# The Pitfalls of Bottom-Up Accountability: Evidence from Brazil*

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30 July 2019

**Abstract**

We study the effect of a mobile phone application designed to increase citizens' ability to monitor public works in Brazil. The app allowed individuals to find delayed school constructions in XXX Brazilian cities and send anonymous messages to politicians requestions information about construction delays and expected completion times. Our results show that the app has a null impact on the completion times subsequently reported by the municipalities. Additionally, we find that few politicians reacted to citizens' requests. These findings suggest it is difficult to motivate bottom-up accountability in new democracies, especially when politicians are unresponsive to non-electoral pressures. This paper has implications for the design of bottom-up accountability mechanisms.

**Keywords**: accountability, Brazil, field experiment, impact evaluation, state capacity, technology

*We thank Guilherme Fasolin, Stephen Herzog, and David Skarbek for their helpful comments. We are specially grateful to the staff of Transparência Brasil for their excellent research and technical assistance. Replication data and code are available at http://github.com/umbertomignozzetti/tdp-accountability.

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# 1 Introduction

One of the key determinants of efficient public service provision is a robust accountability system (Besley and Ghatak 2003; Cameron 2004; O'Donnell 1998). In its standard definition, accountability is the process of holding authorities into account for their actions (Finer 1941; Mulgan 2000; O'Loughlin 1990). Recent studies show that accountability ensures that politicians act on behalf of voters (Freire 2010; Moncrieffe 1998), reduces the opportunities for rent-seeking and corruption (Deininger and Mpuga 2005; Wenar 2006) and increases the efficiency of the public sector (Adsera et al. 2003; Björkman and Svensson 2009). Moreover, greater accountability is associated with higher levels of economic growth, not only because it limits state discretion in the economy, but also because it promotes social cohesion and long-term investments in human capital (Benhabib and Przeworski 2010; Cox and Weingast 2018; Suebvises 2018; Ponzetto and Troiano 2018).

However, accountability systems can take many forms. One promising model for democratic oversight is *bottom-up accountability*, in which citizens receive information about the shortcomings of a given project to help them monitor and pressure underperforming public officials (Kosack and Fung 2014; Molina et al. 2016; Raffler et al. 2018). Proponents suggest bottom-up is an effective method of accountability because 1) constituents have first-hand information about the outcomes of local policies; 2) citizens have incentives to avoid corruption that directly affects them; 3) policy-makers are particularly sensitive to social punishment from their own communities (Serra 2011, 570). In a nutshell, bottom-up accountability offers a potential solution to the principal-agent dilemma in public service by aligning the interests of politicians and bureaucrats with those of the constituency they serve (Raffler et al. 2018, 2).

Here we assess the impact of a technology-driven solution that lowers the costs of evaluating public works and punishing political representatives in Brazil. The *Tá de Pé* (TDP) mobile phone application allows Brazilian citizens to go to school construction sites, check their status, and request information to public authorities. TDP users can also take pictures from delayed works and submit them to a group of trained engineers, who then evaluate the execution of the project. If the engineers classify the construction as delayed, TDP sends a message to the mayor's office asking for completion estimates and explanations about why the building is unfinished. TDP received the 2016 Google Social Impact grant, earning more than 200 thousand popular votes, and it has been online since April 2017 in 1030 Brazilian municipalities.

Contrary to our expectations, the TDP app has delivered mixed results. Two findings are positive and in line with our theoretical predictions. From August 2017 to February 2019, TDP increased the likelihood of school completion by 6.8 percent (SE = X.X, t-test = XXX). Additionally, we find that pressure over the bureaucracy increased the investments in the schools by 157.5 percent (SE = X.XX, t-test = XXX). In contrast, our results show the app had a null impact on school constructions statistics. Brazilian politicians did not respond to the citizen's requests placed via the application. Therefore, our findings raise questions about the ability of citizens to hold representatives accountable using bottom-up strategies.

# 2 The *Tá de Pé* App

# 3 Methods

## 3.1 Estimation

Our regression model is specified as follows:

$$Y_i = \alpha + \beta T_i + \gamma X_i + \theta Z_i + \epsilon_i$$

Where $i$ indexes the case. $Y_i$ in one the outcomes we described in the previous subsection. The coefficient for $\beta$ is the quantity of interest (Average Treatment Effect). $T_i$ is a binary treatment indicator in which zero denotes that $i$ is in the control group, while 1 indicates that $i$ received the treatment. $\gamma$ is a vector of fixed effects and $X_i$ is a matrix of 27 Brazilian states' fixed effects. $\theta$ is a vector of additional controls and $Z_i$ is an array of control variables for the case $i$. Lastly, $\epsilon_i$ is the error term.

We cluster the standard errors at the municipal level, as the investment decisions are taken by the mayor's offices. As robustness, we fit two extra models. First, we re-run the main model where we have the following: (i) we ran a model without controls or fixed effects; (ii) we run the models adding the control variables, which are the same as the ones used in the covariate balance tests; (iii) we run the regression model with State fixed effects. The results are in the Appendix. Second, we run the main models using inverse probability weights where we used block randomization and a one-to-one nearest neighborhood matching. We use the control variables as matching characteristics.

These robustness checks are intended to correct the imbalance caused by the minimal control group approach that we employed in all three interventions.

# 4 Results

# 5 Discussion

# 6 Conclusion

# References


Adsera, A., Boix, C., and Payne, M. (2003). Are You Being Served? Political Accountability and Quality of Government. *The Journal of Law, Economics, and Organization*, 19(2):445–490. Cited on page 2.

Benhabib, J. and Przeworski, A. (2010). Economic growth under political accountability. *International Journal of Economic Theory*, 6(1):77–95. Cited on page 2.

Besley, T. and Ghatak, M. (2003). Incentives, Choice, and Accountability in the Provision of Public Services. *Oxford Review of Economic Policy*, 19(2):235–249. Cited on page 2.

Björkman, M. and Svensson, J. (2009). Power to the People: Evidence from a Randomized Field Experiment of a Community-Based Monitoring Project in Uganda. *Quarterly Journal of Economics*, 124(2):735–769. Cited on page 2.

Cameron, W. (2004). Public Accountability: Effectiveness, Equity, Ethics. *Australian Journal of Public Administration*, 63(4):59–67. Cited on page 2.

Cox, G. W. and Weingast, B. R. (2018). Executive Constraint, Political Stability, and Economic Growth. *Comparative Political Studies*, 51(3):279–303. Cited on page 2.

Deininger, K. and Mpuga, P. (2005). Does Greater Accountability Improve the Quality of Public Service Delivery? Evidence from Uganda. *World Development*, 33(1):171–191. Cited on page 2.

Finer, H. (1941). Administrative Responsibility in Democratic Government. *Public Administration Review*, 1(4):335–350. Cited on page 2.

Freire, D. (2010). Nova Gestão Pública e Democracia no Brasil. In Erkens, R., editor, *Nova Gestão Pública*, chapter 1, pages 9–16. Friedrich Naumann Stiftung. Cited on page 2.

Kosack, S. and Fung, A. (2014). Does Transparency Improve Governance? *Annual Review of Political Science*, 17:65–87. Cited on page 2.

Molina, E., Carella, L., Pacheco, A., Cruces, G., and Gasparini, L. (2016). Community Monitoring Interventions to Curb Corruption and Increase Access and Quality of Service Delivery in Low-and Middle-Income Countries: A Systematic Review. *Campbell Systematic Reviews*, 12. Cited on page 2.

Moncrieffe, J. M. (1998). Reconceptualizing Political Accountability. *International Political Science Review*, 19(4):387–406. Cited on page 2.

Mulgan, R. (2000). 'Accountability': An Ever-Expanding Concept? *Public Administration*, 78(3):555–573. Cited on page 2.

O'Donnell, G. A. (1998). Horizontal Accountability in New Democracies. *Journal of Democracy*, 9(3):112–126. Cited on page 2.

O'Loughlin, M. G. (1990). What is Bureaucratic Accountability and How Can We Measure It? *Administration & Society*, 22(3):275–302. Cited on page 2.

Ponzetto, G. A. and Troiano, U. (2018). Social Capital, Government Expenditures and Growth. Technical report, National Bureau of Economic Research. Cited on page 2.

Raffler, P., Posner, D. N., and Parkerson, D. (2018). The Weakness of Bottom-Up Accountability: Experimental Evidence from the Ugandan Health Sector. https://bit.ly/2LPL6Nm. Cited on page 2.

Serra, D. (2011). Combining Top-Down and Bottom-Up Accountability: Evidence from a Bribery Experiment. *The Journal of Law, Economics, & Organization*, 28(3):569–587. Cited on page 2.

Suebvises, P. (2018). Social Capital, Citizen Participation in Public Administration, and Public Sector Performance in Thailand. *World Development*, 109:236–248. Cited on page 2.

Wenar, L. (2006). Accountability in International Development Aid. *Ethics & International Affairs*, 20(1):1–23. Cited on page 2.