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Relative political capacity: A dataset to evaluate the performance of nations, 1960–2018

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journals.sagepub.com/home/cmp**Ali Fisunoglu** 

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Abstract

Measuring the ability of governments to implement policy remains one of the most significant questions of political science. This paper presents the latest iteration of the Relative Political Capacity (RPC) dataset and introduces the Absolute Political Capacity measure. It then investigates the trends in political performance measures across time and space, and different political and economic characteristics. Covering 168 countries from 1960 to 2018, the RPC offers a comprehensive measure of state capacity that allows direct comparisons to be made across countries from all levels of development and will help researchers explore different dimensions of capacity and power.

Keywords

State capacity, power, measurement, political development, political demography

The Relative Political Capacity (RPC) dataset is designed to create a universal measurement of the capacity of governments to implement policy, similar to the use of gross domestic product (GDP) for economics. This measurement is cross-national, consistent and regularly updated. The 2021 update of RPC increases spatial and temporal coverage, extending the period covered to 1960–

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2018 for up to 168 countries.¹ In addition, some errors found in the previous version have been corrected, and updated information has been re-documented. We add an adjusted measure of extractive capacity that distinguishes between non-mineral revenues and mineral revenues. Finally, we introduce an additional new measure of absolute political capacity (APC) that directly captures the political performance of societies. The RPC dataset consists of four variables. The first is relative political extraction (RPE), which measures the ability of governments to extract portions of the economy to be then used for policies. The second is relative political reach (RPR), measuring the ability of nations to mobilize the population. The third is relative political allocation (RPA), which attempts to illustrate the effectiveness of government expenditure. The fourth is the new variable introduced in this update, absolute political capacity (APC), which combines maximum feasible extraction with demographic outcomes.²

In 1980, Organski and Kugler (1980) noted that in conflicts between advanced and developing societies, standard measures of national capabilities simply missed the mark. At that time, it was universally assumed that economically advanced societies were also politically effective. Existing measures of state capacity were largely restricted to economically advanced societies and were biased in favor of democratic regimes. The question Organski and Kugler posed is, “do elites have the tools to extract human and material resources from their societies, aggregate the many contributions each citizen makes into a national pool, and use them for national purposes?” (p. 70). This definition applies to the state capacity measures offered here.³ These authors argued that it was evident that a highly capable political entity need not be free, democratic, participatory, stable, orderly, normatively attractive, or economically endowed. State capacity means the power to reach and extract human and material resources from society and allocate such resources to advance governmental goals. This fundamental approach is reflected in the measures laid out in this paper.

The concept of state capacity has attracted increasing attention in recent years,⁴ albeit with many different names, including government effectiveness, governance quality, institutional quality, political capacity, political performance, rule of law, state fragility, state strength, state power, and many others. The different measures used also have different definitions and operationalizations. This diversity and lack of definitional clarity lead to problems not only in understanding the nature of state capacity but also in research design, preventing the results and findings of the extant literature from being accurate and generalizable.

Despite having different names, definitions, and operationalizations, studying state capacity and evaluating its influence on policy outcomes is imperative. The concept and the outcomes associated with it are consistent with a large body of literature that tackles domestic and international conflict and integration. It is relevant to the analysis of war and peace, economic growth, human development, security, and regime type, among others (Kugler and Tammen, 2012).

Development of state capacity

The discussion of state capacity in social sciences goes as early as the nineteenth century,⁵ but it quickly moved toward measuring the new concept of an economy. Gross domestic product and the System of National Accounts are among the most important inventions of the twentieth century and have allowed policymakers to make informed decisions that directly affect the positive outcomes of policy (Costanza et al., 2014; van den Bergh, 2009; Stiglitz et al., 2010). Gross domestic product is used as an almost universal measure of the economic performance of nations. It is one of the few cross-national variables that have the years and breadth to allow for straightforward comparison across the actors and issues studied. The importance of the ability to compare different

actors over time has overshadowed the justified criticisms for having conceptual and operational problems concerning its validity as the prime measurement of economic success or even the power of nation-states. Political scientists have long recognized that different nations possess different levels of state capacity just as they possess different levels of economic performance, and that GDP does not have the nuance necessary to measure how able countries are to implement policy as that capacity is lost in the overarching weight of the measurement itself. Nevertheless, we have few tools for analyzing the performance of nations that would allow for directly comparable analysis.

The first studies that attempted to link measured politics with development considered the importance of the type of regime followed by levels of democracy, as well as industrialization and modernization of the nation itself. Later the concept of civil society and civic organizations expanded political implementation from only the government to a broader concern. Decolonization and the fall of European Empires in the 1960s led to rapid research on the establishment of countries and then state fragility. Much of this work used sociological and historical methods as foundations, as political science had not yet created widely accepted systematic quantitative studies (Hagopian, 2000).

The diversity of perspectives in the conceptualization of sources and components of state capacity, in addition to the theoretical and operational abstractness of the concept, made it difficult for scholars to come up with a unified definition. Some scholars focused on the ability of the governments to preserve and provide order and stability (Huntington, 1968; Mann, 1993), in line with Weber's (2019) definition of the state as the successful monopolist of the legitimate use of force within a given territory. Other scholars emphasized the importance of state-society relations and focused on the proficiency of governments in increasing the well-being of populations (Deutsch, 1961; Kaufmann et al., 2010). Others argued that autonomy and bureaucracy are the most important notions and defined state capacity as a function of the effectiveness and integrity of bureaucracy and the autonomy of the state (Skocpol, 1985). In a broad review of the literature, Cingolani (2013) lists at least seven dimensions of state capacity, each of which has a multitude of measures associated with them.

One of the most significant difficulties with measuring state capacity is that it can be highly correlated with economic success. Debates often reach a circular argument that wealthier countries are more efficient because wealthier countries are wealthy. To achieve universality, measures of capacity must be independent of the type of government, the level of economic productivity, human rights, and the wealth of society (Rhamey and Kugler, 2020). To accomplish these goals, one needs to examine the ability of governments to implement policies chosen by governing elites, to determine if the population is mobilized in support of such goals, and to assess if allocations maximize the goals of that government. Equally important, having a range extensive enough for a long-spanning cross-national time-series analysis to be conducted helps to gain universal credibility for such variables. Measurement of state capacity necessitates time for variation, and some of the more interesting questions of politics dealing with development, conflict, and other long-term issues, in turn, require a long-term variable for proper analysis. Many of the most important topics are equally slow-moving, with research needing decades to show change and, therefore, decades of data availability. An additional consideration is the need for policy neutrality. The ability to implement policies matters more than, or as much as, what is being implemented. Policy neutrality remains an essential aspect for evaluating the politics of a range of states, not simply those with high democratic scores or levels of freedom in general. The RPC measures endeavor to address most of these conceptual and operational issues by providing an unbiased, flexible, and transparent measure that captures various dimensions of state capacity with a clear definition, extensive geographical and temporal coverage, and high levels of validity and reliability.

Relative political capacity: definition

As discussed above, defining state capacity is not an easy task. This paper does not delve into a tedious historical debate on the definition of state capacity. Instead, it adopts a simple definition and considers state capacity as the ability of the political system to effectively implement official goals (Skocpol, 1985; Sikkink, 1991). This definition incorporates many dimensions of a government since effectively implementing policy goals requires resources to be obtained and the capacity to carry out goals. Moreover, this definition avoids speculating about what the state ought to do or how it ought to do it. An effective government does not need to be a “good” government. A government that aims to improve the well-being of its population and values human rights, the rule of law, and free speech can be powerless in reaching its goals. On the other hand, history observed tyrannical regimes such as Stalin’s USSR and Nazi Germany achieving high levels of physical and social mobilization, which caused immense pain and suffering to a considerable portion of their populations. Authoritarian states, where individual freedoms and property rights are not the priority of the government, can be just as efficient as fair and free democracies with working justice systems.

The RPC provides a comprehensive and multidimensional measure of the effectiveness of governments. For a polity to be considered more capable than another, it should produce more physical and human capital and allocate these produced resources more effectively to achieve its goals. In line with this conceptualization, the RPC is built on an input–output structure. Capable governments need to successfully extract revenues and resources from their populations, mobilize them to participate in economic and social activities, and penetrate into the daily lives of individuals. Then, these physical and human capital inputs need to be turned into outputs through fiscal allocation policies to provide public goods, services, infrastructure, and security to achieve economic development.

Based on this input–output structure, the RPC Dataset consists of three components, each focusing on a different aspect of state capacity. These components are:

relative political extraction—approximates the ability of governments to appropriate portions of the national output to advance public goals;

relative political reach—gauges the capacity of governments to mobilize populations under their control;

relative political allocation—measures how public expenditures are prioritized in the government budget. The RPA identifies the gaps between actual expenditures and the “best” expenditures that maximize economic growth on any portion of the development path.

This complete conceptualization of state capacity takes into account different dimensions of governance. Different elements of RPC focus on the ability of governments to mobilize their populations, extract resources from them, and allocate these human and material resources effectively to reach their policy goals. To achieve these goals, states need to have sufficient administrative, bureaucratic, coercive, and legal capacities (Pomeranz and Vila-Belda, 2019). Fiscal and legal capacities go hand in hand, and these capacities are correlated with a state’s ability to provide the necessary public goods and property rights (Besley and Persson, 2010). To be able to regularly raise adequate levels of revenues, elaborate institutions and as well as an adept civil service that runs these institutions and enforces compliance are needed (Ertman, 1997). In countries where administrators are incompetent, bureaucracy is idle, and security forces are weak, taxes cannot be collected, the black market and the unofficial economy grow, and resources are wasted.

As Organski and Kugler (1980) pointed out, the political components of the models are not directly specified but are instead contained in the residuals. The indicators presented in this paper exploit the deviations from average/expected or maximum feasible performance, utilizing the residuals and inefficiency scores to measure the capacity of political systems. Consequently, the models with which we construct the measures are, by design, parsimonious. In each model, we endeavor to capture sufficient variation in the dependent variable with our independent variables but not fully explain the variation. The portion not explained in the models allows us to capture what we aim to capture, the effect of politics.⁶

In the next section, we discuss the construction and uses of each component of RPC.

Relative political extraction

The RPE measures the ability of governments to obtain resources from a population using tax effort as a proxy for state capacity. It incorporates the actual total tax revenues of states and compares the actual revenues with predicted total tax revenues. The prediction comes via ordinary least squares estimates for a time-series cross-section of countries.

Tax extraction has long been considered as one of the most crucial functions of a government and requirements of statehood (Tilly, 1975, 1994). Consequently, tax revenues have been widely used as a measure of state capacity (Fauvelle-Aymar, 1999; Besley and Persson, 2009; Thies, 2010; Rogers and Weller, 2014). Originally created by Organski and Kugler (1980),⁷ the RPE stems from the same logic, but takes a different approach. Instead of using tax revenues as a direct measure of fiscal performance, the RPC uses a two-step approach to calculate how much, given existing economic constraints, the government is able to extract from its population.⁸

In the first step, the expected tax revenues are estimated using the following equations, and predicted tax rates are obtained for each country for each year.

Model 1 (RPE_AGRICULTURE in the dataset):

$$\text{Tax / GDP} = \beta_0 + \beta_{1...5}(\text{Mining / GDP, Agriculture / GDP, Export / GDP, OECD, Time})$$

Model 2 (RPE_GDP in the dataset):

$$\text{Tax / GDP} = \beta_0 + \beta_{1...5}(\text{Mining / GDP, Export / GDP, GDP per capita, OECD, Time})$$

Model 3 (RPE_GDP_NONRESOURCE in the dataset):

$$\text{Non-Resource Tax / GDP} = \beta_0 + \beta_{1...5}(\text{Mining / GDP, Export / GDP, GDP per capita, OECD, Time})$$

The second step of the process is to calculate the RPE by taking this newly estimated tax with the actual total of the country:

$$\text{Relative Political Extraction} = \frac{\text{Actual Tax Revenues}}{\text{Predicted Tax Revenues}}$$

The outcome of this equation is the measurement of relative political extraction. For example, in 2010, the US collected taxes that approximately correspond to 24% of its GDP. According to our model, a country with similar levels of economic well-being, agriculture, natural resources, and

exports is expected to have a tax rate of 30%. Thus, the RPE in the US for 2010 would be calculated as $26/30 = 0.800$. On the other hand, if the US had a tax rate of 36%, it would produce the RPE value for the US as $36/30 = 1.2$.

The three different models provide estimates for different settings. Model 1 (RPE_AGRICULTURE) is most suitable for use if the analysis involves lower-income societies with a higher degree of reliance on traditional economic systems that are more heavily based upon agriculture and subsistence farming. Model 2 (RPE_GDP) is the general model proposed for use in all settings. Model 3 (RPE_GDP_NONRESOURCE) provides additional controls for mineral resources and is most suitable for use if the analysis involves countries where natural resource endowments account for a large portion of tax revenues.⁹

A substantial advantage of this type of measurement is the near universality of data. Although the actual data collection is remarkably complex, with very few exceptions, all countries have some form of tax (extraction) to form the basis of our evaluation. Tax data is historically available (Palgrave Macmillan, 2013; Drelichman and Voth, 2014; Andersson and Brambor, 2019). Moreover, the increasing availability of more granular data in recent years permits the development of more specific measures using this variable.

Relative political reach

The RPR measures the ability of the state to influence and mobilize the human resources of the population. It uses the economic activity rate as a proxy for governments' reach to their populations. It uses the same structure as the RPE and compares the actual economically active population with the predicted economically active population, given the demographic and socioeconomic profile of each country for each year.

Governments can operate most efficiently if they can mobilize the resources of the population. The RPR aims to capture the unofficial market activities, or the black market since these activities illustrate the actions that successfully dodge government examination (Arbetman and Kugler, 2018). The existence of significant unofficial human activities would only take place in countries in which the government was incapable of dictating its own statutes and regulations (Smith, 1986).

Measuring political mobilization has been a challenge for researchers. The RPR measures the degree to which the population accepts government presence in their lives: societies characterized by little trust in elites or governments are more likely to actively avoid the government, cutting out involvement in economic and other interactions (Blind, 2007). Human resources in a population are essential not only because they are crucial in producing more goods and increasing national power but also because they can be mobilized to support policymakers' agendas, including the choice to go to war or make significant economic reforms (Arbetman, 1990).

Relative political reach estimates measure the degree to which the government is involved in the economic activities of the population relative to the expected degree given the education and employment of the population. The groundwork for this measure can be found in Organski (1958) and initially modeled and expanded by Arbetman (1990) and Arbetman and Kugler (2018), addressing existing methods for identifying the size of the informal economy, also defined as the degree to which economic activity occurs outside the purview of the government. While recognizing that a direct measure of informal activity poses challenges, particularly in cross-country analysis, we believe that we can see "the shadow" of the informal sector through evaluation of the size and expected size of the economically active population (EAP) of a society (Schneider and Klinglmair, 2004). Governments in possession of material resources can pursue their objectives more easily since money is fungible. Governments also need human resources; to obtain those

resources, they need to convince their population to abide by their goals. The existence of a black-market labor sector shows that a segment of the population defies the government rules and operates outside their realm. The measure of relative political reach looks at a model of labor participation, taking into account the demographic profile of the country.

The two equations used to estimate the RPR are displayed below:

Model 4 (RPR_WORK in the dataset):

$$\text{Employed Population / Working-Age Population} = \beta_0 + \beta_{1..8}(\text{Education, Young Population, Social Security, Urbanization, Population, GDP per capita, Bureaucracy, Time})$$

Model 5 (RPR_EAP in the dataset):

$$\text{EAP / Working-Age Population} = \beta_0 + \beta_{1..8}(\text{Education, Young Population, Social Security, Urbanization, Population, Unemployment, GDP per capita, Bureaucracy, Time})$$

The second stage of the process to calculate RPR is the same as the estimation of RPE. Thus, we compare the estimated activity rate with the actual activity rate of the country:

$$\text{Relative Political Reach} = \frac{\text{Actual Activity Rate}}{\text{Predicted Activity Rate}}$$

The main difference between these two models is that Model 4 uses the difference between the EAP and the unemployment rate as the dependent variable, whereas Model 5 uses the economically active population as the dependent variable and unemployment as a control variable. Model 4 (RPR_WORK) is more suitable for more developed countries with more stable labor markets and clearer labor laws, whereas Model 5 (RPR_EAP) works better for countries with less stable labor markets, where the direct influence of unemployment is more apparent.

Relative political allocation

The RPA is concerned with whether limited public resources are spent in the areas that are best able to advance economic growth over the long run. The presumed purpose of government spending is to add this public value. Still, fiscal profligacy or rent-seeking activities often distort the common policy goals by spending too much or too little on different priorities. Politicians and bureaucrats trade over them through a hierarchy of political objectives, and they often fail to seize the more significant opportunities to achieve the nations' broad goals by overspending a public sector with lower returns while underspending others with higher returns. Some of the most relevant studies to our works include Samuelson (1954), Musgrave (1959), Easterly and Rebelo (1993), and Devarajan et al. (1996), which study the effect of fiscal structure and public spending policy on economic performance.

The RPA assesses the allocative efficiency of government expenditures and the collective impacts of fragmented fiscal policy initiatives by evaluating the likely benefits and costs of alternative public spending portfolios, subject to the government budget constraint. Particularly, we focus on the "composition" effect of fiscal allocation on economic growth rather than the "level" effect to assess the room for improvement in public investment allocation without necessarily spending more resources.¹⁰ To measure RPA, we begin with estimating the Cobb–Douglas aggregate production function as a relationship between countries' inputs and their maximum attainable output in per capita terms. The log-linearized form of the production function is defined as:

Model 6 (RPA_FULL in the dataset – using a whole sample regression):

$$\ln(\text{GDP per capita}) = \beta_0 + \beta_{1...4} \ln(\text{Four Government Functional Outlays}) \\ + \gamma_{1...4}(\text{Gross Fixed Capital, Education, Economic Openness, OECD})$$

Model 7 (RPA_SUB in the dataset – using four subsample regressions for each income-level specific group – less than \$1000 GDP per capita, \$1000–4000, \$4000–12,000, and more than \$12,000):

$$\ln(\text{GDP per capita}) = \beta_0 + \beta_{1...4} \ln(\text{Four Government Functional Outlays}) \\ + \gamma_{1...4}(\text{Gross Fixed Capital, Education, Economic Openness, OECD})$$

where the four government functional outlays are: (1) traditional public goods (administration of general public service, maintenance of public order, and military defense of the territory); (2) economic services (government activities to assist economic functioning of the private sector); (3) merit goods services (socially desirable but under-produced and under-consumed by the market, including education, health, housing, environmental and cultural services); and (4) social protection services (policy programs designed to protect the income of the population when they are unable to care for themselves).¹¹

Those estimated baseline models capture the effects of public spending items on potential output in terms of the partial production elasticities (i.e. β coefficients) for the cross-sectional sample per year. To reach allocative efficiency, in principle, the government should adjust its spending composition in a way where the factor shares of each of the government's functional outlays equal the elasticities (Tyner and Tweeten, 1977). Therefore, the government can improve its economic performance by adopting an alternative fiscal policy strategy that increases public sector expenditure with higher β coefficients while limiting public spending on other sectors with lower β s. Built upon the estimates as the benchmark showing which public spending items boost potential production while others lower it, we construct an "allocative inefficiency score" for each country by summing up the distances between the actual and optimal spending ratios for four government functional outlays. After standardizing the units of measurement, we calculate the RPA index from the obtained allocative inefficiency scores as follows:

$$\text{RPA} = \left(1 - \frac{\text{Inefficiency of Country } i - \text{Average of Inefficiency in the sample}}{\text{Max of Inefficiency in the sample} + \text{Min of Inefficiency in the sample}} \right)$$

The average RPA is scaled to 1. A value greater than 1 indicates the country allocates its public expenditure relatively more efficiently, whereas a value smaller than 1 means a relatively inefficient allocation. Model 6 (RPA_FULL) is more suitable if the analysis involves more developed countries whereas Model 7 (RPA_SUB) is more appropriate when the analysis involves developing and less-developed countries.

Absolute political capacity

The APC is a newly developed state capacity indicator combining economic, social, and demographic elements. The APC considers the maximum feasible capacity rather than the average/expected capacity.¹² It comprises two key subcomponents: (1) the absolute extraction capacity; and (2) life expectancy. The former is related to the mobilization of governmental inputs, while the latter is related to the value governments return to society through the provision of public

goods. As such, the index intends to capture the product of the interplay between governmental inputs and outputs.

$$\text{APC} = \text{Absolute Extraction Capacity} \times \text{Life Expectancy}$$

First, as discussed earlier, we calculate the term of absolute extraction capacity by measuring the deviation between maximum feasible (or “frontier”) tax revenues and actual revenues. The following models estimate the frontier revenues as tax potential:

Model 8 (APC_1 in the dataset):

$$\ln(\text{Tax} / \text{GDP}) = \beta_0 + \beta_{1\dots n} \ln(\text{Mining} / \text{GDP}, \text{Agriculture} / \text{GDP}, \text{Social Contributions} / \text{GDP}, \text{GDP per capita}, \text{Economically Active Population}, \text{Education}, \text{OECD}) - \text{Inefficiency}$$

Model 9 (APC_1NONRESOURCE in the dataset):

$$\ln(\text{Non-Resource Tax} / \text{GDP}) = \beta_0 + \beta_{1\dots n} \ln(\text{Mining} / \text{GDP}, \text{Agriculture} / \text{GDP}, \text{Social Contributions} / \text{GDP}, \text{GDP per capita}, \text{Economically Active Population}, \text{Education}, \text{OECD}) - \text{Inefficiency}$$

In this framework, the terms of inefficiency—being away from the tax frontier—can be isolated, allowing it to be used for measuring absolute extraction capacity.¹³ We estimate two separate models: one using general government tax revenues and one using general government tax revenues excluding tax revenues from natural resources.

Second, we posit that political capacity is reflected by the longevity of the average individual in society. Thus, we use life expectancy for assessing socioeconomic conditions. Life expectancy expansion is a result of, among other things, improvements in social care that give populations the proper support to stay healthy and independent. Recent empirical results showing the link between life expectancy and the quality of government policies are documented in Reynolds and Avendano (2018), Montez et al. (2020), and Venkataramani et al. (2021). We transform life expectancy values to 0 for the society with the minimum longevity and 1 for the society with the maximum longevity.

To obtain the composite score of APC, the tax efficiency score estimated above is multiplied by the normalized average life expectancy within each society. By standardizing both subcomponents between 0 and 1, the APC is, in turn, scaled between 0 for the least capable government and 1 for the most capable one.

APC_1 presents the general model that can be used in all settings, whereas using APC_1NONRESOURCE is more appropriate if the analysis includes countries with a significant amount of natural resource revenues.

The APC is conceptually comparable with the RPE as both indicators measure the government’s capacity by assessing deviations between observed revenues and estimated capacity. The structure of RPE creates two problems, one economic and one political. The economic problem is that regardless of their political choices or performance, states have a physical limit on how much revenue they can raise. The political problem is that some states *choose* to raise lower revenues despite having the capacity to raise more.

The APC alleviates the economic problem empirically by using the frontier approach, and theoretically by formulating the relationship between tax effort and tax potential in a more explicit way. APC assumes that governments’ capacities are differentially restricted by their potential outputs at different levels of development—irrespective of their political efforts, governments face a techno-economic limit on the amount of resources they can extract.

The frontier approach is the most suitable estimation technique to calculate APC. Recall, from the analysis of relative political extraction, that standard ordinary least squares estimation techniques produce coefficients that are used to calculate the average predicted values at each level of development for the sample used. Thus, the estimation is relative to the average, not the maximum feasible government performance. Countries, which appear to be deviating from the average on the upside, may, in fact, be the most effective ones. However, this data is lost because of the relative standing along the level of development. If this is true, using the maximum (or frontier) performance provides a more realistic depiction of the effectiveness of these countries. Thus, using a frontier estimation approach is more appropriate for calculating an absolute measure than the standard approaches.

Theoretically, the APC addresses the disparity between the economic constraints on extraction in more developed and less developed countries. Like the RPE, the theoretical origins of the APC rely on the concept of tax extraction. Since there is an absolute limit to the percentage of taxes a government can collect, raising additional tax revenues theoretically becomes increasingly more difficult as the tax rates increase (Levi, 1989; Cagé and Gadenne, 2018). Achieving the same amount of increase is more attainable for countries with lower levels of initial tax revenues compared with countries with higher levels of initial tax revenues. For instance, it will be easier for Guatemala to raise its tax revenues from 10% of GDP to 15% of GDP than for Belgium to increase its tax revenues from 45% of GDP to 50% of GDP. The existence of an upper threshold of revenue extraction indicates that there is more policy space for lower-income countries than for higher-income countries (Tanzi and Zee, 2000; Moore and Prichard, 2020). Although this may be theoretically correct, it also means that the RPC, by construction, penalizes countries in a higher position in the development cycle. The frontier approach also alleviates this problem, focusing on the difference between the maximum attainable tax revenues and the actual tax revenues for all levels of development. Thus, the critical difference between the APC and the RPE is that the APC employs “frontier assessment (of the deviation from maximum feasible taxing performance),” and the RPE relies on “average assessment (of the deviation from mean taxing performance)” to gauge political capacity. As such, the APC mitigates the economic problem RPE demonstrates.

The political problem caused by the conceptualization of RPE is more complex. In the empirical models used to calculate the RPE, there is the implicit assumption that governments are revenue-maximizing agents. This is comparable with the “predatory government” or Leviathan strand of public choice literature (Brennan and Buchanan, 1977). However, there is an alternative strand in the public choice literature, which argues that policy choices can drive the preferences for levels of taxation and emphasizes the importance of social-welfare-maximizing, optimal-sized governments (Samuelson, 1954; Genschel, 2002).

We argue that governments choose policies to maximize long-term economic growth to remain in power. Unless they face major crises, governments hardly ever utilize the full power of the state apparatus to extract from and reach their populations. When they confront such rare existential threats, short-term survival goals override long-term economic growth maximization. However, it can be argued that the objective function of governments during non-crisis times is underspecified. Indeed, there are examples of countries that choose to shrink the size of the government and lower the tax rates. The problem of differentiating the *capacity* to raise revenues from the *practice* of raising revenues depends on many factors, including, but not limited to, the type of the political system, the degree of ethnic and political polarization, the scope of economic integration and globalization, the preferences for income distribution and public good provision, and the extent of natural resource endowments. Although the frontier approach improves the conceptualization of the RPE,¹⁴ a more comprehensive model with additional controls, like health and education

expenditures, an extended specification of the trade-off between optimal political and economic outcomes, and micro-foundations of the conditions under which states are more effective in using their potential, would increase the validity of the APC.

Empirical characteristics of the data

This section presents the summary statistics of the variables and demonstrates the variation in the data over time and across income groups, geographical regions, and regime types. Table 1 presents the summary statistics for the main political performance measures. By construct, the relative measures have a mean value of 1. For a given year and country, values above 1 indicate higher than predicted performance, and values below 1 indicate lower than predicted performance. The APC, being an absolute measure, has a different structure. Although it theoretically ranges from 0 to 1, in reality, the maximum value a country achieves in a given year is 0.90, which is France in 2018.

Tables 2–4 demonstrate the summary statistics for different country groups, regime types, and geographical regions to obtain more insight into the behavior of the political performance measures across different country groups, respectively.¹⁵ Table 2 displays the summary statistics across different income groups. For the relative measures of political performance, we observe non-linear relationships between income and the measures. For example, the RPR appears to be the lowest for middle-income countries, whereas the RPE appears to be the highest for low-income countries. Here, one should consider the interpretation issues owing to the construct of relative measures: they are more appropriate for comparing countries with similar income levels. Thus, although the

Table 1. Political capacity measures summary statistics.

Variable	N	Number of countries (min)	Number of countries (max)	Mean	SD	Min	Max	Years available
RPE_AGRICULTURE	8661	127	168	1.03	0.44	0.01	3.83	1960–2018
RPE_GDP	8661	127	168	0.99	0.41	0.01	3.77	1960–2018
RPE_GDP_NON-RESOURCE	8661	127	168	1.00	0.48	0.01	3.47	1960–2018
RPR_WORK	8164	125	160	1.00	0.23	0.26	1.88	1961–2018
RPR_EAP	8164	125	160	1.00	0.15	0.57	1.64	1961–2018
RPA_FULL	4261	36	106	1.00	0.17	0.37	1.37	1970–2018
RPA_SUB	4261	36	106	1.00	0.16	0.33	1.37	1970–2018
APC_I	8590	127	167	0.47	0.17	0.01	0.90	1960–2018
APC_I NON-RESOURCE	8590	127	167	0.39	0.20	0.00	0.89	1960–2018

Table 2. Political capacity measures summary statistics across income groups.

Variable	Low-income countries		Middle-income countries		High-income countries	
	Mean	SD	Mean	SD	Mean	SD
RPE_AGRICULTURE	1.07 (2284)	0.60	1.00 (4279)	0.40	1.04 (2,098)	0.29
RPE_GDP	0.80 (2284)	0.40	1.08 (4279)	0.42	1.03 (2098)	0.29
RPE_GDP_NON-RESOURCE	0.84 (2284)	0.42	1.12 (4279)	0.52	0.94 (2098)	0.42
RPR_WORK	1.08 (2111)	0.24	0.93 (3979)	0.23	1.05 (2074)	0.18
RPR_EAP	1.04 (2111)	0.17	0.97 (3979)	0.15	1.01 (2074)	0.11
RPA_FULL	1.04 (647)	0.16	1.05 (1990)	0.16	0.93 (1624)	0.16
RPA_SUB	1.01 (647)	0.19	1.00 (1990)	0.17	1.00 (1624)	0.14
APC_I	0.33 (2269)	0.14	0.48 (4223)	0.14	0.61 (2098)	0.13
APC_I NON-RESOURCE	0.25 (2269)	0.14	0.42 (4223)	0.17	0.50 (2098)	0.22

Parentheses denote *N*. We use World Bank criteria, which classify countries with 2018 per capita income below \$1025 as low-income, sets a range of \$1026–12375 for middle-income countries, and calls countries with incomes of \$12376 and above high-income.

relative political extraction or reach of a lower-income country may be higher than that of a higher-income country, this does not mean that the lower-income country has more effective institutions than its higher-income counterpart. On the other hand, the absolute political capacity does not suffer from this problem. Table 2 demonstrates that the APC increases as the income level increases. Countries in higher-income groups have higher average levels of APC with similar levels of variation. This case is easier to interpret. There are very few, if any, dysfunctional states that also have a successful economic performance.

In Table 2, we also observe that political capacity measures tend to have lower variation in high-income countries compared with low- and middle-income countries. This is due to the fact that there is a limit to taxation as well as some control variables such as education or urbanization. These factors are going to be close to their upper limits in high-income countries, whereas they are more likely to show variance in lower-income groups.

Investigating the relationship between the political performance measures and regime type in Table 3, we generally observe a non-linear relationship when it comes to the relative measures. There is an inverted U-shaped relationship between RPE and regime type. This inverted-U-shaped relationship is in line with previous research (Gleditsch et al., 2001; Vreeland, 2008), which indicates that consolidated regimes with more stable and coherent institutions tend to have higher rates of extraction compared with anocracies with weaker and less stable institutions. On the other hand, the RPA is the highest for mixed regimes, although the difference is weak. One of the potential reasons for this differential is the democratic countries' policy priorities for social protection and

Table 3. Political capacity measures summary statistics across regime types.

Variable	Autocracies		Anocracies		Democracies	
	Mean	SD	Mean	SD	Mean	SD
RPE_AGRICULTURE	1.08 (2408)	0.56	0.94 (2034)	0.39	1.04 3471	0.35
RPE_GDP	1.00 (2408)	0.52	0.89 (2034)	0.37	1.05 3471	0.31
RPE_GDP_NON-RESOURCE	0.89 (2408)	0.59	0.93 (2034)	0.45	1.11 (3471)	0.37
RPR_WORK	0.99 (2223)	0.27	1.00 (1898)	0.25	1.01 3387	0.19
RPR_EAP	1.00 (2223)	0.18	0.99 (1898)	0.17	1.01 3387	0.12
RPA_FULL	1.02 (922)	0.16	1.08 (741)	0.15	0.96 2290	0.17
RPA_SUB	0.95 (922)	0.20	1.02 (741)	0.17	1.01 2290	0.13
APC_I	0.39 (2378)	0.17	0.41 (2031)	0.14	0.57 3462	0.13
APC_INON-RESOURCE	0.28 (2378)	0.18	0.35 (2031)	0.16	0.51 (3462)	0.16

Parentheses denote *N*. We follow the regime categories suggested by the Polity data, which classifies countries as “autocracies” (−10 to −6), “anocracies” (−5 to +5), and “democracies” (+6 to +10).

social security rather than economic affairs that emphasize short-run economic growth (Fournier and Johansson, 2016). When we examine the relationship between regime type and APC, we observe a positive relationship. However, the increase in average APC between anocracies and democracies is significantly higher than the increase between autocracies and anocracies. Thus, democratic regimes, compared with non-democratic ones, have more effective institutions.

Table 4 demonstrates the average values for the political capacity measures across different geographical regions. The table indicates that there is variation in political capacity measures across regions. Moreover, different dimensions of capacity vary within the same region. Overall, European countries seem to be performing more strongly in extractive capacity, whereas North American countries excel in allocating government spending. East Asian countries effectively reach their population and allocate government spending but fall short in extracting resources. On the other hand, countries in the Middle East and North Africa effectively extract from their populations but have relatively weaker reach.

Reviewing the empirical characteristics of the data provides insight into the variation of the variables across different geographical and political units. The descriptive statistics support the rich empirical data from previous studies using relative measures.¹⁶

Discussion and conclusions

Implementation is the most critical aspect of politics. We believe that the evaluation of policy without consideration of the ability to implement it limits the outcomes of research agendas. By giving researchers the ability to have a greater degree of choice as to what aspect of political

Table 4. Political capacity measures summary statistics across regions.

Variable	Latin America/Caribbean												Sub-Saharan Africa	
	East Asia/Pacific		Europe/Central Asia		Latin America/Caribbean		Middle East/North Africa		North America		South Asia		Sub-Saharan Africa	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
RPE_AGRICULTURE	0.94 (889)	0.40 (1766)	1.10 (1766)	0.34 (1369)	0.88 (1369)	0.35 (1369)	1.14 (1031)	0.39 (112)	0.94 (112)	0.10 (112)	1.02 (401)	0.53 (401)	1.04 (2248)	0.55 (2248)
RPE_GDP	0.88 (889)	0.33 (1766)	1.11 (1766)	0.34 (1369)	0.99 (1369)	0.43 (1369)	1.22 (1031)	0.43 (112)	0.95 (112)	0.11 (112)	0.77 (401)	0.32 (401)	0.89 (2248)	0.41 (2248)
RPE_GDP_NON-RESOURCE	0.91 (889)	0.37 (1766)	1.15 (1766)	0.38 (1369)	1.10 (1369)	0.51 (1369)	0.91 (1031)	0.65 (112)	1.02 (112)	0.11 (112)	0.83 (401)	0.36 (401)	0.92 (2248)	0.46 (2248)
RPR_WORK	1.14 (768)	0.14 (1691)	1.00 (1691)	0.20 (1264)	1.02 (1264)	0.17 (1264)	0.83 (985)	0.25 (110)	1.04 (110)	0.06 (110)	0.90 (344)	0.22 (344)	1.04 (2232)	0.27 (2232)
RPR_EAP	1.03 (768)	0.10 (1691)	1.00 (1691)	0.11 (1264)	1.03 (1264)	0.12 (1264)	0.87 (985)	0.16 (110)	1.05 (110)	0.05 (110)	0.88 (344)	0.16 (344)	1.06 (2232)	0.17 (2232)
RPA_FULL	1.08 (577)	0.15 (1351)	0.88 (1351)	0.13 (576)	1.09 (576)	0.16 (576)	1.02 (484)	0.13 (79)	1.03 (79)	0.08 (79)	1.01 (279)	0.16 (279)	1.08 (637)	0.15 (637)
RPA_SUB	1.03 (577)	0.16 (1351)	0.97 (1351)	0.12 (576)	1.03 (576)	0.16 (576)	0.94 (484)	0.18 (79)	1.14 (79)	0.06 (79)	0.97 (279)	0.16 (279)	1.05 (637)	0.17 (637)
APC_I	0.48 (865)	0.14 (1736)	0.61 (1736)	0.12 (1369)	0.46 (1369)	0.15 (1369)	0.54 (1029)	0.14 (112)	0.60 (112)	0.07 (112)	0.38 (396)	0.14 (396)	0.34 (2248)	0.13 (2248)
APC_INON-RESOURCE	0.40 (865)	0.17 (1736)	0.54 (1736)	0.15 (1369)	0.43 (1369)	0.17 (1369)	0.35 (1029)	0.23 (112)	0.64 (112)	0.09 (112)	0.29 (396)	0.14 (396)	0.28 (2248)	0.14 (2248)

Parentheses denote N.

capacity they find interesting, we hope to contribute to creating a high degree of nuance in the inquiry of politics and providing novel insights into the study of state capacity. This major update in the RPC dataset creates consistent cross-national measurements from 1960 to 2018. It makes no claims to the quality of policy, or its morality, only the ability of the political systems in question to implement government goals.

The measurements within the RPC dataset have several advantages over the alternative measures and address some of the prevalent problems in the measurement of state capacity in several ways. Firstly, different elements of the RPC capture different dimensions of state capacity and cover a wide range of countries over time, making the RPC compatible with a wide range of datasets and enabling researchers to study many different issues. The input–output structure of the RPC covers economic extraction, human capital mobilization, and resource allocation, which allows it to capture different capacities of the state, including, but not limited to, extractive, coercive, administrative, and bureaucratic.

Alternative measures of state capacity often assess different dimensions of state capacity, especially administrative and bureaucratic capacity, using surveys or expert interviews, which often have a short time span and geographic range (Hendrix, 2010) and suffer from aggregation issues and bias (Lindstadt et al., 2020). The measures that rely on the judgment of experts, such as the Worldwide Governance Indicators or V-Dem variables, and measures that are constructed through the coding of events and reports, such as the Political Terror Scale, are more prone to suffering from hindsight and perception biases. Thus, they require meticulous pre- and post-survey treatment to ensure high validity and reliability (Maestas et al., 2014). Other measures, which aggregate several indicators of state capacity to estimate a composite variable, are less biased compared with measures based on expert interviews and will provide a more comprehensive picture. However, such variables will be constrained by the developments in their components for updates and improvements. For instance, Hanson and Sigman's State Capacity Dataset combines 21 different measures of capacity and will rely on the updates of at least some of these components to be able to update the aggregated measure. On the other hand, all elements of the RPC are based on objective annually updated variables that have extensive spatial and temporal coverage, as demonstrated in the descriptive statistics tables and Online Appendix 2.¹⁷

Moreover, the RPC dataset uses established measurements with a clear theoretical structure and operational definition. The models we use are, by design, parsimonious, using only the main factors on the right-hand side. We argue that the variation not explained by our models measures the impact of politics. The operational clarity helps the measures to be independent of concepts like economic development, economic structure, or regime type, providing a higher level of validity. A good measure of state capacity can be partially correlated with major economic and political indicators, but its primary goal is to measure the ability of governments to implement policy choices. It is true that some existing measures, such as tax revenue as a percentage of GDP or regime type, are more parsimonious than RPC measures. However, these measures are highly correlated with economic performance or good governance, making them difficult to distinguish from these concepts (Cao and Ward, 2015). The measures introduced in this dataset do not suffer from this problem.

The flexible theoretical and empirical construct of RPC variables allows for different formulations based on the specific issue studied, as well as developing measures at different levels of analysis. Many alternative indices, such as the bureaucratic quality variable by Political Risk Services or Fragile States Index, are black boxes in the sense that researchers must accept the weights the original authors assign to the components. Similarly, the researchers have to accept the aggregation rules and techniques of expert-based measures when they adopt them, as the raw data used for constructing these measures are often unavailable. The RPC dataset provides estimations using the

models presented above for all countries that fit the inclusion criteria. However, at the same time, all of the components used in the construction of the RPC measures are publicly available, along with the estimations. The availability of the components allows the users to investigate the dataset and reconstruct their own versions of RPC by adding or subtracting variables or changing the set of countries included in the estimation. For example, one can argue that the primary goal of governments is to decrease inequality and re-estimate RPA using inequality instead of growth as the dependent variable. Alternatively, one can construct the RPE not for all countries but only for Latin American or high-income countries. The possible choices are limitless.

The components used to construct the RPC indicators, such as the general government tax revenues, mineral revenues, and education, can also be used individually for different research programs. Furthermore, by collecting additional data and making minor adjustments in the models, RPC can also be estimated at different levels of analysis, including subnational or regional levels. Thus, the flexibility of the construct and availability of the data provide an opportunity for the field to easily improve the measures, extending the range of issues that can be investigated using RPC.

Despite the significant advantages, RPC still has limitations, creating room for improvement. The RPE, RPR, and RPA are constructed by comparing the predicted values of extraction, reach, and allocation with the actual values. Consequently, they are relative measures and are best used as interaction or multiplication terms with other variables to establish government performance. For instance, multiplying GNP with RPE would provide a measure of national capabilities. When comparing societies to rank their capabilities, the relative measures should only be used for countries with similar economic structures and similar income levels.

The relative nature of RPE, RPR, and RPA also means that higher values do not necessarily directly indicate a higher capacity for the whole sample of countries. Instead, they measure the capacity of a government compared with another government with similar economic, demographic, and social characteristics. Consequently, the relative measures are not suitable for directly comparing, say, Denmark and Nigeria. This theoretical requirement of studying bands of countries with similar profiles curtails the potential for greater cross-national studies.

The relativity of the variables also implies that, depending on the context, higher values do not always result in better outcomes. Over-regulation, over-extraction, or over-reach can be detrimental to institutions, especially in complex economies. For example, having high political capacity is advantageous for issues that highlight coercive capacity, such as conflict and order (Kugler and Lemke, 1996). However, having levels of political capacity significantly below or above average can decrease economic growth (Knutsen, 2013) or foreign aid effectiveness (Ahmed, 2020).

Another potential issue is related to the variability of different moving parts of the estimates. Since some of the components are represented as a share of GDP or population, elements of RPC are endogenous to political, economic, and demographic shocks. The interlinked relationship between state capacity, economic performance, and conflict can result in a vicious cycle, convoluting the empirical identification of causality (Besley and Persson, 2010). Observing variations around periods of major shocks should be expected, but these periods also call for extra attention. For example, different categories of taxation or spending will have different elasticities during economic crises, and governments will have to prioritize some critical factors above others (Lindauer and Velenchik, 1992). Having high levels of savings or access to cheaper loans or financial resources can also impact the extraction, reach, and allocation behavior of governments (Besley and Persson, 2009).¹⁸

The tax-based indicators we develop, specifically the RPE and APC, are primarily engaged with why governments raise the revenues they do, but not on how they do it. In this sense, we are only capturing the shadow of politics rather than the intricacies of administrative and bureaucratic

operations. More comprehensive models that involve the micropolitical foundations of political behavior and outcomes would augment the political capacity estimates introduced here. Furthermore, extending the theoretical and empirical framework with additional controls concerning domestic redistributive processes, public good provision, financial flows, government debt, and foreign aid would enhance our understanding of political processes.

Despite these shortcomings, the RPC has been one of the most frequently and robustly used and tested measures of state capacity. The RPC's conceptual clarity and structural flexibility yield valid and reliable measures without sacrificing spatial and temporal coverage. With their solid theoretical background and ample empirical support, the state capacity measures presented in this paper can be used to assess structural political constraints faced by governments. Overall, the RPC provides a solid basis for the study of the profound role politics play in international and domestic interactions.


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Supplemental material

Supplemental material for this article is available online.

Notes

1. We collected data for all countries but excluded countries that have a population smaller than 350k in the estimation of the measures.
2. We plan to update the dataset biennially. Upon their release, the updated datasets will retain this article as their appropriate citation.
3. Organski and Kugler used the concept of political development rather than state capacity.
4. For comprehensive examinations, see Hendrix (2010) and Hanson and Sigman (2021).
5. Scholars like Karl Marx and Max Weber are only two examples of nineteenth- and twentieth-century German social thought that contributed to the state capacity literature.
6. Using deviations provides an innovative approach to capturing the effect of the political components. This is, in a sense, similar to Lee and Zhang (2017), who developed a measure of legibility based on the accuracy of the demographic structure on national censuses.
7. Organski and Kugler's models are based on the tax ratio work advanced by the International Monetary Fund to assess the economic penetration and debt qualification–repayment potential of countries (Lotz and Morss, 1967; Bahl, 1971; Chelliah et al., 1975). Various controls are employed to effectively account for the varying economic elements of the tax base. The level of productivity is controlled by GDP per capita. Governments in countries with higher levels of productivity are expected to collect more taxes since a higher output per capita implies more potential areas and occasions for governments to extract from. Likewise, exports and mineral revenues provide governments with access to money that can be collected without exercising political pressure over the population. In addition to these, a

dummy variable differentiates the most developed nations from others to strengthen the variances between these sets of countries.

8. Our models do employ the absolute size of the tax revenue because our conceptualization is concerned with tax efficiency. Simply using total revenues or tax ratios without making any adjustments would be misleading in evaluating the political effectiveness of nations as they would be highly related to other economic indicators, such as the GDP per capita. Thus, using a predictive model of tax revenues by controlling for factors that impact the tax potential of countries provides a more valid identification of governments that are more or less capable.
9. The major oil-producing nations, such as Kuwait, Nigeria, and Saudi Arabia, have high government revenues because of the income they receive from the sale of mineral revenues. However, the high revenues do not imply high governmental performance in extracting resources from their societies. On the contrary, being endowed with abundant point source natural resources is often associated with decreased state capacity, resulting in resource curse (Ross, 1999; Hendrix, 2010). Therefore, having a separate model for countries with vast natural resources is crucial for achieving a valid measure.
10. As pointed out by a reviewer, another related but missing aspect for evaluating fiscal policy here is the degree and form of borrowing, but the current RPC based on the annual accounting scheme does not reflect it since borrowing, spending, and paying off debt are linked at different times. We expect that the consideration of the intertemporal budget constraint that dynamically connects the flows of fiscal resources can address the role of debt capacity as the potential component of the RPC in future studies.
11. We follow the government spending classification of Saunders and Klau (1985) and Oxley and Martin (1991), which is consistent with the Classification of the Functions of Government, developed by the Organisation for Economic Co-operation and Development.
12. As the name implies, the APC is an absolute measure, which will be more appropriate when we compare a country against the rest of the population, while RPE/RPR/RPA are relative measures, which will be more useful for a peer/competitor comparison.
13. We use the econometric methods of Stochastic Frontier Analysis (SFA) to estimate the models and the frontier deviation, which can be interpreted as inefficiency, ranging from 0 for the least efficient government to 1 for the most efficient government of tax extraction. The main advantage of SFA is that it presents a tax frontier of the standard regression model, which allows us statistical modeling compatible with other RPC specifications. Surveys on the workhorse SFA model include Førsund et al. (1980), Battese and Coelli (1988) and Belotti et al. (2013).
14. This is due to its focus on maximum feasible taxing performance. Unsurprisingly, countries that have been choosing to tax their populations at lower rates perform worse in the RPE but rank higher in the APC.
15. Visual representations of Tables 2–4 can be found in the Online Appendix 2.
16. In order to further examine the empirical characteristics of the APC and demonstrate its validity, four major studies that use political capacity as the main explanatory variable are reanalyzed and extended in Online Appendix 5. These studies examine the effect of political capacity on demographic transitions (Organski et al., 1984), how political capacity, demographic transitions, and economic development interact using the Politics of Fertility Economic Development model (Feng et al., 2000), the impact of state capacity on civil war onset and contagion (Braithwaite, 2010), and the effect of political capacity on human trafficking (Blanton et al., 2020). Throughout our analyses, we demonstrated that the APC is successful in explaining a wide variety of important political issues, ranging from political demography and political demography to domestic and international conflict and political violence. Specifically, the results indicate that higher levels of APC are associated with lower birth and death rates, higher growth rates, and a lower risk of falling into a poverty trap. Furthermore, countries with higher levels of APC are less likely to experience civil conflict when there is another civil conflict in a neighboring country or region, and they have lower levels of forced labor and prostitution.
17. As is the case with any data reliant on national reporting, the accuracy of the data used in constructing the RPC is not guaranteed. Despite recent improvements in data quality and collection efforts, inaccuracies and missingness within variables can happen owing to capacity issues or strategic choices by governments, particularly in economic variables (Hollyer et al., 2018). We thoroughly examine the validity

and reliability of our variables and their components during data collection, details of which are discussed and demonstrated in the Online Appendix and the data documentation.

18. Note that the APC suffers minimally from the above-mentioned limitations, particularly the limitations related to the relative nature of the other indicators. Unlike the relative measures, the APC is suitable for use as a standalone variable in analysis involving countries from all levels of development. Investigating Online Appendices 1–4 would be beneficial for comparing APC and the relative measures and better comprehending the practical implications of employing relative vs. absolute variables. For instance, whereas the APC is more linearly related to regime type and economic performance, relative measures tend to have a U- or inverted U-shaped relationship. Similarly, APC has a stronger positive correlation with alternative measures of state capacity compared to the relative measures.

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