



Pay for locally monitored performance? A welfare analysis for teacher attendance in Ugandan primary schools

Jacobus Cilliers^a, Ibrahim Kasirye^b, Clare Leaver^{c,d}, Pieter Serneels^{e,f}, Andrew Zeitlin^{a,g,*}

^a *McCourt School of Public Policy, Georgetown University, United States*

^b *Economic Policy Research Centre, Uganda*

^c *Blavatnik School of Government, University of Oxford, United Kingdom*

^d *Centre for Economic Policy Research, United Kingdom*

^e *School of International Development, University of East Anglia, United Kingdom*

^f *IZA, Germany*

^g *Center for Global Development, United States*

ARTICLE INFO

Article history:

Received 12 March 2017

Received in revised form 27 March 2018

Accepted 18 April 2018

Available online xxxx

JEL classification:

D61

H52

I25

I26

O15

Keywords:

Performance pay

Monitoring

Campbell's law

Field experiment

Education

Welfare

Uganda

ABSTRACT

To achieve the twin objectives of incentivizing agent performance and providing information for planning purposes, public sector organizations often rely on reports by local monitors that are costly to verify. Received wisdom has it that attaching financial incentives to these reports will result in collusion, and undermine both objectives. Simple bargaining logic, however, suggests the reverse: pay for locally monitored performance could incentivize desired behavior and improve information. To investigate this issue, we conducted a randomized controlled trial in Ugandan primary schools that explored how incentives for teachers could be designed when based on local monitoring by head teachers. Our experiment randomly varied whether head teachers' reports of teacher attendance were tied to teacher bonus payments or not. We find that local monitoring on its own is ineffective at improving teacher attendance. However, combining local monitoring with financial incentives leads to both an increase in teacher attendance (by 8 percentage points) and an improvement in the quality of information. We also observe substantial gains in pupil attainment, driven primarily by a reduction in dropouts. By placing a financial value on these enrollment gains, we demonstrate that pay for locally monitored performance passes both welfare and fiscal sustainability tests.

© 2018 Published by Elsevier B.V.

1. Introduction

Public sector organizations around the world rely on reports by local monitors that are costly to verify. Typically, these reports serve two objectives: to incentivize desired behavior, and to provide information for planning purposes. To these ends, in many education systems head teachers submit pupil enrollment and attendance figures, and schools (sometimes even pupils) receive financial transfers based on these reports. In health systems, it is common

for hospital administrators to submit performance indicators, such as the number of patient visits or hospital waiting times, and for healthcare professionals to be rewarded based on these reports. Governments use such reports not only to incentivize agents but also to make policy decisions in aggregate, for example relating to facility construction, human resource transfers, the taxation of unhealthy habits, and public health campaigns.

When stakes (whether pecuniary or reputational) are attached to these reports, there is a clear risk of misreporting. Across 21 countries in Africa, head teacher over-reporting of pupil enrollment figures increased dramatically when countries introduced school funding on a per-pupil basis (Sandefur and Glassman, 2015). Veterans Affairs hospitals in the US kept patients off official waiting lists in order to meet targeted 14-day waiting times for appointments

* Corresponding author at: Department of Public Policy, Georgetown University, Old North, Suite 100, Washington, DC 20057, United States.
E-mail address: az332@georgetown.edu (A. Zeitlin).

(VA Office of Inspector General, 2014). These distortions not only weaken incentives for providers, but also undermine governments' ability to plan and allocate resources effectively.

Administrative monitoring alone does not resolve these conflicts of interest. In Kenya, head teachers were asked to monitor teacher attendance and reward teachers based on these reports. Head teachers systematically overstated teacher presence and there was no improvement in teacher performance (Chen et al., 2001). Similarly, in India, teachers could reward their pupils for attending school and were found to manipulate student presence figures (Linden and Shastry, 2012). Environmental auditors, when hired by the firms they investigated, systematically understated the extent of pollution (Duflo et al., 2013). These examples point to collusion, with the local monitor lying about agent performance in return for a share of the reward.

Is collusion between local monitors and the targets of bureaucratic incentive schemes inevitable? Conventional wisdom suggests as much. Campbell's Law states that "the more any quantitative social indicator is used for decision making, the more subject it will be to corruption pressures and the more apt it will be to distort and corrupt the social processes it is intended to monitor", and has guided much thinking on accountability in schools and other domains of public sector organization (Campbell, 1979; Rothstein, 2011; Neal, 2013).

However, Campbell's law need not always hold. Absent transaction costs, parties interested in service delivery outcomes (parents, head teacher, teaching staff and government officials, say, in an education context) can bargain to an efficient allocation of delivery effort. Side payments allow frontline agents to internalize the social benefit of service provision, alongside their private cost of effort. As others have observed (e.g. Dixit, 1996), if service delivery outcomes are inefficiently low, then transaction costs must be preventing the interested parties from bargaining effectively. Such frictions are widespread in low-income settings: financial constraints may limit the scope for transferable utility, while physical distances and/or a lack of comprehension may impede information flows and efforts to coordinate (Banerjee et al., 2010). And observable measures of effort, such as presence, are correspondingly low (Chaudhury et al., 2006). It follows that a policy that reduces these frictions, for instance by making payments based on local monitoring and thus putting transferable resources on the table, could improve the efficiency of service delivery, precisely because of—not despite—the role played by side payments. When this is the case, pay for locally monitored performance (hereafter referred to as P4LMP) may improve learning outcomes and have positive welfare and fiscal consequences.

This paper sets out to answer three related questions at the heart of P4LMP in the context of public service delivery. Can P4LMP induce improvements in service providers' behavior? Does P4LMP reduce or improve the quality of reported information for planning purposes? And what is the overall welfare and fiscal impact?

To answer these questions, we conducted a randomized controlled trial in Ugandan public primary schools, where we explored how incentives for primary school teachers can be effectively designed when based on local monitoring by head teachers. This is an important issue in Ugandan education: teacher absenteeism levels are such that pupils in rural, northern Uganda receive only 50 effective days of instruction in the entire school year (Wane and Martin, 2013).¹ Remote school locations and limited resources for inspections make local monitors a particularly important source of information on school inputs in this context.

Our experiment lasted for three school terms and varied the existence of financial stakes attached to local monitoring reports. In one

treatment (20 schools), our *Info* arm, head teachers were requested to submit reports of teacher attendance using mobile technology. This information was then collated and relayed back to the community. The second treatment, our *Info & Bonus* arm (25 schools), was exactly the same, except that teachers received a bonus payment of US\$40,000 if they were reported as present regularly over a month. This bonus payment was equivalent to 12% of an average teacher's monthly salary and was paid monthly. Another forty schools were randomly assigned to a control. We conducted our own independent spot-checks of teacher presence (both prior to the intervention and during every term that the intervention took place), which we then compared to headteacher reports. A school survey captured basic school and teacher characteristics. We also measured learning outcomes and grade attainment for a cohort of students that we tested before and after the intervention.

The key results are as follows. P4LMP improves teacher attendance but local monitoring alone does not: there is a positive and significant treatment effect on teacher attendance in the *Info & Bonus* arm, but not in the *Info* or *Control* arms. This translates into student enrollment gains over the period of the study. Enrollment impacts are observed across all grades, but are highest in grades where school dropouts are a serious problem. While these large compositional effects preclude tight bounds on learning impacts,² they are consistent with economically substantial impacts on schooling attainment. P4LMP also improves the quality of information available to district-level administrators relative to local monitoring alone: there are significantly fewer instances of unreported absence, and no more instances of absence falsely reported as presence, in the *Info & Bonus* arm compared to the *Info* arm.

We use these results to undertake a welfare analysis of moving from unincentivized to incentivized locally monitored performance, using data from a representative household survey and Uganda Revenue Authority tax receipts to estimate welfare and fiscal consequences. We place a financial value on the expected total pupil benefit from improved teacher performance in three stages. First, we calculate the impact on net enrollment, using data reported by school head teachers and data from a tracked cohort of pupils. Second, we back out gains in grade attainment implied by the enrollment figures. Third, we combine data from the Uganda National Panel Survey with estimates from the literature on the causal return to schooling to calculate the increase in the net present value (NPV) of future lifetime earnings due to higher grade attainment. We report estimates for four scenarios based on the two data sets used to calculate enrollment gains and two discount rates. Our preferred estimate is USD 1649. This figure exceeds the school-level bonus cost of USD 597, implying that there is a welfare gain from attaching bonus payments to local monitoring reports even before we consider the value of information. Since the quality of information in fact improved with the introduction of financial incentives, we conclude that it is welfare-enhancing to pay for locally monitored teacher attendance. We also show that moving from unincentivized to incentivized local monitoring is fiscally sustainable: the sum of the additional tax revenue per school from increased lifetime earnings, combined with the amount that government has revealed it is willing to pay for improved information, exceeds the per-school bonus cost.

We interpret these results through the lens of a theoretical model of P4LMP that illustrates how attaching incentives to third-party reports can improve teacher performance and informational outcomes. To begin, we model how the preferences of both teacher (agent) and head teacher (monitor) affect teacher attendance and head-teacher monitoring and reporting, and how these equilibrium outcomes depend on the financial stakes attached to the reports. To

¹ Comparable problems exist in schooling systems across the developing world (Chaudhury et al., 2006).

² Specifically, estimated Lee (2009) bounds for the impact of P4LMP on student test scores span a zero impact.

Download English Version:

<https://daneshyari.com/en/article/11027594>

Download Persian Version:

<https://daneshyari.com/article/11027594>

[Daneshyari.com](https://daneshyari.com)