Stratified Society and Segmented Schools: The Effect on Children’s Learning

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Introduction
The education sector in India in the past two decades has seen significant geographic growth in schools and near-universal primary school enrolment. However, concerns persist regarding the inadequate quality of teaching and low levels of children’s learning. Research indicates that children from disadvantaged social and economic groups are less likely to have access to learning resources and enabling environments. Previous studies have noted that there is a rising perception among parents that government schools are worse than in private schools, and enrollment in them has increased rapidly in both urban and rural areas. Since 2005, mid-day meals have been introduced in government primary schools with the objective of improving retention and children’s learning achievements, while also seeking to impact their nutritional status.

We examine the relationship between children’s reading and math abilities and institutional characteristics of schools (private or government-run), medium of instruction and provision of mid-day meals, while also accounting for socioeconomic differences.

Research Questions
Do children enrolled in private or English-medium schools at ages 8-11 perform better in reading and math than children in government or vernacular-medium schools?
Do mid-day meals provided by the school improve learning achievements of children in primary schools?
Are differences exist in the effect of school characteristics and socioeconomic variables at different levels of reading and math learning?

Data
We use data from the India Human Development Survey (IHDS), conducted in 2004-05 jointly by the University of Maryland, College Park and the National Council of Applied Economic Research, New Delhi. The IHDS is a nationally-representative survey of 41,554 households across 1503 rural and 971 urban locations across India. Our sample includes 17,061 children aged 8-11 for whom the IHDS conducted curriculum- and language-appropriate assessments of their reading and math abilities.

Methods
We employ the continuation ratio model to account for an advancement of learning stages in reading and math and use cluster-level fixed effects regression to address potential homogeneity at the level of the primary sampling unit.

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\log \frac{p_{ij}}{1-p_{ij}} = \gamma_j + \beta_j X_{ij} + \epsilon_{ij}, \quad j = 1, \ldots, J - 1
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where \(\gamma_j\) is the probability of advancement from stage \(j\) to stage \(j+1\) and \(\beta_j X_{ij}\) captures the effect of explanatory variables on the probability of advancement.

In addition, given significant interaction effects between predictors and learning stages, we estimate fixed effects logistic regression models for each reading and math stage.

Discussion
The results of our study indicate that there is a significant advantage of being in a private school in terms of reading as well as math abilities. This advantage persists at all levels of advancement from no or little ability to the highest measured ability. Overall, children in English-medium schools are worse off, while the provision of mid-day meals has little effect.

Private tuition may have emerged as a key strategy to compensate for the poor quality or absence of teaching in school. Private tutoring for language may be an exception at these early grades, and it is effective only for children to be able to advance from having no reading ability. On the other hand, while children receiving private tutoring are better at recognizing numbers and doing subtractions, they are not better at divisions.

Girls, who do worse than boys at early levels, are catching up and no longer worse off at more complex reading and math abilities. Our study confirms that even after accounting for sex, grade completion, household assets, as well as school characteristics, children from disadvantaged social groups are performing worse off in school.

References