The Political Economy of Bureaucratic Effectiveness:

Evidence from Local Rural Development Officials in India

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Abstract:

What determines bureaucratic effectiveness? Existing public choice arguments attribute bureaucratic under-performance to weak performance incentives, while theories of state capacity blame an absence of organizational autonomy from excess political interference. Drawing on a nationwide survey of the capacity and behavior of local rural development officials in India, this paper provides evidence that these variables account for surprisingly little of the tremendous variation in public service delivery across localities. We highlight a distinct pathology, familiar to bureaucrats but surprisingly under-theorized by social scientists: bureaucracies are chronically under-resourced relative to their responsibilities because politicians make these decisions (inefficiently). We provide quantitative evidence that: i) inadequate personnel and resources force rural development officers to multi-task excessively; ii) this inability to specialize has an adverse impact on the performance of development programs. The implied returns to additional bureaucratic resources are very large, suggesting that politicians are failing to make rational investments in local state capacity.

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1. Introduction

Government development programs often founder at the implementation state because of a lack of bureaucratic effectiveness or weak state capacity (e.g. Pritchett, 2009). What explains this ineffectiveness? Existing literature rooted in the public choice school attributes bureaucratic under-performance to weak career incentives (e.g. Tullock, 1965; Muralidharan and Sundhararaman, 2011), while theories of state capacity blame an absence of organizational autonomy from excess political interference (e.g. Evans, 2012). While these are important factors, this paper highlights a distinct pathology, familiar to bureaucrats but surprisingly under-theorized by social scientists: bureaucracies are chronically under-resourced relative to their responsibilities because politicians make these decisions (inefficiently).

Not only does under-resourcing and over-burdening bureaucracies make high-powered career incentives counterproductive, but it also results in organizational inefficiency stemming from an inability to divide and specialize in tasks. For example, a shortage of vehicles and computers means that routine field visits and data entry cannot be easily divided between multiple workers. A shortage of personnel means that instead of specializing in managerial tasks and delegating micro-transactions like registering citizen complaints and requests to their staff, local officials must multi-task excessively. The result is that the productivity advantages associated with intra-organizational differentiation and specialization, a fundamental insight dating back at least to Adam Smith and Max Weber, are under-exploited.

The argument is applied to the context of Block Development Officers (BDOs), the local officials responsible for the implementation of rural development programs in India. A nationwide survey and time-use analysis is conducted with BDOs across nearly 500 rural development blocks, which cumulatively contain 80 million residents. BDOs epitomize the general dilemma we describe. They are typically over-burdened with responsibility for administering am ever-growing list of complex programs and tasks, yet possess relatively few resources to do their jobs. BDOs also vary significantly in the amount of personnel and physical resources with which they are provided to fulfill their obligations, providing an opportunity to test whether this variation affects bureaucratic behavior and performance.

Empirically, we examine how differences in resource affect the time allocation and organizational behavior of BDOs as well as the quantity of public services provided under a major rural development program, the National Rural Employment Guarantee Act, a major public works program. Statistically, we control for district fixed effects, limiting our comparison to physically proximate blocks. The results suggest that: i) resource shortages force rural development officers to multi-task excessively; ii) this inability to specialize has an adverse impact on the performance of rural development programs. The implied returns to additional bureaucratic personnel and resources are very large, suggesting that politicians are failing to make rational investments in local state capacity. By contrast, we show that variables measuring the strength of career incentives and organizational autonomy from excess political interference have surprisingly little explanatory power.

Why do politicians under-invest in state capacity? We conjecture that politicians are inattentive to investing in local state capacity because the electoral returns to these investments are diffuse and uncertain. By contrast, politicians possess strong electoral incentives to continually announce and inaugurate new and ambitious rural development programs. These combined forces result in the gradual accumulation of new bureaucratic responsibilities without corresponding investments in capacity.

Our central contribution is to advance a new explanation for why local bureaucrats are often so ineffective when it comes to the implementation of government programs. We argue that bureaucracies tend to be chronically under-resourced relative to their responsibilities because they, unlike firms, cannot choose their responsibilities efficiently. Instead, politicians, who lack the electoral incentives to invest in state capacity, take these decisions (inefficiently). Our argument provides an alternative explanation for inefficiency in public sector organizations than do prevailing public choice arguments emphasizing bureaucratic shirking or rent-seeking. Instead, we see bureaucratic under-performance as a symptom of wider political pathologies which prevent rational investments in state capacity.

The remainder of the paper is structured as follows. We first develop the theoretical argument in relation to existing arguments before applying it to the context of rural India. We then introduce the empirical strategy, report results and conclude.

2. Theory

What determines bureaucratic effectiveness? Prevailing explanations in economics, rooted in the public choice school, emphasize incentives. Incentive-based theories originating in the public choice school attribute bureaucratic under-performance to weak career incentives (e.g. Tullock, 1965; Muralidharan and Sundhararaman, 2011). Because bureaucratic positions are filled on the basis of nepotistic or corrupt criteria, and because shirking is encouraged by protected civil service positions, bureaucrats tend to be ineffective. Reforms based on these arguments, including the so-called "new public management", recommend private-sector-style hiring-and-firing as well as high-powered incentives for promotion linked to measurable outcomes.

Alternatively, theories from political science stress the importance of bureaucratic autonomy from excess political interference. Where political control over bureaucracy is excessive, bureaucratic morale is undermined and developmental goals are sidelined in favor of advancing the interests of powerful social groups (e.g. Migdal, 1988; Evans, 2012). Reforms based on these arguments, which often highlight the success of highlight autonomous developmental bureaucracies in East Asia, recommend the creation of civil service laws which protect bureaucrats from arbitrary firing or re-posting and the creation of rule-based, meritocratic structures for career advancement.

Unquestionably, both performance incentives and insulation against excess political interference are important components of bureaucratic effectiveness. However, this paper highlights a distinct pathology, familiar to bureaucrats but surprisingly under-theorized by social scientists:

bureaucracies are chronically under-resourced relative to their responsibilities because politicians make these decisions (inefficiently). Unlike firms, bureaucracies cannot choose to specialize in some activities in which they possess a comparative advantage; bureaucrats are politically mandated to perform a massive multiplicity of tasks, including administering an ever-growing list of programs, planning and budgeting, implementing and monitoring in the field, addressing individual complaints from citizens, as well as accommodating directives from politicians. When public sector bureaucrats are under-resourced, they must spread finite human and physical capital thinly across many mandated programs and tasks. Directly, fewer personnel and resources mean that bureaucracies possess less human and physical capital to apply to the production of public services. The indirect organizational effects are arguably more important, however. When bureaucrats are unable to divide and specialize in distinct tasks within the organization, they pay a major organizational efficiency cost in terms of failure to specialize.

This is clearly the case with local rural development officials known as Block Development Officers (BDOs), who are responsible for the local implementation of India's major national as well as state-level rural development programs. BDOs are state-level civil service appointees and the local executives of Block Development Offices, administrative units which are responsible for the local implementation of state and national rural development programs in India. A typical rural development block is comprised of roughly 150,000 residents, though this can vary significantly across states as well as blocks within states. The typical BDO is the local executive responsible for the implementation of dozens of different rural development programs, ranging from national "flagship" programs like the National Rural Employment Guarantee Act (NREGA), a major workfare programs which is meant to guarantee every rural household up to

100 days of public works employment annually, and Swachh Bharat, a major sanitation program designed to provide toilets and eliminate open defecation, to a variety of smaller-scale state-level rural development programs. Despite their tremendous responsibilities, BDOs are given relatively scant resources to do their jobs on average. Our survey of nearly 500 BDOs across 25 states,[3] covering a population of roughly 80 million rural residents, indicates that on average BDOs report possessing 24.5 full-time employees per 100,000 rural residents and just 0.8 official, 4-wheel vehicles per 100,000 rural residents (in practice, to deal with a shortage of vehicles, BDOs often use their personal vehicles to conduct official business). Over 44 percent of the BDOs in our sample reported that they had incurred personal expenses for their official work over the previous 6 months.

The overall shortage of resources relative to responsibility that BDOs face means that they have to multi-task excessively. To assess the behavior of BDOs, survey enumerators contacted each BDO by phone on three successive weeks to complete a time-use diary for the preceding work day. This analysis took note of where the BDO was located, with whom he or she was interacting physically, and what types of tasks he or she was working on a half-hourly basis over the course of the work day. In Figure 1, we display patterns of time-utilization by BDOs over the course of a typical work day. The patterns reveal that on average BDOs divide their time across a wide range of activities and interactions with a range of stakeholders, with notable tradeoffs between multiple tasks. For example, the left-hand-side plot reveals that while BDOs are able to dedicate their mornings to planning, management, and form filing activities based in the office, these activities are swiftly "crowded out" by handling daily individualized complaints and requests

[3] The survey was conducted in collaboration with the Lal Bahadur Shastri National Academy for Administration.

from citizens as well as politicians. Similarly, the right-hand-side plot reveals that while BDOs have time to spend on their own or with their staff in the morning, over the course of the day their time is increasingly taken up by constituents and other stakeholders, usually with particularistic complaints and requests.

FIGURE 1 ABOUT HERE

There are clear organizational inefficiencies in the current system. As executives for constituencies containing on average 150,000 residents, it seems inefficient for the BDO to be dedicating a significant part of the day to handling individualized requests and complaints from citizens and politicians. While engaging in "client-facing" activities is important from an informational standpoint, BDOs appear to dedicate too little time to "office-based" activities such as form-filing, planning and budgeting, and management of staff. Yet BDOs are necessitated to multi-task in this way due to a shortage of staff and resources, which makes dividing responsibilities and tasks difficult. A shortage of vehicles and computers means that routine field visits and data entry cannot be easily divided between multiple workers. A shortage of personnel means that instead of specializing in managerial tasks and delegating micro-transactions like registering citizen complaints and requests to their staff, BDOs must pitch in on these tasks, essentially playing the role of a "jack of all trades" and "master of none". We argue that this excess multi-tasking results in under-provision of specialization and organizational inefficiency in public service delivery. There is scope to test such a claim, as BDOs vary greatly in the amount of personnel and resources with which they are provided, as displayed in Figure 2, which shows the distribution of full-time employee strength across the blocks in our sample.

FIGURE 2 ABOUT HERE

Alternative explanations for under-performance by BDOs are certainly possible. For example, public choice arguments emphasizing an absence of career incentives could play a role, as BDOs often report that they feel that they lack opportunities for promotion, let alone opportunities for promotion linked to effort or performance. To measure perceptions of opportunities for career advancement linked to effort, we asked BDOs:

> "If a BDO works hard, is there a chance of promotion to a higher position over the next 10 years? If so, what is the likely next post?"

BDOs were given the following choice set of responses: Very Likely (10 out of 10 times), Somewhat Likely (7-9 out of 10 times), Possibly (4-6 out of 10 times), Unlikely (1-3 out of 10 times), No chance (0 out of 10 times). Figure 3 displays the distribution of responses. Over 35 percent of BDOs were extremely pessimistic, reporting that there was either no chance of promotion or that it was unlikely. However, nearly 65 percent of BDOs felt that promotion was at least possible. We utilize an indicator of such belief as our measure of strength of career incentives. The reason we utilize this individualized measure, rather than say objective civil service rules for promotion (see e.g. Bertrand et al, 2015), is that chances of promotion linked to effort are often determined by informal organizational culture as objective rules. Additionally, individual traits affect chances for promotion, including age and educational background.

Moreover, effort is often driven by *perceived* chances of promotion, making a measure of subjective perception of his probability the direct quantity of interest.

FIGURE 3 ABOUT HERE

Another possible explanation for under-performance by BDOs is that they are subject to excessive political interference, a variable highlighted by political science theories of "developmental" state capacity (e.g. Migdal, 1988; Evans, 2012). An absence of organizational autonomy from political dictates could subvert the developmental objective of local bureaucrats and instead convert them into agents of locally powerful social groups, politicians, and businesses. The major tool for control over bureaucrats that local politicians possess is not the threat of firing, since BDOs are protected by civil service laws, but by the threat of transferring uncompliant BDOs to undesirable or "punishment" postings in another locality (see e.g. Iyer and Mani, 2012). To measure the degree of autonomy that BDOs possess relative to local politicians, we asked BDOs "who would prevail in a hypothetical dispute about where to allocate a project" with respect to different types of local politicians: a village-level elected leader, a block-level leader, a district-level leader, a local legislator belonging to the state-level opposition party, and a local legislator belonging to the state-level ruling party. The share of respondents indicating that a BDO is likely to prevail with respect to each of these types of politicians is displayed in Figure 2. Clearly, higher-level politicians wield greater power vis-à-vis BDOs, though partisanship and connections to the ruling party also matter. To operationalize the measure of autonomy, we create a variable ranging between 0 and 1 for each BDO representing the share of politicians over whom the BDO expects to prevail over in a project allocation dispute.

FIGURE 4 ABOUT HERE

3. Empirical Strategy and Main Results

To estimate the impact of these different variables on bureaucratic effectiveness, we estimate a regression analysis of the form:

$$NREGA_i = \beta_1 RESOURCES_i + \beta_2 INCENTIVES_i + \beta_3 AUTONOMY_i + \boldsymbol{X}'\gamma + \varepsilon_i$$

where $NREGA_i$ is our outcome-based measure of bureaucratic effectiveness, measured in terms of the total days of NREGA employment provided per rural capita in each block in 2016-17. Previous research demonstrates that "rationing" or an under-provision of employment relative to demand is a rampant problem in the implementation of NREGA (e.g. Dreze and Khera, 2009), largely due to an absence of sufficient bureaucratic capacity to absorb funds, implement projects, and disburse employment and wage payments on a timely basis. This makes this a good measure of bureaucratic effectiveness. To control for background characteristics which directly impact socioeconomic demand for the program, in all specifications we also control for total block rural population as well as the share of disadvantaged minorities (scheduled caste and scheduled tribe) in the rural population. We also control for district fixed effects in several specifications, meaning that our comparisons in those cases are restricted to spatially very proximate and often neighboring blocks within the same district.

The variable $RESOURCES_i$ is the measure of active full-time staff per 100,000 rural residents. The variable $INCENTIVES_i$ is the indicator of belief in a possible or greater probability of promotion linked to effort. The variable $AUTONOMY_i$ is the share of politicians over whom the BDO indicates he or she is likely to prevail over in a hypothetical dispute about project allocation. By including all the variables in the same regression, we essentially conduct a statistical "horse-race" to see which variable matters the most for local bureaucratic effectiveness. To facilitate comparison, all of the variables are standardized by dividing by their in-sample standard deviations. A concern may be that these variables are correlated with one another, making a horse-race of this kind difficult to interpret. Empirically it turns out, however, that these variables are surprisingly uncorrelated with one another. Table 1 provides a correlation matrix for the three explanatory variables.

TABLE 1 ABOUT HERE

The survey was conducted in collaboration with the Lal Bahadur Shastri National Academy of Administration (LBSNAAA) in 2016-17. LBSNAA trains new recruits into the Indian Administrative Service (IAS), a component of which includes training in an assigned district. As part of their training, IAS officer trainees were asked to complete the survey and time-use diaries with three randomly sampled BDOs in each district. While we did not control the districts to which the trainees were sent, we did control the sampling of blocks within districts. Our preferred specifications control for district fixed effects, identifying effects solely from within-district variation and therefore addressing concerns about sample selection that may arise from the nature of the survey design and sampling strategy.

What is the appropriate level of analysis for our regressions? Are our variables measuring resources, incentives, and autonomy primarily state-specific or do they vary at a more disaggregated level? To gauge this question, we "decompose" the variance our main explanatory variables into cross-state, within-state, and within-district components. Strikingly, it appears that there is significant variation in bureaucratic resources, incentives, and autonomy even at a highly disaggregated level. For example, even after partialing out differences between states and districts, over 58 percent of the variation in resources, 46 percent of the variation in autonomy, and 42 percent of the variation in incentives remains. We therefore empirically estimate three different types of regressions, by including no fixed effects and thereby looking at variation across all states in the sample, by including state fixed effects and limiting the comparison to blocks within the same states, and by including district fixed effects and limiting the comparison only to spatially proximate blocks within the same district.

TABLE 2 ABOUT HERE

The main regression results are reported in Table 3. The small and statistically insignificant coefficients on the autonomy and incentives variables indicate that across the board these explanations for bureaucratic effectiveness have surprisingly little explanatory power in this setting. By contrast, bureaucratic resources have a consistently large and positive impact of service delivery, looking across and within states, as well as within districts. A one-standard deviation improvement in bureaucratic resources and staffing, for example, is estimated to have improved access to NREGA by 0.9 days of employment per rural resident – an extremely large

effect, given the fact that only portion of rural adults participate in the program. Average NREGA employment across all blocks in the sample was 2.98 days/capita. This implies that that a one standard deviation increase in bureaucratic resources, as proxied by active full-time staff per capita, resulted in a nearly 28 percent improvement in public service delivery according to our preferred estimate using district fixed effects. Similar effects are found when controlling for state fixed effects instead of district fixed effects as well as when fixed effects are excluded altogether. All specifications report standard errors adjusted for clustering within districts.

TABLE 3 ABOUT HERE

4. Resources and Bureaucratic Behavior

The next step is to assess *why* bureaucratic resources have such a large impact on service delivery. We have argued that over-burdened and under-resourced bureaucrats are forced to multi-task excessively, resulting in an inability to specialize and focus, especially with regard to managerial and planning and budgeting tasks, which are crowded out by having to deal with daily complaints and requests from individual constituents. To assess this hypothesis, we estimate similar regressions as before, but now utilize bureaucratic time allocation as the outcome variable, as measured through the time-use diaries discussed earlier. In Table 4, we report the first set of results, where the outcome is the percentage of hours between 10 am and 5 pm allocated by BODs to different types of activities: filing forms, managing office and staff, planning and budgeting regarding schemes, field visits, handling individual complaints and

requests from citizens, handling individual requests and complaints from village politicians or local legislators. As before, we estimate specifications with no, state, and district fixed effects.

TABLE 4 ABOUT HERE

Strikingly, the results indicate that additional resources enable BDOs to divide responsibilities, delegating micro-transactions to their staff while the BDOs themselves focus on office-based planning and managerial activities. According to our preferred estimates based on district fixed effects, a one standard deviation improvement in resources is estimated to have increased the time spent on form-filing by 2.6 percentage points, time spent on office-based management of staff by 1.96 percentage points, and time spent on office-based planning and budgeting by 1.27 percentage points. By contrast, when BDOs have more resources, they spend less time on handling individualized micro-transactions with constituents. A one standard deviation improvement in resources reduces time spent in the field by 2.09 percentage points, time spent handling individual complaints and requests from citizens by 1.34 percentage points, and time spent handling individual complaints and requests from politicians by 1.41 percentage points. While we only conducted the time-use diaries with BDOs and not their staff, together with the prior results indicating improvements in service delivery, we infer from these results that it is not that micro-interactions are being abandoned altogether but that these client-facing activities are being delegated to the BDO's staff.

The time-use diaries required the BDOs to categorize what type activities they were working on over the course of the day, and this is arguably involves some degree of subjective categorization

(though steps were taken to make sure that falsification of information was cognitively burdensome, including asking for a variety of details on each reported activity on a half-hour-wise basis). An alternative approach is to look at who BDOs reported interacting with physically over the course of the day, an outcome measure that is arguably less subject to measurement error or subjective perception issues. The results are reported in Table 5. Here the outcome measures are percentage of hours between 10 am and 5 pm during which BDO was physically interacting with different types of individuals: by self only, with block-level staff, with district or other government officials, with citizens, with village politicians or MLA.

TABLE 5 ABOUT HERE

The results reveal consistent changes in behavior when BDOs are provided with additional personnel and staff. A one standard deviation improvement in resources, according to our preferred specification based on district fixed effects, increases time spent alone by 1.95 percentage points and time spent with staff by 1.52 percentage points. A one standard deviation improvement in resources *reduces* time spent with other government officials (though this is not statistically significant) by 1.21 percentage points, time spent with citizens by 1.85 percentage points, and time spent with politicians by 1.58 percentage points. This is consistent with a general pattern of results suggesting that additional resources enable BDOs to divide tasks, specialize in managerial activities, and delegate micro-transactions and client-facing activities to their staff. This organizational division of labor is associated with significant improvements in bureaucratic effectiveness and service delivery.

5. Why Do Politicians Fail Rationally Invest in State Capacity?

In some ways, our results should not be surprising. The division of labor and is a fundamental principle of organizational effectiveness that has been recognized at least since Adam Smith and that is implemented by virtually every major private sector organization in the world today (e.g. Stigler, 1951). Weber famously argued that a quintessential feature of modern bureaucracy is organizational differentiation and hierarchy, which permit bureaucrats to specialize in different types of activities. Why then are local rural development bureaucracies in India chronically under-resourced relative to their responsibilities, inhibiting their ability to divide and specialize in tasks and operate efficiently?

One answer would be that perhaps politicians are making rational cost-benefit calculations. However, this does appear to be the case. In the average block containing 150,000 residents, a one standard deviation improvement in resources corresponded to roughly 37 additional full-time employees. The preferred regression estimates suggest that this resulted in an additional 0.85 days of NREGA employment per capita or a net addition of 127,500 days of employment in the average block per year. This implies that the "value added" of a single full-time employee is roughly 3,745 additional days of employment per year under *a single program* (potentially additional resources improved the performance of other programs as well). Conservatively estimating that the daily wage under NREGA is 100 rupees (or roughly $2), this suggests that an additional employee improves total wage disbursement by approximately 374,500 rupees (or roughly ($7,490), an amount well in excess of the annual salary of a typical full-time employee. NREGA funds come almost entirely from the central government, while state-level governments

are responsible for the salaries of block-level employees. It therefore appears that on average state governments and the politicians which control them in India are failing to make rational investments in state capacity from a net revenue perspective. This is particularly striking given the absence of serious procedural barriers to improving staffing: across the blocks in our sample, on average 48 percent of officially sanctioned full-time employee posts were vacant! If all of these sanctioned but vacant positions were simply filled, our estimates suggest that the performance of NREGA nationally would improve by approximately 10 percent in terms of employment delivery.

What explains the failure of politicians to make rational investments in local state capacity? One answer is that, unlike firms, politicians are not usually driven by efficiency motives. Instead, they possess asymmetrical electoral incentives which tend to result in an accumulation of bureaucratic responsibilities without corresponding investments in capacity. The electoral returns to announcing and inaugurating brand new, ambitious rural development programs are large and clearly internalized by the politicians in control of state governments. This is partly responsible for the ever-growing list of major rural development programs in India. However, the electoral returns to investing in state capacity are far more diffuse and more difficult to internalize by incumbent politicians. Hiring new employees may not translate into improved program performance for several years, and the credit for these improvements may well be claimed by someone else. This may well account for why politicians in India appear to be failing to make rational investments in local state capacity.

6. Conclusion

Existing public choice arguments attribute bureaucratic under-performance to weak performance incentives (e.g. Tullock, 1965; Muralidharan and Sundhararaman, 2011), while theories of state capacity blame an absence of organizational autonomy from excess political interference (e.g. Migdal, 1988; Evans, 2012). Drawing on a nationwide survey of local rural development bureaucrats in India, this paper provides evidence for a different pathology: bureaucracies are chronically under-resourced relative to their responsibilities because politicians make these decisions (inefficiently).

Drawing on regressions which look at how bureaucratic resources affect the quantity of public services delivered under NREGA, a major rural public works program, we have provided evidence that: i) inadequate personnel and resources force rural development officers to multi-task excessively; ii) this inability to specialize has an adverse impact on the performance of development programs. The flip side of this coin is that additional resources have large, positive impacts on public service delivery. The implied returns to additional investments in bureaucratic resources are so large that they clearly indicate that politicians in India are failing to make rational investments in local state capacity.

Currently, we can only conjecture why this is the case, though in future iterations of this paper we hope to investigate the political determinants of investment in local bureaucratic personnel and resources. Our hypothesis is that the electoral returns to enacting new rural development programs are large and easily internalized by politicians, but that the electoral returns to

investing in state capacity are diffuse and uncertain. This is partly to blame for the chronic under-resourcing and over-burdening of local bureaucracies in India and beyond.

7. Bibliography

Bertrand, M., Burgess, R., Chawla, A. and Xu, G., 2015. *Determinants and consequences of bureaucrat Effectiveness: Evidence from the Indian Administrative Service*. Working paper. International Growth Centre.

Dreze, Jean, and Reetika Khera. 2009. "The battle for employment guarantee." *Frontline* 26.1 (2009): 3-16.

Evans, Peter B. 2012. *Embedded Autonomy: States and Industrial Transformation*. Princeton University Press.

Iyer, Lakshmi, and Anandi Mani. 2012. "Traveling Agents: Political Change and Bureaucratic turnover in India." *Review of Economics and Statistics* 94, no. 3: 723-739.

Migdal, Joel S. 1988. *Strong societies and Weak States: State-society Relations and State Capabilities in the Third World*. Princeton University Press, 1988.

Pritchett, L. 2009. “Is India a Flailing State? Detours on the Four Lane Highway to Modernization.” Working Paper. Harvard Kennedy School.

Muralidharan, Karthik, and Venkatesh Sundararaman. 2011. "Teacher Performance Pay: Experimental Evidence from India." *Journal of Political Economy* 119.1: 39-77.

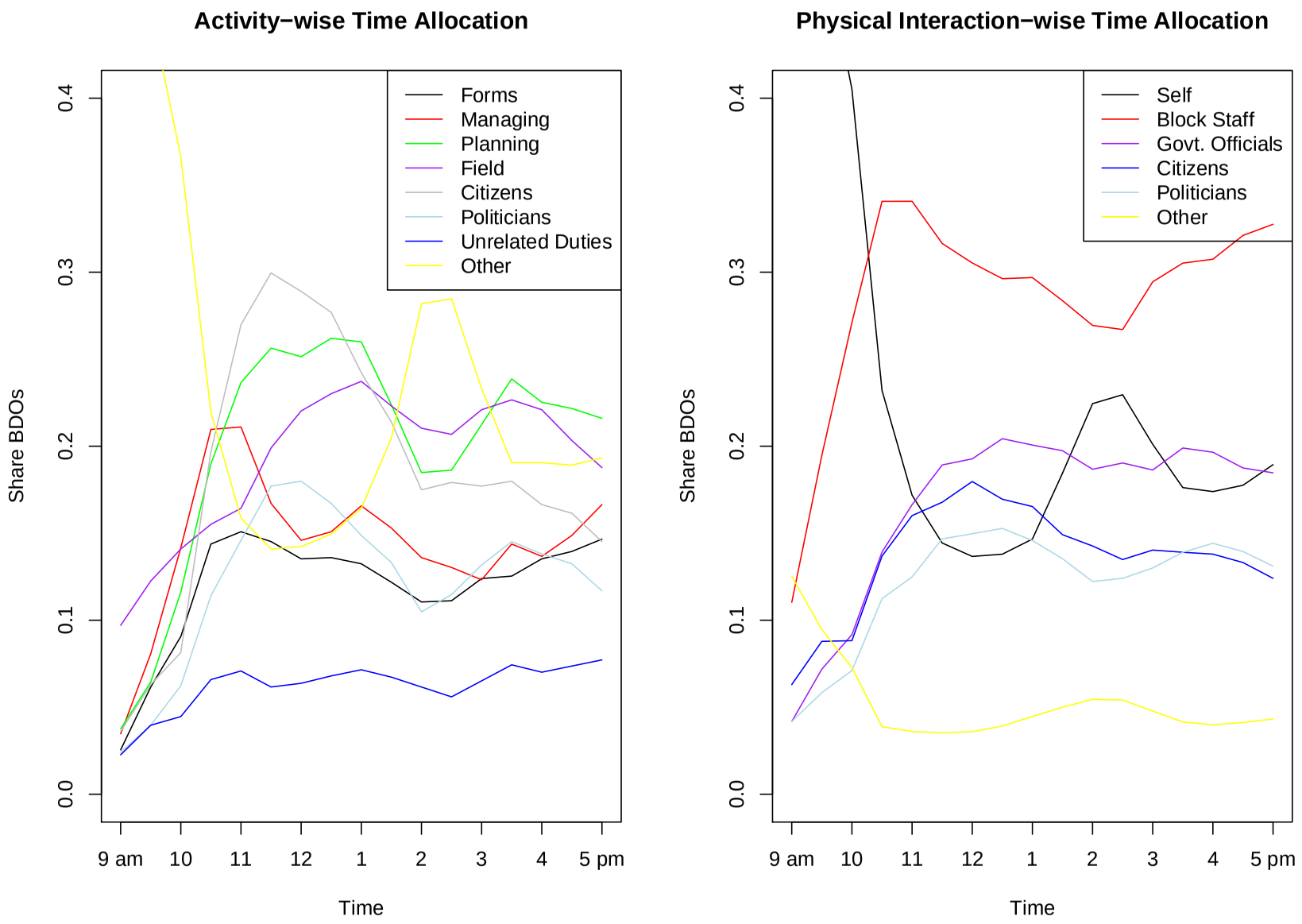
Smith, Adam. 1776. *The Wealth of Nations.*

Stigler, George J. 1951. "The Division of Labor is Limited by the Extent of the Market." *Journal of Political Economy* 59.3: 185-193.

Tullock, Gordon. 1965. *The Politics of Bureaucracy*. Public Affairs Press.

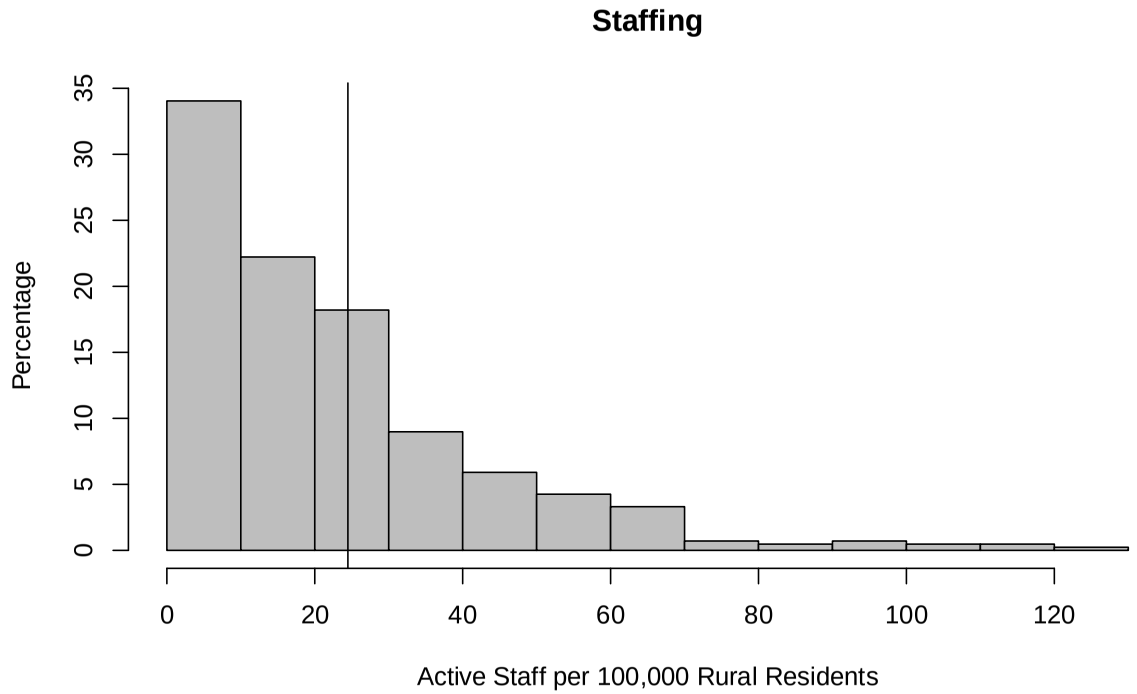
Weber, Max. 1914. *Bureaucracy.*

Figure 1: Time-Use Diaries



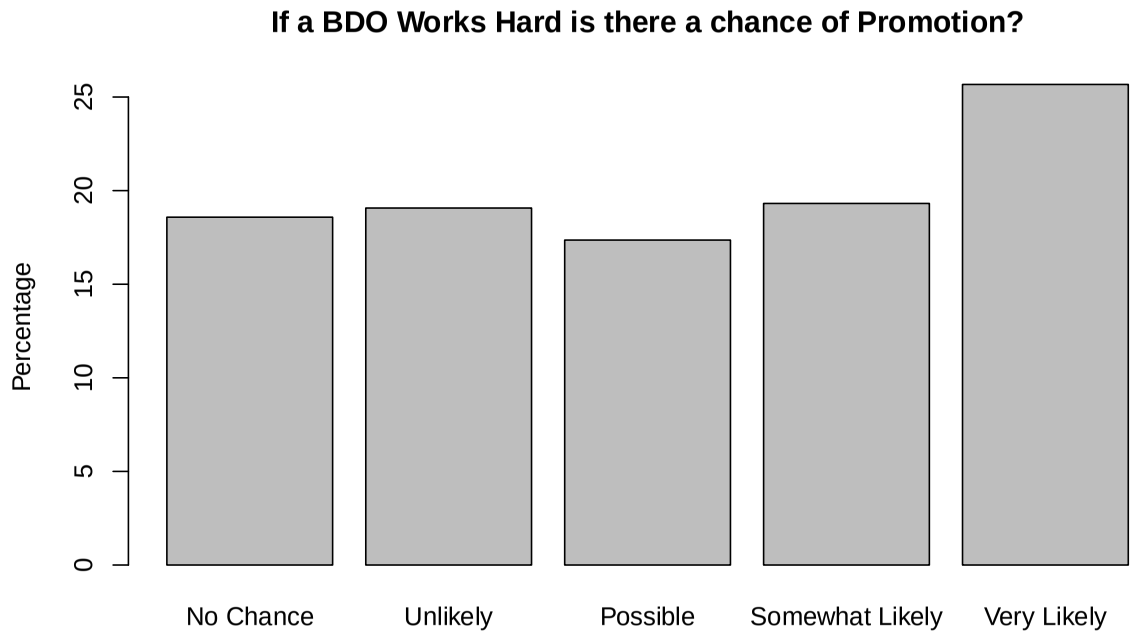
Notes: Each BDO was contacted once a week on three subsequent weeks to complete a time use diary for the preceding day. Outcome in left panel is hour-wise share of BDOs indicating engagement in different activities: filing forms, managing office and staff, planning and budgeting regarding schemes, field visits, handling individual complaints and requests from citizens, handling individual requests and complaints from village politicians or MLA, unrelated duties, or other. Outcome in left panel is hour-wise share of BDOs indicating physical interaction with different types of individuals: by self only, with block-level staff, with district or other government officials, with citizens, with village politicians or MLA, with other.

Figure 2: Measure of Resources



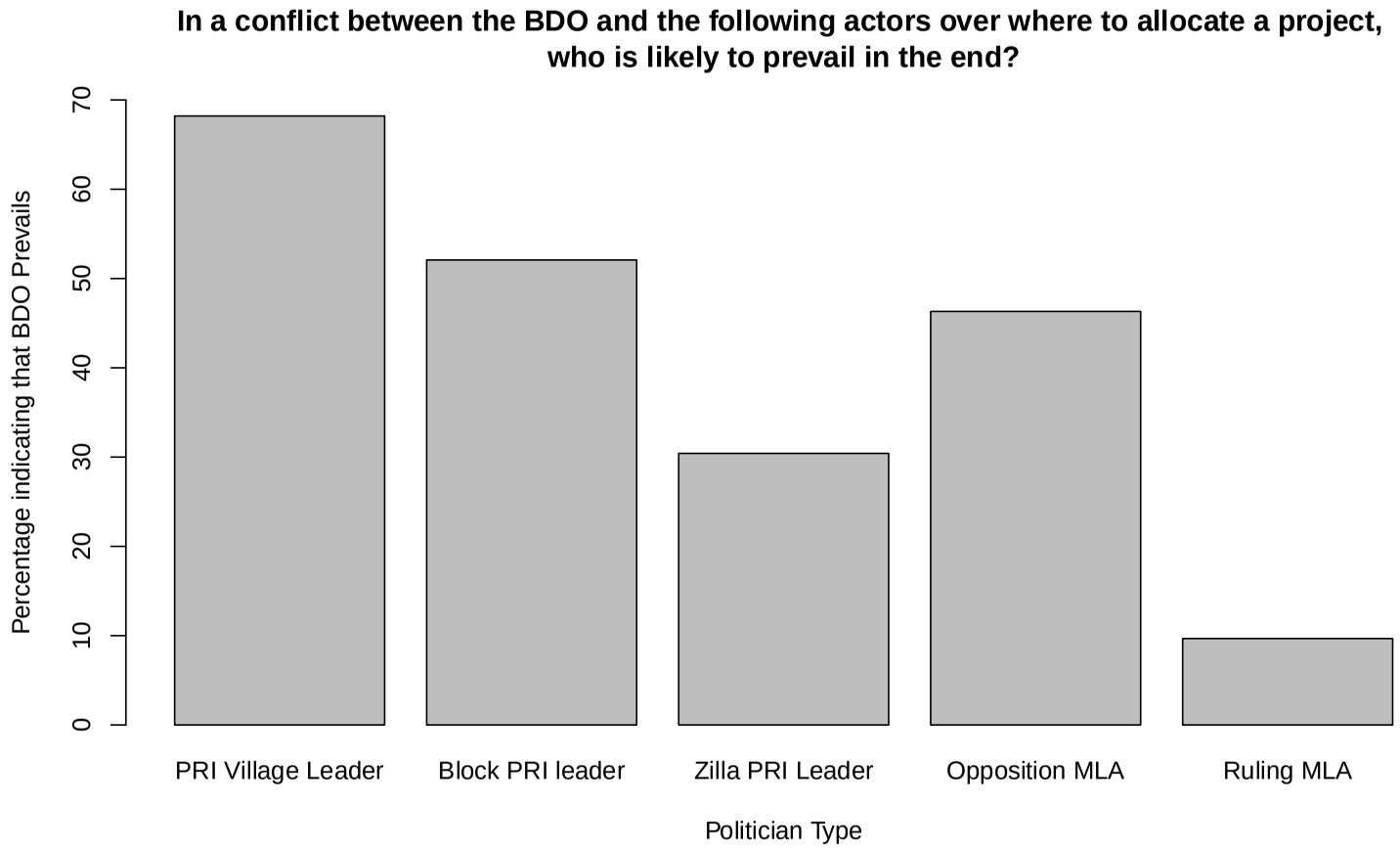
Notes: BDOs were asked to indicate the number of full-time (as opposed to contract) Block-level employees. This number was divided by rural population of the block as measured with census data.

Figure 3: Measure of Career Incentives



Notes: BDOs were asked: "If a BDO works hard, is there a chance of promotion to a higher position over the next 10 years? If so, what is the likely next post?". The response choice set was: Very Likely (10 out of 10 times), Somewhat Likely (7-9 out of 10 times), Possibly (4-6 out of 10 times), Unlikely (1-3 out of 10 times), No chance (0 out of 10 times).

Figure 4: Measure of Autonomy



Notes: BDOs were asked who would prevail in a hypothetical dispute about where to allocate a project with respect to 5 different types of local politicians.

Table 1: Correlation Matrix

	Resources	Autonomy	Incentives
Resources	1.00	0.04	0.05
Autonomy	0.04	1.00	0.04
Incentives	0.05	0.04	1.00
Variable Mean	24.46	0.35	0.65
Variable SD	35.97	0.26	0.48

Notes: Cells indicate correlation between different variables. Unit of analysis is rural development block. Resources is number of active full-time block staff per 100,000 rural residents. Autonomy is share of list of politicians BDO states he or she is likely to prevail against in hypothetical project allocation dispute. Incentives is indicator if BDO believes there is a chance of promotion as a result of hard work.

Table 2: Variance Decomposition

	Cross-State	Within-State	Within-District
Resources	100.00	80.06	58.51
Autonomy	100.00	93.47	46.18
Incentives	100.00	84.65	41.68

Notes: Cells decompose variation of different measures of state capacity into cross-state, within-state, and within-district (cross-block) variation. Within-state variation is share of variance remaining after partialing out state means. Within-district variation is share of variance remaining after partialing out district means.

Table 3: Impact on NREGA Employment Provision

	NREGA Days/Capita		
	Cross-state	Within-state	Within-district
	(1)	(2)	(3)
Resources	1.018***	0.693***	0.847***
	(0.113)	(0.257)	(0.211)
Autonomy	−0.169	−0.140	−0.219
	(0.185)	(0.126)	(0.176)
Incentives	−0.084	0.045	0.059
	(0.227)	(0.155)	(0.291)
Block Controls	Yes	Yes	Yes
Fixed Effects	None	State	District
Clusters	156	156	156
Observations	421	421	421

Notes: Unit of analysis is rural development block. Outcome is total days of NREGA employment provided per rural capita in 2016-17. Resources is number of block staff per 100,000 rural residents. Autonomy is share of list of politicians BDO states he or she is likely to prevail against in hypothetical project allocation dispute. Incentives is indicator if BDO believes there is a chance of promotion as a result of hard work. To facilitate comparison, all variables are standardized by dividing by their in-sample standard deviation. Analysis estimated by OLS. Standard errors adjusted for clustering within districts. *p<0.1; **p<0.05; ***p<0.01.

Table 4: Impact on Time Allocation

	Forms	Managing	Planning	Field	Citizens	Politicians
	(1)	(2)	(3)	(4)	(5)	(6)
Panel C: Within-district						
Resources	2.580**	1.963***	1.270**	−2.092***	−1.347***	−1.413***
	(1.009)	(0.593)	(0.637)	(0.732)	(0.512)	(0.450)
Autonomy	0.088	−0.515	0.483	−0.357	−0.210	−0.907
	(1.059)	(1.038)	(0.900)	(1.076)	(0.969)	(0.861)
Incentives	0.374	−1.091	−1.223	0.127	−0.761	−0.442
	(1.040)	(1.053)	(0.971)	(1.352)	(1.149)	(0.897)
Panel B: Within-state						
Resources	3.275***	2.403***	1.149**	−1.902***	−1.195*	−1.036**
	(0.882)	(0.583)	(0.531)	(0.668)	(0.669)	(0.495)
Autonomy	2.133**	−0.441	−0.510	1.067	0.979	0.623
	(0.955)	(0.950)	(0.895)	(1.066)	(1.014)	(0.950)
Incentives	0.194	−0.899	−1.252	0.835	0.946	1.445
	(0.769)	(0.873)	(0.858)	(0.914)	(1.028)	(1.028)
Panel C: Within-district						
Resources	2.580**	1.963***	1.270**	−2.092***	−1.347***	−1.413***
	(1.009)	(0.593)	(0.637)	(0.732)	(0.512)	(0.450)
Autonomy	0.088	−0.515	0.483	−0.357	−0.210	−0.907
	(1.059)	(1.038)	(0.900)	(1.076)	(0.969)	(0.861)
Incentives	0.374	−1.091	−1.223	0.127	−0.761	−0.442
	(1.040)	(1.053)	(0.971)	(1.352)	(1.149)	(0.897)
Clusters	145	145	145	145	145	145
Observations	998	998	998	998	998	998

Notes: Unit of analysis is BDO-day (each BDO was contacted once a week on three subsequent weeks to complete a time use diary for the preceding day). Outcome is percentage of hours between 10 am and 5 pm allocated to different types of activities: filing forms, managing office and staff, planning and budgeting regarding schemes, field visits, handling individual complaints and requests from citizens, handling individual requests and complaints from village politicians or MLA. Analysis estimated by OLS. Standard errors adjusted for clustering within districts. *p<0.1; **p<0.05; ***p<0.01

Table 5: Impact on Physical Interactions

	Self	Staff	Officials	Citizens	Politicians
	(1)	(2)	(3)	(4)	(5)
Panel C: Within-district					
Resources	1.954***	1.519*	−1.206	−1.848**	−1.583***
	(0.702)	(0.851)	(0.806)	(0.788)	(0.568)
Autonomy	1.342	1.568	2.063*	1.198	−0.832
	(1.308)	(1.399)	(1.084)	(1.342)	(1.178)
Incentives	−2.725	−1.941	0.900	−2.089	−0.382
	(1.952)	(1.666)	(1.695)	(1.506)	(1.498)
Panel B: Within-state					
Resources	2.977**	1.569*	−1.789***	−1.426	−1.073
	(1.238)	(0.934)	(0.683)	(0.973)	(0.781)
Autonomy	2.285	2.935**	2.462*	3.246***	2.908***
	(2.106)	(1.443)	(1.265)	(1.175)	(1.026)
Incentives	−1.660	0.846	−0.483	0.863	1.664
	(1.940)	(1.400)	(1.273)	(1.208)	(1.068)
Panel C: Within-district					
Resources	1.954***	1.519*	−1.206	−1.848**	−1.583***
	(0.702)	(0.851)	(0.806)	(0.788)	(0.568)
Autonomy	1.342	1.568	2.063*	1.198	−0.832
	(1.308)	(1.399)	(1.084)	(1.342)	(1.178)
Incentives	−2.725	−1.941	0.900	−2.089	−0.382
	(1.952)	(1.666)	(1.695)	(1.506)	(1.498)
Clusters	145	145	145	145	145
Observations	998	998	998	998	998

Notes: Unit of analysis is BDO-day (each BDO was contacted once a week on three subsequent weeks to complete a time use diary for the preceding day). Outcome is percentage of hours between 10 am and 5 pm during which BDO was physically interacting with different types of individuals: by self only, with block-level staff, with district or other government officials, with citizens, with village politicians or MLA. Analysis estimated by OLS. Standard errors adjusted for clustering within districts. *p<0.1; **p<0.05; ***p<0.01.