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## COMPARATIVE METHOD IN STUDYING DEVELOPMENT TRENDS IN THE FAR-EASTERN CITIES

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### Abstract

The article presents the characteristics of cities that are administrative centres of the subjects of the Russian Federation (RF) as part of the Far Eastern Federal District (FEFD) according to the direction of socio-economic development trends, carried out by means of statistical and comparative methods. For this purpose, the administrative centres of the RF subjects as part of the FEFD are grouped according to the criterion of the number of population living there. The cities of each group were analyzed for changes in the following socio-economic rates: population, number of employed people in the economy, manufacturing, retail trade turnover and capital investment of the corresponding subjects. The addition or loss of the administrative centres' share in these indices recorded from 2005 to 2020, allows us to state the centripetal and radial tendencies at the level of the territorial subject as one of the signs of its balanced spatial development. The results of the study show that the strengthening in the status of socio-economic centres of the subjects they head is presented by the cities - representatives of the largest group, while the addition of the share of the population over the analyzed period does not necessarily correlate with the runup of economic importance for medium-sized and small towns.

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## 1. Introduction

Comparison is the most important way of learning in Geography. As far back as Baransky (1957) substantiated the statement that it is impossible to recognize the geographical specificity of a territory properly without using comparisons. Especially important is the role of comparison as a method of cognition in the study of cities, the leading objects of socio-economic geography. One of the main trends of modern research is the determination of the role of cities in the development of territories and their development trends. It is noted that cities are so-called engine rooms (powerhouses) of included territories or growth points and growth poles, perform the function of the main hubs of the supporting frame of territories and regions. In addition, the entities headed by large cities are often characterized by centripetal trends in spatial development. They are expressed in attracting socio-economic potential to large and major centres. These trends tend to lead to a widening of gaps in the development level between the centre and the provinces within regions. Such processes are especially noticeable in the constituent entities of the Russian Federation headed by cities with more than a million inhabitants (Animitsa, 2013; Minakir, 2019; Pozdnyakova, 2021a; 2021b). The super concentration of socio-economic potential within a single centre breaks territorial balances and challenges the region's stability. Therefore, identifying trends in the concentration of socio-economic potential of regions within primate cities may be practically valuable (Blyakhman, 2014; Buchwald & Kolchugina, 2019; Kuznetsova, 2019; Lappo, 2019).

## 2. Problem Statement

The Far Eastern Federal District (FEFD), apart from its well-known geographical location and socio-economic dynamics, is the only region in Russia of this rank that does not have a single city with a million inhabitants within its borders. However, the FEFD includes a number of large constituent entities of the Russian Federation. The cities that guide them are also attraction centres for socioeconomic potential. However, these cities differ much from each other even at the level of the population category, and the constituent entities of the Russian Federation within the FEFD have a different focus of their development (Aganbegyan, 2019; Lomakina, 2019; Pozdnyakova, 2021a; 2021b). In this regard, it seems that the administrative cities will also show different trends of changing concentration of socio-economic potential of the RF subjects within the FEFD within their boundaries.

## 3. Research Questions

This study covers chronologically a 15-year-time from 2005 to early 2020. Territorially, it is placed within the Far Eastern Federal District, which includes eleven constituent entities of the Russian Federation. The subject of the study is the changing share of administrative centres in the socio-economic markers of the RF subjects headed by them within the FEFD.

## 4. Purpose of the Study

The purpose of the study is to identify changes in the concentration of socio-economic potential of cities with different population categories heading the constituent entities of the Russian Federation within the FEFD over 15-years as a ratio of their development character trends.

## 5. Research Methods

The study is based on the review of statistical data that reflects the share of cities - administrative centres in the main socio-economic ratios of the RF subjects within the Far Eastern Federal District as of 2005 and early 2020. We compare the trends in the concentration of socio-economic potential among cities with different population categories. By this criterion, the administrative centres are grouped according to the generally accepted classification of cities.

## 6. Findings

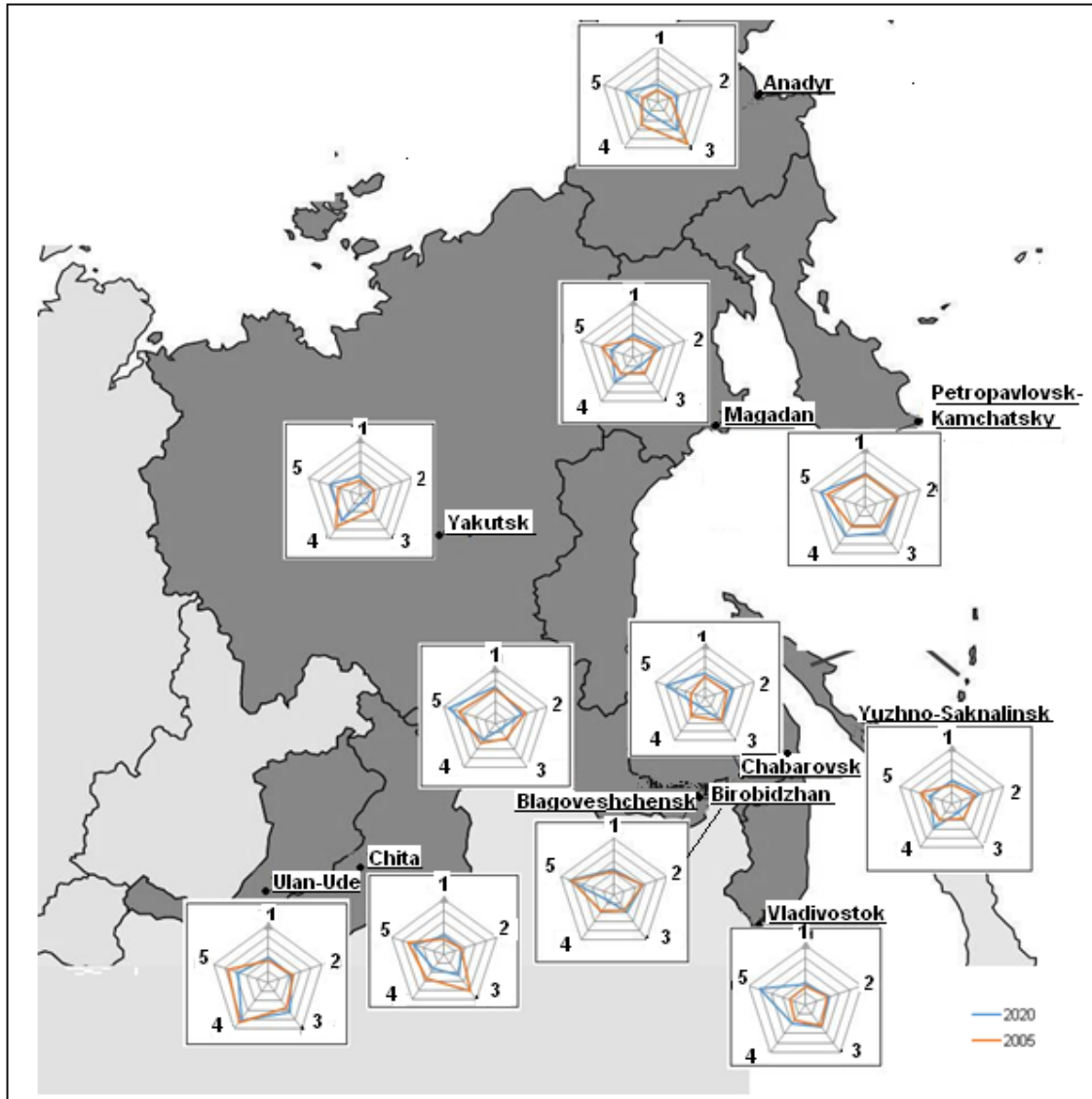
As a rule, such cities are chosen for comparison. They have a basic feature: something in common that generates the prerequisites for their development directions (Lappo, 2019). In this case, such a basic feature is a geographical location in the form of identification of the same federal district and the cities' status as administrative centres of the constituent entities of the Russian Federation. Moreover, the cities being compared must be co-scale, of the same size category. In this regard, let us present a grouping of administrative centres of the subjects of the Russian Federation within the FEFD according to the number of inhabitants:

- 1) the largest cities (over 500 thousand inhabitants) - Vladivostok and Khabarovsk;
- 2) large (250-500 thousand) - Ulan-Ude, Chita, Yakutsk;
- 3) large (100-250 thousand) - Blagoveshchensk, Yuzhno-Sakhalinsk, Petropavlovsk-Kamchatsky;
- 4) medium-sized (50,000 to 100,000) - Magadan, Birobidzhan;
- 5) small towns with a population of less than 20,000 - Anadyr.

To compare the development trends of the cities in these groups in terms of the concentration of socio-economic potential of their corresponding entities, their share change over the last 15 years was tracked according to the following criteria:

- 1) population, which is one of the clearest markers of the change in the significance of the city within the entity it heads;
- 2) the number of employed people, which reflects the state of the world of work in the city;
- 3) manufacturing as the 'traditional' basis of the city's economy;
- 4) retail trade turnover which is a marker of economic activity of the city as a whole and, partially, of the development of its post-industrial component;
- 5) capital investments, which characterise the reliability of the economic environment and the prospects of the city development (Gorbach & Seminog, 2019).

The change in the share of administrative centres of the RF subjects within the FEFD over 2005-2020 according to these criteria is illustrated in Figure 1. More detailed data on the selected types of cities are presented in Table 1.



**Figure 1.** Change in the share of administrative centres of constituent entities of the Russian Federation within the FEFD in the main socio-economic features in 2005-2020, % of the aggregate index for the respective constituent entity (the scale division value is 20%): Figures indicate data on the following indices: 1 - population, 2 - number of people employed in the economy, 3 - capital investment, 4 – the amount of industrial production (manufacturing industry), 5 - retail trade turnover

**Table 1.** Trends in the concentration of some socio-economic indices by groups of cities - administrative centres of the constituent entities of the Russian Federation within the FEFD over the period 2005 to early 2020

Administrative centres of constituent entities of the Russian Federation in the FEFD (population)	Share of the administrative centre by criteria, change (2005/2020; +/- - increase or decrease, %)					the socio-economic potential attraction effect*
	Population size	Number of employees	Capital investment	Amount of processing industries	Retail turnover	
<b>Major cities</b>						
Vladivostok (606,7 thou. ppl.)	30,2-33,5 (+3,3)	39,2-42,1 (+2,9)	45,5-47 (+1,5)	33,4-39,6 (+6,2)	28-81,8 (+53,8)	+
Khabarovsk (616,4 thou. ppl.)	40,9-46,9 (+6)	44,1-55,7 (+11,6)	53,6-54,1 (+0,5)	43,9-19,2 (-24,7)	28-77,9 (+51,9)	+
<b>Big cities</b>						
Ulan-Ude (437,5 thou. ppl.)	39-44,5 (+5,5)	46-42,8 (-3,2)	55-65 (+10)	86-81,5 (-4,5)	73-56 (-17)	+/-
Chita (351,8 thou. ppl.)	27,1-33,2 (+6,2)	33,2-33,7 (-0,5)	82,1-47,1 (-35)	54,5-32,1 (-21,6)	67-57,9 (-9,1)	-
Yakutsk (330,6 thou. ppl.)	25,2-33,2 (+8)	26,6-25,6 (-1)	34,6-12,5 (-22,1)	74-57,8 (-16,2)	40,8-58,4 (+17,6)	+/-
<b>Large cities</b>						
Blagoveshchensk (225,8 thou. ppl.)	24,1-29,3 (+5,2)	20,8-28,8 (+8)	13,9-4,7 (-9,2)	49,7-15,1 (-34,6)	70,3-71,4 (+1,1)	-
Yuzhno-Sakhalinsk, (200,2 thou. ppl.)	32,9-41,1 (+8,2)	44,5-53 (+8,5)	35,4-20,9 (-14,5)	37,4-55,1 (+17,7)	60,6-43,2 (-17,4)	+/-
Petropavlovsk-Kamchatsky (181,2 thou. ppl.)	55,9-57,4 (+1,6)	56,7-55,5 (-1,2)	41,4-54,3 (+12,9)	40,3-62,3 (+22)	71,1-83,6 (+12,5)	+
<b>Mid-sized cities</b>						
Magadan (95,9 thou. ppl.)	62,5-65,7 (+3,2)	59-52,2 (-6,8)	34,4-15 (-19,4)	45,8-38,6 (-7,2)	70,1-88,7 (+18,6)	+/-
Birobidzhan (75,4 thou. ppl.)	40,3-45,4 (+5,1)	54,1-55,1 (+1)	34,7-40,7 (+6)	37,6-15,5 (-20,1)	78,3-83 (+4,7)	+/-
<b>Small towns</b>						
Anadyr (15,2 thou. ppl.)	22,2-31,5 (+8,7)	24,1-36,2 (+12,1)	91,2-60,8 (-30,4)	48,5-24,1 (-24,4)	28-56,1 (+28,1)	+/-

\* '+' - present, '-' - absent, '+/-' - unstable.

Let us consider the main trends characteristic of the selected groups of cities - administrative centres of the subjects of the Russian Federation within the Far Eastern Federal District according to the criteria outlined.

In the group of the largest cities, Vladivostok shows a small increase in all indices (within 1.5-6%). However, the amount of retail trade turnover, which had begun to account for the administrative centre by 2020, exceeded the value of 2005 by almost 3 times (more than 80% of the corresponding figure for Primorsky Krai). Thus, we can observe a flash of the trend of strengthening the city's position as the main socio-economic centre of the region. We should also note that the subject as a whole is economically quite stable: the state of its other major centres - those with 100,000 inhabitants except some does not experience significant deformation, also keep its economic importance.

Khabarovsk is also showing an increase in the concentration of retail turnover of the entity it heads. But, unlike in Vladivostok, its share in Khabarovsk Krai's manufacturing industry has more than halved. It should be noted that there is a polar difference in the concentration of population and manufacturing industries between Khabarovsk (47% and 19.2%) and Komsomolsk-on-Amur (18.6% and 37.3% respectively). It is a city of almost 250,000 inhabitants and a major industrial centre. However, there was no population growth during the analyzed period. As Khabarovsk is characterized by an increasing concentration of population in Khabarovsk Territory, as well as an increasing share of

employed people, one can speak of its strengthening as an entity centre and the reorientation of the city's economic activity from an industrial base to the service sector.

Thus, the largest cities - administrative centres of the Russian Federation subjects within the FEFD are characterized by strengthening in the status of socio-economic centres with a clear trend of transformation of the sectoral structure of the economy as the post-industrial type (Lavrikova & Akberdina, 2019).

In the group of large cities, Ulan-Ude (439.1 thousand residents) is the most crowded. Compared to the whole of other settlements of the Republic of Buryatia, the administrative centre has become less busy over the period considered. This conclusion can be drawn from the decrease in the share of Ulan-Ude in the number of employed people in the Republic. This index was 3.2% lower than in 2005, while the share of administrative centres in the population increased (by 5.5%). However, the city's share of manufacturing and retail trade declined (by 4.5% and 17%, respectively).

Chita's share of the Trans-Baikal Territory has been negative except for a slight increase in its share of the population. The share of the administrative centre in capital investment and manufacturing fell sharply (by 35% and 26.1% respectively). Given the low concentration of population in the administrative centre, there is no reason to speak of increased centrism in Transbaikalia.

Yakutsk's share of the Sakha Republic's population is also relatively low, although it has increased by 8% over the last 15 years. The share of the city in the retail turnover of the entity it heads has increased greatly over the period focused (by more than 17%). However, the administrative centre's share of manufacturing production and capital investment declined by more than 16% and 22% respectively, rather proving a decline in its economic significance within the subject.

Thus, the large cities - administrative centres of the constituent entities of the Russian Federation within the FEFD, despite a slight increase in their population share, generally do not have a clear trend of increasing economic importance within the regions they lead.

Of the group of large cities, Blagoveshchensk is characterized by the lowest concentration of the population of the RF subject it heads among the studied administrative centres. Over the period emphasized, its share in the Amur Oblast increased moderately in terms of employment, population (by 8 and 5.2%, respectively), and retail trade turnover (by 1.1%). However, the regional centre's share in the concentration of manufacturing industries decreased by more than 3.3 times, and capital investment decreased by 9%. Probably, the main reason for such trends is the change in the Amur Oblast's development priorities, which was reflected in the spatial arrangement of the territory. In particular, we are talking about the creation of *The Vostochny Cosmodrome* near the town of Tsiolkovsky (Uglegorsk until 2015), which has become another centre of capital attraction in the region.

Yuzhno-Sakhalinsk is proportionately increasing its share in the region it leads in terms of population and employment, as well as in terms of industrial production. It can be said that it is quite clear it is a typical industrial city. However, in terms of capital investment and retail trade turnover, the share of the administrative centre in the Sakhalin Oblast is declining. This is probably due to the inter-sectoral restructuring of the region's economic branch, in particular the increased emphasis on extractive industries, which are concentrated in smaller settlements.

Petropavlovsk-Kamchatsky differs significantly from other cities in this group in terms of population concentration in the administrative centre of the region (57.4%). Despite some fluctuations in the share over different years, more than half of the employed in Kamchatka Krai is also located in the administrative centre. There is also a clear tendency of strengthening the economic significance of the city in the region. This is reflected in the increasing share of Petropavlovsk-Kamchatsky in such indices as industrial production, capital investment and retail trade turnover (Fig. 1).

Thus, for large cities, which are the administrative centres of the constituent entities of the Russian Federation within the FEFD, the percentage of the respective constituent entities' population and persons employed in the economic sector is generally increasing proportionally. Nevertheless, there is no uniformity of trends of other indices. Internal special features of regions headed by large cities show that the central position in the spatial organization of productive forces remains rather stable for Yuzhno-Sakhalinsk and Petropavlovsk-Kamchatsky according to various criteria. Blagoveshchensk, on the other hand, experiences a kind of decentralization caused by the change of priorities of the region's spatial development.

Magadan and Birobidzhan are among the medium-sized cities in terms of population. During the study period, Magadan strengthened its position within the subject only in terms of the share of the population living there and probably the accompanying retail trade turnover (by 3.2 and 18.6%, respectively). These two indices are the highest not only for the cities in the Far East, but also for Russia as a whole. According to other indices, there is a decrease in the share of Magadan in the region having the same name.

Keeping the central function of Magadan is expressed in the attraction of the population along with the dispersion of the economy over the territory of the region, due to the on/off rotation and a fairly developed network of urban-type villages (23, and the city of Susuman with a population of just over 4 thousand people). At the same time, it is noteworthy that in 2005 Magadan was a city of one hundred thousand people, and by 2020 it is out of this category. The change in the population category in the negative trend may prove a general decline in socio-economic development of the entity it heads and the related population outflow (which, however, remains characteristic of many Far Eastern territories).

The increase in the share of Birobidzhan in the population of the Jewish Autonomous Region is small, but it is ahead of the dynamics of the concentration of the employed population (5 and less than 1% respectively). The share of the administrative centre in the subject's retail trade turnover (by 1.7%), which in relative terms became one of the highest in the Far East, as well as capital investments (by 6%), increased slightly. In addition, the share of Birobidzhan in the process industry of the Jewish Autonomous Region has more than halved. This can be attributed both to the general decline of the city's economy and to some dispersion of material production at the enterprises of urban-type villages. Thus, for medium-sized cities, while retaining the role of the socio-economic centres, the trend of territorial distribution of economic structures is also clear.

Anadyr is the capital of the Chukotka Autonomous District, the smallest of the administrative centres of the RF subjects within the FEFD. During the period observed, the central function of the city has clearly increased due to the reorganization of urban-type villages (from 13 in 2005, by 2020, there were 5 left, and the population of Anadyr has increased by 4.6 thousand people, and its concentration has

increased by 8.3%). The share of the administrative centre in the concentration of the employed population of the Chukotka Autonomous District has increased by more than 12%. One can observe a decrease in the share of Anadyr by more than 30% in the capital investment concentration index (in 2005, it was the highest among the cities of the Far East at 91.2%), and a twofold decrease in the manufacturing industry. Therefore, there is a dispersion of economic potential across the territory of the entity heads.

## 7. Conclusion

Thus, the study compared different groups of cities - administrative centres of the constituent entities of the Russian Federation within the Far Eastern Federal District and the cities within these groups according to the criteria mentioned. It is shown that over the research period, the studied cities showed different trends in the concentration of socio-economic potential of the territorial subjects they head. Without any exception, all administrative centres are experiencing an increase in their share of the respective subjects' population, and most of them in the number of employed people. For most cities leading the constituent entities within the FEFD, the specific share in retail trade turnover has increased, confirming that the administrative centres are economically active. To a greater extent, the trend of attracting socio-economic potential is characteristic of the region's largest cities. However, only Vladivostok, the centre of the federal district, shows a consistent strengthening in the status of the socio-economic centre in all the studied positions. In addition, both Vladivostok and Khabarovsk are characterized by changes in the structure of the urban economy of the post-industrial type. Opposed to the cities of the first group, the Far Eastern centres of the other four groups often show a tendency to decrease their share in the corresponding subject by a number of economic indices. Probably, the all-Russian trend of decreasing the level of differentiation of cities of this type is presented here (Zubarevich & Safronov, 2019). On the one hand, dispersion of economic potential over the territory contributes to the stability of spatial organization of productive forces if an agglomeration-type development is performed (Khlestova, 2017). On the other hand, it often stands for an overall decline in the level of socio-economic development of a particular entity. Thus, some decentralization of large and big cities - the administrative centres of the constituent entities of the Russian Federation within the FEFD - may depend on the attraction of the socio-economic potential into other relatively large settlements. These could be medium-sized Belogorsk and Svobodny and small towns such as in the Amur Oblast; Gusinozersk, Severobaikalsk and Kyakhta with a population of just over 20,000 - in the Republic of Buryatia, etc. However, in the constituent entities headed by small and medium-sized cities, dispersal of economic potential is likely not to be followed by the permanent population. This problem will be particularly urgent in the regions located within the Far North zone. Therefore, a territorial framework in the form of a network of settlements is unlikely to be created here; rather, commuting (shuttle migration) of city dwellers to the workplace will be a priority. In some cases, the increase in the share of the administrative centre in socio-economic values is only followed by the aggravation of the socio-economic situation in the provinces of the subject. The reasons for heterogeneous trends of economic concentration in the studied cities are rather thinly-sourced: the differences in the forms of its territorial organization and transformations in the sectoral structure of the economy. However, more accurate conclusions require a more detailed study of the socio-economic state of the RF subjects within the FEFD: taking into account



changes in the absolute values of the selected ratios, the review of the development trends of other settlements of a particular subject, which can be the objective of further research.

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