Market Led Industrialization and Globalization

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Abstract

The paper introduces asymmetric production conditions between firms and asymmetric transaction conditions between countries into the Murphy-Shleifer-Vishny model of industrialization. It explores a general equilibrium mechanism that generates circular causation loop that each firm’s profitability and its decision of involvement in a network of industrial linkages is determined by the size of the network, while the network size is in turn determined by all firms’ decisions of participation. It shows that the very function of the market is to network relevant self-interested decision-makers and to utilize the network effects of industrialization, though this function is not perfect. Hence, market led industrialization will gradually spread until the whole world economy is integrated in a single network of trade and industrial linkages as trading efficiency is improved. This paper devises a new approach to specifying zero profit condition for a marginal modern firm, while keeping original feedback loop between positive profit and the extent of the market of the MSV model. Hence, this new method and the trade off between economies of scale and transaction costs can be used to endogenize the number of modern sectors, thereby increasing applicability of this type of models.

- JEL Classifications: D30, F10, O10
- Key Words: income distribution, division of labor, dual structure, economic development, trade pattern, economies of scale, network effect of industrial linkage.

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I. Introduction

The purpose of the paper is threefold. First, it formalizes one branch of high development economics which describes industrialization as a market led gradual spreading process. Second, it investigates effects of transaction conditions, which are affected by geography, institutions, and transportation and communication technology, on gradual spread of industrialization. Finally, this paper devises a new method to handle the Murphy-Shleifer-Vishny (MSV) model (1989). This new method will extend applicability of this model to the analysis of many trade and development phenomena. Let us motivate the three tasks one by one.

Since the end of the 1980s, many general equilibrium models with increasing returns have been developed to formalize what is called by Krugman (1995) “high development economics.” There are two different views in high development economics. One is referred to as the theory of big push and balanced industrialization, represented by Rosenstein-Rodan (1943) and Nurkse (1952). The other is referred to as the theory of unbalanced industrialization, represented by Fleming (1954) and Hirschman (1958). When economists were not familiar with technical substance of general equilibrium models, they can only use vague words to address general equilibrium phenomena, such as circular causation, interdependent decisions in different industries, pecuniary externality of industrial linkages, and so on.

In essence, Rosenstein-Rodans idea (1943) about big push industrialization is to advocate for state led industrialization because of coordination failure in exploiting network effects of industrial linkages in a decentralized market. This idea is formalized by the MSV model with the feedback loop between the extent of the market and economies of scale that can be exploited. Hirschman’s idea (1958) about pecuniary externality of industrial linkages relates more or less to market led industrialization since the network effects of industrial linkages are pecuniary (which can be exploited by the price system). Term “balanced vs. unbalanced industrialization” may be misleading. Unbalanced industrialization strategy may be associated with specialization of a country in a particular sector and international division of labor between countries. Hence, from a view of the world market, such a strategy is a balanced industrialization strategy, although it is not balanced within a single country (Sheahan, 1958). We shall extend the MSV model to formalize Hirschman’s idea on market led spread of industrialization.

Casual observation indicates that industrialization was gradually spread from