

# Getting Girls into School: Evidence from Cambodia

● Deon Filmer and Norbert Schady

## Cash incentives for families to enroll girls in school can work even in low-income countries with relatively low-quality schools

Schooling attainment remains low in many developing countries—and is often lower for girls than for boys. This is especially so in Cambodia, a country with a tragic recent past.

A government-run scholarship program there aims to increase the enrollment of girls in secondary school. Launched in 2002–03 and funded through the Japan Fund for Poverty Reduction, the program functions much like the conditional cash transfer programs used in many Latin American countries.

In each of 93 participating schools, a committee identified the 45 neediest girls through an application form that included indicators of socioeconomic status and awarded them a scholarship of \$45 (Cambodia's gross national income per capita was about \$300 in 2002). The program transfers cash to the girls' families as long as their daughter enrolls in school, maintains a passing grade, and misses no more than 10 days a year without a good reason.

Filmer and Schady evaluate the program's effectiveness. Their empirical strategy compares scholarship recipients (treatment group) and nonrecipients (control group), accounting in various ways for the fact that applicants with a higher socioeconomic status were less likely to receive a scholarship.

The authors use three main approaches for estimation. First, they use a linear probability model that includes all the characteristics on the application form plus school fixed effects. Second, they use propensity score matching, which measures the impact of the program as the mean difference in enrollment (or attendance) between matched pairs of recipients and nonrecipients.

Third, the authors use regression discontinuity analysis. Though they do not consider selection bias due to unobservable characteristics to be a major concern, it is nevertheless possible: girls were not chosen randomly and in some cases beneficiaries were selected by people who might have known the applicants. Regression discontinuity analysis arguably accounts for unobserved differences between treatment and control groups by exploiting the discontinuous jump in the probability of receiving a scholarship above and below the eligibility threshold in each school. That is, in each school applicants were ranked, and the 45th-ranked applicant received a scholarship while the 46th did not. Regression discontinuity estimates are based on the fact that the 45th and 46th applicants are similar in almost every way except scholarship receipt.

The evaluation focuses on two main outcomes: school enrollment and attendance as measured through an unannounced school visit. The visit could not establish the status of a small percentage of applicants who have effectively dropped out of the sample. Correcting for the potential ensuing bias is difficult without a credible instrument, a variable that predicts the probability of attrition but is not correlated with the error term in the enrollment regressions. Since no such variable was available in their data set, the authors calculated program effects under alternative assumptions about the enrollment status of girls whose status could not be definitively established.

The estimates suggest that the program has had large positive effects. The linear probability estimates indicate that enrollment and attendance at eligible schools has increased by about 30 percentage points, and enrollment at any school by about 22 percentage points. Estimates of program effects based on propensity score matching are larger.

The program effects are robust to a variety of concerns. Regression discontinuity estimates are similar, suggesting that the results are not driven by unobservable differences between scholarship recipients and nonrecipients. And bounds analysis shows that selective attrition cannot account for the pattern of program effects observed.

Moreover, the analysis finds that effects are largest among girls who come from poorer households, have parents with less education, and live farther away from a secondary school. The program thus appears to have substantially reduced socioeconomic differences in enrollment and attendance.

These findings suggest that even in low-income countries with weak public institutions and relatively low-quality schooling, a demand-side incentive can effectively increase girls' enrollment and attendance. Earlier evaluations of conditional cash transfer programs have typically come from middle-income countries and have typically found smaller effects than Filmer and Schady do. But the authors' finding of a larger effect is perhaps not surprising: since enrollment rates tend to be much lower in low-income than in middle-income countries, the scope for improvement is larger.

The paper leaves some important questions unanswered. One such question is the effect of the scholarship on other schooling outcomes, including repetition rates and measures of performance (such as test scores). Another is whether the size of the scholarship was too big or too small to induce the impact that it did. Moreover, lacking empirical evidence on the effectiveness of other interventions to improve schooling outcomes in Cambodia, the paper does not attempt any cost-effectiveness comparisons. Nevertheless, given the paucity of evidence from low-income countries, these estimates of large program effects may be cause for optimism.

---

Deon Filmer and Norbert Schady. 2006. "Getting Girls into School: Evidence from a Scholarship Program in Cambodia." Policy Research Working Paper 3910. World Bank, Washington, D.C.