DOI 10.22394/1818-4049-2017-78-1-21-27
УДК 331.582(571.6)

Vladimir Filippovich Efremenko – Candidate of Economics, Docent, Chief of the Innovative and Technological Center of the Far-Eastern Institute of Management – branch of RANEPA (Khabarovsk). *E-mail: vladfilef@yandex.ru*

The transition to an innovative type of reproduction in the Far East of Russia as the objective necessity and opportunities realization

The solution of socio-economic problems of Russia in the Far East, is possible by forming an economic system in this macro-region, the core of it will be the innovation economy. An innovative type of social reproduction, a transition to it, substantiated in this work, corresponds to the current state of the economy of the developed countries. Furthermore, and this is more important, only this state of productive forces and business relations will allow to resolve the contradiction between economic growth and socio-demographic degradation observed from the beginning of the 21st century. The empirical analysis of the social and economic efficiency of the regional innovation system (RIS) functioning in the Republic of Sakha (Yakutia), established in the early 2010s, proves that interconnected working of all subsystems of the innovation economy can achieve significant economic results not due to degradation of the human factor, but due to its development. Success of RIS, created in a short period of time, can be repeated in other regions of the Russian Far East.

Переход к инновационному типу воспроизводства на Дальнем Востоке России – объективная необходимость и реализация возможностей

Решение социально-экономических проблем России на её Дальнем Востоке возможно путем формирования в этом макрорегионе хозяйственной системы, ядром которой будет инновационная экономика. Инновационный тип общественного воспроизводства, переход к которому обосновывается в настоящей работе, соответствует современному состоянию экономики развитых стран. Кроме того, и это более важно, только такое состояние производительных сил и организационно-экономических отношений позволит устранить противоречие между экономическим ростом и социально-демографической деградацией, наблюдаемые с начала XXI века. Проведенный эмпирический анализ социальной и экономической результативности функционирования Региональной инновационной системы (далее – РИС) в Республике Саха(Якутия), созданной в начале 10-х годов,

доказывает, что взаимосвязанная работа всех подсистем инновационной экономики позволяет достигать существенного экономического результата не за счет деградации человеческого фактора, а за счет его развития. Успешная работа РИС, созданной в короткие сроки, может быть повторена в других регионах Дальнего Востока России.

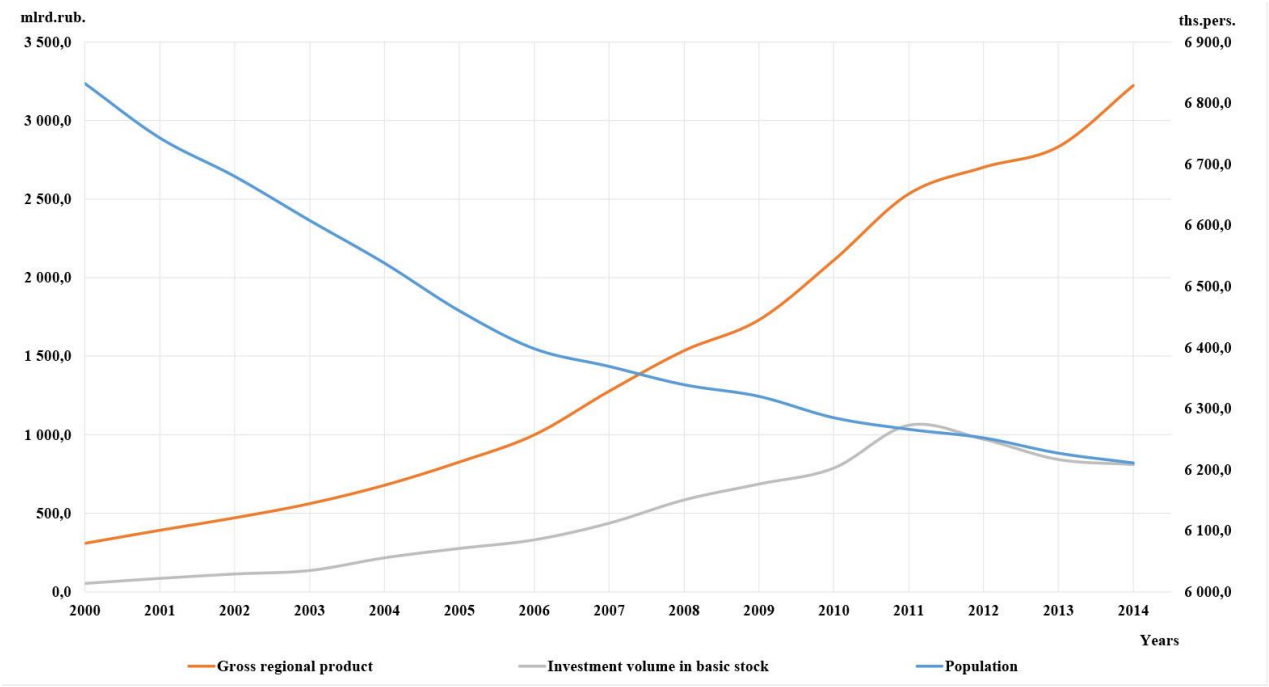
Keywords: *Social reproduction. Innovation economy. The Far East of Russia. Regional innovation system. Economic growth. Social and demographic development. Research and Technology park. The Republic of Sakha (Yakutia).*

Ключевые слова: *общественное воспроизводство, инновационная экономика, Дальний Восток России, Региональная инновационная система, экономический рост, социальное и демографическое развитие, технопарк, Республика Саха (Якутия).*

One of the key factors hampering the development of the Russian Far East, is a low degree of diversification and innovativeness of the regional economy, having a strong resource trend with a low degree of natural resources processing. In various parts of the territory, there is also a wide gap between the conditions for economic activity and living conditions, low quality of social infrastructure, low living standards and, as a consequence, a lack of comfortable living conditions in cities and settlements without effective city-forming companies [1].

Understanding of economy of any level as a system of a dynamic organism, the core of which is the economic system constituting the totality of productive forces and constantly communicating business relations presupposes the existence of "signs of integrity in this system, which are regarded as its basic properties: interacting subsystems, forming the basis of its structure; ability to independent operation, establishment of internal factors of self-development" [2].

On the basis of the analysis of the dynamics of major socio-economic development indicators in the Far Eastern Federal District (hereinafter the FEFD) in the 2000 – 2014 period the existence of significant imbalances in the public reproduction of the macro-region can be assumed. While investments in fixed capital and gross regional product production show the tenfold growth, the number of people living in the region of residential population has negative dynamics (fig. 1).



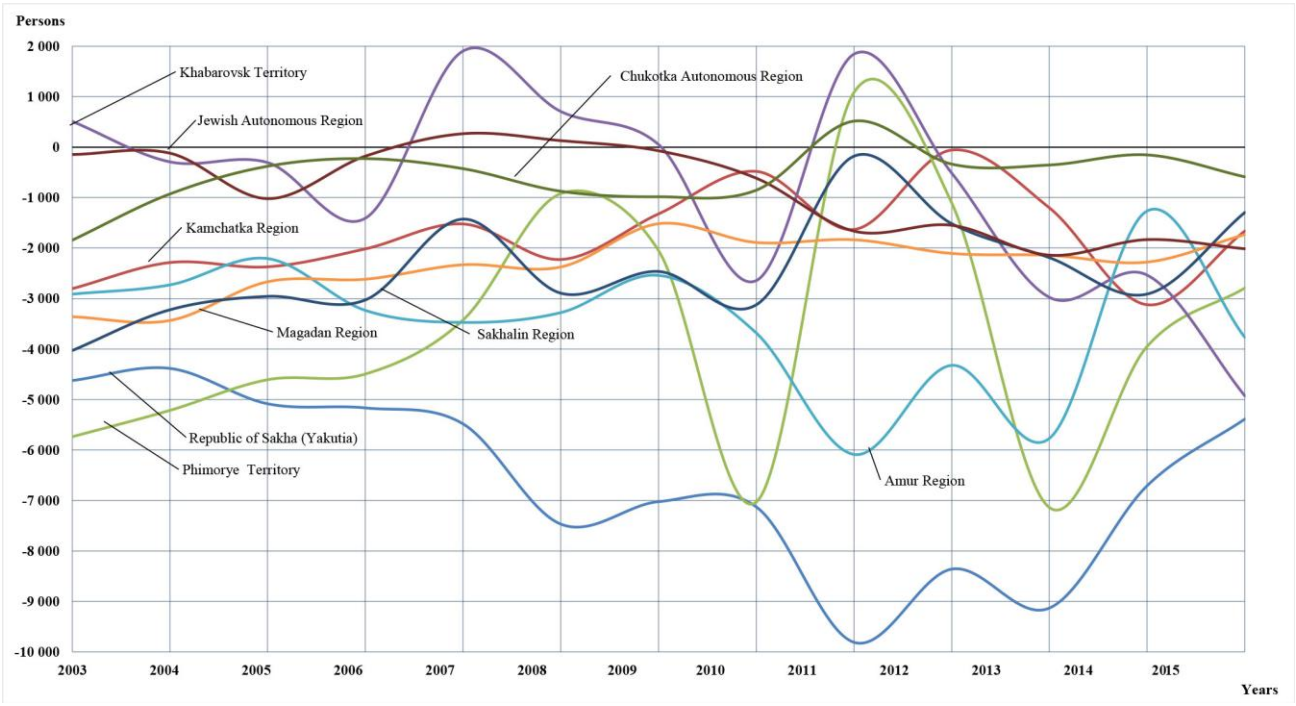
Source: compiled by the author based on the Federal state statistics service (Rosstat) data [3]

Fig. 1. Dynamics of the basic macroeconomic indicators of the FEFD social-economic development

Various orientation of' dynamics of economic and socio-demographic development in the FEFD indicated, on the one hand, the violation of proportional character of the processes of social reproduction already at the level of macroeconomic indicators (personal material factors of production, consumption, savings, etc.), as well as the lack of transformation of the economic growth in the level of socio-economic development. Economic growth, understood as the ability of the economy to ensure increasingly diverse needs of the population" [4] in the FEFD has the opposite result as the consequence – the population reduction.

Faster growth of investment volume and generated added value is observed in mining industries. Investments in extractive industries more than 5 times exceed the indicators of manufacturing industries. If at the beginning of the period under review, the value added in the extractive industries only twice exceeded the figure of the manufacturing sector, then already in 2011the gap was fivefold. At the same time the number of jobs in the mining industries have not increased and maintained at 110 thousand level during this period. But the number of jobs in manufacturing industries fell by 7 per cent. In general, the dynamics of material and personal factors of production observed in the FEFD shows that the implementation of an undesirable, threatening scenario of this macro-region occurs: strengthening of the raw material producing trend of industry and depopulation.

The largest volume of GRP growth during the period under review was achieved in the Republic of Sakha (Yakutia), epy Sakhalin region, the Primorsk and Khabarovsk territories. The main branches of specialization are the material basis of the GRP growth in these regions: mining, more than 80% of which in the FEFD are concentrated in the Sakhalin Region and the Republic of Sakha (Yakutia) and the manufacturing productions of the macro-region, 2/3 of which are located in the Khabarovsk and Primorsk territories. However, the breakthrough economic growth does not become a factor of raising the attractiveness of these territories for permanent residence. It is noteworthy, that the differences in industry specialization of the Federation entities in the FEFD, as well as a significant differentiation of the climatic conditions for the population, have virtually no impact on the values of migration balance, being constantly negative (with the exception of some fluctuations) in all regions throughout the whole period under consideration (fig. 2).



Source: compiled by the author according to the Rosstat data [3]

Fig. 2. Dynamics of migration gain, population decline in the regions of the FEFD

Mainly the extensive type of economic development in the raw material producing regions and mainly the intensive type in the industrial type regions almost equally show their ineffectiveness in demographic, social reproduction. Apparently the problem is of a system-based character, and hardly it has a solution in the framework of peripheral issues, such as: increasing of the regional salary coefficients, tax allowances and privileges, etc.. The whole process of human

reproduction in its entirety should be considered, which, as it can already surmise, has serious "gaps" and, moreover, the very type of regional social reproduction does not correspond to the growing needs of the evolution persons. The type of social reproduction, prevailing in the developed countries in the second half of the 20th century, is described as innovative. New quality of reproduction consists in that the advances in science and technology within the advanced macro-systems have evolved from an external (exogenous) factor to reproduction into an internal factor (endogenous). Therefore, the scientific and technical shifts turned from the relatively rare event into a phenomenon constantly present in economic life [5].

However, the economic life itself or economy, as a complete set of socio-economic relations of productive forces in their mutual conditionality exists only for a man and due to a man [5]. In the light of the innovative economy creation, a knowledge-based society, the main purpose of the development of social production becomes not a gross domestic product growth but the development of a man. In turn, strategically focused work is a source of innovative development of the economy [6].

With a transition of the productive forces to a new level of progress "the need for a radical target reorientation to increased, complicated and rapidly changing needs of the person and individual communities, collectives, groups becomes more acute. Interdependence of economic, environmental, social, spiritual and other needs is growing. In other words, a significant change in the dynamics of human interests, and hence, the motives of a person's labor activity should occur" [2].

The example of the practical results of the regional innovation policy in the Republic of Sakha (Yakutia) empirically confirms the impact of an innovative economy sector of the region on improving the demographic situation.

Since the beginning of the 2-nd decade of the 21 century in the FEFD entities (after the legal confirmation of the innovation subject matter in the Federal Law No. 127 "About science and the state scientific and technical policy", after the adoption of the Federal Strategy and Program of Innovation Development) all regional governments accepted the legal documents declaring the innovation activity as a priority of the regional economic policy. The Republic of Sakha (Yakutia) is different from other Russian Federation entities by only that the special institutions have been established in it, making up the core of regional innovation system: "Yakutia" Technopark and "Yakutia" Venture Company. The activities of these innovation infrastructure institutions in comparison with similar attempts in other regions of the FEFD are described in detail in [7], here the author will focus on the impact of the processes of innovative economy development on demographic migration processes.

The main document describing the expediency of the establishment and functioning of the innovation infrastructure facilities, is the State Program of the Republic of Sakha (Yakutia) "Research and technology and innovation development of the Republic of Sakha (Yakutia) for 2012-2017", adopted by the Decree of the President of the Republic of

Sakha (Yakutia) , December 12, 2011, no. 953. The Order of the President of the Republic of Sakha (Yakutia) of December 28, 2011, no. 998-P defined the establishment of the State autonomous institution of the Republic of Sakha (Yakutia) "Yakutia" Technopark with the following tasks: formation of favorable innovation environment in the Republic of Sakha; effective interaction of all innovators at the territory of the Republic of Sakha; the support of small innovation enterprises; establishment of a system of technology transfer and commercialization.

Alongside with the technopark on October 5, 2011, the technological institute of venture financing was established. It is a joint-stock company "VC Yakutia", established in accordance with the Decree of the Government of the Republic of Sakha (Yakutia) "About the participation of the Republic of Sakha (Yakutia) in the establishment of JSC "Venture Company" Yakutia" No. 1044-r. The assets of the company, formed from the assets of the Republic of Sakha (Yakutia) are 200 million rubles. In addition, the company attracted the private investments amounting to 160 million rubles. Taking into account the mobilized investments, 26 projects have been financed for a total amount of 318.69 mln rubles.

The basis for formation of a fully fledged Regional Innovation System (RIS) [7] was laid regarding the existing systems of education and science in the Republic of Sakha at the end of 2011, it has all the necessary elements and relationships, being capable to ensure the reproduction of innovative product, due to internal factors and resources. The efficiency dynamics of RIS can be estimated on the basis of the Table 1 data.

Table 1

Economic and social indicators of "Yakutia" Technopark activities in 2012 – 2016

	Indicator name	**2012**	**2013**	**2014**	**2015**	**2016**
1	Sales revenue by technopark residents, mln rubles	54	162.2	225.4	326.4	230.1
2	Number of employed in companies - technopark residents , pers.	54	250	341	393	454

Source: compiled by the author according to the "Yakutia" Technopark data

Already after a year of its establishment, the residents of the technopark sold the products in the amount of 54 million rubles. In mere five years, the number of the registered residents of the technopark has grown to 89 (the number of claims reached 322). The residents attracted 264 million rubles of investments from the institutes of development, the production was sold for 998.1 million rubles, 454 jobs created, the taxes paid amounted to 209.3 million. rub. 25 innovative companies were grown in the technopark, they have left it after the transition to a stage of industrial growth, and 8 companies have become the residents of the "Skolkovo" Foundation.

Simultaneously with the beginning of the work of the innovation system in the Republic of Sakha the remarkable changes in the structure of population migration took place. In the Republic of Sakha, always different from all other regions of the FEFD by sustainable natural population growth, the negative migration balance was a problem, not allowing pass to population growth. In qualitative terms, the migration outflow of graduates outside the Republic was of great concern. But, since 2012, there has been a trend towards a reduction of departure in this age group (table 2).

Table 2

Dynamics of some population groups migration balance in Yakutsk in 2012 – 2015

	2012	**2013**	**2014**	**2015**
Migration gain, pers.	4998	4863	2325	1436
Intraregional migration Migration gain, pers.	6784	6694	4233	3437
External (for a region) migration Migration gain, pers.	-1786	-1831	-1908	-2001
20-24, External (for a region) migration Migration gain, pers.	-157	-150	-128	-32
25-29, External (for a region) migration Migration gain, pers.	-96	-150	-160	-205
30-34, External (for a region) migration Migration gain, pers.	-140	-147	-168	-191

Source: compiled by the author according to the Federal State Statistics Service of the Republic of Sakha (Yakutia) data [8].

The city of Yakutsk, as the capital of the region is an attractive location for intraregional migrants, but it gives way to more developed cities of the country in migration attractiveness. The outflow of the residents of Yakutsk outside the Republic of Sakha tends to increase. At the same time, in the age group of 20-24, coinciding with the period of graduating a high school, the outflow outside the region is decreasing. In subsequent age groups this feature is no longer observed, the outflow increases.

A break-point of migration trends in the group of the great majority of graduates correlates with the dynamics of creating jobs in an innovative economy sector (table 1). We may assume that the creation of full, linked in the system, elements of innovative economy harmonizes the processes of social reproduction. At the same time, the relationship between economic innovative production and socio-demographic reproduction in a major metropolitan city and considered by the author as yet, as a special phenomenon, allows to estimate the break-point in migration trends in the country in 2011 in another way (fig. 2).

The formation of the elements of innovative economy occurs not only in Yakutsk, but also in the distant areas of the Republic of Sakha. Thus, in "Kangalassy" Industrial Park already 8 residents are working, 6 of them came from the "Yakutia" Technopark. In "Kangalassy" IP 2.072 billion rubles of private investments are expected, the number of jobs created is 237. Thus, the Republic of Sakha model of the innovation system is not limited to the capital of the Republic, the innovation model of management is spreading to the remote areas of the Republic.

The analysis performed shows that the establishment of a functioning regional innovation system in the Republic of Sakha (Yakutia) immediately impacted on the change of the socio-demographic indicators. The number of the University graduates travelling outside the Republic decreased there is a trend towards reducing the negative migration balance in the Republic as a whole. It was observed, that the results were achieved at minimum costs, compared with investments in resource production. The basis of emerging positive changes, in our view, is the transition from the raw material to innovative model of the public regional reproduction in the Republic of Sakha.

Список литературы:

1. Стратегия социально-экономического развития Дальнего Востока и Байкальского региона на период до 2025 года // Утверждена Распоряжением Правительства РФ от 28 декабря 2009 г. № 2094-р.

2. Фоломьёв А. Обоснование инновационного типа воспроизводства // Экономист. 2005. № 8. С.40–45.

3. Регионы России. Социально-экономические показатели. 2016: Стат. сб. // Росстат. М., 2016. 900 с.

4. Кузнец С. Современный экономический рост: результаты исследований и размышлений // Нобелевские лауреаты по экономике: взгляд из России / Ред. Ю.В. Яковец. СПб.: Гуманистика, 2003. С. 104.

5. Инновационный тип развития экономики: учебник / под общ. ред. А.Н. Фоломьёва. М.: Экономика, 2013. 562 с.

6. Буланов В. Развитие человека как стратегическая цель управления экономикой // Проблемы теории и практики управления. 2014. № 1. С. 114–122.

7. Ефременко В.Ф. Формирование инновационной экономики на Дальнем Востоке России системным методом : научное издание. Хабаровск: ДВИУ – филиал РАНХиГС, 2016. 56 с.

8. Федеральная служба государственной статистики Республики Саха (Якутия). – URL: http://sakha.gks.ru/wps/wcm/connect/rosstat_ts/sakha/ru/statistics/population/.

References:

1. Strategiya social'no-ehkonomicheskogo razvitiya Dal'nego Vostoka i Bajkal'skogo regiona na period do 2025 goda // Utverzhdena Rasporyazheniem Pravitel'stva RF ot 28 dekabrya 2009 g. № 2094-r.

2. Folom'yov A. Obosnovanie innovacionnogo tipa vosproizvodstva // EHkonomist. 2005. № 8. S.40–45.

3. Regiony Rossii. Social'no-ehkonomicheskie pokazateli. 2016: Stat. sb. // Rosstat. M., 2016. 900 s.

4. Kuznec S. Sovremennyj ehkonomicheskij rost: rezul'taty issledovanij i razmyshlenij // Nobelevskie laureaty po ehkonomike: vzglyad iz Rossii / Red. YU.V. YAkovec. SPb.: Gumanistika, 2003. S. 104.

5. Innovacionnyj tip razvitiya ehkonomiki: uchebnik / pod obshch. red. A.N. Folom'yova. M.: EHkonomika, 2013. 562 s.

6. Bulanov V. Razvitie cheloveka kak strategicheskaya cel' upravleniya ehkonomikoj // Problemy teorii i praktiki upravleniya. 2014. № 1. S. 114–122.

7. Efremenko V.F. Formirovanie innovacionnoj ehkonomiki na Dal'nem Vostoke Rossii sistemnym metodom : nauchnoe izdanie. Habarovsk: DVIU – filial RANHiGS, 2016. 56 s.

8. Federal'naya sluzhba gosudarstvennoj statistiki Respubliki Saha (YAkutiya). – URL: http://sakha.gks.ru/wps/wcm/connect/rosstat_ts/sakha/ru/statistics/population/.