EVIDENCE TO FIX BUREAUCRACIES
POLICY RESEARCH TALK
Single Statistics Summarising a Bureaucracy

- Kaufmann et al. (various): Worldwide Governance Indicators
- Teorell et al. (2019): The Quality of Government Standard Dataset
- Inglehart et al. (2014): World Values Survey
The Bank Was at the Forefront of Surveys

- Evans and Rauch (1999): Assessment of Weber
- Manning et al. (1999): Public Officials Surveys
- Kaufmann et al. (2006): Governance and Anti-Corruption Diagnostics
- Schuster et al. (2018): Cross-national survey of public officials
A Data Revolution

- National data
- Global statistics
A Data Revolution

Sectoral analysis

Global statistics

National data
In Comes the Bureaucracy Lab...

- Worldwide Bureaucracy Indicators
- Integrated Surveys and Productivity Measures
- Administrative data
- Experiments / Impact Evaluations

- Global statistics
- National data
- Sectoral analysis
How do you fix bureaucracy?
The Organisation of Bureaucracy Matters

BureaucracyFacts
@OrganiseMeNow

The public sector directly manages 20% of low income economies

#Productivity #Growth
A Production Function for Bureaucracies

La Porta et al. (1999):

1. Economic
2. Political
3. Cultural

Utility Function

\[ u(t) \]
A Production Function for Bureaucracies

1. Economic
2. Political
3. Cultural

Utility Function

\( u(t) \)
Public Goods Have Multiple Tasks

\[ u(t) = p(u_1(t), t_2, \ldots, t_n) - e(t_1, t_2, \ldots, t_n) \]
Bureaucratic Descriptives: An Agenda

- Basic micro-descriptives of bureaucracy have not existed to date:
  - Multi-tasking
  - Specialization
  - Complexity of tasks

- Makes testing of core economics models harder

- Bank staff working on public administration operations have few basic descriptives as to what public agents are doing all day

- Bank is frequently at the forefront of such descriptive work
Financial & Budget Management: 29%
Physical Infrastructure: 27%
Advocacy and Policy Development: 23%
ICT Management and Research: 7%
Permits and Regulation: 4%
Procurement: 6%
Monitoring, Training and Personnel Management: 29%
Everyone is doing a bit of everything
Everyone is doing a bit of everything ... even in something as specialised as physical infrastructure

Source: Rasul and Rogger (2016)
Public sector projects provide partial, noisy signals of the tasks undertaken.

\[ u(t) = p(t_1, t_2, \ldots, t_n) - e(t_1, t_2, \ldots, t_n) \]

\[ p(t_i) = p(\hat{t}_i(t_i), \text{ Measurement}) \]
Performance Incentives Distort Ambiguous Projects

Figure 1: Project Ambiguity and the Response to CS-Incentive/Monitoring Management Practices

Source: Rasul and Røgger (2016)
Performance Incentives Retard All Stages of Projects

Source: Rasul and Rogger (2016)
Data Systems and Accountability Regimes

Figure 1: Two Control Zone
Figure 2: SO2 Emission Trend 1995-2013
Data Source: China Statistical Yearbook (various years)

Source: Chen, Li and Lu (2018)
Performance Incentives Distort Ambiguous Projects

Figure 1: Project Ambiguity and the Response to CS-Incentive/Monitoring Management Practices

Source: Rasul and Rogger (2016)
Experimental evidence in procurement

Source: Bandiera et al. (2018)
Khan, Khwaja and Olken (2016) find that incentivized tax collectors generate 9 percentage points higher revenue growth than controls. However, most taxpayers in incentivized areas do not get reassessed or pay higher taxes, but do report higher levels of bribery and instances of corruption.

The ensuing development and testing of “pay for performance” systems for both personnel management and public accountability is ongoing, albeit research suggests that public sector applications have to date met with limited success, primarily due to inadequate performance evaluation methods and underfunding of data management systems and rewards for performance (Rainey, 2006; Heinrich, 2007).

Heinrich and Marschke (2009): The ensuing development and testing of “pay for performance” systems for both personnel management and public accountability is ongoing, albeit research suggests that public sector applications have to date met with limited success, primarily due to inadequate performance evaluation methods and underfunding of data management systems and rewards for performance.
Rewards that Work: Postings

- Khan et al. (2016) find that property tax inspectors increase the growth rate of tax revenue by between 44 and 80 percent when incentivized by their choice of posting #RCT #Pakistan

- Bertrand et al. (2019) provide empirical support that officers’ perceived motivation is directly related to their probability of reaching the top ranks of the public administration #NaturalExperiment #India

- Banerjee et al. (2014) find the promise of transfers to desirable locations motivate police to provide a greater number and more accurate sobriety checks at police checkpoints #RCT #India

- Thakur (2018) uses matching theory to estimate the cost of poorly designed postings systems: a 0.05 unit decrease in the Human Development Index Score in losing states #MatchingTheory #India
Rewards that Work: Management

Source: Rasul, Rigger and Williams (2017)
Management quality is diverse across units

Diversity in management scores across divisions in Ghana's civil service

Source: Rasul, Rogger and Williams (2017)
Does Any of This Apply to the World Bank?

Source: Honig (2018)
Positive selection into service may make incentives less important

\[ u(t) = p(t_1, t_2, \ldots, t_n) - e(t_1, t_2, \ldots, t_n) \]

How much agent cares about achievement of task

\[ p(t_i) = p(\hat{t}_i(t_i), \ldots) \]

Measurement Noise
Data from the Worldwide Bureaucracy Indicators (WWBI)

Worldwide Bureaucracy Indicators

DATA ACCESS AND LICENSING

This dataset is classified as Public under the Access to Information Classification Policy. Users inside and outside the Bank can access this dataset.

This dataset is licensed under CC-BY 4.0

The Worldwide Bureaucracy Indicators (WWBI) is a dataset on public sector employment and wages that can help researchers and development practitioners gain a better understanding of the personnel dimensions of state capability, the footprint of the public sector on the overall labor market, and the fiscal implications of the government wage bill. The WWBI aim to fill the gap in information on the personnel of the state by providing more objective measures drawing on administrative data and More...

Overview | Data & Resources | Visualization | Additional Information | Citations
---|---|---|---|---
Acronym: WWBI | Type: Time Series | Topics: Economic Growth, Jobs, Public Sector Management
In general, public sector has a wage premium across all income levels
Negative wage premium for technical staff

Source: Gindling et al. (2018)
Huge Wage Dispersion in Most Settings

Gross salary (in thousands) vs Years of service for:
- Admin and professional staff
- Education staff
- Medical staff
- Support staff
Recent evidence on selection

- Dal Bó, Finan and Rossi (2013) find that offering higher wages to public officials attracted more able applicants (who are not less public service motivated), increased acceptance rates and bridged the recruitment gap in ‘worse’ municipalities. #RCT #Mexico

- Ashraf, Bandiera and Lee (2018) randomize the offer of career benefits at the recruitment stage for nurses. This attracts less prosocial applicants, but those hired from this pool are more talented and equally pro-social: they reduce child malnutrition by 25% in the communities they serve. #RCT #Zambia

- Deserranno (2014) finds, in contrast, that while higher financial incentives increase the probability of filling a vacancy, the signal they convey reduces the ability to recruit the most socially motivated agents who are found to stay longer on the job and to perform better. #RCT #Uganda
- Callen et al. (2018; #RCT #Pakistan) find that higher scores on personality tests (Big Five, Public Service Motivation) lead:
  - Doctors to attend work more and falsify records less
  - Health inspectors to respond more to accountability interventions
  - Senior health officials respond more to data on staff absence and ensure better subsequent attendance
General Equilibrium Selection Effects

Source: Somani (2018)
## General Equilibrium Selection Effects

<table>
<thead>
<tr>
<th>(5) Public Service Motivation</th>
<th>(6) Mission Alignment</th>
<th>(7) Hours worked typical week</th>
<th>(8) Performance evaluation score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposed Cohort x Exposed District</td>
<td>0.70***</td>
<td>38.4***</td>
<td>5.99**</td>
</tr>
<tr>
<td></td>
<td>(0.12)</td>
<td>(5.66)</td>
<td>(2.38)</td>
</tr>
<tr>
<td>Cohort FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Individual controls</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>District FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Adjusted R-Squared</td>
<td>0.14</td>
<td>0.053</td>
<td>0.18</td>
</tr>
<tr>
<td>Observations</td>
<td>331</td>
<td>358</td>
<td>358</td>
</tr>
<tr>
<td>Clusters</td>
<td>64</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>Performance evaluation score</td>
<td>0.46</td>
<td>144</td>
<td></td>
</tr>
</tbody>
</table>

Notes: Further estimates suggest that the private sector experienced a 2 percentage point decrease in productivity.

Source: Somani (2018)
A Production Function for Bureaucracies

1. Economic
2. Political
3. Cultural

Utility Function

\( u(t) \)
Multi-tasking may imply multi-principals

Gulzar and Pasquale (2016) find that implementation of India’s National Rural Employment Guarantee Scheme is substantially better where bureaucrats answer to a single politician: “Our findings suggest that politicians face strong incentives to motivate bureaucrats as long as they internalize the benefits from doing so.” #RD #India

Source: Gulzar and Pasquale (2016)
Incentives: Political-principals implies politics

Rogger (2018) finds that politicians empowered by sectoral committee membership:
- Increase the likelihood of starting a project
- Increase the proportion completed
- Decrease project quality

By:
- Increasing the budget release in the first half of the year
- Pressuring bureaucrats to shift contractors
- Pressuring bureaucrats to change specifications and divert funds

This improves the chances of re-election of the corresponding politician. #IV #Nigeria
Surveys provide details of politicisation

Table 6: Impacts on Corruption

<table>
<thead>
<tr>
<th>Robust Standard Errors</th>
<th>(1) Breaking Rules</th>
<th>(2) Corruption Pressure</th>
<th>(3) Change Location</th>
<th>(4) Change Specifications</th>
<th>(5) Select Contractors</th>
<th>(6) Divert Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevant Committee Membership [Member=1]</td>
<td>1.36**</td>
<td>1.70***</td>
<td>0.59</td>
<td>1.18**</td>
<td>3.97***</td>
<td>1.12*</td>
</tr>
<tr>
<td></td>
<td>(0.59)</td>
<td>(0.60)</td>
<td>(0.46)</td>
<td>(0.60)</td>
<td>(0.86)</td>
<td>(0.65)</td>
</tr>
<tr>
<td></td>
<td>[0.02]</td>
<td>[0.00]</td>
<td>[0.20]</td>
<td>[0.05]</td>
<td>[0.00]</td>
<td>[0.08]</td>
</tr>
<tr>
<td>Constituency controls</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Mean of dependent variable</td>
<td>38</td>
<td>20</td>
<td>19</td>
<td>20</td>
<td>23</td>
<td>17</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.24</td>
<td>0.14</td>
<td>0.13</td>
<td>0.20</td>
<td>0.12</td>
<td>0.08</td>
</tr>
<tr>
<td>First Stage F-Statistic</td>
<td></td>
<td></td>
<td></td>
<td>503</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>3,008</td>
<td>3,008</td>
<td>3,008</td>
<td>3,008</td>
<td>3,008</td>
<td>3,008</td>
</tr>
</tbody>
</table>

Notes: *** denotes significance at 1%, ** at 5%, and * at 10% level. Robust standard errors are in round brackets and associated p-values are in square brackets. The dependant variables are the average proportion of projects on which staff in the implementing organization corresponding to the project report: observing others breaking the Public Service Rules in Column 1; pressure to engage in corruption, which is an average of the variables presented in the next four columns, in Column 2; pressure to change project location in Column 3; pressure to change project specifications in Column 4; pressure to change project contractors in Column 5; and, pressure to divert project resources in Column 6. Relevant Committee Membership is a binary variable that indicates whether the project is in a constituency and sector in which the corresponding House representative sits on the relevant sectoral committee, taking the value 1 if so and 0 otherwise. Constituency characteristics are comprised of the means and standard deviations of the following indices: the proportion of poor in the constituency, measured by a national poverty index, the average years of education of the household head, the proportion of constituents with access to potable water, the average time in minutes to the nearest primary school, and the average time in minutes to the nearest secondary school. Means and standard deviations of the following indices are also included to reflect the frequency with which constituents benefit from a public project of the named type in the five years preceding 2006: construction of electrification infrastructure, rehabilitation of electrification infrastructure, well/borehole, construction of piped water infrastructure, rehabilitation of piped water infrastructure, sanitation, school construction project, school rehabilitation, health facility construction, health facility rehabilitation, road construction, tarring/grading of roads, transportation services, and agricultural-inputs schemes. Finally, constituency characteristics include a set of indicators of the economic dynamics of the constituency, comprised of indicators of improvements in opportunities for employment, the availability of agricultural inputs, number of buyers of agriculture produce, the availability of extension services, the availability of credit facilities, and the availability of consumer goods. Figures are rounded to two decimal places.

Source: Rogger (2018)
Politician Personality Matters

Source: Habyarimana, Khemani and Scot (2018)
Selection: Politics is One Route In

(a) Candidates’ Employment Probability

(b) Donors’ Employment Probability

(c) Candidates’ Earnings

(d) Donors’ Earnings

Source: Colonnelli, Prem and Teso (2018)
There are Alternative Routes to Success

Figure 3: Monthly Bureaucrat Transfers

Bureaucrat Transfer Probability

Months after new Chief Minister takes office

Source: Iyer and Mani (2012)
### TABLE 4.3 Performance evaluation criteria for township leaders, Shanghai, 1989

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Township- and village-run industry</strong></td>
<td>33</td>
</tr>
<tr>
<td>Increase in gross value of industrial output</td>
<td>10</td>
</tr>
<tr>
<td>Increase in industrial profits</td>
<td>10</td>
</tr>
<tr>
<td>Increase in profit rate on gross value of output</td>
<td>5</td>
</tr>
<tr>
<td>Township ranking by profit rate on total capital</td>
<td>4</td>
</tr>
<tr>
<td>Increase in total value of exports</td>
<td>4</td>
</tr>
<tr>
<td><strong>Agriculture</strong></td>
<td>30</td>
</tr>
<tr>
<td>Sales to the state of grain and vegetables</td>
<td>15</td>
</tr>
<tr>
<td>Sales to the urban market of pigs</td>
<td>10</td>
</tr>
<tr>
<td>Sales to the state of oil-bearing crops</td>
<td>3</td>
</tr>
<tr>
<td>Sales to the state of leather and cotton</td>
<td>2</td>
</tr>
<tr>
<td><strong>Party building</strong></td>
<td>21</td>
</tr>
<tr>
<td>Building of party organizations</td>
<td>7</td>
</tr>
<tr>
<td>Building of party spirit and discipline</td>
<td>7</td>
</tr>
<tr>
<td>Education of party members</td>
<td>7</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>9</td>
</tr>
<tr>
<td>Completion rate for compulsory education</td>
<td>3</td>
</tr>
<tr>
<td>Participation rate for worker training</td>
<td>3</td>
</tr>
<tr>
<td>Scale of funds dedicated to education</td>
<td>3</td>
</tr>
<tr>
<td><strong>Family planning</strong></td>
<td>7</td>
</tr>
<tr>
<td>Family planning compliance rate</td>
<td>7</td>
</tr>
<tr>
<td><strong>Public order</strong></td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>
Suárez Serrato, Wang and Zhang (2018) assess the impacts of China’s One Child Policy on promotions:

- Promotion decisions are consistent with a meritocratic system
- The efficacy of this screening mechanism is weakened by mayor’s ability to manipulate reported outcomes:
  - Self-reported performance in enforcing the One Child Policy predicts mayoral promotion in China
  - However, a non-manipulated performance measure does not predict promotion
  - Mayors manipulate significantly less in audit years
- Independent data on the public administration reduces the role for distortionary politics
Shout out!
Fixing Bureaucracy in Fragile Settings

• Post-conflict state building is an increasing area of the Bank’s public administration work.

• However, fundamental difference is that the state does not have a solid monopoly over violence.

• Thus, there is a tradeoff between short-term stability and the long-term objective of state building.

• To buy peace, political elites hand out public jobs and resources to constituents regardless of merit.

• Need for dual system balancing performance and patronage demands acute.

   Blum and Rogger (2019); Blum et al. (2017)
A Production Function for Bureaucracies

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Utility Function

\[ u(t) \]
Clustered Cadre

- Not classic leadership story charismatic, visionary, or dynamic

- A clustered cadre with strong interpersonal bonds and a shared practical understanding of desired interactional style
  - Delegated authority = reciprocity & "sweat equity"
  - First followers legitimize novel practices
  - May be as few as 3-6 people

- Models of emulation throughout organization
- Interpersonal observation
Professional Norms Drive Performance

• A small empirical literature supports the use of postings as an incentive in the public administration
• China’s elite were incentivized by social pressure and professional competition for postings
• Rwanda has put in a system that fuses modern concept of performance contracts with traditional practice of public commitment called Imihigo (vow to deliver)
• Institute for State Effectiveness have had success in Afghanistan and Timor-Leste generating an internal reputation and accountability system
A Shared Service Identity: An Agenda

• Shared definition of identity in public service is lacking:
  • Is identity related to shared experience?
  • Is identity about signalling joint beliefs/actions?
  • Or is it a joint commitment to a common cause?

• Deserranno et al. are working to test the impact of shared experience in appraisal reform #RCT #Liberia

• Rasul, Rogger and Williams are testing the ability of different training methods to change service culture #RCT #Ghana

• Wantchekon et al. are testing small group ‘therapy’ #RCT #Benin
How is it all going to end?
• The task space for public administrators is distinctive to frontline officials or politicians – greater room for ambiguity

• Incentives based on professional values (getting to work on preferred topics, means of boosting an individual’s professional standing)

• Politics exists. Define appealing alternative routes for individual officials (make performance/service identity a viable career path) and a culture that communicates professional norms

• Independent data on the public administration reduces the role for distortionary politics
Bond Synopsis

The James Bond formula:

• A strong sense of autonomy
• A high mission orientation
• A vibrant approach to searching out information on a case by case basis
• A culture of strong professional relationships
KEEP CALM AND FIX THE BUREAUCRACY
The Bureaucracy Lab

- Entity that can work with government to support collection of data to expose and highlight problems specific to units/organisations/service
- Independent data collection agency that provides impartial benchmarks of agencies/countries
- A data warehouse for researchers/Bank staff/analysts to provide better analysis and advice
- A coordinator of methodological research into measurement on surveying and diagnosing public administration
Allows for more granular wage-bill modeling and projections

Baseline 1
Baseline 2
Policy 1: Modest reforms
Policy 2: Quinquenios
Policy combination: Performance + Consolidation + Outsourcing
Ethiopia: Local officials have very uneven access to computers
Ghana: Diversity in productivity

Diversity in productivity across divisions in Ghana's civil service

Source: Rasul, Rogger and Williams (2017)
Ghana: Diversity in productivity

Source: Rasul, Rogger and Williams (2017)
The Bureaucracy Lab

• Co-producing research and policy:
  • Ongoing collaboration between DEC and GGP
  • Embedding Lab ideas in government through the experience of counterparts and changing data systems
  • Publishing comparable data on the public administration at increasing scale
  • DIME approach of iterative learning with all partners

• Each step of this effort transforms our ability to diagnose, design and evaluate effective public administration reforms
We will always appreciate the support Steve Knack gave us