

Industrial Revolutions and Demographic Transitions

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Abstract:

We generalize the class of growth models in which the scale of the economy has level rather than growth effects, and study the implications of different demographic and research policies when both fertility choice and research effort are endogenous. The model incorporates two dimensions of technological progress: vertical (quality of goods) and horizontal (variety of goods). Both dimensions contribute to productivity growth but are driven by different processes and hence react differently to specific policies. For example, while unbounded vertical progress is feasible, the scale of the economy limits the variety of goods. Incorporating Jones' (1998) suggestion of a natural linearity in reproduction generates steady-state population growth and variety expansion. We thus have two engines of growth generating dynamics that we compare with observed changes in demographics, market structure, and patterns of growth. This allows us to study industrial revolutions and demographic transitions as two interdependent forces driving a country's process of economic transformation.