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PRODUCTION NETWORKS AND INDUSTRIAL CLUSTERS IN THE PROCESS OF REGIONAL INTEGRATION OF SOUTHEAST ASIA

1. Introduction

Southeast Asia constitutes a unique example of a region where a creation of global production networks and industrial clusters in industries of crucial importance for global economy can be observed. There is an obvious interaction between the ongoing process of integration in the region and functioning and creation of production networks and clusters.

That is why the article is an attempt to analyze production networks and industrial clusters in the process of regional integration of Southeast Asia. First of all the paper examines the evolution of production networks in Southeast Asian countries, including the crucial impact of East Asian economies. The interconnections of production networks and industrial clusters in Southeast Asia are further analyzed and the impact of economic cooperation initiatives in the region on facilitating the extension of production networks and clusters is presented. Finally the role of production networks and industrial clusters in effective integrating of the economies will be evaluated.

2. Evolution of production networks in Southeast Asia

The evolution of production networks in East and Southeast Asia¹ began in the sixties of 20th century. It was combined with location of production by transna-

¹ Southeast Asia constitutes ten countries gathered in Association of Southeast Asian Nations – ASEAN, namely Brunei, Cambodia, Indonesia, Lao, Malaysia, Myanmar, Philippines, Thailand, Vietnam, Singapore.

tional corporations (TNC) from developed countries, especially from the United States. The foreign direct investments (FDI) were located in the first place in Japan, South Korea and Taiwan and afterwards in Singapore and other ASEAN-5 countries,² especially Malaysia and Thailand.

Interregional inflow of FDI and industrial production were both combined with the flying geese model of development introduced at the beginning of the thirties by K. Akamatsu. The growth of production and regional division of labour were following the life cycle of different branches of industry. The main channels of relocation of production from one country to another through the shift in competitiveness were trade and foreign direct investment. According to the flying geese model, less developed countries benefit from the experience of more advanced economies, imitating their development and industry restructuring strategies. FDI determined additional channel for transmitting comparative advantages – on the one hand they were created by comparative advantages, and on the other, were creating the crucial changes in comparative advantage between the leader and the following economies.³ As a result some interdependences could be observed. First of all among transnational corporations and then within the group of East Asian countries which on a different level of development started to shift to more advanced economies, industrialisation and wealth.

Relocation of production was highly connected with specialisation of local enterprises, which took advantage of the geographical proximity of transnational corporations, evolving from parts and components suppliers for TNC to their competitors on international market. As a result, in numerous locations in East Asia, a dynamic and competitive industrial environment was created.⁴ After obtaining specialised skills and competences, the producers from Japan, Hong Kong, South Korea and Taiwan started to search for locations in less developed countries in the region, creating regional production networks (cf. Fig. 1).

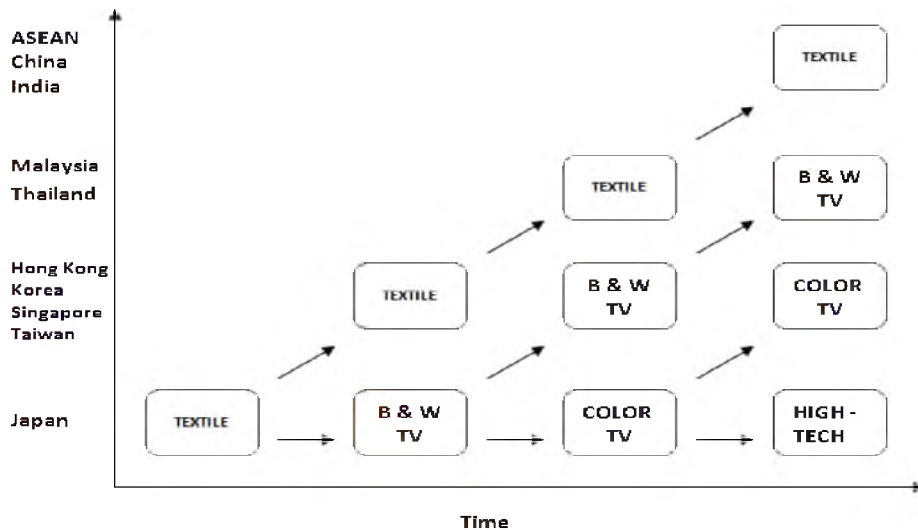
The main factors stimulating the expansion of production networks in East and Southeast Asia were the geographical proximity of particular economies in the region and qualified and disciplined labour. What is more, the crucial role should be attributed to the cultural values, derived from the ideas of Confucianism and resulted in the quality of human capital. Heterogeneity of economies in the region led in turn to the differentiation of competitive advantage and provided international segmentation of the production process. Because of particular comparative advantages at the given stage of production, the enterprises from different countries were specializing in particular stages of production process. In the second half of the eighties the relocation of labour intensive branches of production was additionally intensified by the cur-

² ASEAN-5 constitutes Indonesia, Malaysia, Philippines, Thailand, Singapore.

³ K.A. Nawrot, *Determinanty rozwoju gospodarczego państw ASEAN*, Scholar, Warszawa 2008, pp. 198-199.

⁴ *Production Networks and Industrial Clusters. Integrating Economies in Southeast Asia*, eds. I. Kuroiwa, T. Mun Heng, Institute of Southeast Asian Studies, Singapore 2008, p. 21.

rency appreciation, i.e., Japanese yen and the high dynamics of foreign direct investment flows, which were also stimulated by the integration initiatives of ASEAN.⁵



B & W TV – black & white television;
 COLOR TV – colour television;
 HIGH-TECH – high technology products.

Fig. 1. International division of labour in production in East Asia

Source: based on A. Suehiro, *Catch-up Industrialization. The Trajectory and Prospects of East Asian Economies*, NUS Press, Singapore 2008, p. 45.

3. Interdependence of production networks and industrial clusters in the region

The production networks spread in the whole region of East and Southeast Asia, mainly concentrating in textile, electronic and automobile industries. The expansion of production networks resulted in geographical concentration of enterprises and formation of industrial clusters of analogical character. Most of the existing clusters in the region are related to global production networks and simultaneously represent sectors of different technological requirements. It has resulted from diverse factor endowments and gives a chance to particular economies in the

⁵ K.A. Nawrot, *Powiązania sieci produkcyjnych i klastrów a współpraca gospodarcza w Azji Południowo-Wschodniej na przykładzie Tajlandii, Malezji i Singapuru*, Wydawnictwo UE w Poznaniu, Poznań 2009 (in press).

region to take advantage of comparative advantages by incorporating in global production networks and industrial clusters. Most of the existing clusters in the region are of satellite character with the crucial presence of transnational corporations and dominant share of small and medium local enterprises.

In the Southeast Asian economies relatively high level of human capital accelerated innovation possibilities of the local firms contributing to the specialized production of higher added value products. The very important role was played by the institutions supporting the different branches and without their impact the effects would have been limited. On the one hand the influence of economic policy should not be omitted, especially in particular Asian economies like Singapore and Thailand, and on the other, the impact of enterprises themselves and huge research centre in the region should be taken into account.⁶

4. Regional economic cooperation and production networks and clusters

The crucial importance in creating the production networks and industrial clusters in Southeast Asia should be attributed to the economic cooperation in the region, especially integration initiatives among the Association of Southeast Asian Nations – ASEAN. The intensification of the impact can be observed in the second half of the nineties, which was related to increasing integration tendency in the world economy, the rise of China and India, and stronger regional identity after the financial crisis of 1997-1998.

The formation of ASEAN Free Trade Area (AFTA) was accelerated at that time, as an argument for actuating the functioning of the economies, eliminating internal weaknesses, strengthening the economic fundamentals for rising the competitiveness of a region and leading to the growth of export, which would reorganize the economies.⁷

Undertaken initiatives contributed to very high dynamics of foreign direct investment flows. The rise of interregional inflows of FDI was specially noticed, which was a result of AFTA and AIA (ASEAN Investment Area) agreements. The main aim of AIA – signed in 1998 – was more liberal and transparent environment for investors in the region. The package of other activities was accepted in order to increase the attractiveness of the region for foreign investors, especially in industrial sector.⁸ Common Effective Preferential Tariff Scheme – CEPT – was further introduced as the means of the plan of AFTA to remove all existing tariffs in the region.⁹

⁶ *Ibidem.*

⁷ *Procesy integracyjne we współczesnej gospodarce światowej*, ed. E. Oziewicz, Wydawnictwo Naukowe PWN, Warszawa 2001, p. 218.

⁸ K.A. Nawrot, *Determinanty rozwoju...*, p. 191.

⁹ G. Tan, *ASEAN. Economic Development and Cooperation*, Eastern Universities Press, Singapore 2003, p. 263.

Having in mind production network and industrial clusters, we should indicate the significance of regional economic initiatives called growth triangles. With reference to the analyzed region, SIJORI growth triangle is worth mentioning. It is the very first triangle launched in Southeast Asia and consists of Singapore, Malaysian province Johor Baharu and Indonesian Islands of Riau. The economic rationale of SIJORI resulted mainly from the comparative and competitive advantages arising from the differences in factor endowments among the three participating ASEAN partners. The initiative was aimed at attracting investors because of advanced transport and communication infrastructure and high quality human capital of Singapore, relatively inexpensive industrial land and unskilled labour of Indonesia and semi-skilled labour and accessible large industrial land of Malaysia.¹⁰

The formation of SIJORI growth triangle was in fact formalization of previous business connections with Malaysia. Participation of Indonesian Riau Islands was a new conception of cooperation. Effective functioning of a triangle results in bilateral relations on the line Singapore–Johor and Singapore–Riau. Cooperation between Johor and Riau is very limited, which is combined with similar endowment in factors of production, so the economic structure between them is rather competitive than complementary.¹¹

New possibilities for SIJORI growth triangle appeared in 2003 in line with implementing the U.S.-Singapore Free Trade Agreement – USSFTA. This opportunity should be perceived as a chance for small and medium enterprises from Johor and Riau for incorporating in global production networks through a closer cooperation with Singaporean and international firms exporting to the U.S. Particular countries are facing the possibility to take advantage of geographical proximity, and at the same time having different comparative advantage and specializing in products at different stages of their life cycle can create pan-national cluster.¹²

The other sub-regional economic zones include Indonesia-Malaysia-Thailand Growth Triangle – IMTGT, or Northern Growth Triangle, and East ASEAN Growth Area (EAGA).

The growth triangles in Southeast Asia should be perceived as accelerators of regional trade and capital liberalisation. Those initiatives are not to compete but to gain from bilateral complementarities. The future of functioning of this sub-regional form of cooperation lies in private sector which should pursue the initiatives of the government.¹³

¹⁰ Lim Chong Yah, *Southeast Asia: The Long Road Ahead*, World Scientific, Singapore 2004, p. 212.

¹¹ *Ibidem*, pp. 80-81.

¹² K.A. Nawrot, *Powiązania sieci...*

¹³ Eadem, *Ewolucja procesu integracji regionalnej w Azji Południowo-Wschodniej*, [in:] *Procesy integracyjne w we współczesnej gospodarce światowej*, ed. T. Rynarzewski, Wydawnictwo AE w Poznaniu, Poznań 2008, p. 64.

Numerous regional economic cooperation initiatives and schemes introduced in Southeast Asia, as well as production networks and clusters are accelerating. Most of the existing networks and clusters are incorporated into global value chains and are contributing to the more integrated environment among Southeast Asian economies and between Southeast and Northeast Asia. They are driven basically by market-driven forces of competition, regional division of labour in production, the rise of China and India, and relative political stability. The benefits from formal regional agreements are limited in terms of production networking and clusters. However, they should not be neglected and the institutional assistance in economic integration and development is necessary especially for ASEAN-CLMV¹⁴ countries in order to benefit sufficiently from emerging production networking and clustering in Southeast Asia.

5. Conclusion

Southeast Asia is a very interesting example of an area where production networks and industrial clusters are expanding. It results from the specificity of the region composed of ten countries which could be located on different side steps of a ladder of economic development. Singapore is for instance one of the most technologically developed countries in the world and then Cambodia or Lao are ranked among the poorest. However, there is a genuine opportunity to be observed for particular economies to take the benefits from the comparative advantage by incorporating into global production networks and creating industrial clusters. Furthermore there is an obvious interaction between the economic development and ongoing process of integration in the region and functioning and creation of production networks and clusters. The chance for development of Southeast Asia lies in one integrated market of composed economies. The region should be perceived as one competitive market for global producers where positive cumulative causality between a growth centre and the peripheries can be a reality leading to the more integrated region with the increase in economic development of each particular country.

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¹⁴ ASEAN-CLMV is constituted by Cambodia, Lao, Malaysia, Myanmar, Vietnam.

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SIECI PRODUKCYJNE I KLASTRY W PROCESIE INTEGRACJI REGIONALNEJ AZJI POŁUDNIOWO-WSCHODNIEJ

Streszczenie

Celem artykułu jest ukazanie roli sieci produkcyjnych i klastrów w procesie integracji gospodarczej Azji Południowo-Wschodniej. W pierwszej kolejności przedstawiono ewolucję tworzenia się sieci produkcyjnych w krajach regionu Azji Południowo-Wschodniej, z istotnym uwzględnieniem znaczenia państw Azji Wschodniej. W dalszej kolejności przedstawiono powiązania sieci produkcyjnych i klastrów, podejmując próbę umiejscowienia globalnych sieci produkcyjnych w klastrach przemysłowych zlokalizowanych w regionie oraz zbadano wpływ współpracy gospodarczej na ich tworzenie i funkcjonowanie. W części końcowej artykułu dokonano oceny roli sieci produkcyjnych i klastrów w rzeczywistej integracji gospodarek regionu Azji Południowo-Wschodniej.