

Esther Duflo, Pascaline Dupas and
Michael Kremer

Estimating the Benefit to Secondary School in Africa

Experimental Evidence from Ghana



In brief

- There is little known of the benefits of secondary education. Some argue it is likely to have a larger impact than primary education, whilst others note that it is significantly more expensive and returns may not be as high if other institutions are not in place.
- This research assesses the short-term and long-term impact of access to secondary education in Ghana through an ongoing randomized control trial.
- Students who passed secondary school entrance exams but could not enrol for financial reasons were randomly awarded scholarships. Outcomes are compared with a control group.
- Results show that financial hardship is a key barrier to secondary school enrolment. 73% of scholarship winners enrolled, compared to 38% for non-scholarships students.
- Other factors decrease the likelihood of enrolment: being older, worse primary school performance, and having started sexual activity. Girls are less likely to pursue secondary education, even after the removal of the financial barrier.
- The scholarship program led to reductions of 2 percentage points and 2.4 percentage points compared to the control group in early marriage and early pregnancy, respectively.
- As long-run data has not been collected, broad recommendations cannot yet be made. However, initial conclusions suggest that primary schools should focus on encouraging continuation to secondary school, special attention should be paid to encouraging girls to enrol and that donors and governments work together to lower the costs of secondary education.

Motivation

“An important question for policymakers is emerging: how quickly to expand access to secondary education?”

The United Nations considers basic education a human right, and universal access to primary education has been enshrined as one of the eight Millennium Development Goals. While some progress is being made towards universal primary school enrolment, with millions of children around the world complete primary schooling and hope to move on to secondary school, an important question for policymakers is emerging: how quickly to expand access to secondary education? Although human capital is considered to be an important driver of growth and development, and the role of primary education has been well studied and understood, there is very little evidence of the benefits of secondary education. Some have argued that secondary education is likely to have a much larger impact than primary education on long-run earnings, health, fertility, gender equality, and civic and political participation. But expanding secondary education is a significantly more expensive undertaking than providing free primary education. In addition, if other systems and institutions are not in place, like a robust job market, the returns to secondary investing in secondary education might not be as high as expected.

This on-going randomized controlled trial, conducted in collaboration with the Ministry of Education in Ghana, will assess the short-term and long-term impact of access to secondary education among a population of 2,068 youth in several regions of Ghana. By randomly awarding scholarships to a subset of youth who passed the entrance exam into secondary school but could not enroll for financial reasons, and comparing outcomes in school enrollment, health, marriage, fertility, employment, and earnings to similar youth not selected for a scholarship, this study will provide evidence on the immediate and enduring impact access to secondary education can have on the lives of people in Ghana and sub-Saharan Africa.

This policy brief outlines some of the short-term findings on barriers to secondary school enrolment and the impact of secondary education on marriage and fertility. Longer-term impacts will be available after further data on the study population is collected in the coming years.

Policy Impact

“Financial hardship is a key barrier to secondary school enrolment”

The results of this study could help developing country governments make decisions about improving and expanding secondary education, and promoting and incentivizing enrolment. The study results can also help international donors and multi-lateral development actors, such as the United Nations and the World Bank, shape global development agendas and make decisions about resource allocation.

Audience

Developing country policy makers, especially Ministries of Education, and international donors and multi-lateral development agencies.

Policy Implications

“The older students are [when] admitted into secondary school, the less likely they are to enroll”

Financial hardship is a key barrier to secondary school enrolment

The gap in enrolment between those offered a scholarship and those not offered a scholarship is quite substantial: enrollment rates are twice as high among those that received scholarship compared to those who did not. Specifically, in 2010-2011, the third academic year after the scholarships had been introduced, the secondary school enrollment rate was 73% among scholarship winners compared to only 38% among non-winners.

There might be other barriers to accessing secondary education

Eighteen percent of boys and 33% of girls awarded a scholarship still did not enroll in school. Other determinants/barriers to enrolment detected are:

- **Age:** The older students are at the time they get admitted into secondary school, the less likely they are to enroll. This could be because the opportunity cost of being in school is higher for them, as their capacity to generate income on the labor market is higher as they are older (stronger). This suggests that programs that encourage early school entry (that is, prevent delay in primary school enrollment) and aid in the transition from primary to secondary school could have long-lasting consequences on total schooling.
- **Academic performance:** Those students who perform better in school (have higher junior high school exam scores) are more likely to enroll in secondary school. This is consistent with households thinking that the returns to education are larger for those with higher ability.
- **Sexual activity:** Having started sexual activity is very negatively correlated with secondary school enrollment for both boys and girls, but especially for girls.

Distance to the secondary school and guardian and household characteristics do not appear to be an obstacle to enrollment.

Girls are less likely to pursue secondary education, even when the financial barrier is removed

Only 64% of girls awarded a scholarship were enrolled in school as of the middle of the 2010/11 academic year, compared to 81% of boys. Among those in the control group, enrollment rates are also lower among girls than boys, with 34% of girls enrolled vs. 44% of boys. Part of the lower enrollment rates among girls comes from the fact that a subset of girls in our study sample had been out of school for more than a year already at the time the study started. These results suggest that, the more time passes between primary and secondary school, the less “enrollable” girls become.

“Financial hardship is a key barrier to secondary school enrolment”

At least in the short-run, scholarships seem to play a role in reducing marriage and fertility in teenagers

Based on short-run follow-up data (collected while scholarship recipients were still in school), we find the following impact of the scholarship program on marriage and fertility:

- **Early marriage:** The scholarship program reduced early marriage. While 6.2% of girls in the control group had married by June 2011, this was reduced by 2 percentage points, to 4.2%, among girls in the scholarship group. This corresponds to a 30% decrease in early marriage. Since the difference in probability of SHS enrolment between treatment and control groups was much less than 1, this implies a very large impact of secondary school enrolment on marriage.
- **Early pregnancy:** The second result is that the scholarship program also reduced early pregnancy. While 21.8% of girls in the control group had started childbearing by June 2011, this was reduced to 19.4% among girls in the scholarship group. This corresponds to an 11% decrease in early fertility implying a non-trivial impact of secondary school enrolment on early childbearing.

Implementation

Because long-run data has not yet been collected, broad recommendations cannot yet be made about education policy in Africa or the developing world. However, for Ministries of Education interested in increasing secondary education enrolment and gender parity in education at this level, the following suggestions can be made:

- Primary schools should focus, in the last year, on encouraging continuation directly to secondary education, since children are less likely to continue when there is a time gap between levels of schooling.
- Special attention should be paid to encouraging girls to enrol and encouraging families to enable their girls to continue their education beyond the primary level.
- Donors and developing country governments should work together to devise ways to lower the costs of secondary education for families in sub-Saharan Africa.

“Only 64% of girls awarded a scholarship were enrolled in school...compared to 81% of boys.”

Dissemination

This can be disseminated to our partners at the Ghana Education Service, namely our main contact Director General Charles Tsegah, reached at charlestsegah@yahoo.co.uk. Other Ministry of Education officials in sub-Saharan Africa should also receive final results, as well as relevant department leaders and researchers at the UNDP, UNICEF, UNESCO, and the World Bank and other important development agenda shapers, especially those with a focus on education.

Further Readings

Duflo, E. (2000) "Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment," *American Economic Review* 91(4): 795-813, 2001.

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Kremer, M. And P. Glewwe (2005) "Schools, Teachers, and Education Outcomes in Developing Countries," *Handbook on the Economics of Education*.

Psacharopoulos, George (1994), "Returns to Investment in Education: A Global Update," *World Development* 22 (9): 1325-1343.

UNESCO website, articles on education: <http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/education-for-all/policy-dialogue/>

UNICEF website, articles on education: http://www.unicef.org/education/index_bigpicture.html

World Bank, articles on secondary education in Africa:
http://ddp-ext.worldbank.org/ext/EdStats/HEduDataSearchReport_Get?hK=Y&hLvl=%27SEC%27&hTpc=%27&hRgn=%27SSA%27&hCnty=%27&hSy=2000&hEy=2012&hKeySearch=N

About the authors

Esther Duflo is a Professor of Poverty Alleviation and Development Economics at MIT. She is a co-founder and director of the Poverty Action Lab, Research Associate at the National Bureau for Economic Research, and on the board of directors of the Bureau for Research and Economic Analysis of Development (BREAD). She is also the co-director of the CEPR Development Economics programme and editor of the American Economic Journal: Applied Economics. Duflo specializes in development economics and the design and evaluation of effective anti-poverty policy.

Pascaline Dupas is an Associate Professor in the Economics Department at Stanford University. Dupas' areas of research are applied microeconomics and development economics. She is currently conducting field experiments in health, education, and microfinance.

Michael Kremer is the Gates Professor of Developing Societies in the Department of Economics at Harvard University and Senior Fellow at the Brookings Institution. He is a Fellow of the American Academy of Arts and Sciences, a recipient of a MacArthur Fellowship and a Presidential Faculty Fellowship, and was named a Young Global Leader by the World Economic Forum. Kremer's recent research examines education and health in developing countries, immigration, and globalization.

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London School of Economic
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Houghton Street,
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