Demographic transition and (neo-classical models of) balanced growth

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Summary
The present paper is composed by two distinct parts. The first part discusses the role played by population dynamics in the modern theory of economic growth, starting from its classical roots. In the second part we concentrate on one of the major concerns by scholars in demo-economics i.e. the endogenous explanation of the demographic transition. After having reviewed the main results of the recent literature, we discuss the insight that is provided by Solow-type neo-classical models once they are endowed with "transitional" assumptions. Although Solow's model is usually considered unable to explain the main facts of the transition (Chu 1998), we believe that it may still offer insight on fundamental aspects of modern growth, once we adequately endow it with hypotheses which are coherent with the demographic transition. In this paper we embed, within the model of Solow, the two main perspectives used to represent the patterns of the transition. First we develop a Solow-type model in which the typical transitional feature, namely humped fertility as per-capita income increases, is the outcome of fertility choice in a maximising framework. Second we follow the typical argument of the emergence of the transition as the consequence of asynchronous patterns of decay of mortality and fertility as per-capita income increases, as adopted in several recent modelling efforts. We also justify the latter approach within the "diffusionist" perspective, which argues that diffusion effects have proved to be more important than demand-supply mechanisms in explaining the transition. The effects of the transition are subsequently analysed under both constant returns to scale (CRS), and decreasing returns to scale (DRS). DRS, which are typical of developing countries, lead to important differences, compared to CRS, which have not (with the exception of Strulik 1999), so far, been stressed in the literature on growth. We also consider the consequences due to Cobb-Douglas versus general CES technologies. The analysis gives insight on two important aspects: i) the existence of poverty traps and the historically observed mechanisms of escape; ii) a more flexible notion of convergence which appears a powerful explanatory tool for empirically observed dynamics.