An Audit of Geopolitical Capability: A Comparison of Eight Major Powers James Rogers





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James Rogers



Power is no blessing in itself...But when it is employed to protect the innocent, to relieve the oppressed, and to punish the oppressor, then it becomes a great blessing. Jonathan Swift, [1744] 1801¹ 1 Swift, J., 'Three Sermons: I. on mutual subjection. II. on conscience. III. on the trinity', Nichols, J. (ed.), The Works of the Reverend Jonathan Swift:

Volume 10 (London: M. Brown, 1801 [1744]), pp. 41-42.

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Executive Summary

- Narratives of decline have been circulating in Western democracies for some years now:
 China, India and Russia, among others, have appeared to be catching up with the United Kingdom (UK) and the United States (US) and their allies.
- The political tumult resulting from the decision of the British people to advise their government to leave the European Union (EU), as well as the election of Donald Trump as US president has only served to exacerbate these declinist narratives, particularly in the UK and US, but also elsewhere.
- The existing international order, as well as the framework on the European mainland, are in no small part a consequence of at first British, and later American, power. The common assumption among Western analysts has been that if the US and UK and their allies falter, the international order predicated on liberal and democratic norms will likely wane as well, with a plethora of unpredictable consequences.
- The objective of this report is to measure using 35 indicators, arranged in seven categories the national capability of the major powers: China, France, Germany, India, Japan, Russia, the UK and the US, to determine a final score for each, in relation to the leading power the "hegemon".
- The categories of capability include "geographic integration", "demographic condition", "economic clout", "technological prowess", "diplomatic leverage", "military strength" and "cultural prestige".
- These capabilities are selected as indicators to capture the major powers' ability to geopolitically mould and shape the international environment in accordance with their interests.
- The Audit of Geopolitical Capability reveals that irrespective of decline, both the US and UK (as well as other Western liberal democracies) still command an astonishing lead over their potential competitors.
- The US is truly dominant in every category except "demographic condition", still with the capacity to act as a decisive "hegemon" across a range of areas.
- Equally, the UK, with a broad range of geopolitical capabilities at its disposal while some way behind the US, and not far in front of France or China (its nearest competitors) is the world's second most capable country.

Preface

This is the first report from The Henry Jackson Society's new Global Britain Programme, inaugurated in June 2017. This programme aims to take part in the national debate – resulting from the decision of the British people in a national referendum on 23rd June 2016, advising the government to withdraw the UK from the EU – on the future direction of British foreign, security and defence policies. It will also focus on the country's international strategic role, both on the European mainland and in the wider world.

In recent years, Western countries – not least the UK and US – have looked on as their power within international society has seemingly fallen. The rise of China, India and other powers – along with the belligerent resurgence of Russia – is without question one of the trends of the age. This report is compiled to determine whether the UK and US can still claim to lead the world. Its focus is on China, France, Germany, India, Japan, Russia, the UK and US. By concentrating on their geopolitical capabilities – geographic, demographic, economic, technological, diplomatic, military and cultural – its goal is to appraise and rank their position as "major powers" in comparison with their peers at the apex of the international system. Equally, with the exception of China, India and Japan, all of these countries are, in one way or another, also *European* powers, and thus influential in the region in which the UK is irrevocably and permanently located.

This "Audit of Geopolitical Capability" is the foundation for the Global Britain Programme. As it will be updated annually, it can be used to determine the means and resources available to the British government, as well as the governments of the other major powers, as they seek to shape and mould their neighbourhoods, along with the wider international system.

James Rogers
Director
Global Britain Programme

1. Introduction

The geopolitical story of the age is the decline of the "Atlantic democracies": the power and authority of the UK and US - until recently nearly absolute - appears to be fading fast. The British people's decision in the referendum of June 2016, advising their government to withdraw their country from the EU, as well as the conclusion of the 2016 US presidential election have not gone unnoticed. Germany's long-time chancellor, Angela Merkel, is now celebrated as the new "leader" of the "free world", while Emmanuel Macron, the newly elected and inexperienced French president, has been widely praised for his commitment to European integration.² Russia, meanwhile, has been accused of both "interfering" in the British referendum and "hacking" the US election, with the implication – if correct – that London and Washington are no longer entirely in control of their own destiny.³ And China and India, with two-fifths of the world's people between them, appear poised and ready to straddle the world, or at least push it into a new "Asian century". Meanwhile, with Britain's impending withdrawal from Brussels' corridors of power and Mr. Trump's assertion of "America first", the outward, engaged and expansionist countries looming over both sides of the Atlantic seem to have gone into reverse. To invoke and rephrase the British Colonial Secretary, Joseph Chamberlain: the two powers appear to have become "weary titans", "staggering under the too vast orb of their fates".5

In light of the swirling debates on general Western decline, or even, a partial transfer of power within the West, along with the political backdrop of Britain's EU withdrawal and Mr. Trump's presidency, a general appraisal of the world's major powers' global standing is more necessary than ever. Without properly knowing how strong – or weak – the leading powers are across all the major areas of capability, mistakes might be made when attempting to chart a new course into the future. Consequently, this report – the Global Britain Programme's first – aims to undertake a thorough quantitative analysis of the geopolitical capabilities available to eight countries, commonly understood to be "major powers". These nations include: China, France, Germany, India, Japan, Russia, the UK and the US, the established five members of the United Nations Security Council,

² For those suggesting that Angela Merkel and Germany have taken the baton of global leadership from the US and UK, see: Hundal, S., 'Angela Merkel is now the leader of the free world, not Donald Trump', *The Independent*, 1 February 2017, available at: http://www.independent.co.uk/voices/angela-merkel-donald-trump/democracy-freedom-of-press-a75.56986.html, last visited: 25 August 2017; Reader of the free world meets Donald Trump', *Politico*, 17 March 2017, available at: http://www.politico.eu/article/the-leader-of-the-free-world-angela-merkel-meets-donald-trump/, last visited: 25 August 2017; and Noack, R., 'How Angela Merkel, a conservative, became the "leader of the free world", *Washington Post*, 21 November 2016*, available at: <a href="https://www.washingtonpost.com/news/worldviews/wp/2016/11/21/how-angela-merkel-a-conservative-became-the-leader-of-the-liberal-free-world/?utm_term=871e42a099e.5*, last visited: 25 August 2017. For an overview of claims that Emmanuel Macron will reform the EU institutions, see: Benner, T. and Gomart, T., 'Meeting Macron in the Middle: How France and Germany Can Revive the EU', *Foreign Affairs*, 8 May 2017*, available at: https://www.foreignaffairs.com/articles/europe/2017-05-08/meeting-macron-middle, last visited: 25 August 2017; Peel, Q. and Wright, G., 'What Does Emmanuel Macron's Victory Mean for Europe and for Brexit?', *Chatham House*, 9 May 2017*, available at the proper and for Brexit?', *Chatham House*, 9 May 2017*, available at the proper and for Brexit?', *Chatham House*, 9 May 2017*, available at the proper and for Brexit?', *Chatham House*, 9 May 2017*, available at the proper and for Brexit?', *Chatham House*, 9 May 2017*, available at the pr

at: https://www.chathamhouse.org/expert/comment/what-does-emmanuel-macron-s-victory-mean-europe-and-brexit, last visited: 25 August 2017; and Samuel, H. and Huggler, J., 'Emmanuel Macron and Angela Merkel pledge to draw up "common road map" for Europe', *Daily Telegraph*, 15 May 2017, available at: https://www.telegraph.co.uk/news/2017/05/15/emmanuel-macron-call-eu-reform-heads-germany-first-foreign-trip/, last visited: 25 August 2017.

See, for example: Entous, A., Miller, G. and Nakashima, E., 'Obama's secret struggle to punish Russia for Putin's election assault', *Washington Post*, 23 June 2017, available at: <a href="https://www.washingtonpost.com/graphics/2017/world/national-security/obama-putin-election-insecurity/obama-putin-electio

at: https://www.foreignaffairs.com/articles/russia-fsu/2016-09-20/putins-meddling-us-elections, last visited: 25 August 2017; Thompson, I., 'Did Russia Hack the Brexit Vote?', *Vanity Fair*, 12 April 2017, available at: https://www.theguardian.com/politics/2017/apr/12/foreign-states-may-have-interfered-in-brexit-vote-report-says, last visited: 25 August 2017.

See: 'Asia 2050: Realizing the Asian Century', Asian Development Bank (2011), available at: https://www.adb.org/publications/asia-2050-realizing-asian-century, last visited: 25 August 2017.

⁵ For the original quotation, see the opening pages of: Friedberg, A. L., *The Weary Titan: Britain and the Experience of Relative Decline, 1895–1905* (Princeton, New Jersey: Princeton University Press, 1988).

along with India, Japan and Germany. In so doing, it must provide answers to three fundamental questions:

- 1. How can we measure geopolitical capabilities in the contemporary era?
- 2. How should capabilities be arranged in a framework for the purposes of analysis?
- 3. And what indicators of geopolitical capability should be used?

In answering these questions, it becomes possible to rank the major powers in accordance with their geopolitical capability, as well as to compare and contrast them.

1.1 Measuring the Major Powers' Capabilities

What is capability? Many attempts have been made, not least during the competitive environment of the Cold War, to measure the capability or power of nations. The most famous is perhaps the Composite Index of National Capability, designed in 1963 as part of the Correlates of War Project at the University of Michigan in the US. This system uses six key indicators – Population (PO), Urban Population (UP), Iron and Steel Production (ISP), Primary Energy Production (PEP), Military Expenditure (ME) and Military Personnel (MP) – which at the time were considered to be the best indicators for a country's ability to wage war. These indicators were placed into a formula to determine the power of particular countries, finally expressed as a proportion of the world total:

$$Power = \frac{PO + UP + ISP + PEP + ME + MP}{6}$$

For all its merits, four problems have become apparent with this system. Firstly, it focuses on inputs (resources) and ignores throughputs (institutions), which can be used to amplify resources or utilised to make up for a lack of materiel. Secondly, and relatedly, it implies that power is merely capability, perhaps even conflating the two, insofar as strategy and political determination – along with strong national institutions – are required to transfer capability into power. Thirdly, the index remains trapped in the period of its own creation, i.e., the early 1960s, when industrial production was king, when mass was deemed important, and when computers and connectivity were practically non-existent. Finally, it does not account for the fact that manpower is not a particularly useful indicator of military capability (or power): without access to overseas military bases, warships, logistics vessels and transport aircraft, etc., it would be hard to move them very far beyond their respective homelands.

The idea behind the Composite Index of National Capability was to rank the strongest powers in the international system, to help understand the causes of war. Indeed, since at least the nineteenth century, there has been a tendency to equate national capability with the ultimate objective of defence during war.⁷ The German historian Leopold von Ranke is widely credited as having been the first to try to systematise this idea for the largest European countries in his seminal essay *The Great Powers*. He argued that a country is only a "great power" if it can "maintain itself against all others, even when they are united".⁸ Over the course of the nineteenth and twentieth centuries, the

⁶ See: Singer, J. D., Bremer, S. and Stuckey, J., 'Capability Distribution, Uncertainty, and Major Power War, 1820–1965', in Russett, B. (ed.), *Peace, War, and Numbers* (Beverly Hills, California: Sage, 1972).

⁷ Lord Castlereagh, a former British Foreign Secretary, is widely credited with having first used the term "great Power" in diplomatic correspondence in 1814. See: Webster, C. (ed.), *British Diplomacy 1813–1815: Selected Documents Dealing with the Reconciliation of Europe* (London: G. Bell and Sons Ltd., 1921), p. 307.

Edd., 1921), p. 507.

Stited in: Von Laue, T. H., *Leopold von Ranke: The Formative Years* (Princeton: Princeton University Press, 1950), p. 203.

countries considered at various times to have acquired the status of "great powers" - Austria-Hungary, France, Imperial Germany, Italy, Japan, Russia, the UK and US - were one-by-one put to the test. By 1945, only three remained in the ring, but each equally untried: an island fortress (the UK), a populous mass (Soviet Russia) and a resourceful continent (the US). Owing to their unique ability to harness their geographic location and unleash their productive might for self-defence, the US scholar William Fox invented a new label for them in 1944: "super-powers". Since then, with the advent and spread of nuclear weapons, which provide their respective holders with the ability to obliterate attacking enemy forces, or strike at the heart of enemy production, or better still, dissuade or deter potential attack, many countries may have re-emerged or become "superpowers", albeit if only in the Rankean sense."

In a war between two or more nuclear-armed major powers, if the stakes became existential, which is almost certain given the stakes involved, it would likely lead to Armageddon, meaning traditional interstate war has become if not impossible, then certainly difficult to contemplate. Such conflict becomes unlikely because each nuclear power's national leadership can no longer guarantee its own survival in the event of attack. It could do this even during the reign of the Dreadnought battleship and the bomber fleet, which could - when used correctly - also level vast swathes of urban area, if not as quickly as a nuclear burst, then certainly within a relatively short time. With its capacity to inflict potentially absolute and lasting destruction, the atomic age appears to have enforced paradoxically - Norman Angell's thesis: that war between two or more major industrialised powers would no longer bring rewards to an aggressor, thereby reducing its likelihood. However, another line of thought would suggest that conflict has become more likely since the advent of nuclear weapons, albeit in a different context. In other words, the atomic bomb may have given Clausewitz's dictum - that "war is the continuation of policy with other means" - a shot in the arm. 13 Of course, war has always been waged on many levels, even before the advent of "the Gadget" in 1945. But the development of nuclear warheads, allied to the emergence of new platforms for conflict - not least the so-called "cyber domain" - appear to have forced conflict into other areas. Today, the major powers seem to be involved increasingly in a perpetual and "non-linear" struggle, using a broad range of capabilities, to protect and establish their interests, which are as expansive and multifaceted in scope as ever before.14

So any attempt to measure or analyse the capabilities available to a major power must now go beyond humble measures like total population, territorial size or military personnel, even if they remain important. Rather than capabilities for self-defence, offensive capabilities – with global reach – must also be considered, and not only in the military domain, but also outside of it. In this sense, at least two different attempts have recently been made to expand the analysis, to incorporate a plethora of diverse indicators of capability and power, and through various contexts. The Elcano Royal Institute's annual "Global Presence Index" is one such example, while Portland's annual "Soft Power Index" is another (see Appendix A). 15 Without precluding the utility of these valuable

⁹ See: Spykman, N., The Geography of the Peace (New York City: Harcourt, Brace and Company Inc., 1944).

¹⁰ See: Fox, W. T. R., The Super-Powers: The United States, Britain, and the Soviet Union - Their Responsibility for Peace (New York City: Harcourt Brace and Company, Inc., 1944).

[&]quot; See: Waltz, K., 'The Spread of Nuclear Weapons: More May Be Better', Adelphi Papers 21:171 (1981).

¹² See: Angell, N., The Great Illusion: A Study of the Relation of Military Power to National Advantage (New York City: G. P. Putnam's Sons, 1913).

Esce: Holmes, J. R., 'Everything you know about Clausewitz is wrong', *The Diplomat*, 12 November 2014, available at:

http://thediplomat.com/2014/11/everything-you-know-about-clausewitz-is-wrong/, last visited: 25 August 2017.

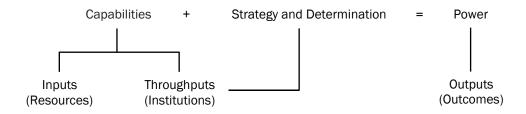
"For examples of such confrontation see: Rogers L and Tyushka, A 'Hacking in the West: Russia's "anti-hegemon

[&]quot;For examples of such confrontation, see: Rogers, J. and Tyushka, A., 'Hacking in the West: Russia's "anti-hegemonic drive" and the strategic narrative offensive', *Defence Strategic Communications*, 2:1 (2017); Rogers, J. and Tyushka, A., 'Russia's "Anti-hegemonic" Offensive: A New Strategy in Action', *Diplomaatia*, December 2016, available at: https://www.diplomaatia.ee/en/article/russias-anti-hegemonic-offensive-a-new-strategy-in-action/, last visited: 25 August 2017.

For the Global Presence Index, see: 'Elcano Global Presence Index', Elcarno Royal Institute, 2017, available at: http://www.globalpresence.realinstitutoelcano.org/en/, last visited: 25 August 2017. For the Soft Power Index, see: 'The Soft Power 30', Portland Communications, 2017, available at: http://softpower30.com/, last visited: 25 August 2017.

tools, they are inadequate as gauges of national capability. Firstly, although the "Global Presence Index" ranks numerous countries by the extent of their "global presence" using a range of indicators across three key categories – military, economic and so-called "soft power" – it measures the outcome of capability over the preceding year (in the form of "power" through "presence") rather than the capability itself. As Figure 1 shows, the two, national power and capability, while often used interchangeably, are *not* the same thing: the latter deals with inputs and throughputs, while the former deals with outputs, or even *outcomes*. Equally, like the "Global Presence Index", the "Soft Power Index" also accounts for power instead of capability, while also focusing exclusively on "soft" forms of power, i.e., the ability to *attract*. This means it ignores "hard" – *coercive* – forms of power, which are still vital for geostrategic and defence purposes.

Figure 1: The generation of national power



1.2 Towards an Audit of Geopolitical Capability

The advent of nuclear weapons and the resulting enlargement of political struggle – to become increasingly "non-linear" and fought with multiple different forms of capability – means that a new "expansive" system is required to assess the major powers' overall capability. This new synthetic system must incorporate a plethora of capabilities across the different sectors of political struggle. Further, if "all politics is geopolitics, and ... all strategy is geostrategy", the new system requires a solid geopolitical footing. In other words, it must start from the assumption that although all forms of capability matter, it is only through geographic space that power can ultimately be projected or institutionalised. As such, the new system should measure *only* the potential assets (i.e., capabilities) available to each country; it should *not* aim to assess the production, projection or institutionalisation of the resulting power. This means it should not therefore analyse or evaluate either the national strategy or the political will of the major powers' respective governments, as each seeks to transform their country's geopolitical capability into the ability to counter, shape or influence other nations in other geographic regions. Insofar as a nation's political will and grand strategy are deeply subjective, they are beyond the reach of an objective audit.

¹⁶ Nye, J., Soft Power: The Means to Success in World Politics (New York City: Public Affairs, 2004), p. 5.

See: Gray, C., 'Inescapable Geography', The Journal of Strategic Studies, 22:2 (1999), p. 162.

2. Methodology of the Audit of Geopolitical Capability

The Audit of Geopolitical Capability measures the capabilities available to each of the eight countries commonly identified as "major powers", namely the permanent members of the United Nations Security Council (China, France, Russia, the UK and the US), along with Germany, India and Japan. It is critical to point out that, owing to a lack of sources, these powers' overseas territories – unless otherwise stated – are *not* included in the audit. As such, the audit includes seven different categories, 35 different indicators and 59 different components to "frame" and "capture" each major power's geopolitical standing in the early twenty-first century (see Appendix B):

- Categories represent the broad conceptual dimensions of national "geopolitical capability" (GC) in the early twenty-first century, including: "geographic integration" (GI), "demographic condition" (DC), "economic clout" (EC), "technological prowess" (TP), "diplomatic leverage" (DL), "military strength" (MS) and "cultural prestige" (CP). Each category is equal in weight within the audit.
- Within each category are five indicators. One indicator assumes the role of a *critical* indicator, whereas the other four act to *support* it. A country's score for each category is computed by multiplying the critical indicator's score by the average score of the four supporting indicators.
- All indicators are based on at least one component, although some indicators are composites of several. Components are akin to sub-indicators, based on data from a range of official or scholarly sources.

2.1 Formula for computing each major power's geopolitical capability

The Audit of Geopolitical Capability is predicated on the following formula:

c = a country;

 $S_k(c)$ = a capability category (score) for a country c, k = 1, ... 7;

 $CI_{kj}(c)$ = a capability indicator j of a category k for a country c, j = 1, ...5;

 $x_{kji}(c)$ = a component *i* of a capability indicator *j* of a category *k* for a country *c*;

 n_{kj} = the total number of components of a capability indicator j of a category k (it is different for each capability indicator).

Each component $x_{kji}(c)$ is an input from a data source, either a real measure (e.g., total population; total number of Forbes 2000 companies; total tonnage of the major combatants in the naval fleet, etc.) or an index (e.g., degree of government cohesion; level of connectivity, etc.). As every

¹⁸ However, it is important to stress that, in some cases, the inclusion of overseas territories would boost the capability of the metropole quite significantly. Hong Kong's inclusion would boost, for instance, China's technological prowess, while the inclusion of Bermuda and the Cayman Islands – significant financial centres in their own right – would bolster the UK's economic clout.

component has a different scale, each must be rescaled for the purposes of comparability across countries for categories, indicators and components.

Insofar as it is not possible to determine the absolute geopolitical capability a country could obtain – even a world state could expand its capabilities within its geographic domain over time – this audit is not predicated on an absolute scale, but rather on *relativity*. The relative scale is achieved through a system of 'distance to a referent country', in this case the best-performing country for each component, indicator and category of geopolitical capability. That is to say, for all measures, a major power's performance is specified in relation to the leader, i.e., the hegemon.

Components are scaled with respect to the best-performing country by dividing each country's raw value with that of the best performing country for that component so that the latter is afforded a value of 100:¹⁹

$$x_{kji}^*(c) = \frac{x_{kji}(c)}{\max_{c} x_{kji}(c)} \times 100.$$

The capability indicator j of category k for country c can then be calculated as the sum of all it components:

$$CI_{kj}(c) = \sum_{i=1}^{n_{kj}} x_{kji}^*(c).$$

The values of this capability indicator for each country are then again rescaled with respect to the best-performing country, to determine their relative position:

$$CI_{kj}^{*}(c) = \frac{CI_{kj}(c)}{\max_{c} CI_{kj}(c)} \times 100.$$

This re-scaled capability indicator then symbolises the *relative* performance of country c compared to the best-performing country on a scale from 0 to 100 (while the leading country has a re-scaled value of 100).

Once all countries in the thirty-five indicators have been scaled, each of the countries in the seven categories can be scored, taking into account the critical indicator for each category:²⁰

$$S_k(c) = CI_{k \ crit}^*(c) \times \sum_{j \in \{1,..,5\} \setminus crit} \frac{CI_{kj}^*(c)}{4}.$$

Here, the critical indicator $crit \in \{1, ..., 5\}$ of each category is multiplied by the arithmetic mean of the other 4 (re-scaled) indicators in this category.

¹⁹ There are two exceptions where a lesser value within the raw data indicates *better* performance for a country: the raw value for 'Energy independence' lays between -100 and 100, whereas for 'Median age' the plausible values are assumed to be positive and lower than 100. For those two indicators the raw value is subtracted from 100 before rescaling with respect to the best-performing country.

Where data for a particular country is unavailable (i.e., if a capability indicator cannot be calculated), the arithmetic mean for the category is based on the available indicators.

Each re-scaled index is between 0 and 100, so the arithmetic mean of the four indexes is between 0 and 100 and the capability indicator itself is between 0 and 10,000 (= 100 (CI crit) x 100 (average).

When the scores for each country in each category have been calculated, they are again rescaled with respect to the best performing country:

$$S_{k}^{*}(c) = \frac{S_{k}(c)}{\max_{c} S_{k}(c)} \times 100.$$

Based on the rescaled category scores, the total geopolitical capability of each country – c – is calculated as the sum of the seven categories:

$$GC(c) = \sum_{k=1}^{7} S_k^*(c).$$

This sum indicates the total geopolitical capability available to each country.

Finally, after each country's total geopolitical capability has been calculated, each is again rescaled in relation to the best performing country:

$$GC^*(c) = \frac{GC(c)}{\max_{c} GC(c)} \times 100$$

This delivers the final result. By scoring the countries on a relative 0-100 scale, it becomes easier to compare each country to the leading power for each category, while simultaneously avoiding an abstract and therefore meaningless scale.

2.2 Categories, indicators and components

The audit's seven categories, as well as their indicators – both critical and supporting – are explained and justified in more detail below:

2.2.1. Geographic integration: although a country's "geographical setting does not determine the course of history, it is fundamental to all that happens within its boundaries". It could be said that a country's geography also shapes its interaction with the outside world: an island state is likely to see the world very differently to a country located deep in a continental interior. For this reason, this category, while not more important than any other, is without parallel: it indicates how capable each major power is at governing and shaping the geographic spaces under its control. Without effective central government nor efficient communications systems, it will undoubtedly become increasingly difficult to govern the national territory, leading to corruption, stagnation and decline. This category therefore groups together five different but connected indicators, which reflect, in a

²¹ See: Gray, C. S., 'The Continued Primacy of Geography', Orbis: A Journal of World Affairs 40:2 (1996), p. 248.

²⁷ Nicholas Spykman explained the differences between sea powers and land powers most effectively: 'Their differing conceptions of space and of the conquest of space indicate one of the outstanding differences between land and sea powers. A sea power conquers a large space by leaping lightly from point to point, adjusting itself to existing political relationships wherever possible, and often not establishing its legal control until its factual domination has long been tacitly recognised. An expanding land power moves slowly and methodically forward, forced by the nature of its terrain to establish its control step by step and so preserve the mobility of its forces. Thus a land power thinks in terms of continuous surfaces surrounding a central point of control, while a sea power thinks in terms of points and connecting lines dominating an immense territory. See: Spykman, N., 'Geography and Foreign Policy, II', The American Political Science Review 32: 2 (1938), p. 224.

way, the foundations of national power: the nation's brain (government), body (terrestrial and maritime spaces) and arteries (communication infrastructure). The critical indicator (the "brain") for this category is therefore "government cohesion", which accounts for the robustness and resilience of each of the major power's central governments. After all, unstable, ineffective, unruly and corrupt countries do not make for well-rounded major powers, particularly if those countries reach over large tracts of territory. This indicator is therefore based on a composite of the following: government stability, government effectiveness, adherence to the rule of law, and the level of corruption across the nation.²³

Four supporting indicators have then been selected to account for the *geographical* and *geopolitical* attributes of each of the major powers. To begin with, the "national spread", i.e., the sheer size of the geographic spaces – both terrestrial and maritime – under the control of the central government, and potentially ripe for further development, will always have some bearing on the resources each country can access or the scale it can reach. A large homeland or numerous overseas territories could provide opportunity for further national aggrandisement. Two indicators have been chosen to account for such a capability. The first is a composite of the land area, as well as the size of the exclusive economic zones (maritime spaces), of both the national homeland and any overseas territories.²⁴ This is complemented by an indicator to account for whether a particular major power has an extra-regional terrestrial and/or maritime footprint, potentially providing it either with various resources not available within its national homeland, or with an extra-regional or even global strategic perspective, which it must then factor into its wider national policy. This indicator takes the form of the country's "overseas extension", i.e., the distance – in kilometres – between the parliaments of each major power and the administrative centres of any inhabited overseas territories.²⁵

In addition, insofar as the production of energy is the mainstay of an industrial society in late-modernity, secure energy supplies are essential for any major power. For some countries, the production of energy is not a problem: reserves of energy are located within the territories or maritime spaces – by luck of geography – under their jurisdiction. However, any country that does not have access to its own reserves must look to external sources, and can become steadily dependent on foreign suppliers. And high dependency on a single supplier or region can lead to an accommodation of a particular supplier's interests, which can be problematic if the supplier uses its capability for international leverage. "Energy autonomy", based on net energy imported, is therefore the fourth supporting indicator.²⁶

²⁸ See: 'World Governance Indicators', *World Bank*, 2017, available at: http://info.worldbank.org/governance/wgi/index.aspx#reports, last visited: 25 August 2017

²⁴ See: 'Land Area', CIA World Factbook, 2017, available at: https://www.cia.gov/library/publications/the-world-factbook/rankorder/2147rank.html, last visited: 25 August 2017; 'Exclusive Economic Zone comparison', Sea Around Us, 2017, available at: http://www.seaaroundus.org/data/#/search, last visited: 25 August 2017; 'Exclusive economic zones', Marine Plan, 2017, available at: http://www.marineplan.es/ES/fichas_kml/eez.html, last visited: 25 August 2017.

²⁶ See: 'Geographic Extension', Google Maps, 2017, For France: https://drive.google.com/open?id-1goaRgyDi6Vl-97Wi3q7c8XNe3Lo&usp-sharing; for Japan: https://drive.google.com/open?id-1i5dJQp98WC_QPBsSdFFKGW iAkw&usp-sharing; for Russia:

https://drive.google.com/open?id=1lll6hOXq8KFNZBnWgDuQHcIDJYU&usp=sharing; for the UK:

https://drive.google.com/open?id=1EylnAGRnQngchBt0OWbXIjl47Ac&usp=sharing; for the US: https://drive.google.com/open?id=1VNfEPe-nxc IIF9wcAbxxMnit4&usp=sharing; last visited: 25 August 2017. Only those territories located more than 500km from the national homeland and with a permanent population (whereby the territory is inhabited for more than nine months per year) are included in this component. Territories that are located overseas but are constitutionally part of the homeland but remain within this criteria are also included (e.g., Alaska, Hawaii, Réunion, etc.).

* Sec: 'Energy imports, net (% of energy use)', World Bank, 2017, available at:

http://data.worldbank.org/indicator/EG.IMP.CONS.ZS?end=2014&locations=US-GB-RU-FR-DE-CN-JP-IN&start=2014&view=bar, last visited: 25 August 2017.

Finally, without a dense communications system, it becomes increasingly difficult to improve efficiencies in travel times, enhance economic productivity or extend the power of the central government over distant peripheries. Thus, the final supporting indicator is based on an amalgamation of the density of the railways and paved highways, as well as the gross tonnage of the registered vessels forming the merchant marine, and the capacity of the air transport systems (based on the number of departures per year). Logically, the denser a country's "communication infrastructure", the more capable it should be at controlling its own territories (both terrestrial and maritime), extracting wealth and maximising its ability to turn geopolitical capability into national power.

Geographic integration: Indicators, components and sources			
Indicator	Components	Source (date)	
Government cohesion	Political stability, government effectiveness, rule of law and lack of corruption for each country	World Bank (2015)	
National spread	Combined area of the national homeland and the exclusive economic zone of the homelands and all overseas territories for each country	CIA World Factbook (2017), Sea Around Us (2016), Marineplan (2010)	
Overseas extension	Combined distance between the capital city and administrative centre for all inhabited overseas territories (located more than 500 km from the national homeland and inhabited for at least nine months per year) for each country*	Google Maps (2017)	
Energy autonomy	Net energy imports (percentage) for each country	World Bank (2015–2014)	
Communications infrastructure	Composite of the density of the railway and highway systems, merchant marine (gross tonnage of all registered vessels) and air transport (departures per year) for each country	CIA World Factbook (2017–2009), Indian Ministry of Road, Transport and Highways (2014), UK Government (2014), World Bank (2015)	

^{*}Alaska and Hawaii are included in this indicator as – although they are part of the US – they are, from a geostrategic perspective, completely detached from the other 48 states, the locus of American power. In all other cases, they are included in the US score.

²² See: 'Railways', CIA World Factbook, 2017, available at: https://www.cia.gov/library/publications/the-world-factbook/rankorder/2121rank.html, last visited: 26 August 2017; 'Roadways', CIA World Factbook, 2017, available at: https://www.cia.gov/library/publications/the-world-factbook/fields/2085.html, last visited: 25 August 2017; 'World fleet registered vessels (FLF05)', Gov.uk, 25 September 2013 (updated 29 March 2017), available at: https://www.gov.uk/government/statistical-data-sets/fle05-world-fleet-registered-vessels, last visited: 25 August 2017; 'Air transport, registered carrier departures worldwide', World Bank, 2017, available at: https://www.cia.gov/library/publications/the-world-factbook/fields/2085.html, last visited: 25 August 2017; 'Air transport, registered carrier departures worldwide', World Bank, 2017, available at: https://www.cia.gov/library/publications/the-world-factbook/fields/2085.html, last visited: 25 August 2017; 'Air transport, registered carrier departures worldwide', World Bank, 2017, available at: https://www.cia.gov/library/publications/the-world-factbook/fields/2085.html, last visited: 25 August 2017; 'Air transport, registered carrier departures worldwide', World Bank, 2017, available at: https://www.cia.gov/library/publications/the-world-factbook/fields/2085.html, last visited: 25 August 2017; 'Air transport, registered vessels

2.2.2. Demographic condition: this category ranks the major powers in accordance with the "human" dimension of national capability. The audit uses "total population" - the total "human resources" available to each country - as the critical indicator for this category. The ability to sustain a large number of people is a capability in its own right, and requires a large and well-oiled agricultural sector and wider infrastructure. The four supporting indicators include the total population's "absorption capability", based on net positive migration; the "renewal capacity", based on the fertility rate; and its overall "demographic balance", predicated on the median age. Meanwhile, "effective longevity", based on healthy life expectancy, is incorporated to symbolise each major power's ability to maximise the lives and economic potential of its people. These indicators are included to signify each country's capacity to renew, regenerate and balance its population. Higher migration and fertility rates can increase population growth, while a lower median age and a higher number of years of healthy life expectancy can enhance a country's productive capability. Positive net migration also connects to the economic and cultural categories: if properly maintained, inward migration can boost economic growth, while, culturally, it can represent a society that is internationally attractive as a place to work and live.

Demographic condition: indicators, components and sources			
Indicator	Components	Source (date)	
Total population	Total size of the population of the national homeland (excluding all overseas territories)	World Bank (2016)	
Absorption capability	Total net positive migration and positive net migration per 100 people in each country	UNDESA Population Division (2017)	
Population balance	The most common age within the population in each country	CIA World Factbook (2016)	
Renewal capacity	The number of children born per woman in each country (fertility rate)	World Bank (2016)	
Effective longevity	The number of years a person can expect to live healthily in each country	World Health Organization (2015)	

2.2.3. Economic clout: considerable economic resources are needed if a country seeks to act or behave as a major power. The audit therefore incorporates "economic clout" as a category to classify the capacity of the major powers' economies. It does this not only by using traditional analytical tools, such as Gross Domestic Product (GDP), which remains important, but also by factoring in important new indicators to reflect the quality of each country's economic institutions and its ability to influence post-Cold War economic globalisation. Although the US and China are predicted to have comparable GDPs by the late 2020s, China's population is almost four times bigger than that of the US, meaning it has far less disposable income in relation to America, which can be used more easily to fund a strategic effort. After all, a country like China, with a relatively large GDP,

https://www.cia.gov/library/publications/the-world-factbook/rankorder/2127rank.html, last visited: 25 August 2017; 'Median Age', CIA World Factbook, available at: https://www.cia.gov/library/publications/the-world-factbook/fields/2177.html, last visited: 25 August 2017.

²⁸ See: 'Population, total', World Bank, available at: http://data.worldbank.org/indicator/SP.POP.TOTL?locations=GB-KR, last visited: 29 August 2017.

²⁹ See: 'Healthy life expectancy at birth (years), 2000–2015. Both sexes: 2015', World Health Organization, available at: http://gamapserver.who.int/gho/interactive_charts/mbd/hale_1/atlas.html, last visited: 25 August 2017.

Exer: See: 'Net Migration Rate', *United Nations Department of Economic and Social Affairs Population Division*, 2017, available at: https://esa.un.org/unpd/wpp/DataQuery/, last visited: 25 August 2017; 'Total Fertility Rate', *CIA World Factbook*, available at:

nevertheless immediately re-consumes a large proportion of its output to develop its infrastructure and feed its people, meaning there is less to be spent on shaping or influencing foreign affairs. That said, raw economic output remains important: there is clearly a correlation between GDP and national capability – even power. For this reason, the critical indicator for this category is "economic yield". This is an amalgamation of each country's GDP (nominal), combined with the net wealth amassed by each country (i.e., total economic assets minus any liabilities).³¹ The two indicators are important because the former signifies each major power's ability to unleash its economy for production, while the latter represents the capacity to amass and harness the generated wealth – and to use it to sustain a national debt in the event of conflict, or any other strategic purpose.

The four supporting indicators for this category have been selected to help acquire a better understanding of the sophistication of the major powers' economic institutions, as well as their ability to shape and structure the global economy. To evaluate the health and well-being of each country's "business environment", the audit utilises the Ease of Doing Business index.32 In particular, this has been included to portend the capability of each major power to develop and maintain a favourable climate for the pursuit of commercial activity, essential for future increases in GDP and wealth. The audit also includes the total number of the world's largest 2,000 public corporations hosted by the major powers, with additional points for any within the Top 500. 33 Not only is this indicator "corporate size" included to further illustrate the capacity of each country to host multinational companies, for it also represents the ability to shape consumers' preferences through the provision of specific goods and services, as provided by the corporations themselves. Consequently, and dovetailing with the audit's final category - "cultural prestige" - effective companies with popular brands can bolster a country's international standing: for example, the quality of their manufactures - especially electronics and cars - has undoubtedly contributed to the rebuilding of Germany's and Japan's reputations, which were so greatly damaged by their behaviour during the Second World War.

To indicate each major power's capacity to shape the global economy, the audit includes an indicator called "financial control", based on the combined score for all "world cities" with truly international prominence inside each major power. These kinds of city are important because they are centres of operation, regulation, professional knowledge and expertise and, ultimately, act as "command nodes" within the global economic order. Other cities are subservient to them in a plethora of established hierarchical relationships. Finally, within "economic clout", the audit includes the indicator "economic structuration", which is a composite of the exports of goods and services, as well as total foreign direct investment outflows. These two components are inserted to depict each major power's capability to create structured economic relationships with foreign countries, maintaining a degree of persistent economic, political and cultural influence.

³¹ See: 'Gross Domestic Production (nominal, US\$)', *World Bank*, 2017, available at: <a href="http://data.worldbank.org/indicator/NY.GDP.MKTP.CD?end=2016&locations=GB-US-FR-DE-IN-RU-JP-CN&start=2016&view=bar, last visited: 25 August 2017; Research Institute, 'Global Wealth Databook 2016', *Credit Suisse* (2016), available at: https://publications.credit-suisse.com/tasks/render/file/index.cfm?fileid=AD6F2B43-B17B-345F-E20A1A254A3E24A5, last visited: 25 August 2017, pp. 19-22.

²² See: 'Doing Business - Economy Rankings', World Bank, 2017, available at: http://www.doingbusiness.org/rankings, last visited: 18 August 2017.

²⁸ See: 'World's Biggest Public Companies' Forbes, 2017, available at: https://www.forbes.com/global2000/list/, last visited: 25 August 2017.

²⁸ See: 'World's Biggest Public Companies' Forbes, 2017, available at: https://www.forbes.com/global2000/list/, last visited: 25 August 2017.

³⁴ See: Taylor, P. J., et. al., Global Urban Analysis: Survey of Cities in Globalisation (Abingdon: Routledge, 2011).
³⁵ See: 'Exports of goods and services (current US\$)', World Bank, 2017, available at:

http://data.worldbank.org/indicator/NE.EXP.GNFS.CD?end=2016&locations=GB-DE-FR-IP-US-CN-RU-IN&start=2016&view=bar, last visited: 25 August 2017; FDI outward stock, by region and economy, 1990–2016', United Nations World Investment Report (Annex 04), 2017, available at: http://unctad.org/en/Pages/DIAF/World%20Investment%20Report/Annex-Tables.aspx, last visited: 25 August 2017.

Economic clout: indicators, components and sources			
Indicator	Components	Source (date)	
Economic yield	Gross Domestic Product (GDP) generated and net wealth amassed by each country	World Bank (2016), Credit Suisse (2016)	
Business environment	The ease of doing business in each country	World Bank (2017)	
Corporate size	Number of Forbes 2000 companies and top 500 Forbes companies in each country	Forbes (2017)	
Financial control	The total number of "world cities" in each country	Global Urban Analysis (2011)	
Economic structuration	Exports of goods and services and Foreign Direct Investment outflows of each country	World Bank (2016–2015), United Nations World Investment Report (2017)	

2.2.4. Technological prowess: enlightened countries with advanced technology have almost always held an edge over their potential competitors. Good examples are the Romans with their roads, aqueducts and legions; the British with their "tools of empire" – telegraphy, steamships and Maxim guns – during the late Victorian age; and the US with manufacturing plants, the atomic bomb and interstate motorways during the 1950s. The audit therefore includes "technological prowess" as a category to account for those institutional capabilities possessed by each major power, helping them to stay at the vanguard of technological innovation. This category is closely related to "economic clout" and, to some extent, "military strength": any successful economy must be technologically advanced in the late-modern age, and armed forces with a technical edge over their opponents tend to prevail, deter or assure more effectively than those that do not. The critical indicator for this category is therefore the knowledge base in each major power, expressed through a composite of two components: national standing within the "Education Index" – calculated from the population's mean years of schooling and the expected years of schooling – and the total score of any universities within the Top 200 globally. To the content of the properties of the total score of any universities within the Top 200 globally.

Other indicators can assist with understanding the technological capacity of each of the major powers too. For example, "research spending" is vital (total and as a percentage of GDP), for it reveals the significance placed by each country on technological innovation, as well as – potentially – what can be achieved with the resources allocated. The audit includes three other indicators for technological capability. "Connectivity", which is itself an index based on a composite of 40 indicators, determines the degree to which each country is "plugged in" to global networks of

Ese: Headrick, D. R., The Tools of Empire: Technology and European Imperialism in the Nineteenth Century (New York City: Oxford University Press Inc., 1981); Headrick, D. R., The Tentacles of Progress (Oxford: Oxford University Press, 1988); and Headrick, D. R., Power Over Peoples: Technology, Environments, and Western Imperialism, 1400 to the present (Princeton: Princeton University Press, 2010).

See: 'Human Development Data: Education Index', UN Development Reports, available at: http://hdr.undp.org/en/data#, last visited: 25 August 2017 and 'World University Rankings 2016–2017', Times Higher Education, available at: https://www.timeshighereducation.com/world-university-rankings/2017/world-ranking#survey-answer, last visited: 25 August 2017.

information technology, such as the internet, mobile telecommunications, etc., which are themselves increasingly important for openness and technical innovation. ** "Energy efficiency", another important indicator, in some respects dovetailing with energy independence in the category geographic integration, reflects the *technological capacity* of each major power to generate energy in the most efficient and least-wasteful way, potentially helping it to circumvent any lack of autonomy in relation to coal, oil, gas or uranium supplies. And the final supporting indicator, "innovativeness", based on the number of Nobel Prize winners (based on residency) in Chemistry, Physics and Physiology/Medicine over the preceding ten-year period, symbolises the institutional capacity of each country to act as a host for the pursuit of groundbreaking new ideas.

Technological prowess: indicators, components and sources				
Indicator	dicator Components Source (date)			
Knowledge base	Education index and total score of any Top 200 universities in each country	UNESCO (2015), Times Higher Education (2016–2017)		
Research spending	Research and development spending (total and percentage of GDP) by each country	UNESCO Institute for Statistics (2015)		
Connectivity	The connectivity of each country	Huawei (Global Connectivity Index) (2017)		
Energy efficiency	The degree of energy efficiency in each country's economy	American Council for an Energy Efficient Economy (2016)		
Innovativeness	Nobel Prizes won (through residency of the laureate) by each country) in Chemistry, Physics and Physiology/Medicine over the past ten years	Nobel Foundation (2017)		

2.2.5. Diplomatic leverage: as the willingness to use military force as an active instrument of interstate relations has declined over the twentieth century, passive instruments have become increasingly significant. The category "diplomatic leverage" is therefore included to account for the capability of each country to interact with the world beyond its own national homeland in pursuit of its policies. Diplomacy is itself a bit like power: it has both a "hardware" and a "software", i.e.,

See: 'Harnessing the Power of Connectivity: Mapping your transformation into a digital economy with GCI 2017', Global Connectivity Index (2017), available at: http://www.huawei.com/minisite/gci/files/gci_2017_whitepaper_en.pdf?v=20170602, last visited: 25 August 2017, pp. 9, 56-63. The 40 indicators, starting with the fundamental group, include: 1. Information and Communications Technology investment; 2. Telecom investment; 3. Information and Communications Technology laws; 4. International internet bandwidth; 5. Application downloads; 6. Smartphone penetration; 7. eCommerce transactions; 8. Computer households; 9. eGovernment service; 10. Telecom customer service; 11. Internet participation; 12. Broadband download speed; 13. Research and Development expenditure; 14. Information and Communications Technology patents; 15. Information technology workforce; and 16. Software developers. The 24 enablers are: 1. Fibre optic broadband; 2. Fourth generation coverage; 3. Data centre investment; 4. Cloud investment; 5. Big data investment; 6. Internet of Things investment; 7. Fixed-broadband subscriptions; 8. Mobile broadband subscriptions; 9. Data centre equipment; 10. Cloud migration; 11. Analytics data creation; 12. Internet of Things installed base; 13. Fixed broadband affordability; 14. Mobile broadband affordability; 15. Data centre experience; 16. Cloud experience; 17. Big data experience; 18. Internet of Things experience; 19. Broadband potential; 20. Mobile potential; 21. Data centre potential; 22. Cloud potential; 23. Big data potential; 24. Internet of Things potential. There is clear evidence that the number of interstate wars has declined not only since the end of the Cold War, but also since the end of the nineteenth century, See: Pinker, S., The Better Angels of Our Nature: A History of Violence and Humanity (London: Penguin Books, 2012), However, as Colin Gray warns, the balance of terror - or the "Pax Atomica" - may have taken its toll, forcing the major powers to avoid industrial war, lest they accidentally open Pandora's box. See: Gray, J., 'Steven Pinker is wrong about violence and war', The Guardian, 13 March 2015, available at: https://www.theguardian.com/books/2015/mar/13/john-gray-steven-pinker-wrong-violence-war-declining, last visited: 25 August 2017.

both structures and policies. As this audit is focused on the former, the indicators seek to account for each major power's diplomatic structures and institutions. Consequently, insofar as international relations is still primarily an intergovernmental affair, the audit's critical indicator for diplomatic leverage is "diplomatic reach", based on the number of overseas missions, particularly the number of embassies it operates in foreign capitals. ¹⁰ It is important to point out that embassies-in-being or ambassadors-at-large – embassies or ambassadors allocated to a specific country but resident in another, often larger, neighbouring country – are not included in this indicator: it only includes embassies that are physically located in foreign capitals.

The supporting indicators reveal four additional capabilities on the part of the major powers. The first is the "diplomatic centrality" of each country to the United Nations, which remains the most universal and important intergovernmental organisation of them all. This indicator focuses on each major power's ability to veto or influence the decisions taken by the United Nations Security Council; in other words, whether a country is a permanent member or - if not - how many years it has sat on the Security Council over the past decade.41 The next two supporting indicators -"strategic institutionalisation" and "intergovernmental penetration" - embody each major power's capability to shape the geopolitical structure and institutions of international affairs and security. The first is based on the number of formal alliances (with a security guarantee) and security arrangements each country participates in.42 These memberships can provide each major power with the means to assure and influence weaker and more vulnerable countries, or even create quasi "spheres of influence", with the aim of shutting other powers out or reducing their impact. The second focuses on the number of intergovernmental organisations in which each major power participates, including universal organisations, regional groupings, specialist agencies and multilateral treaties.43 The last supporting indicator of "diplomatic leverage" is designed to reveal each major power's "developmental assistance", i.e., its ability to shape the trajectory of poorer, lessdeveloped nations - namely through net Official Development Assistance (ODA).44

⁶⁰ See: 'US Embassies, Consulates, and Diplomatic Missions', *US Embassy*, available at: http://www.usembassy.gov/, last visited: 25 August 2017; 'Chinese Embassies', *Ministry of Foreign Affairs of the People's Republic of China*, available at:

http://www.fmprc.gov.cn/mfa_eng/wjb_663304/zwjg_665342/2490_665344/, last visited: 25 August 2017; 'Find a British embassy, high commission or consulate', Gov.uk, available at: http://www.gov.uk/world/embassies, last visited: 25 August 2017; 'Russia in International Relations', Ministry of Foreign Affairs of the Russian Federation, available at: http://www.mofa.go.jp/about/emb_cons/over/index.html, last visited: 25 August 2017; 'Embassies and Consulates', Ministry of Foreign Affairs of Japan, available at: http://www.mofa.go.jp/about/emb_cons/over/index.html, last visited: 25 August 2017; 'Indian Missions Abroad', Ministry of External Affairs: Government of India, available at: http://www.mea.gov.in/indian-missions-abroad-new.htm, last visited: 25 August 2017; 'Ambassades et consulats français à l'étranger', France Diplomatie, available at: http://www.diplomatie.gouv.fr/fr/le-ministere-et-son-reseau/amnuaires-et-adresses-duministere-de-l-europe-et-des-affaires-etrangeres-meae/ambassades-et-consulats-français-a-l-etranger/, last visited: 25 August 2017; 'Addresses of German missions around the world - A to Z', Federal Foreign Office, available at: http://www.auswaertiges-

amt.de/EN/Laenderinformationen/DtAuslandsvertretungenA-Z-Laenderauswahlseite_node.html, last visited: 25 August 2017.

[&]quot; See: 'Current Members: Permanent and Non-Permanent Members', *United Nations Security Council*, 2017, available at: http://www.un.org/en/sc/members/, last visited: 25 August 2017.

¹² Compilation based on: Gibler, D., International Military Alliances, 1648–2008 (Volumes 1–2) (Washington, DC: CQ Press, 2009).

^a See: The Yearbook of International Organizations', *Union of International Associations*, available at: http://www.uia.org/yearbook, last visited: 25 August 2017.

[&]quot; See: 'Net ODA', Organisation for Economic Cooperation and Development, 2017, available at: https://data.oecd.org/oda/net-oda.htm, last visited: 25 August 2017.

Diplomatic leverage: indicators, components and sources			
Indicator	Components	Source (date)	
Diplomatic reach	Total number of embassies operated by each country in foreign capital cities	Each country's diplomatic service website (2017)	
Diplomatic centrality	Membership of the UN Security Council by each country, whether as a permanent member or how long it has been a non-permanent member	UNSC (2017)	
Strategic institutionalisation	Each country's membership of alliances and security arrangements	Compilation based on International Military Alliances, 1648–2008 (Volumes 1–2) (2017)	
Intergovernmental penetration	Each country's membership of seven different kinds of intergovernmental organisation and/or trilateral (or more) treaty	Yearbook of International Associations (2017)	
Development assistance	Official Development Assistance (net) by each country	OECD (2016)	

2.2.6. Military strength: the ability to dissuade, deter and compel with armed force has always been a major component of statecraft, and a vital national capability. However, it has always been very difficult to determine a country's military capability: merely counting the number of soldiers or tanks or aircraft fielded by each country is wholly inadequate – a mistake often made by even reputable analysts. Many countries have impressive military inventories on paper, but this does not mean the equipment being counted is equal in quality or purpose. A tank from 40 years ago will not be equal to one that has recently rolled off the production line; likewise, a small frigate from the 1980s will not be comparable in capability to one twice the size from the modern era. And this says nothing of their means to deter, coerce – and ultimately fight – potential adversaries, let alone on a global scale. Most countries, lacking geographic and strategic needs, tend to develop mere defence forces, which can rarely move beyond their own homelands. A major power, however, is likely to have interests and obligations that go beyond simple defence or trying to shape strategically its immediate vicinage. With this in mind, five indicators have been selected to provide as comprehensive an understanding of each major power's military strength as possible.

[&]quot;A good example of this mistake was recently revealed by Credit Suisse's 'Military Power Index', which sought to aggregate counts of active personnel and other military equipment to determine how powerful certain countries' armed forces are. In this schema, using in part a website that claims it is for entertainment value only, called *Global Firepower*; non-nuclear Italy and South Korea end up more powerful than the UK, while Russia and China end up only marginally less powerful than the US, a country with a defence budget so vast it is larger than the next ten powers put together. Although one country might have ten more frigates than another, for example, it does not mean it has greater capability. Those vessels may be smaller, technologically inferior, unable to operate at range, etc. See: Research Institute, 'The End of Globalization or a more Multipolar World?', *Credit Suisse* (2015), available at: http://publications.credit-suisse.com/tasks/render/file/index.cfm?fileid-EE7A6A5D-D9D5-6204-E9E6BB426B47D054, last visited: 25 August 2017, p.

The critical indicator for military strength – "defence resources" – is based on defence spending, not least because it determines what can be procured and which operations can be undertaken. Equally, rather than expenditure over a single, preceding, year, military spending has been included over the previous ten-year period: insofar as military capability cannot be raised and established overnight and requires long-term investment, military spending over a number of years reflects more accurately the armed forces' overall skill and potential. The supporting capabilities, then, include a mixture of capabilities that intersect with military expenditure. Insofar as an advanced "military-industrial base" is a prerequisite to generate robust military forces, the size and capability of the country's leading arms manufacturers has been included, based on revenue. 47

For each major power's defensive strength, an indicator entitled "nuclear arsenal" has been constructed. This is itself a composite of deployed warheads, reserve warheads, the ability to conduct a "second strike", striking range, the number of delivery platforms and nuclear reputation, based on the number of years since each country split its first atom in a monitored explosion.⁴⁸ What this indicator is trying to reflect is not so much the size of each major power's nuclear inventory in terms of the number of warheads, but rather its ability to deter attack. What matters here is the capacity to threaten the delivery of a second strike of sufficient destructive force so as to cause "unacceptable damage" to the potential aggressor. 49 As Kenneth Waltz puts it, "with deterrent forces, the question is not whether one country has more [warheads] than another but whether it has the capability of inflicting 'unacceptable damage' on another, with unacceptable damage sensibly defined. Once that capability is assured, additional strategic weapons are useless. More is not better if less is enough."50 So although countries like the US or Russia might still have thousands of nuclear warheads in their inventories, they are not necessarily any more capable of deterring attacks than those with a smaller number of warheads. What matters is the ability to maintain a (near-)guaranteed second-strike capability with global range, armed only with sufficient warheads to inflict "unacceptable damage" on any conceivable opponent, particularly the competitor's capital city and other highly valued targets.

For the ability to project power, two indicators have been selected. The first is "global reach", namely the ability to push the "point of culmination" – i.e., the geographic or temporal point at which the armed forces can no longer operate effectively – as far away from the national homeland as possible.⁵¹ For most countries, the culminating point is either on their own border or a few hundred kilometres beyond. Outside of this area, they find it hard or impossible to undertake any form of military operation. Therefore, this indicator rests on the overseas military facilities operated by each power, including the number and spread of any naval bases, air stations, listening posts or barracks outside of the national homeland.⁵² Not only do such installations behave like "lily pads"

⁴⁶ See: International Institute for Strategic Studies, *The Military Balance* (2008–2017) (London: Routledge, 2008–2017).

⁴⁷ See: 'SIPRI Arms Industry Database', *Stockholm International Peace Research Institute*, 2016, available at: http://www.sipri.org/databases/armsindustry, last visited: 25 August 2017. Unfortunately, in relation to this indicator, China could not be accommodated in the index. Owing to the clandestine nature of Chinese defence production, the Stockholm Peace Research Institute does not produce statistics for this country.

⁴⁸ Compilation based on: Kristensen, H. M. and Norris, R. S., 'Status of World Nuclear Forces', Federation of American Scientists, 2017, available at: http://www.fas.org/issues/nuclear-weapons/status-world-nuclear-forces/, last visited: 25 August 2017.

The Federation of American Scientists claims that Beijing has no *deployed* nuclear warheads, which might strike some observers as peculiar or false. However, there is some evidence to suggest that Beijing sees the activation of nuclear weapons, and potentially, deterrence, in a different way to either the Western powers or Russia. For an appraisal of China's nuclear forces, which confirms the stance of the Federation of American Scientists, see: Lewis, J., 'Paper Tigers: China's Nuclear Posture', *Adelphi Papers* 54:446 (2014), pp. 99-125.

See: Waltz, K., 'The Spread of Nuclear Weapons: More May Be Better', Adelphi Papers 21:171 (1981).

⁵¹ For an overview of this problem, see: Boulding, K., Conflict and Defence: A General Theory (New York City: Harper Torchbooks, 1962), pp. 261-263; Webb, K., 'The Continued Importance of Geographic Distance and Boulding's Loss of Strength Gradient', Comparative Strategy 26:4 (2007). See also: O'Sullivan, P., Geopolitics (London: Croom Helm Ltd., 1986), pp. 53-76.

This indicator has been compiled by The Henry Jackson Society from multiple different sources, including government and armed forces websites, online encyclopaedias, and *The Military Balance 2017*. See: International Institute for Strategic Studies, *The Military Balance* (2017) (London: Routledge, 9017)

to allow their owners to "hop" over the world's surface to reach a particular strategic theatre or destination, but they also act, in effect, to "crystallise" extended military capacity into geopolitical reality. In other words, they are significant because they can have a geopolitical impact not only on their possessors, but also in the regions where they are located: politically, they can encourage their owners to uphold transcontinental interests (i.e., the UK in the South Atlantic and the Middle East; France in the Indian Ocean; and - more extensively - the US across vast swathes of East Asia and Europe). Equally, they can help their owners assure their hosts and/or deter and coerce smaller adjacent countries.53

Overseas military facilities, however, are insufficient if there is nothing to project over and through them. Most countries can develop large air forces or a vast territorial force (e.g., North Korea), but a sizable naval capability is truly an intellectual and capital intensive enterprise. Since at least the fifteenth century, it has been shown again and again that "sea control" - or better, "command of the sea" - is indispensable, not only to move forces over the surface of the Earth unimpeded, but also to deter or prevent opponents from using the sea as a means to serve their own interests or to alter conditions on the land. 4 As the Athenian general Themistocles is famously rumoured to have once said: "He who controls the sea has control of everything." A strong navy is therefore utterly essential for a country to even consider acting as a regional or global military power. 55 It is almost impossible to "project" terrestrial and air forces in volume at distance without large logistical vessels, or the surface and underwater combatants to protect them. Naval forces have therefore been selected as the main indicator for "conventional forces". This capability is indicated by a combination of the total displacement of any major combatants; the total displacement of any large logistics vessels, which are critical for maintaining warships at long distance from the homeland or moving other forces around; and the average displacement of the warships in each nation's naval fleet, which indicates whether a navy is primarily for "blue water" (global projection, or "command") or "brown water" (coastal patrol, or "control") activities.⁵⁷

For a good overview of the utility of military facilities overseas, see: Krepinevich, A. and Work, R., 'A New Global Defense Posture for the Second Transoceanic Era', Centre for Strategic and Budgetary Assessments (2007), available at: http://csbaonline.org/research/publications/a-new-global-defenseposture-for-the-second-transoceanic-era/publication, last visited: 25 August 2017.

For a succinct overview of these concepts, see: Rubel, R. C., 'Talking about sea control', Naval War College Review 63:4 (2010).

Nicholas Spykman explained this issue during the latter phases of the Second World War: "To apply air power to a region demands not merely that planes shall be flown there but that they shall be kept in operation. ... The silver bird soaring against a blue sky may be a symbol of freedom, of the conquest of space; it may suggest that man is no longer earth-bound; but all this, however beautiful as poetry, is not reality. The freedom of those soaring birds is deceptive. American air power in Europe and Asia becomes air power at the end of a maritime route of communication fed by trains and ships See: Spykman, N., The Geography of the Peace (New York City: Harcourt, Brace and Company, 1944), pp. 46-47.

See: Saunders, S. and Philpott, T., Jane's Fighting Ships 2016-2017 (London: IHS Jane's, 2015) and International Institute for Strategic Studies, The

Military Balance 2017 (London: Routledge, 2017).

For an elaboration on the differences between kinds of naval fleets, see: Till, G., Seapower: A Guide for the Twenty-First Century (Abingdon: Routledge, 2013).

Military strength: indicators, components and sources			
Indicator	Components	Source (date)	
Defence resources	Total military spending (over the previous ten years) by each country	The Military Balance 2007–2017 (2008–2017)	
Military-industrial base	Total number of Top 100 arms manufacturers owned by each country	Stockholm International Peace Research Institute (2015)	
Nuclear arsenal	Deployed warheads, reserve warheads, second 'strike' capability, striking range, delivery platforms and reputation of each country	Compilation based on Federation of American Scientists (2016)	
Global reach	Size, number and spread of the military facilities operated overseas by each country	Compilation based on multiple sources (2017)	
Conventional forces	Total displacement of each country's major naval combatants and auxiliary vessels, and average displacement	Compilation based on Jane's Fighting Ships 2016–2017 (2015) and The Military Balance 2017 (2016)	

2.2.7. Cultural prestige: the audit's final category – but by absolutely no means the least important - accounts for what is commonly described in the media as "soft power", which is defined by Joseph Nye, who devised the term, as "the ability to shape the preferences of others". Building up or upholding cultural prestige therefore depends in no small part on the ability to construct and articulate ideas and narratives. This does not necessarily mean that those countries with clearly defined ideological messages are going to prevail. In the twentieth century, many feared, for example, that German fascism and Soviet communism, with their government-driven propaganda, would eventually overwhelm their liberal-democratic opponents. Yet their brutal, brittle and inflexible worldviews were gradually discombobulated by the Western democracies, not only through force of arms, but also through intense political warfare (e.g., denazification efforts, and the Cold War ideological struggle, respectively). What really aided the West was not state-led efforts, but rather a plethora of cultural, academic and political institutions, tools and technologies. These provided the ability to expand the liberal-democratic worldview until it became near-universal. It is for this reason that the critical indicator for "cultural prestige" is "national creativity", based on the component "political freedom": high levels of political freedom signify the existence of a precious capability, namely a "civil society", the foundation for almost all forms of creativity.⁵⁹ Those countries with more plural and open societies, and which have successfully developed entrenched

⁸ Nye, J., Soft Power: The Means to Success in World Politics (New York City: Public Affairs, 2004), p. 5.

³⁹ See: 'Freedom in the World 2017: Table of Country Scores', Freedom House, 2017, available at: https://freedomhouse.org/report/fiw-2017-table-country-scores, last visited: 25 August 2017.

liberal-democratic political systems, seem to be able to "attract" others to their causes more effectively than closed, autocratic states.

However, whether or not "soft power" as a form of capability is really so "soft" is another matter: it often involves vandalising rival ideas and concepts, grinding them down until they are either repressed or dislocated, thereby opening a political or ideological void that forces opponents to adopt a different perspective or worldview - and preferably one that has been readily generated for them to follow or embrace. With this in mind, the first supporting indicator is entitled "discursive capacity", which aims to account for the ability of each major power to spread its message to a global audience. Included in this indicator are the components "language centrality", predicated on the importance of the main national language as a medium for translation, the total number of "think tanks" operating in each country, and the total number of the world's largest "publishing houses" in each country. The second supporting indicator - "economic pull" - accounts for the economic aspect of culture, namely the ability of each major power's leading brands to penetrate global markets and shape the preferences and desires of international consumers. This indicator is based on each country's share of the world's Top 100 global brands. ⁶² The third supporting indicator depicts "national appeal", namely via the capacity of each country's international tourist industry to attract foreign visitors and encourage them to part with their money. 63 The final supporting category of "cultural prestige", entitled "educational allure", accounts for the capability of each country's tertiary education sector to woo foreign students, encouraging them to visit and study - which, in turn, could shape their preferences and desires.⁶⁴

Cultural prestige: indicators, components and sources			
Indicator	Components	Source (date)	
National creativity	Political freedom of the people in each country	Freedom House (2017)	
Discursive capacity	The centrality of each country's primary language; the total number of research institutions and think tanks; and the number of Top 52 publishing houses (by revenue in US\$)	Global Language Network (2014), Think Tanks and Civil Societies Programme (2016), <i>Publishers Weekly</i> (2016)	
Economic pull	The number of Top 100 global brands from each country	Interbrand (2016)	
National appeal	Total number of overseas tourist arrivals and receipts	World Bank (2016–2015)	
Educational allure	Total number of international students in each country	UNESCO (2015–2014)	

For an overview, see: Mattern, J. B., 'Why "Soft Power" Isn't So Soft: Representational Force and the Sociolinguistic Construction of Attraction in World Politics, Millennium: Journal of International Studies 33:3 (2005).

See: 'Book Rankings', Global Language Network, available at: http://language.media.mit.edu/rankings/books, last visited: 25 August 2018; McGann, J.

G., '2016 Global Go'To Think Tank Index Report', Think Tanks and Civil Societies Programme (2017), available at: http://repository.upenn.edu/cgi/viewcontent.cgi?article=1011&context-think_tanks, last visited: 25 August 2017, p. 27; Milliot, J., 'The World's 52 Largest Book Publishers, 2016', Publishers Weekly, 26 August 2016, available at: http://www.publishersweekly.com/pw/by-topic/international/international-booknews/article/71268-the-world-s-52-largest-book-publishers-2016.html, last visited: 25 August 2017.

See: 'Best Global Brands 2016', Interbrand, 2016, available at: http://interbrand.com/best-brands/best-global-brands/2016/ranking/, last visited: 25 August 2017.

See: 'International tourism, number of arrivals', World Bank, 2015, available at:

http://data.worldbank.org/indicator/ST.INT.ARVL2end=2016&locations=GB-US-RU-IP-IN-CN-FR-DE&start=1995&view=chart, last visited: 25 August 2017: 'International tourism, receipts (current US\$)', World Bank, 2015, available at:

http://data.worldbank.org/indicator/ST.INT.RCPT.CD?locations-GB-US-FR-DE-CN-RU-IN-JP, last visited: 25 August 2017.

See: 'Total inbound internationally mobile students', UNESCO Institute for Statistics, 2015, available at: http://uis.unesco.org/indicator/edu-mobility-intotal, last visited: 25 August 2017.

3. Classifying the major powers

The Audit of Geopolitical Capability ranks the eight major powers as:

Rank	Country	Score	Classification
1.	United States	100	Hegemon – A country with vast and overwhelming resources and capabilities, with the means to extend them pervasively in all regions of the world
2.	United Kingdom	40.85	Global Power – A country with substantial resources and capabilities, with the means to extend them in
3.	France	33.90	many regions of the world
4.	China	33.84	
5.	Germany	25.87	Regional Power – A country with moderate resources and capabilities, often lopsided, with the means to focus
6.	India	23.34	them in and around its own continental zone
7.	Japan	21.55	
8.	Russia	16.16	

• Complete scores for all categories and indicators are contained in Appendix C.

Overall, although - as Appendix B.1 shows - the Composite Index of National Capability, based on a limited number of "essential" indicators, already ranks China above the US, the Audit of Geopolitical Capability, with its broader number of indicators, counters this notion. The audit reveals that the US is still by far the most capable country in the world. In every single category, except for "demographic condition", the US is decisively shown to be the most geopolitically capable country, and in some cases by a considerable margin. For all the talk of America's eclipse to a rising China, Russia or India, the evidence suggests that all three still have a long way to go until they surpass it. Undergirded by its extensive level of "geographic integration", which is considerably larger than its closest rival, the UK, the US remains a potentially overwhelmingly powerful country. The sheer size of its national homeland and scale of its maritime zones, flush with abundant energy supplies, combined with the country's "extension" across much of the Pacific Ocean, means the US has a unique perspective. While other countries - especially Russia and China, and to some extent India - are not far behind or even exceed the US in certain "geographic" indicators, they lack "government cohesion" - a strong, stable and transparent central government - and the relatively "dense" communications infrastructure that the Americans have built up and developed, meaning their ability to extract and mobilise resources is curtailed.

In relation to "military strength", for all the chatter about China or Russia's rise, the US is still shown to be without parallel. This is the one category where the US truly excels. Owing to its phenomenal strategic footprint – predicated on its plethora of permanent overseas military facilities, scattered around the world, but grouped in three dense networks to support security and order in Europe, the Middle East and East and East Asia, respectively – America still reigns supreme, with an

unparalleled degree of "global reach". This "reach" is further enhanced by the scale of the US "strategic institutionalisation", in the form of a system of alliances and security relationships with an array of other countries. While the US nuclear arsenal is smaller than Russia's – albeit by only 2% – the two countries remain effectively at parity with one another. In this sense, China is still a military pygmy: while the country now possesses a robust naval fleet by international standards, its total displacement tonnage is still only 15% of that of the US and it lacks the vast strategic footprint – through permanent overseas military facilities – Washington, DC has amassed over the past 100 years. The sheer scale of the US global "strategic footprint" is so immense that it would take any rival many years to catch up, requiring enormous investment, both political and economic.

The level and scale of US "geographic integration" means it has also formed a safe environment for a vast and technologically sophisticated economy to unleash almost on an annual basis levels of wealth never before witnessed, as well as a national network of "world cities", which intersect with those in other countries, providing an astonishing degree of "command and control" over the global financial system. In addition, it supports an expansive "cultural prestige", which readily intersects with other Anglophone countries, maximising the hold of liberal-democratic ideals over vast swathes of the rest of the world. Even in the fields where China has appeared to be gaining ground over the past two decades - such as "economic clout" - the audit shows that the US still has an impressive lead over the "Middle Kingdom". Moreover, India and Russia are mere shadows in comparison to the US, with just over 2% and 1% of the US' "economic clout", respectively. The established Western powers, the UK, France, Germany and Japan, still do better in relation to America than either India and Russia, but even the leading economy among them - Japan - has only just over 12% of its "economic clout". So the US does not just have the accessible capabilities to be a superpower; it has sufficient means - and the capacity to put them to work - to act as the global hegemon. If there is a "pivot" or "heartland" of the world, it is surely not in Central Eurasia, as Sir Halford Mackinder once claimed, but is rather in North America. 65

That the US is still the world's most capable power is not too difficult to comprehend. What is more surprising is how well the audit ranks the UK and France in relation to geographically and demographically larger countries like China, India and Russia. It is also quite surprising how poorly Russia sits in relation to its major power rivals: it is clearly the weakest of the powers, despite its recent geopolitical "engineering" not least in Georgia, Ukraine and Syria. To understand the audit's scores, as well as the overall ranks, it is necessary to recall the guiding assumptions behind its methodology. The audit has been constructed to deliberately reduce the impact of mass: it is predicated on the principle that it should not necessarily matter how physically big a country is. After all, what is the point of a large territorial homeland if most of it cannot be effectively or speedily developed, leaving vast tracts of uncultivated steppe, arid desert, unscalable mountains or frozen wastes? What is the point of a large country if it lacks transparency and effective government? What is the benefit of a large population if much of it is mired in poverty? And what is the utility of a large standing army if a country has few means to move it around?

Instead, the audit has been deliberately built to reward countries for their "intensity" and "density", as well as holding capability across a broad spectrum. In other words, it should not be surprising that the UK and France – or even Germany and Japan – rank so highly: while they may not be "large" powers in the sense of Russia, China or India – with their huge territories and/or populations – they are nevertheless highly developed, interwoven with "dense" communication systems and

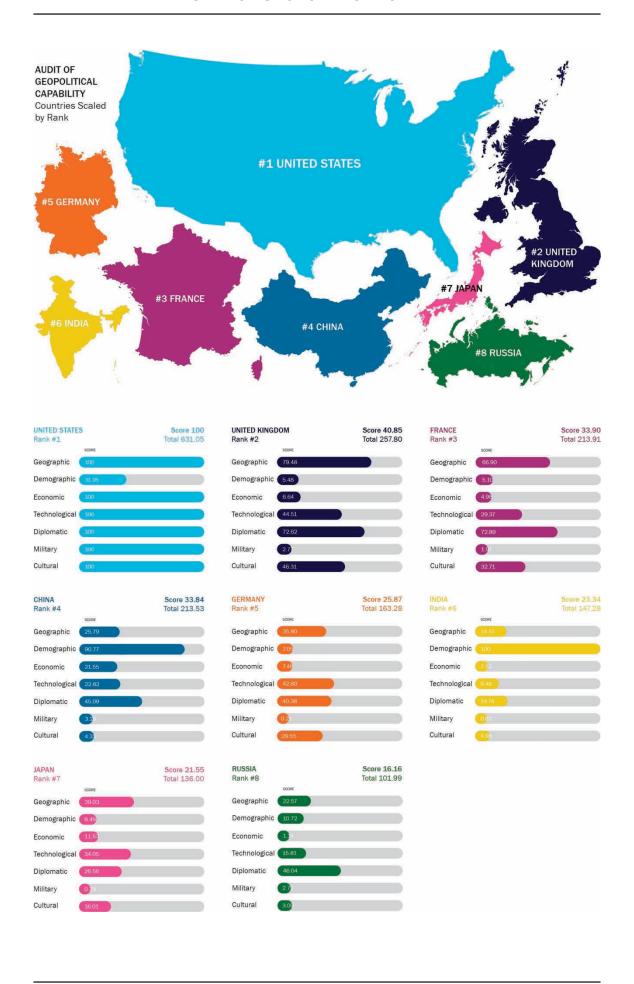
⁶⁵ See: Mackinder, H., 'The Geographic Pivot of History', The Geographical Journal 23:4 (1904).

"intense" and effective forms of government. This explains why these more "compact" nation-states rank so highly in comparison to their larger geographic peers. They have found a way to make up for their smaller size and more limited means by maximising their "government cohesion" and persistently developing their "communications infrastructure", in its multiple guises. This is particularly the case for the UK. Its "denseness" and "intensity" – underpinned by strong "government cohesion" – means it ranks as the second most geopolitically capable country in the world, with particular strengths in the diplomatic, technological and cultural fields. Even militarily, although the UK ranks far below the US leviathan, it performs well in relation to the other powers, even China and Russia. In short, as these more "compact" countries have no more wilderness to cultivate, their only option is to "intensify" the development of what they already have. In a way, they still retain the capacity to behave and act as strong "regional powers" or, in Britain's and France's case, as "global powers", or even, perhaps "pocket superpowers".

Likewise, Germany's modest score and rank in the audit might concern some. The Germans have certainly risen greatly since reunification that they might now otherwise dwell in the upper-tier of the major powers. However, the problem – revealed by the audit – is that while Germany is at least as "dense" and "intense" as both its main European rivals, and has a slightly larger population and economy, as well as a comparable level of "diplomatic leverage", it does not, again, have access to the same breadth of capabilities that the UK and France both do. Its "military strength" is far inferior – it lacks a nuclear arsenal or any meaningful overseas military footprint – and its "cultural prestige" is far smaller than Britain's and slightly smaller than that of France. The audit reveals that similar problems afflict Japan. This country remains long on "economic strength" and "technological prowess" but is short on "cultural prestige", to say nothing of its "diplomatic leverage" and "military strength".

The Audit of Geopolitical Capability therefore questions some of the prevailing assumptions of our age. Even if the established Western powers – even the more compact ones in Europe, along with Japan – may be in relative decline, they still stand tall in the world, and the US still towers over everyone. Therefore, talk of the West's eclipse is still premature from the perspective of geopolitical capability. Whether the Western liberal-democracies face a crisis of confidence and political will or lack grand strategy, is of course another matter, but that is beyond the realm of the audit.

⁶⁶ Public opinion in Germany has been long opposed to nuclear weapons, with some prominent German politicians advocating the removal of even the US residual nuclear presence from the country. For a good discussion, see: Külın, U. and Volpe, T., 'Keine Atombombe, Bitte: Why Germany Should Not Go Nuclear', *Foreign Affairs*, June/July 2017, available at: https://www.foreignaffairs.com/articles/germany/2017-06-13/keine-atombombe-bitte, last visited: 25 August 2017.



4. Conclusion

Based on its multiple indicators and with its unique and geopolitically-inspired methodology, the Audit of Geopolitical Capability provides a benchmark that can be used to compare the eight major powers with one another, to identify their strengths and weaknesses in total, as well as across different categories and indicators. In future years, the use of this gauge will allow us to track and monitor the performance of the countries it is applied to for each category and component, providing a continuing snapshot of each major power's geopolitical capability in relation to the others. It will show us how quickly the balance of capability – and arguably, power – is changing between the Western powers and other countries (or not). Equally, it will provide insights for how those countries that lack geopolitical capability, but seem to remain powerful, use their political will and strategic dexterity in compensation. At the same time, it will help us to ascertain whether a country has considerable geopolitical capabilities but opts – for whatever reason – not to transform them into power.

By way of a final conclusion, it might be worthwhile expanding into the philosophical realm. For all countries, particularly liberal-democratic nation-states like the UK, the accumulation of geopolitical capability should not necessarily be an end in itself. It is perhaps a cliché, but power – made possible by geopolitical capability – can have a profoundly corrupting influence. Yet power should certainly be an end if a democratic people feel they should be able to stand up for and protect their values and interests, particularly from those with altogether darker and more sinister motives. If Britain's liberal-democratic values and way of life are worth defending, or even extending; and if, when the circumstances are right, the UK wants to be able to protect those who might otherwise fall victim to those whose only objective is power, then geopolitical capability – essential for the generation of power – is not only essential, but becomes, as Jonathan Swift asserted, a blessing.

Appendix

A. The Audit of Geopolitical Capability in relation to other capability or power ranking systems

Figure 1: The Audit of Geopolitical Capability in relation to the Correlates of War Project's Composite Index of National Capability

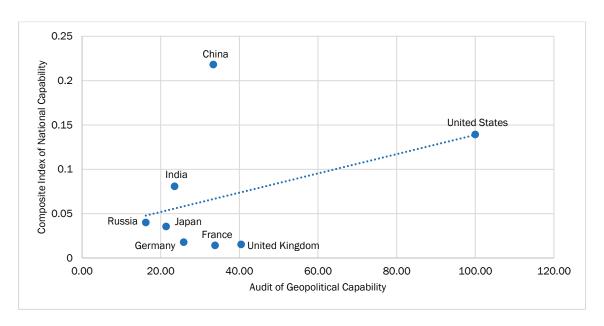


Figure 2: The Audit of Geopolitical Capability in relation to Elcano Royal Institute's Global Presence Index

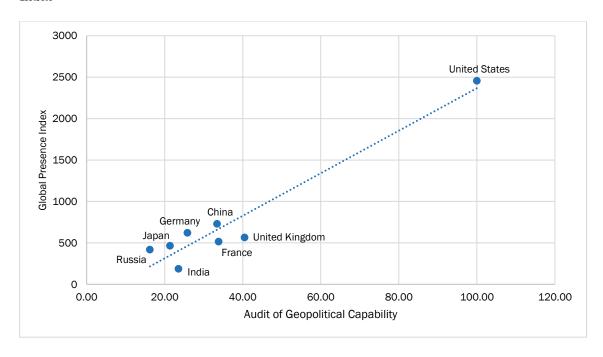
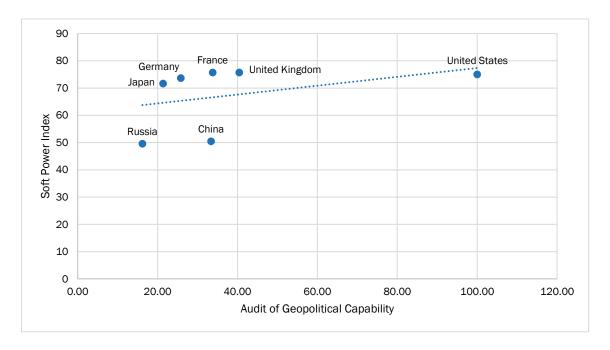


Figure 3: The Audit of Geopolitical Capability in relation to Portland's Soft Power Index



B. Categories, indicators and components

1. Geographic integration	on		
Indicator	Component	Source	Date
Government cohesion	Stability (score)	World Bank	2015
	Effectiveness (score)	World Bank	2015
	Rule of law (score)	World Bank	2015
	Lack of corruption (score)	World Bank	2015
National spread	Land area (total km²)	CIA World Factbook	2017
	Exclusive Economic Zone (total km²)	Sea Around Us	2016
		Marine Plan	2010
Overseas extension	Overseas extension (total km)	Google Maps	2017
Energy autonomy	Net energy imported (score)	World Bank	2015-2014
Communications	Railways (per km²)	CIA World Factbook	2017-2014
infrastructure	Paved highways (per km²)	CIA World Factbook	2015-2009
		Indian Ministry of Road,	2014
		Transport and Highways	
	Registered vessels (gross tonnage)	UK Government	2014
	Air transport (departures per year)	World Bank	2015

2. Demographic condition	n		
Indicator	Component	Source	Date
Population size	Population (total)	World Bank	2016
Absorption capability	Positive net migration (total)	UNDESA Population Division	2015-2010
	Positive net migration (per 100 people)	UNDESA Population Division	2015-2010
Population balance	Median age (years)	CIA World Factbook	2016
Renewal capacity	Fertility rate (percentage)	World Bank	2016
Effective longevity	Healthy life expectancy (years)	World Health Organisation	2015

3. Economic clout			
Indicator	Component	Source	Date
Economic yield	Gross Domestic Product (US\$ nominal)	World Bank	2016
	Net wealth (total US\$)	Credit Suisse	2016
Business environment	Ease of Doing Business (score)	World Bank	2017
Financial control	Connectivity of major world cities (score)	Global Urban Analysis	2011
Corporate size	No. of Forbes 2000 companies (total)	Forbes	2017
	No. of Forbes 2000 companies	Forbes	2017
	(total in Top 500)		
Economic structuration	Exports of goods and services (total US\$)	World Bank	2016-2015
	Foreign Direct Investment outward	UN World Investment Report	2017
	stock (total US\$)		

Indicator	Component	Source	Date
Knowledge base	Education Index (score)	UNESCO	2015
	No. of Top 200 universities (score)	Times Higher Education	2017-2016
Research spending	Total spending (US\$)	UNESCO Institute for Statistics	2015
	Spending as a percentage of GDP	UNESCO Institute for Statistics	2015
Connectivity	Connectivity (score)	Huawei	2017
Energy efficiency	Energy efficiency (score)	American Council for an	2016
		Energy Efficient Economy	
Innovativeness	No. of Nobel Prizes received in	Nobel Foundation	2016-2007
	Chemistry, Physics and Physiology and		
	Medicine (over the past ten years) (total)		

5. Diplomatic leverage			
Indicator	Component	Source	Date
Diplomatic reach	Total overseas missions (score)	National diplomatic services	2017
Diplomatic centrality	Membership of the UN Security Council (score)	UN Security Council	2017
Strategic institutionalisation	Participation in alliances and security arrangements (score)	Based on International Military Alliances, 1648-2008 (Volumes 1 and 2)	2017-2008
Intergovernmental penetration	Membership of intergovernmental organisations (total)	Yearbook of International Associations	2017
Developmental assistance	Official Development Assistance (total US\$)	Organisation for Economic Cooperation and Development	2016

6. Military strength			
Indicator	Component	Source	Date
Defence resources	Military expenditure over a ten year period (US\$)	The Military Balance	2017-2008
Military-industrial base	No. of Top 100 arms producing companies (total revenue US\$)	Stockholm International Peace Research Institute	2015
Nuclear arsenal	Deployed warheads (total) Reserve warheads (total)	Federation of American Scientists Federation of American Scientists	2016 2016
	Second-strike capability (score) Striking range (score)	Various Various	2017 2017
	Delivery platforms (score) Nuclear reputation (years)	Various Various	2017 2017
Global reach	No. of overseas military facilities (score) Spread of overseas military facilities (score)	Various Various	2017 2017
Conventional forces	Total displacement of major combatants (tonnes)	Jane's Fighting Ships 2016-17 The Military Balance 2017	2015 2017
	Total displacement of large logistical vessels (tonnes)	Jane's Fighting Ships 2016-17 The Military Balance 2017	2015 2017
	Average displacement (tonnes)	Jane's Fighting Ships 2016-17 The Military Balance 2017	2015 2017

7. Cultural prestige			
Indicator	Component	Source	Date
National creativity	Political freedom (score)	Freedom House	2017
Discursive capacity	Centrality of the main language (score)	Global Language Network	2014
	No. of research institutions and	Think Tanks and Civil	2016
	think tanks (total)	Societies Programme	
	No. of Top 52 publishing houses (total revenue US\$)	Publisher's Weekly	2016
Economic pull	No. of Top 100 global brands (total)	Interbrand	2016
National appeal	Overseas tourist arrivals (total)	World Bank	2016-2015
	Overseas tourist receipts (total US\$)	World Bank	2016-2015
Educational allure	International students from overseas in tertiary educational institutions (total)	UNESCO	2015-2014

C. Data for the seven categories

Audit of Geopolitical Capability (Final Scores)	olitical Capab	ility (Final Sco	res)							
Major Power	Geographic integration	Demographic condition	Economic clout	Technological sophistication	Diplomatic leverage	Military strength	Cultural prestige	Total	Score	Rank
China	25.79	90.77	21.54	22.82	45.09	3.18	4.33	213.53	33.84	4
France	66.90	5.10	4.98	29.37	72.89	1.97	32.71	213.91	33.90	3
Germany	35.80	7.05	7.48	42.80	40.38	0.21	29.55	163.28	25.87	5
India	15.14	100	2.12	9.48	14.74	0.82	4.98	147.28	23.34	6
Japan	39.03	8.49	11.53	34.05	26.56	0.33	16.01	136.00	21.55	7
Russia	22.47	10.72	1.14	15.81	46.04	2.72	3.09	101.99	16.16	&
United Kingdom	79.48	5.48	6.64	44.51	72.62	2.77	46.31	257.80	40.85	2
United States	100	31.05	100	100	100	100	100	631.05	100	1
Mean	48.08	32.33	19.43	37.36	52.29	14.00	29.62		36.94	
Standard deviation	30.49	39.88	33.18	28.11	27.82	34.77	32.46		26.69	

	Critical indicator	Supporting indicators	ndicators						
Major Power	Government	National spread	National extension	Energy autonomy	Communications infrastructure	Average	Total	Score	Rank
China	52.01	47.37	0.00	46.27	40.68	33.58	1746.33	25.79	9
France	89.21	32.51	88.07	30.43	52.11	50.78	4529.83	06.99	3
Germany	97.22	1.66	0.00	21.02	77.05	24.93	2423.71	35.80	5
India	47.27	19.68	2.09	35.77	29.21	21.69	1025.26	15.14	8
Japan	100	19.39	5.30	3.80	77.21	26.42	2642.44	39.03	4
Russia	29.18	100	0.92	100	7.61	52.13	1521.15	22.47	7
United Kingdom	95.26	27.44	100	35.59	62.94	56.49	5281.16	79.48	2
United States	94.35	81.90	54.68	50.47	100	71.76	6770.71	100	П
1. Geographic integration	ntegration								

	Critical indicator	Supporting indicators	dicators						
Major Power	Population size	Absorption capability	Population balance	Renewal capacity	Effective longevity	Average	Total	Score	Rank
China	100	0	86.88	65.42	91.46	60.94	6093.76	90.77	2
France	4.85	20.19	81.22	83.75	96.93	70.52	342.18	5.10	8
Germany	6.00	84.42	73.48	62.50	95.19	78.90	473.10	7.05	6
India	96.05	0	100	100	79.57	69.89	6713.06	100	1
Japan	9.21	12.80	73.34	61.25	100	61.85	569.70	8.49	5
Russia	10.47	33.66	83.84	72.95	84.65	68.77	719.97	10.72	4
United Kingdom	4.76	56.01	82.18	75.42	95.33	77.23	367.71	5.48	7
United States	23.44	100	85.77	76.67	93.32	88.94	2084.58	31.05	3
2. Demographic condition	c condition								

	Critical indicator	Supporting indicators	licators						
Major Power	Economic yield	Business environment	Corporate size	Financial control	Economic structuration	Average	Total	Score	Rank
China	43.95	77.69	32.26	27.32	58.61	48.97	2152.30	21.54	2
France	13.65	92.18	13.52	14.07	25.89	36.41	497.10	4.98	9
Germany	16.66	96.53	10.45	26.64	45.90	44.88	747.65	7.48	4
India	7.92	08.99	8.70	20.60	10.71	26.70	211.55	2.12	8
Japan	27.49	91.29	34.24	13.96	28.04	41.88	1151.56	11.53	3
Russia	4.12	88.46	4.08	8.00	9.92	27.61	113.75	1.14	7
United Kingdom	15.40	100	16.96	27.76	27.55	43.07	663.07	6.64	5
United States	100	69.65	100	100	100	99.91	9991.24	100	1
3. Economic clout	out								

	Critical indicator	Supporting indicators	licators						
Major Power	Knowledge base	Research spending	Connectivity	Energy efficiency	Innovation	Average	Total	Score	Rank
China	37.82	78.11	61.04	87.07	5.26	57.87	2188.66	22.82	6
France	48.96	43.28	76.62	91.84	18.42	57.54	2817.19	29.37	5
Germany	65.53	59.57	80.52	100	10.53	62.65	4105.59	42.80	3
India	29.49	15.78	41.56	65.99	0.00	30.83	909.30	9.48	8
Japan	47.98	72.31	83.12	93.20	23.68	68.08	3266.31	34.05	4
Russia	45.58	22.97	58.44	51.70	0.00	33.28	1516.76	15.81	7
United Kingdom	72.74	32.98	87.01	88.44	26.32	58.69	4268.87	44.51	2
United States	100	100	100	83.67	100	95.92	9591.84	100	ш
4. Technological prowess	1 prowess								

	Critical indicator	Supporting indicators	indicators						
Major Power	Diplomatic reach	Diplomatic centrality	Strategic institutionalisation	Intergovernment penetration	Developmental capacity	Average	Total	Score	Rank
China	94.29	100	7.50	70.00	0	44.38	4184.00	45.09	5
France	94.29	100	57.50	100	29.42	71.73	6763.03	72.89	2
Germany	87.43	10.00	18.75	92.84	49.83	42.85	3746.75	40.38	9
India	69.71	10.00	5.00	63.45	0	19.61	1367.22	14.74	8
Japan	86.29	15.00	8.75	63.48	27.03	28.57	2464.86	26.56	7
Russia	82.29	100	32.50	72.96	2.19	51.91	4271.62	46.04	4
United Kingdom	88.00	100	65.00	89.98	54.62	76.57	6738.58	72.62	3
United States	100	100	100	71.15	100	92.79	9278.71	100	1
5. Diplomatic leverage	everage								

	Critical indicator	Supporting indicators	ors						
Major Power	Defence resources	Military- industrial base	Nuclear arsenal	Global reach	Conventional forces	Average	Total	Score	Rank
China	14.92	N/A	45.58	2.97	15.25	21.26	317.19	3.18	2
France	7.47	10.32	64.59	17.95	12.15	26.25	195.98	1.97	5
Germany	6.24	3.10	0.00	1.16	9.34	3.40	21.22	0.21	8
India	5.78	2.43	39.50	3.04	11.77	14.19	82.00	0.82	6
Japan	7.64	2.72	0.00	1.08	13.55	4.34	33.13	0.33	7
Russia	7.70	14.07	100	6.94	19.63	35.16	270.88	2.72	4
United Kingdom	9.11	17.92	64.01	18.42	20.93	30.32	276.26	2.77	33
United States	100	100	98.57	100	100	99.64	9964.17	100	1
6. Military strength	ngth								

	Critical indicator	Supporting indicators	licators						
Major Power	National creativity	Discursive capacity	Economic pull	National appeal	Educational allure	Average	Total	Score	Rank
China	15.63	26.08	3.85	59.29	13.57	102.78	1605.97	4.33	8
France	93.75	24.51	15.38	62.59	25.92	129.39	12130.19	32.71	4
Germany	96.86	36.23	17.31	31.99	25.21	110.74	10958.88	29.55	3
India	80.21	5.67	0	12.75	4.63	23.05	1848.56	4.98	9
Japan	100	15.23	11.54	17.96	14.62	59.35	5935.36	16.01	5
Russia	20.83	6.49	0	23.63	24.96	55.08	1147.56	3.09	7
United Kingdom	98.96	78.68	13.46	34.13	47.26	173.52	17171.54	46.31	2
United States	92.71	100	100	100	100	400.00	37083.45	100	1
7. Cultural prestige	stige								

About the Author

James Rogers is a founding member of The Henry Jackson Society, where he is now Director of the Global Britain Programme. From 2012-2017 he held a range of positions at the Baltic Defence College in Estonia, including Acting Dean, Director of the Department of Political and Strategic Studies, and Lecturer in Strategic Studies. He has been an Associate Fellow (2013) and Visiting Fellow (2008) at the European Union's Institute for Security Studies in Paris. He has also worked on projects for a range of research institutions, including RAND Europe, the European Council on Foreign Relations and the Royal Institute for International Relations (Egmont). He holds a B.Sc. Econ. (Hons.) in International Politics and Strategic Studies from Aberystwyth University and an M.Phil. in Contemporary European Studies from the University of Cambridge.

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