

From Physical to Human Capital Accumulation with Pollution

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Abstract

This paper examines the effect of pollution on the decision whether to invest educational expenditure or not by employing a similar model to Galor and Moav (2004, Review of Economic Studies). Since more physical capital involves pollution and deteriorates a productivity of human capital investment, only when the physical capital is low level, positive educational expenditure arises and vice versa. Interestingly, multiple steady state of physical/human capital ratio can come into being, and the long-run production with low initial physical capital can get higher than that with high initial physical capital. This is because, due to pollution, only physical capital accumulation occurs with high initial physical capital stock, while both physical and human capital accumulation arises with low initial physical capital. This result is consistent with *resource curse*. When we introduce an abatement policy with distortionary taxation, we can show that to make regime shift occur, the government should set a tax rate more than the one that maximizes the long-run production with both physical and human capital accumulation. By implementing such a policy, the economy can solve the resource curse problem, enjoying more long-run production.

Keywords: Human capital, Pollution, Resource curse

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