

The new constraints of international integration of developing countries

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Abstract

The aim of this paper is to analyze the new integration conditions of developing countries into the international division of labor, taking into account the changes that it has undergone over the past three decades. It is a problematic that fits into the double logic of internalization economies striving to anchor since the 1980's. On the one hand, we are witnessing the configuration of regional blocs, free trade areas and the growing economies globalization embodying the abolition of frontiers and allowing the more and freer international location of firms, on the other hand. We will try to explain, theoretically, how globalization has tended to rely on the conquest of specific skills rather than the exploitation of common factors obeying the logic of comparative advantage based on low production costs. On one side, the diffusion of technology leads to a restructuring process of international production systems following a selective basis, striking- first-the countries with natural endowments. On the other side, the specialization acquired by industrial countries on specific skills is permanent and combined with comparative advantages recoveries in sectors deemed unmarked according to the product life cycle theory, or unskilled labor-intensive following to the neo-factorial international trade developments.

Keywords: Competitiveness, integration, technological transfer, technological advantages.

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1. Introduction

We will try to explain, theoretically, how globalization has tended to rely on the conquest of specific skills rather than the exploitation of common factors obeying the logic of comparative advantage based on low production costs. On the one hand, the diffusion of technology leads to a restructuring of international production systems following a selective basis, striking first countries with natural endowments. On the other hand, the specialization acquired by industrial countries on specific skills is permanent and is combined with recoveries of comparative advantages in sectors deemed unmarked according to the theory of the life cycle of the product, or unskilled labor-intensive according to the neo-factor developments of international trade.

1.1. The new foundations of international integration: the emergence of technological advantages

International integration is more and more manifested by a growing concentration of trade and financial flows. We note, moreover, the rise of the exchange of technology between developed countries in the recent decades occasionally involving some emerging countries. This new state dictated by new technologies is likely to reshape the pattern of international division of labor in favor of countries monopolizing the activity of innovation. This implies that developing countries are exposed to the risk of marginalization compared with their competitors even the exclusion of the integration process because of these technological gaps. The years 1960-1970 have shown the insertion of newly industrialized countries in the international division of labor. This momentum was driven by an international decomposition of the production processes dictated by the logic of comparative cost advantages. However, technological developments and changes in both structure and nature of global demand since the early 1980s have led to a redefinition of the determinants of the productive activities location and the rejection of the comparative advantages logic based on the differential costs of production. Therefore, a new aspect of competitiveness has emerged and we are now talking about the technological advantage.

1.2. New international division of labor: towards marginalization of developing countries?

The international division of labor was forged in the past around the logic of production cost differentials from comparative advantage in terms of factor endowments. Nowadays, in a more and more uncertain environment characterized by an intensifying competition, the firm having a perfect ability to anticipate demand must now cope with the requirements imposed by the instability and variability of the latter. Therefore, these determinants are far from being similar to those that have defined the old international division of the production processes which justifies the emergence of new conditions of international reorganization of the production processes. Indeed, we are now witnessing major changes in production systems due to the technological innovation as well as changes in the consumer preferences. This has spawned a new context determining the competitiveness since it is no longer appreciated only by the low cost of production but mostly in terms of the ability of firms to innovate or, otherwise, to acquire this innovation. Thus, apart from a new foundation for the production organization, we emphasize an upheaval at the essence of the labor division within the firm. The latter migrates from a technical and optical performance to a skill and learning one. The knowledge content in productive activities now defines the production division dictated by skills which generates a more relevant reorganization of production processes. Thus, the determinant of implementation activities slip from an optical benefits in terms of comparative costs to a perspective access to specific factors such as skilled labor. This cognitive division of labor requires a geographical or/and cultural proximity of production activities by reference to the constraint of reintegration and coordination of production systems components. Therefore, the impact of technological change develops new aspects of productive processes decomposition; the criterion of decomposition is no longer limited to the simple restriction of costs, but rather to the access to specific factors controlling necessary knowledge blocks, the countries provided with the only low-cost abundant labor advantages and natural resources are discarded from multinational

firms delocalization operations whose determinants are more and more joining positive externalities, quality, cost and competence criteria. Moreover, multinational firms-which represent the common thread of the geographical and sectorial orientation of international trade - are looking for the exploitation of the specific skills and not merely the generic combination of factors, calling into question the classical theories of international trade supposing the irreversibility of specializations. Indeed, these new criteria for delocalization are likely to represent a serious threat to some emerging economies which may lose their comparative advantages even in low cost abundant labor areas. It would be appropriate to reflect on the reasons and mechanism of such a phenomenon, not presaged by the classical theories of international trade.

We should expect that the technological development leads to reorganizing the division of labor so that the developed countries-holders of innovation-would be devoted to technological packages where they monopolize comparative advantage according to their cognitive endowments. Once these products reached the stage of trivialization, they are relocated towards developing countries-intensive in unskilled labor- where a process of imitation and learning should be started. Normally, the removal of innovative countries in such areas would be irremissible according to the neo-factor theory reporting the delocalization phenomena from rich countries to less developed ones (Rauch, 1986). However, the reconquest of the comparative advantages of rich countries in such sectors is accompanied by a restructuring international production systems and repositioning operations. How should the reconquest of the comparative advantage of countries- formerly industrialized- on the same product be revealed?

A first answer is given by admitting that a specialization based on cognitive resources leads- from the ripening stage -to a degradation of the revealed comparative advantage derived from these skills. Enjoying specific expertise on a range of products with high technology content, the developed countries have the ability to forge absolute advantages in terms of natural resources in which they testified, however, a complete unavailability. Therefore, the concept of complete unavailability of the North in some resources or endowments becomes relative. Furthermore, Grossman and Helpman (1991)-through a two- country model with different technological potential of a world economy- successfully demonstrated it. Southern producers imitate the products created by the North and Northern producers can innovate in the manufacture of these products. However, according to the model, the North insists on completing its innovation efforts, vowing to regain and consequently repatriate it, given its initial specific skills asset. The authors perceive counterfeiting practiced in the South as an activity in itself requiring resources, which rejects the assumption of a spontaneous and systematic dissemination of innovation in the world. In addition, support strategies and assistance in research in the Northern countries strengthen the quota of resources allocated to this activity and, therefore, likely to innovate which compromises the activity of imitation in the South. The result is such that the northern countries regained their misplaced assets on mature products in the product cycle. In fact the product cycle undergoes brokenness, which is the result of latency on the country's specialization skill set that contributed to the design and manufacture of the product and then begin a phase of trivialization induced by the imitation process.

It is necessary, however, to draw attention to the fact that it is simply the basic functions of the product which are imitated; manufacturing arrangements do not coincide with those of the innovative country. Thus, to recover their advantage, the northern countries will introduce two types of innovation: the first deals with processes and the second is related to products. Grossman and Helpman annotate that these innovations are the result of absolute advantage in knowledge initially held by the North.

1.3. Determinants of international competitiveness

At the risk of being marginalized, face to the possibility of regaining the comparative advantages of the industrialized countries, the emerging ones hardly have any choice about the integration conditions into the global context. Indeed, it is that technology now forges competitive advantage of economies and is a prerequisite of successful integration into the global economy. Therefore, it would be interesting to understand this phenomenon through a review of the literature dealing with -on the evolution in time - the determinants of international competitiveness of countries.

According to macroeconomic theory, a depreciation of the real exchange rate, causes- all things being equal- the stimulation of exports and the easing of the external constraint. From this perspective, the devaluation of the national currency is considered as a way of promoting international competitiveness. For traditional theories, international trade is explained by the differences between countries 'comparative advantages. According to the Ricardian model, comparative advantage is measured in terms of labor productivity across industries. The technology gap would involve the disposal of the nation of natural and artificial advantages. Technology is supposed to be exogenous to the economic system, definitively given to all nations without any possibility of imitation between countries (Nezeys, 1993). The Hecksher-Ohlin, meanwhile, reflects the comparative advantage in terms of factor endowments assuming that technology is freely accessible, non-appropriable and confused to information that firms must deal with immediately. Finally, the traditional theories are based on the axiom that international trade is based purely on the determinants of competitiveness based on costs by removing completely non cost factors. Nevertheless, the empirical results (Gordon, Oliner & Sichel) that have been highlighted insist that the comparative advantage is not determined only in terms of production costs, but also the mastery of technology and the ability to innovate. Theories of endogenous growth models derived from Ethier (1982), Romer (1987), Rivera-Batiz and Romer (1991) have overcome shortcomings of traditional theories by recognizing the endogenous aspect of technology and demonstrating the diversity of capital goods generating endogenous returns to scale on the one hand, and boosting the invention of new goods dependent on the level of knowledge on the other.

The incorporation of the technological phenomenon in the apprehension of comparative advantage insinuates absolutely the calling into question the traditional pattern of technology. Thus, it is no longer recognized as given but such a potential may be realized by the nations and forge their ability to thwart the increasingly fierce competition in an international market on continuous integration. As part of this logic, the Porter querying (1985) "Why and how are the technological skills that provide commercial supremacy created?" reflect the predominant role of factors beyond cost, especially innovation in assessing the international competitiveness. In addition, it addresses specifically the issue of technological creation marking the evolving and dynamic nature of the innovative mechanism and conjecturing the deployment of a learning process which is inserted in innovation activity.

Notwithstanding, the technological skills are not consolidated only through learning. They are able to be built as a result of creation strategies (R & D internal / external cooperation agreements) or acquisition (imitation). In the latter case, a minimum of basic skills is indispensable in order to assimilate and capture information. Nowadays, the illustrious technological gap between the developed countries and the emerging ones compromises -a priori- their chance to catch up and achieve their integration into the global economy. It tends to support the argument of the international division of labor. In addition, the great upheavals of the techno-economic system, globalization of production, market integration have resulted, especially in the 1980s, the profusion of cooperation agreements between firms and the exacerbation of firms' internationalization phenomenon. They, therefore, sparked debate on the predisposition of developing countries to exploit the opportunities offered by the gleaming technological soaring in developed countries and to build competitive advantage in the global marketplace.

Thus, if we are witnessing today an infallible competition in developed countries for innovation, a tenacious race to appropriate new technologies has simultaneously exploded among developing ones.

2. Conclusion

We have analyzed in this essay the new constraints of international integration which the developing countries are now facing. Indeed, as we have indicated, the technological change has led to new aspects of production processes decomposition and new criteria for comparative advantage apprehension.

Indeed, this new international division of labor challenges the static comparative advantage conception of traditional theories of trade and approaches used to justify "endogenous" specialization and dynamic comparative advantage. In the new theories of international trade, comparative advantage will be explained in terms of learning processes, economies of scale and dynamics of innovation.

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