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164 schools

**Research Implemented by IPA**

Yes

# Is A Pay-For-Performance Model For Teachers Effective In Improving Educational Outcomes? Evidence From Rwanda

## Abstract

The ability to recruit, elicit effort from, and retain civil servants is a central issue for any government. Can pay-for-performance contracts successfully maintain a skilled and motivated workforce? In Rwanda, researchers partnered with the Rwanda Education Board to design a pay-for-performance contract for teachers and measure its impact on both the composition of recruited teachers and their performance. The results showed that pay-for-performance contracts had no negative impact on teacher recruitment and had a positive impact on teacher performance, especially in classroom presence and pedagogy, as well as on student learning.

## Policy Issue

The ability to recruit, elicit effort from, and retain civil servants is a central issue for any government. This is particularly true in a sector such as education, where people—that is,

human rather than physical resources—play a key role. Effective teachers generate positive effects for students through learning gains, educational attainment and higher incomes<sup>[1]</sup>, as well as social positive effects through improved skills in the labor market that drive economic growth.<sup>[2]</sup> And yet in varying contexts around the world, governments struggle to maintain a skilled and motivated teacher workforce.<sup>[3]</sup>

A pay-for-performance (P4P) compensation scheme, in which teachers are rewarded for their presence and behavior in the classroom, student learning or both, could potentially help recruit and retain effective teachers, thereby improving educational outcomes. However, critics have raised concerns that P4P could recruit people who are "in it for money," reduce efforts by eroding motivation, and fail to retain good teachers. This research aims to shed some light on these issues by conducting a randomized evaluation to analyze both the composition and performance of teachers when a pay-for-performance model is introduced.

## Context of the Evaluation

Rwanda is one of the top-performing countries in sub-Saharan Africa in terms of access to education. In 2015, net enrollment in primary education was at 97 percent. Yet, the U.K. Independent Commission for Aid Effectiveness (2012) found that the rapid expansion of primary education has led to a decline in educational outcomes. Recruiting and retaining qualified, skilled, and motivated teachers to improve education quality is a priority for Rwanda.

Several performance pay programs already exist in Rwanda's public sector, and the government has expressed interest in reforming the incentive structure to make it more evidence-based. Under the *imihigo* system, public sector employees in other sectors receive financial rewards of up to five percent of their salary based on subjective performance evaluations. One evaluation found that a pay-for-performance program for primary health care clinics in Rwanda had substantial impacts on a range of health outcomes.<sup>1</sup> In public schools, a substantial share of teachers' existing salaries is made up of bonuses that are in theory discretionary and might be linked to performance. However, in practice, all teachers receive a fixed bonus amount.

## Details of the Intervention

Researchers conducted a randomized evaluation to determine whether the implementation of the P4P contract had an impact on the composition of recruited teachers and their performance. The study took place during and after the recruitment of civil service teachers in six districts in 2016, covering more than 60 percent of the country's planned recruitment in that year.

In Rwanda, a person must have a Teacher Training College (TTC) degree to apply for a civil service job. In addition, each person specializes in one of the following areas: mathematics and science (TMS), modern languages (TML) and social sciences (TSS). In each of the six districts, there are teachers who specialize in one of the three areas, resulting in 18 possible

combinations or “markets”.

First, the researchers randomly advertised a pay-for-performance contract (P4P), a fixed-wage contract (FW) or a mixed contract in each of the 18 possible “markets”. Then the researchers randomly assigned 85 participating schools to receive a P4P contract and 79 to receive an FW contract. As a result, teachers experienced one of the following scenarios:

- Scenario A: teachers applied to jobs advertised as FW, and were placed in schools assigned to FW contracts.
- Scenario B: teachers applied to jobs advertised as P4P, and were placed in schools assigned to FW contracts.
- Scenario C: teachers applied to jobs advertised as FW, and were placed in schools assigned to P4P contracts.
- Scenario D: teachers applied to jobs advertised as P4P, and were placed in schools assigned to P4P contracts.

Under the P4P contract, the top 20 percent performance teachers within a district received 100,000 RWF (approximately 15 percent of their annual salary) in addition to their annual salary. Under the fixed wage contract (FW), all teachers received an RWF 20,000 bonus in addition to their annual salary. This bonus was paid at the same time as the performance award in the P4P contract.

Teachers who applied under one contract but were eventually offered another may have experienced disappointment or other negative feelings that could have a causal effect on their behavior. To mitigate this, all new recruits were offered an end-of-year retention bonus of RWF 80,000 in addition to their P4P or FW contract.

## Results and Policy Lessons

The pay-for-performance contract had no negative impact on teacher recruitment and had a positive impact on teacher performance – especially in classroom presence and pedagogy– as well as on student learning.

**Recruitment:** The advertising of a pay-for-performance contract had no impact on the quality of teachers applying for the job, as measured by Teacher Training College exam scores. Although the researchers found that advertising a P4P contract attracted teachers with lower intrinsic motivation, this did not affect teachers’ ability to promote student learning.

**Performance:** Teachers working under P4P contracts elicited better performance from their students than teachers working under FW contracts. Learning gains generated by those who worked under P4P contracts may have been driven, at least partly, by improved teacher presence and pedagogy. Teacher presence was 8 percentage points higher among those working under a P4P contract than those working under an FW contract. In addition, teachers who worked under P4P were more effective in their classroom practices than teachers who

worked under FW by 0.10 points, as measured on a 4-point scale.

**Retention:** Teachers working under P4P contracts were no more likely to quit during the two years of the study than teachers working under FW contracts.

**Job satisfaction:** Teachers who worked under P4P contracts did not have any lower job satisfaction or positive / negative affect than teachers working under FW contracts. These results support the view that pay-for-performance can improve effort, while at the same time dissipating fears of harmful effects on selection and retention. Given the positive results, researchers are now working with the government to scale this intervention.

## Sources

<sup>[1]</sup> (Chetty, Friedman and Rockoff, 2014a,b)

<sup>[2]</sup> (Hanushek and Woessmann, 2012)

<sup>[3]</sup> (Bold et al., 2017).

<sup>[4]</sup> National Institute of Statistics Rwanda. Annual Statistical Yearbook. 2020.  
<https://www.statistics.gov.rw/publication/statistical-yearbook-2020>

<sup>[5]</sup> Ibid.

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