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Abstract

The prospective scenarios of spatial development of Primorsky region have been investigated, the core area of the Russian Far East. The study examines two assumptions regarding economic and spatial development of the region. One is a free-market approach, which spontaneously concentrates business activities within a territory, and another is a model of “retention” of the whole territory when the governments should represent incentives for a region sustainable economic development due to the geopolitical factors. Forecast of economic, investment and migration processes in the region may imply several scenarios of

long-term spatial emergency with different outcomes. Assuming advanced economic growth in Primorsky region, considering implementation of all announced investment projects and government's programs, considering the natural and migration growth, adjusted population in the region may exceed 2025 million people in 2030. It implies extension of traditional and new settlements in the central, southern economic development zones, at the border zone, and in the eastern coastal zone of the Primorsky region. It is probable a polarized polycentric model scenario, which focuses at achieving the strategic objectives of spatial development, that require strengthening and development of the spot and linear elements of a spatial framework at the highest hierarchical level. However, in the same time, there are unpredictable consequences of depopulation of the peripheral areas of the region. Evenly hierarchical model focuses at retention of the territory and aims at overcoming the territorial gaps in development of the economy and quality of life. A networking cluster model may create a new spatial structure, cementing the economic space of the region and integrating sectors of "new" and "traditional" economy. The process may stipulate a "compression" of population and industries by concentration it around the centers of economic growth, which include major cities. The scenario of a polarized growth assumes that formation of a new frame structure of the spatial organization of Primorsky region is based on identification and support of economic zones—"growth locomotives."

Keywords | Primorsky region - Agglomeration structure - A network cluster model - Hierarchical model - Polarized polycentric model - Growth pole

Chapter 90
The Impact of Economic Growth on Spatial Development of a Region

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Abstract The prospective scenarios of spatial development of Primorsky region have been investigated, the core area of the Russian Far East. The study examines two assumptions regarding economic and spatial development of the region. One is a free-market approach, which spontaneously concentrates business activities within a territory, and another is a model of "retention" of the whole territory when the governments should represent incentives for a region sustainable economic development due to the geopolitical factors. Forecast of economic, investment and migration processes in the region may imply several scenarios of long-term spatial emergency with different outcomes. Assuming advanced economic growth in Primorsky region, considering implementation of all announced investment projects and government's programs, considering the natural and migration growth, adjusted population in the region may exceed 2025 million people in 2030. It implies extension of traditional and new settlements in the central, southern economic development zones, at the border zone, and in the eastern coastal zone of the Primorsky region. It is probable a polarized polycentric model scenario, which focuses at achieving the strategic objectives of spatial development, that require strengthening and development of the spot and linear elements of a spatial framework at the highest hierarchical level. However, in the same time, there are unpredictable consequences of depopulation of the peripheral areas of the region. Evenly hierarchical model focuses at retention of the territory and aims at overcoming the territorial gaps in development of the economy and quality of life. A networking cluster model may create a new spatial structure, cementing the economic space of the region and integrating sectors of "new" and "traditional" economy. The process may stipulate a "compression" of population

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and industries by concentration it around the centers of economic growth, which include major cities. The scenario of a polarized growth assumes that formation of a new frame structure of the spatial organization of Primorsky region is based on identification and support of economic zones—"growth locomotives."

90.1 Introduction

In the context of free-market concept, the governments should not take control over a national economy, or economy of an individual geographical, or an administrative region. However, pursuing the goal of retention of national territory a critical issue is establishing and stimulation of "economic growth poles," rational allocation of population and labor force by regulation of the domestic and international migration processes.

Primorsky region of Russian Federation, located in the core of the Far East, has an asymmetrical spatial structure caused by uneven distribution of economic activities and inhabited zones. Population, less than 2.0 million, is mainly concentrated in the south territory of the region, where jobs and developed infrastructure focused. Population density in the south is about 150.00/km^2, while in the north less 5.0/km^2. For comparison, population of Heilongjiang trans-border northern province of China is more than 38 million, average population density is 80.00/km^2. It is obviously causing an inequality both in concentration of the population (and labor resources) and in competitive potential between the border areas of the Far East of Russia and provinces of the northeast of China.

The imbalance will prospectively cause a deterioration of the economy and depopulation of the Russian Far East considering the net immigration off the region about 3–4 thousand per year. Ensuring advanced and sustainable development of the region, the government should represent a reasonable agenda to support business activities in the region, especially in adjacent to China territories. The strategy should contribute to elimination of imbalance of the existing spatial system due to economically justified allocation of industries and services and give a precondition for sustainable development of the region.

So, how the economic incentives should affect a long-term spatial development of a region? Moreover, for a long view, what is a probable scenario for spatial sustainable development of Primorsky region?

It depends on several major factors: first, stimulation of intra-regional and cross-border economic relations, considering a core geographical location of the region; second, diligent implementation of the government supported programs to attract population into the region. It will provide a proper concentration and quality of labor force and create sustainable settlement systems, accompanying zones of economic and investment activity.

90.2 Material and Method

The study examines two assumptions regarding economic and spatial development of the region. One is a model of free-market forces that spontaneously concentrate business activities on some located (isolated) territory and a model of preservation or "retention" of a territory when the government should take responsibly over the long-term region's sustainable economic development due to the geopolitical factor. In the theoretical context, both models are close to the known concepts of polarized and equalized regional growth. However, they rely on various theoretical concepts that determine the factors of spatial emergence.

For the study's purposes, we may assume a mixed conceptual model of spatial development of Primorsky region, considering a certain number of equal in its scale and characteristics of economic growth points and associated agglomeration systems. The study considers economic, investment and migration factors, which may cause several probable scenarios of spatial growth of the region in the long term. To identify the scenario conditions for the spatial development of Primorsky region until 2030, the analytical method was used, based on the forecast of population, gross regional product, investment, employment and ratio of average number of family members. The analysis resumes a scheme of settlements following to macroeconomic and migration processes in the region. The findings of analysis represent structural and functional elements of the spatial framework of the south urban cluster that assumed as the network of cities—multifunctional centers of intra-regional, regional and inter-regional migration and trade exchange, as well as small-urbanized centers inside and outside the zones of the focus settlements.

The content of a free-market model organization of economic space and its supported settlements is based on the concept that the regulation should be aimed at smoothing differences in the quality of life, rather than differences in business activity. The basis of economic policy in this approach aims at economic integration of the regions by all means—institutions, infrastructure, by access to markets, and by economic incentives that may facilitate resettlement of population in more dynamic regions [1].

Spatial structure of a region is considered as "poles" of economic growth, which cause the agglomeration effect, when economic, investment and economic activities are combined. Growth poles, which may be represented by an entity, an industry, or industrial complex, have a significant agglomeration effect. Further, the point of growth transforms into territories and vectors of development in a region or country, extending a macroeconomic framework [2].

Following this approach, the governments should represent economic incentives to raise business activity in the leader cities, ensuring the agglomeration effects extension, further development of agglomerations and stimulation of mobility factors of production (both labor and capital). From this point of view, the emergence of settlement systems is considered as a positive external effect of spatial concentration of companies operating in the same industry or carrying out the same activities. Different industries and activities could interact and expand to attract labor resources

to places where a skilled workforce is required. Thus, the scale of economic growth and geographical vectors of its development affect parameters of inhabited structures and determine their location and boundaries within a region [3, 4].

The idea of the state preservation (retention) of territory is that each region is unique not only in terms of its economy (see resources), but also in terms of human potential, ecology and culture. Thus, the space, as a specific system of socioeconomic relations, becomes itself a factor of economic growth [5]. Not only leader regions are important for economic growth. The critical issue for regional policy is identification of the underutilized potential of regions, concentrating their resources and intangible capital, stimulation innovative business and management practices.

This model may be considered from the position of Paul Krugman's concept of cumulative causation. Its core is that agglomeration processes are actively developing in the most concentrated economic space. Economic space also tends to be concentrated at the points of concentration of enterprises. From point of economic geography, two types of forces influence a perspective spatial framework of a territory. Centripetal forces direct economic activity toward agglomeration, while centrifugal ones affect the destruction of agglomerations or limit their size [6].

Emergence of growth points establishes economic relations between economic entities in specialized and related industries. It is a prerequisite for emergency of innovative or industrial clusters. Identifying the link between emergence of cluster and competitiveness, Michael Porter notes that the factors of competitive advantages in geographical regions are more significant when companies operating in a particular industry are concentrated within a single space [7].

Therefore, from the position of the theory of competitiveness, we may assume a spatial organization of economy in a region, which creates opportunities to ensure competitiveness at the macroeconomic level, or at level of the global economy. The presence of number interacting economic activities creates opportunities for competition between domestic and international companies. It optimizes transaction costs using unified transport, logistics, engineering, technological infrastructure [8]. Macro-units (see "poles of growth"), growing and transforming into territorial clusters, vary within geographical boundaries in a national territory and extend to the neighboring countries. It starts the emergence of international and cross-border clusters. In turn, economic and urban clusters contribute to the emergence of agglomeration-urbanized systems and smaller size settlements [9, 10].

From the Michael Enright's concept of regional clusters, the economic subsystem of the spatial framework of a region is represented by agglomerations of companies specializing in a particular sector of the economy or a sphere of business activity. A set of macro-units includes a chain of interacting companies in the region, unified by similar production methods (technologies), and integrated into large national or international companies' chain. Michael Enright, considering the links between the competitiveness of the national economy and the geographical scale of competitive advantages within individual regions, points that the competitive advantages are formed not at level of the global or a national economy, but at the level of regions [11].

90.3 Results

To assess the population and migration processes in Primorsky region, let us observe the economic forecast for the region till 2030. In that period, the gross regional product will be growing at a rate of 101.0–103.0%, and capital investments will be growing at a rate of 104.0–112.0%, taking into view a few announced investment projects. Accordingly, the number of employees will rise from 972.91 thousand to 1032.0 thousand till 2030. If we suppose no significant migration growth, the population is predicted about 1.939 thousand people that abruptly contrast to the demand for labor resources (Table 90.1). Following this scenario, the population will rise about 8–8.5 thousand people against 2018. Under these conditions, the region will likely follow a scenario of polarized growth, when economic activity will be focusing in the most competitive territories, primarily in the south of Primorsky zone, where more than 75% of the gross regional product is focused. Regional policy in this scenario should be aimed at increasing the mobility factors of trade and production and stimulating their concentration in most competitive points, such as four territories of advanced development with specialization in shipbuilding, petrochemical, oil refinery, agriculture and general customer's services.

Localization of the growth points may be predicted in areas adjacent to the international transshipment routes and at the service sections of marine ports—Zarubino, Vostochny, Kozmino and Vladivostok, near the border's crossings and close to territories of advanced development that noted above. The growth points, extending, will prospectively transform into large territorial-industrial complexes with a brand-new technological specialization. In turn, geographic concentration of economic activities would form an agglomeration system in the urbanized belt of Ussuriysk-Artem-Vladivostok-Bol'shoy Kamen-Nakhodka cities.

The process may stipulate a "compression" of population and industries by concentration it around the centers of economic growth, which include major cities

Table 90.1 Primorsky region economic forecast indexes 2030

Index[a]	2019	2022	2025	2028	2030
Population (thousand average per annum)	1913.037[a]	1932.24	1933.92	1936.55	1938.81
Gross regional product, billion USD[b]	13.671	16.033	19.004	22.498	25.117
GRP growth %	101.69	101.99	102.5	103.01	103.12
Capital investment, billion USD	3.411	4.963	7.279	10.808	14.161
Capital investment index %	104.96	108.84	110.35	111.78	112.63
Employment (thousand average annually)	972.91	979.84	998.37	1017.24	1030.2

[a]Economic forecast for Primorsky region till 2030 accessed https://www.primorsky.ru/authorities/executive-agencies/departments/economics/development/forecast.php
[b]Fact on July 2018
[c]Ruble to US dollar ratio is 65.0 on February 2019

Table 90.2 Forecast of population of Primorsky region till 2030

Index	2019	2022	2025	2028	2030
Employment (thousand average annually)	972.91	979.84	998.37	1017.24	1030.2
Adjusted population (thousand average per annum)	1913.00	1928.50	1950.00	1998.00	2025.00

Vladivostok, Nakhodka, and Ussuriysk. The scenario of polarized growth assumes that formation of a new frame structure of the spatial organization of Primorsky Krai is based on identification and support of economic zones—"growth locomotives." This model may not represent only zones of economic activity, but also urban agglomerations and rural inhabited zones associated with traditional spatial system of the region.

For the polarized growth scenario, identification of the growth poles is a fundamental issue. These, first, are newly announced investment projects of free port of Vladivostok, second, 4 territories of advanced development, and third, large-scale projects of the national level, such as development of the Russkiy Island's territory and endowing Vladivostok the capital status of the Russian Far East.

Assuming a scenario of advanced economic growth, considering the announced investment projects and the government's business activity support programs, the capital investments, expected, will rise to 14.161 billion USD, in four time against 2018. Gross regional product GRP will be growing at tempo 103.0–104.0% and will raise to 25.117 billion USD. Accordingly, employment will rise up 58–60 thousand new jobs. Implying average number of family members is 3.2, then population will has grown on 100.0–120.0 thousand until 2030. If the population's natural and migration growth will respond to demand for employees, clarified population in the region is expected more 2025 million people by 2030 (Table 90.2). We, also, should bear in mind a shift mode of work, assuming 18–20% of rotational employees at the contraction sites.

Expected growth of the population may imply emergency process for traditional and new settlement systems in the central and southern economic zones, also along the China's borderline, and along the eastern coastal zones of Primorsky region. In this case, a scenario of diversified spatial growth would probably occur. It is based on idea of covering the entire space of territory of the region. However, the factors and sources of growth may be different for each individual municipality. This scenario assumes "retention" of the living, industrial and husbandry spaces. It is a critical issue for maintaining competitiveness facing to China's trans-border provinces [12].

The main issue for the government is a cost-effective sustainable development and diversification of the region's ventures, which have lost stimulus for growth. It is especially important for the mono-industrial municipalities of the region. The idea of diversified growth is identification of competitive factors specific for each macro-zone of Primorsky region. The list of factors, that determine the regional

specific, includes natural resources, geographical location, opportunities for cross-border cooperation, logistic capacity of the seaports, condition of the infrastructure, quantity of the population and quality of labor resources [13].

The basic scenario will ensure a balanced and proportional development of a network (see cluster) of different sizes inhabited zones varying by functional specialization as a necessary condition for sustainable socioeconomic development of the region. It deploys the agglomeration effects in the south coast urban belt zone [14]. The next issue is representation of incentives for labor force and population mobility to non-urbanized areas, including the border strip along China.

90.4 Discussion

In period 2018–2025, following the announced investment projects, we could imply the economic activities in the leader cities such as Vladivostok, Artem, Ussuriysk, Nakhodka, Bol'shoy Kamen. Activities spots may combine into a logistics cluster attaching to the international transshipment routes Primorye-1 and Primorye-2, servicing zone of the seaports Zarubino, Vostochny, Kozmino and Vladivostok, the border crosses to China. It assumes a unified hierarchical system of the region's spatial framework. It consolidates population in the border zone to China and increases population density in the eastern "coastal" macro-zone of Primorsky region. Due to the implied scenario, population of the region would increase to 22–25 thousand people until 2025 and in 2030 will has risen to 65–70 thousand people. It equals to number of citizens of a middle size town. In addition, it is a subject for the government's duties—to provide incentive for migration flow into the region from the sovereign Russia's territories.

Following the polycentric model scenario, we could imply emergency of a network of intra-regional settlements (subcenters) considering a hierarchical model or the administrative territorial structure of the region. It includes cities Ussuriysk, Dal'negorsk, Arsen'yev, settlements Zarubino and Wrangel. It deploys development of inter-settlement infrastructure of the region's rural zone and ensures the emergence of sustainable subagglomeration zones. At this stage, emergence of residential area in the zones of focal settlement, both inside and outside the main settlement zone, will be continued. Within the main belt of settlement, a necessary condition is revealing of support centers, i.e., zones of advanced growth and territories assigned to the free port of Vladivostok (these include 16 municipalities of the region).

Outside the main settlement belt, the issue is to create "basic centers," or specialized subcenters, set on basis of mining and processing industries and logistics centers, such are, for example, Spassk-Dal'ny, urban settlements Kavalerovo and Sibirtsevo. A critical issue is sustainable development of settlements of northern and northeastern territories such are O'lga, Plastun and Terney. They are considered as important geographic and economic zones because they effect a sustainable development within their geographical boundaries. Extension boundaries of these points are determined by the concentration of economic activity, mainly in the coastal zone and

areas adjacent the few transport routes. These points of growth due to remoteness (isolation) are closed systems. Their development is constrained by mono-specialization of the territories and by the lack of sustainable integration links, which can affect pour incentives for investment and innovation activity of economic entities. To solve the problem, the government should seek and establish links between the "island" points of growth and economic agglomerations of the Russian Far Eastern regions, which, in long-term period, will erase the disproportions in the spatial distribution of the business activities and the accompanying them residential structures.

Thus, Primorsky region's spatial emergency scenario in the long term will follow the next ways:

(a) Extension of the south seaside habitation cluster as a focal agglomeration spatial structure in the Russian Far East which combines compact groups of sub-agglomerations of cities Ussuriysk, Artem, Vladivostok and Nakhodka into a whole urbanized belt in the south of Primorsky Krai with a population about 1,6 million people, which is comparable to the scale of the urban agglomerations in the trans-border areas of China;
(b) A balanced extension of urban agglomerations in the region by regulating their spatial growth with outer migration. It implies conditions for growth of the population of Vladivostok's agglomeration to 1.2–1.3 million people till 2030;
(c) Emergency of a network of settlements, which are assumed as multifunctional centers of intra-regional, regional and inter-regional commodities and market services exchange. They are assumed as "poles of growth"—supporting cities and basic centers within and outside the zones of focal settlement, including in the border area of the region. This ensures, in the long term, erasing of the imbalance in the present spatial structure of the territory and will increase the population of the region from 1.93 million people in 2018 to 2025 million people in 2030;
(d) Sustainable extension of the small-size settlements, which assumed as resource supply subcenters of the region's settlement systems. These include 9 mono-profile municipalities of the region that require the government's support for regeneration of depressed mono-industry towns (ore and coal mining) by extending the service functions, modernization and (or) changes in the industrial specialization of the cities.

Spatial extension assumed that Primorsky region's companies may be involved in producing and transshipment chains at the national and global level. That predicts emergence of a cross-border economic cluster with China. Considering this factor, it is probable a scenario for appearing of cross-border (international) settlement structures near border crossings Kraskino (Russia)—Hunchun (China) and the Pogranichniy (Russia)—Suifenhe (China). This ensures integration of the spatial structure of the region into a settlement system of Northeast Asia using joint transport and communication links that provides access to the international market of goods, services and labor resources.

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90.5 Conclusion

It is not likely that a scenario of spatial development of the region will follow a unified model. Current trends and factors, affecting the spatial development of the region, indicate several scenarios with different outcomes. Implementation of projects of advanced development and free port of Vladivostok will stipulate polycentric agglomeration structures adjacent to transshipment and infrastructure corridors, nearby the seaports and China's border crossings.

The polarized polycentric model will contribute to achieving of the strategic objective of spatial development, which is strengthening of spot and linear elements of the spatial framework of the settlement system at the highest hierarchical level. However, at the same time, it may cause unpredictable consequences of depopulation of the peripheral territories of the region. Although this scenario, in the long term, allows to eliminate the disproportions of the spatial distribution of industries and their adjacent residential structures, at the same time, the disproportions of the spatial system, caused by the uneven distribution of population and labor resources, will be influencing on the spatial development of the region for a long. The scenario of sustainable extension of "focal" zones in the northern and northeastern economic and geographical zones of the region is likely to be associated mainly with the extraction and processing of mineral resources, recreational and environmental tourism.

Seeing alternative, the evenly hierarchical cluster model is more focuses on achieving the strategic goals of the spatial development of the region. It is aimed at overcoming of asymmetry in the economy and the quality of life, and it capitalizes the local resources to improve situation in non-urbanized territories, especially along the China border. However, at the same time, it can reduce agglomeration effect, having a retarding effect on the development of high-tech sectors of the economy of Primorsky region.

The network cluster model, which can provoke emergency of a new spatial structures in the Russian Far East, represents a set of territories or companies within the economic and geographical zones of each subregions actively interacting to create competitive advantages at the macro level as interrelated and complementary links of technological chains [15, 16].

The network model stimulates development of the domestic market and ensures competitiveness of the regional economy, and gives a new impulse to development of non-urbanized territories of the region. However, at the same time, it requires a "breakthrough" in the development of infrastructure and appropriate solutions in investment priorities of the state and society. Thus, assuming only one of the alternative models as a target model is hardly acceptable, since each of them, while contributing to the achievement of one group of strategic goals to improve the resettlement system, at the same time hinders the achievement of the other group of goals.

References

1. Henderson, J.V.: Urbanization and growth. In: Aghion, P., Durlauf, S. (eds.) Handbook of economic growth, pp. 1543–1591. Elsevier BV, Amsterdam (2005)
2. Perroux, F.: Les investissements multinationaux et l'analyse des poles de development et des poles d'integration. Rev. Tiers-Monde 9(34): 239–265
3. Fujita, J., Krugman, P. and Venables, A.J.: The spatial economy: cities, regions, and international trade. MIT Press (1999)
4. Henderson, J.V.: The urbanization process and economic growth: the so-what question. J. Econ. Growth **8**, 47–71 (2003)
5. Mohan, R.: Understanding the developing metropolis. Oxford University Press (1994)
6. Krugman, P. A.: Dynamic spatial model. NBER Working Paper, № 4219
7. Krugman, P.: Increasing returns and economic geography. J. Polit. Econ. **99**, 483–499 (1991)
8. Porter, M.E.: Clusters and the new economics of competition. Harward Business Reviews November-December, 77–90 (1998)
9. Jacobs, J.: The economy of cities. Random House, New York (1969)
10. Glaeser, E.: Effects in the economics of agglomeration, pp. 1–14. University of Chicago Press (2010)
11. Ellison, G., Glaeser, E.: Geographic concentration in US manufacturing industries: a dartboard approach. J. Polit. Econ. **105**(1), 889–927 (1997)
12. Enright, M.: The geographical scope of competitive advantage. In: Dirven, E., Grocnewegen, J., van Hoof, S. (eds.) Stuck in the region?: changing scales for regional identity Utrecht, Netherlands (1993)
13. Fujita, M., Henderson, J.V., Kanemoto, Y., Mori, T.: Spatial distribution of economic activities in China and Japan. In Henderson, J. V., Thisse, J.-F. (eds.) Handbook of regional and urban economics, 4, 1087 (2004)
14. Duranton, G.: Urban evolutions: the fast, the slow, and the still. Am. Econ. Rev. **97**(1), 197–221 (2007)
15. Terentyeva, T.V., Korneyko, O.V.: New approaches to interpretation of entrepreneurship in context of modern development of the Russian economy. J. Espac. **38**(1), 33 (2017)
16. Solovev D. B.: Improvement of protective relaying efficiency for motor drives at mineral processing plants. Industrial Engineering, Applications and Manufacturing (ICIEAM), International Conference on. 1–5 (2017). [Online]. Available: http://dx.doi.org/10.1109/ICIEAM.2017.8076343

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Chapter 90

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