

ACCELERATORS AND DETERRENTS TO THE COORDINATED AND BALANCED DEVELOPMENT OF THE REGIONS

The article substantiates the hypothesis that the modern technological production process results in the complexity of socio-economic space and leads to the increase of its integration, which in turn causes the need for coordinated and balanced development. The author describes the process of the growth of complexity in the economic space as a result of the increasing number of links caused by the creation of enterprises and organizations, changes in the structure of production and the growth of the educational level of the population. The author gives the characteristics of the new quality of economic space. The factors of coordinated and balanced development of the territories are outlined in the article. The contents of the concept of “commercial combination” are explained. Also the necessity of the transition to systemic innovative thinking in the context of increasingly complex economic space is substantiated. The article suggests the way of using rebalancing of the economy as a new vision of balance in the context of crisis situations. It is concluded that the outcome of the theoretical and practical search should be the formation of a viable development of the territories, which is provided by the intellectual and technological, as well as moral and ethical, level of the population living there.

Keywords: complication of economic space, coordinated and balanced development, commercial combination, innovative systematic thinking, rebalancing of economy

Introduction

In the context of the upcoming economic crisis, when the decline in the living standard of the population becomes inevitable, increased attention is paid to the problems of development of territories in order to find ways and means for maintaining the well-being of the population at an acceptable material and spiritual level. At the same time, the very development of the territories (regions, municipalities) lacks theoretical and methodological explanation of the driving forces behind the transformation of its production and economics and the effective solutions to its social problems.

The need to establish a satisfactory theoretical/methodological and organizational/practical concept of territory development is caused by the fact that the possession of clothing and shelter, heating in the house, a car, a mobile phone, a washing machine, etc. is no longer seen as a luxury. At the beginning of 2015, the majority of people regarded such property as a compulsory element of normal everyday life.

Therefore, the economic crisis forces us to look for real rather than imaginary sources of value preservation and growth within the region and implement these potential sources through a set of practical measures. New measures are required, as well as new (other) criteria and indicators for assessing the lives of people in the territory, as well as the evaluation of the territory (as the place where people live), in terms of not only material wealth, but also socio-psychological and spiritual state and the development of the population.

To solve the said problem, we make a hypothesis that modern production process leads to a complication of the socio-economic space and to the increase of its integrity, which in turn creates the need for coordinated and balanced development.

We believe that in the changed environment the potential growth of people's welfare should be increasingly more connected to the intellectual, moral and ethical advances in lifestyle and behavior of the local population. We assume that the very level of socio-economic development of a territory is the result of deliberate actions by the intellectually mature society of the region.

Increasing complexity of the economic space in the region

The category of “economic space” has been actively studied since 1950, when the French economist Francois Perroux (1903–1987) proposed to use the notion of “abstract economic space” in economic science [1, p. 78], which was intended to facilitate the understanding of the problems of territorial development.

The spatial development of territories and their zoning were studied by many economists in the 19th and 20th centuries. These works have made a significant contribution to the solution of the problem of rational distribution of productive forces and national wealth. These are such scholars as David Ricardo ("The Principles of Political Economy", 1817), Johann von Thünen ("The Isolated State", 1826), Wilhelm Laundhart ("Mathematical justification of Economics", 1882), Dmitri Ivanovich Mendeleev ("Towards the knowledge of Russia" 1906), Pyotr Petrovich Semenov-Tyan-Shansky ("The journey in the Tien Shan", 1908), Alfred Weber ("Theory of the Location of Industries", 1909), Nikolay Nikolayevitch Baransky ("A short course in economic geography", 1931), Walter Christaller ("Central Places in Southern Germany", 1933), August Lösch ("The spatial organization of the economy," 1940), Nikolai Nikolaevich Kolosovsky ("Fundamentals of economic regionalization", 1958), Nikolai Nikolaevich Nekrasov ("Regional Economy", 1975), and many others.

Economic space is usually understood as a territorial group of interrelated objects located close to each other (settlements, industries, markets for goods and services). The economic space is not uniform. At the same time, "firstly, any territory is subject to the internal cycles of growth and decline. Secondly, any place can be influenced by external shocks and forces beyond his control" [2, p. 33].

At the same time, the usual interpretation of space as a physical location of internally structured objects does not allow to implement adequate assessment of the processes going on in the territory due to the changes in both its internal and external relations, as well as with the increasing socialization of people.

The complication of economic space is expressed in the growth of the number of connections that have to be performed on a daily basis to ensure the normal life of people. Moreover, their number is growing exponentially in relation to the increase in the number of structures. The increase in the number of connections is caused by the creation of new economic structures, growing amount of durable goods owned by the population which have to be serviced in specialized companies to remain in working order, and development of tourism and business travel. Cars required the establishment of a network of car service centers, fueling stations, motor vehicle repair shops. The network of shops grows, the infrastructure changes, etc. For instance, in Russia only the number of enterprises and organizations for the period from 1990 to 2013, inclusively, increased 16.8 times. In 1990, there were 6814 economic entities in the Sverdlovsk Region, whereas in 2013 there were 168,039 ones already. That is, their number increased 24.7 times. Similar processes have been observed in Chelyabinsk (a 24.5 times increase), Tyumen (a 15 times increase), and other regions.

The quantitative growth of economic structures and amenities is changing the mentality and communicative characteristics of the population. Besides, the mentality changes due to the shifts in the structure of employment of the residents. For example, people who become retailers or financial specialists inevitably acquire new economic behavior and lifestyle typical for their new jobs. And the number of people who shift from employment in one group of sectors of the economy to employment in some others is quite impressive. Thus, from 2002 to 2013, the share of employment in wholesale and retail trade in the Sverdlovsk Region increased from 6.8 % to 15.2 %, while the employment in the manufacturing sector declined from 31.0 % to 22.9 %. The employment in the financial sector went up from 1.2 % to 2.6 %, while the number of workers employed in mining decreased from 3.2 % to 2.0 % (Table 1).

The increasing complexity of economic space, including the social and cultural spheres, is not only about the increasing number of interdependencies, but also about the strengthening of its integrity and the transformation of the economic space into a system controlled by the collective intelligence of educated people. The basic element for successful existence and self-organization of such system is the intellectualization of the population as a starting point for the qualitative changes in the mentality of the people, which includes moral and ethical values.

At the same time, in solving practical problems of the development of the space of a territory it would be wrong to abandon the traditional approach to the concept of spatial development, which is based on taking into account the differences in the levels of socio-economic status of the territories, their heterogeneity in terms of innovation potential. This view is confirmed by the continuing importance of the work of American economist Walter Izard (1919–2010) "Methods of Regional Analysis" (1960), where he reveals the methodology of spatial distribution of various sectors of the economy, depending on the population of the territory, the existing distribution of productive forces, the degree of inter-regional relations [3].

Table 1

Changes in the Proportion of Employed Population in the Sverdlovsk Region by type of the branches of economy, %*

Type of economic activity	2002	2013
Agriculture, hunting and forestry	5.1	2.2
Extraction of minerals	3.2	2.0
Manufacturing companies	31.0	22.9
Construction	5.0	4.5
Wholesale and retail trade; repair of motor vehicles, motorcycles, household goods and personal items	6.8	15.2
Financial activities	1.2	2.6

* Sverdlovsk Region in 2002–2006: Statistical Book. / Territorial body of the Federal State Statistics Service in and for the Sverdlovsk Region. Yekaterinburg, 2007. P. 49-50; Sverdlovsk Region in 2009–2013: Statistical Book. / Territorial body of the Federal State Statistics Service in and for the Sverdlovsk Region. Yekaterinburg, 2014. P. 43.

Characteristics of the new quality of economic space

The ongoing growth of the complexity of economic space and its gradual transition to a new quality makes it necessary to look for some options of a new understanding of the concept of space. With due account for the progress in the development of the productive forces and the expanded role of moral and ethical values, in 1991 the American researcher Amitai Etzioni suggested using the term “socioeconomics” [4, 5] for the study of new processes, not only linking it with space but also correlating it with an interdisciplinary approach. He wrote that for the purposes of explaining the world, socioeconomics, “which includes economic, social, psychological and political factors, can, of course, yield better results than interdisciplinary approaches” [6, p. 73]. A slightly different position is taken by V. A. Sukhikh. He states that socioeconomics is “an interdisciplinary research area (an area of scientific knowledge) which studies the patterns of modern life in time and space through the prism of moral and ethical requirements (constraints) and the criteria of social justice” [7, p. 22].

A team of authors from Krasnodar who published “Regional Economic Space” (2013) considers it necessary to study the deep ontological features of regional life, because “the ontology of regional development is based not only on the systematization of relevant terminology, ... but also on the historical and graphical analysis of the formation of the theory and practice of regional economy in Russia” [8, p. 10].

Growing complexity of economic space is seen by V. G. Loginov and V. V. Balashenko see in humanity’s recognition of the need to take into considerations like exhaustibility of natural resources and the assimilative capacity of ecosystems. This problem, according to them, “determines the emergence of a new approach to the justification of natural resources – geo-, eco-, socio-economic”, i.e., environmentally-oriented socio-economic approach [9, p. 30].

We believe the process of complication of space to be primarily related to the expansion of the relations that determine personal development of a human being. Intellectual and moral activity become an integral part of the transformation of the territory and turn it into a field for the deployment of intelligence, ethics, knowledge systems, moral standards and creative values. Not only does a human being develop as a person, but he or she also refines the territory and its nature, filling them with a humanistic content. This results in “humanization of space”, which acquires individual character, special features and properties, which by their nature are socio-economic rather than natural or physical.

The functioning of “humanized space” requires a completely different type of behavior not only from individuals but also from the socio-economic system as a whole. Therefore, we believe that the space should be regarded as the sphere of the deployment of people’s knowledge and their moral and cultural values [10, p. 6-8]. After all, the main characteristics of a territory are created by the people who live there. [11] In the context of “sociologization” of space, as it was noted by V. N. Lazhentsev, “territorial economy is focused not on the profit but on the production of social goods and creation of a closer community, in accordance with the people’s need to have a comfortable place of residence” [12, p. 206]. Therefore, a new type of human behavior means that the decision making is based on goal-setting, and the whole system becomes goal oriented.

Not only economic space, but also humans become more complicated

One of the characteristics of “humanized space” is the increasing level of education among the population. In this case, we rely on the major methodological principle of economic research: analyzing the changes in the economy, we must not regard human economic behavior as a constant value that never undergoes any qualitative changes. Humans do not only change the circumstances, but also change themselves in the process.

We’ll illustrate this statement by the changes in the educational status of people based on the data of All-Union (1989) and All-Russian (2002, 2010) census enumeration (Table 2).

First, the overall level of professional education increased. In Russia, the share of people who have professional education increased in the total population from 45.1 % (51 million people in the population of 113 million people in 1989) to 62.9 % (76.2 million people in the population of 121 million people. in 2010).

Secondly, the proportion of people with higher education in the total population has sharply increased. During the 20 years, this indicator grew from 12.7 million people in 1989 to 27.5 million

Table 2

The dynamics of the educational level of the Russian population at the age from 15 and older (According to the census enumeration of 1989, 2002 and 2010)*

Indicator	mln people			Per 1000 people		
	1989	2002	2010	1989	2002	2010
All the population at the age from 15 and older	113.0	121.3	121.1			
People who have professional education	51.0	71.4	76.2			
higher education (including post-graduate)	12.7	19.4	27.5	113	162	234
undergraduate education	1.9	3.7	5.4	17	31	46
secondary education	21.7	32.9	36.7	192	275	312
primary education	14.7	15.4	6.6	130	128	56
General education	62.0	48.5	41.4			
secondary education (complete)	20.3	21.3	21.5	179	177	182
mainstream education	19.8	16.7	12.9	175	139	110
primary education	14.6	9.3	6.3	129	78	54
Do not have primary education	7.3	1.2	0.7	65	10	6
Those who did not specify their level of education and those for which the information was obtained from administrative sources	—	1.4	3.5			

* Based on the data of All-Union (1989) and All-Russian (2002, 2010) census enumerations.

people in 2010, i.e., increased 2.2 times. In absolute terms, the difference was 14.8 million people. The same trend is confirmed by the data on the number of people with higher education per 1000 inhabitants. In 1989, only one of every 9 people had higher education (113 per 1000 people), whereas in 2010 almost every 4th person (234 per 1000 people) had a diploma of higher education. These data refer to the total population. Among the economically active population, this figure is even higher: in 2012, almost every third Russian resident fit for employment had a higher education¹.

Thirdly, the number of specialists with secondary vocational education increased both in absolute and relative terms. In 1989, there were 192 such specialists per 1,000 people, whereas in 2010 this indicator reached the level of 312, i.e., increased 1.62 times.

Fourthly, and this is the most important aspect, in 2010 the highest proportion of people with higher and postgraduate education was observed in the group aged 25–34. This generation received higher education after 1990. According to the Russian National Census (2010), this generation was represented by 22,213,000 people, including 8,183,000 people, or 36.8 %, had higher education and postgraduate education diplomas.

For comparison, it must be said that the population group at the age from 45 to 59, inclusively, i.e., those who got higher education before 1990, in 2010 amounted to 31,219,000 people, including 7,351,000 graduates of higher educational institutions and people with postgraduate degrees, or 23.5 %.

¹ Labor and Employment in Russia. 2013: Statistical Book / Rosstat. Moscow, 2013. 661 p. P. 46.

The number of graduates with higher and postgraduate education (post-graduate degree, doctoral degree, medical residency) per 1,000 people was 374 people in the group aged 25–29 compared to only 255 in the 45–49 y.o. group. At the same time, the opposite trend is observed in respect of secondary vocational education. Here, only 281 people per 1000 were specialists with secondary vocational education, compared to 411 people among the group of 45–49-year-olds.²

It turns out that the country somehow made an inconspicuous but giant leap in its intellectual development, which is a real education-based stepping stone for large-scale dissemination of innovation. The society has received a steady intellectual platform for finding practical solutions involved in the implementation of cutting-edge technological development. Of course, one can talk about some downgrading in the level of knowledge that characterizes people with higher education, but it does not obliterate the fact of the increase of the national intelligence. Now it is important to take advantage of this growth.

Educational Dynamics at the Regional Level

In some regions, as well as throughout Russia, intellectually developed communities are emerging. The process involves the increase of the number of students enrolled in higher education, and the decline of the number of those in basic and secondary vocational education (Table 3).

The increase in the number of university students is directly linked with the emerging social changes in Russia. In 1990, there were 2,824,500 students, whereas in 2013 their number doubled, totaling 5,646,700 people. At the same time, the number of students in secondary vocational education fell from 2,270,000 people in 1990 to 1,984,300 people in 2013. The number of students in the system of initial vocational education fell 2.4 times: from 1,866,700 people in 1990 to 774,200 people in 2013.

In the Urals Federal District, the number of students grew particularly sharply (3.5 times) in

Table 3

The dynamics of the quantity of students in vocational education organizations that provide specialist training (thousand persons)^{*}

Region	Year					
	1990	2013	1990	2013	1990	2013
	Higher professional education		Secondary professional education		Basic vocational education	
Russian Federation	2,824.5	5,646.7	2,270.0	1,984.3	1,866.7	774.2
Kurgan Region	14.3	27.4	17.2	4.3	16.3	6.5
Sverdlovsk Region	85.2	166.6	76.0	27.0	68.4	25.5
Tyumen Region	34.7	121.8	33.8	15.8	29.8	21.4
Chelyabinsk Region	56.6	139.6	61.3	17.6	60.6	20.9

^{*} Based on: Russian Regions. Socio-economic indicators. 2003: Statistical Book / State Statistics Committee of the Russian Federation Moscow, 2003. 895 P.; The Regions of Russia. Socio-economic indicators. 2014: Statistical Book / Rosstat. Moscow, 2014. 900 p.

the Tyumen Region (from 34,700 in 1990 to 121,800 in 2013). This increase was connected with the establishment of new institutions and branches in the Khanty-Mansi Autonomous District and the Yamal-Nenets Autonomous District, which are included in the Tyumen Region. No less impressive (almost 2.5 times) was the growth in the Chelyabinsk region (from 56,600 in 1990 to 139,600 in 2013). The number of students in the Kurgan and Sverdlovsk Regions almost doubled.

Per 10,000 people in the Tyumen Region, in 1990 there were 190 students, and in 2013, 344 students (a 3.1 times increase). In the Chelyabinsk Region, the ratio was 155 to 400 people. (increased 2.6 times). In the Sverdlovsk Region the growth was 2.1 times (from 180 to 386 people), and in the Kurgan Region, 2.4 times (from 129 to 312 people). In Russia: 190 students in 1990 and 393 students in 2013, i.e., a 2-fold increase³.

² Russian Statistical Yearbook. 2014: Statistical Book / Rosstat. Moscow, 2014. 693 p. P. 178.

³ Based on: Russian Regions. Socio-economic indicators. 2003: Statistical Book / State Statistics Committee of the Russian Federation Moscow, 2003. 895 P.; The Regions of Russia. Socio-economic indicators. 2014: Statistical Book / Rosstat. Moscow, 2014. 900 p.

The factors of coordinated and balanced development of the territories

The increasingly complicated economic space, acting as a “sphere of deployment of people’s knowledge system and their moral and cultural values” transfers the functioning of the economy to the model of integrative development. The main feature of the new model is the use of the elements of coordination, coherence, social orientation, widespread generation and the use of knowledge in the production of goods and provision of services. Such changes arise not only from the fact that the determining factor of modern economic development is the increasing complexity of technological and organizational operations, but also the fact that the economy itself becomes human oriented [13].

However, although the degree of interdependence of economic entities in the territory has increased significantly, the level of coordination progresses slowly. This creates problems in the territorial development. Maintaining the old model of regional development in the context of the growing economic space complexity is equivalent to the resistance to the trends of social progress.

Why is coordinated and balanced development indispensable in the current stage of development? This is determined by several threats. Firstly, the territories are more and more at risk due to the dynamic technological progress. Secondly, interregional competition is growing. Thirdly, customers are becoming more demanding in respect of the quality of the goods. Fourth, there are significant differences in the degree of development of the basic factors of production, including entrepreneurial and managerial potential.

All factors that influence the coordinated and balanced development of territories can be classified, on the one hand, into accelerators and deterrents, and on the other hand, into internal and external ones (Table 4). We’ll examine just some of them in more detail.

One of the deterrents to the national economy growth was the restriction of the economic independence of the territories (regions and municipalities). Currently, regional and local budgets receive about 35 % of the tax revenues obtained in the territory, while 65 % goes to the federal budget. At the same time, the system of delegating social functions from the federal to the local level continues

Table 4

Accelerators and deterrents of coordinated and balanced development of the territories

Indicators	Internal factors		External factors	
	Accelerators	Deterrents	Accelerators	Deterrents
The structure of the territorial space	The creation of the system’s integrity and the transition of economic space to the socio-economic system	Increased random socio-economic development. Uneven economic development of territories	Inclusion in the territory into federal programs	Regulatory constraints to economic independence of territories
Quality of manpower	Growing intellectualization of the population in the territory Development of systems thinking	Poor development of research	The existence of innovation-oriented state educational platform	Standardization of educational programs
Investment activity in the territory	Rebalancing of the territory’s economy based on the latest technologies	Lack of priorities in the selection of investment targets	Openness of economics	Financial and economic sanctions Rising inflation
Entrepreneurial and managerial potential	Availability of breakthrough territorial development strategies Internal market activation	Outdated forecasting methods Management crisis. Unstable feedback	Interregional and external relations development	Competition growth Demand contraction

to develop.

Economic initiatives from local businesses are hampered by the increasing power of large oligarchic private companies and public corporations. Intended to counteract corrupt business deals, today’s legislation on the procurement of goods and services actually hinders the procurement of quality work performed by real professionals rather than bogus firms. The development of intra-regional markets is severely hindered by the presence of numerous intermediaries.

Average per capita income of the population by the constituent entities of the Urals Federal District (Per month; rubles; for 1990, thousand rubles)*

Region	1990	2000	2005	2010	2011	2012	2013
Urals Federal District		2,744	9,581	21,832	23,908	26,304	28,994
Kurgan Region	0.192	1,342	4,800	13,499	14,353	16,129	17,583
Sverdlovsk Region	0.205	2,140	9,022	22,194	24,893	27,852	31,013
Tyumen Region	0.334	4,935	14,983	28,757	30,706	33,473	36,399
including:							
Khanty-Mansiysk Autonomous District — Yugra	...	6,627	18,115	32,385	33,926	360,345	39,292
YNAO	...	7,563	22,231	43,367	46,785	52,585	58,040
Chelyabinsk Region	0.203	1,969	6,554	16,821	18,460	19,816	21,888
Tyumen Region, without the Autonomous Region							24,731

* Russian Regions. Socio-economic indicators. 2013: Statistical Book / Rosstat. Moscow, 2013. P. 161; The Regions of Russia. Socio-economic indicators. 2014: Statistical Book / Rosstat. Moscow, 2014. P. 133.

Among the constraints to coordinated and balanced development of the territories we should lay special emphasis on the problem of their uneven development. Ultimately, it is manifested in the divergence in income levels between territories (Table 5), as well as within the territories. The uneven development of territories is related to the presence (absence) of high-tech industries in a given territory.

The table shows that average per capita income varies greatly even within the same federal district. For instance, in 2013 the income of the residents of the Kurgan region (17,583 rubles) and Yamal-Nenets Autonomous District (58,040 rubles) differed 3.3 times. Of course, this can be explained by the privileged payment conditions in the northern areas, as well as by the prevalence of oil and gas in the Yamal-Nenets Autonomous District. The conditions in the Sverdlovsk and Chelyabinsk regions are similar in respect of production, technology and climate, but there is a 1.3 times income gap there, while in 1990 there was no.

Inequality of income is also typical for the municipalities located within the region. For instance, in 2013 in the Sverdlovsk Region the difference between the highest average monthly wage in municipalities (urban district Pelym — 41,970.4 rubles) and the lowest (Krasnoufimsky District municipality — 15,933.9 rubles) was 2, 63 times.

Moreover, the differences in average monthly pay were observed not only in the territories located far from each other, but also between the bordering municipalities connected by transport links and having common socio-cultural features. For example, Kamyshlovsky town district and Kamyshlovsky municipal district used to be a single administrative entity. In 2013, the average monthly salary in Kamyshlovsk urban district was 26,612.8 rubles, while in Kamyshlovsk municipal area only 20,477.2 rubles, i.e., 1.3 times lower. A similar situation was observed in geographically adjacent municipalities of the city of Kamensk-Uralsky (26,631.5 rubles) and Kamensky Urban District (20,422.1 rubles.), where the difference was also 1.3 times. Significant differences in the average monthly pay are observed between major cities. The scale of the difference is 1.3–1.4 times: Nizhny Tagil (28,643.6 rubles). Pervouralsk (26,357.2 rubles). Kamensk-Uralsky (26,631.5 rubles). Yekaterinburg, a city with a million-plus population (37,266.6 rubles)⁴.

“Business combinations” as a form of coordinated development of territories

Is it possible to improve the situation in the region significantly if the amount of investment remains the same? It is. But the prerequisite to it is a more efficient use of the available resources.

⁴ Socio-economic status of the city districts and municipal districts of the Sverdlovsk region for 2009–2013: Statistical Book. Part 1 / Territorial body of the Federal State Statistics Service in and for the Sverdlovsk Region. Yekaterinburg, 2014. 229 p.; Socio-economic status of the city and municipal districts of the Sverdlovsk region for the years 2009–2013: Statistical Book. Part 2 / Territorial body of the Federal State Statistics Service in and for the Sverdlovsk Region. Yekaterinburg, 2014. 146 p.

It is this aspect of the business activities that received special attention of Joseph Schumpeter, an Austrian and American economist (1883–1950). He calls a new development in the use of resources a “business combination”, which refers to the use of innovations, both technological or technical and organizational. These innovations are either a launch of the production of new goods, or manufacturing of old goods of improved quality, or the use of more efficient methods. In any case, these must be new, proactive, unusual activities, which other manufacturers have not thought of yet. “To produce”, wrote J. Schumpeter, “means to combine the things and forces available in our sphere. To produce something different or in a different way is to create different combinations of these things and forces.” Based on these theoretical approaches, J. Schumpeter concluded that “entrepreneurial profit is inherently the result of the implementation of new combinations” [14, p. 132, 234].

Targeted business combinations result in the formation of long-term economic relations which represent the emergence of stable dependency between economic entities on the basis of the exchange of products, money and technology, which leads to concentration of industries and their clustering.

Modern computer technology not only makes it possible to calculate the optimal connections quickly and accurately, but also serves as an information base for the strengthening of trade relations within the region, that is, promotes the expansion of the intraregional market. For example, in order to attract local businesses to develop long-term business relationships in the region, it is necessary to take advantage of the idea of cloud computing, which is increasingly introduced into the operations of foreign businesses; a regional computing system has to be established in order to cater for the manufacturing relations of all enterprises and institutions located in the territory. Let us quote the definition of “cloud computing” given in Peter Fingar’s work; it is long, but quite intelligible: “Cloud computing is a computing paradigm shift where computing is moved away from personal computers or an individual application server to a “cloud” of computers. Users of the cloud only need to be concerned with the computing service being asked for, as the underlying details of how it is achieved are hidden. This method of distributed computing is done through pooling all computer resources together and being managed by software rather than a human.” [15, p. 34].

An important measure to be taken by the regional authorities in respect of “commercial combinations” of innovative, scientific and technological development and the creation of intellectual and innovative space would be to establish scientific and technical councils with the regional governments in the region, as well as with the heads of administrative districts and municipalities, which will be experts in the discussion of the current and future issues of territorial development.

Systems innovative thinking for the acceleration of the development of the regions

In our opinion, the analysis of increasingly complex economic space requires a different method of research. Nowadays, people widely use a method (principle) of “methodological individualism” which explains social phenomena through individual actions of economic agents who make decisions based on the possibility to maximize personal income. It has its roots in the works of philosophers Thomas Hobbes (1588–1679), John Locke (1632–1794), and economist and philosopher Adam Smith (1723–1790), who believed that “the market mechanism is unintended social consequences of self-interested human action” (quoted from [16, p. 101]). It received additional justification in Alfred Marshall’s (1842–1924) work “Principles of Economics” (1890) [17].

A more feasible method (principle) to study complex economic systems, which are, moreover, developing on the basis of the use of various innovations, is economic holism. It was first proposed in 1947 by the American economist Allen Gruchy (1907–1990). In accordance with this method, the society is considered as a holistic system which is not equal to the sum of its constituent individuals (see [18, p. 325]). This method includes the development of the idea of innovative systems thinking.

In our opinion, the “commercial combinations” described by J. Schumpeter will become a viable source of economic growth if the person in charge of such combination applies systems innovative thinking rather than any other kind of innovative thinking. Innovative thinking is a kind of thinking aimed at the creation of new combinations in the manufacture of products and services. At the same time, systems innovative thinking is characterized by striving for a holistic efficiency which is achieved by a combination of functions, structure and process that are undergoing simultaneous change rather than just individual efforts and investments. Whereas an interdisciplinary approach is characterized by collecting information about the object from different perspectives, holism is rather a synthesis of disparate facts into a coherent whole. Jamshid Gharajedaghi, an American economist, illustrates

this idea by the following example from the 1970s based on the experience of an American company, a leader in the production of load-and-carry equipment. The American company's product consisted of 2,800 parts, while the Japanese company, which adopted the American technology, used only 1800 pieces. This allowed the Japanese to lower costs by 40 %. The reason was that the Japanese firm did not patch any of its newly developed technologies into an old platform, but started from a clean slate and "took full advantage of the potentials that each technology offered". [19, p. 26]. System development is provided by the use of program / project method.

Rebalancing the economy of the territory

In the context of the growing economic crisis we propose a new tool to facilitate positive development of the territory. This tool is rebalancing of the economy, which implies supporting only those industries that are currently commercially viable rather than all the sectors. It should be remembered that this distorts the normal mechanisms of economic development of the area that are typical for calmer periods characterized by evolutionary growth. For example, a budget formed in a stable period should be transformed during crisis in accordance with the challenges of the time, that is, some types of expenditure are to be reduced, while spending on priority areas has to be increased.

Rebalancing is a new look at the balance in the context of crisis and economic volatility. Balanced development means maintaining the equilibrium between supply and demand (production and consumption) of certain goods and services by developing all sectors and industries. During the era of planned economy, scholars devoted considerable attention to the issues of balanced development of manufacturing industry, including the question of what ratios, tangible or price-related, have more importance [20-23]. It is important to accent that balanced development is not a mathematically calculated and automatically maintained state. It always depends on the subjective factor. Although the authorities and business leaders are dependent on objective economic values, the tactics of managerial decision-making is always influenced by their personal socio-cultural and psychological characteristics.

The methodological basis to rebalancing is the systematic approach to the management of sectors, clusters or territories. Purposeful changes of the economic structure of a territory will increase the overall productivity in the future, develop certain industries that will ensure revenue for the budget. For example, the Sverdlovsk Region has developed industry, but it is important to strengthen machine engineering, wood processing, support more diversification of the economy of the territory.

Rebalancing has to be effected as an emergency, urgent economic and political measure introduced by the superior government authority in the region. To implement rebalancing, it is necessary to develop a scientifically sound document that determines the list of sectors or clusters, as well as the procedures, incentives, and deadlines, and this document has to include rebalancing as a part of the diversification of the economy of the territory.

In his economic sophism "What Is Seen and What Is Not Seen", Frederic Bastiat, a widely recognized classic of French political economy (1801–1850), expressed a remarkable idea about the difference between good and bad economists. He wrote: "There is only one difference between a good economist and a bad one: the bad economist confines himself to the visible effect; the good economist takes into account both the effect that can be seen and those effects that must be foreseen." F. Bastiat connected this idea to the fact that almost always the immediate outcome is favorable but further consequences are disastrous, and vice versa. "It follows," he noted, "that the bad economist pursues a small present good that will be followed by a great evil to come, while the good economist pursues a great good to come, at the risk of a small present evil" [24, p. 132].

Within the framework of a rebalancing system, it is necessary to determine the core areas for the development of the region. In the context of the rising economic threats, the locomotives able to promote coordinated and balanced development of territories are advanced technology, innovation activities, research, and engineering education. Such approaches are already emerging in the regions. Thus, INO Tomsk concept in the city of Tomsk is aimed at the creation of five clusters that would receive financing in the amount of approximately 200 billion rubles before 2020, of which 65 % will be the investments of businesses, and 35 % will be provided from the federal and regional budgets. The development of the concept was going on from 2011, and in 2014 the authorities of the Tomsk Region, in cooperation with federal agencies and experts, adjusted the concept of the INO Tomsk 2020 project

with due account for the federal trends. The Russian Government issued a decree that gave the final approval to the concept as such and to the road map for its implementation for 2015–2020.⁵

Industrial parks operate already in the Sverdlovsk Region, and there are 13 of them. One of them is Sinarsky Industrial Park based on Sinarsky Pipe Works JSC in the town of Kamensk-Uralsky. Its production and laboratory facilities occupy a total area of 10,000 square meters, of which 6,500 square meters are occupied by residents. In addition, the base organization approved the use of a part of the production site, with an area of approximately 30 hectares, for the creation and development of the enterprise. The industrial park includes 5 companies with the total staff of 127 employees. In 2012, the organizations of industrial park released products worth 102.8 million rubles. The key areas of the industrial park development are energy efficiency and resource conservation, as well as environmental protection and waste recycling⁶.

Import Substitution

Import substitution can be an important measure to reinforce the coordinated and balanced development of the regions. But as we are discussing this problem, let us provide you with theoretical explanations to three issues.

Firstly, An important role in import substitution belongs to copying products by reverse engineering of samples and reproducing their components. Such methods are common in global industrial production. They facilitate the reproduction of any know-how. However, this approach is inherently an imitation of technical and technological progress, which very slowly but inevitably pushes the manufacturer and the country away from the development of a truly intellectual and innovative space. Therefore, import substitution is actually a form of catching-up development. This is typical for the countries that are forced to use organizational / economic and technological leverage that have already proven efficient in other states in order to maintain at least the normal level of well-being of their population while hoping to reach the socio-economic level of the developed countries in the future. So we can agree with the famous Russian historian Nikolay Karamzin (1766–1826) who wrote in his article *On Love of One's Country and National Pride*, in the early nineteenth century, "Learning is good and worthwhile; but woe to the man and the people that remain an apprentice forever!"⁷.

Secondly, Import substitution will produce the desired result only for those enterprises which will ensure higher productivity. This will enable them to create products that are more cost-effective than their foreign counterparts. In practical terms, this means that import substitution will be effective only in conjunction with modernization of the economy, i.e., together with the progress in equipment, technology and manufacturing process management.

Thirdly, Import substitution is a great tool that facilitates coordinated and balanced development of the territories: it provides businesses with mutual demand opportunities.

On Lay-offs Caused by the Crisis

There is no doubt that the coming economic crisis will cause layoffs. For example, since the beginning of 2015 the companies in the Kurgan region that officially announced layoffs included Kurgankhimmash (75 people), the regional office of Rosselkhozbank (62 people), Rostelecom (a total of 45 people in all the districts), and Ust-Uyskoe agricultural enterprise (bankrupt, 86 people lost their jobs).⁸ According to the report published in January 2015 by the Department of Labor and Employment, 85 enterprises in the Sverdlovsk region laid off some of their personnel in 2014, and 28 companies intend to do that in 2015, including Uralasbest (400 people), Pneumatic Construction Machine, Volchanskiy coal mine, Nizhnyaya Salda Rail Braces Plant, Electric Locomotive plant in Yekaterinburg⁹. The situation is similar in other regions.

It is expected that in 2015 up to 30 % of the staff of the budgetary organizations, government departments and similar structures in the region will be laid off, as well as up to 15 % in the industry and about 10 % in agriculture. The redundancies will mainly affect the white collars, although in some companies a lot of factory workers are going to be laid off as well.

⁵ <http://ria.ru/economy/20150120/1043334490.html#ixzz3PKzJEJyO>.

⁶ Ref. <http://www.regnum.ru/news/1668828.html#ixzz2wJGXwRvD> (accessed on 18 March, 2014).

⁷ The Great Encyclopedia of Cyril and Methodius // N. M. Karamzin. *On Love of One's Country and National Pride*.

⁸ Ref. <http://znak.com/kurgan/news/2015-02-04/1035000.html>.

⁹ The Regional Newspaper, 2015, 21 January.

On the one hand, this is an inevitable consequence of closing up of manufacturing facilities, and this is hardly surprising. But, on the other hand, it is important to understand the level of the damage caused by the layoffs to the future development in respect of production and technology, as well as to management. If the specialists who were made redundant belonged to mass trades, that is, those present in the labor market in large quantities, and therefore easily replaceable, then, from the commercial point of view, this damage can be remedied. When considering the option of laying off some unique or rare specialists, or those who can play a particularly important role in supporting the organizational and technological progress in the future, it is necessary to compare the benefits to be brought about by the layoff and the future losses that may arise when the write talent is not available at the time when it is needed, that is, when the trend reverses and production will be growing.

No matter how sad it feels to lay off workers of mass professions, but strategically, when solving the problem of layoffs, special attention should be paid to employees who have valuable intellectual and technological knowledge. It is only in extreme cases that they can be made redundant. To avoid losing specialists a company may offer them part-time employment. This method of retaining qualified staff for future development was used during the crisis of 2008–2009.

It is necessary to change the role of business in vocational training. It is high time that some large and medium-sized enterprises establish educational projects within their company (or in cooperation with companies of related sectors, as well as the local authorities) and at their own expense (or with consolidated funding); these projects should be aimed at the intellectual and technological enhancement of production and include various forms of training for both shop floor workers and engineering personnel. As a model of action for teaching future professionals the skills and knowledge demanded by the business, one can take the experience of UMMC (Ural Mining and Metallurgical Company), which created an Institute of Technology, a private educational institution.

Special emphasis should be given to the problem of forward-looking vocational training which is intended to ensure successful development of territories and businesses. The difficulty is that this task cannot be solved within the framework of institutions that provide vocational training, as it is determined by the needs of the economy. It is forecasting, along with scientific approach and substantiation of the prospects of the transformation of industries, areas and territories that is the core element of the forward-looking vocational training.

The vocational training complex should teach people about lean production system, which is widely used in Japan. Describing its contents, the authors of the book “Japanese Economic Model” (2000) put the total quality control in the first place. “All Japanese workers”, they noted, “played the role of ‘quality assurance officers’ in respect of the products and were entitled to stop the manufacturing process to solve a particular quality-related problem. For the purposes of product quality improvement, they were trained in standard methods of problem solving.” Among other elements of lean production, the authors describe continuous improvement, which includes the ability to implement workers’ suggestions “even before they received official approval; monitoring inventory; stopping the assembly line upon detecting defects; thorough floor washing in the workshops in order to detect minor problems in the equipment operation.” In respect of engineering personnel, lean manufacturing system includes such an element as “short cycle time,” which refers to the time of the performance of a process or an operation. In order to reduce this time, “the development is based on the method of parallel rather than sequential design, which is possible due to the broad professional expertise of the engineers, fast prototyping, and active involvement of suppliers in the development of new models” [25, p. 105-107].

Conclusion

To implement the above suggestions, including the development of appropriate methodology and regulatory and legal documents for the coordinated and balanced development of the territories, it is necessary to carry out substantial preliminary work in the form of scientific analysis of the current economic relations in the region or municipality, identification of problems and antagonisms, detection of practical opportunities and development prospects. Measures taken by “intuition and insight” can only be successful by mere accident.

The need to prepare guidance documents for coordinated and balanced development of enterprises and territories (regions, municipalities) based on scientific knowledge will become particularly clear as the authorities and business executives move on to practical implementation of the tasks of economy rebalancing and import substitution. In this case, it is necessary not only to determine the general

system of measures, but also to select specific companies or entire clusters that should, without bearing losses, produce specific goods, accompany the process of import substitution with the modernization of its equipment, implement the diversification of the economy.

The result of all theoretical and practical search should be the establishment of viable development of territories (regions, municipalities), which has to be supported by intellectual/technological as well as moral/ethical level of the residents and is based on the laws of social progress, which integrate the material existence of humans with their spiritual principle [26].

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