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Demand-based structural change and balanced economic growth

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ABSTRACT

We analyze the equilibrium of a multi-sector exogenous growth model where the introduction of minimum consumption requirements drives structural change. We show that equilibrium dynamics simultaneously exhibit structural change and balanced growth of aggregate variables as is observed in US when the initial intensity of minimum consumption requirements is sufficiently small. This intensity is measured by the ratio between the aggregate value of the minimum consumption requirements and GDP and, therefore, it is inversely related with the level of economic development. Initially rich economies benefit from an initially low intensity of the minimum consumption requirements and, as a consequence, these economies end up exhibiting balanced growth of aggregate variables, while there is structural change. In contrast, initially poor economies suffer from an initially large intensity of the minimum consumption requirements, which makes the growth of the aggregate variables unbalanced during a very large period. These economies may never exhibit simultaneously balanced growth of aggregate variables and structural change.

1. Introduction

The recent economic growth experience of US and other developed countries is characterized by two different sets of facts, which were illustrated by Kuznets (1957) and Kaldor (1961), respectively. The Kuznets facts are defined by the change in the sectoral shares of employment, which is a pattern observed in most economies. Fig. 1 shows evidence of this long run trend in the US. In particular, we observe that during the period from 1869 to 2005 labor moved from agriculture to manufactures and services. The Kaldor facts are observed in some developed economies during the last decades and are defined by the balanced growth of the aggregate variables. This balanced growth is identified by an almost constant interest rate and an almost constant value of the ratio of capital to GDP. Fig. 2 shows that the time path of the ratio of capital to GDP in the US does not exhibit clear trends in the last decades. Therefore, during the last decades, some developed economies exhibit both balanced growth of aggregate variables and structural change. Recently, there is a growing interest in analyzing whether multisector growth models can simultaneously explain the Kaldor and Kuznets (K–K, henceforth) facts. In this paper, we contribute to this analysis.

Most multisector growth models cannot explain K–K facts when structural change is driven only by the accumulation of production factors. In these models, the equilibrium exhibits structural change and unbalanced growth during the transition, whereas it exhibits a constant sectoral composition and balanced growth in the long run. Therefore, these models cannot explain

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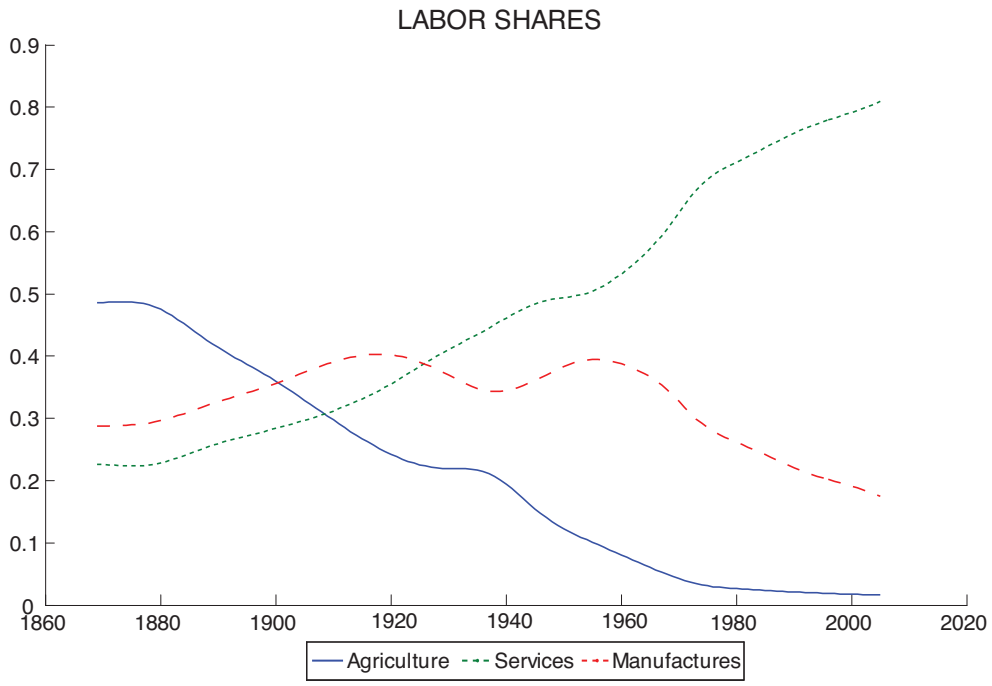

Fig. 1. Labor shares in the US. Source: Historical statistics of the U.S.

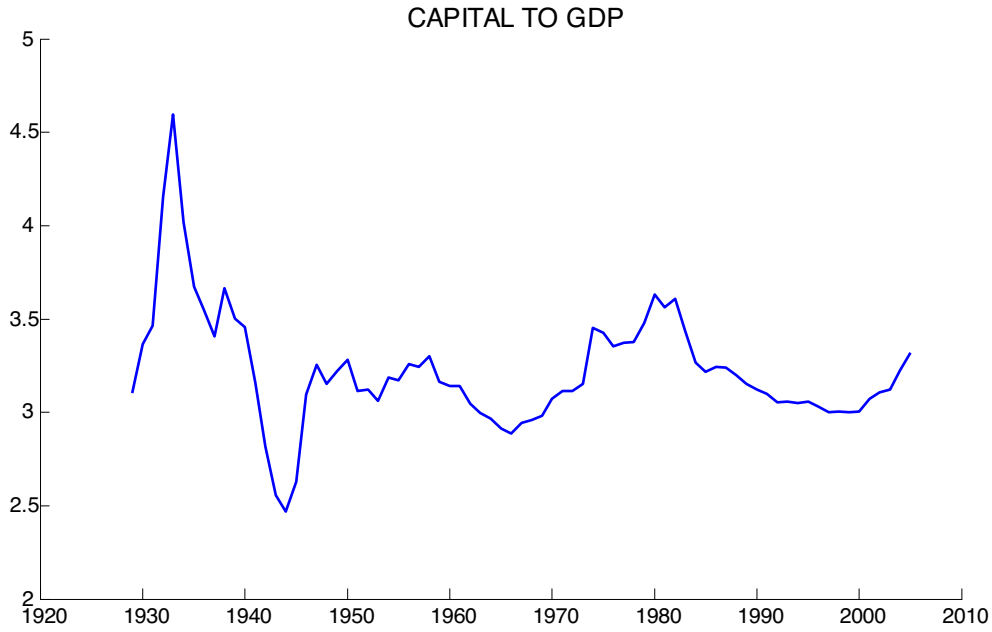

Fig. 2. Ratio of capital to GDP in the US. Source: U.S. Bureau of Economic Analysis.

equilibrium dynamics along which aggregate variables exhibit an almost balanced growth path, while there is structural change. Recently, the growth literature has introduced additional factors driving structural change in order to explain both sets of facts. This literature has distinguished between models where structural change is driven by supply factors and models where it is driven by demand factors.[1] On the one hand, supply factors are changes in relative prices that through a substitution effect

[1] See Herrendorf et al. (2014) for an extensive review of the literature on structural transformation.