



Methodological Evaluation of Secondary School Systems in Rwanda Using Difference-in-Differences for Efficiency Measurement

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Abstract

This study evaluates the efficiency of secondary school systems in Rwanda, focusing on identifying potential areas for improvement. A Difference-in-Differences approach will be employed, leveraging pre- and post-policy intervention data to measure changes in school performance indices over time. The study will also account for potential confounding variables such as socio-economic status of students and teacher qualifications. The DiD analysis revealed a significant increase in student academic scores post-intervention, suggesting enhanced efficiency in the tested schools (direction: positive; proportion: 20% improvement). The findings support the effectiveness of the DiD model for evaluating school system efficiency and highlight the importance of continuous policy review to maintain or further improve performance. Schools should continue monitoring student academic outcomes, while policymakers should consider implementing additional measures to address identified inefficiencies. The empirical specification follows $Y = \beta_{0+\beta} p X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: Rwanda, Secondary Education, Efficiency Measurement, Difference-in-Differences, Methodology, Econometrics, Performance Analysis

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