

# INCORPORATING SOFT AND HARD INFRASTRUCTURE INVESTMENT INTO NEOCLASSICAL GROWTH MODEL: EMPIRICAL EVIDENCE IN CONTEXT OF DEVELOPING COUNTRIES

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## Abstract

By augmenting<sup>1</sup> neoclassical growth model this paper attempts to provide theoretical framework which could explain how public infrastructure investment affects GDP growth and empirically estimates the direction and magnitude of its impact on income per capita and growth dynamics by incorporating variables for government infrastructure spending and indexes of tertiary education in cross-country growth regression using the dataset for 44 developing countries averaged for the sample period of 1991-2010. The evidence indicates that public infrastructure investment in developing countries had positive impact on per capita income for the last two decades, though its magnitude was lower than that of private investment for about one third. In terms of impact on economic growth, public investment had greater effect than private investment once tertiary education variable from Barro-Lee dataset was used as proxy for human capital. Considered likely, education constitutes a significant determinant of economic growth, where tertiary education found to have an advantage over secondary in terms of significance and magnitude of the effect on growth rate of GDP per capita, while latter had higher impact on the levels of GDP per capita across countries.

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<sup>1</sup> The model is modified form of MRW's model, based on framework of Solow's classic article of 1956. MRW's model was built by extending Solow's growth model through incorporating human capital. See Mankiw et.al (1992)