A CLASSICAL MODEL OF SUSTAINABLE GROWTH

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ABSTRACT
of the paper to be presented at the
16th International Input-Output Conference
Istanbul, Turkey
2-6 July 2007

In modern theories of exogenous and endogenous growth, long run growth is constrained by the supply of man-made and human capital. Natural capital is not treated as a constraint, unless its supply falls below its exogenously given, critical level. At the same time, it is assumed that policy measures aimed at the conservation of natural capital can reduce the social marginal product of man-made an human capital below what is needed to sustain growth. In this paper, inspired by J. S. Mill's essays on Economics and Ethics, I analyse the trade-off between different growth paths in a two sector economy, where consumption and investment goods are produced by three inputs: man-made, human and natural capital. It is assumed that the consumption of the given stock of natural capital is, to a large extent, irreversible and that social returns to man-made and human capital inputs are increasing, but they are decreasing functions of natural capital inputs. In addition, it is assumed that profits are entirely reinvested and that consumers choose among different growth paths, characterised by different inter-temporal patterns of use of man-made and natural resources, on the basis of a multi-objective function.

JEL Classification: C61, C67, Q56

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