

SPATIAL ESSENCE OF GLOBAL MODEL “CENTER-PERIPHERY” FROM THE POINT OF VIEW OF THEORY OF DIFFUSION FOR INNOVATIONS

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The contemporary world economy is characterized by a high rate of development. It can be presented in a progression, closed to the geometrical one by using the traditional economic indicators. For example, according to Braun (1998) the World Gross Product has increased about 5 times for the period 1900–1950, and approximately 20 times for the whole 20th century. Some researchers even try to widen the chronological range in the examination of this process. For example, according to Goshkov and other authors (1992) for each of post-war decades of the 20th century the World Gross Product is approximately equal to the average of the total Gross Product for the existence of the human civilization until 1950. From this point of view the constant character of inhabitable geographical space gives a reason to Meadows (1972) to define the world economic processes with the term “exponential increasing” (i.e. increasing in closed space). Except as a social progress, the increasing of consumers’ needs, observed from the point of view of standard of living or inflation process, has also its natural-resource value for future generations from the point of view of the conception for sustainable development.

The process of dynamic increase of the World Gross Product is characterized by both chronological and chorological dynamics. Some examples are given in Table 1.

The indicated change in leaders’ ranking in the world economy has its regional dimensions and is closely related to the research of theoretical models core-periphery, concerning the economic processes on the global scale. Stoyanov makes detailed review of the so called “nodal” (fundamental) regions (2001). But it is obviously that the mono-centric approach in the research of models of the world economic development requires a permanent actualization in conformity with the differentiated regional dynamics of the economic processes.

Traditionally the biggest spatial fragments of the world economy are marked as a core, semi-periphery and periphery. The innovations originate in the core according to the theory of diffusion of innovations, and their distribution first affects the nearest located spaces from semi-periphery, and later on the countries from periphery. The spatial projection of this theory in time imposes consideration of the so-called geographical

models of the world economy. The different geographical models are a direct result of the specific combinations of natural and social factors both in the world as a whole and in its different civilization regions. Each geographical model of the world economy reflects the correlation between basic raw materials and production regions in the world and their participation in the branch and territorial division of labour as well as the international relationships originating from this.

The most prolonged existing geographical model of the world economy is the one existing during the Antiquity and the Early Medieval Ages. It is characterized by a spatial economic and culture-political isolation between major civilization regions on the planet. Only episodic activities of military conflicts and fragile economic contacts between them are available. The Great Geographical Discoveries cause an activation of the relations with the lands of the New World as well as globalization of the model. Europe is the world economic center for development thanks to the colonial countries of Western Europe. The old continent is the foremost leader in the world economy until the end of 20th century.

The first attempt for the creation of a global economy model was made by Portugal and Spain. They conquered a considerable part of the New World and imposed a specific type of economic relations between the metropolises and the colonies. The Spain-Portuguese experience for economic globalization is based on plundering important raw materials from the new oversea territories as well as forced labour of the native people. The incomes from the colonies are not used for an economic reproduction, but mainly for enrichment of the aristocratic elite in Madrid and Lisbon.

Later on the established model for economic globalization by the industrialized Netherlands, Great Britain and France was based on another principles. The colonial possessions were used as a source of cheap raw materials as well as guaranteed markets for the produced in the metropolises industrial goods. The greater results for the economic and political power of the colonial countries were achieved through such trade type colonialism.

The conditions for the establishment of a new type of world division of labour based on investment

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Table 1

Changes in positions of main economic nations in the world after 1990 (% from world GDP)

1990		1995		2000		2002	
1.USA	27.1	1.USA	26.2	1.USA	22.9	1. USA	21.3
2.Japan	15.1	2.Japan	13.2	2.China	9.9	2. China	12.2
3.Germany	8.2	3.Germany	7.3	3.Japan	7.2	3. Japan	7.5
4.France	5.6	4.France	5.1	4.India	5.0	4.India	5.4
5.Italy	5.2	5.Italy	4.7	5.Germany	4.4	5.Germany	4.4
6.Great Britain	4.5	6.Great Britain	4.4	6.France	3.3	6.France	3.2
7.Canada	2.5	7.China	3.4	7.Great Britain	3.1	7.Great Britain	3.1
8.Spain	2.4	8.Canada	2.4	8.Italy	2.9	8.Italy	3.0
9.China	1.9	9.Spain	2.3	9.Brazil	2.6	9.Russia	2.9
10.Russia	1.7	10.Brazil	2.3	10.Russia	2.6	10.Brazil	2.8
11.Netherlands	1.4	11.India	1.8	11.Mexico	2.1	11.Korea	1.9
12.Australia	1.3	12.Korea	1.4	12.Canada	1.8	12.Canada	1.9
13.Mexico	1.3	13.Netherlands	1.4	13.Korea	1.8	13.Mexico	1.9
14.India	1.2	14.Australia	1.4	14.Spain	1.7	14.Spain	1.7
15.Switzerland	1.1	15.Russia	1.4	15.Indonesia	1.5	15.Indonesia	1.5
16.Sweden	1.0	16.Indonesia	1.4	16.Argentina	1.1	16.Australia	1.1
17.Belgium	0.9	17.Mexico	1.4	17.Australia	1.0	17.Turkey	1.0
18.Taiwan	0.9	18.Switzerland	1.1	18.Turkey	1.0	18.Iran	0.9
19.Argentina	0.9	19.Taiwan	1.0	19.Iran	0.9	19.Thailand	0.9
20.Austria	0.8	20.Sweden	0.9	20.Thailand	0.9	20.Netherlands	0.9
21.Iran	0.5	21.Belgium	0.9	21.Netherlands	0.9	21.South Africa	0.9
Others	14.5	Others	14.5	Others	21.5	Others	19.6
TOTAL 23.5 billion dollars	100	TOTAL – 27.6 billion dollars	100	TOTAL – 43.6 billion dollars	100	TOTAL – 49.0 billion dollars	100

of capitals in colonies were created in 20th century. The building-up of the industrial enterprises aimed at using not only the cheap raw materials, but the cheap labour force as well started in the colonies. Not only exchange of raw materials and goods, but also exchange of capitals between metropolises and colonies already started. Thus metropolises provided greater economic effect, than the functioning of colonial system itself. However, later on exactly in some of former European colonies the alternative economic cores of world economy occurred. Great Britain was acknowledged as the biggest colonial power in the world in 20th century. It realized economic and political control over 21 % of the world territory, where 26% of the world population lives. About 60 % of the gold in the world, 50 % of cotton fabrics, 40 % of trade ships, 30 % of coal and pig iron, 25 % of wheat are produced generally by the metropolises and the colonies of the British Empire. 32 % of the world trade was possessed by Great Britain, 19 % – by Germany,

17 % by the USA, 11 % by France, 10 % by the Netherlands (Short ..., 1907).

The industrial revolution in the 18–19th century, gradually destroyed the medieval feudal relations and imposed the European hegemony in the world policy as well as the market principles as dominant on the global world scene. The scientific and technological progress and the capitalistic way of production contributed to the deepening of the division of labour at a global scale. The improvement in the transport and communication technologies caused improvement of geographical access between them. The new communication technologies reduced the time for exchange of goods, information and services. The united world market was formed. The spatial factors restricted the world division of labour to a lesser extent.

The second economic core – North America, with the leading role of the USA was formed during 19 century and becomes an equivalent to West-European during 20th century. Japan and former USSR showed industrial progress at the end of 19th century and at the begin-



ning of 20th century Gradually Japan became the second in power industrial nation in the world. New economic powers appeared at the same time, such as Australia, Brazil, India, and China. The last, together with Japan and the countries of ACEAN gradually became the base for the formation of the third economic core.

Today the world market is a global system of balanced relationships between demand and supply of natural and economic resources. The functioning of the world market is complicated by activity of different in their potential and business specialization firms, companies, national economies and their unions. TNC are high organizational form of branch coordination and cooperation of production and trade with goods and services. The biggest of them represent great in spatial extent, capital resources and personnel economic "empire". Today there are about 40 thousand TNC, which possess about 200 000 filials in almost all countries all over the world. A quarter of the World Gross Product belongs to TNC.

The most frequently useable division of labour in the world is based on cardinal directions: capitalist west and socialist east; wealthy north and poor south. However it is characterized with inconveniences, related to belonging of countries such as Japan, Australia, New Zealand, and Israel and other. After the end of "the Cold War" as a main contradiction in the world economy contrasts stand between North and South. Three economic cores that define tendencies in contemporary economic development are formed in the wealthy industrial north – North America, Western Europe and Eastern Asia.

We are witnesses of dynamic changes in correlation between economic cores at the beginning of 20th century. Many average developed countries from the semi-periphery attract considerable foreign capital, which cause sharp increase of their GDP. This causes spatially economic coalescence between West Europe and East Asia, between Europe and North Africa, between East Asia and Australia, between North and South America. Countries such as China, Russia, India, Iran, Turkey, Mexico, Arabian countries, former socialist countries from East Europe, ACEAN countries play a role of uniting groups. Organizations as OUN, G-7, G-24, OCCE, NATO, APEK and other play catalyst role about this.

The future geographical model of the world economy will gradually acquire a new form – an arc, consists of three basic cores of world economy and semi-periphery countries that diffusion connected them (Fig. 1).

Africa is in the core of the world geographical economic model and its countries are typical representatives of periphery in traditional geo-economic scheme. Some smaller islands of poverty are sown in the huge Asian continent.

The preparation of figure1 is preceded by specific calculations (Table 2).

As the countries – cores of world economy are marked these that have sum grades value from 7 to 9 though shown in the table indicators and criteria. The countries from the most closely located according to economic terminology first (inner) semi-periphery are with sum grades value5 or 6, and from second (outer) semi-periphery – 3 or 4. The countries from periphery are distinguished by sum grades value, which is smaller than 3. In that way fig. 1 gives a geographical view of classical economic theory for correlation between cores and peripheries of the world economy.

The study of the spatial deformations in the dynamically changing geographical model of the world economy helps to present it not only as a constant or economic conjuncture, but also as a foreseeable in a perspective natural process.

ECONOMIC TERMINOLOGY AND GEOGRAPHICAL INTERPETATION OF GLOBAL MODEL "CENTRE PERIPHERY".

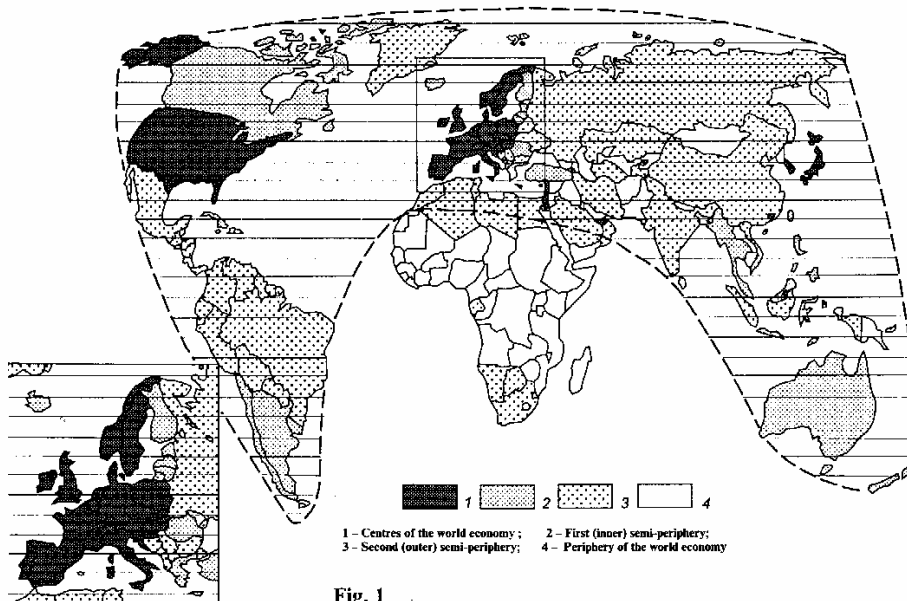


Fig. 1



Table 2

Indexes and criteria for ranking on nations in world from the point of view of theory of diffusion of innovations

Index	Estimation 3	Estimation 2	Estimation 1
Human Development index	over 0,8	0,5-0,8	less 0,5
GDP per capita	over 15 thousand dollars	5-15 thousand dollars	less 5 thousand dollars
Economic density	over 1 million dollars/km ²	0,5-1 million dollars/km ²	less 0,5 million dollars/km ²

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ПРОСТРАНСТВЕНА СЪЩНОСТ НА ГЛОБАЛНИЯ МОДЕЛ „ЦЕНТЪР-ПЕРИФЕРИЯ“ ОТ ГЛЕДНА ТОЧКА НА ТЕОРИЯТА ЗА ДИФУЗИЯ НА НОВОВЪВЕДЕНИЯТА

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Резюме

Съвременният географски модел на световното стопанство се характеризира с непрекъсната хронологична и хорологична динамика. Традиционно неговите най-големи пространствени фрагменти се обозначават като център, полупериферия и периферия. Според теорията за дифузия на нововъведенията в центъра се зараждат нововъведения, чието разпространение засяга първо най-близко разположените пространства от полупериферията, а впоследствие – и страните от периферията.

През втората половина на XX в. най-често използваното разделение на света е по географските посоки: капиталистически Запад и социалистически Изток; богат Север и беден Юг. То обаче се отличава с неудобства, свързани с принадлежността на държави като Япония, Австралия, Нова Зеландия, Израел и др. След края на „студената война“ като основно противоречие в световното стопанство изгъхват контрастите между Севера и Юга. В богатия индустриален Север се оформят три икономически центъра – Северна Америка, Западна Европа и Източна Азия, които определят тенденциите в съвременното стопанско развитие.

В началото на XXI в. сме свидетели на динамични изменения в съотношенията между икономическите центрове. Редица средноразвити страни от полупериферията привличат значителни външни капитали, което предизвиква рязко нарастване на техния БВП. Това предизвиква пространствено икономическо срастване между Западна Европа и Източна Азия, между Европа и Северна Африка, между Източна Азия и Австралия, между Северна и Южна Америка. Ролята на свързващи звена между тях играят страни като Китай, Русия, Индия, Иран, Турция, Мексико, арабските страни, бившите социалистически страни от Източна Европа, страните от АСЕАН. Катализираща роля за това играят организации като ООН, Г-7, Г-24, ОССЕ, НАТО, АПЕК и др.

Бъдещият географски модел на световното стопанство постепенно придобива нова форма – дъга, съставена от трите основни центъра на световното стопанство и дифузно свързващите ги страни от полупериферията. Неговата сърцевина е Африка, чийто страни са най-типични представители на периферията в традиционната геоикономическа схема. Втори голям остров на бедността в близост до основната дъга на благоденствието изграждат страните около Индия.

Проследяването на пространствените деформации в динамично изменящия се географски модел на световното стопанство спомагат за представянето му не като икономическа конюнктура, а като предвидим в перспектива закономерен процес.