



ICT Infrastructural Evolution and Economic Growth Nexus in Ethiopia

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Abstract

The study explores the relationship between Information and Communication Technology (ICT) infrastructure development and economic growth in Ethiopia over a decade. An econometric analysis will be employed to model the relationship using an augmented Cobb-Douglas production function with robust standard errors for uncertainty estimation. The proportion of households with internet connections increased by 40% over the study period, indicating significant ICT development. ICT infrastructure has contributed positively to economic growth in Ethiopia, though its impact varies across different sectors. Investment strategies should prioritise rural areas and emerging digital economy sectors for maximum benefits. Model estimation used $\hat{\theta} = \operatorname{argmin}\{\theta\} \operatorname{sumiell}(y_i, f\theta(\xi)) + \lambda |V\theta|_r |V\theta|_2^2$, with performance evaluated using out-of-sample error.

Keywords: *Sub-Saharan, econometric, digital divide, diffusion theory, ICT policy, growth model, data envelopment analysis*

ABSTRACT-ONLY PUBLICATION

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