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The Impact of Free Secondary Education:  
Experimental Evidence from Ghana<sup>1</sup>

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**Abstract**

In 2008, 682 secondary school scholarships were awarded by lottery among 2,064 Ghanaian students (aged 17 on average) who were admitted to a specific school and track but could not immediately enroll, in most cases due to lack of funds. We use follow-up data collected until 2016 to document downstream impacts by age 25. For the whole sample, scholarship winners were 26 percentage points (55%) more likely to complete secondary school, obtained 1.26 more years of secondary education, scored an average of 0.15 standard deviations greater on a reading and math test, and adopted more preventative health behavior. Women who received a scholarship had 0.217 fewer children by age 25. Scholarship winners were also 3 percentage points (30%) more likely to have ever enrolled in tertiary education. Despite the fact that they were 2.5 percentage points more likely to be enrolled in school at the time of the last survey, they were 5.5 percentage points (10%) more likely to have positive earnings and had significantly higher (hyperbolic sine) earnings. For students admitted to vocational tracks (comprising 60% of the sample) scholarships did not increase tertiary education, which simplifies the interpretation of labor market outcomes. In this subsample, scholarships increased the likelihood of earning money by 8.9 percentage points (16%) and increased total earnings by 19%. The estimated financial rate of return to education in this subsample is 1.3%. For students admitted to academic tracks, scholarships increased the chance of having enrolled in tertiary education by 5.3 percentage points on a base of 11 percent. This effect is driven overwhelmingly by women, who nearly double their rate of tertiary enrollment and fully catch up with men. We cannot reject the hypothesis that among those admitted to academic tracks, scholarships did not affect average labor market participation and earnings by age 25, but since more scholarship winners than non-winners were still in school as of 2016, it is too early to definitively assess their market impacts in this population.

<sup>1</sup> This randomized trial is registered in the The American Economic Association's registry for randomized controlled trials under RCT ID AEARCTR-0000015. The study protocol was approved by the IRBs of UCLA, Stanford, MIT and IPA. We thank the Ghana Education Service and IPA Ghana for their collaboration, and Jonathan Aldred for outstanding program management. We are grateful to Idriss Abassid, Madeline Dalton, Jero Kola, Ryan Knight, Mark Walsh, Victor Poutisque and Nicolas Stader for outstanding research assistance. The funding for this study was provided by the NIH (Grant #R01 HD059922), the IGC, the Partnership for Child Development and the Nike Foundation. We thank them, without implicating them, for making this study possible. Dupas also gratefully acknowledges the support of the NSF (award number 1254167).  
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# The Impact of Free Secondary Education: Experimental Evidence from Ghana

In 2008, 682 secondary school scholarships were awarded by lottery among 2,064 Ghanaian students (aged 17 on average) who were admitted to a specific school and track but could not immediately enroll, in most cases due to lack of funds. We use follow-up data collected until 2016 to document downstream impacts by age 25. For the whole sample, scholarship winners were 26 percentage points (55%) more likely to complete secondary school, obtained 1.26 more years of secondary education, scored an average of 0.15 standard deviations greater on a reading and math test, and adopted more preventative health

behavior. Women who received a scholarship had 0.217 fewer children by age 25. Scholarship winners were also 3 percentage points (30%) more likely to have ever enrolled in tertiary education. Despite the fact that they were 2.5 percentage points more likely to be enrolled in school at the time of the last survey, they were 5.5 percentage points (10%) more likely to have positive earnings and had significantly higher (hyperbolic sine) earnings. For students admitted to vocational tracks (comprising 60% of the sample) scholarships did not increase tertiary education, which simplifies the interpretation of labor market outcomes. In this subsample, scholarships increased the likelihood of earning money by 8.8 percentage points (16%) and increased total earnings by 19%. The estimated financial rate of return to education in this subsample is 13%. For students admitted to academic majors, scholarships increased the chance of having enrolled in tertiary education by 5.3 percentage points on a base of 11 percent. This effect is driven overwhelmingly by women, who nearly double their rate of tertiary enrollment and fully catch up with men. We cannot reject the hypothesis that among those admitted to academic tracks, scholarships did not affect average labor market participation and earnings by age 25, but since more scholarship winners than non-winners were still in school as of 2016, it is too early to definitively assess labor market impacts in this population.

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