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The Problems of Country's Innovative Capacity and Investment Attractiveness Growth Synchronization

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ABSTRACT

The present stage of the world economic development is characterized by the scientific and technological progress accelerated paces and by the increasing of the main productive factors intellectualization. The efficiently operated country innovative potential not only determines the economic growth prospects, but also serves as an economic independence and prosperity indicator. The country innovation system embeddedness in the global economic relations is becoming one of the major factors of national economies competitiveness. The paper proposed the method for determining the innovative capacity and innovation strategies for the modern states modernization, the conclusions, regarding the domestic economic systems investment attractiveness and innovative level correlation; considered the world innovation progress as a factor of international capital's flows and of the international division of labor.

Key words: Innovative potential, investment attractiveness, methodology of innovation potential's assessment, strategy of innovative modernization, innovative companies

INTRODUCTION

The global trend of the economic systems and the global economic interactions modernization is determined by the markets of traditional productive factors (primarily, the capital) functioning. On the one hand, the processes of international capital movements have a growing impact of modernization. On the other, they set the innovation development paces and vectors; provide the indispensable resource for progress and the strong infrastructure for innovations commercialization. In view of close relationships of the international capital movement and innovation development processes, of their cooperation deepening in context of the innovative economic systems development and the global financial institutions functioning, the study of the resources ensuring the innovation progress, of the modern states innovative potential and investment attractiveness correlation is relevant and timely.

The purpose of the study is, based on analysis of the national innovation systems formation and integration, of the international investment role in providing the innovative progress, to determine the direction of the economy qualitative growth by providing a resource base and effective tools for its innovative modernization.

This purpose provides a logical sequence of the following tasks:

- To highlight the historical forms of national innovative systems, depending on their strategic priorities, tactical tools for its implementation and infrastructure effectiveness

- To define the role of international investment and venture capital in the global trend of innovative modernization, in the transition to a modern model of open innovations
- To identify the ways of increasing the investment attractiveness of the innovative areas of economic activity in the conditions of globalization and economic crisis
- To develop the methodology for assessment of the innovative potential and investment attractiveness of the modern states. To characterize the correlation between these indicators of the countries
- To analyze the innovative modernization national models, basing on the specifics of foreign investment role in their forming and development
- The objective of the study was the world economic processes which are characterized by the factors of production intellectualization, by the deepening of integration of financial and innovation spheres of entrepreneurial activity, by the formation of transnational constructs for innovations transfer and by the mobilization of the capital, as a primary resource for innovative development

BACKGROUND

The problems of the national innovation systems formation and integration of determining their specific transformations of global economy institutions, including the finance, became the object of researches with 70 years of XX century.

The analysis of principles of national innovative systems formation is implemented by Naisbitt (2006), Penrose (1998) and Nelson (1993).

The compilation of international experience of national economic modernization on the innovative basis was made by Gompers and Lerner (2004).

Despite the numerous of publications, the problem of the global investment attractiveness of innovative activities and of the financial and innovative sectors of the world economy integration, needs a fundamental theoretical studies and new application developments.

The study theoretical and methodological basis are provided by the conceptual approach of classical political economy (world trade theory and fundamental principles of foreign economic cooperation between the countries), Marxist Economic Theory (economic division of the world, the expansion of capital as the pattern of world development), the neoclassical school (the competitive advantages formation), Institutional Economics (the networking economic relations).

We used the provisions of the systems approach and systems analysis in the unity of the historical, genetic and functional-structural aspects and scientific methods: the ascent from the abstract to the concrete, the unity of the logical and historical, the analysis and the synthesis, the extrapolation and the economic research methods, economic and statistical groups, modeling, typological clustering and logical design.

MAIN FOCUS OF THE STUDY

Analysis of the world economy development trends in the recent years has allowed determining the number of features of innovation and investment processes in the economy of knowledge. The economy growth dynamics and quality is increasingly dependent on the technological and innovative development which is manifested in the progressive rates of

high-tech industries, in the increasing of production knowledge-intensity, in the enhancing of technological states and companies competitiveness, in the scientific and technological development accelerating and in reducing the time for innovation development and commercialization.

The innovative development acquires a cascading nature. There is a gradual innovative production transfer from the highly developed states to the periphery which is driven by growing rate of direct investment exports from the world's economy avant-garde.

The innovative activity coordination and integration is enhancing, the increasing economies openness of various countries is promoting the international scientific cooperation. The increasing of the cost of innovation producing requires attracting the various countries resources for the major projects implementation.

The evaluation of the states innovation systems dynamics, of the interactions within the business, government and society innovation progress, helps to identify two national innovative system models-closed and open (Chesbrough, 2006).

They differ by the innovative activity resources in a particular historical period, by the role of investment and the forms of science and business integration in the process of innovation generating and commercializing, by the role of copyright, intellectual property rights in innovation progress, by the corporation's interactions in the process of innovation research and commercialization.

The closed innovation model based on the researches and development organization within the productive structures, on the new knowledge catalytic role for regarding the businesses commercial success.

The social and economic transformations, peculiar to the late twentieth century (the growth of researchers quantity and mobility, of venture capital deals, the shortening of innovative product life cycle) have determined the transition to a national system, based on open innovations and characterized by non-linear approach to the innovative process organization, in which the companies use the development sources, located within them and outside.

The phenomenon of R and D internationalization and the open model of innovation formation raise a number of additional problems of science, technology and innovation policy.

The global networks emergence reduces the barriers for entry in the industry, creates the opportunities for new entrants in developing markets, increases the competition for foreign direct investment in R and D and intensifies the struggle for talents (Karminsky and Chernikov, 2006). These make the process of catching up more difficult.

The countries investment attractiveness as a complex index, as a factor of the investment decision making and the modern macroeconomics ratings formation, is known in economic theory and practice for more than three decades.

However, the methods of its calculation, made by authoritative international organizations, do not include the estimates, the national economic systems real size, do not represent the branch of investment objects and use the figures which characterize only the international movement of capital.

The analysis of lacks of using tools for investment attractiveness definition, allows offering the alternative methodology, based on the real indexes of domestic investment role in the national economic system functioning; to compile the countries ranking, according to the criterion of their internal investment attractiveness.

Table 1: Index of internal investment attractiveness in countries of the world, 2009

No.	Country	Capital investment in basic means of production, % of GDP	The base lending rat at commercial banks	Index of internal investment attractiveness	No.	Country	Capital investment in the basic means of production, % of GDP	The base lending rate at commercial banks	Index of internal investment attractiveness
1	Belgium	21.3	6.98	79.70	11	Tunisia	23.6	15.10	57.00
2	Singapore	24.9	5.33	73.25	12	China	40.4	7.47	54.86
3	Ireland	25.3	6.52	72.39	13	Kazakhstan	29.7	11.20	54.36
4	Bulgaria	29.8	10.10	65.36	14	Chili	20.6	8.76	53.99
5	Qatar	46.1	7.43	61.00	15	UAE	21.8	13.90	52.85
6	Latvia	31.6	11.00	59.20	16	Cyprus	20.8	6.74	52.22
7	Hungary	20.9	9.01	58.96	17	Portugal	21.7	7.92	52.00
8	Vietnam	40.1	11.20	58.96	18	Romania	28.1	13.35	51.88
9	Czech	24.1	5.79	58.72	19	Hong-Kong	20.3	6.75	51.28
10	Brazil	17.6	44.00	57.84	20	Lithuania	26.6	6.86	50.95
65	Russia	21.1	10.10	25.68	81	Sweden	18.9	4.10	11.90
77	Germany	18.3	5.96	18.01	82	Norway	20.7	6.65	7.73
78	Finland	20.3	5.70	13.99	83	Panama	20.1	8.25	5.91
79	UK	18.5	5.52	12.59	84	Netherlands	20.1	8.72	2.12
80	Kuwait	21.4	8.54	12.12	85	N. Zealand	23.1	12.83	1.31

The results of this method using showed a lower internal investment attractiveness of countries with a high investment potential (New Zealand, Scandinavian countries, Great Britain), as well as high rates of states with rapidly growing economies, relatively low-cost production resources and liberal financial regulations (Table 1).

Now, three main approaches to the innovation capacity of States assessment are the most common (Lundvall, 1992). They are resource, activity and combined approaches.

We can complete the innovative potential characterization by the factors which allow it to become an effective force for economy growth and investment attraction: the structural changes in the economy speed due the innovations creation and implementation; the degree of business entities demand for innovation in the economic system; the timeliness of the innovations commercialization and the values and the structure of production resources correspondence to the modern technological order.

The factors, determining the level of country innovative capacity, are the state educational system, the most of the population integration into the global information environment, the transparency of the process of innovation projects development and selection and the degree of intellectual property rights protection (Freeman, 1995).

The state innovation environment investigation (Table 2) demonstrates a clear leadership of USA, the Northern and Western Europe countries, Israel and Japan. Among the first forty countries are also rapidly modernizing countries of Eastern Europe; Thailand, Malaysia, Brazil which are implementing the national strategy of iminovation and the innovations receptors-UAE, Mexico, Argentina and Chile.

The Fig. 1 analysis allows making some conclusions about the degree of correlation between the innovation potential of the country and its internal investment attractiveness. First of all, the analyzed countries high innovative potential does not determine their high internal investment attractiveness with a high probability.

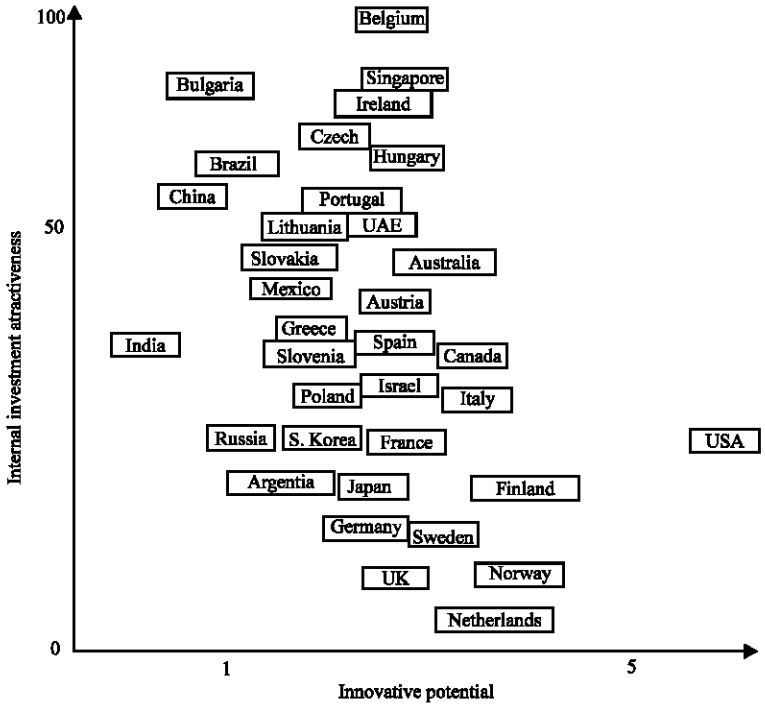

Fig. 1: Positioning of countries according to their internal investment attractiveness and innovation potential (1)

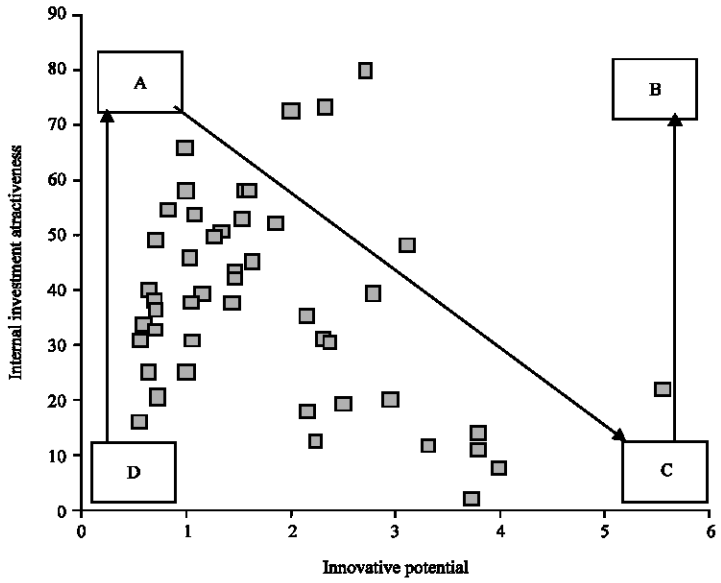

Fig. 2: Positioning of countries according to their internal investment attractiveness and innovation capacity (2)

The zone B on the Fig. 2 (the country high internal investment attractiveness and the innovative capacity high level) has not got any states. On the other hand, it is noticeable that

Table 2: Index of the innovative environment in the countries of the world, 2008[1]

No.	Country	Index of the innovative environment[2]	No.	Country	Index of the innovative environment
1	USA	5.53	21	Portugal	1.86
2	Norway	3.99	22	Spain	1.62
3	Finland	3.77	23	Czech	1.60
4	Netherlands	3.72	24	Hungary	1.57
5	Denmark	3.71	25	UAE	1.53
6	Switzerland	3.32	26	Slovenia	1.47
7	Sweden	3.30	27	Greece	1.46
8	Australia	3.10	28	Poland	1.46
9	France	2.91	29	S. Korea	1.44
10	Austria	2.75	30	Lithuania	1.36
11	Belgium	2.70	31	Slovakia	1.30
12	New Zealand	2.69	32	Latvia	1.25
13	Japan	2.49	33	Mexico	1.15
14	Israel	2.36	34	Argentina	1.10
15	Singapore	2.33	35	Chile	1.10
16	Italy	2.31	36	Malaysia	1.04
17	UK	2.20	37	Thailand	1.03
18	Germany	2.16	38	Brazil	1.01
19	Canada	2.14	39	Russia	1.00
20	Ireland	2.05	40	Bulgaria	1.00
64	China	0.86	71	Kenya	0.64
65	Philippines	0.73	72	Zimbabwe	0.69
66	Morocco	0.72	73	Indonesia	0.60
67	Egypt	0.72	74	Cameroon	0.59
68	Nigeria	0.71	75	Bangladesh	0.57
69	Algiers	0.69	76	Pakistan	0.57
70	India	0.65	77	Cot d'Ivoire	0.57

[1]77 biggest economies of the world were analyzed. The data of World Bank and World Trade organization was used // www.wto.org, www.wb.org/indexes. [2]Comparing with Index of innovative environment of Russia = 1

the most of the innovative progress leaders (primarily U.S. and European countries) occupy a position in zone C, differing by the low level of internal investment attractiveness which means the domestic investors weak desire to invest in their own economy, with desire to increase the foreign investment.

The majority of countries with high internal investment attractiveness are different by their low innovative potential (zone A). It is obvious, that the domestic investors, who are actively choosing their own economy as an investment object, shall be guided, first and foremost, by the low cost of resources, manpower, rather than by the national economy ability to generate the innovation.

The countries of peripheral development (which are playing the unobtrusive role in the foreign investment attracting and in the innovative progress) occupy zone D. The success of their further development is linked either with the transition to zone A (due to internal investment attractiveness increasing), or to zone C (innovation capacity increasing).

Taking into account, that the innovations represent as a highest factor of country competitiveness, is developing only in the presence of certain infrastructure and of high domestic consumption, the peripheral countries (zone D) progress in the direction of innovative development (zone C) seems unreal.

The country development in its positioning in the international division of labor goes according to the arrows in Fig. 2 (D-A-C-B).

The reasons of this phases change in the countries economic development are the specificity of innovations as a competitiveness and investment attractiveness factor and the need to form the conditions for the national innovations generation and commercialization (for example, related infrastructure, high domestic consumption). This certainly will increase the domestic investment attractiveness (the countries transition in zone A) before the raising of the country innovative potential.

As can be seen from the Fig. 2, a number of states (primarily the OECD countries) are on the third phase of innovative progress. For their moving to the final (zone B) they need to substantially increase the domestic investment attractiveness.

The problem, determining the relationship between innovation capacity and internal investment attractiveness, is reducing of the last one in the countries with a large innovative progress resource.

This study indicates, that there is the feedback between the domestic investors desire to invest in their own economies and the innovative advances.

Is a capital flight the kind of barrier for innovative development? As was proved earlier, the innovations which have an investment character, need the investment, particularly from the national companies.

The developed countries investments structure analysis leads to the several conclusions that explain this phenomenon.

First of all, the domestic investment attractiveness of innovative leaders reducing can be attributed to the predominance of investments, moving to the countries with relatively cheap production factors, primarily labor.

The investment activity structure in which the capital borrowed from capital-saturated countries (where it is relatively cheap) and sent through the transnational production chains and international financial instruments in the labor-saturated countries, was described in detail in the twentieth century and continues to be relevant in the international integration context.

In addition, in the process of innovate progress investment providing, even in the developed countries, the high role of the Government still remains (and reaches sometimes 60% of total capital flows), rather than the corporate and private sector roles.

The second reason for domestic investment attractiveness reducing of the innovation leaders are an innovative companies desire to commercialize the innovations outside of their own states, in the economic systems which are more attractive in terms of productive factors costs, lower levels of business social stress and its social responsibility.

As a result, the latest developments, obtained in the innovative countries, are actively coping and using in industrial and commercial activities of developing countries, both by legal (for example, through the technology transfer between the MNC structural affiliates, the licenses and patents purchase) and illegal (the weakness of international information and intellectual property legal protection, the technologies for information storage and transmission development, the data working formats universalization are stimulating it) means.

This process is widespread, even entered into a theoretical justification of innovative progress and world trade (Gates, 1999), has ambiguous implications for the countries-innovations initiators and for their pursuers.

On the one hand, the innovations transfer in developing nations with their further commercialization instantly cheapens the innovative product prices, makes its global sales and increases the economies of scale.

The innovations transfer can initiate the emergence of new knowledge generation points throughout the world. For example, the Indian economy which received a powerful impetus to the innovative development since the spread of outsourcing (the transferring of number of routine and traditional functions in high-tech field from English-speaking countries, primarily Britain and the U.S.) already shows the results of national researches and development, the work of national techno-parks and specialized areas, the progress of national science and higher education system.

On the other hand, the innovations transfer (even the legal) is a way to limit the countries-innovative leaders capacity which can cut their desire for creativity, new knowledge development (referring to certain prospects for further copying, the author or developer inability to use the maximum results of the commercialization). We can not argue with the Bill Gates opinion that the innovative progress will slow down if it would not be based on commercial interests (Gates, 1999).

Consequently, the possibility of innovations transfer dilutes the innovative potential, primarily reducing the investment attractiveness of the new knowledge generating process.

Finally, the third reason which has a purely macroeconomic nature, is a capital-saturation of countries-innovative leaders. As has been argued, the state gains the innovative potential only when it has a high domestic consumption, formed by the relevant social, economic and political institutions (Myasnikovich, 2003). It appears that the economy is an innovative, if:

- Any individual, the group of individuals, businesses anywhere in the country and at any time can get all the necessary information about the new or well-known knowledge, innovations (new technologies, materials, machinery, organization and production management, etc.) and innovation processes through the automated access and telecommunications systems
- The modern information technology and computerized systems are making, forming and are available to any individual, group of individuals and organizations
- Have the well-developed infrastructure, ensuring the national information resources creation and society is able to produce all the necessary information to ensure a multifaceted dynamic of sustainable socio-economic development and, above all, the scientific information
- The process of accelerated automation and computerization of all production and management spheres and sectors is going on. The radical changes of social structures are implementing. And these have a consequence-the innovative activity expansion and intensification in various spheres of human activity
- New ideas, knowledge and technology are kindly accepting, are ready to create and implement in the broad practice at any time for various purposes
- Has developed innovative infrastructure that can rapidly and flexibly implement the necessary innovations which are based on high production technologies and deploy the innovative activity. This infrastructure must be universal, can competitively create any innovations and their development in any industry
- Has a streamlined flexible system of personnel professionals training and retraining in the field of innovations which effectively implements the complex projects of domestic industries and territories reconstruction and development

The creation of economic system that has such criteria requires a high level of development of the national economic system primary sectors-a powerful, high-integrated industry and agriculture, a developed financial market which adequate to the domestic consumption trends and world economic progress requirements.

All these requirements suggest the state capital-saturation and consequently, the low price of this productive factor within an innovative macroeconomic system.

Guided by their desire to increase the profits and capital return, the entrepreneurs are stepping up its own activities in the field of foreign investment, significantly reducing the investment attractiveness of their own country.

Thus, the analysis of correlation of the internal investment attractiveness and innovative potential of the countries around the world we suggest, that the world market, stimulating the transnational entrepreneurship in innovative manufacturing, international technology transfer and new knowledge development, has caused the emergence of innovative economy failures which capable to limit the further innovative progress and the innovative capacities of leaders.

For moving to the stage of sustainable development, characterized by the high rates of both innovative potential and investment attractiveness, the modern states need to develop and to implement a new principles of public policy (both internal and external), to modernize the traditional stimulus of technological progress, to introduce the differentiated approach in its own foreign trade.

As a strategic guiding of the innovation and investment processes efficiency increasing in the national innovative systems formation were identified the innovations commercialization optimization, the growth of financial and innovative sectors integration, the government role transformation on this basis.

Among the areas of promoting the innovations commercialization were highlighted the legislative base for the functioning of venture capital financing of innovative projects formation, the development of the small innovative enterprises, the provision of financial support for patenting and inventive activity, the improvement of incentive systems and processes of innovative products creation and using, the acceleration of infrastructure development for innovations commercialization.

A key role in the national innovative systems formation of belongs to the system of financial instruments (Gompers and Lerner, 2004), stimulating the innovation activity and concentrating mainly around the special tax regimes for the certain activities.

The financial instruments of innovative stimulating should have a two-pronged orientation. First, we should define a list of priority sectors in the economy that will use the most favored regime for their innovative mechanisms development. Secondly, the financial instruments should be targeted at innovation climate improving, in the country by encouraging the companies to improve their employees skills, to attract the highly skilled foreign professionals, to cooperate with research institutes, centers and universities, to create the extremely innovative firms though mostly the private investors expenses.

The main tool for optimizing the innovative processes in the production is the development of industrial associations, with their gradual transformation into integrated holdings. Within them are the opportunities for the research and development broaden and deepen, aimed at technological development accelerating and production efficiency increasing.

CONCLUSION

The scientific novelty of this research is to determine, based on the international investment attractiveness of the modern national innovative systems indicators analysis, the strategic guidance and tactical activities of domestic economy re-positioning in the structure of international division of labor by the investment processes in domestic innovative industries intensification, their integration with financial institutions deepening and imbalance between innovative product supply and demand leveling.

The scientific knowledge increasing includes the following results:

- The role of investment as a catalyst for the innovative progress, the economic development intensification was clarified. That allowed to define the trends of world capital market in terms of production factors intellectualization
- Based on the macroeconomic and global economic parameters analysis, the method for determining the internal investment attractiveness and the innovative potential of countries was proposed. This method using confirms that the cost of factors which are unrelated to the innovative production, still have a determining investment activity role
- Based on innovative capacity and internal investment attractiveness assessment, the classification of the modern national innovative systems within the global economic interactions structure was given. This allows determining the possibility of countries repositioning in the international division of labor, of resistance the failures of innovative economy
- The role of government in innovative development through the leveling of imbalance between the innovations supply and demand was defined. This allowed developing a set of practical measures to modernize the systems and infrastructure of the innovative economy Government regulation

The theoretical and practical significance of the results of the study are determined by possibility of using its conceptual framework, findings and practical recommendations on the transition to a new paradigm of national economy development, the formation of correct strategy of national innovative systems progress, the improvement their investment attractiveness and effectiveness of their integration in the international capital movements.

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