Reducing costs to increase school participation

Last updated: Februari 2019

Programs that reduce the costs of education increase student enrollment and attendance. However, there is considerable variation in the cost effectiveness of different programs.



A classroom in Kenya. Photo: Aude Guerrucci | J-PAL

Summary

From 2000 to 2015, the portion of primary and secondary school age children enrolled in school worldwide rose from 83 to 91 percent and 55 to 65 percent, respectively [1]. However, pockets of low enrollment remain and millions of children who are enrolled are not attending regularly. Education requires an investment of time, money, and effort with many benefits coming far in the future. A range of programs have been evaluated which aim to reduce the financial and non-financial costs of attending school.

J-PAL recently reviewed 31 randomized evaluations of programs which sought to increase student attendance by reducing costs. Lowering school fees, providing cash transfers and small incentives to parents, reducing child morbidity, and shortening distance to schools consistently increased school attendance and enrollment. These programs addressed the barriers to participating in school by reducing financial and non-financial costs. The most cost-effective programs addressed health problems (such as intestinal worms and chronic anemia) or reduced the distance to school by leveraging existing resources to create low-cost schools in communities where no school existed previously.

Supporting evidence

Where school fees do exist, eliminating them can lead to large increases in participation. Most countries now provide free primary education, but in low-income countries, annual public secondary school fees can cost as much as one-third of an average family's yearly income. A program in Ghana offered full scholarships to academically qualified students who did not immediately enroll in secondary school. Roughly 80 percent of these students enrolled in secondary school after receiving the scholarship compared to only 20 percent enrollment in the comparison group at the beginning of the first academic year. Eight years on, the majority of the scholarship winners had completed senior high school [2].

Conditional cash transfers (CCTs) consistently increase school enrollment and attendance, but are expensive. Results from eighteen high-quality randomized evaluations of CCTs in twelve countries all found positive impacts on school participation.Researchers conducted randomized evaluations of CCTs in Burkina Faso [3], , Cambodia [4], , China [5], [6], Colombia [7], , Ecuador [8], , Honduras [9], [10], , Malawi [11], , Mexico [12], [13], [14], , Morocco [15], , Nepal [16], , Nicaragua [17], [18], [19], , and Tanzania [20], . Given the expense of CCT programs, they should primarily be viewed as social assistance programs that also increase attendance, rather than the most efficient solutions to increase school participation. Furter discussion of CCT cost-effectiveness can be found in our policy bulletin.

Small changes in the timing of a CCT can affect the ability of families to save and pay for school and can affect school enrollment decisions. The impact of cash transfer programs on education is sensitive to the timing of support because matching the timing of transfers to when large education expenditure takes place makes it easier for families to save the transfers for education expenditure. A CCT program in Colombia [7] included a transfer payout schedule to provide a larger lump-sum payment when re-enrollment fees were due. Compared to a traditional CCT program, the timed transfers reduced drop out and increased enrollment in tertiary schools. Another CCT evaluation in Colombian secondary schools by the same researchers found that providing "graduation bonuses" around the time of enrollment in tertiary education greatly increased subsequent enrollment compared to a traditional CCT program.

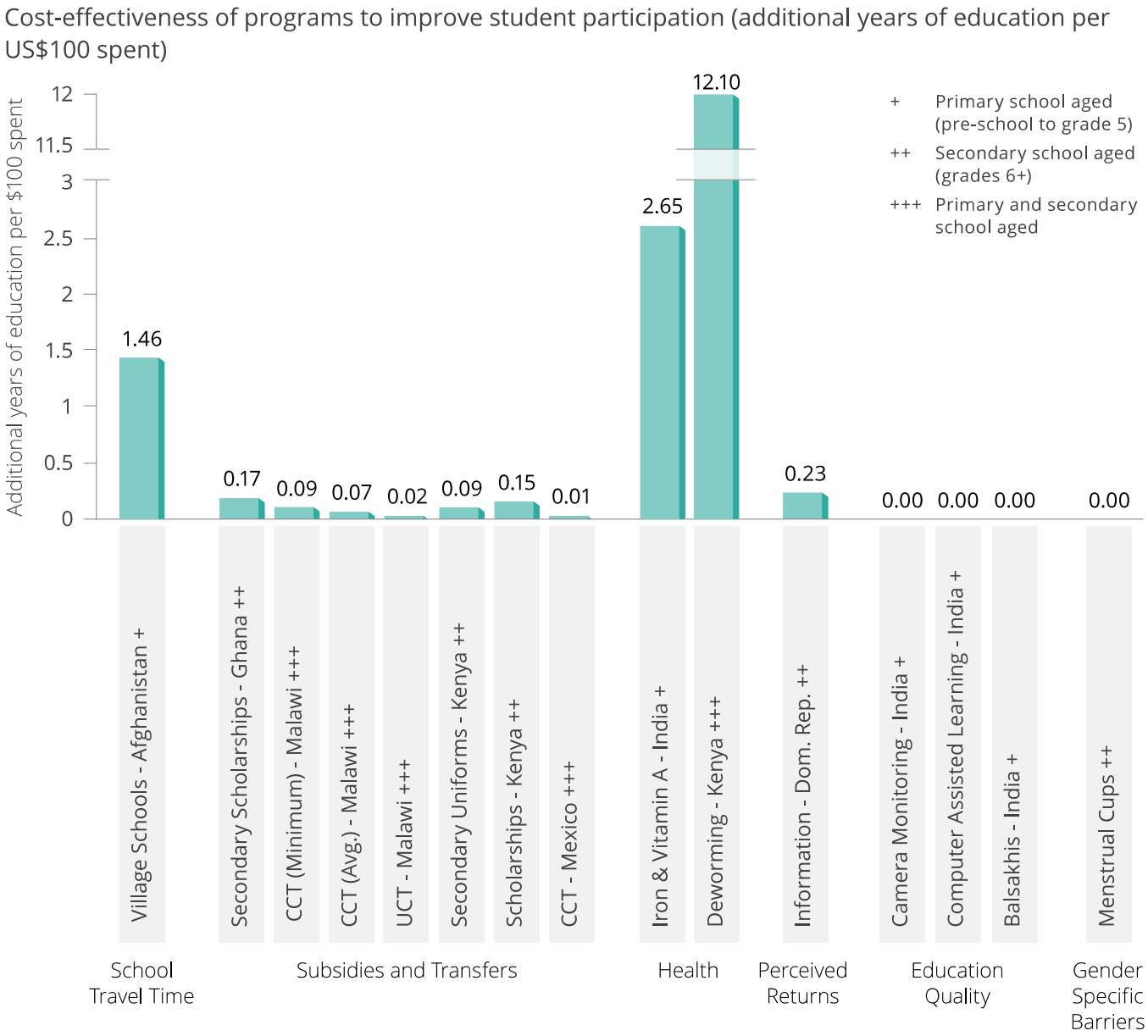
Even small incentives, or removing small costs, can have large impacts. If the sole policy objective is to increase enrollment and attendance at school, smaller incentives can be just as effective as the large payments common in CCTs. Smaller incentives have accordingly been more cost-effective at increasing attendance. Four evaluations on reducing small costs by providing free school uniforms or school meals in Kenya [21], [22], , Jamaica [23], , Burkina Faso [24], , and Uganda [25], found positive impacts on participation. An evaluation in Malawi [11] found that providing a considerably smaller cash transfer was just as effective and more cost-effective than a larger CCT for increasing participation.

Reducing costs by shortening travel time to school increases school enrollment. Many areas of the world with low school enrollment are remote or affected by conflict. In areas where few schools exist, using existing resources to create new local schools is a very effective way to increase enrollment and attendance. Two evaluations of programs that created local schools in Afghanistan [26], and Pakistan [27], found very large gains in enrollment. Reducing distance to school can be particularly helpful for girls, due to the restrictions on their mobility in these contexts. However, it is important to note that the Afghanistan school creation program was done through low-cost means using existing community resources, making it relatively cost-effective, as opposed to constructing new schools in low population areas, which is often very expensive. These findings are supported by rigorous, non-experimental studies in Burkina Faso [28], , India [29], , and Indonesia [30].

Reducing the effort cost of attending school by reducing child morbidity leads to large gains in school attendance. Conditions such as anemia and infection by parasitic worms can sap a child's energy, making regular attendance in school more challenging. Two evaluations in India [31], and Kenya [32], [33] found that, in areas where anemia or worm infections are prevalent, addressing these conditions with iron pills and school-based deworming increased school attendance.

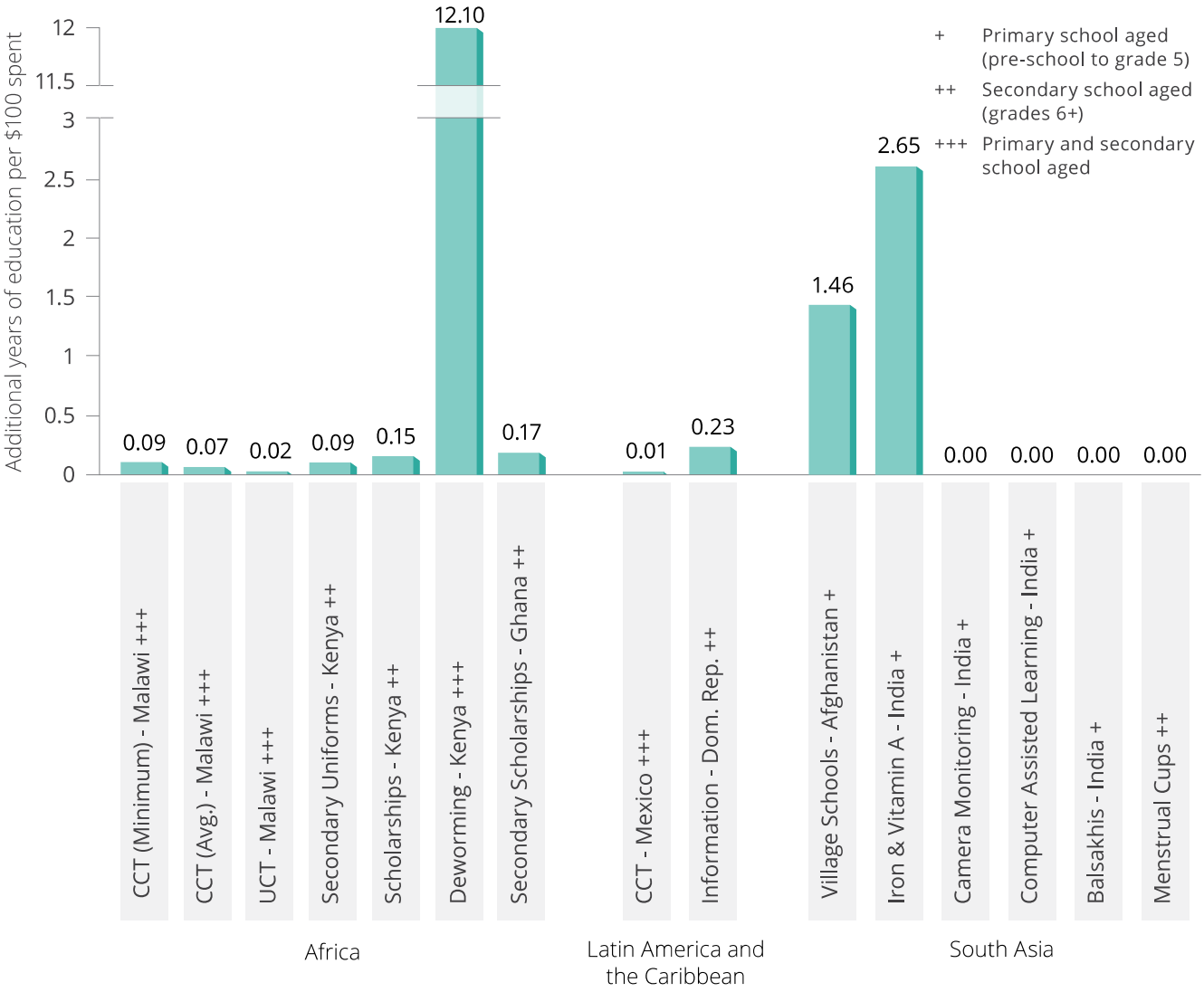
The most cost-effective programs to increase student participation referenced above are those that addressed child morbidity (such as intestinal worms and chronic anemia) or reduced the distance to school through the creation of low-

cost schools in areas where few schools exist. Some programs may be effective at increasing schooling but may also be expensive. Therefore, where authors have provided J-PAL with cost data, we compare the cost-effectiveness of the programs. The most cost-effective programs to increase student participation addressed health problems or reduced the distance to school by leveraging existing infrastructure to create schools in communities without schools. On average, CCTs are not as cost-effective as these approaches. However, when comparing cost-effectiveness, it is important to recognize that CCTs also provide benefits other than school attendance.



The cost effectiveness of various approaches can depend on local costs and contexts. We group evaluations by region in the graph below to reflect this.

Cost-effectiveness of programs to improve student participation (additional years of education per US$100 spent)



Sector chair(s) or Academic lead(s)

Karthik Muralidharan Philip Oreopoulos

Insight author(s)

Meagan Neal

Robert Rogers

Abdul Latif Jameel Poverty Action Lab (J-PAL). 2018. "Reducing costs to increase school participation." J-PAL Policy Insights. Last modified February 2019. https://doi.org/10.31485/pi.2264.2018

---

1. United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics. Accessed July 21, 2017. Dataset

2. Duflo, Esther, , Pascaline Dupas, , and Michael Kremer, . "The Impact of Free Secondary Education: Experimental Evidence from Ghana." Working Paper, February 2017. Research Paper , | J-PAL Evaluation Summary

3. Akresh, Richard, Damien de Walque, and Harounan Kazianga. “Cash Transfers and Child Schooling: Evidence from a Randomized Evaluation on the Role of Conditionality.” World Bank Policy Research Working Paper 6340, January 2013. Research Paper

4. Barrera-Osorio, Felipe and Deon Filmer. 2015. “Incentivizing Schooling for Learning: Evidence on the Impact of Alternative Targeting Approaches.” *The Journal of Human Resources* 51 (2): 461-499. Research Paper

5. Mo, Di, Linxiu Zhang, Hongmei Yi, Renfu Luo, Scott Rozelle, and Carl Brinton. 2012. “School Dropouts and Conditional Cash Transfers: Evidence from a Randomised Controlled Trial in Rural China’s Junior High Schools.” *The Journal of Development Studies* 49 (2): 190–207. Research Paper

6. Wong, Ho Lun, Renfu Luo, Linxiu Zhang, and Scott Rozelle. 2012. “The Impact of Vouchers on Preschool Attendance and Elementary School Readiness: A Randomized Controlled Trial in Rural China.” *Economics of Education Review* 35: 53-65. Research Paper

7. Barrera-Osorio, Felipe, Marianne Bertrand, , Leigh L. Linden, , and Francisco Perez-Calle. 2011. "Improving the Design of Conditional Transfer Programs: Evidence from a Randomized Education Experiment in Colombia." *American Economic Journal: Applied Economics*. 3: 167-95. Research Paper, | J-PAL Evaluation Summary

8. Schady, Norbert and Maria Caridad Araujo. 2008. “Cash Transfers, Conditions, and School Enrollment in Ecuador.” *Economía* 8: 43-70. Research Paper

9. Benedetti, Fiorella, Pablo Ibarrarán, and Patrick J. McEwan. 2016. "Do Education and Health Conditions Matter in a Large Cash Transfer? Evidence from a Honduran experiment." *Economic Development and Cultural Change* 64 (4): 759-793. Research Paper

10. Galiani, Sebastian, and Patrick J. McEwan. 2013. “The Heterogeneous Impact of Conditional Cash Transfers.” *Journal of Public Economics* 103: 85–96. Research Paper, | J-PAL Evaluation Summary

11. Baird, Sarah, Craig McIntosh, , and Berk Özler. 2011. “Cash or Condition? Evidence from a Randomized Cash Transfer Program.” *Quarterly Journal of Economics* 126 (4): 1709-1753. Research Paper, | J-PAL Evaluation Summary

12. Schultz, T. Paul. 2004. “School Subsidies for the Poor: Evaluating the Mexican Progresa Program.” *Journal of Development Economics* 74 (1): 199-250. Research Paper

13. Behrman, Jere R., Susan W. Parker, and Petra E. Todd. 2009. “Schooling Impacts of Conditional Cash Transfers on Young Children: Evidence from Mexico.” *Economic Development and Cultural Change* 57 (3): 439–477. Research Paper

14. Behrman, Jere R., Susan W. Parker, and Petra E. Todd. 2011. “Do Conditional Cash Transfers for Schooling Generate Lasting Benefits? A Five-Year Follow Up of PROGRESA/Oportunidades.” *Journal of Human Resources* 46 (1): 93–122. Research Paper

15. Benhassine, Najy, Florencia Devoto, , Esther Duflo, , Pascaline Dupas, , and Victor Pouliquen, . 2015. “Turning a Shove into a Nudge? A “Labeled Cash Transfer” for Education.” *American Economic Journal: Economic Policy* 7 (3): 86–125. Research Paper, | J-PAL Evaluation Summary

16. Edmonds, Eric V. and Maheshwor Shrestha. 2014. “You Get What you Pay For: Schooling Incentives and Child Labor.” *Journal of Development Economics* 111: 196-211. Research Paper

17. Maluccio, J.A. and R. Flores. 2005. Impact evaluation of a conditional cash transfer program: The Nicaraguan Red de Protección Social, Research Report No. 141, IFPRI, Washington, DC. Research Paper

18. Barham, Tania, Karen Macours, , and John A. Maluccio. "More Schooling and More Learning?: Effects of a Three-Year Conditional Cash Transfer Program in Nicaragua After 10 Years.” Inter-American Development Bank Working Paper Series No. IDB-WP-432, 2013. Research Paper, | J-PAL Evaluation Summary

19. Gitter, Seth R. and Bradford L. Barham. 2008. “Women and Targeted Cash Transfers in Nicaragua.” *World Bank Economic Review* 22 (2): 271–290. Research Paper

20. Evans, David K., Stephanie Hausladen, Katrina Kosec, and Natasha Reese. 2014. "Community-Based Conditional Cash Transfers in Tanzania: Results from a Randomized Trial." World Bank Study; Washington, DC: World Bank. Research Paper

21. Duflo, Esther, , Pascaline Dupas, , and Michael Kremer, . 2015. "Education, HIV and Early Fertility: Experimental Evidence from Kenya." *American Economic Review* 105 (9): 2757-2797. Research Paper, | J-PAL Evaluation Summary

22. Vermeersch, Christel, and Michael Kremer, . "School Meals, Educational Achievement, and School Competition: Evidence from a Randomized Evaluation." World Bank Policy Research Working Paper #3523, November 2004. Research Paper, | J-PAL Evaluation Summary

23. Powell, Christine, Susan P Walker, Susan M Chang, and Sally M Grantham-McGregor. 1998. "Nutrition and Education: A Randomized Trial of the Effects of Breakfast in Rural Primary School Children." *American Journal of Clinical Nutrition* 68: 873–879. Research Paper

24. Kazianga, Harounan, Damien de Walque, and Harold Alderman. 2012. "Educational and Child Labour Impacts of Two Food-for-Education Schemes: Evidence from a Randomised Trial in Rural Burkina Faso." *Journal of African Economies*, 21 (5): 723–760. Research Paper

25. Alderman, Harold, Daniel O. Gilligan, and Kim Lehrer. 2012. "The Impact of Food for Education Programs on School Participation in Northern Uganda." *Economic Development and Cultural Change* 61 (1): 187-218. Research Paper

26. Burde, Dana, and Leigh L. Linden, . 2013. "Bringing Education to Afghan Girls: A Randomized Controlled Trial of Village-Based Schools." *American Economic Journal: Applied Economics* 5 (3): 27-40. Research Paper, | J-PAL Evaluation Summary

27. Barrera-Osorio, Felipe,David S. Blakeslee,Matthew Hoover, Leigh L.Linden, , Dhushyanth Raju, and Stephen P. Ryan. "Delivering Education to the Underserved Through a Public-Private Partnership Program in Pakistan." NBER Working Paper #23870, September 2017. Research Paper, | J-PAL Evaluation Summary

28. Kazianga, Harounan, Dan Levy, Leigh L. Linden, , and Matt Sloan. 2013. "The Effects of 'Girl-Friendly' Schools: Evidence from the BRIGHT School Construction Program in Burkina Faso." *American Economic Journal: Applied Economics* 5 (3): 41-62. Research Paper

29. Muralidharan, Karthik, and Nishith Prakash. 2017. "Cycling to School: Increasing Secondary School Enrollment for Girls in India." *American Economic Journal: Applied Economics* 9 (3): 321-50. Research Paper

30. Duflo, Esther, . 2001. "Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment." *American Economic Review* 91(4): 795-813. Research Paper

31. Bobonis, Gustavo, Edward Miguel, , and Charu Puri-Sharma. 2006. "Anemia and School Participation." *The Journal of Human Resources* 41 (4): 692-721. Research Paper, | J-PAL Evaluation Summary

32. Miguel, Edward, , and Michael Kremer, . 2004. "Worms: Identifying Impacts on Education and Health in the Presence of Treatment Externalities." *Econometrica* 72 (1): 159-217. Research Paper, | J-PAL Evaluation Summary

33. Baird, Sarah, Joan Hamory Hicks, Michael Kremer, , and Edward Miguel, . 2016. "Worms at Work: Long-Run Impacts of a Child Health Investment." *The Quarterly Journal of Economics* 131 (4): 1637-1680. Research Paper, | J-PAL Evaluation Summary