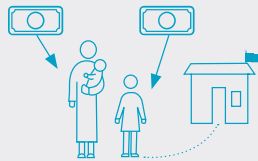


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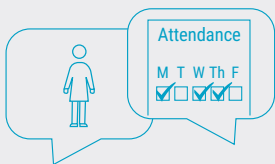
# Can Information and Incentives Increase School Attendance?

MARCH 2018

REACH funded an evaluation that compared the effectiveness of three different interventions designed to increase school attendance among grade six and grade seven girls.



Results-based financing has been used to incentivize parents and students to improve school attendance and achievement.



More research is needed to identify the role that information sharing plays.

*The Results in Education for All Children (REACH) Trust Fund supports and disseminates research on the impact of results-based financing on learning outcomes. The EVIDENCE series highlights REACH grants around the world to provide empirical evidence and operational lessons helpful in the design and implementation of successful performance-based programs.*

Although more children than ever are starting school in Africa, in many countries dropout rates remain high and few students complete their schooling, especially girls. Results-based financing (RBF) has been used in many developing countries to attempt to incentivize various stakeholders such as students, parents, and teachers to achieve better results. RBF mechanisms work by linking financial incentives to measurable results, for example school attendance, dropout rates, or student test scores. Conditional cash transfers (CCTs) are one such

RBF mechanism that has been used in many developing countries to incentivize individuals to take actions that they may not otherwise take, such as attending school or using preventive health services. CCTs work by giving individuals a cash transfer, conditional on verification that they have completed the prescribed behavior. CCTs have been shown to be effective in increasing school attendance in many countries, but their cost and complexity makes them difficult to manage for countries with limited administrative and budgetary capacity.

The Results in Education for All Children (REACH) Trust Fund at the World Bank funded an evaluation that compared the effectiveness of three different interventions designed to increase school attendance among girls enrolled in grades six and seven in Mozambique. The first intervention provided girls with vouchers that



were conditional on the girls maintaining a high level of school attendance. The second intervention provided parents with a cash transfer conditional on their daughters' attending school. The third simply provided students' parents with weekly report cards detailing their daughters' attendance. These three interventions were designed to explore (a) whether providing information to improve parental monitoring could be as effective in increasing school attendance as financial incentives and (b) whether financial incentives were more effective when given directly to students or to their parents.

This evaluation found that all three interventions significantly increased girls' school attendance. Providing information alone had a substantial effect, which was not significantly different from the impact of giving

financial incentives to parents. Given the low cost of providing information and the ease with which such an initiative could be scaled up, this may be a promising policy option for countries with limited capacity. In addition, providing financial incentives directly to students was at least as effective as providing incentives of equal monetary value to their parents. Furthermore, providing incentives to students was nearly twice as effective as providing information alone.

Both the information intervention and the intervention that provided students with incentives improved math test scores significantly, although providing the parents with incentives did not. This suggests that increased attendance can increase cognitive skills under certain conditions, but that CCTs targeted to parents may have counterproductive effects.



In 2016, only  
**18%**  
of children  
enrolled in  
secondary school

## CONTEXT

Despite large increases in enrollment rates in lower primary school grades, most children in Mozambique are still not completing primary education. In 2016 only 45 percent of girls and 51 percent of boys completed primary school, and only 18 percent of both girls and boys enrolled in secondary school, even though net enrollment for grades one to seven exceeded 85 percent for both girls and boys. Rural students are also less likely to complete primary school. In rural areas where most children live, only 60 percent of children who start lower primary school finish by the age of 19, even though the intended age is 10

years old. For upper primary school where the intended completion age is 13 years old, the completion rate in rural areas by age 19 is only 8 percent for girls and 14 percent for boys.<sup>1</sup> The slower progress for girls is problematic both from an equity point of view and because of the positive externalities from women's schooling on households and society.

This study was conducted in Manica, a province located in the Center Region of Mozambique, which is home to 7.5 percent of the country's population. It is close to the national average on a number of indicators, including population density, poverty rate, and the primary school dropout rate.<sup>2/3</sup>

## WHY WAS THE INTERVENTION CHOSEN?

CCTs are one of the most important and effective policy tools for increasing school enrollment and attendance and reducing dropout rates. While as of 2009 CCTs had been implemented in at least 29 developing countries and in nearly all cases have been effective in increasing school attendance,<sup>4</sup> there are several unanswered questions about the optimal design of these financial incentives.

One highly debated question is about the role that conditionality plays in the effectiveness of these transfers. While the requirement (or condition) to attend school in order to receive the cash transfer has the effect of increasing parents' or students' returns to education, it also has the more subtle benefit of helping parents to monitor their children's attendance. Although parents cannot directly observe their children's attendance, they can infer it from the fact that they receive a conditional transfer. Parents have been found to value this type of monitoring, as in Brazil where a CCT program reduced the information gap between parents and children and enabled parents to better enforce attendance.<sup>5</sup> This raises the question of *whether the information component of CCTs could be an effective policy tool in its own right, even without financial incentives*. Initial qualitative surveys in Manica found that both girls and their parents take part in the decision about whether to attend school and that parents have incomplete information on their child's school attendance. Eighty percent of parents said that they

would value a weekly report showing their daughter's attendance, and 98 percent of those said that the report would improve their ability to monitor their child's attendance.

In addition, there has been little research on the household dynamics that drive decisions about whether children attend school and on how financial incentives may affect these decisions. By shedding light on the way in which schooling decisions are made by both parents and children within the household, this study can help to inform the optimal design of CCT programs, particularly by answering the question of *whether transfers are more effective when given to parents or students*. Children and parents may have different views on when it is optimal for the children to invest in their human capital by attending school. A study in Malawi found that increasing the amount of cash transferred to the household, either to the parents or to the child, did not increase the effectiveness of a CCT incentivizing attendance.<sup>6</sup> Another study in India that incentivized students' performance on a literacy test rather than their attendance found no evidence that the identity of the incentive recipient matters on average, but shows that parent incentives are more effective relative to child incentives in cases where parents have greater abilities to teach and motivate their children.<sup>7</sup> However, no study has investigated the relative effectiveness of giving transfers exclusively to children or to parents to incentivize attendance.



**This study can help to inform the optimal design of CCT programs, particularly by answering the question of whether transfers are more effective when given to parents or students.**

## HOW DID THE INTERVENTION WORK?

One hundred and seventy-three “complete” primary schools (schools offering all seven grades of primary education) were randomized into four groups: three treatment groups and one control group. The schools in each of the three intervention groups were provided with attendance report cards for each girl in senior primary school (grades six and seven). These simple report cards used a coding that could be easily understood even by illiterate parents: the teacher drew a circle for each day a girl attended

### Randomized Control Trial

(173 schools participated)

#### Treatment Group 1

Attendance report card + vouchers given to girls with 90 percent attendance

#### Treatment Group 2

Attendance report card + cash given to parents of girls with 90 percent attendance

#### Treatment Group 3

Attendance report card only

#### Control Group

No interventions used

school and a cross for each day missed. The report cards were given to the girls at the end of each week to show their parents and bring them back to school the following week. In cases where girls or parents earned financial incentives for attendance, these report cards were used to verify attendance.

Schools were randomly assigned to one of the four groups. In schools in the first group in addition to the report cards, girls who achieved a 90 percent attendance rate received money-equivalent vouchers that could be used to buy items such as school uniforms, shoes, and bags. The vouchers were worth roughly US\$8 per trimester or about US\$25 annually, which is equivalent to eight times the daily wage of an agricultural worker in Manica. In the schools in the second group, in addition to the report cards, parents whose daughters achieved a 90 percent attendance rate received the same amount of cash (around US\$25 a year), which could be used to purchase the same items. In the schools in the third group, the girls and their parents received the report cards with no financial incentive. Finally, in the control group schools, girls received no attendance report cards or incentives. Girls in all four groups were monitored for attendance using independent unannounced “spot checks” conducted twice per trimester by Intercampus, Lda, a survey firm.

The aim of the intervention was to compare the proportion of enrolled girls who were in attendance at each school in each group, as measured by the independent

spot checks. Crucially, financial incentives were paid only on the basis of the report cards and not the spot checks to minimize the likelihood that the spot check data would be manipulated, a common problem when RFB incentives are linked directly to the main outcome of interest. Other outcomes that the intervention compared among the four groups were school enrollment rates, students’ test scores, child autonomy and empowerment (whether girls are able to keep their earnings and whether they are involved in decisions concerning their healthcare, school attendance, or work outside the house), the quality of the parents’ attendance monitoring, and girls’ marital status. These outcomes were measured by fielding baseline and endline surveys to each household, which also asked for self-reported information about expected returns to education, students’ cognitive tests, and household expenditures on girls’ personal items.

The intervention was announced in February 2016 at the beginning of the school year. The implementing NGO, a well-known development organization called Magariro, visited each school and informed school staff, students, and parents that there would be unannounced visits to collect attendance data one to three times per trimester. In addition, for the schools in the three treatment groups, Magariro explained the relevant intervention, distributed the attendance report cards, and answered questions. The transfers were distributed at the end of each trimester for the girls who met the 90 percent condition.



## WHAT WERE THE RESULTS?

**Compared to the control group, all three treatment interventions significantly increased school attendance.** In the control group schools, 60.7 percent of enrolled girls were in attendance during the independent spot checks. In comparison, attendance was 4.5 percentage points higher in schools where only information was provided, 6.0 percentage points higher in schools where parents received cash incentives, and 8.3 percentage points higher in schools where girls received vouchers. The impact of all three interventions was significant at the 5 percent level.

**Providing information alone had a significant effect on school attendance, even without any financial incentive.** The estimated effect on attendance of providing report cards to parents was roughly 75 percent as large as the effect of giving parents financial incentives, and this difference was not statistically significant. This suggests

that providing information as part of a CCT can have a substantial effect on school attendance, independent of any financial incentive.

**Incentivizing students directly was at least as effective as incentivizing parents.** The estimated effect of incentivizing girls was 38 percent larger than the effect of incentivizing parents, although with the available sample size this difference was not statistically significant. Furthermore, incentivizing girls directly was nearly twice as effective as simply providing information, and this difference was significant. Since children have perfect knowledge of whether they attend school on any given day but parents do not, an incentive given to students may have been more effective because it was a direct inducement to attend school whereas the giving an incentive of the same size to their parents could only induce them to try to compel their children to attend school, with less than perfect success.

**Student test scores were improved by the girls' incentives and the information intervention but not by parents' incentives.** While giving CCTs to parents raises students' attendance, these gains in attendance do not translate into gains in their test scores. This finding is consistent with many other research studies on the same question. In contrast, both the information intervention and the girls' incentives increased student test scores on the Annual Status of Education Report (ASER) math test by 8.3 percent and 9.3 percent respectively. The magnitude of these learning gains was large, roughly equivalent to half of the difference in scores between students completing grade six and those completing grade five. These results suggest that increasing attendance is beneficial for the development of students' cognitive skills but that CCTs targeted to parents may have counterproductive effects.

**The interventions had no significant effect on school enrollment rates, girls' marital status, girls' autonomy, or teacher absenteeism.**

Self-reported school enrollment from the household survey started from a very high baseline rate of 95 percent. Therefore, it is not surprising that this intervention had little effect on enrollment decisions, particularly given the small size of the transfers and the fact that the intervention was announced close to the start of the school year. The information methodology and the parents' CCT both had a large but statistically insignificant effect on the likelihood of girl students getting married. These results suggest that better parental monitoring may help to prevent early marriage while girls are in school, but they are too imprecisely estimated to make it possible to draw definitive conclusions.

These interventions had no effect on the self-reported quality of parents' monitoring their daughters' attendance, which

is not surprising given the low variation in parents' responses to these survey questions. Ninety-seven percent of parents claimed that they knew whether their child was at school each day, and only 6 percent answered that there had ever been a day when they thought their daughter was at school but actually she was not. It is likely that this reflects some unwillingness by parents to acknowledge their lack of control over their children, especially given that 80 percent of parents said that attendance monitoring would be useful. A more objective measure of the quality of parents' information about their daughters' school attendance is the correlation between the number of absences reported by the parents during a given month and whether the girl was absent during an independent attendance spot check at the school during the same month. In control schools, the correlation between these two variables was only 20 percent of what would be predicted under perfect information and was

statistically insignificant. In contrast, in all treatment groups, the number of absences reported by the parents was positively correlated with the probability of being absent on the day of an independent attendance spot check, and the size of this correlation implied large increases in parental information—from 46 percent (in the information treatment group) to 72 percent (in the parents' CCT group) of what would be predicted under perfect information.

**None of these interventions had an effect on measures of girls' autonomy and empowerment.**

Lastly, although teachers were given small amounts of cellphone credit as compensation for the extra work of completing the student attendance report cards, these three methodologies had no effect on teacher absenteeism. This indicates that their impact on attendance and test scores was driven by the behavior of the parents or the children and not by differences in school environments.



**The results confirm those from other studies that have found that even small incentives can have substantial effects, which helps to ensure the financial sustainability of such transfer programs.**

## WHAT WERE THE LESSONS LEARNED?

One critical consideration in any social transfer program is determining the size of the financial incentive. In this study, the amount given to either girls or their parents was relatively small, up to a maximum of roughly US\$25 annually. This amount was chosen in order to provide sufficient incentives within the range of other CCTs throughout the world while still ensuring sustainability within the Mozambican government's budget constraint. The results confirm those from other studies that have found that even small incentives can have substantial effects, which helps to ensure the financial sustainability of such transfer programs.<sup>9</sup>

In addition, to ensure comparability between the two types of financial incentive, it was critical that the vouchers given to the girls were of roughly the same value as the cash transfers given to the parents. The parents' cash transfers were equal to the value of the girls' vouchers, and the prices of the items to be purchased were the same whether they were paid for with cash or vouchers. Furthermore, these items were chosen based on information collected in focus group interviews with girls aged between 11 and 15 and their parents in Manica. The respondents consistently mentioned these items as the ones most likely to incentivize girls to attend school regularly and those that the girls would be able to keep for themselves, without being forced to share them with others. In

qualitative surveys no girl said she was forced to give or sell her voucher to someone else. The findings should, therefore, be interpreted in light of the fact that the vouchers remained with the girls themselves and were valued by them, suggesting that the choice of the recipient of the incentive was meaningful.

Nevertheless, even though the two incentives had the same monetary value, they may not have been equally valued by their recipients. Because the vouchers could only be used to purchase certain items whereas the cash transfers could be used to buy anything, the more fungible cash may have been perceived as more valuable. Furthermore, the vouchers had a negative effect on the purchases of other goods, as parents presumably substituted their own spending away from these children. Therefore, the net effect of the vouchers on girls' disposable income was only 80 percent of the effect of the cash transfers on the parents' income. On the other hand, financial incentives may be more effective when given directly to children because they comprise a larger proportion of children's income. Policymakers should be careful to consider all of these factors and unintended consequences when determining the size and recipient of financial incentives and should find out what incentivizes recipients.

The designers of the intervention took care to rule out any alternative interpretations of the outcomes of issuing attendance report cards. First, no public ceremonies were held to acknowledge girls with high attendance nor was there

a stated attendance target per student in the information only treatment group. This was done to minimize any "public recognition" incentive. Similarly, the possibility of a "salience" effect (in which parents and children become more aware of the importance of school attendance) was minimized by introducing the report cards without any accompanying message about the importance of school attendance. Furthermore, independent attendance spot checks were carried out in all schools, including those in the control group (although the information gathered during the spot checks was not given to parents), so if there was a salience effect, it is likely to have affected students in control schools as well. Nevertheless, it is possible that the total effect of the report cards may have been greater if they had in fact been accompanied by recognition, messages about the importance of school attendance, and/or by more extensive attendance monitoring. It is important for policymakers to disentangle these potential drivers and for these questions could be explored in future research to find the optimal combination of design features to maximize the impact of information and financial incentives on school attendance.

Lastly, buy-in and support from both teachers and study surveyors was critical in collecting student attendance data and validating its quality and reliability. Therefore, similar initiatives in the future should ensure that teachers and other stakeholders are equally committed to providing reliable attendance data that can inform parents and incentivize students.

Students have agency in decisions regarding their own schooling and incentivizing them directly may be more effective than incentivizing their parents.

## CONCLUSION

One of the most important innovations in social policy in the last few decades has been the introduction of conditional cash transfers given to parents to incentivize prescribed behaviors such as school attendance. However, this study found that students as young as those in grade six have agency in decisions regarding their own schooling and that incentivizing students directly may be more effective than incentivizing their parents. This finding is an important lesson about how best to design such financial incentives. Furthermore, simply providing information to

parents about children's attendance can increase attendance substantially, although not as much as giving financial incentives to students. Given that providing information is less costly and complex than making financial transfers, this may be a promising and easily scalable policy option for governments in developing countries who lack the administrative and budgetary capacity to implement a conditional cash transfer program. Lastly, while providing cash transfers to parents does not translate into test score gains, both the information only methodology and giving incentives directly to girls increased math test scores, with an effect equivalent to roughly half a year of learning.

- 1 World Bank Education Statistics Database, 2016.
- 2 INE (2015). Statistics and Social Indicators (2013–2014). National Institute of Statistics, Maputo.
- 3 MPD-DNEAP (2016). *Poverty and Wellbeing in Mozambique: Fourth National Poverty Assessment*, Ministry of Planning and Development, National Directory of Studies and Policy Analysis, Maputo.
- 4 Fiszbein, Ariel and Norbert Schady, eds. (2009). *Conditional Cash Transfers: Reducing Present and Future Poverty*. World Bank Publications, Washington, DC, USA.
- 5 Bursztyn, Leonardo and Lucas C. Coffman (2012). "The Schooling Decision: Family Preferences, Intergenerational Conflict, and Moral Hazard in the Brazilian Favelas." *Journal of Political Economy*, 120(3), pp.359–397.
- 6 Baird, Sarah, Craig McIntosh, and Berk Ozler (2011). "Cash or Condition? Evidence from a Cash Transfer Experiment." *The Quarterly Journal of Economics*, 126(4), pp. 1709–1753.
- 7 Berry, James (2015). "Child Control in Education Decisions. An Evaluation of Targeted Incentives to Learn in India." *Journal of Human Resources* 50.4: 1051–1080.
- 8 Fiszbein, Ariel and Norbert Schady, eds. (2009). *Conditional Cash Transfers: Reducing Present and Future Poverty*. World Bank Publications, Washington, DC, USA.

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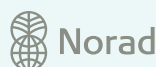
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