The Effects of Performance Pay among Private School Teachers in Pakistan

Sector(s): Education, Political Economy and Governance

Sample: 243 schools

Initiative(s): Post-Primary Education Initiative (PPE)

Target group: Primary schools Secondary schools Teachers School administrators

Outcome of interest: Student learning Provider Performance Service provider performance

Intervention type: Incentives Monetary incentives Performance-based pay

Partner organization(s): UK International Development, Centre for Economic Research in Pakistan, Weiss Foundation, Beaconhouse School System

It is unclear if performance-based incentives attract and retain good teachers, nor is it clear what types of incentive schemes work best in improving teacher performance. Researchers worked with a large private school network in Pakistan to evaluate the effects of performance raises on outcomes such as teacher behavior, student learning, and student socioemotional development. They found that, compared to flat payments, performance pay attracted more high-quality teachers. In terms of types of performance pay, those based on objective and subjective measures (supervisor observations and student test scores, respectively) were equally effective at increasing student test scores, but objective performance pay negatively affected student socioemotional development, whereas subjective performance pay had a small positive effect.

Policy issue

Teacher quality is a widespread problem in many low-income countries and is known to have significant, enduring, and varied detrimental effects on students. However, schools face institutional and informational limitations that restrict their ability to identify and retain effective teachers while dismissing underperforming ones. Other industries have implemented schemes that pay employees based on performance, with the goal of attracting high-quality employees and detracting low-quality employees. There is little evidence to demonstrate the effectiveness of performance-based pay on motivating teacher behavior.

It is also unclear what types of performance pay schemes work best. For instance, objective performance schemes where teachers' salaries are tied to measurable student outcomes, such as standardized test scores, have gained popularity in both high-income and in low- and middle-income countries over the past decade. However, there are mixed results on the efficacy of this type of incentive pay. Subjective performance pay, in which the supervisor determines the incentive amount based on her own observations of teacher performance, is another common type of incentive in many sectors. However, concerns about favoritism could limit the effectiveness of this type of incentive scheme. Can performance-based incentives at schools improve teacher quality in a cost-effective way? What are the relative effects of subjective performance pay versus objective incentive schemes on student outcomes?

Context of the evaluation

In Pakistan, teachers have an attendance rate of nearly 90 percent, yet 20 percent of fifth-grade students are unable to read a sentence in the local language or perform a two-digit subtraction problem.[1], Further, past research in Pakistani schools

demonstrates an association between teacher quality and student test scores.[2]

By the end of 2005, one in every three primary school-enrolled children in Pakistan was enrolled in private school. The rise in private school enrollment is attributed in part to better learning and lower enrollment fees; test scores of children enrolled in private schools tend to be higher compared to public schools, and the enrollment fee per student can much lower compared to public schools.[3]



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Details of the intervention

Researchers partnered with a large private school network in Pakistan to evaluate the impacts of performance pay relative to flat wage pay in 243 schools. These were private schools, with students primarily from upper-middle-class and upper-class backgrounds. The teachers in these schools were mostly female (81 percent) and tended to be younger and more educated but less experienced than their public-school counterparts. Yearly teacher turnover was nearly 30 percent.

Researchers first offered teachers the opportunity to choose their contract for the coming year, selecting between contracts offering a flat wage versus a performance-based raise, but clarified that teachers would not necessarily receive the contract they preferred. They also elicited teachers' beliefs about their quality of teaching through a metric termed value-added and their level of aversion to risk. Teachers' choices were implemented in a randomly selected subset of schools. Researchers randomized contracts across the remaining schools regardless of teacher preferences. Teachers received one of the following contracts based on the group to which their school was assigned.

1. Flat raise schools: All teachers in this group received a five percent raise irrespective of their performance. These teachers were compared to teachers who received subjective or objective performance pay.
2. Performance-based raise schools:
    1. Subjective performance pay schools: Teachers were evaluated at the end of the calendar year by their managers, who had had discretion to choose how to assess the teachers, but were required to delineate 4-10 evaluation criteria to ensure that teachers were aware of what was expected of them. Such criteria included enhancing behavioral management, supporting administrative tasks, participating in afterschool event planning, and improving students' oral English proficiency
    2. Objective performance pay schools: Teachers received a raise based on how much their students' test scores improved compared to fellow students who started at similar achievement levels. Within each school, teachers were ranked against each other based on the average performance of their students and received a raise of 0 – 10 percent based on their rank.

Researchers collected data on teachers' school choices, quality of teaching, student test scores, and student socio-emotional development. The researchers collected a wide range of data sources, including administrative records, surveys of teachers and principals at both the beginning and end of the study, student tests and surveys at the end of the study, and detailed observations of over 7,000 teachers and 50,000 students. Using these data, they assessed teacher value-added and effort, as well as teachers' beliefs about their own quality and principal evaluations of teachers. The study also measured several aspects of teacher preferences and characteristics, including risk-taking, pro-social behavior, and career goals.

Results and policy lessons

Teachers who chose performance pay contracts had higher value-add and the composition of teachers in schools assigned to performance pay improved after one year, as teachers with higher value-add moved to schools offering performance. Subjective and objective performance pay schemes were equally effective at increasing student test scores. However, objective performance pay negatively affected students' love of learning, whereas subjective incentives had a slight positive effect. This implies that although providing objective incentives resulted in higher test scores, it came at the expense of enjoying school. On the other hand, using subjective incentives achieved the same level of academic progress without the negative effects on student enjoyment.

Student Test Scores

Teachers who indicated that they would prefer performance pay before the intervention increased student test scores by nine times the amount of those who chose flat pay. Subjective and objective contracts were equally effective at increasing test scores, with both increasing scores by 0.09 SD.

Socio-emotional development

Subjective incentives resulted in a 0.05 SD higher average score than objective incentives on overall socio-emotional skills. Objective incentives negatively affected student socio-emotional development, including a decrease in love of learning and an increased likelihood of students saying they wanted to change schools.

Teacher performance

Teachers who chose performance pay over flat raise contracts had a 0.05 SD value-add at baseline. Additionally, the composition of teachers in schools assigned to performance pay was better after one year; compared to the schools' initial compositions, the average value-add of teachers was 0.019 SD lower in flat pay schools and 0.003 SD higher in performance pay schools after one year. These effects were mostly driven by high value-add teachers moving from flat rate to performance pay schools.

Classroom practices

When examining teacher behavior, it was observed that subjective incentives resulted in a higher focus on addressing individual student needs. On the other hand, objective performance-based pay resulted in a less favorable classroom environment (with increased instances of raised voices and stricter discipline), more teacher-led instruction (with less emphasis on student-centered approaches), and increased emphasis on teaching to meet test requirements. It is noteworthy that these effects on teacher behavior were primarily observed among teachers who did not opt for performance-based pay prior to contract assignments.

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1. ASER, Annual Status of Education Report Pakistan 2019.

2. Bau, Natalie and Jishnu Das, “Teacher Value Added in a Low-Income Country,” American Economic Journal: Economic Policy, February 2020, 12 (1), 62–96.

3. Andrabi, Tahir, Natalie Bau, Jishnu Das, and Asim Khwaja. "Private schooling, learning, and civic values in a low-income country." Working paper (2020)