

Motivating and monitoring public service provision¹



Introduction

The ability to recruit, elicit effort from, and retain civil servants is a central issue for any government. Poor performance of frontline civil servants (e.g., teachers, health workers, tax collectors) suggests that governments need to find and deploy more effective approaches to improve the delivery of public services that underpin human and economic development.

In this brief, we discuss preliminary findings from ongoing impact evaluations that test two types of tools - **incentives** and **information** - that policymakers can use to improve the quality of public services delivered to citizens. We will explore how policymakers can leverage incentives to select, motivate, and retain civil servants; and how information and monitoring can be used to motivate both direct employees (i.e., civil servants), and indirect employees (i.e., contractors).

¹ This Thematic Insight was prepared in February 2020 by Anya Marchenko and Leah Bridle at the Center for Effective Global Action (CEGA) as part of the Economic Development and Institutions (EDI) Programme funded by UK Aid.

TOOL #1: INCENTIVES TO MOTIVATE ENTRY AND EFFORT

Financial incentives, in this case pay-for-performance schemes, can help select, motivate, and retain high-quality civil servants.

Financial incentives are one approach to motivate civil servants, for example through pay-for-performance schemes. Research funded by EDI has found that pay-for-performance is not only effective in motivating service providers in the health and education sectors, but also encourages more effective workers to select into those jobs.

This section discusses:

- 1.1) **How can policymakers select, motivate, and retain civil servants?**
- 1.2) **Does who receives financial incentives within the organization matter?**

1.1 How can policymakers select, motivate, and retain civil servants?

Country: Rwanda

Researchers: Andrew Zeitlin, Clare Leaver, Owen Ozier, Pieter Serneels

MOTIVATION: Evidence shows that under performance pay contracts, existing civil servants put in more effort and deliver higher quality public services (Banerjee et al., 2008; Basinga et al., 2011). But instituting performance pay contracts may also affect *who* becomes a civil servant. Little is known about this second channel.

CONTEXT: Access to education has expanded rapidly in Rwanda – in 2015, school enrollment was 97%. However, the [U.K. Independent Commission for Aid Effectiveness](#) raised concerns that rapid expansion of access to education has decreased the quality of that education. In this context, recruiting and retaining high quality teachers is crucial for Rwanda. Zeitlin et al. test the impact of performance pay on both the composition and the effort of teachers in Rwanda. Partnering with the Government of Rwanda, they implement a 'pay-for-percentile' scheme for teachers that makes student performance relevant to teacher compensation, paying the top 20 percent of teachers extra above their usual salary.²

INTERVENTION: To understand if -- in addition to incentivizing current teachers to perform better -- pay for percentile induces different profiles of prospective teachers to select into the profession, the researchers implement a two-tiered design. In the first tier, they randomly assign schools to two treatments: those in which teachers were paid for their performance, or those in which they were paid a fixed wage regardless of effort (identical in expected value, i.e., on average, both sets of teachers would be paid the same). In the second tier, they implement a 'surprise' re-randomization of schools -- that is, randomly changing a second time whether the teachers in a school were paid for percentile, or paid a standard fixed wage. In this way, the authors can separately measure two effects: 1) the advertised performance pay on the composition of teachers, and 2) the effect of the performance pay actually experienced, on the effort provided by teachers.

RESULTS: Performance pay changed the composition of the workforce, drawing in individuals who were more money-motivated (based on performance in a dictator game designed to measure intrinsic motivation). One concern could be that individuals who are more motivated by money may also tend to be less pro-social or honest (e.g., Delfgaauw and Dur, 2007; Francois, 2000; Prendergast, 2007, Dal Bó, Finan and Rossi 2013).

² An RA3 EDI-funded pilot by **Labonne and Mansoor**, not discussed in this brief, has also done work on motivating teachers in Pakistan. Similarly, an RA4 case study in Uganda by Finan et al. is exploring whether rewarding top-performing primary school teachers with a future school assignment of their choice incentivizes teachers to improve their attendance and the quality of their teaching. Results are forthcoming.

However, there is no evidence for this concern in this study. **Newly recruited teachers under the performance-pay scheme attended class more often, had more effective classroom teaching practices, and were not more likely to quit during the two years of the experiment, than teachers working under normal contracts.** Instead, the authors observe statistically significant and substantial gains in teacher value added, a measure of how much a teacher increased their students' test scores in a given year. **In the second year of the intervention, the total effect of the performance pay is .21 standard deviations of pupil learning, a substantial increase as compared to other education interventions.** One quarter of this impact can be attributed to *selection* at the recruitment stage, with the remaining three-quarters attributed to increased effort from teachers.

TAKEAWAY

Zeitlin et al. show that in Rwanda, instituting a new scheme where teachers are paid to work harder at teaching students significantly boosts student learning, while also changing the characteristics of teachers who enter those jobs. Specifically, this pay-for-performance scheme draws in more individuals who are more motivated by their contract and ultimately work harder than teachers recruited and compensated under the previous status quo.

1.2 Targeting incentives within hierarchies - does it matter who gets paid for performance?

Country: Sierra Leone

Researchers: Erika Deserranno, Gianmarco León-Ciliotta, Philipp Kastrau

MOTIVATION: The previous study and related literature shows that instituting pay-for-performance helps improve job performance in public organizations (in the case of Zeitlin et al., teachers in schools). But the evidence on pay-for-performance has not, thus far, captured the dynamics of supervisors. Policymakers and public service administrators must consider not only *how much* to incentivize, but also *whom*, as pay-for-performance might have different effects depending on who gets paid across the organizational hierarchy.

Paying either the lowest or the higher workers in an organization to boost their performance might impact workers in other layers of the organization. For example, lower-level workers could potentially be either more motivated working for a more engaged and motivated supervisor or could be demotivated if they feel unfairly compensated in comparison.

CONTEXT: Sierra Leone's health system has suffered enormously from an 11-year-long civil war that ended in 2002, and from the most widespread outbreak of Ebola virus disease in history during the 2014 - 2016 period (Deserranno et al. 2020).

The Community Health Worker program was launched in 2017 by the government of Sierra Leone in response to the Ebola outbreak, with the goal of improving health service provision. Deserranno and coauthors partnered with this program to answer whether incentivizing different types of employees, across different layers of the organization, affects the quality of public service provision by workers. **This research project provides the first empirical evidence of the effect of financial incentives on different layers of a large public organization.**

Improving the quality of health provided by this program is imperative; according to 2015 WHO figures, Sierra Leone ranked 1st, 10th, 2nd, and 4th in the world in terms of the worst maternal, neonatal, infant, and child mortality rates respectively. The baseline surveys revealed that frontline health workers are predominantly male, approximately 20% are illiterate, and generally have inadequate understanding of healthcare practices they are expected to provide. Neither the frontline health workers, nor their supervisors, perform very well on a short test assessing their knowledge of healthcare practices they were trained to master. When asked 8 questions related to the official training materials given to healthcare workers and their superiors, not a single frontline health worker or supervisor –among those tested– successfully answered all 8 questions correctly.

INTERVENTION: The researchers designed three treatments (of equal cost) to incentivize healthcare workers. They offer a performance bonus either (a) only to the frontline worker, (b) only to the supervisor, or

(c) to both as a 'group incentive treatment'; the authors then compare the performance under each scheme to that of a control group of providers who continue working without performance incentives. Their experimental design allows for a direct and policy-relevant comparison of the three approaches, to understand which, if any, are most effective at improving health outcomes.

The bonuses distributed are based on how many observable health services are provided: (i) the number of pre- and post-natal household visits and (ii) the number of diseases diagnosed and either treated or referred to a health unit. Supervisors assigned to receive performance incentives (treatment group "b") receive bonuses based on how many health services the frontline workers under their supervision perform. This could motivate the supervisor to find ways, by providing better access to drugs and supplies or by observing the health worker's village visits, to encourage their subordinates to provide more healthcare services.

PRELIMINARY RESULTS: Six months after the performance-pay scheme launched, frontline workers self-report that they perform the highest number of health services (around 15 per month) *when they are the only group incentivized*. In comparison, when both supervisors and frontline workers are incentivized, frontline workers completed only 10 services, only 8 services when their supervisor is incentivized, and 4 services when there are no performance incentives. These preliminary results should be taken with caution, as frontline workers have an incentive to inflate the number of services they report. The research team is currently collecting endline data from households to corroborate these findings.

TAKEAWAY

The evidence reviewed in this section shows that pay for performance can be an effective tool to recruit and incentivize more effective civil servants, such as healthcare workers and teachers. But policymakers need to think strategically about which level of the organization to incentivize.

TOOL #2: INFORMATION TO MONITOR

Not all institutions have the resources available to introduce financial rewards or pay-for-performance schemes to motivate their workers. Can these institutions instead use information to improve the delivery of public services?

Governments may already be keeping records that could be used to improve public services. But before that information can be made useful, governments may need to digitize their records, collect data on their workers in new ways, or commission third parties to check and oversee workers. Oversight may mean making information about civil servants' performance transparent to their supervisors, designing contract terms, or auditing contractors.

This section discusses:

- 2.1) Does it matter who gets the information that is relevant to oversight?
- 2.2) How does oversight work when the public service providers are contractors?

** Better management practices, such as those studied by Dercon et al. in Ghana (as part of EDI's RA4 research stream), may also matter for improving workers' performance in the absence of financial incentives, but will not be covered in this brief.*

2.1 Who should receive information to monitor civil servants?

Country: India (Madhya Pradesh, Jharkhand and Bihar)

Researchers: Rohini Pande, Charity Troyer-Moore, Yusuf Neggers, Eric Dodge

MOTIVATION: Even where governments collect specific information about whether workers are carrying out their duties, this information may not be used to manage workers. With frontline health workers in Sierra Leone (Deserranno et al.), we see that hierarchy matters when doling out financial incentives. In this study, researchers investigate who should receive performance monitoring information to motivate civil servants to do their job better.

CONTEXT: Poor, rural households employed by public works programs rely on government wage payments. Delays in receiving these payments strain the ability of vulnerable households to meet their subsistence needs and hamper their ability to plan for the future. In India, this is a particularly dire concern for the 50 million impoverished rural households who are paid through a last-resort federal workfare program, based on the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). The delivery of wages into workers' bank accounts is frequently delayed beyond the legally mandated 15 days. In fact, workers waited an average of 23 days to receive wages in Madhya Pradesh and Jharkhand in the years 2016 and 2017. The highest levels of government and the press in India recognize the problem of payment delays.

INTERVENTION: The authors evaluate a reform that digitizes the wage payment system using a mobile app. This PayDash app aims to improve the flow of information and accountability across the organization responsible for delivering wage payments. Specifically, the researchers test whether wage payment delays decrease when low-level bureaucrats get more information through PayDash, and when the costs of monitoring by higher-level bureaucrats are reduced. In addition, the study plans to test whether providing information directly to local elected officials, who have strong electoral incentives for the MGNREGA program to function well, further reduces wage payment delays.

RESULTS: Introducing the PayDash app reduced the time required to process wage payments for workers by 24% (in areas with especially high delays). There are also significant, sizable reductions in transfer rates of subordinate officers, potentially indicating greater job satisfaction among these frontline civil servants.

The team continues to clean data collected from the intervention to further understand these results and are planning follow-up data collection in both Madhya Pradesh and Jharkhand to delve into the mechanisms underlying these impacts.

TAKEAWAY

When frontline workers know more about how well they are doing their job, and mid-level managers can more effectively oversee those workers, the quality of public service delivery increases.

2.2 How can governments best monitor contractors?

Country: Kenya

Researchers: Catherine Wolfram, Edward Miguel, Susanna Berkouwer, Eric Hsu

MOTIVATION: Many low-income country governments hire contractors to carry out large infrastructure and service delivery projects, as they often lack the capacity to directly implement such projects; at 14.5% of GDP, low-income countries have the highest share of public procurement in their economies (World Bank 2017). At the same time, low-income countries often have limited capacity to oversee public procurement projects, which can result in low-quality infrastructure and services, as well as widespread leakage of public funds. This is a particularly relevant concern in the context of Kenya Power's Last Mile Connectivity Project (LMCP).

CONTEXT: The LMCP aims to achieve nationwide universal access to electricity by 2020, a US\$400 million program providing grid connections to millions of Kenyans, the majority of whom live in rural areas and are on average poorer, less educated, and have fewer economic opportunities than the rest of Kenya.

Concerns regarding corruption within Kenya Power, materials theft, and political interference are widely thought to threaten the quality, cost, timeliness, and equity of the construction process. Evidence from budgets, invoices, and observed construction outcomes indicate extensive leakages. For example, the number of physical poles counted in the field was on average 21% lower than the number of poles listed in the invoices, and invoiced travel mileage was 33% higher than the optimal travel distances (Lee et al. 2019).

INTERVENTION: Researchers are assessing how different monitoring and contracting policies affect leakage, cost-effectiveness, and construction quality and timeliness of this nationwide infrastructure project. Working jointly with the World Bank and the African Development Bank (AfDB), researchers implement an external monitoring program (EMP) among the 42 individual contracts Kenya Power has awarded to private sector contractors, who are responsible for electrification of households in their contract region.³

The researchers design the experiment to test the impacts of:

Monitoring

The researchers notify contractors if their construction site has been randomly selected for inspection. Since contractors depend on future business through the World Bank and/or the AfDB, both within and beyond the electricity sector, knowing they have an upcoming inspection may encourage higher-quality construction.

Donor conditionality

The World Bank has stricter contracting conditions (in terms of documentation and reporting) than the AfDB. The quasi-random distribution of contracts funded by the World Bank and the AfDB allows the researchers to compare the construction outcomes generated through the two different approaches.

Political influence

In the 2017 Kenyan presidential election, most of the votes were cast for one of two parties, with each party holding large majorities in specific regions of Kenya. The LMCP was touted as one of the most important achievements of the incumbent President in the election. Because Kenya Power is a government-controlled utility, the President has the ability to direct electrification to regions where it can deliver the most votes. The researchers can test whether regional patterns of voting behavior influence the existence and quality of grid connections.

PRELIMINARY RESULTS: Construction is progressing more rapidly in areas that voted in favor of the incumbent President, which could suggest that elected officials are speeding up electrification at the sites that benefit the citizens who voted for them. Preliminary results also show announced inspections can improve the quality of service provision; construction sites where inspections were announced connected more households to the grid and performed better in assessments of the quality of electrical infrastructure installed. Researchers are collecting additional data in 2020 to corroborate these preliminary findings.

TAKEAWAY

In the context of the Last Mile Connectivity Project, auditing publicly-procured contractors improves the quality of services that they provide. In addition, elected officials appear to prioritize or direct services specifically to political supporters. In this way, providing public goods and services can act as a form of patronage.

Conclusion

Motivating public sector workers is challenging for developing countries. Both constraints on resources and the corruption prevalent in many institutions may discourage high-quality workers from becoming public servants and make effective hiring, compensation, and oversight practices difficult (though of course this will vary across contexts, and factors like the stability of earnings and job security may still attract many high-quality workers to the public sector). The EDI-funded studies presented in

³ What if citizens themselves could act as auditors for the utilities and services they receive? A pilot in the Indian state Jharkhand by **Ryan and Barnwal** explores whether customers, by double-checking whether their electricity meters were being read correctly by the official meter readers, could increase the accuracy of their electricity bills.

this Thematic Insight **show that even in low-resource contexts that incentives and information can be effectively deployed to improve public service provision.**

Specifically, we learned that pay for performance tends to improve service delivery by attracting new public servants who work harder for more pay (Zeitlin et al.). Monitoring frontline workers and contractors can reduce corruption by revealing whether they are performing as expected (Wolfram et al., Pande et al.). **We also show that hierarchy matters, and policymakers need to consider which level of the organizational hierarchy to target information and financial incentives tied to performance** (Deserranno et al., Pande et al.). In short, **incentives attract different types of workers and motivate them to work harder, and information in the right hands enables monitoring and control of those workers.**

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References

Banerjee, Abhijit V., Esther Duflo, and Rachel Glennerster (2008) 'Putting a Band-Aid on a Corpse: Incentives for Nurses in the Indian Public Health Care System'. *Journal of the European Economic Association* 6, no. 2–3 (May 2008): 487–500. doi:10.1162/JEEA.2008.6.2-3.487.

Barnwal, Prabhat and Nicholas Ryan, "Monitoring the performance of agents in public service delivery", EDI RA3 pilot.

Basinga, Paulin, Paul J. Gertler, Agnes Binagwaho, Agnes L. B. Soucat, Jennifer Sturdy, and Christel M. J. Vermeersch (2011) 'Effect on Maternal and Child Health Services in Rwanda of Payment to Primary Health-Care Providers for Performance: An Impact Evaluation'. *The Lancet* (London, England) 377, no. 9775 (23 April 2011): 1421–28. doi:10.1016/S0140-6736(11)60177-3.

- Berkouwer, Susanna, Eric Hsu, Edward Miguel, and Catherine Wolfram, "The Political Economy and Governance of Rural Electrification", EDI working paper.
- Cohen, Isabelle, Ernesto Dal Bó, Frederico Finan, Kizito Omala, David Schönholzer, "Teacher rotation and student outcomes: Experimental evidence from Uganda", EDI RA4 working paper.
- Dal Bó, Ernesto, and Frederico Finan. "At the Intersection: a Review of Institutions in Economic Development" in Baland, J-M, F. Bourguignon, J-P Platteau and T. Verdier (eds), *The Handbook of Economic Development and Institutions*, Princeton University Press, 2020.
- Dal Bó, Ernesto, Frederico Finan, and Martín A. Rossi (2013) 'Strengthening State Capabilities: The Role of Financial Incentives in the Call to Public Service'. *The Quarterly Journal of Economics* 128, no. 3 (August 2013): 1169–1218. doi:10.1093/qje/qjt008.
- Delfgaauw, Josse, and Robert Dur (2008) 'Incentives and Workers' Motivation in the Public Sector'. *The Economic Journal* 118, no. 525 (January 2008): 171–91. doi:10.1111/j.1468-0297.2007.02108.x.
- Dercon, Stefan, Imran Rasul, Daniel Rogger, and Martin J Williams, "Training for productivity: An experimental evaluation of civil service reform in Ghana", EDI RA4 working paper.
- Dodge, Eric, Yusuf Negggers, Rohini Pande, and Charity Troyer-Moore, "Using Digital Trails to Improve Management and Accountability for Public Service Delivery", EDI working paper.
- Francois, Patrick (2000) "'Public Service Motivation" as an Argument for Government Provision'. *Journal of Public Economics* 78, no. 3 (November 2000): 275–99. doi:10.1016/S0047-2727(00)00075-X.
- Labonne, Julien and Zahra Mansoor, "Beyond the Paycheck - Motivational tools for public school teachers in Pakistan", EDI RA3 pilot.
- Leaver, Clare, Owen Ozier, Pieter Serneels, and Andrew Zeitlin. "Recruitment, effort, and retention effects of performance contracts for civil servants: Experimental evidence from Rwandan primary schools", EDI working paper.
- Lee, Kenneth, Edward Miguel, and Catherine Wolfram, "Experimental Evidence on the Economics of Rural Electrification", working paper.
- León-Ciliotta, Gianmarco, Erika Deserranno, and Philipp Kastrau, "Financial Incentives in Multi-layered Organizations: Empirical Evidence from the Community Health Worker Program in Sierra Leone", EDI working paper.
- Prendergast, Canice (2007) 'The Motivation and Bias of Bureaucrats'. *American Economic Review* 97, no. 1 (March 2007): 180–96. doi:10.1257/aer.97.1.180.