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INDUSTRIALIZATION IN DEVELOPING COUNTRIES: SOME EVIDENCE FROM A NEW ECONOMIC GEOGRAPHY PERSPECTIVE

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DISCUSSION PAPERS

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Comments on this paper are invited and may be addressed to the author, c/o the Publications Assistant,* Macroeconomic and Development Policies, GDS, United Nations Conference on Trade and Development (UNCTAD), Palais des Nations, CH-1211 Geneva 10, Switzerland. Copies of Discussion Papers may also be obtained from this address. New Discussion Papers are available on the website at http://www.unctad.org.

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Jörg Mayer

(United Nations Conference on Trade and Development)

Abstract

The paper draws broad predictions from the developmental elements of new economic geography models and subjects them to empirical scrutiny. Industrial activity has spread from developed to geographically close developing countries in sectors that are intensive in immobile primary factors and not too heavily dependent on linkages with other firms. Only developing countries with an already established industrial base achieved industrialization in other sectors. The sizable change in both the size and structure of manufactured exports from developing countries has not been associated with corresponding changes in manufacturing value added. To benefit more from relocating industrial activities, developing countries need to create the critical mass of linkages that provide pecuniary externalities to industrial firms.

I. INTRODUCTION

Changes in the sectoral composition of trade and production constitute a centrepiece in the structural transformation that accompanies economic development (see Syrquin (1988) for a survey). Differences in relative factor endowments, technology or policy regimes have traditionally been seen as determining differences in the pattern of economic activities across countries. Such explanations have recently been supplemented by contributions to the new economic geography, which emphasize mechanisms that lead to agglomeration of industrial activities in geographic space and show why even initially similar countries can develop very different production and trade structures. These models (e.g. Fujita, Krugman and Venables 1999) formalize forward and backward linkages between industrial firms that had long been discussed by development economists (e.g. Hirschmann 1958) and show that firms benefit from being close to each other because of direct input-output linkages among them.

In this framework, the current process of globalization – in particular the decline in trade barriers and the growing role of intermediate inputs in world trade – has a crucial effect on the geographical location of industrial activities. A decline in trade barriers below a certain threshold reduces linkages pulling towards agglomeration and strengthens forces related to relative endowments of immobile factors that pull towards a less concentrated distribution of industrial activities in geographic space. Thus, globalization tends to change the balance between dispersion and agglomeration forces and to favour the spread of industrial activities from developed to developing countries. However, this spread of industry is unlikely to be a smooth process and affects neither all developing countries nor all industrial sectors at the same time or to the same extent. In particular, the intensity of intermediate input use differs across industrial sectors so that rapid growth in world trade of intermediate production inputs may cause specialization trends in trade to differ from those in production. This raises important empirical questions as to the impact of the current wave of globalization on the development of countries' production and trade structures and on the geographic concentration of a particular economic activity. The main objective of this paper is to examine these questions with a focus on industrialization in developing countries.

Empirical studies on the relationship between trade, industrial location and development accompanied the theoretical work of Hirschmann (1958) and other early development economists and, indeed, were a prominent feature of the development literature in the 1950s and 1960s. By contrast, work in the area of the new economic geography has remained mostly theoretical. Given the focus of the major part of new economic geography models on the different fortunes of economies with similar underlying characteristics, there is little systematic empirical evidence on changes in locational patterns at the international scale, except for a number of studies that focus on the European Union or other member states of the OECD (for a survey see Overman et al. 2003).

This paper goes beyond existing studies in a number of ways. First, it emphasizes the developmental elements of the new economic geography literature and draws broad predictions for empirical analysis from this framework. However, its main contribution is to the empirical literature as it supplements (i) empirical work of the early development literature on the relationship between trade, industrial location and development by looking at the more recent years that have been characterized by a strong decline in trade barriers, and (ii) empirical work within the new economic geography literature by basing the statistical and econometric analysis on a wide geographical coverage that includes countries at different levels of development, as well as by focusing on the difference in evolution of manufactured exports and manufacturing value added.[1] Finally, the paper estimates an empirical model on the centre-periphery dimension in sectoral location patterns for a sample that includes countries at different levels of development and on the basis of two different measures.

The remainder of the paper is in six sections. Section II presents the theoretical setting and distils broad predictions regarding changes in the spatial distribution of manufactured exports and manufacturing value added. Section III concentrates on data and measurement issues. Section IV discusses aggregate evidence on changes in the distribution of world exports of manufactures and manufacturing value added during 1980–2000. Section V examines locational Gini coefficients for countries and for manufacturing sectors. Section VI presents and estimates the empirical model on the importance of centre-periphery gradients in sectoral location patterns. The last section summarizes the main conclusions.

II. THEORETICAL FRAMEWORK AND EMPIRICAL PREDICTIONS

II.1. The general framework of new economic geography models