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# Recruitment, effort, and retention effects of performance contracts for civil servants: Experimental evidence from Rwandan primary schools

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PRELIMINARY AND INCOMPLETE

## Abstract

Accumulating evidence suggests that pay-for-performance (P4P) contracts can elicit greater effort from incumbent civil servants, but less is known about how these contracts affect the composition of the public sector workforce. We provide the first experimental evidence of the impact of P4P on both the compositional and effort margins. In partnership with the Government of Rwanda, we implemented a ‘pay-for-performance’ scheme (Barbey and Neal 2012) in a novel two-tier experimental design. In the first tier, we randomly assigned teacher labor markets to either P4P or equivalent fixed-wage contracts. In the second tier, we implemented a ‘surprise’ school-level re-randomization, allowing us to separately identify the compositional effects of *advertised* P4P contracts and the effort effects of *experienced* P4P contracts. Our pre-analysis plan sets out a theoretical framework that helps to define a set of hypotheses, and conducts simulations on blinded data to develop high-powered tests. We find that P4P contracts did change the composition of the teaching workforce, drawing in individuals who were more money-oriented, as measured by a framed Dictator Game. But these recruits were not less effective teachers—if anything the reverse. On the effort margin, we observe substantial and statistically significant gains in teacher value added, mirrored in positive effects on teacher presence and observed pedagogy in the classroom. In Year 2, we estimate the total effect of P4P, across compositional and effort margins, to be 0.21 standard deviations of pupil learning. One quarter of this impact can be attributed to selection at the recruitment stage, with the remaining three-quarters arising from increased effort.

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# Recruitment, effort, and retention effects of performance contracts for civil servants: Experimental evidence from Rwandan primary schools

Accumulating evidence suggests that pay-for-performance (P4P) contracts can elicit greater effort from incumbent civil servants, but less is known about how these contracts affect the

composition of the public sector workforce. We provide the first experimental evidence of the impact of P4P on both the compositional and effort margins. In partnership with the Government of Rwanda, we implemented a ‘pay-for-percentile’ scheme (Barlevy and Neal 2012) in a novel two-tier experimental design. In the first tier, we randomly assigned teacher labor markets to either P4P or equivalent fixed-wage contracts. In the second tier, we implemented a ‘surprise’, school-level re-randomization, allowing us to separately identify the compositional effects of advertised P4P contracts and the effort effects of experienced P4P contracts. Our pre-analysis plan sets out a theoretical framework that helps to define a set of hypotheses, and conducts simulations on blinded data to develop high-powered tests. We find that P4P contracts did change the composition of the teaching workforce, drawing in individuals who were more money-oriented, as measured by a framed Dictator Game. But these recruits were not less effective teachers—if anything the reverse. On the effort margin, we observe substantial and statistically significant gains in teacher value added, mirrored in positive effects on teacher presence and observed pedagogy in the classroom. In Year 2, we estimate the total effect of P4P, across compositional and effort margins, to be 0.21 standard deviations of pupil learning. One quarter of this impact can be attributed to selection at the recruitment stage, with the remaining three-quarters arising from increased effort.

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