

The Impact of Sectoral Foreign Direct Investment on Energy Poverty in Sub-Saharan Africa

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Abstract

The purpose of this research is to investigate the impact of sectoral foreign direct investment (FDI) on energy poverty, many researchers have studied the potential positive impacts of foreign direct investment on reducing energy poverty, Although the relationship between FDI and energy poverty has received increasing scholarly attention, the heterogeneous effects of sector-specific FDI remain both theoretically underexplored and empirically neglected. This research hypothesizes that because each type of business sector operates differently in terms of its economic linkages and social structures, each type of sector may lead to different levels of energy access improvements. We employed an unbalanced panel data set from twelve countries in sub-Saharan Africa during the years 1998–2023. Our estimation strategy was to apply four complementary estimators (pooled OLS, fixed effect models, random effect models, and Driscoll-Kraay robust standard error model and quantile regressions). Each of these estimators addressed a particular concern in working with panel data sets, such as multicollinearity, cross-section dependency, and distributional heterogeneity. The findings reveal substantial sectoral heterogeneity in the relationship between FDI and energy poverty in Sub-Saharan Africa. Manufacturing-sector FDI shows the strongest and most consistent association with reductions in energy poverty, while services exhibit weaker effects and primary-sector FDI remains statistically insignificant across most specifications.

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