Research Statement

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I study the political economy of institutions and development outcomes with a focus on low- and middle-income democracies. I approach the study of formal political institutions by disaggregating institutions into their constituent actors in order to characterize routine strategic interactions both theoretically and empirically. The study of these interactions generates novel evidence of how institutions shape outcomes spanning service provision, human rights compliance, and environmental protection.

To this end, I employ both empirical analysis and formal theory to disaggregate two types of institutions: bureaucracies and political parties. Formalization of these strategic relationships links institutional structures to outcomes. These theories guide the creation of research designs to identify these effects empirically and to test and interpret the mechanisms at work. Whenever possible, I implement these research designs *within* formal political institutions. Taken together, my approach to the study of institutions generates new insights and evidence about how political institutions condition development outcomes.

This empirical work draws upon large scale original data collection, nearly two years of field-based research, and close collaboration with government partners. To facilitate this research, I have received over $1.1 million in competitive research grants and fellowships since 2014, from the National Science Foundation, USAID, Experiments in Governance in Politics (EGAP)/DFID, and the Abdul Latif Jameel Poverty Action Lab (J-PAL), among others.[1] I also serve as a Principal Investigator and Steering Committee member overseeing a separate $1.1 million EGAP/DFID Metaketa grant consisting of six coordinated field experiments in Africa, Asia, and Latin America.

In this statement, I first overview my dissertation on the distributive politics of bureaucracy. Second, I describe a set of related works on bureaucracy and political parties. Third, I present several tools that I am developing in methods papers. Finally, I conclude with a brief discussion of my research trajectory on institutions and development.

1 Dissertation: The Distributive Politics of Bureaucracy

1.1 Bureaucratic Discretion and the Provision of Public Goods

Bureaucrat-citizen interactions represent the most regular form of interaction between citizens and their governments. Street-level bureaucrats oversee service delivery in these encounters, often with substantial discretion over the distribution of public goods and services. To what extent does bureaucratic discretion shape inequality in access to public goods and services? How do these considerations shape politicians' decisions to allocate funds to public goods?

My job market paper, "Bureaucrats Driving Inequality in Access: Experimental Evidence from Colombia," examines bureaucratic bias in service provision. This bias, in turn, yields inequality in access to public services. A formal model of service provision generates two core insights about the sources of bureaucratic bias. First, I argue that citizen complaints to political principals draw political oversight of bureaucrats. Complaint-driven oversight improves service provision but also generates complaint-driven bias – a form of statistical bias. Complaint-driven biases in the provision of public services are driven by differences across citizens in their capacity to inform politicians

[1] Of this funding, only a $21,230 NSF Doctoral Dissertation Improvement Grant is joint with an advisor.

of impediments to receiving public services. Second, and in contrast to existing arguments about oversight and bureaucratic bias, I show that more monitoring by politicians may *increase* bias against disadvantaged constituents. This occurs when complaints induce oversight that overrepresents those with louder voices.

I test the implications of the model with a national-scale audit experiment of two Colombian social programs that I conducted in collaboration with Colombian national government authorities. Within phone audits, I collect measures of bureaucrats' behavior including citizen access to local government offices and information provision in response to a petition. I complement these measures with data on all Colombian civil servants and public sector contractors; more than 440,000 citizen complaints from Bogotá; and administrative records of the audited services. My empirical findings indicate that as oversight becomes less likely, bias attenuates to zero, providing evidence that observed biases are driven by oversight, not bureaucrats' tastes. Further, bias against the poor is largest in municipalities where there is substantial heterogeneity in citizens' ability to complain. These findings are consistent with complaint-driven bias, and suggest empowerment of the "quietest" citizens to complain as a way to reduce bureaucratic biases and improve service provision.

Two projects extend this line of investigation. In an empirical extension of the Colombian experiment, I leverage the national scale of the experiment to examine the distributive consequences of this bias. I propose reweighting estimates to account for the underlying municipal population distribution relative to experimental profiles. I then reweight estimates to the municipal and population level based on the sampling of municipalities in the experiment. These methods allow for novel estimation of the magnitude and consequences of inequality in bureaucratic service provision at national scale. They also serve as new applications for study of distributive politics more broadly.

A theory project examines the consequences of this bureaucratic discretion in the provision of public goods and services for electoral accountability. I incorporate a bureaucrat in a model of retrospective accountability. Preliminary results suggest that bureaucratic inefficiency and discretion deters a politician that would otherwise invest in public goods from making these investments. This reduces both public goods provision as well as voters' ability to discern good from bad types of politicians. The results provide provides new explanations for broad patterns observed in low- and middle-income democracies including incumbency disadvantage, high levels of corruption, and uneven levels of service provision.

1.2 Public Jobs as Private Goods

The second focus of the dissertation examines the politics of bureaucratic selection within the frame of distributive politics. It starts from the observation that public sector jobs represent the largest form of targeted distribution in most democracies. Nevertheless, we know least about who wins public sector jobs in precisely the places where they are most lucrative: low- and middle-income countries. In these settings, public sector wage premia – the difference between average public and private sector wages – are greatest. I argue that at the national level, politicians employ three main policy instruments to shape the composition of the bureaucracy: merit requirements/civil service reforms, affirmative action policies or quotas, and public sector wages.

In a theory paper entitled "A Model of Bureaucratic Hiring in Plural Societies" I propose a model of legislative bargaining over these policy instruments. The paper provides insights about how inequality between groups in society translate into inefficient personnel policies intended to distort the composition of the public sector for electoral gain. It offers a novel explanation for the oft-observed relationship between diversity and lower public goods provision. In the model, I consider a society composed of two groups in which citizens' politically-relevant group identities (region, ethnicity, or partisanship) are *not* necessarily independent of human capital. In a first "constitutional" stage, legislators determine whether or not to implement merit requirements and

affirmative action policies. Subsequently, in a "budget" stage, the legislature bargains over the public sector wage. The wage determines the set of eligible employees by determining whether an individual's participation constraint is satisfied. I identify a partisan distortion: legislators representing the high human capital group prefer wages higher than the efficiency-maximizing wage and vice versa. These distortions increase in the polarization in the distribution of human capital across groups. A final empirical paper will test the observable implications of the model descriptively. I am gathering original data to document cross-national variation in personnel policy. I seek to examine the timing of two types of reforms: merit reforms and civil service reforms. I then intend to test arguments about wage premia using a large set of representative surveys.

2 Current and Ongoing Research

2.1 Misgovernance and Human Rights

In a standalone project, I examine the relationship between structure of judicial institutions, incentives of judges and prosecutors, and high rates of prolonged/illegal pretrial detention (PTD). PTD represents the largest form of illegal imprisonment globally by several orders of magnitude. Yet it is not well explained by regnant human rights theories of top-down repression. In "Misgovernance and Human Rights: Experimental Evidence from Haiti," with Christopher Fariss (under review), I argue that illegal PTD emerges as a result of moral hazard problems of low-level court officials and failures to coordinate between different branches of the courts in these settings, not from a top-down intent to repress. In this sense, high rates of illegal PTD represent a manifestation of "misgovernance." We marshal evidence from Haiti, drawing upon human rights reports, 88 semi-structured interviews, administrative data, and a novel large-n randomized rollout experiment that provided legal aid to detainees. In examining the government's incentives to detain, we find no evidence of intent to repress these detainees. However, legal assistance targeted at low-level bureaucrats in the courts, leads to case acceleration and liberation. We suggest that legal assistance lowers levels of shirking and reduces of failures to coordinate between prosecutors and judges. These findings provide evidence for the theory that misgovernance, not intent to repress, undermines some forms of human rights compliance in Haiti and other developing contexts.

2.2 Deforestation and the State, Metaketa-III

Bureaucratic capacity for enforcement is determined, to some extent, by relationships between a state's agents (bureaucrats) and citizens. I study these relationships in the context of deforestation in the Amazon, one of the most salient manifestations of state weakness in Latin America. A first paper, "Public Policy Under Limited State Capacity: Evidence from Deforestation Control in the Brazilian Amazon," (R&R *American Journal of Political Science*) with Johannes Urpelainen examines temporal and spatial variation in the Brazilian state's enforcement capacity empirically. Employing a difference-in-difference research design with Brazil's Priority Municipalities program, we examine spillover effects in areas *outside* municipalities targeted for increased enforcement. We find that in areas proximate to targeted municipalities, deforestation decreased due to the program, but as distance from the border increases, deforestation increases. The findings suggest that capacity emerges in the context of a strategic relationship between state agents that enforce policies and state subjects (here deforesters).

To understand relationships between citizen and the state with respect to these issues, I developed a field experiment with Jacob Kopas (Columbia), Johannes Urpelainen, and Rainforest Foundation US. A monitoring intervention provides indigenous communities in the Peruvian Amazon with regular access to remote-sensed images of their lands to observe forest loss and training to monitor communal forests. A second treatment arm provides inducements (subsidized transportation) to state environmental authorities to investigate complaints. Analysis of this arm allows

us to understand how engagement between communities and the state impacts enforcement. We will measure outcomes in 2019 (and later) with remote-sensed satellite data, household and leader surveys, administrative environmental court records, and a novel form of blinded ethnography.

This project is one of the six projects in the Metaketa on Natural Resource Governance that studies community monitoring of natural resources in Asia, Africa, and Latin America. Since 2017, I have served a Steering Committee member for the full Metaketa with responsibility for the design, analysis, and interpretation of the meta-analysis. We anticipate that this research will yield a meta-analysis article in early 2020 targeted at *Science* or *Nature*. In addition, we are currently in negotiation for a special issue or edited volume with results from each study.

2.3 Dynamic Models of Parties

Just as my work on bureaucracy disaggregates "the bureaucracy" into constituent actors, a set of models of intraparty governance disaggregates the strategic relationships within parties, focusing on intraparty governance as a mechanism driving variation in the strategies adopted by political parties over time. A paper, "A Dynamic Model of Primaries" (R&R *Journal of Politics*) with Michael Ting and Erin York, examines the adoption of primaries in contexts in which parties choose whether to adopt primaries in a given election (decentralized adoption). We document that in contexts where decentralized primary adoption is permitted, parties choose whether or not to hold primaries election by election. To explain these patterns in a dynamic environment, we adopt an infinite horizon model of primary adoption that explores a central trade off: primaries produce more electable candidates but losing a primary deprives party elites of private goods (rents) and future elite status. We show that parties adopt primaries when electorally disadvantaged and when polarization (distance between parties) increases. Polarization heightens the costs of defeat, inducing parties to adopt primaries to improve their electoral prospects.

A second paper in this agenda, "After Defeat: Governing Party Response to Electoral Loss" (under review) with Yotam Margalit and Michael Ting studies how governing parties in advanced industrialized democracies respond to loss of power (governing status). In our empirical analyses, we find that parties disproportionately shift to the extreme after losing power. We find suggestive evidence that these shifts are mediated by the size of the party leadership selectorate. To organize these empirical findings, we introduce a dynamic model of party leadership selection and platform positioning. We analyze equilibrium of the model as a Markov chain. The long-run distribution of the Markov chain allows us to simulate the probability of platform shifts in response to electoral events (loss of power). The theoretical predictions support the empirical findings.

3 Methods Work

Four methods projects in progress draw, to different degrees, on my applied work. First, drawing from the Haiti experiment, a project considers the merits of large-n rollout designs in field settings where it is not possible to deliver a uniform treatment (a violation of the the "stable" in SUTVA). I argue that an ATE/ITT estimand that is marginalized over dosage provides more evidence on how the treatment works and is more policy-relevant than standard ITT-based approaches, which merits advocacy for the wider use of rollout designs.

Second, in a working paper with Horacio Larreguy and John Marshall, we study the causal attribution of a difference in conditional ATEs (CATEs). In general, most differences in CATEs are not identified, which has important implications for many studies that estimate heterogeneous treatment effects to examine causal mechanisms. We consider research designs that cross a natural experiment with an RCT or two natural experiments. We draw upon a re-analysis of the Progresa conditional cash transfer program on electoral outcomes in Mexico using plausibly exogenous variation in the sampling of localities leads to different saturation (exposure) of the experiment within

precincts (proportion of affected voters in a precinct). We find tentative evidence of an increase in incumbent vote share in the 2000 federal elections, but this increase is only detectable where the experiment achieved sufficient saturation within the precinct. We advocate for the estimation of a new estimand: a causally attributable difference in CATEs in these settings.

Third, I define and consider the phenomenon of endogenous units of analysis. In studies with endogeneous units of analysis, the units upon which outcomes are measured are plausibly endogenous to the treatment itself. If one were to consider the population of units assigned to treatment, this problem is analogous to having some units with undefined potential outcomes. In individually-randomized experiments with some form of endogenous selection (i.e. audit experiments without responses from all units), the problem is tractable by redefining the estimand to a survivor average causal effect and bounding an unbiased estimate of that effect. However, in cluster-randomized experiments or non-experimental applications – particularly in the case of estimates of long-run historical treatments – the challenges are much more onerous. This suggests a new limitation to causal inference in long-run natural experiments with implications for what we can uncover using standard techniques to identify treatment effects.

Finally, I am developing new methods to elicit distributional priors as a portion of my work on Metaketa-III. I quantify learning from the project in terms of Bayesian updating, or the shift from a prior to a posterior belief once the evidence (here experimental results) are revealed. While estimation of a Bayesian meta-analysis with different priors is not difficult, it is quite challenging to measure distributional priors of individuals (expert or non-expert) for two reasons. First, most people are not easily able to express their beliefs in terms of a valid probability density function (pdf) or moments thereof. Second, the interest here is to develop measures of treatment effects, which are, by definition, differences. I am developing visual tools to help individuals express beliefs about the effect of a treatment by placing weights into bins representing the probability of a given effect. With some assumptions, one can back out the prior mathematically as a valid pdf. These tools are useful for approximating the relative value of an experiment in terms of learning as well as for measuring uncertainty.

4 Future Directions

Several planned and early stage research projects demonstrate the continuation of my research on political institutions and development outcomes. In particular, I am developing a number of projects that develop the questions, connections, and data that I have cultivated in Colombia as part of the dissertation. First, a field experiment on highly targeted community policing in Medellín, Colombia with Eric Arias, Rebecca Hanson, and Dorothy Kronick studies how these interactions between citizens and street level bureaucrats affect trust and behavior of both citizens and low-level police. We posit that understanding trust as a two-sided relationship between state agents and citizens offers new insights about state building. Second, the current data on the public sector that I have collected, in consort with archival data allows me to study the colonial origins of the Latin American bureaucracies. In planned work with Pablo Querubin on Colombia, we will examine the relationship between multi-generational public sector legacies and socioeconomic inequality in Colombia. Finally, further disambiguation of the contractor- vs. civil-servant distinction posits a number of interesting questions about the impact of privatization on public-sector outputs. With Alisha Holland, I am developing possible interventions within the Colombian or Peruvian bureaucracy to examine whether interventions that reduce contractors' fears of termination and oversight can improve bureaucratic efficiency.