TYPOLOGY OF LARGE CITIES OF THE REPUBLIC OF KAZAKHSTAN BY THE LEVEL AND DYNAMICS OF SOCIO-DEMOGRAPHIC DEVELOPMENT

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Abstract: The purpose of the study: estimation of socioeconomic disparities on the basis of bivariate analyses at the example of large cities of the Republic of Kazakhstan; creation of a typology of cities in Kazakhstan with a population over 100 thousand people in the function of two interdependent variables – the level of development and growth. Research methods: the article uses the method of static-dynamic analysis of differences in the level of socio-economic development on the basis of the developed system of indicators and the typology of cities formed on its basis. This typology provides for the division of territories into four groups depending on the level of their development in statics and dynamics. The analytical base includes 16 statistical indicators on 8 blocks of socio-economic status for the period 1999-2016 (17 years) in the context of 22 major cities of the Republic of Kazakhstan with a population of more than 100 thousand people. Findings: results of the application of this technique on the example of large cities of the Republic of Kazakhstan in the study period allow us to conclude that the socio-economic indicators of many cities are significantly behind the national average for urban areas. Only 3 cities out of 22 studied are ahead of the average national values in terms of the level and dynamics of social, demographic and economic indicators, which indicates a significant differentiation of socio-economic development of cities during the study period. Application: use of the results of the static-dynamic analysis of differences in the levels of socio-economic development of cities covers the issues of socio-economic management of regional development, allows to accumulate and direct anti-crisis measures to support the most vulnerable areas of lagging and slow in the development of cities.

Keywords: Cities of Kazakhstan, Socio-economic development of cities, Typology of cities, Two-dimensional static and dynamic analysis, Typology, Classification, Level and dynamics of development, Urban development.

1 Introduction

Nowadays, the fact that the future of the inhabitants of the world depends entirely on the development of the city becomes uncontested.In this regard, the study of the socio-economic development of cities is of great interest. This interest is due to a number of circumstances, firstly, the city, this is the place of localization of production, financial, human, information flows and the center for the development of innovation; secondly, the cities are the centers for the development of economic, political, social, demographic and cultural processes; sustainable development of the state is impossible without sustainable development of cities.

The Republic of Kazakhstan occupies the ninth place in the world in its area. Its length is 2724.9 thousand km. In this fairly large territory, there are 87 cities. (1) About 57% of the population of the whole country is concentrated in the cities, most of the enterprises, organizations, scientific and educational centers.

The processes of urbanization and population concentration in large cities are typical for all states. The problems of large cities as centers of economic development are of special importance for Kazakhstan. According to the enacted State Programs, large and large cities as agglomerations should provide a "breakthrough" in the development of the country's economy and as hub cities, become "centers of economic activity of macro-regions, concentration of capital, resources, advanced technologies and services." (2) From this, it follows that the state considers these cities as a territorial-economic system of special rank and functional orientation.

In the Forecast Scheme of Spatial Development of the country until 2020, tasks are set to increase the competitiveness of the regions, the formation of an optimal system for organizing economic potential and the resettlement of the population. (3)

This implies the development and support of settlements, taking into account their economic potential and development prospects, demographic trends.

In the conditions of the dynamically developing economy of Kazakhstan, the problems of the development of large cities acquire a special urgency, and their solution is also a key factor in the balanced development of the economy as a whole.

The problem of the survey of the socio-economic condition of settlements is primarily related to the problem of developing an adequate system of indicators or indicators that allow to form a full-fledged management cycle and ensure the adoption of adequate management decisions.

Since the 1990s, in many countries of the world, national systems for examining the social and economic development of cities, municipal districts, regions, etc. began to develop intensively. This was due to the progress of information technology, which made it possible to more quickly collect, group and analyze large amounts of statistical information at various levels of government.

In 1989, the European Network for Urban Research (N.U.R.E.C.) (4) was established to create a unified database of indicators for the analysis of the current development of cities in the European Union and other regions of the world. Within the framework of this network, during the 1990s, several major projects for the development of integrated urban development indicators were implemented: the EUROPOLIS Database, the Large Cities Statistical Project, the Structural Change of the European City System.

In response to the growing demand for versatile comparative information on European cities, among the developers of social and economic development programs for urban areas in Europe, in 1996 the European Commission decided to launch a program to establish a system for regular monitoring of urban development in the countries of the European Union. Within the framework of this program, the “Urban Audit” project was launched, which aims to measure the quality of life in urban settlements in the European Union through a set of relatively simple and intuitive indicators. The system of indicators of the project "City audit" consists of 333 indicators, resulting in approximately 270 indicators in 9 directions. (5)

Among the wide variety of national urban development survey systems, the system developed by the Department of Transport, Local Government and Regional Development of Great Britain (DTLR) stands out. Its task is to evaluate the existing system of public services in a city with the help of a specific set of indicators and thereby assess the effectiveness of local government activities. Within the framework of this system, Best Value Performance Indicators was developed in an effort to reflect the resources involved in the provision of services, the effectiveness with which these resources are used, the quality of services, and the users' impression of the result.

In 1990, the NORDSTAT project (Nordic major cities statistics) was launched, the goal of which was to create a database of indicators that could be compared. When developing this project, the Habitat methods were taken into account. The advantage of this system was that it took into account the difference between compared objects, to this end, when selecting indicators in the NORDSTAT database, all city indicators were divided into three groups according to the degree of adequacy for cross-country comparisons: sizeable indicators - easily calculated indicators such as population size, the number of facilities, schools, hospitals, etc.

Doubtful indicators are indicators that can be easily compared, but require preliminary analysis before comparison, for example, labor market or environment indicators; disparate indicators - indicators are not suitable without analyzing the differences in the socio-economic systems of countries, for example, indicators of welfare, income.

Leading research organizations of the world have not developed a unified approach to assessing the level of development of urbanized areas, each of which offers its own index and its system of calculated indicators. The systematization of the indices most often used for the level of urban development is given in Table 1. (6)

Table 1. Indices of Assessing the Level of Urban Development

Authors	Index	Considerations
McKinsey, Global Institute	Urban Sustainability Index (USI)	Society Economy Environment Urban planning environment Resources
UN	City Prosperity Index (CPI)	Productivity Quality of life Infrastructure Environment Inequality
UN	City Development Index (CDI)	Volume of production Health Education Infrastructure Amount of waste
The index of quality of life in the cities of the world	Mercer Human Resource Consulting	Political and social environment The economic environment Socio-cultural environment Health and sanitation Education and training Utilities Transport Recreation and entertainment Common consumption goods Housing and infrastructure Natural environment and climate

A lot of modern scientific research is devoted to the problems of urban development. (7-14) In particular, the McKinsey Global Institute (MGI), a division of McKinsey & Company, has developed the Urban Sustainability Index (USI). The main provisions of the MGI study were published in 2010 in the report "The Urban Sustainability Index: A New Tool for Measuring China's Cities." The index allows you to quantify the dynamics of urban growth by 18 factors, combined into the following 5 groups of criteria: the degree of satisfaction of the basic needs of the population, the efficiency of resource use, environmental cleanliness, urban infrastructure and the orientation toward sustainable development in the future. (15) In the 2011 report, this system of factors was changed. Experts proposed 17 factors and combined them into 4 groups of criteria: social sustainability, economic sustainability, environmental sustainability, resource resilience. When calculating the index of sustainable development of cities, the McKinsey Global Institute takes into account the characteristics of the urban environment, relating to them the population density, the intensity of public transport use and the area of landscaping of public space. Experts assess the social infrastructure that is an element of the urban development environment on the basis of an analysis of public spending per capita, which, in our opinion, cannot objectively characterize the quality of the social sphere of life in connection with the different basic levels of development of the social sphere in different cities. The choice of a small number of indicators characterizing the complex component of the urban development environment is due, apparently, to the limited statistical data. In our opinion, the list of these indicators should be considered in more detail.

The calculation of the index of sustainable urban development has been carried out since 2010 for China, whose economy is one of the most dynamically developing in the world. (16) However, McKinsey Global Institute plans to conduct research in other developing countries.

Another important indicator of development is the City Prosperity Index (CPI). To calculate this index, five indicators are used: productivity, quality of life, infrastructure development, the state of the environment, material and social inequality. (17) The indicator of the quality of life, in this case, is a combination of the level of education, health, public safety, the level of human potential and the development of public space. The categories characterized by the CPI index are similar to the USI index categories. However, the partial indices of the two indices do not coincide. Thus, the CPI index does not take into account the density of the urban population, energy efficiency of buildings, the intensity of public transport use, but takes into account life expectancy, infant mortality, the number of AIDS cases and those infected with HIV, incidence, and nutritional status.

Another indicator that characterizes the level of urban development is the City Development Index (CDI). (18) This index is calculated as the arithmetic average of five indicators characterizing the volume of production produced by the city, public health, education, the state of the infrastructure and the amount of waste.

The transnational consulting group Mercer Human Resource Consulting assesses the quality of life in the world's largest cities. (19) The company annually calculates the quality of life index in 420 cities on the basis of 39 indicators, grouped into 10 groups.

In the Republic of Belarus, the Habitat II methodology developed a system of statistical indicators for the sustainable development of human settlements, designed to create an information base, taking into account the international system of statistical indicators for the sustainable development of human settlements. The structure of the methodology consists of seven modules: infrastructure, socio-economic development, transport, environmental protection, local governance, acceptability and adequacy of housing, provision of housing.

The system of indicators for the populated are a development of the Republic of Belarus, created in this way within the framework of the Habitat II methodology, provides a quantitative research tool that provides a comparative assessment

of initial situations and starting conditions for the development of various settlements in Belarus. (6)

In the Russian Federation, the methodology of the integral indicator is widely used, which is the total value of indicators for various blocks of socioeconomic status. Ranking of territories according to the level of social and economic development is based on the principle of the maximum value of the integral indicator, which corresponds to the highest level of social and economic development.

In the Russian practice, many researchers identify the following approaches to the typology of regions according to the level of economic development: politico-social (A. Lavrov, I. Zaslavsky, F. Prokopov), functional, cost-function, investment approach (K. Guseva, O. Gritsay and A. Treivish), offered by the Novosibirsk regional school (M.K. Bandman), the approach from the point of view of the quality of the entrepreneurial climate (A.M. Lavrov), the approach from the point of view of innovative attractiveness. (20)

E.A. Zvyagina offers a cluster of regions in five areas of social and economic development: industrial, innovative, tourist, infrastructure, educational. (21) The TACIS project "Analysis of the development of Russian regions" used 11 indicators of 6 groups: general, demographic, living standards, economic, financial, structural economic.

The classification of the INDEM regions is based on an analysis of 230 indicators of socio-economic development grouped into the following blocks: mineral resources, geographical complexity, infrastructure, social ulcers, welfare, health, cultural characteristics, specialization of regions, economic potential of regions, budget subsidies, foreign economic relations, patriarchy, organization of power, institutional climate.

In the Republic of Kazakhstan, scientists in the framework of the scientific project "Perspectives of the socio-economic development of the cities of Kazakhstan in the context of the ten global challenges of the 21st century" conducted a grouping of cities in Kazakhstan on development potentials. The main city-forming factors of the cities of Kazakhstan and the direction of their development were identified. As well as monitoring of external and internal resources, and the conditions for the development of big and large Kazakhstan cities. The prospects of resource support for the development of Kazakhstani cities have been determined. (22)

As a result of research work on the project of the Ministry of Education and Science of the Republic of Kazakhstan "Development and creation of an electronic atlas of socio-demographic development of the regions of the Republic of Kazakhstan using GIS technology and information protection", the Atlas of Socio-Demographic Development of the Regions of the Republic of Kazakhstan was developed. In the course of the research, a typology of the regions of Kazakhstan was carried out, including cities of republican importance, such as Astana and Almaty in terms of socio-demographic development. (23)

It should be noted that the use of the classification of the ratio of regional development indicators of a single territory with average values across the country is practiced by few authors: one - in the form of rationing when calculating synthetic indicators, others - while tracking the development trends of problem regions. But a number of indicators do not allow to demonstrate the similarity and difference in the development trends of the economy and social sphere of the territories. And most researchers artificially narrow the set of social and economic indicators of the regions, carried away by building multi-level synthetic indicators, which does not allow using their methods to monitor the current state of regional development and to formulate the basis of regional policy, by clear and transparent principles.

Having considered the most common methods for examining the socioeconomic status of settlements, it is possible to draw a conclusion on the applicability of these techniques for use in the Republic of Kazakhstan. One of the problems in some of the techniques that limit the use of certain techniques may be the lack of statistical data on certain indicators. The urban development index takes into account the differences between cities, but only contains a limited number of subindices, which cannot give full coverage of the socio-economic status of settlements.

Thus, in order to conduct a socio-economic survey in the Republic of Kazakhstan, a methodology should be developed that takes into account the specific characteristics of the country, but takes into account the world methodologies for surveying the socioeconomic status of settlements.

The Republic of Kazakhstan, being in the center of Eurasia, from the very first days of its independence raised stability and security to the rank of the most important state policy. The crisis was a serious test. But thanks to the timely and consistently implemented strategy of economic modernization, the country has come out of the crisis with honor. (24) According to the classical theory, in the process of urbanization, there are several stages - from origin, development and to the subsequent transformation of cities (Gibbs, 1963). (25) In Kazakhstan, the process of urbanization is at this stage characterized by a significant increase in the urban population in the largest cities. (26)

2 Materials and Methods

As of the beginning of 2018, there are 87 cities in the Republic of Kazakhstan, where 10,423.6 thousand people live. Of all cities, 2 cities (Almaty and Astana) are cities of republican significance, i.e. populated areas of special national importance or having a population of more than one million people; 38 units are cities of regional significance, i.e. settlements, which are major economic and cultural centers, have developed industrial and social infrastructure and population of more than 50 thousand people; 47 units - cities of regional importance - settlements with industrial enterprises, communal services, public housing stock, developed network of educational and cultural, educational, medical and trade facilities, with a population of at least 10 thousand people, of which workers, employees, and their families make up more than two-thirds of the total population. (27) Since June 19, 2018, Shymkent has been given the status of a city of national importance, so at present, there are 3 cities of republican significance, 37 regional and 47 regional significance in Kazakhstan by administrative-territorial division.

In the Program for the Development of Regions of the Republic of Kazakhstan until 2020, a special place is given to cities as centers of economic growth. (2) The population of the city of Kazakhstan is divided into large and small. The number of large cities is 22, where 8358.2 thousand people live, or 80.2% of the total urban population of the country. In 18 cities, the population ranges from 100 to 500 thousand people. Among the large cities of Almaty, Astana, and Shymkent with a population of more than 1 million people, Karaganda with a population of 501.2 thousand people (Figure 1). The object of this study is the above-mentioned 22 large cities of the Republic of Kazakhstan with a population of more than 100 thousand people.

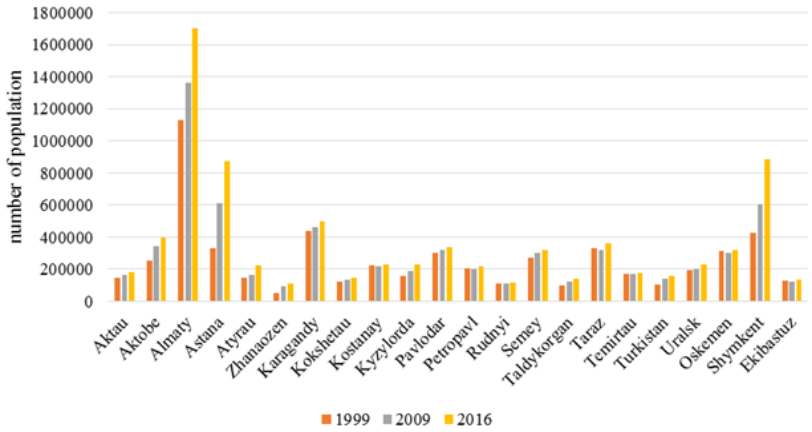

Figure 1. The Population of the Major Cities of the Republic of Kazakhstan, for 1999, 2009, 2016 Years
Source: compiled by the authors on the basis of data from the Committee on Statistics of the Republic of Kazakhstan.

For this study, Russian economists Morozova E.A. and Mukhacheva A.V. (28) developed methodology and algorithm for constructing a typology of cities in two-dimensional space "level of development - the dynamics of development" and adapted to the Kazakhstan cities on social, demographic and economic indicators.

In order to typify the major cities of Kazakhstan in terms of the level and dynamics of socio-economic development, the method of two-dimensional static-dynamic comparative analysis was applied based on the established database of statistical data on social, economic and demographic indicators. Having processed a large amount of official statistics, proposed by the statistical services of the Republic of Kazakhstan for 1991 (partly), 1999, 2009, 2016, a system of key indicators was formed that most accurately characterizes the level of socio-economic development. (27, 29) All these indicators were grouped according to the following 8 blocks:

Economic indicators:

- Investments in fixed capital per capita, thousand tenges;
- Volume of industrial production per capita, thousand tenges;
- Retail turnover per capita, thousand tenges;

Demographic indicators:

- Natural increase / decrease per 1000 population;
- Migration growth / decrease per 1000 population;
- Life expectancy, years;

Standard of living:

- Average monthly nominal wages of employees, tenge;
- The amount of the subsistence minimum (ASM) on average per capita, tenge;

Unemployment (according to the methodology of the International Labor Organization):

- Unemployment rate, in percent;

Health protection:

- Number of doctors per 10 thousand people;
- Infant mortality rate per 1000 live births;
- The incidence of tuberculosis, the number of cases per 100,000 of the population;

Education:

- Gross enrollment in higher education of the population aged 18-22, in percent;
- Coverage by preschool education and training, in percent;

Housing and utilities:

- Provision of the population with housing, m2 for one person;

Offenses:

- The level of crime, the number of cases per 10 thousand people;

The system of indicators that we have identified is well known since all its components are used to some extent in other methods of assessing the level of socio-demographic development, as well as the quality of life of the population. However, the integration of these indicators gives great advantages in identifying the level and dynamics of urban development:

1. accommodates a maximum of non-overlapping indicators from publicly available sources of official statistics in the context of cities, different time periods;
2. corresponds to the classification standards of the Committee on Statistics of the Republic of Kazakhstan. All this allows us to use the proposed system of indicators of socio-economic development in analytical frameworks.

The formed system of social, demographic and economic indicators of the cities of the republic consists of absolute indicators having different dimensions and their units of measurement. For the convenience of calculations, the selected data were standardized and given in relative indicators, which subsequently allowed the calculation of integral indices.

The indicators for which there is no publicly available complete database in the context of cities due to the inapplicability of calculations for this methodology were excluded from consideration.

Thus, the list of indicators for calculating integral indices of socio-economic development was formed on the basis of accessibility, comprehensiveness and sufficiency of reflection of the main key indicators of social and economic development.

3 Results and Discussion

After the list of social and economic indicators of the cities was compiled, some of them were converted from an absolute relative by means of corrections for the population for the convenience of further comparison. Thus, each indicator has the same "dimensionality" and numerical order at the regional level, which allowed to carry out their comparative analysis. Also, the indicators were divided into two blocks, depending on whether their decline or growth would be regarded as positive for the social and economic development of cities.

The technique of two-dimensional static-dynamic comparative analysis that we use provides for several stages. Static comparative analysis based on the ratio of socio-economic development indicators in cities with an average republican indicator for urban areas, which characterizes the situation as a whole at the moment in the country, allows to get an objective real picture of the situation of each city. It includes:

- calculation of the ratio (in percent) of the average indicators of the socio-economic development of individual cities for the period under consideration with the average republican indicators in the context of urban areas (determined by the ratio of regional indicators to the average in the country);
- ranking of standardized relative indicators on a five-point multidirectional scale (from -2 to +2) for 2016 for 22 major cities of the republic;
- calculation of integral indexes of scores based on the results of a static comparative analysis of social and economic development indicators for 2016.

To calculate the scores for each of the indicators of the average deviations of regional assessments of the socio-economic situation from the average republic in the framework of static analysis, a translation system is used. With respect to indicators that directly correlate with the analyzed complex variables (the growth of which is accompanied by an increase in the level of social and economic development of cities), the translation system is shown in Table 2.

Table 2. The System for Translating the Deviation of the Regional Level Indicators From the Average Republican Level According to the Results of the Static Analysis

Deviation, %	**Number of points**	**Meaningful interpretation**
more than 50	2	Significant lead
from 15 to 50	1	Notable lead
from -15 to +15	0	Differences are not significant
from -50 to -15	-1	Significant underrun
less than -50	-2	Notable underrun

For indicators that are inversely related to assessments of socio-economic development (whose growth leads to a decrease in the last one), the system of conversion into points will be the mirror opposite.

The static comparative analysis of indicators of social and economic development of large cities of the Republic of Kazakhstan was carried out in the following sequence:

1. The ratio of socio-economic development indicators of individual cities with average republican indicators for urban areas for 2016 was calculated in order to identify the level of deviation (in percent) from the indicators for the republic.
2. The results of calculating regional deviations from national indicators were ranked on a five-point, multidirectional scale (-2 to +2). Thus, for example, deviations of regional indicators from national average values of more than 50% corresponded to +2 points and were interpreted as "significant advance", and deviations of less than -50% corresponded to -2 points and were interpreted as "significant lag".
3. By calculating the arithmetic mean of the points assigned to each city for the demographic, social and economic indicators considered, a final score was obtained, on the basis of which the leading regions and developmental outsiders regions were identified.

Dynamic comparative analysis suggests the ratio of the growth rates of urban indicators to the average republican indicators in the context of the urban area by analogy with the static method. It includes:

- calculation of the growth of indicators of socio-economic development of individual cities on the basis of the statistical database of each city for 1999, 2009, 2016. for 22 large cities of Kazakhstan as a whole and deviations in the growth of absolute and relative indicators at the regional level in dynamics that revealed a negative and positive increase in individual cities;
- ranking of the increase in indicators at the national and regional levels for the analyzed period in order to bring their values to a single five-point multidirectional scale (from -2 to +2) by analogy with the results of a static analysis in dynamics for 1999-2016 in the context of 22 cities of the republic;
- calculation of integral indexes of scores based on the results of a dynamic comparative analysis of socio-economic development indicators for 1999-2016.

The system of transferring percentage deviations to points for the purpose of dynamically analyzing indicators that have as a direct correlation with the level of socioeconomic development has been slightly corrected due to the fact that the variance of values turned out to be significantly lower than in the case of static analysis and the use of a wider scoring scale would not give objective and comparable results.

In Table 3, points are not the current position of a particular city in Kazakhstan, but the rate of change.

For indicators that have an inverse relationship to the overall orientation of socio-economic development (the growth of which leads to a decrease in the latter), the scheme of conversion into points will be the mirror opposite; high indexes of the level of a certain indicator show low values of the considered index, and vice versa the lowest indices will mean an increase in the value.

Table 3. The system for translating deviations of regional level indicators from the average republican level according to the results of the dynamic analysis

Authors	Index	Considerations
McKinsey, Global Institute	Urban Sustainability Index (USI)	Society Economy Environment Urban planning environment Resources
UN	City Prosperity Index (CPI)	Productivity Quality of life

		Infrastructure Environment Inequality
UN	City Development Index (CDI)	Volume of production Health Education Infrastructure Amount of waste
The index of quality of life in the cities of the world	Mercer Human Resource Consulting	Political and social environment The economic environment Socio-cultural environment Health and sanitation Education and training Utilities Transport Recreation and entertainment Common consumption goods Housing and infrastructure Natural environment and climate

Dynamic comparative analysis of social and economic development indicators for major cities of the Republic of Kazakhstan was carried out in the following sequence:

1. The growth rates (in percent) of the indicators of social and economic development of cities and Kazakhstan were calculated in the context of the urban area as a whole based on the database created for each city for 1999, 2009, 2016.
2. The calculated rates of growth in the indicators of social and economic development of cities were correlated with the average republican urban values to identify deviations in the growth rates for each of the city indicators.
3. In order to identify regions that are developing faster or lagging behind the average urban level in the country, a ranking of deviations in the growth rates of regional indicators for 1999-2016 was conducted. on a single five-point multidirectional scale (from -2 to +2) by analogy with the results of static analysis.
4. By calculating the arithmetic mean of the points assigned to each city, the final score was obtained based on which the leading regions and outsider growth regions were identified (Table 4).

Table 4. Results of Static and Dynamic Comparative Analysis of Cities in the Republic of Kazakhstan

Interpretation of results	**Static evaluation**	**Dynamic estimation**
Significant lead	-	-
Notable lead	Astana	Atyrau
Differences are not significant	Almaty Aktau Atyrau Aktobe Zhanaozen Karaganda Kostanay Kyzylorda Pavlodar Uralsk Ust-Kamenogorsk Shymkent Ekibastuz	Aktau Astana Kokshetau Kyzylorda Pavlodar Petropavlovsk Ore Taldykorgan Taraz Turkistan Shymkent Ekibastuz
Palpable lag	Kokshetau Petropavlovsk Ore Semey Taldykorgan Taraz Temirtau Turkistan	Aktobe Almaty Zhanaozen Karaganda Kostanay Semey Temirtau Uralsk Ust-Kamenogorsk
Significant lag	-	-

The results of a static comparative analysis of the cities of the Republic of Kazakhstan, i.e. the ratio of indicators of social and economic development in cities with an average republican index for urban areas made it possible to get an objective picture of the situation of each city. According to 2016, a noticeable lead (from 15 to 50%) of the average republican indicators was revealed only in Astana, which is explained mainly by the capital status of the city. In most of the studied cities (13 out of 22), there were minor deviations in the indicators (within + 15%), these are the cities of Almaty, Aktau, Atyrau, Aktobe, Zhanaozen, Karaganda, Kostanay, Kyzylorda, Pavlodar, Uralsk, Ust-Kamenogorsk, Shymkent, Ekibastuz. A significant gap in the level of development from the average republican urban indicators was in the cities of Kokshetau, Petropavlovsk, Rudnyi, Semey, Taldykorgan, Taraz, Temirtau, Turkestan. It should be noted that in general, there was no significant lead or lag behind cities with a large gap from the average republican indicators.

Dynamic comparative analysis, which involves a ratio of the growth rates of urban indicators to the average republican indicators in the context of urban areas for the period 1999-2016. revealed the following groups of cities: developing at an average republican pace (12 cities out of 22 surveyed), significantly ahead (Atyrau) and slightly behind (Aktobe, Almaty, Zhanaozen, Karaganda, Kostanay, Semey, Temirtau, Uralsk, Ust-Kamenogorsk). It is noteworthy that according to the results of the dynamic assessment, as well as in the static assessment, cities with a significant level of anticipation or lagging behind the average republican pace of development have not been identified.

5 Theoretical and Practical Implications

The results of this study can be applied to further diversify the economy of large cities.

The findings and results of the study can be used in the activities of the city government bodies covered by this study.

Classification of types of social and economic development of large cities, depending on the dynamics of social, demographic and economic indicators, allows to predict with greater certainty the state and structure of the future economic and social space of the country.

The resulting typology of cities with a population of more than 100 thousand people can serve as a basis for a deeper analysis of the links between demographic, social and economic processes in Kazakhstan cities with different types of dynamics during the period under study.

4 Conclusion

Comparison of the results of static and dynamic analysis of 16 indicators of the database on 8 blocks of demographic, social and economic trends made it possible to carry out the typology of large cities of the Republic of Kazakhstan for 1999-2016 in terms of the level and dynamics of social and economic development. Classification of cities by socio-economic situation in the context of two parameters: static (position within the country) and dynamic (assessment of the rate of change relative to the average republican), resulting in the following types of cities in the Republic of Kazakhstan in terms of socio-economic development:

a) leaders of growth and development - cities that have higher current estimates and rates of socio-economic development relative to the average republican: Astana, Atyrau, Aktau;
b) growth leaders, outsiders of development - cities that have current socio-economic assessments that are slow in relation to the average republican, but which are developing at a faster pace, which causes a high potential for their development: the cities of Taldykorgan, Taraz, Kokshetau, Shymkent, Ekibastuz, Pavlodar, Turkestan, Kyzylorda;
c) development leaders, outsiders of growth - cities that have high current assessments of the socioeconomic situation, but have slowed down their development in comparison with the average republican pace: the city of Almaty;
d) outsiders of growth and development - cities characterized by a low current socio-economic situation and low growth rates of key indicators (it is also theoretically possible to single out separate intermediate groups of cities if the regional values correspond to average republican): the cities of Aktobe, Uralsk, Ust -Kamenogorsk, Karaganda, Zhanaozen, Kostanay, Petropavlovsk, Rudny, Semey, Temirtau. It should be noted that in many cities of this group, the indices of difference from the average republican level are not significant, and are classified in the group of outsiders conditionally.

Using the data of static and dynamic comparative analyzes, the position of each city is graphically represented by the point of intersection of the corresponding values of the static and dynamic estimates on the coordinate plane. Graphical expression of the results is shown in Figure 2.

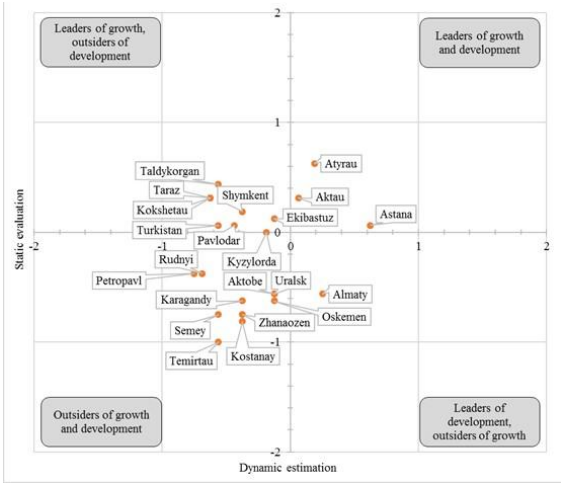

Figure 2. Integral Assessment of the Level and Dynamics of Socio-economic Development of Large Cities of the Republic of Kazakhstan on the Basis of Two-dimensional Static-dynamic Analysis for 1999-2016
Source: compiled by the authors.

The main idea of this typology is that there are 4 samples, according to which the large cities of the country conditionally develop.

As can be seen from Figure 2, based on the results of the two-dimensional static-dynamic comparative analysis, the cities of Astana and Atyrau are in a leading position in comparison with the city of Aktau, which is also classified as a leading group.

In the group of growth leaders, outsiders of development are ahead of time in comparison with other cities in terms of dynamic assessment values - Taldykorgan, Taraz, and Kokshetau; according to the values of the static estimation, the cities of Ekibastuz, Kyzylorda, Shymkent, Pavlodar are less lagging behind. It should be noted that the Kyzylorda city is included conditionally in this group, as the growth rates correspond to the average republican urban indicators, and the level indicators of development are insignificantly different from the average indicators.

Most of the cities in this typology found themselves in a group of outsiders of growth and development, as in many respects they had values below the national level. Among them, it is worth mentioning the cities of Temirtau, Rudny, and

Petropavlovsk, whose indicators are the lowest compared to other cities in this group.

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Primary Paper Section: A

Secondary Paper Section: AO