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The Complexity of Measuring National Power

*Zorawar Daulet Singh**

Arvind Subramanian's recent book, *Eclipse: Living in the Shadow of China's Economic Dominance*¹, has renewed interest in measuring the potential of emerging powers. Subramanian argues that projections of gross domestic product (GDP), trade and creditor status make China's future dominance inevitable.

The focus, however, on a narrow metric like GDP growth rate to anticipate the dominant powers of tomorrow is flawed. For one, the GDP figure tells us little about the quality of a nation's economy or whether its wealth is being converted into competitive capabilities. For example, China's \$5 trillion GDP, second-biggest globally, hides more than it reveals. Nearly half of China's GDP is driven by investment, mainly in real estate and infrastructure. It is unclear whether this build of fixed-asset investment is producing capabilities or knowledge that great powers typically possess. The other major driver of China's economy is its role as a manufacturing hub. What is less known is that foreign multinational corporations (MNCs) account for 60 per cent of China's trade and 80 per cent of the value of their exports is imported. In other words, the value addition that occurs in China itself is a tiny contribution in the overall production process. Even China's creditor status is circumscribed by the fact that China's reserve assets are denominated in currencies printed by its principal debtors who have, consequently, transferred the vulnerability of this imbalance onto China.

Extrapolating such an economic structure for the next two decades would imply a much larger Chinese GDP, but not necessarily one that is endowed with the human capital or the technical knowledge that is embedded in advanced economies. Similarly, projecting India's growth into the future would conceal the structural distortions of the economy: atrophying scientific and technological base; a neglected education and health care system; energy insecurity; dependency on imported capital; etc.

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The economy is one, albeit the most vital, building block of a nation's strength. But only when assessed comprehensively and viewed in an ensemble of capabilities, can the relative strength of a state be gauged. The notion of comprehensive national power is a popular approach for arriving at an analysis of the diverse but interdependent variables that underpin the power of leading states.

What is Power and Can It Be Measured?

The non-linear relationship between material power and actual power (ability to achieve a political outcome) has been one of the most contested themes among political scientists. Analysts have drawn attention to "the paradox of unrealised power"², that is, the inability of a state to translate material power into a political outcome. David Baldwin's *Paradoxes of Power*³ remains the seminal work on this theme.

The paradox is caused by two factors. First, the lack of will or skill in the effective use of power (that is, India has the missiles but lacks the ability to leverage them diplomatically). Second, the capabilities of an actor must be contextualised in a policy contingency specifying the nuances of a situation. For instance, India's nuclear weapons would deter a nuclear assault on the homeland but offer no benefits to increasing its influence in Afghanistan. Alternatively, the prospects of increasing Indian influence in Southeast Asia would be determined by the relative strength of India's economic capabilities and its ability to augment the military capacities of smaller Association of Southeast Asian Nations (ASEAN) states vis-à-vis other actors vying for influence there.

Thus, power, unlike money, is not fungible, and a power resource that might be critical in one context could be irrelevant or become a liability in another. The key point is that conceiving power "as an undifferentiated quantifiable mass" offers little insight into the potential for actual political success of the states being ranked. Political success in a scenario where power is exercised will depend on that unique situation, resolve of the national leadership and the likely capabilities and strategic responses of the resisting actor(s). This notion brings out the Janus-faced notion of "power as resources" and "power as outcomes".⁴ While the former is quantifiable (that is, number of nuclear warheads, ships, research and development [R&D] institutions, etc.), the latter is more revealing but also inherently indeterminable.

If the litmus test for power is a state's success in shaping an outcome, it would imply anticipating a number of contingencies and how states' grand strategies hold up to unforeseen geopolitical situations. As Kenneth Waltz says, "power is a means, and the outcome of its use is necessarily uncertain".⁵

The quest for contextualising power by relating it to hypothetical geopolitical situations, however appealing, would be methodologically difficult to incorporate in a comparative study. Thus, an analysis that seeks to rank nations can reveal something about the generation of power resources that results from an intricate division of labour within a state, but not whether the data that is crunched has relevance in predicting political outcomes. In 1979, Waltz had outlined the "size of population and territory, resource endowment, economic capability, military strength, political stability and competence" as the decisive ingredients of national strength.⁶ Nearly all the international studies conducted on measuring the power of nations have confined themselves to these major variables.

Finally, there is a third facet of power that enables a state to leverage its capabilities towards political goals. This is grand strategy or ideational capability, which reflects a state's capacity to generate and adapt a strategic template that can guide its national security bureaucracy. Again, measuring the quality of strategies among nations is problematic for reasons alluded to earlier. However, a focus on some of the underlying elements that might produce strategies could be instructive. The quality of the strategic bureaucracy (those assigned to implement national security goals) can serve as a useful proxy for a state's grand strategy since it is this element of state capacity that helps manoeuvre the state in international life by leveraging both the global geopolitical environment and all the material and ideological strengths at a state's disposal.

The strategic bureaucracy includes the structure of national security institutions, such as the level of political–military interactions, inter-agency coordination and the level of "jointness" within the armed services itself. One can also include the quality, specialisation and scale of the foreign service and intelligence personnel. Much of this can be empirically or qualitatively observed across states. For instance, Brazil's foreign service is nearly five times the size of the Indian foreign service. In fact, strategy and institutions are interdependent—a grand strategy is of little value without accompanying institutions to aid its implementation, and even great institutions require a worldview and strategy to guide them.

In the final analysis, if power is an elusive concept, why attempt to measure it? Given that power is relative, only a benchmarking process can indicate where nations stand on a range of metrics. Perhaps, more importantly, the exercise could reveal domestic weaknesses. For example, India's inability to produce leading-edge military and civilian technologies might be traced back to a weak innovation system, the absence of institutional incentives, negligible R&D investment and an acquisition process where parochialism rather than a grand plan is driving military modernisation.

The notion that sustained high GDP growth rates will inevitably yield material capabilities at a future date is a widely prevalent presumption in Indian strategic discourse. The structure and quality of a national economy requires a conscious strategic direction and sound public policies, if leading-edge technologies are to be innovated and adopted and military-technical capabilities are to be autonomously developed. It may suffice to say that the prevailing Indian approach of an unsystematic process of power generation will only produce *ad hoc* and costly outcomes.

Can We Contextualise a Study on Power from the Perspective of an Emerging State such as India?

Comprehensive national power is a relative concept. Only when relating a state's national capabilities across a range of metrics, among a selected peer group of countries, can we assess and rank nations.

The traditional approach to measuring power has been based on single-variable models that focus on either combat capabilities of nations or their economic potential. One reason for pursuing single-variable analyses, conducted mainly by Western political scientists, has been their interest in evaluating and ranking great powers that had already arrived in the international system. Hence, focusing on a single economic or military metric was sufficient, as this became a proxy for capabilities within the domestic system of the studied countries.

In contrast, a study conducted from the perspective of an emerging power such as India, which has yet to cross the threshold in multiple underlying capabilities that make a great power, must be primarily interested in understanding the building blocks of national power. To put it more plainly, the process of first generating wealth for sustained periods and simultaneously converting acquired wealth to power instruments is neither linear nor inevitable. Since India is interested in

anticipating its own rise and the potential of other rising states, scrutinising the different elements of latent power should receive the analyst's priority. A multiple-variable approach is therefore necessary. Waltz's seven metrics—population, territory, resource endowment, economic capability, military strength, political stability and competence—can serve as a baseline, with each study scrutinising and perhaps even widening these variables to the extent desired. The importance or weightage that each of these variables is assigned will invariably be a subjective exercise.

In addition, the complexity of contemporary inter-state interactions suggests that power does not always “flow from the barrel of a gun”. The two defining characteristics of international relations in the modern era—economic interdependence or globalisation and the nuclear revolution—have combined to make the conduct of foreign policy and inter-state interactions a more complex endeavour. Globalisation aided by the advancement of transport and connectivity technologies has made economic interactions more extensive and deeper than in earlier eras. Nuclear and missile weaponry has made unrestrained state action, such as that witnessed in the first half of the twentieth century, impossible.

Today, while military force does matter, its political use is often restricted to preventing war or conflict from escalating to high levels of violence (that is, deterrence), or conducting limited military expeditions or to extend security assistance to other weaker states. In short, military power matters, but its use is more complex, limited and always circumscribed by the overall logic of maintaining strategic stability.

If states can no longer pursue their interests in a Clausewitzian sense, where use of force or threat of force is the sole driver of their foreign policies, it becomes imperative to study how states wield power and exercise leverage upon other states. Other factors such as economic and even cultural do matter and in many cases, have become significant aspects of inter-state interactions. Again, this only underscores the utility of a multi-variable approach that enables a more expansive study of power.

To conclude, India's rationale for measuring power should delve into the process through which power is generated via a complex and dynamic division of labour across the national system. This might enlighten the political leadership on the functioning of the overall system, and hence make the pursuit of power a coherent endeavour.

Notes:

1. Arvind Subramanian, *Eclipse: Living in the Shadow of China's Economic Dominance*, Washington DC: Institute of International Economics, 2011.
2. David Baldwin, "Power Analysis and World Politics: New Trends versus Old Tendencies", *World Politics*, Vol. 31, No. 2, 1979, pp. 161–194.
3. David Baldwin, *Paradoxes of Power*, New York: Basil Blackwell, 1989.
4. Ashley Tellis, Janice Bially, Christopher Layne, and Melissa McPherson, *Measuring National Power in the Postindustrial Age*, RAND MR1110A-10, Santa Monica: RAND Corporation, 2000, p. 14.
5. Kenneth Waltz, *Theory of International Politics*, San Francisco: McGraw Hill, 1979, p. 192.
6. *Ibid.*, p. 131.