

When Does Education Aid Boost Enrollment Rates?

Brief 5

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We use AidData to test the effectiveness of primary education aid in boosting school enrollment rates. We evaluate the hypothesis that bilateral donors ought to have greater freedom to condition aid on recipient governance quality than multilateral donors, which are often bound by institutional rules to provide aid more impartially. AidData's extensive coverage of multilateral aid enables this analysis for up to 100 low-income and lower-middle-income countries from 1995 to 2008. Latent growth regression analysis suggests that bilateral donors condition their primary education aid on recipient control of corruption more than multilateral donors do, and that bilateral aid is significantly related to improved enrollment rates.



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Introduction

Grinding poverty plagues Eritreans, who rank seventh on the list of poorest peoples in the world. Donors sent roughly \$220 million in foreign aid for improving Eritrean education during 1998–2008. Though the aid represented more than 75% of total Eritrean government expenditures on education, an odd pattern emerged in the beleaguered country: each year from 2005 to 2009 the net primary school enrollment rate – the proportion of school-aged children actually signed up for school – dropped. It plummeted from 50% in 2005 to 39% in 2009. Many factors – including border disputes, regional war, political repression, flagging labor opportunities, volatile commodities markets, and climate strain, among others – likely contributed to this trend. But whatever donors intended with their education aid to Eritrea, it does not appear to have enabled more children to attend school.

The debate over the effectiveness of education aid is relatively recent. Researchers have found modest positive relationships between education aid and education outcomes (see Michaelowa and Weber [2008] and Dreher et al. [2008]). There is also evidence that education aid is more effective when coupled with good governance (Michaelowa and Weber 2007).

In this article we argue that the problem of adverse selection – the recipients most likely to seek and receive aid may be the least likely to use it effectively – complicates both aid allocation and aid effectiveness. We contend that, in order to overcome adverse selection, donors must allocate aid strategically, and that current allocation strategies likely influence the effectiveness of the aid in boosting primary-school enrollment rates. We argue that, compared to bilateral donors, institutional rules and practices more tightly constrain multilateral donors, where broad coalitions of developing countries can collude to demand financing with few strings attached. Therefore, we expect bilateral donors to be more discriminating about the quality of governance among recipients, and thus to act more strategically when allocating aid for primary education.

Data

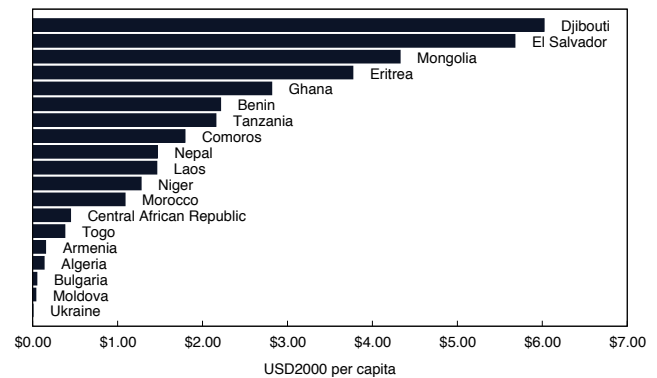
We limit our analysis to roughly 100 low- and lower-middle-income countries (as defined by the World Bank), since enrollment rates frequently approach 100% among high-income and upper-middle-income countries.

Our aid variables are taken from AidData 1.9 (Tierney et al., 2011). We define primary education aid as the nominal commitment amounts reported for each project that was coded as having a dominant purpose of primary education. Primary education aid evinces a startlingly low mean – barely more than 1 dollar per capita each year (see Figure 1), and the majority of aid totals have remained at roughly this level across the years

in the sample.

To better isolate the effects of primary-specific education aid, we generated a control variable capturing all non-primary education aid. To help account for the delay between commitments and actual “on the ground” effects of the aid, we generated a series of sums totaling aid from one to five previous years. Additionally, all aid variables were measured in per capita terms to control for variance in population.

Figure 1: Primary Education Aid Recipient (1995-2005 Annual Average).



We include two proxy measures for governance. The Polity 2 measure published in the 2008 edition of the Polity IV database provides a scale for the level of democracy in a country from highly authoritarian (–10) to highly democratic (10). The International Country Risk Guide’s measure of corruption assesses perceptions of corruption by businesspeople and diplomats working with the countries in question. It is scaled from 1 to 6, with higher values indicating lower levels of corruption. All our covariates are specified under lag structures ranging from two to nine years, corresponding with the rolling sums applied to the aid-related independent variables.

Data on school enrollment – the measure of our dependent variable – are taken from the World Development Indicators.

We have also included a number of control variables, including GDP per capita, infant mortality rates, and the percentage country population below the age of 15.

Methods and Results

We employed a latent-growth, structural equation, mixed effects, or hierarchical linear model (HLM) for our initial estimation. A latent growth curve model will account for very different characteristics, starting points, and trajectories across countries (Meredith & Tisak, 1990) and HLM allows the parameters of the regression to vary by country.

We first employ HLM methods to estimate a model of

primary-education aid allocation. Dependent variables are current year per-capita primary education values, divided between bilateral and multilateral totals. These results indicate that democracy is a significant predictor of aid allocation for both bilateral and multilateral donors. Against expectations, multilateral donors do seem to discriminate by democracy levels of recipients when allocating primary-education aid. The results, which appear significant, suggest that bilateral donors, as predicted, also condition primary-education aid on democracy levels. Here, a 10-point shift in the polity score may lead to a 13% increase in bilateral primary-education aid. While encouraging, we note that democracy appears to be a less direct indicator of governance quality than is control of corruption.

We further find that the corruption index serves as a significant predictor of primary education aid for bilateral donors only. Substantively, a shift from partial to full control of corruption could result in an 18% increase in bilateral aid for primary education. These results suggest that bilateral donors may indeed be attempting to address the adverse-selection problem by focusing on governments which will use aid dollars more productively.

We next estimate the overall effect of primary-education aid on school enrollment, both for aggregated aid flows and disaggregated bilateral and multilateral aid flows.

Initial estimations utilizing aggregate aid as the descriptive variable are inconclusive. Notably, the results suggest that control of corruption significantly boosts enrollment. Likewise, democracy may positively affect enrollment, though the results are less stable across specifications, and often are not statistically significant. Results also indicate a strong, significant effect of infant mortality rates on enrollment.

In the models disaggregating bilateral and multilateral aid flows, bilateral primary-education aid shows positive and significant effects on enrollment rates while multilateral aid remains insignificant. With other factors held constant, bilateral aid to primary education appears to be more significantly related to education outcomes than is comparable multilateral aid. The substantive significance of bilateral primary-education aid is fairly modest, however. It would take a doubling of bilateral aid for primary education to raise enrollments by 2.3%.

Conclusions and Implications

Consistent with our hypothesis, the results suggest that bilateral aid may overcome the problem of adverse selection somewhat better than multilateral aid. Our allocation models point to a possible mechanism: bilateral donors may condition their primary-education aid on recipients' quality of governance. Since governance quality remains difficult to measure, we rely on corruption-perception indices as a proxy. Though

multilateral donors appear to select recipients according to level of democracy, our finding that bilateral donors appear to add control of corruption as an allocation criterion may help explain the greater effectiveness of bilateral aid suggested by the results of the enrollment models.

Policymakers should bear in mind that these results rest on objectively low levels of primary education aid in the first place. While aid advocates may be tempted to use these results as evidence that more aid is needed, we emphasize that we encountered minimal evidence that more aid leads to better education outcomes in general. Additionally, our results reinforce the use of public health as a predictor for school enrollments. We recommend that future research examine the potential effects of health on education outcomes.

Further studies on specific aspects of education and development, such as the impact of corruption on aid, may help ascertain which types of education projects are most effective. Better evaluations of who gets education aid and why they receive it may help us understand the effects of donor aid policies on enrollment growth.

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