

THE EFFECTS OF TRANSITION FROM A TECHNICAL DIVISION OF LABOR TO A COGNITIVE INTERNATIONAL SPECIALIZATION

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Abstract:

The evolution towards an informational society implied mutations in the competitive advantages of countries of the world, being advantaged those who produce goods with a high content of creativity, those who manage to fit in the modern patterns of international specialization and disadvantaged those who remain in traditional types. In the context of the increasing complexity of economy, the productive activity is oriented more and more to combining the specialized skills, requires strategies for the companies to rapidly acquire skills through a process of transforming information into knowledge. As a consequence, the very principle of division of labor will be renewed. It will transform from a technical and efficiency based sense to one based on competence and knowledge.

Keywords: specialization, technology, cognitive, globalization, trade patterns

JEL Classification: F10, F11, F16

INTRODUCTION

In the last two decades of the XXth century and the first decade of the XXIth century in the world economy have emerged new economic and technical patterns which led to a evolution toward a society based on the use of technologies based on microelectronics, informatics, biotechnologies, new materials, Internet and other modern means of communication, a primarily informational society. The impact of the new technologies is, also, reflected in shifts in competitive advantages of countries of the world, being advantaged those producing goods with a high content of creativity. It raises new theoretical and practical questions about the optimal recovery of production factors, about the international specialization.

The benefits of the international trade are not limited to international trade. Advantages or disadvantages arise as a result of flows of capital and labor, the last representing the trade with present goods to produce future goods. International trade with assets (equity or debt securities) enables each countries wealth diversification. Although, in general, all countries can gain from international economic flows, not all can benefit, because of the redistribution of income. Usually, there are advantaged the countries which manage to fit into the modern patterns of international specialization and there are disadvantaged those remaining in traditional ones.

RESULTS AND DISCUSSIONS

The very deep changes in global economics have occurred as a result of the process of renewal and modernizing of the economic structures in highly developed countries. The decisive moments in the acceleration of this process were "the Californian revolution of the microprocessor" and genetic engineering. These two represent, in the opinion of M. Richonnier, "the most spectacular component of a new technological revolution, announcing a third industrial revolution by itself" [4, p. 22]. The new industrial revolution has determined the restructuring of all production and consumption methods and has given birth to "the informational society, in which science, technology, educational and research staff play the key role" [4, p. 15].

The structural changes that have taken place in highly developed countries (USA, Japan, Western European countries) in the context of this revolution have had direct repercussions on the ways of participation to global labor division through such effects as: the increasingly extensive implementation of organological specialization models, the renewal and variation of inter and intra-

b.) *a specific effect related to the new information technologies* - which made it possible to obtain different products at the same time, or at least to obtain large varieties of the same product, without involving high capital expenses.

The effects of the technical changes favor the new specialization patterns; the criterion is not anymore simply restricted to cost minimizing. Companies will take into account more and more the access to specific factors which suppose the mastering of the necessary amount of scientific knowledge. This is the reason why countries whose only advantages are the availability of abundant and cheap workforce or of natural resources do not look attractive for the operations of dislocation performed by multinational companies. Dislocations continue to take place, but their determining factors take into account more and more the criteria of positive foreign relations, of quality, of competence and of costs.

Multinational companies, which represent the key elements of the sector based and geographical orientation of international exchange of merchandise and capital, aim at the exploitation of specific competencies rather than at the simple mix of generic factors.

The reduction of the specialization of the developed countries in such sectors should be irreversible and, moreover, it should lead to a wide transfer towards less developed countries, which are able to provide a large amount of work force. However, the recovery of the comparative advantages in these sectors by the developed countries triggers an international reconstitution of

productive processes, of international and sectorial specialization types and of the economic activities relocation operations.

Thus, the limitation of certain raw materials or any other production factors becomes relative. These substitution effects will mainly affect the mineral or agricultural raw materials exports from less developed countries towards developed countries; therefore, a long term specialization in scientific competencies can be followed by changes in the products specialization (the erosion of the natural advantages of the less developed countries).

The product life cycle theory (Vernon - 1966, Krugman - 1978, Flam and Helpman - 1987) does not explain this paradox of the return of the advantages, on the same product, to the innovative country. We can exemplify here with the recovery of the comparative advantage of Switzerland, in the field of horology, back in the '90s of the previous century, after intense erosion, a decade before, which occurred as a consequence of the new industrialized countries in South-Eastern Asia. The revival of the so-called traditional or work-intensive industries demonstrate this transformation: a country which possesses specific resources which enable the manufacture of a group of products has a long term advantage. The reversibility of the specialization also occurs at the product level. The countries which possess specific competencies (innovation, human resources, positive foreign relations) can recover the once lost advantages in favor of less developed countries, which limited themselves to imitating these products. Although the above-mentioned theory presupposes a permanent loss of the innovative country's advantage over the imitated and delocalized product, the latest transformations demonstrate that the same country may as well recover the advantage over the product in question. It will introduce two types of innovation which will allow the recovery of advantage over the new types of the original product: procedure innovation and product innovation. The source of these innovations is the absolute advantage the country has in terms of research-development activities and cognitive resources.

CONCLUSIONS

This analysis of internationalization on the basis of specific competencies is mostly verified through the polarization-concentration of goods and direct foreign investment exchange between and within the Triad's development poles. The marginalization of the countries endowed with "natural resources" (work force and primary resources) is expressed by their being increasingly excluded from the international alliances and agreements regarding technology. At the same time, the changes in the orientation and the determiners of direct international investments at the beginning of the 90's of the previous century, confirm the recoil of the logic of the international segmentation of the production processes, based on the exploitation of the advantages related to the comparative costs for the developing countries. As an effect, we witness an intense and rapid growth of direct foreign investments in the last two decades; however, this faces a double reorientation- geographical and sectorial- and a triple change- in terms of nature, determiners, and its forms. *Geographically* speaking, the developed countries are not only the main direct foreign investors, but they are also the main receivers. Countless studies demonstrate that the developed countries have been operating 95% of direct foreign investments since the mid-'80s of the previous century, and have been receiving over 80% back. This polarization of direct investments between developed countries is followed by the increase of the direct foreign investments, crossing at the intra-industrial level; as far as *sectors* are concerned, the contribution of direct foreign investments in primary sectors decreases in favor of the manufacturing industry and, more importantly, in favor of services, which represent over 40% of total investments, in contrast with 25% at the beginning of the 70's of the previous century; while the *nature* of direct foreign investments, by the end of the 70%, used to be of the vertical integration type, at present, most of these investments are horizontal; some mutations, in terms of main *determiners* of direct foreign investments, correspond to all these changes, which took place in the complex context of geographical and sectorial orientation. A dramatic decrease of the traditional determiner's role, regarding the factorial endowment, can be noticed. Countless studies emphasize the great importance of technological advantages in the

While globalization, determined by the activity of great multinational companies, can trigger a process of exclusion of the "naturally endowed" countries from the international fluxes, regionalization creates, at least on a short or medium term, the favorable conditions of a more active participation, on behalf of developing countries, in the global economic context.

1. Cocora, E., *Globalizare i management*, Ed. Feed Back, 2007, Ia i
2. Drucker, P., *The Age of Discontinuity*, Harper and Row Publishers, New York
3. Payne, R., J., *Global Issues. Politics, economics, culture*, Ed. Pearson Longman, 2007
4. Richonnier, M., *Les metamorphoses de l'Europe de 1969 à 2000*, Ed. Flammarion, Paris, 1985
5. ***, *Region et developpement* 1995. 2 Globalization et integration regionale, *Ed. Harmattan*, 1996
6. ***, *Structures industrielles et mondialisation*, *Revue Innovations* Nr. 5, Ed. L'Harmattan, Paris, 1997.