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Bureaucracy and Development

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Abstract

In recent years, there has been increasing interest in whether and how
bureaucratic effectiveness contributes to development. Just what makes for
an effective bureaucracy and what are the building blocks of state capacity
remain subject to debate. This article reviews the arguments connecting
contemporary research using administrative data and field experiments to
wider discussions of the origins of state capacity. Most current research has
focused on understanding specific features of the environment in which
bureaucrats operate. We connect this to discussions of bureaucratic systems,
specifically the relationship to politics, citizens, firms, and nongovernmental
organizations.

1. INTRODUCTION

The rise of the institutional and state capacity paradigms in economics has brought bureaucratic effectiveness to the forefront of the debate on how to foster economic growth and development. While there is little disagreement that effective public administration plays a central role, debates continue about the building blocks of an effective bureaucracy.

This article explores these issues, taking stock of our understanding of how to strengthen the administrative capacity of the state. We will review the emerging literature on bureaucracy and development while discussing where gaps in our knowledge remain. Although we take an economics focus, we link our discussion to wider historical debates and work in other disciplines.[1] **Figure 1** offers a diagrammatic representation of how bureaucracy is embedded in society, capturing much of what we discuss. The figure illustrates how bureaucratic systems serve the public interest and promote development depending on interactions between (*a*) different levels of bureaucracy; (*b*) government departments; (*c*) citizens, politicians, and bureaucrats; and (*d*) bureaucrats, firms, and nongovernmental organizations (NGOs). The review is structured according to these interactions.

Opinions on the value of a powerful state bureaucracy are bifurcated in predictable ways. Interventionists have traditionally seen the creation of a capable and professional bureaucracy as the sine qua non of the developmental state. They have pointed to the rise of great powers and their dependence on a cadre of professional bureaucrats. This vision of state effectiveness goes back at least to Max Weber's [1922 (1978)] seminal analysis. He characterized a bureaucracy in
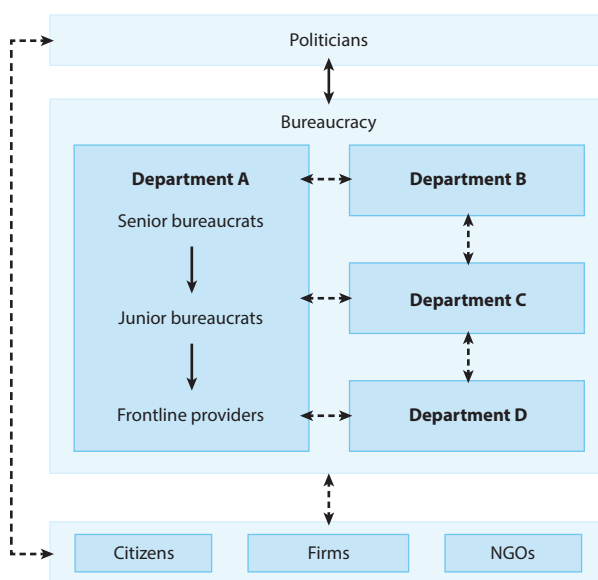

Figure 1

The figure shows a stylized bureaucracy with multiple departments and levels of hierarchy. Solid arrows show traditional principal-agent relations studied in personnel economics. Dashed arrows show relations between systems (between different departments within the bureaucracy or between politics, the bureaucracy, and civil society). Abbreviation: NGO, nongovernmental organization.

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[1]We do not provide a comprehensive coverage of work outside of economics. Readers are referred to Pepinsky et al. (2017) for a complementary exercise with a focus on political science.

the modern sense as a formal rule-driven operation comprising professionals in hierarchical delivery structures. He also emphasized mission motivation, with bureaucrats being motivated by a sense of duty, or "fealty to the purpose of the office" [Weber 1922 (1978), p. 959] in exchange for security of tenure. For Weber, the bureaucracy embodied durable expertise in the implementation of public policies set against the ebb and flow of political office.

Those who are suspicious of large states, in contrast, frequently see bureaucracy as sclerotic and as an impediment to effective governance and economic development, giving the term "bureaucratic" a pejorative edge. They emphasize that bureaucracy does not always serve the public interest, stressing a less-than-benevolent view of the state in which bureaucrats are agents who connive in expropriating citizens or putting the interests of private actors, such as industrialists, above those of the wider citizenry (Tullock 1967, Stigler 1971, Peltzman 1976, Djankov et al. 2002).

The word "bureaucrat" combines the French word *bureau*, meaning desk or office, with the Greek word *kratos*, meaning rule or political power. The term refers to paid officials who are responsible for carrying out the core functions of public administration. They could be employed directly as part of the state apparatus, but the term also applies to officials in quasi-independent public organizations such as central banks. Importantly, there is a clear distinction between such state employees who are selected by a superior and a politician who is picked in an election (Alesina & Tabellini 2007). This separation of bureaucracy and politics, as famously argued by Weber [1922 (1978)], is more likely to lead to a professionalized bureaucracy, with selection and promotion based on competence and technical expertise. The study of bureaucracy is often confined to senior-level bureaucrats, but given the expansion of the state to the delivery of core public services, it makes sense to include frontline providers in health care, policing, and education, sometimes referred to as street-level bureaucrats.

Although the term "bureaucracy" is also applied to administrative functions outside the public sector, we focus on those professionals in public employment who provide key inputs and decision making that can have an impact on the effective delivery of the functions of the state. That said, there is often an overlap in the tasks performed in the private and public sectors—such as those carried out by office workers, IT workers, cleaners, or maintenance staff—even if there are well-documented differences in pay and conditions.

Bureaucracy matters when it allows the state to be more or less effective in taxing, regulating, enforcing laws, organizing and providing infrastructure, and delivering public goods and services to citizens, firms, and NGOs. Contemporary approaches to the political economy of development put state effectiveness at center stage, viewing the design of political institutions as a key element (Acemoglu & Robinson 2012). Besley & Persson (2011), for example, argue that inclusive political institutions can help to build an environment conducive to investing in state capacities. Despite this, the role of bureaucracy has received limited attention as an independent dimension of state capacity. This may, in part, reflect difficulties in measuring bureaucratic performance.

The remainder of the article is organized as follows. Section 2 provides some historical backdrop and establishes a few stylized facts. We cover the historical and narrative literature in Section 2.1. In Section 2.2, we follow the cross-country approach of Evans & Rauch (1999) and establish three "Weberian facts" on the relationship between bureaucracy and development. Much of the remainder of the review is concerned with how economics can unpack the relationship between bureaucracy and development. We first focus on principal-agent relationships within the bureaucracy, represented by Department A in **Figure 1**. Viewed through this lens, performance problems arise from a failure to incentivize bureaucrats or to select the right talent. This literature is covered in Section 3. Section 4 discusses the importance of considering bureaucracy as a system looking at both aggregation and interactions (depicted by dashed arrows in **Figure 1**) between different departments within a bureaucracy. We then discuss the relation between bureaucracy and

politics, and we argue that the political system has a strong influence on bureaucracies. In particular, (high-level) bureaucrats are typically accountable to politicians. A key issue in building an effective state is how to make politics and bureaucracy work together. We then discuss how bureaucracies interact with firms and NGOs, societal and economic actors that are strongly affected by regulation but may also exert influence on bureaucrats. Section 5 of the review summarizes what we have learned about the organizational economics of the state and suggests directions for future research.

2. BUREAUCRACY AND STATE EFFECTIVENESS

2.1. Background and History

Historians and political scientists have long recognized the role of bureaucracies in the development of nation states. As countries unified, governing large territories required administrators who answered directly to a central government, with national bureaucrats taking over the administration of subnational units. Two of the state's primary functions are national defense and building infrastructure (Tilly 1985). Both of these tasks require building tax systems (Levi 1988, Migdal 1988). States have increasingly built a specialized cadre of employees to deliver these functions. The emergence of colonial powers meant that some countries also needed the capacity to administer the nations that they had subjugated.

Following this pattern, China's state centralization led to the establishment of a professional cadre of mandarins recruited through competitive examinations (Woodside 2006, Whyte 2009). In England, governments following the Glorious Revolution built a fiscal bureaucracy to meet the needs of naval expansion (Brewer 1988). In France, *grandes écoles* were set up to funnel talent into the public sector bureaucracy (Cantor 2015). Bureaucracies have also been at the heart of many state-initiated authoritarian reforms, as in Prussia in 1806–1814 or Russia in the 1860s. In some cases they have constituted a revolution from above whereby bureaucrats, including military officials, were able to supplant an existing dominant class and reorient national economic development, as in Japan during the Meiji restoration (Skocpol 1985).

In the English-speaking world, an important milestone for bureaucratic reform was the Northcote-Trevelyan report of 1854 (Northcote et al. 1854), which introduced three major reforms. First, it introduced nationwide competitive exams for entry into the national civil service. Second, it ensured that promotions within the service would be governed by rules that were fair and transparent. Third, it emphasized the importance of a permanent home civil service that stayed in place even as politicians came and went. This report influenced the organization of the state in the United Kingdom and its colonial administrations, echoes of which remain today.

A parallel set of reforms were enacted in the United States around the same time; most notably, the Pendleton Act of 1883 sought to restrain the spoils system in bureaucratic appointments. Although ending patronage in public sector recruitment took some time, this legislation was a watershed moment in establishing a professional civil service (Van Riper 1958). In South America, countries went through similar modernization processes (Grindle 2012).

Throughout the twentieth century, many states increased their ambition to deliver a wide range of public services such as health care, education, and social security, further increasing the need for effective bureaucracy. The need to protect and provide for citizens from cradle to grave became enshrined in the role of the state. In the post–World War II era, development agendas stressed the need for poorer countries to take on such responsibilities. However, the objective of building structures to achieve this failed to materialize in many places due to low administrative competence (Andrews et al. 2017). There is widespread evidence of government failures and poor service delivery (World Bank 2003) alongside variations in bureaucratic performance (McDonnell 2017, Hassan 2020).

The so-called East Asian miracle is often held up as a paragon of state-led economic development and has generated much narrative evidence (Amsden 1989, Wade 1990). A defining characteristic of policy making in developmental states is the significant influence played by senior bureaucrats (Johnson 1982, Leftwich 1995). Case studies have highlighted the role of the bureaucracy, focusing on the interplay between the public, politics, and the private sector in fostering development and growth (Evans 1995, Woo-Cumings 1999). In Japan, for example, Johnson (1982) argues that the postwar success can be attributed to the existence of a pilot agency comprising an elite core group with control over economic policy staffed by the best managerial talent. State institutions from the postal saving system to the Ministry of International Trade and Industry (MITI) were crucial in getting the needed investment capital to industry. Recruitment into bureaucracies like MITI was selective (2–3% of exam takers were admitted) and there were close ties between politicians and bureaucrats, with shared values and agreed policy goals. Retired senior servants were often placed in private enterprises to maintain the link between the public and private sector.

The narrative around the rise of South Korea is similar, stressing the importance of a well-functioning, activist state (Amsden 1989). Like the MITI in Japan, Korea had a pilot agency—the Economics Planning Board—that coordinated economic policy (Cheng et al. 1998). Korea, like Japan, also had strong informal networks supplementing the bureaucratic structure (e.g., in 1972, 55% of those who passed entrance exams were graduates of Seoul National University).

2.2. Weberian Facts

When approaching the issue of bureaucratic effectiveness, it is useful to first establish a few background facts. In honor of Max Weber who, above all, brought issues of bureaucratic effectiveness into social science, we shall refer to these as Weberian facts. To establish these, we use measures of bureaucratic quality based on data from the Varieties of Democracy (V-Dem) project (see **https://www.v-dem.net**). These measures, assembled from a wide range of variables related to political systems and regime types across the world, are widely used by political scientists. They also have exceptionally wide temporal and geographical coverage.[2]

We use two variables to measure how bureaucracies work according to Weber's ideal type of a public bureaucracy. The first, meritocratic recruitment, tries to capture whether appointment decisions in the state administration are based on skills and merit as opposed to personal and political connections. The second, rigorous and impartial public administration, is based on an assessment of whether public officials generally abide by the law and treat like cases alike, avoiding arbitrariness and bias. These two variables capture key dimensions that major civil service reforms such as the Northcote-Trevelyan reform of 1854 or the Pendleton Act of 1883 have tried to influence. We present three core findings from looking at patterns in the data across countries and over time.

2.2.1. Fact 1: Bureaucratic quality is persistent and clustered. This is established in **Figure 2a**, where the overall bureaucracy score is computed as the average of the two subindices measuring the presence of meritocratic recruitment and of an impartial and rigorous administration. Two things stand out. First, there is strong persistence in bureaucratic quality over time. Most of the variation is cross-sectional rather than longitudinal, especially in country ranks. One

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[2]Cross-country analyses of the relationship between bureaucratic quality and growth have been pioneered by Evans & Rauch (1999, 2000). Recent work by Pritchett (2021) studies the cross-country correlation between broader state capability measures and socioeconomic outcomes. Our V-Dem analysis complements these efforts by significantly extending the coverage in terms of both countries and time period and by focusing on specific measures of bureaucracy.

Panel *a* shows the bureaucracy score (as the normalized average of the meritocracy and the rigorous and impartial administration indices) for a balanced panel of countries observed throughout the entire time period. Panel *b* shows the cross-sectional relationship between (log) GDP per capita and the average bureaucracy score (calculated as in panel *a*) in 2016. The country abbreviations are based on ISO3166-1 alpha-3 codes; a list can be found at **https:// unstats.un.org/unsd/ methodology/ m49**. Panel *c* shows, for any given GDP per capita value, the lowest observed bureaucracy score of all countries with a higher GDP per capita.

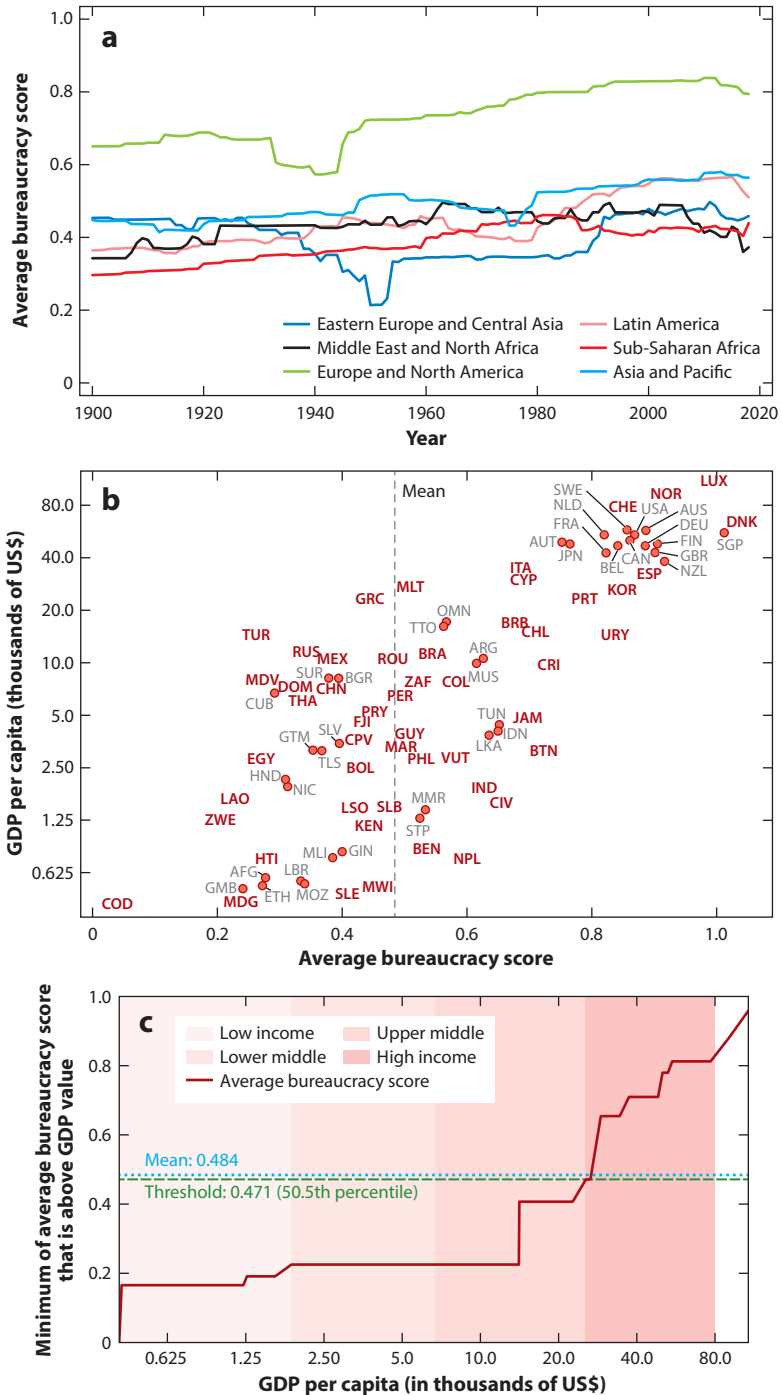**Table 1   Bureaucracy score and economic growth**

	Outcome: log of GDP per capita				
	(1)	**(2)**	**(3)**	**(4)**	**(5)**
Lag (meritocratic recruitment)	0.025**	–	0.023*	–	–
	(0.012)		(0.012)		
Lag (rigorous and independent administration)	–	0.013	0.004	–	–
		(0.011)	(0.012)		
Lag (average bureaucracy score)	–	–	–	0.024*	0.041**
				(0.013)	(0.016)
Observations	1,602	1,634	1,602	1,634	1,634
Lag (log of GDP per capita)	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
Country FE × linear trend	–	–	–	–	✓

The asterisks denote the levels of statistical significance: ** indicate $p < 0.05$ and * indicates $p < 0.1$. The regressions relate log of GDP per capita to the presence of meritocratic recruitment (Column 1), a rigorous and independent administration (Column 2), their combination (Column 3), and the average bureaucracy score (Column 4). Column 5 augments the specification of Column 4 by including country-specific linear time trends. All regressions include country and year fixed effects (FE). The independent variables are standardized to have mean zero and a standard deviation of one. Standard errors are clustered at the country level. Sample is collapsed to 5-year means, and the regressions control for the lagged (log) GDP per capita.

way to look at this is that average level differences across countries (captured using country fixed effects) explain alone as much as 73% of the overall variation in bureaucratic quality. Second, there is a strong within-country correlation in the two underlying measures of bureaucratic quality (the correlation coefficient is 0.54), suggesting that there are common underlying factors and that bureaucratic quality tends to cluster in parallel with state capacity, as argued by Besley & Persson (2009).

2.2.2. Fact 2: Development and bureaucratic quality are positively correlated.
There is a strong positive cross-sectional relationship between the level of bureaucratic capacity and the level of economic development as measured by GDP per capita. To see this, we plot GDP per capita against the overall bureaucracy score in 2016. **Figure 2b** plots the raw relationship.[3] The variance of average bureaucracy scores decreases at the highest GDP levels. **Figure 2c** shows, for any given GDP per capita value, the lowest observed bureaucracy score of all countries with a higher GDP per capita. High-income countries have much higher bureaucracy scores on average, but there is still some variation at the high-income threshold (around US$23,000 in 2016). However, there is no country above this income threshold with a bureaucracy score lower than 0.43, corresponding to the 42nd percentile. Put differently, there are no high-income countries that have not also built effective bureaucracies (as gauged by V-Dem), although the direction of causality is far from clear.

2.2.3. Fact 3: Improvements in bureaucratic quality are positively correlated with growth.
There is a positive within-country relationship between improvements in the quality of the bureaucracy and economic growth. **Table 1** shows the results of a panel regression of (log) GDP

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[3]Note that members of the Organization of the Petroleum Exporting Countries (OPEC), and most other oil-rich countries, are dropped from the sample.

per capita[4] on our measures of bureaucratic quality. The annual data are collapsed to 5-year periods to reduce noise. All regressions include country fixed effects, year fixed effects, and a lagged dependent variable. Overall, we find a positive correlation between variation in our bureaucracy measures and economic performance. This positive association is strongest for meritocratic recruitment. The association for rigorous and independent administration is positive but statistically insignificant (Columns 1–3). Because the two measures are correlated (Fact 1), we compute the mean bureaucracy score by averaging across the meritocratic recruitment and rigorous/impartial administration dimensions. The positive association is robust when using the aggregate index (Column 4) and also holds up after the inclusion of country-specific trends (Column 5). While these are only conditional correlations, they suggest that regardless of the direction of causality, bureaucratic development does proceed hand in glove with economic development—much as we would expect if effective bureaucracy was indeed an important dimension of development.

2.2.4. Summary. This crude quantitative cross-country evidence corroborates the narrative case-study evidence that suggests a positive link between bureaucratic quality and growth. Designing an effective system of bureaucracy, however, presents many challenges. There is no single template, and even in countries which are deemed to be effectively governed, there are ongoing debates about how this might be achieved. Moreover, new challenges are constantly emerging, making it necessary for bureaucratic systems to adapt to new realities. For example, we might expect the COVID-19 pandemic to precipitate significant reforms in how public health systems are administered and embedded within governments.

The role of bureaucracy has not been salient in mainstream development economics until recently (see Section 3). This neglect led to a focus on policy design rather than on their implementation, although there were voices, such as Krueger (1974) and Bauer (1971), who argued that the root of many development problems was a lack of state capacity to deliver policies.[5] In this review we argue that bureaucracy deserves much greater consideration in efforts to understand the development process at both the bureaucrat (Section 3) and system (Section 4) levels.

3. BUREAUCRACY THROUGH THE LENS OF PRINCIPAL-AGENT PROBLEMS

We now explore research on bureaucracies in economics through the lens of principal-agent problems, in which a principal (a higher-tier bureaucrat or politician) tries to control the behavior of an agent (a bureaucrat). The principal-agent framework provides a powerful way to explore three related core elements that affect bureaucratic performance: incentives, selection, and measurement. For now, we are interested in the bilateral principal-agent relationships between senior and junior bureaucrats (Department A in **Figure 1**). We will also explore additional complexities related to matching, multitasking, and investing in expertise by both the principal and the agent.

As a starting point, suppose that the performance of a bureaucrat i at time t and serving in the unit (e.g., department) $j = J(i, t)$ is given by

$$y_{it} = g(\theta_i, e_{it}, v_{J(i,t)}),$$

1.

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[4]To maximize sample coverage, we rely on the GDP series provided by the Maddison Project, version 2020 (see **https://www.rug.nl/ggdc/historicaldevelopment/maddison/releases/maddison-project-database-2020**). The results are robust to alternative GDP series.

[5]Their thinking drew on emerging ideas in the public choice literature that tended to characterize bureaucracy as largely self-serving (Tullock 1965, Niskanen 1971).

where y_{it} is a performance measure that depends on the bureaucrat's type θ_i, the amount of effort e_{it}, and features affecting the nature of the task summarized in the variable $v_{J(i,t)}$.

Equation 1 serves as a useful way of organizing some of the current research and remaining challenges. The organization chooses the incentives of the agent $I(y_{it})$, which depend upon the performance measure y_{it} (e.g., a piece-rate system or a promotion contingent on output). The incentives reflect a choice of organizational design. The standard assumption is that effort, e_{it}, is not observable and that the principal who designs the organization will anticipate this, so that e_{it} is chosen endogenously and is incentive compatible.

Formally, let $U(I(y_{it}), e_{it}, \theta_i)$ be the agent's utility function with output y_{it} and effort e_{it}, where the agent's type is also allowed to affect their preferences. Utility is increasing in I and decreasing in e_{it}, so rewards are desirable and effort is costly. A punishment is therefore something that lowers I. The incentive compatibility condition is then

$$e_{it} = \text{argmax}\{U(I(y_{it}), e_{it}, \theta_i)\}. \qquad 2.$$

This framework also captures the role of corruption (or political capture) in the public sector through both effort and type. Corruption is captured as part of the differences in selection or effort that reduce performance (e.g., shirking as a theft of time). The framework also allows for the possibility that effort affects an agent's consumption through both monetary incentives (such as a bonus pay, promotions, but also firing) and nonpecuniary incentives (such as prosociality or prestige).

3.1. Incentives

Equation 2 ties together incentives and effort. The reward structure determines how performance is monitored as well as the sticks (such as firing) and carrots (such as promotions) that may be applied. Explicit incentives, however, are rarely used in public sector organizations (Holmstrom & Tirole 1989; Dewatripont et al. 1999a,b). Indeed, firing costs tend to be high and performance-based financial remuneration uncommon. Below we consider how measurement challenges, multitasking, and the role of nonmonetary incentives help us understand why this is the case.

3.1.1. Difficulty of measuring performance. The new public management literature that emerged in the 1980s and 1990s influenced the policy experiments that introduced incentives (Hood 1995). This led to an increasing recognition of measurement challenges (Williamson 1979). As is clear in Equation 2, the implementation of incentive contracts requires a mapping between output and reward.

In the public sector, the overarching challenge to introducing such incentive contracts is the measurement of performance. Bureaucrats complete complex tasks that are difficult to quantify. To measure output, work in the private sector would study specific production processes, such as the installation of windshields (Lazear 2000), fruit picking (Bandiera et al. 2009), or line-level factory productivity (Atkin et al. 2017). Whereas some well-defined tasks can exist for frontline providers such as nurses or teachers (Muralidharan & Sundararaman 2011, Duflo et al. 2012, Ashraf et al. 2014), measuring output is rarely straightforward, and sometimes performance is simply proxied by compliance with rules.[6] Another issue, discussed further below, is the attribution of individual contributions in team production (Holmstrom 1982).

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[6]A major challenge in low state capacity settings is a limited ability to verify reported compliance (Andrews et al. 2017).

Bureaucracies are often viewed as mission-driven organizations (see, for example, Wilson 1989, Tirole 1994). Measuring whether the mission is accomplished is often challenging. Missions are often multidimensional and nonverifiable, raising the issue of how different dimensions of performance are aggregated and/or traded off against each other as well as how to establish whether a goal was met. Furthermore, most outputs in public bureaucracy are not sold and hence cannot be valued at market prices (Downs 1965).

The microeconomic literature has taken several different approaches to performance measurement. The most common one restricts the analysis to bureaucrats and tasks that can be more easily measured, focusing on agricultural extension workers (Dal Bó et al. 2021), revenue collectors (Khan et al. 2016, 2019; Aman-Rana 2020), health care providers (Ashraf & Bandiera 2018, Khan 2020), teachers (Brown & Andrabi 2021, Leaver et al. 2021, Akhtari et al. 2022), procurement officers (Best et al. 2019, Bandiera et al. 2021a), or judges (Dahis et al. 2020, Mehmood 2022). This has the advantage of having a direct mapping from individual performance to an objectively measurable outcome. However, this is typically only possible for lower-tier specialized public employees.

A second approach has followed the CEO literature (Bertrand & Schoar 2003) by attempting to map higher-level individuals to an aggregate outcome. In the private sector setting, CEO traits may be related to company-specific outcomes such as profits or stock market returns. Studies of these relations in public organizations have focused, for example, on provincial governors and GDP growth (Jia 2017), governors and colony-level revenue generation (Xu 2018), field office managers and office-level outcomes (Fenizia 2020), and district-level development outcomes (Gulzar & Pasquale 2017). Whereas this approach allows the study of the impact of senior officers on aggregate outcomes, the estimated effects are invariably reduced form, making it hard to pin down the mechanism through which bureaucrats affect outcomes. Furthermore, the focus is also limited to organizations with many comparable high-level units that serve the same functions, such as field offices or districts (i.e., M-form hierarchies).

Another strand of the literature uses subjective performance measures. Such ratings are frequently found in internal evaluations. Rasul & Rogger (2018), for example, code administrative project reports to obtain project completion ratings and relate them to management practices. Limodio (2021) uses internal project performance ratings of the World Bank to study the allocation of World Bank staff. Bertrand et al. (2020) field a large-scale survey to collect the subjective assessments of senior Indian bureaucrats along dimensions such as effectiveness or probity. This approach can, in principle, be applied to any task and output (including qualitative ones). However, it must contend with potential biases in perceptions, so it is best combined with some kind of objective measurement.

3.1.2. Multitasking and implementation challenges.
Even when output measures are available, the choice of how to map output to reward remains an open question. Assuming that output has a single dimension is often unrealistic. Moreover, bureaucrats frequently work across multiple tasks, so that e_{it} is multidimensional too. Bureaucrats can thus choose which tasks to concentrate their effort on and hence which outputs are favored (Holmstrom & Milgrom 1991).

Challenging multitasking issues arise when only some tasks are measured and incentivized, and especially when efforts on different tasks are substitutes. A classic example is the case of teachers who are given financial incentives to improve test scores and focus narrowly on this objective rather than on broader educational goals (Glewwe et al. 2010). There is then a case for having less high-powered financial incentives as well as trying to improve measurement of other outcomes. In some settings, there are natural nonlinear compensation schemes available, such as paying a bonus to the best performer (e.g., holding a monthly competition) or implementing a threshold

rule (e.g., paying a bonus for each student with straight As). Such nonlinearities, however, can have distortionary effects by focusing effort on marginal students close to the threshold (Neal & Schanzenbach 2010, Ahn & Vigdor 2014). With tournaments, the incentive effect may be large for those who are marginal but absent for those who are inframarginal. In a study by Khan et al. (2019), high-performing revenue officers are rewarded with transfer to their preferred work locality, but the incentive effects depend on how many other officers compete over the same locality. Officers competing in popular localities may be disincentivized if they perceive their chances of winning to be low, and officers who prefer less popular districts may have little incentive to exert effort if they stand to receive their allocation anyway.

Another key decision is whether to incentivize outputs or inputs. In addition to general measurement issues, output may also be affected by shocks beyond the control of the bureaucrat. In some contexts, therefore, inputs can be easier to observe and more aligned with the decisions made by the bureaucrats if they have sufficient autonomy. For example, in the case of teachers, there is a choice between incentives based on test scores, an output measure (Muralidharan & Sundararaman 2011), or teacher attendance, an input measure (Duflo et al. 2012). By focusing on inputs, the designer implicitly takes a view on the production function but may also be mindful that specific expertise gives bureaucrats better information about the optimal mix of inputs. Dal Bó et al. (2021) provide evidence for this using agricultural extension workers in Paraguay. They find that when provided with a monitoring technology to supervise subordinate workers, middle managers prioritize those subordinates who would be more responsive to the treatment. Finally, incentives are harder to implement for generalist, elite civil servants. To prevent influence activities and political interference, classic bureaucracies have typically relied on easily measurable characteristics such as seniority to determine career progression (Prendergast 1999, de Janvry et al. 2020). A downside of such rigid rules, however, is that they may disincentivize performance (Bertrand et al. 2020). In general, incentivizing on inputs may make more sense when the outcome is difficult to measure or monitor (e.g., patient health) and when production inputs are clearly identifiable, feasibly measured, and nonsubstitutable (e.g., teacher attendance). Incentivizing on outputs may make more sense when production inputs are difficult to identify, measure, or monitor (e.g., tax collector's effort) and when outcome must meet a threshold (e.g., test scores).

Despite challenges in the design and implementation of incentives, recent research suggests that incentives do work if well designed. There is now a large body of work that documents the role of incentives for frontline public service providers such as health care workers (Ashraf et al. 2014), teachers (Muralidharan & Sundararaman 2011, Leaver et al. 2021), and tax collectors (Khan et al. 2016). These studies focus on tasks for which performance is easier to measure. Multitasking concerns are often directly anticipated and built into the research design, mostly by attempting to measure both incentivized and unincentivized outcomes. Khan et al. (2016), for example, design an incentive scheme to reward tax collectors based on revenue collection. To look at the role of multitasking, they include two additional treatment arms: a revenue plus that ties the bonus not only to revenue generation but also to taxpayer satisfaction, and a flexible bonus that is based on a more holistic subjective evaluation.

3.1.3. Nonmonetary incentives. Despite the renewed interest in incentives in public organizations, the use of explicit, monetary incentives to incentivize performance remains rare, with greater reliance on indirect, nonmonetary means—for example, leveraging heterogeneity in the desirability of (same-seniority) postings along either vertical traits (e.g., prestige) (Iyer & Mani 2012, Jia 2017) or horizontal traits (e.g., personal preference) (Khan et al. 2019). The implementation of such incentive schemes still relies on accurate measurement of performance. This may explain why indirect means of inducing performance, such as rotations or "bureaucratic merry-go-arounds" (De Zwart 1994), have often been used by politicians (Akhtari et al. 2022).

Mission-motivated bureaucracies often rely on motivated agents who identify with the mission even if their monetary compensation is not explicitly tied to it (Bénabou & Tirole 2006, Ashraf & Bandiera 2018, Besley & Ghatak 2018). Matching employee preferences to the mission is a potentially cost-effective way to incentivize performance. Khan (2020) provides experimental evidence from health care workers in Pakistan that greater mission emphasis helps increase worker performance and improve health outcomes. A greater mission focus helps increase performance even on dimensions that are not explicitly incentivized, suggesting that mission motivation may also help alleviate multitasking problems. In the contemporary US setting, Spenkuch et al. (2021) show that ideological alignment of procurement officers with the serving president increases performance and self-reported morale.

3.2. Selection

Trying to identify and appoint talented individuals is a major challenge in bureaucracies. But it is not only talent that matters; selection on motivation is also crucial. Many bureaucracies are geared to encourage lifetime engagement with very little mobility in and out of the system.

Selection provides a way of influencing the type of the bureaucrat, θ_i, in Equations 1 and 2. This could change the output associated with effort, which captures competence and the way that they perceive the cost of effort, and/or their desire to pursue nonpecuniary goals, as emphasized by Max Weber in his conception of bureaucracy. Thus, influencing selection is a potentially powerful means of improving the performance of bureaucracies.

A central concern is how to attract the right talent and how to manage the potential trade-off between mission and financial motivation. Individuals who select into the public sector may be mission oriented (Tirole 1994, Le Grand 2003, Besley & Ghatak 2005). Existing research on recruitment is mostly experimental, focusing on frontline providers and varying the job traits shown to prospective candidates at time of application, such as salaries (Dal Bó et al. 2013, Deserranno 2019), or the salience of the prosocial versus career nature of the task (Ashraf & Bandiera 2018). These papers suggest that paying more or emphasizing career progression does not crowd out prosociality or performance.

Work has also focused on the balance between rules and discretion in the selection process. Traditionally, bureaucrats were selected at the pleasure of the ruler or politician, who had total discretion in the selection process. At the other extreme is rule-based selection, where selection is based on a competitive entry exam. The theoretical trade-off is between the valuing of (soft) private information and the possibility of bias. Politicians can use discretion to appoint the best matches, but they can also use discretion to favor those in their network, sometimes for private gain. While a rule-based selection limits such favoritism, much depends on the details of the rule and on whether it effectively screens on traits that can predict performance. Even though they are used extensively, there is little evidence on the effects of competitive exams on the selection of civil servants. The research that exists suggests that variation in entry exam scores is predictive of later performance (Bertrand et al. 2020, Dahis et al. 2020), but it relies on variation in test scores conditional on being selected, thus leaving the extensive margin unexplored. Moreira & Pérez (2021) study how the Pendleton Act shaped the composition of US customs officers. While they find evidence that competitive exams led to more hiring of individuals with higher previous occupational status, they do not find any impact on performance.

When it comes to discretion, existing work has documented negative effects on hiring quality. In Brazil, public servants appointed based on political alignment are less qualified (Colonnelli et al. 2020), and in the administration of the British Empire, Xu (2018) shows that, under a discretionary system, colonial governors connected to the appointing minister both obtain more

favorable positions and perform worse. These results resonate with findings in private sector settings, where managers who hire against test recommendations select applicants with lower subsequent retention (Hoffman et al. 2018).

However, two other papers point in the opposite direction. Weaver (2021) collects rich data on side payments for public sector positions in health care in a developing country and finds that greater willingness to pay is correlated with quality, resulting in positive selection. Voth & Xu (2020) show that in the eighteenth century, Royal Navy admirals leveraged their social connections to promote better officers when facing competitive pressure during times of war. This resonates with work in labor economics that has documented the informational value of referrals in hiring (Burks et al. 2015). There is, however, limited work that connects both strands of the literature by studying how selection rules affect the quality of the final hire by endogenously changing the applicant pool.

3.3. Matching, Training, and Task Design

We have focused so far on classical ways of solving principal-agent problems in bureaucracies. We now discuss two additional issues that go beyond the standard approach and are now attracting increased attention from researchers.

3.3.1. Task assignment and matching.
In our discussion of selection, we discussed the potential for matching mission preferences or competence to positions. The match between bureaucrats and tasks is manifest in the variable $v(j,t)$ in Equation 1. There is a growing literature that exploits the mobility of bureaucrats across different units to identify which attributes make them more or less effective (Best et al. 2019, Dahis et al. 2020, Fenizia 2020, Prem & Muñoz 2021). This applies ideas that have gained currency in corporate finance, where transitions of executives are used to estimate the so-called CEO fixed effects (Bertrand & Schoar 2003). In contrast to the private sector literature, which focuses on transitions across firms, work in the context of bureaucracies has largely exploited transitions within an internal public sector labor market. A potential advantage of doing this in the public sector compared to the standard CEO fixed effects approach is the much larger number of transfers that can be exploited for empirical purposes.

The increased availability of administrative data has meant that work in this area can adapt the AKM framework (named after its proponents, Abowd, Kramarz, and Margolis; Abowd et al. 1999) (see Card et al. 2013 for the estimation). The results typically find large effects, suggesting that bureaucrats have a substantial bearing on outcomes (Best et al. 2019). Institutional differences between private and public organizations do, however, affect the interpretation of the results. The AKM model is based on the idea of a competitive market environment where wages reflect the marginal product of labor. In contrast, the use of a performance outcome instead of wages does not have a straightforward theoretical foundation. Furthermore, wages in the public sector setting typically reflect differences in positions, and transfers are not driven by market forces. To provide evidence for exogenous mobility, as required for the consistent estimation of the fixed effects, work in this area typically provides some corroborating evidence in the form of event studies to document the absence of pre-trends around bureaucrat transfers.

While the decomposition literature is interested in estimating individual and organization effects, a new literature has emerged to estimate match effects. This is motivated by the low exit rates among bureaucrats; once selected, bureaucrats tend to remain within an organization. Skill mismatches can occur when technology and the external conditions change. How to make best use of the existing talent pool thus becomes an important question. Whether bureaucrats should be generalists or specialists is an issue of particular interest. A traditional argument in public

administration is that bureaucrats ought to work across a wide range of tasks and ministries, serving the state and not particular organizations (e.g., Northcote et al. 1854). The disadvantage is that frequent rotation across different tasks limits the amount of specialization that can be attained. Although there is work on skill mismatch in the private sector, research on public organizations remains limited (Ferguson & Hasan 2013, Thakur 2020).

How far skill mismatch is malleable through training is also an interesting issue on which evidence is scarce. As the state has grown in its scope and scale, there is need for increasingly specialized competence in managing how it operates. Whether the state provides such training on the job or relies on its being provided elsewhere is a key issue. Moreover, training is not just about skills, as it can instill norms and values that are required to deliver tasks in the right way to maximize benefits to citizens. Some kinds of bureaucracies involve significant amounts of specific human capital that can only be acquired over a career. Others rely on a rotation system whereby the expectation is that individuals move around within the system and operate as generalists.

A related discussion on matching bureaucrats to workplaces revolves on whether there is a tension between embeddedness and autonomy. On the one hand, greater embeddedness of bureaucrats into society and business can increase bias and promote clientelism. On the other, lack of embeddedness can reduce the amount of local information that bureaucrats can leverage—a key feature highlighted in the earlier work on the rise of East Asia.

The question of how organizational design can strike the right balance in this trade-off is an old issue that resonates with home avoidance rules implemented across many bureaucracies (see, e.g., Wade 1985, 1992). The existing empirical work finds evidence for both channels. On the negative side, Vannutelli (2021) exploits the staggered introduction of random auditor assignment across Italian municipalities to show that municipalities paired with a random (versus mayor-nominated) auditor experience greater revenue performance. Similarly, Xu et al. (2020) exploit random variation in home assignment owing to an allocation rule. They find that Indian civil servants allocated to their home states are perceived to be less able to withstand illegitimate political pressure, with the negative effects being stronger in high-corruption states. Bandiera et al. (2021b) show in the context of Uganda how delivery agents favor their own social ties in the implementation of policies. Finally, a set of papers also document the positive effects of embeddedness. Bhavnani & Lee (2018) show that local embeddedness is associated with greater provision of schools. In the context of colonial administration of India during the 1918 pandemic, Xu (2021) shows that local administrators were more responsive in the provision of disaster relief, reducing overall mortality. Balan et al. (2020) document in the context of the Democratic Republic of the Congo, a low–tax capacity setting, how local chiefs allow the state to tap into local information in order to increase tax collection through better targeting.

3.3.2. Task design: formal versus real authority.
The standard assumption in principal-agent models is that the agent is the informed party and the principal is trying to control the agent's behavior through incentives. But this is inadequate for studying many real-world situations. Principals also have to take decisions that impact the success of an operation beyond the design of incentives, so that Equation 1 becomes

$$y_{it} = g(\theta_i, e_{it}, E_{it}, v_{J(i,t)}), \qquad 3.$$

where E_{it} is the principal's effort. When the agent is putting in effort, they need to know what decisions are being made by the principal, and these decisions may also be unobservable, creating a problem of double moral hazard.

The task assignment in Equation 3 can be thought of as representing a division of expertise between the principal and the agent based on their knowledge and information about the task at

hand rather than as a strictly hierarchical chain of command. In an important contribution, Aghion & Tirole (1997) allow these information structures to be endogenous, based on decisions to invest in knowledge and expertise. Who is better informed about the task is then endogenous. This determines real authority in a relationship if one person has invested much more than another.

These ideas are useful in shaping empirical studies, particularly those that examine the role of training and accumulated expertise in the effectiveness of a bureaucracy. Rasul & Rogger (2018) collect rich data on project completion and management practices in the Nigerian Civil Service. They find a robust positive association between project completion and autonomy. This is also a feature of Bandiera et al.'s (2021a) work, which studies public procurement in Pakistan by experimentally varying the amount of autonomy the procurement officer has vis-à-vis a monitor. While important work has begun in this area, the field is ripe for further investigation in the future.

4. ASPECTS OF BUREAUCRATIC SYSTEMS

In the previous section, we discussed the role of bureaucracy for development in the context of principal-agent relationships, which are the object of most of the recent empirical literature. We next consider system-level relationships, denoted by the dashed arrows in **Figure 1**. Bureaucracy is a system and not just a collection of individuals. The principal-agent relationships that we studied in the previous section are embedded within this system. We now move outside the Department A box in **Figure 1** and look at a wider set of influences including the relationships between departments within a government, the role of politics and accountability to citizens, and the relationship between bureaucrats, the private sector, and NGOs.

When looking at organizational design issues, it is important to consider how the actions of agents in one part of an organization relate to those performed elsewhere. We can conceptualize an organization in terms of tasks that are assigned to specific bureaucrats and the output(s) that they generate. Let N be the number of bureaucrats working within an organization; then we can replace Equation 1 with the following expression,

$$y_{it} = g(\theta_1, \ldots, \theta_N, e_{1t}, \ldots, e_{Nt}, \tau_i, v_{J(i,t)}), \qquad 4.$$

where τ_i is now the task assignment to bureaucrat i. This formulation emphasizes that the output produced by i depends on the task allocation and the types and efforts of everyone within the system. This formulation is quite general, allowing for the possibility that efforts are complements in the case of some agents, and therefore $\partial^2 g / \partial e_{it} \partial e_{jt} > 0$ for $j \neq i$, and types too can be complements in production, so that $\partial^2 g / \partial \theta_i \partial \theta_j > 0$ for $j \neq i$. We can think of aggregating the performance of the whole bureaucracy as a kind of production function,

$$Y_t = F(y_{1t}, \ldots, y_{Nt}). \qquad 5.$$

Designing a system requires finding a way of bundling tasks into roles and having a managerial structure to supervise these roles. Except for the increased complexity and the need for coordination and communication, many of the core considerations in this case are essentially no different from those we studied in the previous section. To see this, consider a linear aggregation as a special case of Equation 5—in this case, individual contributions enter separately and do not interact with the performance of others. When there is a single principal, this is like the standard team incentives problem studied by Holmstrom (1982). The lessons from the previous section—the need to design appropriate incentive structures and selection processes to assemble an effective organization—thus apply here as well.

In reality, however, bureaucracies are complex organizations with many interdependent departments, divisions, and agencies. One feature of this complexity is that different parts of the

bureaucracy need to interact, and hence incentives for one agent cannot be considered in isolation. In this case, the intermediate outputs in Equation 5 could be complements. A concrete example of complements would be that improving the issuance of ID cards to citizens makes it more feasible to tag them for the purpose of transfer programs. As another example, the study of procurement officers by Bandiera et al. (2021a) suggests that the effects of greater autonomy are highly heterogeneous, depending on the identity and alignment of the monitor.

A systems perspective thus brings out complex interactions between individuals, tasks, and organizations and the importance of task assignment, coordination, and aggregation. How tasks are defined, bundled, and allocated to individuals and organizations has to do with task assignment and varies with the nature of the task (say, building infrastructure versus providing healthcare), while how individual performance (or capability) maps into organizational performance (or capacity) has to do with the issues of coordination and aggregation (see **Figure 1**).[7] For instance, improving health outcomes involves addressing assignment, coordination, and aggregation challenges in multiple public agencies, like health agencies, and other providers like the private sector. This, in turn, is influenced by the existing capacity of the state and by investments in it that over time allow the state to deliver an increasing number of public services more effectively (Besley & Persson 2011).

Moving from the individual to the system level also brings challenges for empirical work. Credibly evaluating the drivers of bureaucratic effectiveness at scale presents challenges as we move from individual-level (Equation 4) to organization-level (Equation 5) analyses. The focus on organization-level features of the bureaucracy limits by definition the number of units that can be studied, which, in turn, constrains which inferences can be drawn and which results can be generalized. More practically, implementing large-scale randomized controlled trials across different arms or layers of the bureaucracy is challenging. As a result, credible evidence on such system-level questions is scarce.

4.1. Departmental Organization, Learning, and Adaptability

What makes studying a system different from studying individuals' principal-agent problems is the need for coordination of tasks. Effective government requires that tasks be combined effectively to achieve the right balance between coordination and specialization. Some tasks, such as issuing permits, can be quite specific and specialized, whereas others, such as enforcing law and order, are hard to break down into specific parts. As in any complex organization, the typical modus operandi is to assemble teams with interlocking skills and responsibilities. The scope, size, and hierarchy of such organizations are not straightforward, and many governments struggle with getting the design right. Team-based production also creates the challenge of designing interdependent rewards, as the performance of one team member can affect how other members are performing.

Even the simple framework captured in Equation 5 now brings a very rich set of possibilities, which illustrate why focusing on solving specific principal-agent problems (e.g., a narrow change in the remuneration system of a particular type of worker inside a specific department) may give an incomplete picture of what it might take to create an effective state. An extreme example would be a bureaucratic O-ring production technology where failure to produce one input can mean that the whole system fails (Kremer 1993).

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[7]In **Figure 1**, allocation and task assignment cover both assignment from politicians to different departments and agents and assignment to public agencies, firms, and NGOs, which can be viewed both as recipients of public services and as alternate providers.

A classic case to illustrate this point concerns regional development strategies that require aligning delivery of skills, finance, industrial strategy, and infrastructure. It is no good having a bureaucracy with responsibility for each of these functions when they cannot work together. If bottleneck effects exist, simply scaling up the effects of specific bureaucratic reforms may even understate the effects of such interventions. Understanding the nature of the state's production function is thus important for linking the lessons learned from specific principal-agent problems (Section 3) to the fundamental question of how bureaucracy affects development.

If bureaucracy is seen as a system, the study of bureaucracy is not fundamentally different from the study of organizational design more generally, and it follows the standard multidepartmental or M-form structure. As argued by Chandler (1977), this is a way of providing a degree of coordination as the scale of enterprise increases. Each department then tries to operate effectively within a hierarchy constructed for that purpose, with some kind of general coordination coming from the center. Moreover, production can be assessed within each department and then aggregated across the organization. This is the model used in most government bureaucracies that create departments, some of which are functionally specialized while others are geographically organized (Qian et al. 2006).

Although a hierarchical organization of departments helps with coordination, there are also benefits from decentralization. New technologies and policy challenges emerge in bureaucracies that require adaptation to local conditions that are imperfectly observed by the central government. It often takes a while to know what the best response is, and how bureaucracies try to learn from their own experience and that of others is highly variable. Centralized bureaucracies are often criticized for being slow to adopt compared to a devolved system. There is also a question of whether the political and economic geographies of decision making are aligned with possible gains from political decentralization, which permits more local control over bureaucrats. The downside, however, is fragmentation and lack of coordination. Understanding these trade-offs is another important area for organizational design within the public sector.[8]

Also important in studying bureaucratic systems is how control is assigned to different principals. The complexities that arise with multiple principals have been studied extensively in theory (see, e.g., Dixit 1997, Gailmard & Patty 2012). There is a risk that principals will fail to coordinate. This is a particular issue when politics plays a role, since there may not be any stable policy preferences. It may also arise when there are overlapping responsibilities, as illustrated in **Figure 1**.

4.2. The Role of Politics and Independent Agencies

Bureaucracies are embedded in a political system, and political control raises additional issues. In a typical bureaucracy, there is direct accountability to politics. Where politics tends to favor specific regions or groups, the effectiveness of bureaucratic performance is likely to be affected as well. And, as we discussed above, political priorities determine how tasks are prioritized.

A key difference between a bureaucrat and a politician is that only politicians are directly accountable to the citizens whom they serve (Alesina & Tabellini 2007). In democracies, accountability works via the electoral process.[9] Bureaucrats, by the nature of their office, must acknowledge

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[8]For a discussion of such issues for aid agencies, readers are referred to Honig (2019).
[9]For a discussion of models of electoral accountability, readers are referred to Besley (2006).

that the politicians are the principals and derive the legitimacy to serve in that role from their accountability to citizens.

One view is that a perfect bureaucrat is one who perfectly internalizes the objectives of their political masters.[10] In such a case, the preferences of the bureaucrat do not enter into the way they complete the tasks assigned to them. However, in practice, bureaucrats have policy preferences of their own, raising issues of how political control is asserted. This is a particular issue when bureaucrats are needed because of their specific expertise. This problem has been studied extensively in political science (McCubbins et al. 1987).[11] One key question is how far politicians both understand and behave strategically in light of the differences that they perceive between bureaucratic preferences and the policy objective.

One possibility is that some key political positions are staffed by bureaucrats because of political preferences. The politicized bureaucracy of key positions in US presidential administrations is a case in point. But most political systems have—to varying degrees—positions in the bureaucracy that are directly attached to political appointments (Gailmard & Patty 2007, Forand et al. 2020). Although this might increase alignment between political and bureaucratic preferences (Spenkuch et al. 2021), it is generally argued that this is likely to increase patronage rents in government (Mueller 2015). Even if there is no direct political control, there is the possibility that politicians will use transfers of bureaucrats to sideline those who do not agree with their political preferences.

Just where the line is drawn between political office and bureaucracy is a matter of choice, and different systems approach this differently. A good example are officers within the legal system: In the United States, for example, extensive use is made of elected offices for judges and prosecutors (Besley & Coate 2003, Besley & Payne 2013, Lim 2013, Lim et al. 2015). This is important because many decisions made in courts have political and distributional implications that politicians may wish to influence. Investment incentives can also be affected by the understanding that any commercial disputes will be settled in a politically impartial way rather than by favoring whoever is closest to political leaders. Independent judicial selection plays a key role in this, along with the structures for constitutional review (see La Porta et al. 2004).[12]

In nondemocratic settings, the accountability of politicians is even harder to discern, as is the distinction between a politician and a bureaucrat. A good example is represented by the provincial governors of China, where there is evidence of promotion incentives within the Communist Party hierarchy based on growth performance (Li & Zhou 2005, Francois et al. 2020). However, China is relatively unusual in that it has built systems of accountability for key political figures that do not rely on elections (Besley & Kudamatsu 2007).

If politicians are the principals when it comes to designing a bureaucratic system, then we might expect effective administration in a bureaucracy to arise only where politics is functional. However, this is a quite complex issue to assess, because the motivations of politicians are so varied. For many politicians, especially in autocratic systems, surviving in power is the overriding objective, and there are two broad complementary strategies for doing so: coercion and building a social contract. The first of these skews the priority of the state toward the strengthening of state power by building a police force and/or military. As a consequence, repressive states coexist with effective

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[10]However, their time horizons should be longer and their knowledge of policy deeper and more specialized [Weber 1922 (1978)].

[11]Gailmard & Patty (2012) provide a thorough coverage of the relevant theoretical literature.

[12]Perhaps the most settled example of this is the case of central bank independence. However, even there, whether central banks should be free to set their own goals or just enjoy operational independence is much debated (Tucker 2019).

bureaucrat control in some dimensions of the state.[13] For other countries, the aim may be to build a social contract whereby staying in power rests on the provision of collective goods to citizens in the form of infrastructure, health, and education in exchange for their support. This gives incentives to build a state whose bureaucracy can deliver these goods.

Over time, the historical pattern in many countries has been to move away from using the legal system for regulatory purposes toward a greater reliance on specialized regulators (Glaeser & Shleifer 2003). The core rationale for independent regulatory agencies is an understanding of the failures in the political process. One reason is to insulate bureaucracies from short-termism. This is important in areas of public investment management. A second reason is a concern about time inconsistency whereby politicians may not be able to commit to a future policy, as in the case of utility price regulation. Independent agencies can also be an important source of expertise. Whether the political process can commit to independence is moot; however, many countries have been able to make such systems work. This is easiest when there is respect for the rule of law.

4.3. The Relationship Between the State, Firms, and Nongovernmental Organizations

Because firms are important drivers of economic growth, understanding the interactions between firms and the state and bureaucracy that regulate them is vital. The seminal work of Evans (1995) discusses the relationship between state and civil society, with a strong focus on industrial transformation. According to this work, the most successful state is closely linked to society, a concept he terms embedded autonomy. The economics literature has (often implicitly) touched on this idea by extending traditional principal-agent models. For example, Tirole (1986) and Laffont & Tirole (1993) model politician-bureaucrat-firm relationships in which politicians legislate regulation that is implemented by bureaucrats. For an optimal level of regulation, bureaucrats have to interact with firms to get private information (e.g., on their cost structure, pollution, or market environment). The fact that this information is private, valuable, and obtainable with some effort by a bureaucracy gives rise to a variety of issues. First, an ineffective bureaucracy will be unable to obtain the information necessary for optimal regulation. Second, even if politicians are ill-informed and legislate suboptimal economic policy, the bureaucracy can obtain better information when interacting with firms, thus correcting the policy through good implementation. Thus, firm influence on the bureaucracy can provide valuable information and be efficiency enhancing, particularly in the presence of bad economic policy in weak states (Leff 1964, Bardhan 2017, Lyu & Singh 2021). Third, firms can also influence—or bribe—the bureaucrat to report wrong information in order to obtain inefficiently favorable regulation. When present at a systematic level, this phenomenon has often been called regulatory capture or state capture, and it has been widely studied following the seminal work by Stigler (1971) and Peltzman (1976).[14] One challenge faced in this literature is clearly distinguishing between politicians and the bureaucracy. In practice, laws are often drafted by bureaucracies together with legislatures, so that both influence legislation.

The empirical work on regulatory bureaucratic capture mostly focuses on case studies. For example, Bates (1981) studies the political economy of agricultural policies in several African countries. He observes that bureaucracy is strongly involved in the organization of agricultural markets via the establishment of marketing boards that set the prices of agricultural goods and

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[13] Political scientists such as Finer (2002) have noted that the military can become an effective and quasi-independent coercive force in many political systems.

[14] For a review of the literature on regulatory capture, readers are referred to Dal Bó (2006).

are often their only buyers and sellers. He also describes how bureaucrats provide market protection for existing firms, thus reducing competition. In the context of post-Soviet economies, Frye & Shleifer (1997) suggest three types of bureaucracies that can act as an invisible, helping, or grabbing hand. They present survey results suggesting that the bureaucracy in post-communist Russia acted mainly as a grabbing hand, extracting rents alongside a dysfunctional legal system and predatory regulations. Frye & Shleifer (1997) and Hellman et al. (2003) present survey evidence, for Russia and a range of transition economies, suggesting a capture economy where public officials and politicians sell rents to firms and in which firms with political connections enjoy protection. However, in a later study, Brown et al. (2009) find that privatization in post-communist Russia was more effective in regions with larger bureaucracies, suggesting that large bureaucracies provide better institutional support and fewer opportunities for corruption.

In many countries, private sector firms have taken on activities that had previously been reserved for the state, such as transportation, communication, and sanitation infrastructure (see, e.g., Galiani et al. 2005). In recent decades, a similar evolution has taken place for NGOs, which now provide services, particularly in developing countries. Hence, a discussion of the relationship between bureaucracies and these actors is crucial in understanding economic development.

NGOs often play a role as interest groups trying to influence policy. However, they are increasingly gaining attention for being alternatives to the state provision of public services, raising a range of strategic considerations. Employees in NGOs are assumed to have similar motivations to those who work in public bureaucracy, and they have to overcome incentive, selection, and measurement problems similar to those faced in bureaucracies. However, evidence remains limited on whether they have a comparative advantage in overcoming these problems and hence are more effective service deliverers. Although NGOs seem to enjoy financial independence from the government, they are often dependent on receiving public money, giving donors significant influence over how they operate. This fuels debates about whether NGO involvement is a form of neocolonial influence over aid recipients.

The decision on whether to have governmental or independent provision of a public service using a private provider such as an NGO is explored in theory by Besley & Ghatak (2001) and Hart et al. (1997). They both use the classic Grossman-Hart-Moore model of investing in specific assets. Ownership then matters as it creates residual control rights that affect incentives. Private provision of a public service by an NGO is particularly valuable when it is run by staff who are strongly committed toward the service compared to the government.

One issue with NGOs and aid organizations in developing countries is how much they compete for human capital with bureaucracies. This depends on a number of factors, including pay. There is a concern that in spite of their benefits in terms of quality, NGOs can weaken the performance of public bureaucracies by competing for scarce human capital[15] and by establishing parallel systems for service delivery. This risk is generally much higher in fragile societies that lack adequate state capacity and in which the short-term considerations of international organizations have often outweighed the long-term objective of building a capable bureaucracy and an effective state (Comm. State Fragility Growth Dev. 2018). Though transitioning from parallel delivery systems to state delivery proves challenging, it is not impossible. In some developing countries—in Bangladesh, for instance—homegrown NGOs have flourished in providing public services in the absence of

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[15]In the context of rural Uganda, Deserranno et al. (2021) exploit random variation in the entry of NGO-provided health care workers across villages to study crowding out. They find that the entry of NGO workers reduces the supply of government workers and total services. This is consistent with the fact that NGO provide a combination of higher pay and strong incentives for commercial activities.

public delivery, but over time they have gradually been leaving the delivery of more and more public services to an increasingly richer and more capable state.

There is much discussion about where the boundary of the state should be and whether governments should get involved in organizing the production of private goods. A case in point is whether governments should set up and run financial institutions. Market failure arguments loom large in such discussions, but whether a government has the capacity to run financial institutions must be weighed up against these. Even when a government does not actually take on the production of a private good, it may get involved in advising the private sector and/or trying to coordinate production, as in the case of industrial strategies used in East Asia and elsewhere (Wade 1990). However, government advice to firms on technology, training, and export promotion requires the building of specific expertise. It also needs to avoid capture by firms that might abuse their political connections. For example, schemes with selective or subsidized credit have been accused of fueling rent seeking by firms with political connections and hence have raised scepticism about such interventions, restoring the case for a more laissez-faire approach.[16]

5. TOWARD AN ORGANIZATIONAL ECONOMICS OF THE STATE

The mainstream economics literature remains rooted in the study of principal-agent problems, with many studies looking at the influence of output measurement, incentives, selection, and matching on how bureaucrats behave. Finan et al. (2017) review this literature on the personnel economics of the state. A key insight is that standard recommendations stressing the importance of incentives and selection are mostly confirmed in public sector settings. Whereas bureaucrats, by virtue of their public tasks, are deemed more prosocial and mission driven than private sector workers, there is limited evidence that financial incentives crowd out or lead to the recruitment of less-able workers. A growing body of work has also demonstrated that public servants are responsive to incentives in the public sector, in terms of explicit incentives and career concerns.

As the literature on the personnel economics of the state has shown, the study of bureaucratic reforms has raised questions about how to leverage knowledge to increase external validity and scaling up. As Wilson (1887) noted a century and a half ago, "civil service reform must...expand into efforts to improve, not the personnel only, but also the organization and methods of our government offices." Studying the interdependence between different kinds of bureaucratic activity requires giving greater weight to the study of organizational issues such as how multiple departments and agencies interact and how bureaucracy relates to and is influenced by the political system and the private and nonprofit sectors.

Expanding into this new terrain would allow us to better understand the Weberian facts— which suggest a clustering of bureaucratic quality and its positive association with economic development—as well as the wider narrative and historical literature on bureaucracy and development in the social sciences. The returns from this integration of the micro and macro for identifying fruitful directions of reform of bureaucratic systems could be high. We finish by flagging five areas where additional work is needed.

The first is the area of measurement, since it is difficult to measure the output of bureaucrats and bureaucracies. Recent work has made some progress, but there is probably a great deal more that can be done—for example, using remote sensing data (Donaldson & Storeygard 2016) and economic censuses (Asher & Novosad 2020) to proxy changes in GDP and other

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[16]There is also a large literature on state-owned enterprises that, due to space constraints, we have not covered in this review. Readers are referred to, for example, Shirley (1999) and Huang et al. (2017).

outcome variables of interest. There is also an increasing use of administrative data that capture the universe of bureaucrats in a region or country and are often linked to monitoring of their actions. So, whether one is measuring economic growth or service delivery, moving to micro data that capture the concrete effects of the universe of bureaucratic actions is a challenge that new measurement technologies are bringing into the realm of possibility.

Second, gathering this type of economy-wide micro data will open possibilities to evaluate system-wide reforms of what bureaucrats do and how they affect these outcomes, which is often what governments are interested in. It may be feasible to trace out the effects of different kinds of civil service reforms on outcomes that citizens care about. This would enable researchers to study more closely how bureaucrats and bureaucracies affect the structural transformation of the economy or any other outcome at the macro level, which is the focus of interest in the narrative and historical studies covered in Section 2.

Third, this review has indicated the need to delineate more clearly the roles of politicians and bureaucrats. In much of the political economy literature, the two are bundled together as "government," but they often perform different roles and are subject to different accountability mechanisms. Gaining a better understanding of these roles, both theoretically and empirically, is an important area for future research in developing countries. Moreover, it will enhance our understanding of how broad political characteristics—such as democracy, monitoring politicians through the media, or the extent of political oversight over the bureaucracy—affect bureaucratic effectiveness. Because bureaucrats are, in principle, accountable to politicians, making politics work better is potentially crucial to increasing bureaucratic effectiveness. Yet, at the moment, we know relatively little about this.

Fourth, the relationship between the private sector and bureaucrats requires more attention. There are many examples of the two working together to promote private sector development, but there are also cases in which the private sector has "captured" politicians and bureaucrats. There are multiple dimensions to the relationship between bureaucrats and the private sector, and one key area for further research concerns what functions bureaucrats and the government perform relative to the private sector. For example, the privatization of utilities and the collaboration between bureaucrats and the private sector in the provision of infrastructure are relevant to the growth trajectories of developing countries but have received limited study. There is also the question of whether bureaucrats can serve as conduits of new ideas into the private sector, as has occurred in East Asia. This question has become more salient following a renewed interest in industrial policies across the developing world.

Finally, there are questions about whether bureaucrats can innovate and adapt to future challenges. The COVID-19 pandemic has uncovered large heterogeneity in the capacity of bureaucracies to respond. If we think about future challenges, such as climate change, it is clear that one needs to identify what characteristics of bureaucracies are needed to respond to these key challenges faced by developing countries, which may be different from the challenges faced in the last century. There seems to be a whole set of emerging issues concerning how innovative bureaucracies are in using up-to-date knowledge to face current and future challenges.

Viewing the effectiveness of bureaucracy through the lens of organizational economics thus provides a link between the body of micro-level studies and macro questions about how bureaucracies affect economic development. There is also room for forming better connections across disciplines. Economic approaches are powerful, but capturing the richness of motivation and the role of norms and identity is an area where there is scope for studies that combine insights from multiple disciplines. Moreover, there appears to be a disconnect between the emerging literature in economics and the literature in public administration.

Had we written this review 20 years ago, we would have found relatively few studies of bureaucracy and development within economics to draw on. This has changed significantly as economics has embraced the use of field experiments and detailed administrative data to study the motivation and performance of bureaucrats. However, there remain many unanswered questions and issues of which our understanding is quite limited, particularly when studying large reforms of bureaucratic systems that involve multiple interdependent dimensions. We therefore hope that the next 20 years will make significant progress toward understanding how to create and sustain bureaucratic systems that encourage economic development.

DISCLOSURE STATEMENT

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