Cyprus University of Technology

Department of Commerce, Finance and Shipping

Innovation, Public Capital, and Growth*

by

Kyriakos C. Neanidis

Senior Lecturer in Macroeconomics, School of Social Sciences, University of Manchester, and CGBCR

Abstract

This paper studies interactions between innovation, public capital, and human capital in an OLG model of endogenous growth. Public capital affects growth through productivity, innovation capacity, and human capital accumulation. Panel data regressions show that higher innovation performance promotes growth directly, whereas public capital (through quantity and quality effects) has both direct and indirect effects on growth by promoting human capital accumulation and raising innovation capacity. The direct growth effect operates in a nonlinear fashion, in line with "critical mass" models of infrastructure. Elasticity estimates derived from simultaneous equation techniques show that the general equilibrium effects of public capital on steady-state output per capita (which account for indirect effects though human capital and innovation) are signicantly higher than those derived from single equation methods.

*** Joint work with Pierre-Richard Agénor.**

Department of Commerce, Finance and Shipping
140 Ayiou Andreou Street, P.O.Box. 50329, 3603, Lemesos
Tel. 25002543 Fax. 25002766 Email. cfs.seminars@cut.ac.cy