

Returns to Secondary Schooling in Ghana

Researchers:

Esther Duflo

Michael Kremer

Pascaline Dupas

Sector(s): Education, Labor Markets, Gender

J-PAL office: J-PAL Africa

Fieldwork: Innovations for Poverty Action (IPA)

Location: Ashanti, Brong Ahafo, Central, Eastern, and Western regions of Ghana

Sample: 2,064 youth

Initiative(s): Post-Primary Education Initiative

Target group: Secondary schools Students Youth

Outcome of interest: Dropout and graduation Earnings and income Sexual and reproductive health Student learning Women's/girls' decision-making Gender attitudes and norms Long-term results

Intervention type: Scholarships

AEA RCT registration number: AEARCTR-0000015

Data: Download from Dataverse

Partner organization(s): Ghana Education Service

Primary school enrollment has risen in Sub-Saharan Africa over the past two decades, but secondary school enrollment rates remain relatively low. In this ongoing study in Ghana, researchers are evaluating the effect of secondary school scholarships on educational attainment and cognitive skills in the short run, and on life outcomes in the longer run, from employment and health outcomes to civic participation and attitudes. Results thus far showed that cost was a key barrier to secondary school enrollment among middle school graduates, and full scholarships increased young people's educational attainment, knowledge, skills, and preventative health behaviors. For women, secondary schooling also delayed marriage and pregnancy. Scholarship winners who enrolled in academic tracks were more likely to enroll in tertiary education, and winners who enrolled in vocational tracks had higher earnings than non-winners. Researchers will continue to track participants to 2020 and beyond.

Policy issue

While primary school completion rates have increased dramatically across Sub-Saharan Africa in recent years, secondary school enrollment remains low. In 2014, the region's secondary net enrollment ratio was the lowest in the world at 33 percent.¹ Although there is an increasing focus on expanding access to secondary education in the region, there are still open questions about the benefits of secondary education relative to the high associated costs. The role of primary education as an important driver of growth and development has been well studied and understood, but there is very little evidence of the benefits of secondary education. Secondary education could have a much larger impact than primary education on long-term earnings, health, fertility, gender equality, and civic and political participation. However, expanding secondary education is also significantly

more expensive than providing free primary education, and there is potentially a much larger opportunity cost to families in terms of taking students out of the workforce. This study is examining the impacts of lowering the financial barriers to secondary school enrollment and the returns to secondary education on an array of long-term outcomes.

Context of the evaluation

In Ghana, like in many countries in Sub-Saharan Africa, education is free through ninth grade (the last year of “junior high school”), and enrollment rates are high up to that point. After ninth grade, enrollment drops sharply, a pattern seen across the continent. Around 40 percent of students who entered junior high school pass the exam necessary to gain admission to senior high school. For those admitted, the costs of senior high school are substantial: In 2011, tuition fees for non-boarding senior high school students were around 500 Ghanaian cedis (US\$336) per year, equivalent to about 20 percent of GDP per capita at that time.

The impact of expanding secondary schooling is a topic of national concern in Ghana. In recent years, the two major political parties have debated the merits and feasibility of implementing universal free senior high school.



Secondary school students in Ghana. Photo: Ishita Ahmed | J-PAL/IPA

Ishita Ahmed

Details of the intervention

Researchers are evaluating the impact of full, need-based scholarships on secondary school enrollment and the returns to

secondary education in Ghana over more than ten years. In fall 2008, they identified 2,064 students who had earned admission into an academic or vocational track at a public high school but had not enrolled due to financial constraints, and enrolled them in a longitudinal study. Among the students, 682 students were selected by lottery to receive a scholarship that covered 100 percent of the tuition and fees for four years at a local public school. The scholarships were announced four months into the 2008-2009 academic year; over 75 percent of scholarship winners enrolled in secondary school that year.

At the beginning of the study, the research team surveyed all participating youth and their guardians. At the time, the youth ranged between 13 and 25 years old, with an average age of 17 years. Study participants (irrespective of scholarship status) were given a cell phone and mobile credit, and once a year, researchers attempted to call all participants in order to update their contact information and ask for their current schooling status and location. If participants could not be reached over the phone, researchers attempted to find them by visiting their home area.

Researchers conducted an in-person, in-depth follow-up survey in 2013 to measure participants' educational attainment, cognitive skills, employment status and earnings, health, marriage status and fertility, time and risk preferences, civic participation, and other outcomes. In 2015 and 2016 they conducted shorter phone surveys to update this information. They will continue to track the study groups into 2020 and beyond.

Results and policy lessons

Results indicate that school fees (rather than the opportunity cost of being in school) were the major barrier to educational attainment for youth in the study. Removing that barrier produced large gains in educational attainment, skills, knowledge, and preventative health behaviors. Women also delayed childbirth and marriage relative to their peers who were not offered scholarships. As of 2016, scholarship winners who enrolled in academic tracks were more likely to subsequently enroll in tertiary education, while winners who enrolled in vocational tracks had higher earnings than non-winners did.

Scholarship use and educational attainment: Seventy-five percent of scholarship winners enrolled in secondary school immediately upon receiving the scholarship, almost four times the enrollment rate in the comparison group. By 2016, 74 percent of the scholarship winners had completed senior high school, compared to 47 percent of the non-winners. Students with different initial performance levels were all more likely to enroll—even students who had barely gained admission overwhelmingly used the scholarship.

Skills and knowledge: Scholarship winners scored 0.15 standard deviations higher on a cognitive skills test administered by the researchers than non-winners scored. Scholarship winners were also more likely to know how to use the internet and to be aware of issues of national and international importance. Female scholarship winners were more likely to have a bank account, an email account, and a social media account.

Fertility: Women who won scholarships married later and delayed childbirth, particularly unwanted pregnancies, relative to women who did not win scholarships. By 2016, 25 percent of female scholarship winners had lived with a partner, while 34 percent of non-winners had. Forty-seven percent of women offered scholarships had been pregnant at least once, while 58 percent in the comparison group had. This reduction was concentrated among unwanted pregnancies: 45 percent of female scholarship winners reported an unwanted first pregnancy, compared to 57 percent of non-winners.

Health behavior: Scholarship winners reported less risky sexual behavior and exposure to STIs. Winners also reported more preventative health behaviors such as hand-washing with soap and the use of bed nets and mosquito repellent.

Tertiary education: By 2016, 12 percent of scholarship winners had enrolled in tertiary education, compared to 9 percent of non-winners. This increase was concentrated among female scholarship winners and those admitted to academic tracks.

Employment and earnings: Since scholarship winners were still more likely to be enrolled in tertiary education by 2016, it is too early to definitively report long-term impacts on labor market outcomes. However, results suggest that scholarship winners had

higher earnings on average: 61 percent of scholarship winners reported any earnings in the past month, compared to 56 percent of non-winners. These effects are concentrated among those admitted to vocational tracks, for whom there were no tertiary enrollment impacts.

Consistent with the challenging macroeconomic environment in Ghana at the time, many youths in the sample did not yet have jobs as of the last follow-up (2016). Among unemployed youth, 46 percent of scholarship winners reported actively searching for a job, compared to 32 percent of non-winners.

Among students admitted to vocational tracks—for whom scholarships had no impact on tertiary enrollment—winners had earned 26 Ghanaian cedi more in the past month than non-winners (a 24 percent increase). This increase was accounted for by an increased probability of being employed, rather than higher wages per hour. For scholarship winners admitted to academic tracks—16 percent of whom enrolled in tertiary education—there were not yet any discernible impacts on labor market participation or earnings as of 2016.

Researchers are currently analyzing results on additional outcomes, such as civic participation, levels of trust, respect of authority, and attitudes towards religion. With support from the National Institutes of Health (NIH), they are also collecting information on the children of study participants. Through a grant funded by the Post-Primary Education (PPE) Initiative, researchers will also follow up on participants until they reach the age of at least 30 to shed light on the long-term impact of reducing financial barriers to secondary education on a wide range of outcomes, from income to health and fertility decisions to civic participation.

In J-PAL's comparative cost-effectiveness analysis, the scholarship program led to 0.17 additional years of education per US\$100 spent. For more information, see the full comparative cost-effectiveness analysis.

Duflo, Esther, Pascaline Dupas, and Michael Kremer. "The Impact of Free Secondary Education: Experimental Evidence from Ghana." Working Paper, October 2019

1. United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics. "Education: Net enrolment rate by level of education." December 2016. Accessed February 28, 2017.