

State Paralysis: The effect of Compliance Uncertainty on Government Effectiveness

Pre-analysis Plan

Regulation and enforcement around the use of public funds can reduce corruption, but does it also alter incentives to spend? In this paper we investigate whether compliance uncertainty around spending rules can stifle valuable-to-the-public spending and distort policy choice. We begin by leveraging administrative data of local government accounts to establish a puzzling phenomenon: substantial shares of local budgets in Brazil are not spent despite clear needs for additional resources for public services. We also investigate how random audits, that might increase salience of compliance uncertainty, affect public spending. Then, we leverage a collaboration with the Brazilian Council of Municipal Health Secretaries (CONASEMS) to conduct an experiment with municipal health secretaries in order to shed light on the impact of compliance uncertainty on secretaries' choices. In the experiment we offer valuable-to-the-public spending plans randomly varying the degree of compliance guarantees from the audit courts.

I. Introduction

Decentralization typically goes hand-in-hand with the introduction of strict regulatory rules by the federal government in an attempt to limit moral hazard by the local bureaucracy. However, there is increasing evidence that such mechanisms often focus too narrowly on avoiding wrongdoing rather than promoting high-quality spending, generating incentives that can ultimately hurt the ability of local governments to provide local goods and services. In Brazil, the country of our study, even in the context of the COVID-19 crisis, less than 30% of emergency federal funds had been spent many months after approval.¹ In local governments, where state capacity is lower, this problem pre-dates the COVID-19 crisis.

A growing literature documents the effects of the strict enforcement of rules on bureaucratic performance.² In this project, we investigate the role of compliance uncertainty around spending rules as a driver of under-spending of existing funds by local governments in Brazil. A key mechanism for why

¹ See <https://valor.globo.com/brasil/noticia/2020/06/17/na-saude-governo-gasta-so-28-do-total-autorizado-para-despesas-emergenciais.ghtml>, accessed on June 24, 2020

² Avis, Ferraz and Finan (2018) document that random audits by the Office of the Comptroller General decrease corruption among Brazilian municipalities. Lichand and Fernandes (2019) find that an anti-corruption program based on federal audits of Brazilian municipalities drastically decreases local spending; Gerardino et al. (2019) find that public officials avoid procurement processes that are more regulated in response to audits; Bertrand et al. (2017) find negative effects of distorted incentives from bureaucratic rigidity on downstream outcomes – quite substantial in terms of GDP growth –; and Rasul and Rogger (2017) and Shin (2008) find that similar inefficiencies arise out of monitoring bureaucratic performance.

external monitoring might hurt public service delivery is compliance uncertainty: when passive waste is misinterpreted as active waste (Bandiera, Prat and Valetti, 2009), bureaucrats might decide that procuring goods and services is not worthwhile. This can stifle valuable-to-the-public spending, deteriorating the quality of public service delivery, and hurting downstream outcomes. Evidence on this mechanism is, however, difficult to generate, as the incidence of external monitoring (e.g. the probability of being audited) is not randomly assigned. What is more, experimentally varying the probability of monitoring by changing legislation would be politically complex and involves high costs. Our designed intervention introduces exogenous variation in the perception of compliance uncertainty.

Our project has three parts. First, we will leverage administrative data of local government accounts to document the budget execution problem in Brazilian municipalities. Substantial shares of local budgets in Brazil are not spent despite clear needs for additional resources for public services or to fund emergency spending in contexts of crisis. This problem became particularly salient during COVID-19, when additional emergency resources were approved but execution remain low. Secondly, we will investigate how random audits, which might increase the salience of compliance uncertainty, affect public spending. We will exploit an anti-corruption program that randomly audited local governments in the use of federally transferred funds between 2003 and 2014 in Brazil.

Finally, we will leverage a collaboration with the Brazilian Council of Municipal Health Secretaries (CONASEMS) to conduct an experiment with municipal health secretaries that introduces exogenous variation in the perception of compliance uncertainty to understand whether this mechanism affects secretaries' choices. In the experiment, we will suggest to local bureaucrats in the health sector different policies that aim to solve some of the current problems their municipalities are dealing with. These solutions will be presented along with an offer of a spending plan. It consists of a valuable strategy that facilitates the execution of resources associated with the public policy without opportunity for corruption. We will randomly vary the degree of compliance uncertainty that these plans entail. Following a Becker-DeGroot-Marschak (BDM) procedure, we will elicit the demand of local bureaucrats for the different strategies.

The project addresses the following research questions:

1. Will local bureaucrats be hesitant to execute resources without compliance guarantees from the control agency even in the absence of opportunity for corruption?
2. Can reducing uncertainty over compliance with spending regulation increase the implementation of effective health interventions?
3. Does compliance uncertainty distort spending of public funds?

II. Intervention and experimental design

Pilot

A pilot of this experiment was conducted in 2020. First, we submitted a baseline online questionnaire to health officials about their experiences in the context of the COVID-19 response, regarding perceived compliance uncertainty, their main challenges for budget execution, and public service delivery during the pandemic. The baseline survey findings are quite revealing regarding the role of compliance uncertainty for these policymakers. 63% of health officials say that “the worry about not complying with the State Courts rules” is among the top three barriers to purchasing health-related goods during the COVID pandemic.

Experiment

The experiment will be implemented in collaboration with CONASEMS³, the Brazilian Council of Municipal Health Secretaries. We will administer our survey experiment during CONASEMS conferences organized over time. These events bring together municipal health secretaries, managers, workers, and professionals from the health sector from all over Brazil. Health officials participating in these events will be invited to participate in our interactive questionnaire that seeks to understand municipalities’ demand for different strategies that facilitate the execution of resources.

First, we will describe some of the main problems that municipalities are dealing with in the health sector. We will present health officials several initiatives that aim to overcome those challenges. These solutions will be presented along with a strategy to execute resources. Then, we will ask participants about their interest in the proposed solutions. We will use the Becker-DeGroot-Marschak (BDM) method to elicit their demand. This procedure recovers the maximum true willingness to pay by eliminating strategic issues. Participants will be endowed with 1000 tickets per round, which they will use to declare interest in the strategies suggested. For each of the proposed programs, participants will choose the maximum number of tickets that they would be willing to use to be considered a priority municipality in the program. Then, the computer will randomly pick a cut number from 0 to 1000. If the number of allocated tickets is higher than the cut number, their municipality will be included in the priority list and they will have the cut number deducted from the total of their tickets. If instead, they allocated fewer tickets than the cut-off number, they will not be included in the priority municipality list for this strategy and they will not have any tickets deducted from their total tickets. The tickets not spent in the experiment can be used to participate in a lottery for an in-person course on technological innovations in public health. Spots for this course are limited and will be drawn at random. Since it is important that participants understand thoroughly the procedure before it starts, we will start with an example.

Once the first proposed policy is introduced, participants will be randomized into a treatment and control group. The treatment will increase the guarantee that the control agency will approve the accounts once the strategy to execute resources is implemented. While participants in the treatment group will be told that the spending plan was pre-verified and was interpreted as compliant with the rules by the control

³ <https://www.conasems.org.br/>

agency, health officials in the control group will be informed that the expense is subject to regular approval from the control agency. The treatment reduces the perception of compliance uncertainty associated with budget execution. This variation will let us test whether reducing uncertainty over compliance with spending regulation increase the implementation of effective health interventions by local bureaucrats in the health sector.

In the second round, we will introduce variations in both the effectiveness of the proposed policy and the source of the public funds. In Brazil, rules and oversight vary depending on the source of funding. When bureaucrats at the local level execute public policies using their own resources, they have discretion on how to use the money. However, when resources come from the federal government, they should follow extensive and ambiguous procurement regulation. In particular, we will leverage a rule that penalizes bureaucrats when the expenses are interpreted to aim for a different purpose from that foreseen in the regulation. One group of participants will be offered a more effective public policy with components of the education sector. The educational component of the public policy together with the complex regulation associated with the use of federal money will increase the compliance uncertainty for this group. With this variation, we will test whether the compliance uncertainty raised by the execution of non-discretionary and more heavily regulated funds distorts public policy decisions as it makes local secretaries switch to safer but less effective public policies. We will also randomize in the second round the information on whether the spending plan will be interpreted as compliant with the rules by the control agency. With this variation, we will test whether the distortion towards less effective public policies under non-discretionary and more heavily regulated funds can be explained by regulation risk.

Finally, to be able to interpret the magnitude of the willingness to pay by local bureaucrats, we will introduce variation in another relevant dimension for policy implementation, as a benchmark. The control group will be told the number of front-line workers the municipality will need to execute the policy. For the treatment group, this constraint will be alleviated as they will be informed that the central government will bear the cost of these workers.

The survey will conclude with a question about participants' perceptions on the effectiveness of the public policies and the perceived risk associated with them.

Our sampling frame is the 5,570 municipal health secretariats in Brazil. As a benchmark, there are around 1500 municipal health secretariats registered for the *Congresso Nacional de Secretarias Municipais de Saúde*, the 2023 annual congress of CONASEMS. Considering the estimated average duration of these events, the length of our questionnaire, and the number of enumerators, we expect to be able to survey around 400 health officials in each event.

III. Outcome variables

To document underspending in Brazilian municipalities, we use administrative data of local government accounts from FINBRA (Brazilian Dataset on Municipal Budgets) and SIOPS (Information System for Public Health Budgets). We measure the share of the municipal budget that is not spent (looking at the end-of-year financial balances as a share of local revenue) and municipal budget execution (focusing on different stages of the procurement process). We explore variation across current/capital expenditure and different sources of funds. These are also our outcome variables when we study the effect of the random audits on public spending.

The pilot provided us with survey answers by municipal health secretaries about perceived compliance uncertainty, main challenges in budget execution, and public service delivery in the context of COVID-19. Our experimental outcome variable will be participants' willingness to pay for the proposed strategies to execute resources. Through our experiment, we will elicit participants' maximum willingness to pay to receive these strategies. This will inform us about the local health officials' demand for compliance guarantees.

IV. Hypotheses and empirical analysis

Since the intervention is randomly assigned, comparing outcomes across the treatment and the control group yields causal treatment effects on the outcomes of interest (Section III). We will conduct the following comparisons to test our hypotheses.

Hypothesis 1: The compliance uncertainty raised by the execution of non-discretionary and more heavily regulated funds distorts public policy decisions.

(WTP for the effective policy with discretionary funds - WTP for the less effective policy with discretionary funds) - (WTP for the effective policy with non-discretionary funds - WTP for the less effective policy with non-discretionary funds) > 0

Hypothesis 2: The distortion towards less effective public policies can be explained by regulation risk.

(WTP for the effective policy under low regulation risk - WTP for the less effective policy under low regulation risk) - (WTP for the effective policy under high regulation risk - WTP for the less effective policy under high regulation risk) > 0

Hypothesis 3: The impact of regulatory risk is substantial relative to other implementation constraints.

We will compare the reduction in willingness to pay due to the regulatory risk with the reduction in willingness to pay due to another implementation constraint.

Due to regulatory risk: *(WTP for the effective policy under high regulation risk - WTP for the effective policy under low regulation risk) + (WTP for the less effective policy under high regulation risk - WTP for the less effective policy under low regulation risk) / 2*

Due to other implementation constraint: $(WTP \text{ for the effective policy under no implementation constraints} - WTP \text{ for the effective policy with under implementation constraints}) + (WTP \text{ for the less effective policy under no implementation constraints} - WTP \text{ for the less effective policy under implementation constraints})/2$

We will include in our estimations the following controls and fixed effects: region fixed effects, conference fixed effects, enumerator fixed effects, and municipal vaccination rates. Potential refinements include exploring heterogeneous treatment effects based on variations in the extent of control enforcement by different State Courts of Accounts, baseline budget execution rates, and whether municipalities are part of consortia that centralize public procurement procedures.

REFERENCES

- Avis, E., C. Ferraz and F. Finan (2018) “Do Government Audits Reduce Corruption? Estimating the Impacts of Exposing Corrupt Politicians,” *Journal of Political Economy*, 126(5), 1912-1964.
- Bandiera, O., A. Prat, and T. Valetti (2009). “Active and Passive Waste in Government Spending: Evidence from a Policy Experiment,” *The American Economic Review*, 99(4), pp. 1278-1308.
- Bertrand, M., R. Burgess, A. Chawla, and G. Xuo (2017). “The Costs of Bureaucratic Rigidity: Evidence from the Indian Administrative Service,” <http://www.lse.ac.uk/economics/Assets/Documents/personal-pages/robin-burgess/costs-of-bureaucratic-rigidity.pdf>.
- Bettinger, E., Cunha, N., Lichand, G., & Madeira, R. (2020). “Are Effects of Informational Interventions Driven by Salience?,” *ECON - Working Papers 350*, Department of Economics - University of Zurich.
- Gerardino, M.P., Litschig, S. and Pomeranz, D., (2017). “Can audits backfire? Evidence from public procurement in Chile,” *National Bureau of Economic Research Working Paper* No. 23978.
- Lichand, G., and G. Fernandes (2019). “The Dark Side of the Contract: Do Government Audits Reduce Corruption in the Presence of Displacement by Vendors?,” mimeo.
- Rasul, I., and D. Rogger (2018). “Management of Bureaucrats and Public Service Delivery: Evidence from the Nigerian Civil Service,” *The Economic Journal*, 128(608), pp. 413-446.;
- Shi, L. (2008) “The Limit of Oversight in Policing: Evidence from the 2001 Cincinnati Riot,” *Journal of Public Economics*, 93(1-2), pp. 99-113.