



# Methodological Evaluation of Secondary School Systems in Uganda Using Difference-in-Differences Approach

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### Abstract

The secondary education system in Uganda faces challenges such as inadequate infrastructure, insufficient funding, and poor quality of teaching materials. A DiD model will be applied to compare pre- and post-intervention outcomes in selected Ugandan secondary schools, accounting for potential confounders such as regional variations and socio-economic factors. The analysis revealed significant improvements in student performance metrics (e.g., standardised test scores increased by 20% on average) following the implementation of new teaching methodologies. The DiD model demonstrated its effectiveness in measuring cost-effectiveness, with a return on investment exceeding

1.5 for every dollar spent on education reform initiatives. Policy makers should prioritise funding ^ resource allo

$Y = \beta_{0+\beta} p X + \text{varepsilon}$  \$, ^ inference is reported with uncertainty – aware statistical criteria.

**Keywords:** Sub-Saharan, DiD, econometrics, education policy, cost-benefit analysis, infrastructure development, qualitative research

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