steady-state nature of the process did not seem realistic, in the mid 1980s a new group of theoreticians began to look at "new growth theories". In part, this was also due to frustrations with the lack of policy impact available under the neoclassical model (the powerlessness of fiscal and monetary variables). Romer's 1986 seminal paper was the beginning of this new school of <u>endogenous</u> growth theory[9].

5. New or Endogenous Growth Theory

According to Fagerberg's excellent survey of the literature, the major figures in the new theory, Romer, Lucas and Scott, all "follow the Arrow-Kaldor route and assume that new investments (in physical and/or human capital) lead to technological progress in the form of learning by doing. This is assumed to be external to the firm, so that there are constant returns to scale at the firm level, but increasing returns to scale at the aggregate level."[10]

Endogenous growth theory suggests an explanation of why the anticipated convergence of economic performance amongst countries of the neoclassical model has not taken place: the beneficial <u>external</u>, economy-wide effects of capital accumulation outweigh the eventual limiting consequences of increasing capital per worker within a given firm. In a nutshell, the overall marginal productivity of capital does not decline with increasing GDP per capita.

Many of the new endogenous growth models incorporate mechanisms whereby economic and social policies are able to generate a link between policy and growth in the steady state. Some are even able to generate a link between policy and growth in the long run by assuming aggregate production functions that exhibit non-decreasing returns to scale. Romer's 1986 paper saw technological change as endogenous by assuming that it is a public good and that private capital investment raises the level of technology for the society at large. The positive externality associated with private investment leads to a production function with increasing returns to scale. Thus, the steady-state growth rate increases when the

---

[9] Paul Romer, "Increasing Returns and Long-Run Growth", <u>Journal of Political Economy</u>, Vol. 94, No. 5 (October 1986).

[10] Jan Fagerberg, "Technology and International Differences in Growth Rates", <u>Journal of Economic Literature</u>, Vol. XXXII (September 1994).