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4 . Abstract

Our purpose is to examine the effects of the constraint on educational choices of individuals and its policy implications. In considering economic development especially for latecomer economies, it is important to distinguish two types of human capital stocks accumulated through schooling and through learning-by-doing and productive knowledge spillovers. It is plausible education at schools is subject to diminishing returns, while the stock of productive knowledge increases with new capital investments since it is relatively easy especially for latecomers to learn productive knowledge by introducing new machines.

It is shown that if there is a constraint on educational decisions of individuals because of underdevelopment, the economy may converge to a steady state in which per capita output grows at the same rate as population growth. On the steady state the economy will have low income and high fertility. However, if the constraint continues to be relaxed by some policy measures as the economy develops, the stock of knowledge through school education increases and the fertility rate declines over time. Along the path, though the wage rate per working hour may be decreasing, individuals increase their education expenditure to obtain better wages as much as possible. Eventually, the constraint ceases to bind and the economy moves to the endogenous growth path on which educational expenditures as well as savings of individuals grow at the same rate as the growth rate of per capita wage income. The accumulation of knowledge through schooling (hereafter called academic knowledge in this study) is subject to diminishing returns, while the accumulation of physical capital stock brings about a proportional increase in productive knowledge through learning-by-doing and knowledge spillovers. Thus, on the equilibrium growth path, academic knowledge accumulated through school education is gradually replaced by productive knowledge accumulated through learning-by-doing and knowledge spillovers as the prime engine of human capital accumulation and hence economic growth, while the wage rate per working hour grows at a constant rate. This scenario of economic development seems consistent with the Japan's experience since the Meiji era.