national power was largely fueled by

EINP	Year 1999	Year 2016	% change in 2016 compared to 1999	Annual average % change
USA	145.0772	122.2408	-16%	-0.87%
CHN	41.4648	75.5975	82%	4.57%
IND	26.0148	32.6708	26%	1.42%
 RUS	8.4847	18.5342	118%	6.58%
DEU	29.6215	18.4978	-38%	-2.09%
FRA	19.5398	14.7262	-25%	-1.37%
GBR	17.7904	12.2780	-31%	-1.72%
BRA	13.9278	8.3171	-40%	-2.24%
SAU	4.5365	6.8884	52%	2.88%
ITA	11.1190	4.8348	-57%	-3.14%
ZAF	3.5298	2.9750	-16%	-0.87%

86 The authors have introduced this adjustment to try reflecting differences in the quality of human capital among countries: People with longer lifespans stay in the labor force longer and contribute more to national resources.

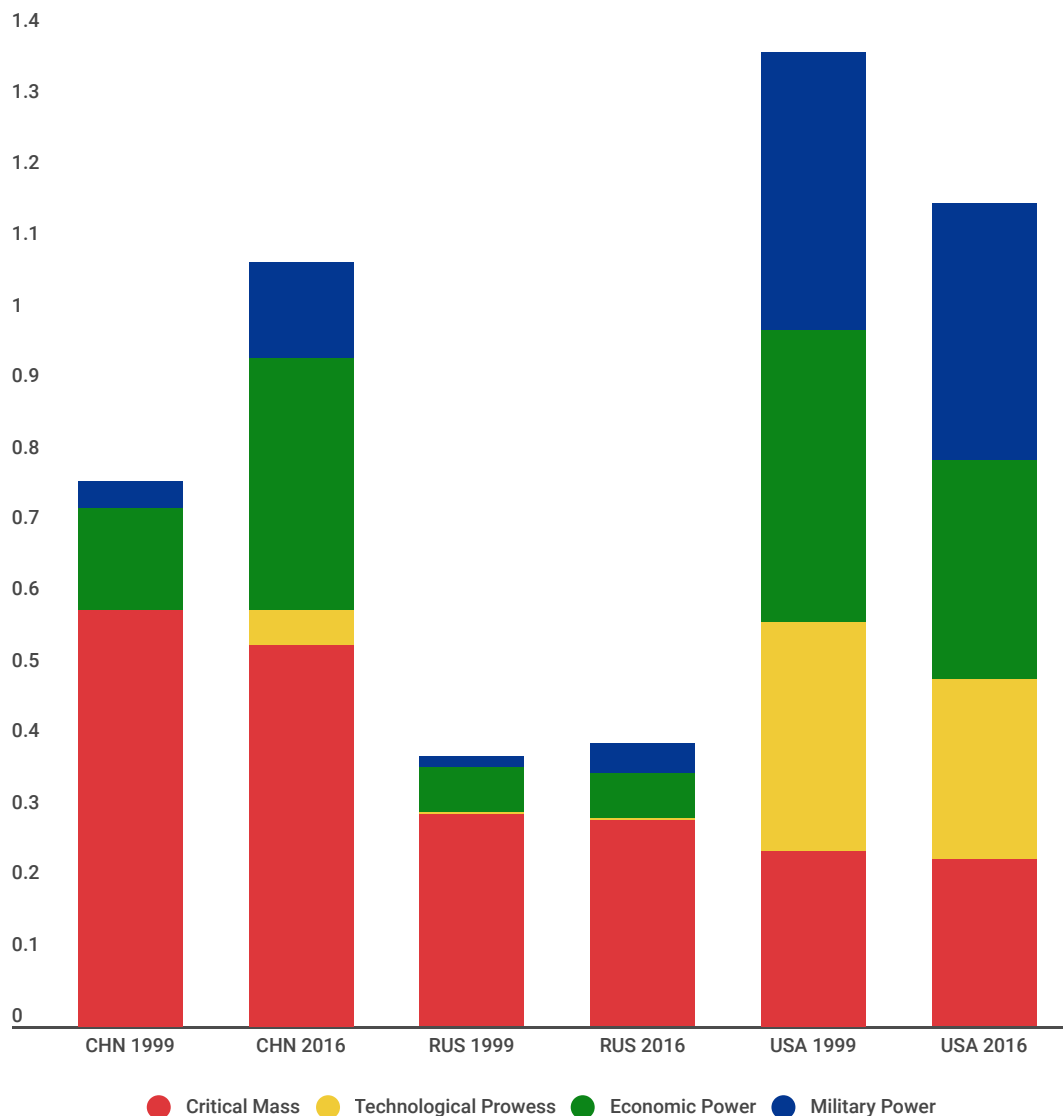
87 In line with Cline's vision, this method assigns greater proportional weight to land area and the military-related components of national power than the previous three, giving Russia, which drastically increased military spending in the research period, a competitive advantage. The values were derived from Cline's initial formula, in which the availability of nuclear weapons increases overall military capability.

the increase in government effectiveness (101 percent).

The authors also attempted to add a soft power component to the EINP, believing it to be an important peacetime component of national power in the modern world.<sup>88</sup> For the purposes of

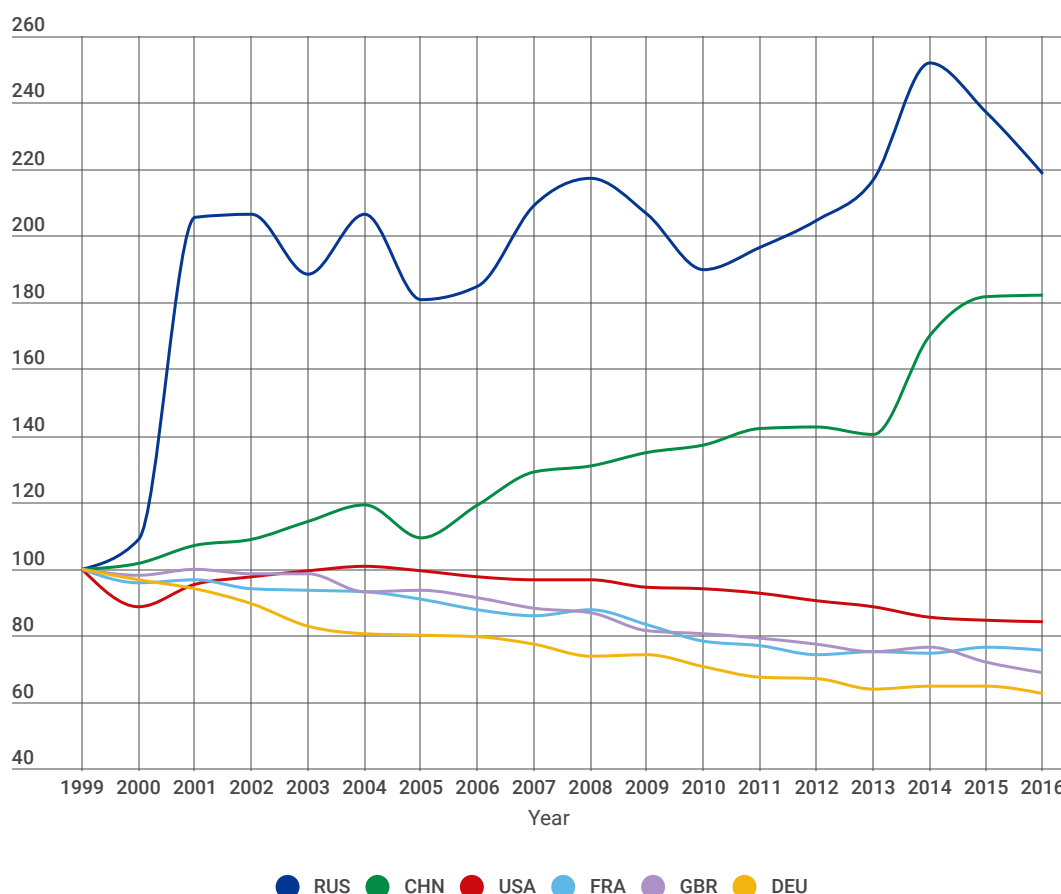
88 Xuetong is one of the scholars to employ soft power in his formula of calculating national power. He refers to it as “cultural power.” Xuetong, Yan. “The rise of China and its power status,” *The Chinese Journal of International Politics* 1, no. 1. 2006: 5-33. Xuetong posits that cultural power represents one of the four characteristics that form a state’s cumulative national power. The other three are political power, economic power and military power, according to Xuetong. “Famous Chinese

## Composition of National Resources: China, Russian Federation, United States





## Change in EINP Value, Year 1999 = 100



this report, soft power is defined as nations’ attractiveness in the eyes of residents of other nations. This variable is measured as the median percentage of favorable views of a country held by respondents in other countries (according to the Pew research organization) multiplied by a coefficient representing the number of international tourists visiting a country as a share of the world’s total tourist visits.<sup>89</sup> The authors called this method the Experimental Index of National Power with Soft Power (EINPSP) and calculated it the following way:

EINPSP = National Resources \* Capability to Employ Resources, where

political scientist Yan Xuetong on the prospects for bilateral relations: I do not understand why Russia does not insist on forming an alliance with China,” *Kommersant*, March 17, 2017.

89 The number of tourists has been used as a variable in such soft power indices: McClory, Jonathan, “[The Soft Power 30: A global ranking of soft power](#),” Portland Communications, 2015; [IfG-Monocle Soft Power Indices](#); and Joseph Nye has also identified it among proxies that can be used to measure soft power. Fan, Ying. “[Soft Power: Power of Attraction or Confusion?](#)” *Place Branding and Public Diplomacy* 4, no. 2. 2008: 147-158.

- National resources = critical mass + economic strength + military strength + technological prowess + soft power, where
  - » Critical mass = (country's land area / world's land area + country's population / world population \* national health adjustment) \* 2,<sup>90</sup> where
    - National health adjustment = country's population's average life expectancy / world's population's average life expectancy<sup>91</sup>
  - » Economic power = country's GDP / world's GDP \* 2
  - » Military power = country's military expenditure / world's military expenditure \* nuclear weapon adjustment, where
    - Nuclear weapon adjustment is equal to 1.5 for countries with over 500 deployed warheads, 1.3 for countries with numbers of warheads ranging from 100 to 499 and 1.2 for countries with fewer than 99 warheads<sup>92</sup>
  - » Technological prowess = country's triadic patents / world's triadic patents
  - » Soft power = median of favorable views of the country by other countries \* share of the country's international tourist arrivals out of the world's total of such arrivals
- Capability to employ resources = indicator of government effectiveness: percentile rank among all countries.

The data on soft power are sufficient to conduct only eight waves of measurements for the EINPSP (2007-2016) for only three of the researched countries: the United States, China and Russia. These measurements show Russia trailing behind the U.S. and China in terms of the absolute value of its national power. However, the EINPSP also shows Russia's national power growing by 13 percent in 2007-2015, compared to America's decline of 12 percent and China's growth of 40 percent.

Soft power component of EINPSP	Year 2007	Year 2015	% change in 2015 compared to 2007
CHN	0.924867587	1.132962591	22%
RUS	0.419816229	0.425906894	1%
USA	1.543244487	1.404050416	-9%
EINPSP			
CHN	55.22267498	77.34648793	40%
RUS	18.13769169	20.4762931	13%
USA	143.0872288	126.2295334	-12%

While the authors of this report

90 Cline provided for maximum possible values of critical mass and economic capability to be 100 percent greater than the maximum possible value of military capability in his formula. Cline did so because in his view critical mass and economic capability could be converted into additional military capability and, therefore, should have greater proportional weight.

91 The authors introduced this adjustment to try reflecting differences in the quality of human capital among countries: People with longer lifespans stay in the labor force longer and contribute more to national resources.

92 In line with Cline's vision, this method assigns greater proportional weight to land area and the military-related components of national power than the previous three, giving Russia, which drastically increased military spending in the research period, a competitive advantage. The values were derived from Cline's initial formula, in which availability of nuclear weapons increases the overall military capability.

lacked the resources to conduct a valid scientific poll to measure changes in countries' strategic purpose and national will in line with Cline's original formula, one of them did conduct a small survey of Western and Russian experts in 2016 as part of his earlier work.<sup>93</sup> The definitions used in the survey were Cline's.<sup>94</sup> If Cline's original formula were to be applied—multiplying the sums of national will and strategic purpose (as estimated by those experts) by national resources (as calculated by the authors)—this method could be called the Experimental Index of National Power with National Will and Strategic Purpose (EINPNWSP) and the formula would look as follows:

EINPNWSP = National Resources \* (National Will + Strategic Purpose), where

- National resources = critical mass + economic strength + military strength + technological prowess, where
  - » Critical mass = (country's land area / world's land area + country's population / world population \* national health adjustment) \* 2,<sup>95</sup> where
    - National health adjustment = country's population's average life expectancy / world's population's average life expectancy<sup>96</sup>
  - » Economic power = country's GDP / world's GDP \* 2
  - » Military power = country's military expenditure / world's military expenditure \* nuclear weapon adjustment, where
    - Nuclear weapon adjustment is equal to 1.5 for countries with over 500 deployed warheads, 1.3 for countries with numbers of warheads ranging from 100 to 499 and 1.2 for countries with fewer than 99 warheads<sup>97</sup>
  - » Technological prowess = country's triadic patents / world's triadic patents

93 In May-June 2016 Simon Saradzhyan asked a dozen foreign policy experts from Harvard University, Georgetown University, Gulf State Analytics, Brookings Institution, Center for the National Interest, Wheaton College, Cohen Group, Moscow's Higher School of Economics and other organizations to assess the values of these variables, as formulated by Cline in his two books cited here, for 1999 and 2015 and then calculated the medians for both. Obviously, this survey was far from representative and its results do not meet the requirements for validity of quantitative research methods.

94 Cline defined strategic purpose as "the part of the political decision-making process that conceptualizes and establishes goals and objectives designed to protect and enhance interests in the international environment." Cline defined national will as "the degree of resolve that can be mobilized among the citizens of a nation in support of governmental decisions about defense and foreign policy. National will is the foundation upon which national strategy is formulated and carried through process." Cline, Ray S. *The Power of Nations in the 1990s: A Strategic Assessment*. University Press of America, 1993.

95 Cline provided for maximum possible values of critical mass and economic capability to be 100 percent greater than the maximum possible value of military capability in his formula. Cline did so because in his view critical mass and economic capability could be converted into additional military capability and, therefore, should have greater proportional weight.

96 The authors introduced this adjustment to try reflecting differences in quality of human capital among countries: People with longer lifespans stay in the labor force longer and contribute more to national resources.


97 In line with Cline's vision, this method assigns greater proportional weight to land area and the military-related components of national power than the previous three, giving Russia, which drastically increased military spending in the research period, a competitive advantage. The values were derived from Cline's initial formula, in which availability of nuclear weapons increases the overall military capability.

- National Will + Strategic Purpose, where
  - » National Will = median of estimate of national will derived from a 2016 survey of experts who were given Cline’s definition of national will as “the degree of resolve that can be mobilized among the citizens of a nation in support of governmental decisions about defense and foreign policy. National will is the foundation upon which national strategy is formulated and carried through process.”<sup>98</sup>
  - » Strategic Purpose = median of estimate of strategic power by experts in the survey who were given Cline’s definition of strategic purpose as “the part of the political decision-making process that conceptualizes and establishes goals and objectives designed to protect and enhance interests in the international environment.”<sup>99</sup>

The results of this measurement would indicate that Russia’s national power in 2016 was 109 percent greater than in 1999, while the power of its Western competitors decreased (America’s by 21 percent, Germany’s by 25 percent, France’s by 38 percent, Britain’s by 42 percent and Italy’s by 27 percent). In terms of absolute power, the U.S. would be more than twice as powerful as Russia, but the latter would be more powerful than any of its other Western competitors.

However, the results of both the EINPSP and the EINPNWSP have been excluded from this report’s final tally. The former lacks a sufficient number of countries to make any meaningful comparisons, while the latter relies on a small survey rather than a scientifically valid poll to measure national power and strategic purpose.

It is important to note that all of the aforementioned multi-variable approaches toward calculating national power used in Steps 1-4 are based on the assumption that this power is measured in the absence of major, lasting inter-state armed conflicts. It is presumed that the military-power

EINPNWSP	Year 1999	Year 2015	% change in 2015 compared to 1999
USA	2.415579	1.9078	-21%
 RUS	0.34123	0.7130	109%
DEU	0.381752	0.2850	-25%
FRA	0.311089	0.1932	-38%
GBR	0.264068	0.1524	-42%
ITA	0.144611	0.1052	-27%

component of these formulas can be employed for purposes of deterrence and coercion, as well as for limited war, but not for an all-out war. An all-out war with the involvement of nuclear powers would radically change the equation(s). Under conditions of such a war, the weight of the

98 In his books Cline does not explain how exactly he quantifies this variable, other than to say that its maximum value is 100. Cline, Ray S. *The Power of Nations in the 1990s: A Strategic Assessment*. University Press of America, 1993.

99 Ibid.

nuclear component of military power in the overall equation of power would increase significantly. The share of the critical-mass component in overall national power would also increase, while, for example, the soft-power component would shrink.

### **What if Russia Were Compared to the EU Rather Than Individual Western Countries?**

This report is designed to measure change in the power of individual nations rather than groups of nations. Nevertheless, one cannot help wondering whether comparisons of Russia to the West would yield different results if Russia were compared to the European Union as a whole rather than to four EU members and the U.S. Based on relevant World Bank data, the results would show Russia gaining on the EU in terms of the rate of change of its power, while being dwarfed by this bloc in terms of absolute power. The EU's share in global GDP declined by 30 percent in the research period, while Russia's grew by 3 percent if measured in 2011 constant international dollars. Russia also gained on the EU in the defense-expenditures component of national power. Measured in U.S. dollars at constant 2015 prices, Russia's share in global defense expenditures soared by as much as 176 percent in 2016, having previously grown from 1.51 percent in 1999 to 4.18 percent in 2015.<sup>100</sup> In contrast, the sum share of the 28 EU countries declined by 40 percent, to just 15 percent of total global defense expenditures in 2016, according to SIPRI's data. The EU has fared somewhat better demographically. The research period saw the share of these countries in the world's population decline by 14 percent in 1999-2016, while Russia's share declined by 20 percent. Comparisons of the EU's and Russia's national-power components will most likely become less favorable for the EU once Britain completes its exit from the union.

### **III. Limitations of Data and Methodology**

The research methods used in this report are not without limitations. First, one general flaw in the methodology is that it relies only on quantitative approaches to measuring national power. These measures are not effective in capturing intangible facets of modern nation states, such as their soft power. Including qualitative methods would not only allow us to capture some of these intangibles, but would also help to ascertain whether the results attained through quantitative methods are supported by findings gained through qualitative methods. This is something the authors intend to explore in possible future editions of this report. Second, the reliability of data used in this report for quantitative measurements is an issue the authors continue to grapple with. For

100 The authors' calculations are based on defense expenditure data derived from the database of the Stockholm International Peace Research Institute (SIPRI), which estimates these expenditures in U.S. dollars at constant 2015 prices and exchange rates.

instance, SIPRI's data on defense expenditures has been criticized as unreliable by such scholars as Olga Oliker of the Center for Strategic and International Studies.<sup>101</sup> Oliker believes SIPRI's inclusion of civil-defense expenditures in Russia's overall military expenditures is unjustified, and she suggests that researchers instead come up with their own estimates of countries' defense expenditures by taking data reported by national governments in local currencies and then converting them into constant dollars. For this report, however, which calculates individual countries' share in world totals, Oliker's suggested approach would require converting military-expenditure data for all countries of the world for 1999-2016; this would be quite difficult given the insufficiency of available data. This problem is related to another limitation for all multi-variable methods used in this report: Since they are mostly based on ratios of a country's performance versus that of the world, the absence of data for certain global totals makes it difficult to introduce adjusting coefficients for such variables as technological prowess.

The aforementioned shortcomings apply to all the multi-variable approaches used in this report. There are, however, flaws that are specific to individual methods. First, as stated above, the GDPI does not adequately capture the multi-dimensional nature of national power. As for Chin-Lung's original formula, it fails to measure technological prowess, an important aspect of 21st-century national power. The same goes for the Geometric Index of National Capabilities. As for the EINP, the authors believe it is more nuanced and comprehensive than the other approaches, but its variations are not without flaws either—among them the imperfections of the proxies used to measure the soft-power component of national resources. Clearly, the fact that Pew polls cover favorable views of only a handful of countries limits the scope of measurements, and a different proxy should be found. The authors have reviewed two aforementioned indices of soft power. One is “The Soft Power 30: A global ranking of soft power.” The 2016 issue of this index ranked China 28th, Russia 27th, the U.S. 1st, the UK 3rd, France 5th, Italy 11th and Brazil 24th.<sup>102</sup> However, while listing variables used to measure soft power and giving a general idea of how the calculations were made, the index's authors do not disclose their exact methodology. Nor do their measurements cover the same research period and countries as this report. The father of the term “soft power,” Joseph Nye, has suggested a number of proxies, in addition to the number of foreign tourists, to measure the phenomenon. These include the number of asylum applications,

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101 “Russia (and many other countries) does not include in defense budgets are spending on civil defense and paramilitary forces, but the Stockholm International Peace Research Institute (SIPRI), in its annual tracking of defense budgets, adds these costs back in to the estimate for Russia, creating a higher cost than that reported by the Russian Government—generally 30-40 percent higher... If one hopes to make comparisons between states, one can either seek to establish one's own estimates, to ensure comparability, or one can default to the official budget converted to constant currency or as a share of GDP.” Oliker, Olga. “Russian Defense Spending: Tricky Math,” *Russia Matters*, April 26, 2017.

102 McClory, Jonathan. “[The Soft Power 30: A global ranking of soft power](#),” Portland Communications, 2015.



international students, book and music sales and spending on public diplomacy, as well as other proxies.<sup>103</sup> The authors have tried to integrate some of these proxies, but their attempts have been foiled by insufficient data. Nevertheless, the authors will continue to look for ways to further refine the measurement of this component. In part, the struggle to find a suitable proxy for measuring soft power reflects David Baldwin's observation that the concept of soft power itself needs clarification.<sup>104</sup>

The EINP may also theoretically benefit from the introduction of more variables that could help to better capture multiple facets of national power, such as: the use of national currencies as global reserve currencies and/or trade of key commodities and services; national cohesion/capability of national leaders to implement key decisions; and nations' technological prowess. More important, the authors realize that the EINP doesn't adequately capture either national will or strategic purpose as required by Cline's original formula. Both of these components can be quantified through more rigorous surveys and polling, which would require additional funding. The authors will continue to search for ways to integrate these two components into their formula. At the same time, the authors do not believe it is necessary to integrate corruption as a reduction coefficient into the EINP formula, if only because its impact is already indirectly reflected in such components as economic power. Had there been less corruption in a given country, its GDP would have been higher, since corruption creates economic inefficiencies. Likewise, a reduction in corruption would have reduced the share of black and gray sectors of the economy and the national statistical service, in turn, would have captured and reported a fuller picture of economic output. More broadly, the EINP suffers from methodological inconsistencies: While it is largely based on ratios, it relies on percentile rank for measuring the government's capability to employ national resources and uses the ratio of average lifespan in a country to average lifespan in the world. The former may be permissible, since that proxy (percentile rank among all countries) is used as a coefficient by which the sum of other proxies—which mostly represent ratios used to measure national resources—are multiplied. Additionally, this report could benefit from the application of quantitative methods that would explore which variables predict changes in national power for individual nations. Despite the aforementioned limitations, however, the study still yields meaningful results, in the authors' view.

Finally, this report can be criticized for choosing 1999 as the base year. Indeed, this was the year in which post-Soviet Russia's GDP began a period of continuous growth that spanned a decade. However, as noted above, this report does not dispute claims of Russia's decline in the 1990s. Its

103 Fan, Ying. "Soft Power: Power of Attraction or Confusion?" *Place Branding and Public Diplomacy* 4, no. 2. 2008: 147-158.

104 Baldwin, David A. "Power and International Relations" in *Handbook of International Relations*, eds. Walter Carlsnaes, Thomas Risse-Kappen, Thomas Risse and Beth A. Simmons. Sage, 2002.

purpose is to test claims of Russia's decline under Vladimir Putin in the 21st century.

#### **IV. Summarizing the Results of the Measurements**

The Gross Domestic Product Index and Chin-Lung's index show that Russia's power vis-à-vis the world as a whole was greater at the end of the research period (2016) than at the beginning (1999), though the growth in-between was not continuous and appeared to be petering out toward the end of the research period. Calculations used in the Revised Geometric Index of Traditional National Capabilities show Russia to have declined vis-à-vis the world as a whole, but by less than 1 percent. All three methods indicate that Russia has gained on its Western competitors in the 21st century. At the same time, all the methods used for this report show Russia trailing far behind the United States in terms of absolute national power, and the GDPI shows Russia trailing not only behind the U.S. but also behind Germany. When it comes to Russia's ex-Soviet, hydrocarbon-dependent and BRICS peers, Russia has turned out to be neither the best nor the worst performer in terms of rate of growth of its national power. Importantly, Russia has lagged behind China and India both in terms of rate of growth and in terms of absolute power, but is more powerful than the rest of its peers according to the GDPI, Chin-Lung's formula and RGITNC. As for the EINP, it shows that Russia has gained on all of its competitors and peers, but trails behind the U.S., China and India in terms of absolute national power.

The primary drivers of growth in Russia's national power seem to have been the more than doubling of government effectiveness and the almost doubling of Russia's economic output in the research period. These two factors mutually influence each other: An increase in economic output creates an opportunity to spend more on improving the quality of government and this, in turn, can stimulate economic growth. In comparison, Western competitors' shrinking shares in the world's economy, population and military expenditures were among the factors that drove their relative decline in the research period. One of the initial triggers of Russia's economic growth in the 21st century was the devaluation of the ruble in 1998, but growth was then further facilitated by a period of continuously rising oil prices, on which the Russian economy remains dependent. (While close analysis of Russian domestic policy lies outside the scope of this report, it is worth noting that the country's economic growth in the research period could not have been sustained for more than 10 years straight were it not for the economic reforms pursued by the Russian government during Putin's first presidential term.) The resulting increase in economic output also allowed the Russian government to boost defense expenditures (including procurement of high-tech weaponry), to stimulate birth rates and to attract more migrants. It also boosted budget revenues, which in turn had a positive impact on governance capabilities, as reflected in



the Experimental Index of National Power, which uses the World Bank's ranking of government effectiveness as a proxy. Russia's percentile rank in the government effectiveness category changed from 22 in 1999 to 44 in 2016—a positive change of 101 percent. Here again, one should bear in mind that this improvement was not predetermined. An increase in economic output does not necessarily lead to an increase in budget revenues, especially in countries with governments that are ineffective, weak and corrupt. For the same reason, a hike in budget revenues does not necessarily lead to improvements in government effectiveness. Such improvement requires government leaders to develop a strategic purpose to their policies and a will to work toward that purpose.<sup>105</sup> In the authors' assessment, Putin's Cabinet displayed a more consistent vision of a strategic purpose and greater will to achieve it than did Boris Yeltsin's government, which had to improvise in the immediate wake of the collapse of the Soviet empire and its planned economy. As stated above, one of the authors surveyed a number of Western and Russian experts on national will and strategic purpose in 2016 as part of his work on a related report.<sup>106</sup> The median estimate of Russia's national will, as measured by these experts, increased by 68 percent in 2015 compared with 1999, while the median of strategic purpose increased by 113 percent. The same period saw America's national will and strategic purpose decline by 3 percent and 13 percent, respectively. The experts also noted a decline in the national will and strategic purpose of France and Great Britain, but an increase in those of Germany and Italy.

The authors believe that the confluence of the aforementioned two trends—a decrease in Western national power and Russia's relative rise—can perhaps explain why Moscow has become more willing recently to assert its vital national interests in countries or regions that it has traditionally viewed among its so-called “privileged interests.” Back in the late 1990s and early 2000s Russian leaders saw their country as weak and, therefore, chose not to intervene when NATO bombed Yugoslavia in 1998 or even when Ukraine's pro-Russian presidential candidate was sidelined by a pro-NATO candidate in 2004. At that time, Russian leaders saw the world order as unipolar and resented U.S. dominance, but could not challenge it. Soon enough, however, they began to feel confident enough about the increased resources and capabilities at their disposal to reassert the country's status as a great power whose say cannot be ignored on key international matters, to challenge the Western-dominated post-Cold War global order and, ultimately, to push for a new global order in which Russia would play a lead role, along with the U.S., China and lead-

105 Harold Sprout and Margaret Sprout posited that “without some set of given undertakings, such as strategies and policies, actual or postulated, with reference to some frame of operational contingencies, actual or postulated, there can be no estimation of political capabilities.” Sprout, Harold and Margaret Sprout. *The Ecological Perspective on Human Affairs: With Special Reference to International Politics*. Princeton University Press, 1965: [215](#).

106 Simon Saradzhyan asked 12 foreign policy experts from Harvard University, Georgetown University, Gulf State Analytics, Brookings Institution, Center for National Interest, Wheaton College, Cohen Group, Moscow's Higher School of Economics and other organizations to assess the values of these variables, as formulated by Cline, in 1999 and then again in 2015 and then calculated the medians for both. It is important to note here that this May-June 2016 survey did not, of course, constitute a scientific poll and, therefore, its results do not conform to requirements for validity of quantitative research methods.

ing European powers. The Kremlin's newly acquired confidence in Russia's national capabilities first translated into a reassertion of Russian national interests, as seen from the Kremlin, within the post-Soviet neighborhood and beyond.<sup>107</sup> To Russian leaders, Russia's campaigns in Georgia (2008), Ukraine (2014-present) and Syria (2015-present) are all examples of them defending against what they perceived to be threats to their country's vital national interests. (The intervention in Ukraine was particularly interesting in the context of this report, as the multi-year trend of growth in Russia's national power coincided in early 2014 with a sharp, momentous decline in Ukrainian authorities' ability to employ national resources, resulting from the revolutionary change of power.)<sup>108</sup> In fact, when asked in January 2016 whether post-Soviet Russia had erred in its dealings with the West, Putin, who almost never admits mistakes, answered in the affirmative: "Yes, it has. We have failed to assert our national interests, while we should have done that from the outset," he said.<sup>109</sup> In the authors' view, the Russian leadership's rationale for the Georgia and Ukraine interventions was that they would prevent the ex-Soviet states from "escaping" to the West and, therefore, would allow Russia to continue relying on them as part of a buffer zone between itself and NATO, which the Kremlin views as a major threat to national security.<sup>110</sup> Russian Foreign Minister Sergei Lavrov said as much in his first public description of Russia's red lines, which included not only armed aggression against Russia but also attempts at changing regimes friendly to Russia.<sup>111</sup> The Kremlin's longer-term hope is that once these "intervened" states realize they cannot escape Russia's "zone of privileged interests," they might eventually become more amenable to participating in Russian-led post-Soviet economic and military integration projects, thereby boosting key components of the national power of Russia and its allies. For instance, if Ukraine were to reverse its drive toward the West and join the Eurasian Economic Union (EEU) instead, this would increase the alliance's population by a solid 27 percent, with most of the newly added population sharing a religious and cultural background with ethnic Russians.<sup>112</sup> The military power of the Russian-led Collective Security Treaty Organization would also increase substantially if Ukraine joined (which is even less likely), given that the Ukrainian armed forces are the second-most powerful in the former USSR. In addition to the interventions, as Sabine Fischer of the German Institute for International and Security Affairs has observed, the increase in Rus-

107 Putin's assertive speech at the 2007 Munich Security Conference, in which he openly derided and even challenged Western claims to global supremacy, was one indicator of Russian leaders' renewed confidence in their country's national power.

108 Since CIA analysts, such as Cline, have routinely measured national power of nations, it is most probably that Russia's intelligence community not only engages in such measurements, but also reports results to decision-makers in the Kremlin.

109 "Interview to German newspaper Bild. Part 1," Kremlin.ru, Jan. 11, 2016.

110 Preventing the emergence of hostile alliances on Russia's borders is one vital Russian national interest and the Kremlin does view NATO as a hostile alliance. For one assessment of the hierarchy of Russia's vital interests see: Saradzhyan, Simon. "Keys, Hurdles, Strategies: US-Russia Relations Under Trump," *Russia Matters*, Jan. 20, 2017. For one estimate of Chinese vital national interests see: Saradzhyan, Simon and Ali Wyne. "Sino-Russian Relations: Same Bed, Different Dreams?," Routledge, publication pending.

111 Saradzhyan, Simon. "When Does Russia See Red?" *The Moscow Times*, Jan. 30, 2018.

112 Saradzhyan, Simon. "Does Russia Really Need Ukraine?" *The National Interest*, Feb. 24, 2015.

sia's national power could also have helped Moscow to advance its economic integration projects, such as the EEU in the post-Soviet neighborhood.

As demonstrated above, while outperforming its Western competitors in terms of the rate of growth of national power, Russia has been lagging behind some of its peers in this respect. The relatively quick rise of countries like Kazakhstan is of no immediate concern for the Russian leadership, given that Russia still dwarfs them in terms of the absolute value of its power. However, the situation is quite different when it comes to China, which outperforms Russia both in rates of growth and absolute power. The widening gap between the two countries is, perhaps, one reason why Russia has taken pains first to mend fences with China and then to pursue what Moscow's foreign policy doctrine describes as a "comprehensive, equal and trustful partnership and strategic collaboration" with Beijing. Furthermore, Putin has publicly conceded Chinese pre-eminence, openly stating that his country will not contest China's global leadership: "The main struggle now underway is for global leadership and we are not going to contest China on this," Putin said.<sup>113</sup> Such an accommodating approach toward China—with which Russia has a 2,500-mile border that Henry Kissinger has called as a "strategic nightmare" for Moscow—shows foresight on the part of Russian leaders. After all, it is best for Russia to lay the foundation for a long-term constructive relationship with China before the latter becomes a global hegemon.<sup>114</sup> However, while helping at least to delay China's transformation into a competitor for Russia in the post-Soviet neighborhood, Moscow's policy of engagement with Beijing cannot fully eliminate the negative impact that China's rise may have on Russia's national power.

In general, if the authors' proposition is valid, that Russia's behavior toward other countries is partially driven by Russian leaders' perception of changes in countries' national power, then measurements of changes in national power could help predict nations' behavior. Skeptics can, of course, also counter the authors' proposition, arguing that applying different formulas of national power would yield different results. However, many formulas measure some of the same essential elements of national power, such as economic might, military might and demographic strength, and use global averages and totals as the baseline. Therefore, the same increases in certain components of Russian national power observed here (e.g., economic and military strength) would be reflected by other formulas as well, influencing the perceptions of those who rely on them for their own research and for providing policy advice to national leaders. Such perceptions are important because they impact policies, which in turn shape realities—Cline had good reason

113 "Putin has refused to struggle with China for global supremacy," Newsru.com, Oct. 18, 2011 (in Russian).

114 In 2010, the regional domestic products of Russia's three eastern federal districts totaled roughly \$372 billion, compared with \$538 billion worth of goods and services produced by the Chinese provinces that border Russia. Demographic comparisons are also unfavorable to Russia: Fewer people combined live in all the 27 provinces that make up Russia's Urals, Siberian and Far East federal districts than in Heilongjiang, just one of the Chinese provinces bordering Russia.

to call his method the Index of Perceived Power of Nations. That said, an increase in Country A's national power vis-à-vis neighboring Country B in one year would not necessarily precipitate more assertive behavior by A toward B. In the longer term, however, such assertive behavior by A toward B might become more likely, if A's national power surpasses B's not only in terms of growth rate but in absolute value as well. The opposite is not necessarily true. Country A may seek to strengthen cooperative engagement with Country B if B is overtaking A in terms of absolute power to make it more difficult for B to mistreat A in the future. However, A may also try to interdict B's rise, as ancient Sparta tried to do with ancient Athens in the history immortalized by Thucydides.<sup>115</sup>

Finally, the results of the authors' measurements reaffirm the notion that the post-Cold War period of U.S. domination in global affairs is coming to an end. Half the methods of measuring national power applied in this report show that China has overtaken America, and the other half show the gap between the two narrowing. However, they also show that China lacks the strength to impose its will on the rest of the world and that the world is, therefore, returning to an era of competition among multiple great powers. Whether this competition will be orderly and structured by agreements or more chaotic remains to be seen. Moscow's hopes are that the new global order will be managed by a new edition of the Concert of Nations that will include Russia, China, the U.S. and, perhaps, leading powers of the European Union and India. And, in fact, this report's measurements show that Russia, along with China and India, do have the power needed to be on par with leading Western countries in managing global issues. However, not everyone believes that the post-Cold War order will be replaced by something orderly. It will be "No One's World" or "G-Zero," according to Charles Kupchan of Georgetown University and Ian Bremmer of Eurasia Group, respectively. To avert such "global chaos" and form "the core of global stability" in this new world, the United States and its allies need to integrate Russia into the "greater and more vital West," according to a recent book on structural changes in the world by Zbigniew Brzezinski. Joseph Nye of Harvard is not as optimistic about Russia's potential, but his recent book, "The Future of Power," does urge the United States to develop and implement a smart-power strategy and narrative that stresses alliances in order to cope with the "rise of the rest." This report's authors believe that all international-cooperation formats have the right to exist as they decrease the possibility that the global interregnum will end in chaos. Whether it's the G-20 or even the D-10,<sup>116</sup> these and other cooperative formats should be encouraged to develop (and even to compete to a certain extent) in the hope that some of them will prove to be viable and effective enough to be-

115 For an insightful examination of when nations' rise and decline vis-à-vis each other can lead to war, see: Allison, Graham. "The Thucydides Trap: Are the US and China headed for war?" *The Atlantic*, Sept. 24, 2015.

116 D-10 stands for "Democracies 10"—a grouping proposed in a [2013 Wall Street Journal op-ed](#) by Eurasia Group's David Gordon and Ash Jain of the German Marshall Fund that would include the United States, European Union, United Kingdom, France, Germany, Italy, Canada, Japan, Australia and South Korea.

come the building blocks of the new global architecture needed to avoid chaos as the world order undergoes profound structural changes.

#### **IV. The Future of Russia's National Power**

What role Russia will play in the new global order will to a very large extent depend on how key components of Russia's national power evolve compared to those of its key current and potential competitors. Some of the sources of the recent growth in Russia's national power relative to Western competitors are finite. For instance, Russia's government effectiveness, as measured by the World Bank, has dramatically improved under Putin, but that also means there's less room left for Russia to climb in the bank's percentile ranking. More important, the relative gains that Russia has made in the first three terms of Putin's presidency can easily be reversed in the fourth term if Russia falls behind the rest of the world in terms of economic and demographic growth rates, as it did in 2015- 2017. How these two last factors will play out in the future is especially important because a nation's economic performance and its size, as well as the quality of its human capital, have a greater impact on national power in the 21st century than they did in the 20th, in the view of this report's authors. If U.N. projections are to be believed, then Russia will trail behind all but three of its competitors and peers in terms of the growth rate of its share in the world's population from 2016 to 2021. The only exceptions would be Moldova, Belarus and Ukraine whose populations will decline at an even faster pace than that of Russia, according to the medium variant of the United Nations' forecast of world demographic trends. Russia's share in the world's population is to decline by 9 percent, from 1.93 percent of the world's population in 2016 to 1.75 percent of the world's population in 2021, according to this prognosis. When it comes to changes in the absolute sizes of countries' populations, Russia is set to see its population decline by 0.55 percent between 2016 and 2021, according to the U.N. When it comes to the size of economies, the World Bank's consolidated forecast of world economic performance is only through 2019, and it omits a number of countries researched in this report. Therefore, the authors had to rely on the International Monetary Fund's data.<sup>117</sup> The share of Russia's GDP in world GDP measured in PPP current international dollars is to decrease from 3.15 percent in 2016 to 2.81 percent in 2021, which would constitute a 10 percent decrease.<sup>118</sup> Only Germany, Italy, Belarus and Venezuela are to see their share in the world's GDP shrink at a greater rate in 2016-2021, according to the IMF. The rest are to perform better, with India, Turkmenistan, China, Uzbekistan, Georgia, Tajikistan, Armenia and Iran also set to expand their share in the world's GDP in that period, according to the IMF. If these forecasts materialize, Russia's national power, measured using the GDPI method,

117 [World Economic Outlook Database](#), International Monetary Fund, October 2017.

118 Ibid.



would shrink vis-à-vis the world as a whole. In addition to the forecast decline in share of global GDP, Russia's defense expenditures, which constitute an important pillar of its national power, are also set to shrink in the next three years, according to the Russian government's plans.<sup>119</sup> (In fact, as this report neared publication, SIPRI announced that Russia had slashed its defense expenditures by 20 percent in 2017.<sup>120</sup>) Therefore, applying the multi-variable methods of measuring national power outlined in this report would also probably project a decline in Russian power vis-à-vis the world as a whole in 2016-2021.

The longer-term forecasts paint an even bleaker picture of Russia's future. The medium variant of the United Nations' demographic forecasts sees Russia's share of the world's population declining from 1.91 percent in 2017 to 1.32 percent in 2050, a 31 percent decrease.<sup>121</sup> Nor does the long-term future bode well for the Russian economy, according to PricewaterhouseCoopers, which has used IMF data and U.N. population projections, among other things, to forecast the future of the world's largest economies. According to PWC, Russia's GDP will increase by 90 percent between 2016 and 2050, allowing Russia to retain its position as the world's sixth largest economy measured in terms of PPP in 2050.<sup>122</sup> However, the cumulative rate of growth of Russian GDP in 2016-2050 (90 percent) will lag behind the rate of growth of world GDP (148 percent) in the same time period. Therefore, Russia's share in world GDP will decline by 23 percent. However, even short-term projections, such as the 2016-2021 forecasts cited above, should be taken with a grain of salt. For instance, a July 2015 forecast by the United Nations, which relies on national governments for much of its data, had Russia's population declining from 143.457 million in 2015 to 143.440 million in 2016. According to the Russian government's statistics agency, however, the country's population actually grew from 146.3 million in 2015 to 146.5 million in 2016.<sup>123</sup> U.N. forecasts cannot account for unforeseen events, such as a national government's decision to start or stop stimulating birth rates or inbound migration. (One prime example was the Chinese government's decision to abandon its one-child-per-family policy three months after the U.N. had published its demographic forecast.) Going forward, the Russian government, whose leaders have explicitly stated the need to prevent depopulation, may follow China's lead and take steps that would alter trends that the U.N.'s forecast assumed would continue. For instance, the Kremlin can decide it wants to boost the amount of financial aid to mothers with two or more children. As recent history has demonstrated, tangible increases in such aid can stimulate the birth rate in Russia. Likewise, in the economic sphere, Russian leaders may finally act to revamp the existing

119 "V Minoborony zayavili o snizhenii realnogo urovnya voennykh raskhodov Rossii," Interfax, Nov. 22, 2017.

120 "Global Military Spending Remains High at \$1.7 Trillion," SIPRI, May 2, 2018.

121 [World Population Prospects](#), United Nations, 2017.

122 "The Long View: How Will the Global Economic Order Change by 2050," PWC, February 2017.

123 [Federal Statistics Service database](#).

obsolete economic model, which hinges on exports of oil and gas, to ensure Russia's GDP resumes growth. Changes could occur in other countries as well to disprove the forecasts. For instance, Germany and Italy can decide to finally comply with NATO's requirement that they spend 2 percent of their GDP on defense instead of the 1.2 percent and 1.3 percent that they spent in 2016, respectively. Such an increase in defense expenditures, had it occurred in 2015, for instance, would have meant that Germany's national power would have decreased only by 16.89 percent in 1999-2015, as measured by the RGITNC, rather than by the 25.75 percent that it did.

For Russia to prevent these bleak economic and demographic forecasts from materializing, it has to launch and sustain deep structural reforms that would address the obsolete and inefficient nature of its current economic model, its insufficient quality of governance (relative improvements notwithstanding), pervasive corruption and the fragility and insufficiency of demographic improvements. The authors do not yet know whether during Putin's fourth term Russia's elites and ordinary people will pursue such reforms or whether they will remain passive and allow the aforementioned challenges to result in a definitive decline of their country in the 21st century. Much, but not all, will depend on Putin, who may or may not contradict the common wisdom that authoritarian rulers are generally averse to launching sweeping changes late in their rule unless faced with existential threats to their regime or their country. One thing is certain, however: Both competitors and partners of Russia would do well to shape their policies toward this country based on a realistic assessment of its actual power rather than on some far-flung forecasts of its "inevitable collapse." Russia's resources—as evidenced by the absolute value of its national power, no matter what method of measurement is applied—ensure that this country will remain a global player that will continue to affect the Western world and the global order in profound ways for years to come.

*The opinions expressed in this report are solely those of the authors.*



The authors would like to thank the following individuals for their feedback on various drafts of this article:

- *Isabelle Facon, Senior Research Fellow, Foundation for Strategic Research, France*
- *Sabine Fischer, Head of Eastern Europe and Eurasia Research Division, Institute for International and Security Affairs, Germany*
- *Margarete Klein, Deputy Head of Eastern Europe and Eurasia Research Division, Institute for International and Security Affairs, Germany*
- *Andrew C. Kuchins, Senior Fellow, Center for Eurasian, Russian and East European Studies, Georgetown University, United States*
- *Seth Jones, Director of the International Security and Defense Policy Center, RAND Corporation, United States*
- *Vahe Movsisyan, Central Bank of Armenia*
- *Paul Saunders, Executive Director, Center for the National Interest, United States*
- *William Tobey, Senior Fellow, Belfer Center for Science and International Relations, Harvard University, United States*

*The authors would also like to thank Natasha Yefimova-Trilling and Ted Siefer for editing this report, and Angelina Flood for design and formatting work.*

## About Russia Matters

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

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

The specific aims of Russia Matters are to help:

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

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

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



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