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# State Capacity Redux: Integrating Classical and Experimental Contributions to an Enduring Debate

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## Abstract

What state capacity is and how to strengthen it remain open questions, as the underlying incentives of the state, its citizens, and its agents align in some areas of state activity and diverge in others. This article lays out a framework that integrates classical and experimental approaches within a common theoretical structure based on the diverse capacity challenges states face with respect to extraction, coordination, and compliance. Addressing each in turn, we show that state capacity is an interactive process, the product of institutions governing relations between the state, mass publics, and bureaucrats. We argue that the institutions ensuring capacity and the processes that bring them into being vary. Our review highlights trends in recent research, as well as relevant differences in opportunities for and obstacles to empirical work on the subject.



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## INTRODUCTION

Under its most minimal, Weberian definition, a state is an entity that aspires to monopolize the legitimate use of violence within a given territory. Over the last few decades, as the state has repeatedly been brought back in from its pluralist retirement, political scientists have arrived at a more expansive understanding of the state. Encompassing institutions beyond the coercive, the state functions both as an “arena of social conflict” and as a “guardian of collective interests” (Rueschemeyer & Evans 1985, p. 48). Weber himself saw the possession of a professionalized bureaucracy layered on top of the state’s coercive apparatus as the mark of modern statehood, and others have come to stress the importance of interactions between the state and civil society as opposed to pure coercion (e.g., Mann 1984, 2008; Migdal 1988). Scholars have also paid attention to the role of the state in the creation and maintenance of a market society (e.g., Polanyi 1944), a role embraced by postwar Keynesian economists, and have focused on how states make and carry out collective goals, rather than acting merely as assemblages of individual interests (e.g., Evans 1989). Current scholars of the state thus find themselves confronted with a spectrum of statehood, ranging from the minimal conception to a maximal definition of the successful state as a body of laws and institutions intended to provide security, justice, and services to its citizens while maintaining a space that guarantees property rights and enables market forces and the private sector.

Given this array of understandings on statehood, it is no wonder that views on building state strength diverge. Indeed, the question of state capacity—what it is and where it comes from—is as old as the state itself, troubling philosophers from Machiavelli to Foucault. To policy makers, it tends to be most notable in its absence, as in instances of state failure, while its presence often goes unremarked. For scholars, what constitutes state capacity often depends on what part of it they come up against, associating it with different sets of institutions, attitudes, and behaviors in different contexts. Those concerned with *longue durée* processes of state formation tend to emphasize the coercive and extractive activities associated with financing wars (e.g., North 1990, Tilly 1990). By contrast, researchers interested in comparatively recent processes of economic development are more concerned with the ability to effect successful socioeconomic interventions and to achieve institutional upgrading, which requires a more socially embedded form of capacity. Even within a single state, the attitudes and behaviors of civil servants that enhance capacity in one domain, such as service provision, may prove detrimental in another, such as law enforcement (Bénabou & Tirole 2006, Prendergast 2007). Similar tensions exist between the state’s roles as service provider and monopolizer of violence, and between its domestic and international roles (Evans et al. 1985). How to build a strong state thus remains challenging both to conceptualize adequately and to realize fully.

These difficulties are compounded by the numerous distinct research agendas within political science that concern themselves with this question. As a first cut, these different approaches can be divided into those that focus on state capacity as an explanatory variable and those that see it as a puzzle to be explained. On the one hand, literature on conceptualizing state capacity focuses on measuring the form and function of existing capabilities, often taking for granted the existence of something resembling a state. In the quest for generality, the pressure here is for minimalist, normatively neutral definitions that are independent of outcome-based measures. Much of the literature on economic development and civil wars seeks to conceptualize state strength in this way.

On the other hand, a second set of literatures pursues the origins of state capacity, with capacity itself as the explanandum. Because of the burgeoning array of activities modern states involve themselves in (as per Lindert 2004), historically oriented research on the origins of state capacity must grapple with greater variation in the types of strength states possess. Unsurprisingly given the longer time horizons and larger universe of cases such accounts draw on, working definitions

of state capacity as a dependent variable are diverse. They spread across a wide array of institutions, both formal and informal, from rules such as property rights to organizations such as Weberian bureaucracies. Research into the origins of state strength is also often associated with a path-dependent perspective on institutional change and treated as the product of the “world historical context” (Evans et al. 1985, p. 349).

This article addresses both approaches in turn. We begin by reviewing literature on the conceptualization and measurement of state capacity, an area that has seen a number of creative new approaches. Turning next to literature on origins, we seek to contribute to ongoing debates by presenting a unifying framework for classical and more recent (largely experimental) approaches organized around three areas in which states build capacity: extraction, coordination, and compliance. We argue that our framework captures theoretically important divides in the literature, as each type of capacity is defined by distinct relationships between three critical groups of actors: rulers, their citizens, and the bureaucratic agents in between.

We describe the theoretical logic behind each form of state capacity, situating both classical approaches on its origins and recent findings regarding its dynamics. We demonstrate that scholarship regarding each type focuses on a different set of institutions and identifies different crucial mechanisms for the formation of those institutions. Nevertheless, in a modern state the different forms of capacity are often codependent. Without the resources generated by extractive capacity, a state cannot afford the bureaucratic institutions associated with coordination capacity. Meanwhile, coordination capacity minimizes transaction costs associated with extraction and helps states produce outputs that encourage compliance, such as the efficient enforcement of regulations and provision of goods and services. Finally, without compliance capacity, it becomes difficult to secure cooperation with the more coercive aspects of extractive capacity.

The bulk of recent experimental work is in the domain we call compliance, addressing in particular the failures of the principal–agent relationship between state leaders and civil servants. Our survey of experimental contributions points to the ambiguous conclusions and remaining challenges involved in manipulating state activities, as well as the necessity of expanding experimental studies of state capacity beyond public goods provision, and outside the context of weak states, in which they have largely been confined. Looking beyond the formal institutions of the state to locate informal sources of state strength in institutions that mediate relationships between bureaucrats and their clients presents another exciting new direction for future research. To that end, institutions that encourage norms of civic engagement and provide extrastate sources of monitoring and feedback offer an alternative approach for both experimental and observational studies.

## CONCEPTUALIZING AND MEASURING STATE CAPACITY

Numerous authors offer breakdowns of the dimensions of state capacity, though some are more concerned with defining the “state” and others with the “capacity” angle. Notably, it is *conceptualizations* of state capacity that utilize typologies categorizing the different types of power relationships. Most *measurements* tend instead toward a more state-centric approach, focusing on either state output or state resources, both physical and human.

### Conceptualization

The most widely used conceptualizations of state capacity build either implicitly or explicitly on Weber’s portrayal of the state as an organization with the ability to make and implement rules (e.g., Besley & Persson 2011; Geddes 1994; Migdal 1988; Soifer 2008, 2013). Subsequent scholars have sliced and diced this conceptualization in numerous ways. Perhaps the most influential

understanding of state capacity after Weber's own definition comes from Mann (1984, 2008), who contrasts the "despotic" power evident in actions the state can take without consultation with "infrastructural" power, which is its ability to penetrate civil society. Notably, Mann does not see state power as separate from the military, economic, and ideological forms of power common to all social relationships and instead argues that what distinguishes state power is its territoriality. Soifer (2008, 2013) further breaks up infrastructural power into national capabilities of the central state, the effect or weight of the state on society, and finally its territorial reach. Critically, both Mann and Soifer, like Weber before them, discuss state capacity as a form of power, and their typologies distinguish between the ways that power is exercised. Lindvall & Teorell (2016) continue in this vein, drawing on Dahl's (1957) definition of power to portray state capacity as a latent causal effect to be estimated rather than observed.

These conceptualizations all view state capacity as an interactive process, born of relationships between different social groups. To this end, Mann (2008) and Soifer (2008) both describe infrastructural capacity as a two-way street whose rules of the road depend on which relations it is describing: those between state and society or between state leaders and their functionaries. Migdal (1988) shows a similar concern for state capacity as a relationship, dependent on the relative strength of state and society. The use of infrastructural state power to intervene in civil society takes on a more sinister appearance in Foucault's (2000) analysis of different technologies of state control and in Scott's (1998) account of high modernism, *Seeing Like a State*; yet these works also illustrate the importance of the varied and subtle ways in which modern states infiltrate civil society, rather than standing aloof from it.

## Measurement

When it comes to measurement, though, most scholars choose to break state capacity down by function rather than form, focusing on state institutions rather than the interactions of state elites with other social groups. One common choice is to turn to output measures such as GDP per capita (e.g., Fearon & Laitin 2003) or infant mortality (e.g., Bustikova & Corduneanu-Huci 2017) as proxies for capacity. A different sort of "output" measure is employed by Bockstette et al. (2002) and Bardhan (2005), who turn to state antiquity as an indicator of capacity. However, all of these output measures are only loosely connected to theoretical conceptualizations of capacity and may be capturing other effects entirely. Nor are these measures capable of capturing differences in the ways in which power is exercised or potential variation within states.

In contrast, Fukuyama (2013) explicitly rejects output-based measures as subject to exogenous influences and instead argues that capacity consists of state inputs, which for him are resources and the degree of professionalization. Physical resources are particularly amenable to quantification, and to this end scholars such as Thies (2005; Sobek & Thies 2015) and Cárdenas (2010) rely on revenue data to calculate the tax ratio, i.e., the ratio of state revenue to GDP. Such measures can be difficult to extend beyond the mid-twentieth century, though one notable attempt has been made by Karaman & Pamuk (2013), who convert early state revenues in units to tons of silver and then for comparability express revenue in terms of days of unskilled wage labor in different early states. For less tangible inputs, a plethora of general indicators from institutions such as the World Bank or Political Risk Services Group provide fine-grained scoring of state functions, capturing different aspects of bureaucratic quality. The most comprehensive approach on the input side comes from Hanson & Sigman (2013), who attempt to subsume many different measures into a single indicator. While they start with a broad conceptualization of capacity as the ability to implement official goals, for measurement purposes they turn to a functional breakdown of "minimally necessary" (Hanson & Sigman 2013, p. 3) capabilities of a modern state: extraction,

coercion, and administration. Like Lindvall & Teorell (2016), they see capacity as a latent variable and therefore employ Bayesian latent-variable analysis to collapse 24 different indicators associated with the extractive (taxation), coercive (military), and administrative (bureaucratic) dimensions of governance into annual estimates of levels of state capacity.

Various combinations of outputs, revenue, and the scores provided by international organizations and expert surveys remain the most widely used measures of state capacity. However, several scholars offer more innovative approaches to measurement, which come closer to capturing the interactive quality of capacity. One set of alternatives relies on measures of geographic penetration, as in Herbst's (2000) examination of road networks in Africa; Acemoglu et al.'s (2015) consideration of the historical presence of colonial officials, agencies, and royal roads in Colombia; or Acemoglu et al.'s (2016) use of the number of post offices as a proxy for the infrastructural power of the early American state.<sup>1</sup>

A second alternative approach emphasizes epistemic measures of capacity based on the state's ability to collect information. For instance, D'Arcy & Nistotskaya (2016) focus on the existence and quality of cadastral surveys, while Brambor et al. (2016) consider the timing of three information-gathering activities: the introduction of a national census, the establishment of a national statistical agency, and the publication of statistical yearbooks. Lee & Zhang (2016) produce a more sophisticated analysis of the accuracy of age data in national censuses, calculating the degree of deviation from the normal smooth distribution caused by heaping on certain numbers. The theoretical frameworks of D'Arcy & Nistotskaya (2016), Brambor et al. (2016), and Lee & Zhang (2016) all build on the work of Foucault (2000) and Scott (1998) in establishing the importance of how a state sees its citizens. Both measures based on geographic penetration and the various epistemic measures of capacity come closer than previous methods to capturing the interactive qualities stressed in conceptualizations of state capacity.

## THEORETICAL FRAMEWORK: THE ORIGINS OF STATE CAPACITY

While the power-based conceptualizations of Mann (1984, 2008) and Soifer (2008, 2013) distinguish between different forms of power ("capacity through"), in surveying both classical and experimental approaches to the origins of state capacity, we find it more useful to distinguish between different types of state goals ("capacity for"). From this perspective, we identify three primary activities states develop capacities for: extraction, coordination, and compliance. On the surface, this typology is closest to Hanson & Sigman's (2013) three substantive dimensions of state activity: extraction, coercion, and administration. However, in addition to trading a purely militaristic emphasis on coercion for the more nuanced idea of compliance, we also focus on the challenge of coordination rather than the function of administration. Like Soifer, we also emphasize the different ways in which the incentives of collective actors, rulers and ruled, bureaucrats and clients, align in different circumstances in each of the three areas. These different alignments of interests mean that different institutions and causal pathways are associated with each of the three types of capacity, though they are ultimately interdependent.

Extractive capacity, the oldest and, according to some, most fundamental form of state capacity, consists of the state's ability to secure resources. Extraction is not necessarily equivalent to predation; all states must secure resources to carry out any functions at all. Predatory behavior is only

<sup>1</sup>Chong et al. (2012) similarly turn to postal services as an indicator of capacity, considering the time it takes different mail systems to return incorrectly addressed international letters. Unlike Herbst and Acemoglu et al., Chong et al. assess cross-national variation in the quality of output rather than its internal distribution.

one of many forms extractive capacity can take. The critical relationship in the extractive domain is between the state seeking to acquire resources and the citizens who possess them, whether elites or the mass public.

Whereas extractive capacity is a product of the relationship between rulers and resource holders, coordination capacity depends most of all on the relationships between state agents and members of society, especially economic elites. In modern states, the relevant agents are civil servants, the cogs in the machine that make the bureaucracy function and mediate the relationship between the state and the constituents it is meant to serve. Coordination capacity focuses on capacity as capable and efficient administration that can effectively coordinate collective action both among other state agents and ultimately among citizens. The compliance of civil servants with state agendas contributes to high coordination capacity, but the desirability of compliance ultimately depends on the coordinative content of those agendas. Unquestioning compliance with higher-level authorities may ultimately be detrimental to coordination if it impedes the flow of accurate information or hinders the development of more efficient operating procedures. For an extreme example, consider the misreporting of agricultural output during China's Great Leap Forward.

The third dimension, compliance capacity, depends on institutions structuring both state-agent and bureaucrat-client interactions. Within the state, compliance capacity relates to interactions between the higher levels of the state and the lower-level agents who must implement their agenda, in particular the capacity to overcome dilemmas in the principal-agent relationship between state leaders and their public sector agents. However, compliance capacity can also refer to the capacity of state leaders to reach outside the state and secure the cooperation of both nonstate elites and mass publics, whether through side payments, alignment of goals, or enshrining of norms. Such nonstate sources of state capacity are critical in accounting for variations in state capacity among or even within weak states.

## Extractive Capacity

Extractive capacity, in particular the ability to gather resources, is the form of capacity most commonly investigated by scholars concerned with origins of state capacity, who see extraction as informing all forms of capacity building. The most efficient methods of extraction, such as the national income tax, require costly penetration of society through devices such as censuses and registries, the epistemic capacities referred to in the earlier discussion of measurement. Extraction is therefore tightly correlated with and likely endogenous to economic development. For this reason, states lacking in extractive capacity often turn to less lucrative but considerably easier-to-collect trade taxes, whose enforcement is localized to border regions and places a smaller burden on administrators (Besley & Persson 2014, Tilly 1990).

Scholars focused on extractive capacity see state strength as the product of interactions between states desirous of resources and the demands of the citizens (or subjects) who initially possess them. There are three prominent classes of explanation for what drives the evolution of the relationship between the state and resource holders. In the first, a state drive toward revenue production is taken as axiomatic, and states are assumed to automatically seek to maximize revenue. A related class of explanations consists of the bellicist arguments that point specifically to war as the spur to fiscal development. Finally, a contrasting set of accounts emphasizes intrastate conflict as a means of generating innovation in and support for extraction.

Emblematic of the first class of explanations is the work of Levi (1988), who famously argues that rulers are primarily interested in revenue, and whether they refrain from pure extraction depends on relative bargaining power, transaction costs, and discount rates. The crux of her argument lies in the exchange of revenue in return for public goods. In a more explicitly contractual account,

North & Weingast (1989) connect the ability of the English state to successfully finance itself to the development of parliamentary checks and balances, which enable the state to make credible commitments to its creditors. For North & Weingast, as for Levi, the key point is an exchange between state leaders and resource holders, this time an exchange of political constraints for loans.<sup>2</sup>

A revenue imperative is also the foundation of accounts of the resource curse, which seek to explain how the possession of natural resource wealth stands in the way of developing state capacity. According to this literature, access to resource rents (or by an equivalent logic, international aid) reduces the need to cultivate a broader tax base and the institutions associated with it (see, e.g., Barma et al. 2011).

A second, related set of explanations is associated with the bellicist tradition, where the principal mechanism driving the revenue imperative, and through it the development of fiscal capacity, is war (or the threat of war). The most prominent theorist within this strain is Tilly (1990), who describes how states bargain with civilians for the resources to wage war and how subsequent civilian claims and new bargains result in state institutions. That the institutions thus produced dominate the modern world is attributed to a Darwinian logic of elimination of unfit states (see also Bean 1973).<sup>3</sup> More recently, Besley & Persson (2009) follow a different logic to a similar conclusion, describing how the necessity of financing demands for common public goods results in investments in legal and fiscal state capacity. Notably, war provides the paradigmatic public good in their model. Descriptive data confirm this argument, linking the development of fiscal techniques such as direct withholding of income tax to war and correlating legal capacity to protect property with higher tax revenues (Besley & Persson 2014). Herbst (1990) demonstrates the negative version of the bellicist account by exploring how, in the absence of existential threats to their borders, postcolonial African states have avoided the need to systematically bargain with their subjects and produce high-quality institutions.

The bellicist tradition is not without its critics. Qualifications regarding the conditions under which war is good for state building come from Centeno (1997) and Thies (2005), who both draw on cases from Latin America. Skocpol (1992) also demonstrates how in the United States, post-Civil War demand for pensions became a massive patronage program that did little for long-term capacity growth. However, the strongest theoretical criticism of classical bellicist accounts is their functionalism, the insistence that extractive institutions arose to fill certain bellicose needs rather than accreting over time as the imperfect products of ongoing negotiations possibly unrelated to their original purpose.

A third set of explanations focuses on intrastate conflict as the basis for the evolution of extractive capacity. Hechter & Brustein (1980) argue that conflicts of interest between landed and urban elites drove early European state building, such that areas where the interests of aristocrats and towns coincided produced less revenue for the central state. Moving forward in time, Mares &

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<sup>2</sup>The role of representative institutions in enhancing extractive capacity is a cross-cutting controversy in this domain. The most prominent argument for the revenue-expanding effects of a constrained state with the ability to make credible commitments is North & Weingast's (1989) account of the fiscal revolution produced by the Glorious Revolution in England. Support for this proposition also comes from Dincecco et al.'s (2011) description of representative reforms in Piedmont designed to increase revenue. However, Boucoyannis (2015) argues that in the English case, growth in state capacity predated and was a prerequisite for the growth of representative institutions, which she contends were an inadequate check on state demands. Hechter & Brustein (1980) similarly dismiss the connection between revenue and representation, but from the position that representative institutions in what they call the "petty commodity" zone were too strong, inhibiting capacity building by central authorities.

<sup>3</sup>However, Darwinian elimination through conflict cannot account for critical examples of state disappearance through negotiated unification, as in the German case, or the dynastic politics that brought together the components of the modern-day Britain and Spain, among others.

Queralt (2015) cast the adoption of the income tax as a means for landed elites to shift the tax burden to new, mobile capital, and for both old and new elites to restrain the political participation of the poor. Scheve & Stasavage (2010) demonstrate how the sacrifices demanded of mass publics during World War I directly fueled demands for progressive taxation as a countermeasure against war profiteers. One qualification on the form of internal conflict required for developing extractive capacity comes from Lieberman (2001), who finds that regional cleavages promote shirking on income taxes in Brazil, while a race-based exclusionary community in South Africa encouraged voluntary compliance with income taxes. For all of these authors, intrastate conflict rather than the kleptomania or bellicism of a central state leadership prompts the development of and support for new fiscal capacities.

## Coordination Capacity

Coordination capacity refers to the capabilities of state agents to organize collective action. It thus depends, first, on the relationships among bureaucrats themselves and, second, on the relationships between bureaucrats and the citizens they must coordinate. Professionalized, Weberian bureaucracies are the most prominent institutional apparatus for such coordination. While the resources obtained through extraction are necessary for the establishment and continued functioning of coordinating institutions, coordination also depends on long-term processes of bureaucratization that establish autonomy and expertise, as well as encourage appropriate institutional design and cultural norms.

In a long view, the origins of coordination capacity are often linked to different aspects of modernization, either economic or political. On the economic side, coordination capacity responds to the demands imposed by an industrializing society. Weber (1946) himself argued that modern bureaucracy is the system that provides for the efficient functioning of capital markets, providing the calculability of rules demanded by modern culture. Classic analyses by Polanyi (1944) and Esping-Andersen (1990) cast the state in a more reactive light, portraying the development of institutions facilitating governmental regulation and social services as a state reaction to the depredations of the market economy. According to this school of thought, the coordination capacities of the state arise from the need to correct for market failures due to externalities, information asymmetry, and monopoly power. The nature of early state interactions with marketization shape subsequent coordination capacities.

Other explanations emphasize the role of political modernization in leading to the decline or replacement of old elites and thence to bureaucratization. Mass democracy is a cause for the replacement of patrimonial with professional bureaucracy for Weber and other scholars. Most prominently, Shefter (1977) finds that the triumph of the “constituency for bureaucratic autonomy” (p. 413) depends on how mass political parties initially come into being and the timing of bureaucratic reforms relative to the introduction of mass suffrage.<sup>4</sup> Elite replacement can also occur through war, as in Kiser & Cai’s (2003) account of the decimation of the aristocracy in China through a long and severe period of war leading to early bureaucratization.<sup>5</sup> Coordination capacity in this context is built through political modernization that establishes control over and autonomy from elite influences.

<sup>4</sup>Slater (2008) also emphasizes the role of elections but argues that competitive elections must be combined with mass mobilization to produce a bureaucracy that is simultaneously effective and accountable.

<sup>5</sup>Combining the economic and political approaches, there is an economic impetus for the replacement of local notables with state agents in Saylor’s (2012) analysis of commodity booms in South America.

In addition to these long-term and path-dependent processes, the quality of coordination capacity also depends on short-term institutional design choices. The repercussions of institutional design for bureaucratic functioning are often studied through a rational choice framework (Moe 1989, Tsebelis 1995). However, taking a case study approach, Skocpol & Finegold's (1982) analysis of two New Deal institutions, the National Industrial Recovery Act and the Agricultural Adjustment Act, also explains the success of the latter institution as a matter of institutional design. More recent experimental evidence in favor of collective institutional incentives comes from researchers who find that financial incentives associated with forfeiture, when allowed to function properly, increase drug arrests in the United States (Baicker & Jacobson 2007).

Whereas analyses centered on modernization and institutional design concern themselves primarily with the establishment of professionalization, autonomy, and expertise within bureaucracies, the literature on developmental states emphasizes relations between bureaucrats and society at large. While scholars of development stress coordinating processes instigated by the central state, they also highlight extrastate channels that serve as sources of expertise and coordination. Pushing back against both public choice theorists' concerns over rent seeking and the Weberian insistence on autonomy from social interests as the key components of state capacity, scholars like Evans (1989) argue that the key to developmental effectiveness is an embedded autonomy that relies on the central construction of a state project followed by a decentralized implementation process in which consultation with social interests is a critical component (see also Kohli 2004, Weiss 1998). The paradigmatic example of the twin processes of state-led goal setting and consultation comes from Johnson's (1982) study of Japan's Ministry of International Trade and Industry, whose powerful and prestigious bureaucracy helped build "administrative guidance cartels" (p. 236) to carry out Japan's postwar economic transformation.<sup>6</sup>

## Compliance Capacity

We now turn to compliance capacity, by which we mean the ability of state leaders to secure compliance with their goals. What that compliance looks like depends on whose compliance is being asked for, whether mass publics, nonstate elites, or even agents of the state itself. Ideology, economic incentives, and finally outright coercion are all classic means of achieving the compliance of mass publics; recall the ideological, economic, and military powers discussed by Mann (1984). The quest to achieve compliance may even promote the development of new capacities. For instance, Doner et al. (2005) cast developmental capacity in East Asia as a product of the search by vulnerable elites for side payments with broad impacts and low costs. Some of the same techniques can be employed to secure elite compliance, but with an additional dependence on structural conditions. Acemoglu et al. (2011) demonstrate that under high inequality, the compliance of nonstate elites may be more difficult to come by. Conversely, Flores-Macías (2014) argues that security concerns in Colombia encouraged elites to comply with Colombia's so-called democratic security tax.

When it comes to state agents, though, compliance often depends on manipulating the preferences of individual bureaucrats. Several scholars point to the role of properly motivated bureaucrats in influencing state capacity. Bureaucratic loyalty is seen as important and as something that can be promoted by the culture at large, not only through civil servants' material interests but also through nonmaterial ones such as habit and group pride. According to Rueschemeyer (1986), effective institution building needs to promulgate a shared set of values and views among core

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<sup>6</sup>The origins of developmental states are as conflict ridden as their Weberian cousins, though, linked to both colonial legacies (Kohli 2004) and existential pressures (Doner et al. 2005).

participants, i.e., civil servants, that moves beyond individual attachments and loyalties, shaped by what he famously termed the “nonbureaucratic elements of bureaucracy” (p. 59). Gorski (1993) credits the “disciplinary revolution” associated with the Reformation with building the appropriate culture in Holland and Prussia. More immediately, Schneider (1993) describes how bureaucratic preferences also are shaped by variations in career trajectories, from recruitment and education to circulation and advancement and finally to expectations of exit from public service. For Schrank (2015), the synergy of education, rationalization, and mobilization encourages prosocial behavior among bureaucrats, eventually producing increasing returns that lock reformed behaviors in place.

These cultural forces are slow-moving, institution-wide effects. However, some of the most notable recent contributions to studies of bureaucratic compliance come from experimental approaches directed at understanding and manipulating the motivations of bureaucrats. We now examine the selection of bureaucrats, their ongoing motivation, and the origins and effects of monitoring on bureaucratic behavior.

**Selection.** An idealistic point of view sees individuals who pursue careers within the state as more concerned with service and less with profit than those who choose the private sector. They are perceived as willing to give up higher profit margins afforded by careers in the private sector for satisfaction that is meant to come from providing service, though they are undoubtedly also rewarded by job security and higher benefits for forgoing opportunities for higher income. However, a darker view places civil servants on the receiving end of the clientelistic politics that landed them these jobs (Boycko et al. 1996, Shleifer & Vishny 1994). Moreover, since tenured civil service positions often lack incentive pay based on performance, individuals are perceived as focused on extraction rather than service (Holmstrom & Milgrom 1987, Parrillo 2013).<sup>7</sup>

In theory, extrinsic incentives could be used to recruit superior candidates. The higher wages associated with civil service jobs in the developing world, which are also tenured, make recruitment easy for governments (Dal Bó et al. 2013, Deserranno 2015), as there is always an overabundance of aspiring bureaucrats. Yet a greater supply than demand for civil service jobs means that the state must be careful to screen its recruits in order to identify those who are both competent and actually motivated by a desire to serve. Financial incentives alone fail to reliably recruit service-oriented, high-quality individuals. Some studies find that higher wages attract higher-quality candidates who are also motivated by the common good (Dal Bó et al. 2013), but others suggest that those attracted to higher-paying positions are likely to be less service oriented (Deserranno 2015).

Extrinsic motivations at the time of recruitment may substitute for rather than complement intrinsic motivations. Bénabou & Tirole (2006) find that the presence of extrinsic incentives can reduce the value of prosocial actions. Looking beyond extrinsic motivations such as financial incentives, the recruiting state could try to rely on prosocial behavior and intrinsic rewards as a screening mechanism (Ashraf et al. 2014). Indeed, experimental studies show that prosocial behavior means higher performance and lower likelihood of absenteeism (Bellé 2012, Callen et al. 2015, Deserranno 2015, Dizon-Ross et al. 2015). However, though research does find evidence of more prosocial behavior and intrinsic motivation among public sector employees (Banuri & Keefer 2013), this result does not hold in countries with high corruption levels (Cowley & Smith 2014), suggesting that in some contexts these jobs may also attract the corrupt. This finding is

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<sup>7</sup>Finan et al. (2015) look at household surveys from 32 countries and find that the public sector offers more benefits (such as health coverage and pensions) across countries, as well as bearing an education and wage premium in the developing world. They note that this premium is undoubtedly related to issues of elite capture and clientelism associated with public sector jobs in the developing world, as the quality of services does not compare to that in the developed world.

further reinforced by experimental studies that identify a higher interest in public sector jobs among people more prone to cheating (Banerjee et al. 2015).

**Motivation.** After recruitment, motivation can be reinforced or recreated through other extrinsic incentives. The most common form of adjusting bureaucratic incentives is through wages, though as with recruitment, results are mixed. Teacher wage incentives tied to student test scores were found to improve learning in India, but they did so by increasing the effort of the teachers who attended to begin with and by producing positive spillover effects on nonincentivized subjects (Muralidharan & Sundararaman 2011) rather than by lowering teacher absenteeism. In contrast, evidence on teacher incentives from Kenya found only direct effects for the incentivized and no indirect effects, suggesting potential “teaching to the test” rather than increased learning (Glewwe et al. 2010).

In the health sector, sizable incentives in the form of added financial compensation to facility personnel based on quantity and quality of healthcare services had a positive effect on services and healthcare outcomes pertaining to the pre- and postnatal health of mothers and babies in Rwanda (Basinga et al. 2011, Gertler & Vermeersch 2012). Even when targeted to geographic areas (such as villages) and their populations, and not to individual healthcare personnel and their personnel incentive payments for healthcare service delivery, they seem to work.<sup>8</sup> Incentivized areas report better health indicators, particularly in terms of malnutrition, although these differences become less prevalent over time (Olken et al. 2014). The education and health sectors may respond differently to incentives, though, perhaps because results occur on different time horizons in the two sectors.

As Finan et al. (2015) aptly summarize, though financial incentives seem to have a positive effect on performance among civil servants, it is not as straightforward to ascertain how and when they matter, as tenure arrangements and nonprofit-based measurement of performance affect the nature of incentives.<sup>9</sup> The proliferation of decidedly mixed experimental results could be due to the fact that neither extrinsic nor intrinsic incentives are sufficient to build state capacity, implying that future research should attempt to combine both forms of incentives in designing interventions.

**Monitoring.** Monitoring can take the form of either top-down initiatives from governments, intended to deal with the principal-agent problems of shirking and absenteeism, or bottom-up enforcement through collecting information about service provision directly from citizens. For instance, one can monitor attendance and program outcomes through government-directed audits (top down) or electronic reports from citizens (bottom up). Top-down audits work not only by enhancing performance and reducing corruption (Bobonis et al. 2015, Olken 2007) but also by punishing violators, i.e., by lowering their chances for re-election (Ferraz & Finan 2008). However, the effects may taper off over time as people figure out how to evade detection. Civil servants are inclined to find ways to outsmart the monitoring system (Banerjee et al. 2008) or complain about it and try to discredit it (Dhaliwal & Hanna 2014), despite its notable positive outcomes with regard

<sup>8</sup>In contrast, Olken et al.’s (2014) work on education finds no effect, perhaps because the incentives under study in this case were directed to the community and not to individual civil servants as in the other studies on education.

<sup>9</sup>In India, additional incentives may come in the form of job transfers, which often serve to reward or punish tenured civil servants. However, recent research finds that transfers among Indian Administrative Service personnel are more likely after a new electoral cycle/turnover of chief administrators. Furthermore, they are driven not only by performance but also by ethnic affiliation, suggesting a clientelistic and not strictly skill-determined dimension (Iyer & Mani 2012). Transfers are therefore rarely used as a pure incentive for performance and have not been found to work in recent studies; for example, Banerjee et al. (2014) find no effect of transfers as an incentive in the Rajasthani police in India. Davis (2003) even describes how frequent transfers increase corruption by creating a secondary market for desirable posts.

to service provision. As a result, monitoring may have the undesired consequence of civil servants focusing their energy on not getting caught shirking rather than on doing their work (Finan et al. 2015), and result in frustration and demoralization rather than motivation (Davis 2003).

Top-down monitoring can also be costly. It is important to ensure that the incentives of auditors are themselves aligned with the government and that they are not readily corruptible or likely to engage in extortion. This requires, among other things, paying auditors an objectively fair and competitive wage that does not come from the body they are meant to audit (Duflo et al. 2013). There is also evidence of beneficial outcomes if auditors can exercise discretion over whom to audit and when, optimizing their use of scarce resources (Duflo et al. 2015).

In contrast to traditional top-down monitoring, bottom-up monitoring by the public is an increasingly important idea in development studies. The introduction of e-monitoring allows citizens to take some monitoring activities into their own hands. In their new role as auditors, citizens use information to hold civil servants accountable. Recent studies that have tried to assess the effects of such initiatives by informing citizens of the condition of local service delivery (either through meetings or mail cards and additional public information) have observed positive effects on service provision. On health care, researchers have found positive results from community-based monitoring in Uganda (Björkman & Svensson 2009). In the context of education, some studies fail to detect an effect of volunteer report cards on student learning in India (Banerjee et al. 2010), but others do find improved accountability on the part of school committees that were linked to village councils in Indonesia (Pradhan et al. 2014).

Taking stock of bottom-up forms of monitoring also directs our attention to the ways in which informal and nonstate institutions can improve the implementation of state programs. One such nonstate source of state capacity lies in the establishment of norms of monitoring. Mangla (2015) describes how the “deliberative model” (p. 885) adopted by bureaucrats in Himachal Pradesh led it to outperform its fellow Himalayan state of Uttarakhand on education. Monitoring norms can also come from citizens as well as from bureaucrats, as in Singh’s (2015) account of substate nationalism in India. Singh argues that substate nationalism in the southern states of Kerala and Tamil Nadu promotes public involvement in public goods provision, which in turn explains the superior service delivery in those two states. Tsai (2007) points to similar but more traditional cultural sources of monitoring capabilities in rural China, such as temples and churches, though she ultimately finds that temples act as more powerful sources of “informal accountability” (p. 120), encouraging better local governmental provision of public goods.

These norm-based and informal sources of bottom-up monitoring constitute an alternative source of state capacity active primarily in weak states, where other mechanisms are not available. (See also Migdal 1988 on how states can survive without predominating by reaching an accommodation with other social organizations.) However, such nonstate sources of state capacity are critical in accounting for variations in state capacity among or even within weak states. Given substantial variation in the strength of formal institutions (Levitsky & Murillo 2009), informal institutions that can bridge gaps left by formal rules may prove critical to securing the enforcement of future bureaucratic reforms. What remains to be seen is whether these informal mechanisms can complement more formal attempts at building capacity, or if they instead block the implementation of more durable reforms.

## RESEARCH TRENDS

As Evans et al. (1985, p. 353) concluded more than 30 years ago, the “possibilities for state interventions of given types cannot be derived from some overall level of generalized capacity or ‘state strength.’” The sections above have laid out a framework that takes into account the

diversity of state capacities, distinguishing the extractive, coordination, and compliance capacities that states build over time. These three forms of state capacity are built on different relationships between rulers and those they rule, and between the bureaucrats who facilitate those interactions. The underlying incentives of the state, its citizens, and its agents align in some areas of state activity and diverge in others, with direct implications for the study of state capacity. Different alignments of interests affect the ease of experimentation across the three forms of capacity, and as a result, each form displays distinctive empirical trends.

## Extractive Capacity

Extractive capacity is first and foremost a product of the relationship between state leaders and resource holders. The institutions commonly associated with extractive capacity—constrained executives, representative bodies, and epistemic information-gathering activities—are all formalizations of that relationship. In resource-rich contexts, state leaders have direct access to resources and do not need to formalize their relations with resource holders, hence the well-known phenomenon of the resource curse.

For researchers, extractive capacity offers the attraction of being naturally quantifiable. However, most research into state functions associated with the extractive domain is observational rather than experimental, taking the form of historical and comparative case studies (Levi 1988) or trends within cross-sectional panel data (Besley & Persson 2014, Scheve & Stasavage 2010). Gathering comparable quantitative historical revenue data, however, remains challenging.

The extractive domain is also difficult for experimental researchers to access, for both practical and ethical reasons. The severe lack of relevant experimental work in this domain is a gap in the literature that is well worth pointing out. Experimentalists may be wary of encouraging excessive enforcement, which may not be normatively desirable if it produces adverse effects leading to predation or misuse of authority by public servants. The potential for abuse when incentivizing extractive agents is well known in the context of tax farming, a scheme of incentives with a poor reputation based on its record of inspiring discontent from ancient Rome to pre-Revolutionary France. Interestingly, though, a recent study of performance pay for tax collectors in Pakistan finds that purely revenue-based incentives not only fail to increase taxpayer discontent but also are better at increasing revenue than more satisfaction-sensitive measures of performance (Khan et al. 2016). In sum, experimental approaches to increasing extractive capacity, though important for identifying ways to improve effective, nonexploitative tax collection, remain rare.

The absence of experimental studies is not attributable merely to negligence on the part of researchers, nor to fear of discontent. States are often justifiably jealous of their extractive powers, as excessive delegation of authority for collecting revenue may be dangerous for rulers as well as civilians. Both Weber (1946) and Levi (1988) note that ceding control of revenue sources may ultimately undermine central authority. It should come as no surprise, then, that instead of incentivizing agents, most changes to extractive capacity have come from reducing what Parillo (2013) calls “the profit motive” or even cutting out agents entirely, through new taxation methods such as direct withholding of income taxes (Besley & Persson 2014). Thus, the bulk of future research into the extractive domain is likely either to continue in the observational mode or to target the introduction of new technologies. The technologies-of-extraction approach can be seen in the work of Dincecco & Troiano (2015), who use the differential introduction of state-level income taxes in the United States to demonstrate that income taxes are only associated with accelerated capacity building when introduced under Democratic governors. D’Arcy & Nistotskaya (2016) and Brambor et al. (2016) similarly utilize the timing of new epistemic technologies to examine their outcomes of interest. The recent exposure of data from tax havens offers another exciting

opportunity for new studies of extraction capacity, as does the ongoing creation of taxation technologies associated with increasing digitization.

## Coordination Capacity

Coordination capacity consists of the state's ability to organize for collective action. Its critical institutions include the bureaucratic organizations tasked with such coordination, as well as other regularized interactions between high-level bureaucrats and society at large. Past research has demonstrated that the development of coordination capacity centers on formalizing how states confront market economies and on regularizing interactions between state agents and economic elites. Bureaucratic autonomy and expertise have been shown to depend on coming to terms with old elites, while developmental capacities stem from cultivating connections to current elites.

In contrast, recent research on coordination capacity has increasingly recognized that high-level Weberian bureaucracies, or even their embedded counterparts in developmental states, are not the only means through which coordination capacity is achieved. The importance of allowing for local discretion comes out most clearly in *Building State Capability*, where Andrews et al. (2017) draw again from classic works such as Scott (1998) to emphasize the role of an "internal folk culture of performance" (Andrews et al. 2017, p. 116) in producing effective functioning. Alatas et al. (2013) point to the useful skills local elites bring to the efficient distribution of government benefits in Indonesia. Local effects are also important for Acemoglu et al. (2015), who investigate the spillover effects of municipal-level state capacities.<sup>10</sup>

As demonstrated by Acemoglu et al. (2015), a focus on historical legacies is an important trend in research into coordination capacity. Research on development has long respected the role of national and cultural context, highlighting the importance of history and path dependence in effecting institutional reforms (Trebilcock & Prado 2011). Historical legacies of statehood have also been shown to play a more direct role in facilitating coordination capacity, as when Acemoglu et al. (2005) famously linked the creation of good institutions to higher levels of European settlement.

Rather than focusing on particular institutions, numerous recent authors link state antiquity directly to the level of modern governance indicators. For Bockstette et al. (2002), the role of early statehood in promoting linguistic unity and ethnic homogeneity is the key mechanism driving improved economic growth; Wimmer (2015) points to the same driver for literacy and railroad construction. According to Bardhan (2005), the institutional residue of historical statehood helps preserve the rule of law and avoid the collective action problems of social fragmentation, while for Bustikova & Corduneanu-Huci (2017), the key residue of past capacity is the establishment of public trust.

Historical legacy effects are explored in greater depth and in a causal framework in the work of Dell et al. (2017), who exploit the seventeenth-century border between the Dai Viet and Khmer states to show that living under a stronger state in the past contributes to good governance in the present. Drawing on diverse data sources ranging from the US and South Vietnamese Hamlet Evaluations to the modern Vietnam Household Living Standards Survey, they suggest that the tradition of local collective action establishes persistent norms regarding civic engagement that promote the provision of public goods and economic development. Such studies of local and historical sources of coordination capacity present new avenues for research that extend our

<sup>10</sup>However, Acemoglu et al. (2015) subsequently return to the importance of national-level coordination, arguing that localized efforts will lead to underprovision.

understanding of the origins of coordination capacity beyond the Weberian and developmental context in which they have usually been examined.

## Compliance Capacity

Unlike extractive and coordination capacity, compliance capacity depends on relationships between all three groups of actors: state leaders, bureaucrats, and citizens. Some observers further break down the general group of citizens to consider separate classes of actors requiring distinct compliance relationships. However, in this review, we have chosen to focus on the compliance capacities associated with relationships between state leaders and their agents, in particular the low-level service providers who are so often the targets of experimental interventions.

Compliance capacity is based, to a greater extent than other capacities, on the actions of individuals, especially those of civil servants, and therefore has the potential for manipulable change in the short term. This has allowed for numerous new experimental approaches exploring how specific interventions might affect corruption and performance outcomes.<sup>11</sup> These studies range from investigations of corruption in infrastructure projects (Olken 2009) to interventions regarding health care (Björkman & Svensson 2009) and education (Reinikka & Svensson 2004). Notably, though, the majority of political science research in this mode has been conducted in the context of the developing world. Developed states have proven less open to the experimental manipulation of their services, as they have more established (and thus entrenched) institutional structures and are not dependent on foreign donors or nongovernmental organizations, which might choose to condition their aid on the implementation of an impact evaluation.

Experimental intervention may also be more desirable in the context of service provision than with respect to extractive or regulatory activity. Incentivizing purely regulatory agents has the potential to encourage undesirable behaviors, leading to outcomes such as the widespread abuse of civil forfeiture laws in the United States (Stillman 2013). Excessive enforcement in this area may therefore be undesirable to citizens and ethically problematic for researchers. Promoting intrinsic incentives among regulatory agents may be equally prone to misfire, as prosocial attitudes among law enforcement agents have been found to lead to less sympathy for clients. Such attitudes may serve the interest in deterrence but are likely undesirable in terms of citizen satisfaction (Prendergast 2007).

A focus on individual compliance also allows for a more nuanced approach to the different incentives facing actors and how these in turn influence state capacity, as well as the observation of processes associated with incremental changes (Schrack 2009) and technological change. Technological advances have driven many recent interventions in compliance capacity. Biometrics, time-stamped photographs, mobile money, and smartphone apps have all been used as effective tools to combat leakages and absenteeism (Callen et al. 2015, Duflo et al. 2012). Similarly, Banerjee et al. (2015) have found that e-governance reform reduces corruption, and Lewis-Faupel et al. (2016) find that e-procurement increases access to information and quality improvements.

A final avenue for further research in compliance capacity lies in studies of nonstate sources of state capacity, such as the norms of compliance associated with cultural traditions, as well as the informal institutions that promote or directly provide monitoring and feedback of state service provision. While authors such as Levi (1988) and Migdal (1988) introduced the issue of compliance to discussions of state capacity long ago, most research has continued to focus on

<sup>11</sup> See Finan et al. (2015) for an excellent review of recent field experiments looking into the determinants of personnel selection and management.

formal institutions in assessing capacity. Considering informal mechanisms alongside formal rules may reduce comparability, but it may help account for additional variation in apparent capacity both within and between states. Along these lines, Holland (2015) demonstrates that enforcement may be a matter of choice as well as ability, and Kasara (2007) argues that regional ties essentially act as an alternative method of top-down state penetration, such that African rulers are able to extract higher taxes in their own regions where they can more effectively select and monitor intermediaries. Research in this vein has much to contribute to the ongoing study of state capacity.

## CONCLUSION

State capacity interventions intended to build capabilities and improve governance are on the rise. Current developments suggest that we will be confronted with an array of issues related to good governance, state capacity, and strength for years to come. Our discussion is meant to provide a general framework relevant to advancing both the study and practice of building state capacity, integrating classical and experimental approaches within a common theoretical structure based on the diverse capacity challenges states face with respect to extraction, coordination, and compliance. This framework emphasizes how different relationships between the state, citizens, and agents are facilitated by distinct sets of institutions within the context of each form of capacity, such that studies of extraction, coordination, and compliance capacity confront form-specific theoretical challenges.

Methodologically, issues such as context and historical legacy, relevant theory of change, and appropriate measurement strategies are essential aspects of future scholarship. The literature discussed above derives from empirical work out of South and Southeast Asia (India, Pakistan and Indonesia), China, Latin America (Mexico), Africa (Uganda, Zambia, Rwanda, and others), Europe, and the United States. Aspects of these local contexts undoubtedly matter in terms of the formal and informal norms governing political, social, and economic interactions, which mediate the relevant relationships among state leaders, bureaucrats, and citizens. Before introducing new reforms, the state must at a minimum be aware of existing institutional legacies and structures, account for them, and engage with relevant stakeholders. Relatedly, in tailoring generalizable rules for engineering an effective state, it is important to remain cognizant of what is broadly true about these initiatives. Existing theories and motivating principles must be actively utilized for the purpose of developing precise *ex ante* answers to important overarching questions. In other words, such interventions must be guided by a theory of change that moves beyond aspirations of what an effective bureaucrat should look like.

While our discussion of state capacity has referenced both observational and experimental studies, randomized controlled trials are increasingly the design of choice in assessing such capacity-building interventions. And though there are now a robust number of such studies, as discussed above (albeit concentrated in service provision, such as in the fields of education and healthcare), and some converging results, there are also diverging results that one can attribute to differences in the nature of interventions, in the local context and historical legacies, and in the measurement strategies, among other factors. To better understand what works across multiple contexts would require replication, and an increasing number of coordinated efforts among academics are pursuing just that. Evidence in Governance and Politics (EGAP) and the Center on the Politics of Development at the University of California, Berkeley, have launched their Metaketa Initiative (<http://egap.org/metaketa>), which brings together projects on the same topic. Its aim is to coordinate research designs, hypotheses, treatments, instruments, and measurement strategies to enable more generalizable inference. Moving forward, we also encourage more collaboration between academics and policy makers and coordination between academics pursuing similar

studies in different parts of the world to facilitate replication and the efficient accumulation of knowledge.

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