

Conditions for the Transition from “Path Dependence” to Leadership: A Case of the Urals

Sergey Gordeev*

Chelyabinsk branch of Russian Presidential Academy of
 National Economy and Public Administration
 Komarova str. 26, 454077 Chelyabinsk
 Russian Federation
 e-mail: sgordeev222@ gmail.com

Sergey Zyryanov

Chelyabinsk branch of Russian Presidential Academy of
 National Economy and Public Administration
 Komarova str. 26, 454077 Chelyabinsk
 Russian Federation
 e-mail: director@chel.ranepa.ru

Arseniy Sitkovskiy

Chelyabinsk branch of Russian Presidential Academy of
 National Economy and Public Administration
 Komarova str. 26, 454077 Chelyabinsk
 Russian Federation
 e-mail: omnistat@yandex.ru

Abstract Our paper discusses the problems of socio-economic development typical for many regions at the municipal level in the conditions of spatial heterogeneity of the territory. The solution to such problems is largely related to the so-called “Path Dependence” study. As the historical legacy of the previous development, the administrative-territorial division limits necessary transformations. Specifics of the local institutions inevitably reinforce Path Dependence. The paper presents the analysis of administrative-territorial restrictions of development associated with the assessment of the main spatial characteristics of municipalities. The methodology for conducting such analysis involves the use of informationally adapted (geo-information) approaches. They use a combination of visualization, heuristic approaches, classifications, and formalized mathematical assessment tools. A similar analysis was carried out for a group of municipalities in the central part of the Chelyabinsk region of Russia.

Using the example of the industrial territories of the Urals, we have a representative indicator of spatial problems. Based on the research results, several conceptual and methodological provisions are presented. They are focused on organizing effective interaction for a system of heterogeneous municipalities in managing spatial development and becoming leaders of development territories.

Keywords: *transition, path dependence, leadership, socio-economic development, Urals*

1 Introduction

The predetermination of perspectives from earlier choices, defined as “Path Dependence” (see David 1985; North 1990), manifests itself in many aspects of socio-economic development. These include errors of the initial institutional choice, so the long-term consequences of introducing standards, defining boundaries, etc. Recently, such predetermination is often mentioned in connection with the slowdown of socio-economic dynamics. Dependencies of prospects on the previous trajectory are predetermined by many historically established institutional and sociocultural conditions (Auzan 2015). The features of the real trajectory, as well as the possibilities of getting out of it, are now being considered in various institutional aspects (Rastvortseva 2018).

At the same time, territorial specificity determines movement along its specific trajectory. It is largely determined by the “local Path Dependence” (Gordeev et al. 2019). At the same time, the historically formed excessively complex structure of the administrative-territorial division of regions can become a significant factor in slowing down the development.

The presence of sharp deviations in the “Local Path Dependence” is most noticeable at the municipal level where under the general institutional foundations of management, the objects themselves - municipalities can radically differ. Among them, there can be large cities (including cities with over a million population, which have a complex internal structure), medium and small cities (including single-industry towns) and municipal areas (including heterogeneous, small towns, urban settlements and rural settlements). In any such heterogeneous set of spatial objects limited by borders (existing administrative-territorial division), various development trajectories will inevitably arise.

The historically formed grid of the administrative-territorial division of Russia in many respects determines the structure of the authorities and many other institutional features of municipalities. At present, economic and social processes are largely extraterritorial and go beyond not only municipal, but also regional borders. This objectively determines the emergence of contradictions between the historical heritage of the administrative-territorial division and the actual requirements for managing spatial economic and social processes.

In the terminology of “Path Dependence”, we can talk about cases of residual redundancy of municipal borders, their lowering effect on the possibility of integration and transition to higher development trajectories. In such cases, the specificity and complexity of the administrative-territorial division will inevitably be associated with problems of excessive isolation with the manifestation of many different managerial constraints. The residual redundancy of municipal borders here becomes a significant component of “Path Dependence”.

The predetermination of the development is associated with administrative-territorial division. Spatial restrictions of the administrative-territorial division inevitably require institutional changes in the regional management system. When moving by inertia, many cities and regions are increasingly linked in a heap of common socio-economic problems and local problems.

Excessive isolation of the development of municipalities leads to the appearance of zones of lost profits of inter-municipal development (or zones of possible inter-municipal losses). The appearance of such zones is largely due to the spatial specificity and even exclusivity of individual territories. In this case, one should consider the administrative-territorial aspect of the formation of the “local Path Dependence”. This is largely predetermined by the historically established administrative structure of the territories, the inevitably obsolete administrative-territorial division.

When considering such situations, rather complex general questions arise regarding the management of the spatial development of the heterogeneous system of municipalities.

The first questions - the analysis of administrative-territorial limitations of spatial development (hereinafter, the analysis of spatial restrictions). The analysis focuses on assessing the basic spatial (geo-information) characteristics of municipalities according to the criteria of general inter-municipal development. In fact, we are talking about the development of a methodology for the analysis of integrated regional development.

The questions that follow are the definitions of conceptual and methodological provisions on institutional transformations in the management of spatial development, which are focused on reorienting the development of territories. The main results of research on these issues are presented below.

2. Research methodology

Fundamentals of the analysis of administrative-territorial restrictions of spatial development for the system of municipalities: the study of heterogeneous spatial systems using geo-informatics. From the point of view of managing socio-economic development, the region and its components are a complex, multi-level, heterogeneous system consisting of several subsystems and including many indicators. In the general case, the consideration of municipalities as elements of a complex heterogeneous variable system is incorrect without spatial reference (Gordeev 2016).

There is a wide variety of both classified (Madera 2014) and new risks of spatial development (direct and indirect losses, loss of lost profits, loss of quality of life, etc.). In the general case, new macroeconomic risks of spatial development are considered in the most general form, as the total possible losses, including lost profits, arising from certain events or development scenarios.

In conditions of limited and heterogeneous information, traditional assessment methods give only a very approximate result, despite the use of economic and mathematical tools. The classical approaches to optimizing both regional and inter-municipal development in macroeconomic models (Granberg 2004), general regional institutional transformations in cases of significant territorial heterogeneity are not very effective (Tatarkin 2014). The possibilities for their application are also further hampered by the limited institutions at the municipal level.

In such conditions, *specialized, information-adapted approaches* to finding solutions using a combination of heuristic methods of analysis, including the study of graphs and formalized mathematical assessment tools, benefit. They suggest the use of informationally adapted approaches (Gordeev 2013), which ensure the openness of the analysis process, the maximum representativeness of the results obtained, and the assessment, taking into

account the confidence factor in its perception (Sorokin 2016). With such an information-adapted heuristic approach, the analysis includes data visualization - specialized informational preparation of graphic materials, supplemented by digital estimates. The search for solutions in this case is largely based on the principles of “soft systems methodology” (Checkland 1990). In such regional studies, the experience of formal classifications (Tikunov 1997) in combination with geo-information technologies (Gordeev 2016) becomes a key element of the analysis.

Given the complexity of generating digital estimates, considering statistical errors (the so-called “sly numbers” factor (Khanin 2018), first of all, the issues of classification, comparison, relative and qualitative estimates are considered.

The key areas of analysis of the spatial development of municipalities by geo-information methods are related to the classification and assessment of the characteristics of territories in order to identify the risks of their development. Among them, three should be distinguished:

- Limited territory and deformation of the development of settlements (within the existing borders);
- Isolation of individual peripheral zones (significant remoteness, enclaves, etc.);
- The inconsistency of local development priorities of neighbouring municipalities (multidirectional development vectors and loss of synergy).

3. Results

The results of the analysis of heterogeneous systems of municipalities using the above methodology are presented on the example of the central part of the Chelyabinsk region of Russia. This part of the territory of the macro-region of the Urals can be considered as a representative indicator of the spatial problems of the “old industrial territories”. Up to a dozen diverse territorial entities are represented here: a megalopolis (Chelyabinsk - the administrative centre with a population of over a million people), small cities (with a population of 40-200 thousand people), municipal areas (relatively sparsely populated suburban and agricultural territories, uniting about a dozen rural settlements). This territory is considered as the “Chelyabinsk agglomeration” (Fig.1), a promising “growth point”, the territory is a leader in regional socio-economic development. The values of population density differ markedly and characterize the settlement frame of municipal regions near the Chelyabinsk city.

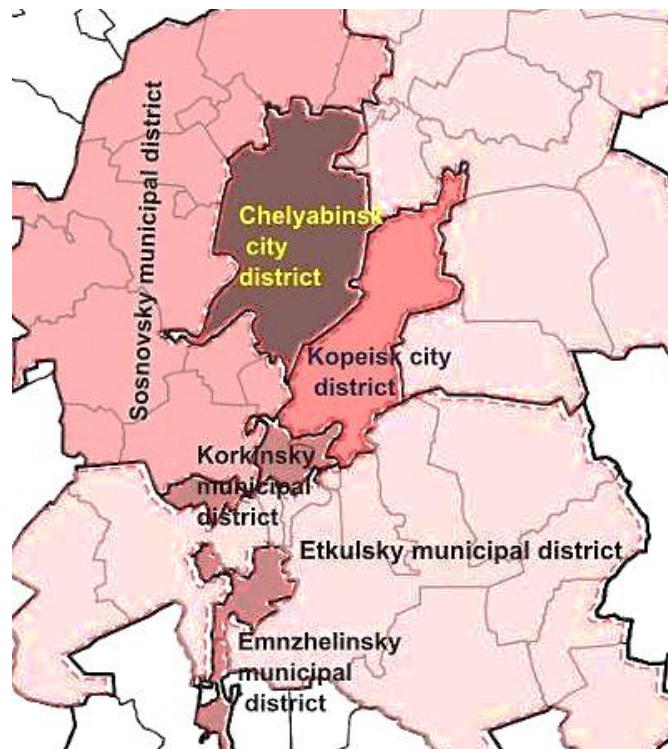


Fig.1. Contours of municipalities of the Chelyabinsk agglomeration with gradation in population density (fill tone is proportional to the values)

Source: Own results

The analysis allows us to identify a number of the following factors that reduce the impact on the possibility of the territory moving to higher development paths. They are associated with the obsolete legacy of administrative territorial division - the spatial aspect of the "Path Dependence".

Limited territory. The problem of limited territory in this case is associated with the residual "industrial" configuration of small cities and the gradual "deformation" of the potential for self-development. The space of many urban entities in Russia was formed by administrative decisions in relatively short periods of industrialization. Such transformations changed the position in the space of the results of the previous secular spatial evolution. The historically established limited territory of most urban settlements is now largely due to the residual "industrial" configuration, which is little in line with the current prospects for sustainable and efficient development of territories. These territories also retained an outdated management structure.

In fact, small cities - municipal centres as a result of such a territorial "cutting" were faced with a deficit of the surrounding space necessary for perspective spatial development. They clearly show the problem of a significant discrepancy between the socio-economic potential and the surrounding space. Further, for such municipalities, the inevitable problems of implementing any spatial and infrastructure projects (related to going abroad), the remnant of infrastructure oriented towards previous goals, limited tax revenues and many others.

Isolation of individual peripheral zones. The isolation of individual zones, in this case called peripheral, is associated with the fragmentation of suburban municipal areas and the threats of the estrangement of individual settlements. The heterogeneity of the development of the territories of the considered municipal regions also bears a noticeable previous historical trace in many respects. The historical "box" of small towns discussed above inevitably leads to a related problem of the complex configuration of the borders of the surrounding municipal areas. She also reflected in the bizarre configuration of rural settlements (internal municipal administrative-territorial division).

With such a complex and heterogeneous configuration of the districts, the problem of the "municipal periphery" is logical. The consequence of isolation here is the residuals of the solution of infrastructure, economic and sociocultural problems of the territories. This primarily affects largely isolated sections ("enclaves") of areas near small towns with a residual border configuration. These are largely isolated sections that do not have adequate transport accessibility (highlighted with blue circles – Fig.2). These sites have restrictions on socio-economic interaction with the surrounding territory, due to the irrelevant administrative-territorial division grid.

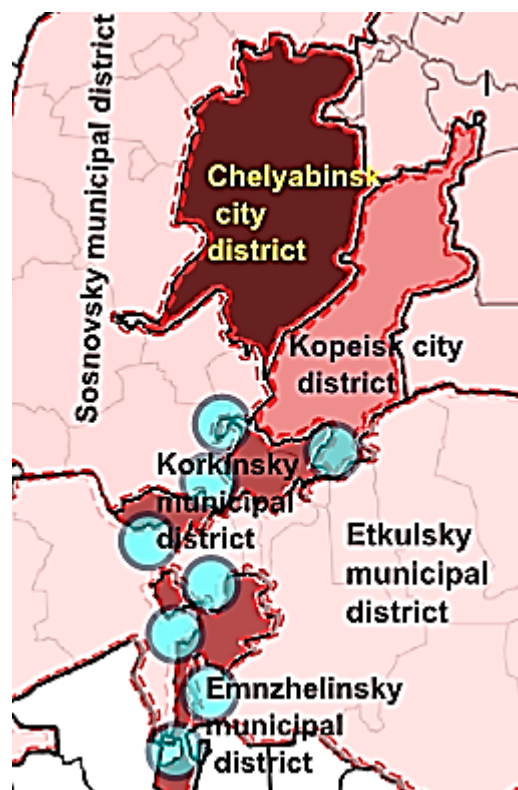


Fig.2. Largely isolated sections ("enclaves") of districts near small towns with a residual border configuration
Source: Own results

The inconsistency of local municipal priorities. Such contradictions are associated with the multidirectional development vectors of neighbouring municipalities, the loss of development synergies, the actual spontaneity of

inter-municipal integration and agglomeration processes. The heterogeneity of the group of individual municipalities is inevitably reflected in the differences in dynamics and development priorities. All this leads to certain imbalances in the socio-economic sphere. As a result, losses are suffered by both individual municipalities and the regional system. The complex system of formal and informal relationships, traditional for the interaction of several municipalities, inevitably hinders integration. This contributes to the development of “local Path Dependence” in accordance with “specific principalities” to the detriment of common interests.

In such a contradictory situation, the preferences of business and the population of the surrounding territories will increasingly focus on the development of economic and sociocultural relationships beyond the existing boundaries of the administrative-territorial division. Nevertheless, such integration and agglomeration processes here will inevitably be “deformed” by the grid of administrative-territorial division.

4. Conclusions

All in all, the generalization and systematization of spatial restrictions noted above for the heterogeneous system of municipalities allows us to identify several priority areas for institutional transformations in the management of spatial development. These provisions are aimed at:

- elimination of inter-municipal contradictions;
- ensuring the effectiveness of inter-municipal projects;
- departure from the structure of administrative-territorial division in the formation of decisions.

Among the areas of transformation in control systems, the following should be noted:

Adaptation of the management system to eliminate contradictions in the interaction "municipality-region". In the current management practice of municipalities, the solution of serious non-standard issues inevitably affects the level of the region. Attempts to postpone the resolution of such issues are associated with the risks of their occurrence subsequently in the format of unpredictable situations (“black swan events”) (Gordeev 2017).

The introduction of inter-municipal “emphasis” in the ongoing practice of regional and municipal management allows us to determine the methodological provisions for ensuring the effectiveness of inter-municipal projects.

The transition to a spatial development paradigm with a departure from the structure of administrative-territorial division is associated with the practice of territorial development according to the criteria of socio-economic efficiency, regardless of the boundaries of municipalities.

Similar and other changes in spatial development management are aimed at the formation of high growth and development synergies. They are characterized by such positive factors as a significant increase in cash turnover and capitalization. Their occurrence is usually associated with large regional projects. The total influence of factors related to the development of interaction between municipalities has a noticeable effect on the entire region. The organization of such effective interaction becomes a condition for the formation of territories of leaders of socio-economic development in rather difficult basic conditions.

Acknowledgments

This paper was prepared with the financial support of the Russian Foundation for Basic Research, grant RFBR 19-010-00964\19 "Modelling and visualization of spatial development scenarios of cross-border macro-region by the example of the Urals and the Northern Kazakhstan".

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