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The role of the service sector in the process of industrialization

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Abstract

The goal of this paper is to examine the role of the service sector in the process of industrialization. We propose a model which recognizes that (non-traded) services are demanded by consumers as well as producers. Income increases thus lower production costs of industrial goods. The inclusion of non-traded services enables us to explain how a primary exporting economy can industrialize without resorting to protection. This paper can be construed as a formalization of some aspects of the Staple Theory of Growth. © 2002 Elsevier Science B.V. All rights reserved.

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1. Introduction

Is high agricultural output (per capita) a help or a hindrance to industrialization? The historical evidence is mixed. The Industrial Revolution in Britain, it is believed, was made possible by the agricultural revolution that preceded it (see, for example, Lewis, 1978, p. 161). Canadian development is often explained by the Staple Theory of Growth which posits that agricultural growth played a causative role in Canada's industrialization (see, for example, Watkins, 1963). And yet, as Matsuyama (1992) points out, there are many striking examples of agriculturally deprived countries such as Belgium and Switzerland that became leading industrial nations before their land-abundant neighbours. The Asian Miracles include city states like Hongkong and Singapore as well as agriculturally

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developed countries like Taiwan. It is tempting to argue that land-scarce countries have no choice but to industrialize and that, over time, their land-scarcity turns out to be a blessing in disguise. On the other hand, there is no dearth of examples among developing countries where a state of sustained low agricultural productivity is not spawning industrialization.

One can see intuitively that there is a trade-off: high per capita agricultural output implies high wages but it also means high domestic demand for industrial goods. High wages work against the emergence of an industrial sector that could withstand international competition. High domestic demand is conducive to the emergence of an industrial sector in a closed economy but seems less relevant in an open economy. Unless there is evidence that countries with high agricultural output per capita were successful in keeping their economies closed (or, in effectively protecting their nascent industrial sectors from international competition) during their industrialization, we cannot claim to have explained how they industrialized. In fact, the land-surplus countries of North America developed through growth financed by primary exports; an open economy was the key to their development and the Staple Theory of Growth is a recognition of this.[1] The core of the Staple Theory is the set of linkages (both on demand and supply side) spawned by the expansion of the primary (export) sector. There has been substantial literature on the Staple Theory (Baldwin, 1956; Innis, 1957; Buckley, 1958; Aitken, 1959; North, 1959; Watkins, 1963), but much of it was done over 40 years ago and, as a result, the arguments were not couched in terms of rigorous models. It is worth noting that the linkages deemed important in this literature were services such as transportation and communications.

Recently, Matsuyama (1992) presented an elegant and rigorous model capturing the trade-off stemming from high agricultural productivity. In a closed economy, high agricultural output aids industrialization through the creation of industrial demand and, once an industrial sector is created, industrial productivity grows through learning-by-doing. In an open economy, on the other hand, a country with comparative advantage in agricultural goods may never industrialize unless, presumably, it protects its nascent industry through government-sponsored means. Any further development of its agricultural productivity would further entrench its comparative advantage. Matsuyama's model explains why high agricultural output per capita helped in the process of industrialization in some countries while it hindered this in some others. However, it does not explain how industrialization occurred in some countries despite feeble attempts at protecting its nascent industry (e.g., Canada). Matsuyama's model embodies the linkages from the demand side but not those on the supply side and, therefore, is not designed to take into account the arguments advanced by the Staple theorists.

Matsuyama (1992) is our point of departure. Starting with the same motivating question (Is high agricultural output per capita a help or a hindrance to industrialization?), we build a model that explicitly takes into account the supply side linkages that the Staple Theory deems important (e.g., services such as transportation and communications). Specifically, we focus on the role of the service sector in the process of industrialization. Implicit in the

[1] Canada and the US had tariffs during their industrialization. Harley (1992) has argued that tariffs on cotton textiles played a key role in the emergence of textile industry in Northeastern United States but no such argument has been made for any other part of the US industrial sector. Canada had an average of 30% tariff in the late 19th Century but few economic historians claim that it was instrumental in industrializing Canada.