

# Development and current state of urban labour markets in Russia

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## Abstract

The purpose of the study is to identify key trends in the development of labour markets in the cities of Russia in the post-Soviet period and their current state. The parameters of sectoral employment of the population and the number of employees in urban districts of Russia in the period after 2010 are analyzed in detail. For the first time the state of the labour market of all cities of the country in a full range of organizations is investigated on the basis of data of the Federal Tax Service (FTS). The study confirms the existence of differences in the level of employment in cities of different size in different regions of the country, as well as the existence of an urban—rural and center—periphery (regional center — the rest of the region) gradient.

## Keywords

labour markets, employment, capitals of regions, cities, rural areas, municipal statistics

## Introduction. Research Methodology

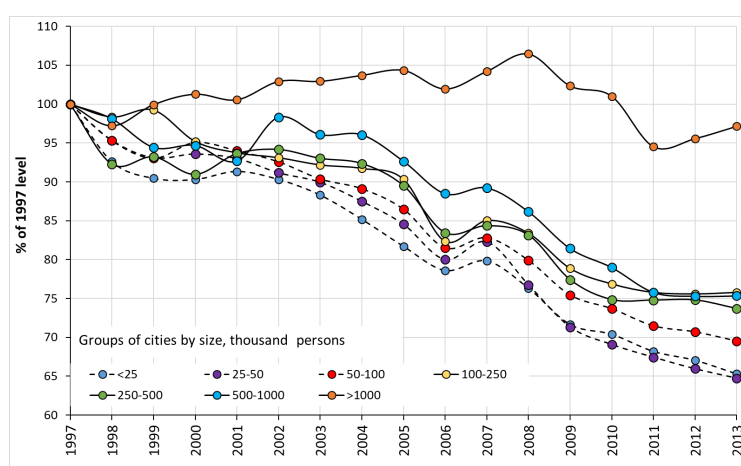
Research of local labour markets (hereinafter — LLM), i.e. labour markets of municipalities of Russia, are relatively few, and the issue itself is poorly studied. The main reason for this was and remains the lack and low reliability of statistical data and the extremely high labour intensity in their collection and processing. As a result, in the 1990s and 2000s, most of the research of local labour markets was limited to consideration of the situation in individual settlements (or their groups based on the territorial or sectoral characteristic) and was based on periodic data from sample surveys. Most remarkable were the studies of the labour market of single-industry towns (see, for example, [Vlasova et al. 1999; Lyubovny et al. 2001; Kuznetsova 2003; Mikryukov 2016]). Another area in which relatively few studies at the municipal level have been carried out until recently, was addressing labour mobility associated with shift and pendulum employment. The relevance of the topic, along with the

increased availability of information on return labour migration, resulted in the emergence of a number of publications, mostly devoted to the pendulum migrations in urban agglomerations (Makhrova and Bochkarev 2018; Averkieva et al. 2015; Makhrova and Kirillov 2015; Nekrasova 2012). Analysis of contemporary seasonal and shift migration remained a less developed direction, but since recently it is actively developing (Veliky 2010; Nefedova 2015; Plyusnin et al. 2013), including studies in particular cities (Mkrtchyan and Florinskaya 2016). At the same time, there have been very few overall studies characterizing labour migration in the local labour markets of municipalities (Antonov 2016). There have been no generalized works on urban labour markets in Russia, which would attempt to comprehensively assess their state and dynamics. This topic is addressed only as one of the scenarios when considering the processes of socio-economic development (Treyvish and Nefedova 2010; Nefedova et al. 2016).

Research on local labour markets of Russian cities for the period between 1990 and 2000, carried out to date, noted divergent trends in their transformation under the influence of several key differentiating factors: size of the city, industry specialization, position in the settlement system. In this regard, in most cases, when examining the dynamics of individual labour market indicators, cities are also considered in the context of these factors.

The situation in the labour markets of larger cities, especially regional centres and million-plus cities, has been and remains much better in most parameters (employment rate, unemployment rate, wages, etc.) than in small towns. Thus, there was a more intensive decrease in the number of employees in small and medium-sized cities in the entire post-Soviet period (Fig. 1). The unemployment rate, on the contrary, was noticeably higher in smaller cities (Fig. 2).

Sectoral specialization of the economy is the most important differentiating factor in accordance with the dynamics of the industry: in cities with “successful” industry specialization and favourable conditions in world markets (cities with oil and gas industry, certain mining centers) the state of the labour market is much better than in cities with “unsuccessful” specialization (the forestry and woodwork industry, mechanical engineering, construction



**Figure 1.** Dynamics of the number of employees at enterprises and organizations in the cities of Russia of different size. Source: calculations based on the “Economy of the cities of Russia” database (“Multistat” database)

materials production, etc.), especially focused on the domestic market, which was badly affected during the years of economic crises (1990s, 2008–2009).

The position of a city in the settlement system, in addition to its indirect impact on the economy of urban enterprises (as a marketing factor), has an impact on sustainability at local labour markets from the viewpoint of opportunities for external labour supply (pendulum and shift). Institutional conditions largely determine the balance in local labour markets between the area of small business and the shadow sector of the economy (both in terms of quantitative indicators of employment and wages and also qualitative parameters of jobs).

The study of the processes of formation and transformation of local labour markets of Russian cities covers the post-Soviet period (from 1991 to 2016) and is based on several sources of information. The longest statistical series, characterizing the period from 1992 to 2013, provide data from the “Economy of the cities of Russia” database (“Multistat” database). It contains information on the number of employees of large and medium-sized enterprises and organizations, their wages, as well as the number of unemployed persons, which enables tracing key trends in urban employment and unemployment. Information on the sectoral structure of employment for relatively long periods is available only from the late 2000s – early 2010s, when the Municipal Units Database reached sufficient completeness (hereinafter referred to as MU DB). The current state of urban labour markets is analyzed in most detail according to data for 2016 on the basis of statistical information presented in reports of regional divisions of the Federal Tax Service. Data on forms of statistical tax reporting in Form 5–personal income tax<sup>1</sup> are used in order to obtain the number of persons employed in the full range of organizations, which enables estimating the number of persons performing legal labour activity in the territory of municipal units.

## Main stages of labour markets’ transformation in Russia

The main trend influencing the transformation of urban labour markets in the post-Soviet period is the ongoing process of labour resources reallocation between its main sectors: the formal sector with large and medium-sized enterprises and organizations, the small and medium-sized business sector, the informal sector with shadow and informal employment, as well as temporary unemployed citizens and citizens who have left the labour market. The initial situation in the local labour markets of most cities by the end of Soviet times was roughly the same and slightly differentiated by territory: almost full employment was achieved through employment at state enterprises and public organizations, unemployment was extremely low and employment at private small-scale enterprises that relatively massively emerged only during the *perestroika* period was minimal.

The crisis in the economy of the country in the **1990s** resulted in nationwide reduction in employment at large and medium-sized enterprises and organizations. Decline in number of jobs due to liquidation of inefficient enterprises was evident in cities of any size, geographical location or industry specialization. Virtually every city had one or a group of city-forming enterprises that had not been able to adapt to the new management system and market economy conditions. They were partly replaced, including absorption of the forcibly released employees, by small business together with its non-institutionalized variety in the informal sector of the economy. However, not in all cities these processes compensated for each other. Therefore, the

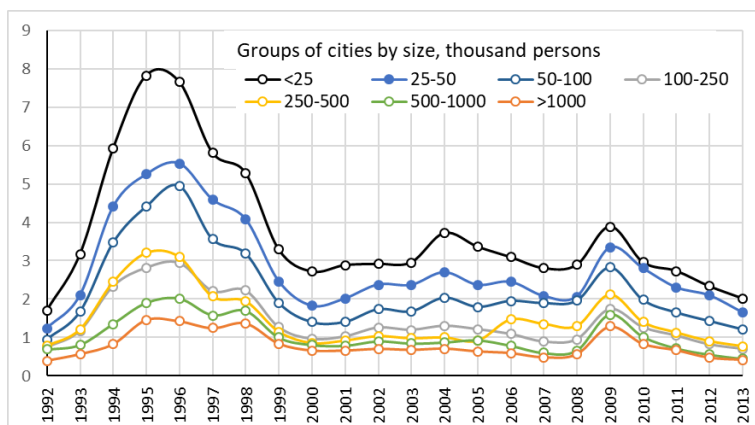
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<sup>1</sup> Report on the tax base and structure of accruals on personal income tax held by tax agents.

unemployment rate increased sharply (see Fig. 2). It was directly determined by the size of the city (in small cities the situation in labour markets was much worse than in large ones).

The **1998 crisis**, the default and subsequent recovery growth of the economy, coinciding with the beginning of a new market cycle, significantly differentiated the situation in cities depending on their industry specialization and size (see Fig. 1). The largest cities in the country (especially Moscow, St. Petersburg and other million-plus cities) and their agglomerations received a significant additional resource of development in the form of increased rental income, accumulating in them and generating additional demand, particularly in the service industries. This was accompanied by a corresponding increase in employment in them. Enterprises in cities with a “successful” industry of specialization showed a stable state or a moderate decrease (as part of ongoing business optimization processes) in employment, and in some industries, there may have also been moderate growth (e.g. oil and gas, retail and services). Nevertheless, even during this relatively favourable period, employment in the industrial sector continued to decline in most cities: the process was more intense in small towns.

The second most important trend in the transformation of employment in urban areas in the 2000s was the intensification of the process of optimizing employment in the public sector (education, healthcare, public administration). The decline in employment in these sectors was also more intense in small cities, while large cities and regional centers had more opportunities to maintain the level of employment.



**Figure 2.** Proportion of job-seekers in the working-age population in Russian cities by size, %. Source: calculations based on the “Economy of the cities of Russia” database (Multistat database).

*By the end of the 2000s*, the overall reduction in employment in large and medium-sized enterprises in the cities, averaged 20% (excluding million-plus cities). By that time, about 1/5 of labour resources had moved to the informal sector of employment (on average for Russia). At least 20% was employed in urban small business (official data for cities are not available). Thus, by the end of the 2000s, employment alternative to large and medium-sized enterprises, not only became comparable, but already almost equal to it.

During the 2000s there was a large-scale redistribution of jobs between cities of different sizes (and over the territory of the country in general). It resulted in an increase in geographical disparities in the availability of jobs and the intensification of labour migration of the population. Taking into account the growth of the labour markets in Moscow and St. Petersburg, the

total increase in the number of jobs in million-plus cities in the period between 1998 and 2007 was 7%, while in all other cities of the country there was a 12% decrease.

*The economic crisis of 2008-2009* was accompanied by short-term disturbances in the labour markets of Russian cities, but did not have a cardinal influence on the direction of its transformation. The crisis mostly affected single-industry cities, mainly industrial centers, where the enterprises were forced to cut down the number of employees. The effect was also noticeable for major cities and regional centres, where employment was also reduced because of some decline of the overblown service sector.

*In the period of 2010-2015*, after the global economic crisis, there was a fundamental change in the entire economy of the country, as well as in the labour markets of regions and cities. After overcoming the crisis in the employment of the population, there was some revival in labour markets up to 2013, accompanied by stabilization of employment in middle-sized cities and its small growth in the largest agglomerations of million-plus cities. At the same time, labour markets in small towns continued to shrink because of decline in employment in large and medium-sized enterprises and the negative dynamics of employment in small and medium-sized businesses.

Termination of collection and publication of statistical information on the cities of Russia, formed earlier in the “Multistat” database, makes it difficult to assess trends and directions of urban labour market transformation after 2013. One of very few sources of information that allows this to be done is the MU DB<sup>2</sup>, however, it narrows the range of studied towns/cities only to those that form urban districts (statistical indicators of the market for the absolute majority of urban settlements in the database are absent). As a result, key trends in the urban labour market can be analyzed mainly by the example of the largest cities (Table 1),

**Table 1.** Characteristics of urban districts (centered in the city) considered in the study of the dynamics and structure of employment by medium and large enterprises and organizations on average for 2010-2015.

Groups of cities by size, thousand persons	Number of urban districts	Share of the groups of cities in the total population of the sample	Share of the groups of cities in the total number of jobs
	units	%	%
Under 25	67	1.8	1.5
25–50	110	6.9	6.3
50–100	73	8.8	7.7
100–250	66	16.7	15.5
250–500	36	20.7	21.5
500–1000	20	21.3	22.2
Over 1000	12	23.9	25.3
Total	units	total, thousand people.	total, thousand jobs
	384	59877.2	15681.9

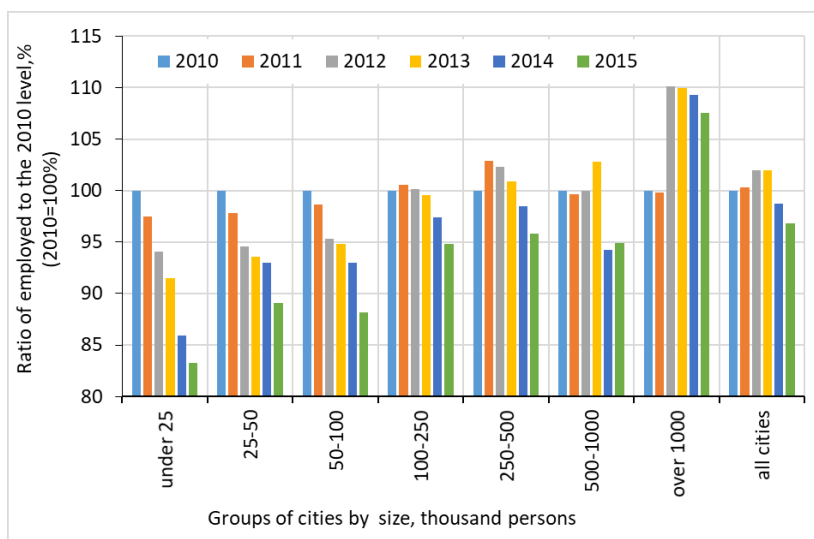
Notes. Excluding Moscow, St. Petersburg, closed administrative-territorial entities (CATE) and some other cities for which information is not available.

<sup>2</sup> Municipal Units Database contains indicators on all municipal units of Russia. Employment data are relatively fully presented in the MU DB since 2010.

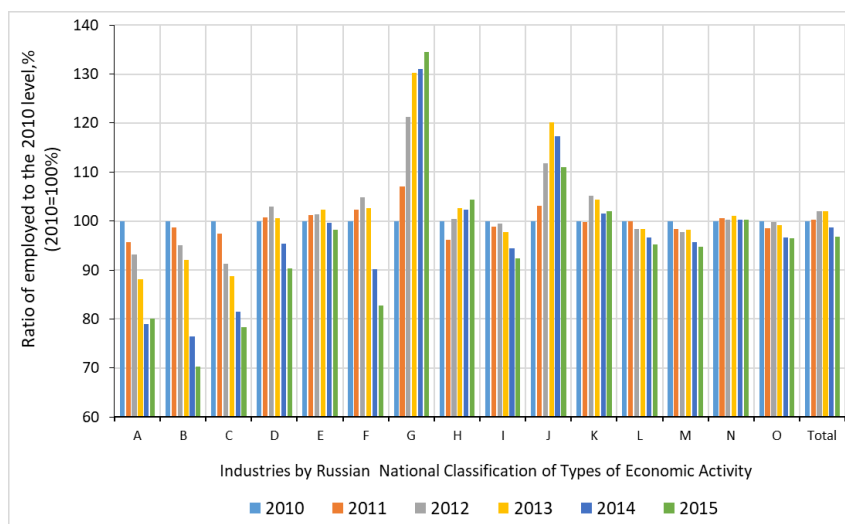
while small cities (mostly urban settlements) are out of consideration. Despite the fact that the sample of Russian cities available for research, in this case narrows to 384 units (slightly more than a third of all), the bulk of the urban population of Russia live there (excluding Moscow and St. Petersburg). Therefore, the sample reflects the main trends in the development of urban labour markets throughout the country.

## Structural changes in employment

The increase in the number of jobs in big cities (500,000 inhabitants and more), observed in the period of 2010–2012 quickly faded out as of 2013 (Fig. 3). Continuing decrease in the number of jobs in small cities, as well as their decrease in large cities by the end of 2014 and 2015, leads to the formation of a negative trend in labour markets of the majority cities of Russia. By the end of 2015 the total number of jobs in the sample cities decreased by 3.2% compared to 2010. The compression of labour markets, resulting from the stagnation of the economy in recent years, is accompanied by structural changes in employment (Fig. 4). Despite the highest relative decline in employment in the primary sectors of the economy (especially agriculture and mining), which continued throughout 2010–2015, their absolute share changed insignificantly due to the small scale (Table 2). Employment in the manufacturing industry in cities plummeted by the end of 2015 by about 10% compared to 2010 and by 12.5% compared to 2012. (see Fig. 4). A similar situation was observed in construction (minus 7% as compared to 2010) and in transport and communications (minus 8%). Less affected in relative terms were the budgetary area sectors (education and public administration reduced employment by 5%, with almost zero growth in health), but due to their high share, they, together with the manufacturing industry, accounted for the bulk of the jobs being cut.



**Figure 3.** Dynamics of employment in large and medium-sized enterprises and organizations in urban districts with the centre in the city, 2010–2015. Source: calculations on the basis of the MU DB.



**Figure 4.** Dynamics of employment in large and medium-sized enterprises and organizations in urban districts with a centre in the city, 2010-2015, by sector according to the Russian National Classifier of Economic Activities (RNCEA). Source: calculations on the basis of the MU DB.

In the tertiary sector of the economy (outside the already considered branches) in 2010-2015 there was an increase in the number of jobs (see Fig. 4), which was localized mainly in large cities and was resulting from explosive growth in retail employment (a record increase of 35% with a relatively high reference level, see Table 2), in the area of financial activity (+11.1% over the period), in the hotel and restaurant business (+4.4%), as well as section K (which includes different branches of services) by 2%. However, after 2013, only retail trade and financial activity were growing.

Transcription of RNCEA sectors : Section A. Agriculture, hunting and forestry; Section B. Fishing, fish farming; Section C. Mining; Section D. Manufacturing; Section E. Production and distribution of electricity, gas and water; Section F. Construction; Section G. Wholesale and retail trade; repair of motor vehicles, motorcycles, household goods and personal goods; Section H. Hotels and restaurants; Section I. Transport and communications; Section J. Financial activities; Section K. Real estate transactions, leases and services; Section L. Public administration and military security; social insurance; Section M. Education; Section N. Health and social services; Section O. Provision of other communal, social and personal services.

Structural changes in urban employment by industry indicate an unfavourable trend of job losses in the material and construction sectors, under an increase of both absolute indicators and, to an even greater extent, relative rates of employment in trade. Low-quality tertiarization of the economy is going along with reduction of industrial employment and falling investment activity (the indicator of which is employment in the construction sector). This process is going on in cities of various sizes (see Table 2), but is most active in large cities (especially in cities with a population of over 500,000 people).

**Table 2.** Dynamics of employment in large and medium-sized enterprises and organizations in urban districts with the centre in the city for 2010–2015.

Population, thousand people.	Share of employment in the sections of the Russian National Classifier of Economic Activities sector, %														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
2010															
<100	1.2	0.1	6.3	20.3	7.3	3.7	2.4	1.1	9.1	1.8	4.5	10.2	14.8	13.1	4.2
100–500	0.8	0.2	1.9	20.8	6.3	4.2	4.6	1.4	9.5	2.8	5.8	11.1	13.8	12.5	4.4
> 500	0.5	0.1	0.5	19.8	5.0	4.1	6.8	1.2	10.4	3.8	7.9	11.4	13.4	11.4	3.6
All cities	0.7	0.1	2.0	20.2	5.9	4.1	5.2	1.2	9.8	3.1	6.5	11.1	13.8	12.1	4.0
2015															
<100	0.8	0.1	4.8	19.5	7.9	2.8	3.7	1.0	9.2	1.8	4.9	10.4	15.0	13.9	4.1
100–500	0.7	0.1	1.7	18.9	6.6	3.6	6.3	1.5	9.2	2.9	5.9	11.2	13.7	13.1	4.5
> 500	0.5	0.1	0.5	18.6	4.9	3.6	9.2	1.3	9.6	4.5	8.3	10.9	12.9	11.6	3.6
All cities	0.6	0.1	1.6	18.9	6.0	3.5	7.2	1.3	9.4	3.5	6.9	10.9	13.5	12.5	4.0

Source: calculations on the basis of the MU DB.

## Availability of jobs in local labour markets

The size of the local labour market (LLM) depends on several parameters. The most obvious of them are: the population of the municipal unit, the level of economic activity, and geographical position (in relation to other LLMs of neighboring municipal units). One of the key indicators that could characterize the status of LLM is the availability of jobs, which refers to the ratio of the number of jobs (both formal and informal) to the economically active population (EAP). Since data on the number of EAP by municipal units are not published, for alternative estimation the proposed methodology is forced to use the number of persons in working age<sup>3</sup>. The average value of the availability of official jobs in Russia in 2016 was 0.78, and taking into account the additional estimate for shadow employment (according to survey of the labor force data) — 0.9.

In general, the geography of jobs availability has clear north—south and urban—rural gradients. The first one is due to both the already mentioned shift employment and the high cost of living in the northern territories, where opportunities for living without formal employment and stable source of income are limited and encourage out-flow of the unemployed. The latitude pattern is violated in an explicit form only in the case of the Republic of Yakutia, apparently due to the ethnic factor and the possibility of occupation at one's personal subsidiary farm (at least, with respect to the municipalities of the Central Yakutia lowland).

The city—rural gradient is not only due to the influence of regional capitals, where the level of availability is much higher than in rural areas. In most regions, medium and small cities and even urban settlements are cores of employment, concentrating the vast majority of jobs of their municipalities. In almost every region of the central part of European Russia there are municipal units, which stand out against the general background by the increased

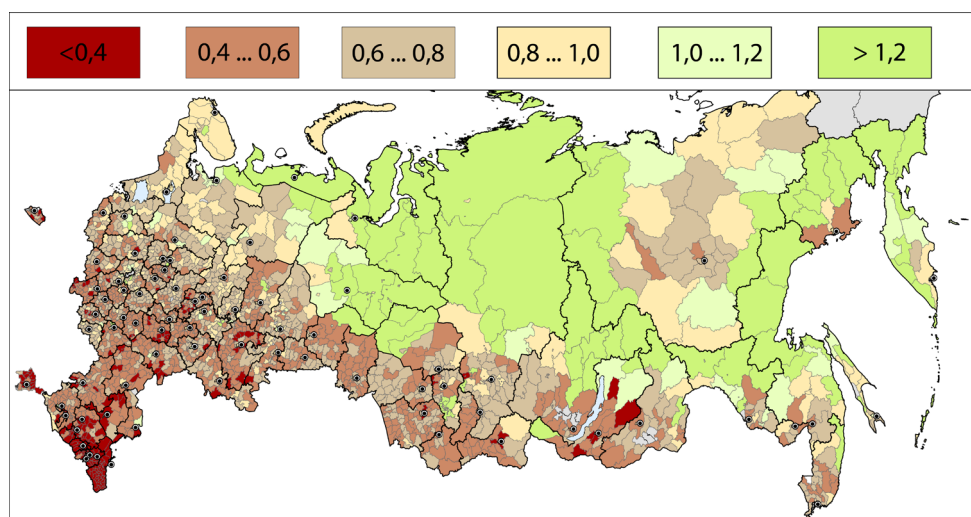
<sup>3</sup> Due to the lack of data on the age structure of the population on the current accounting, 40 municipal units, which are closed administrative-territorial units, and municipal entities of the Chukotka Autonomous oblast are excluded from analysis. 99.08% of the Russian population live in the municipalities covered by the study.



availability of jobs. These include mainly municipal units where cities, towns, and urban settlements with manufacturing enterprises dominate, while the rural periphery is not numerous and does not so significantly reduce the overall level of employment.

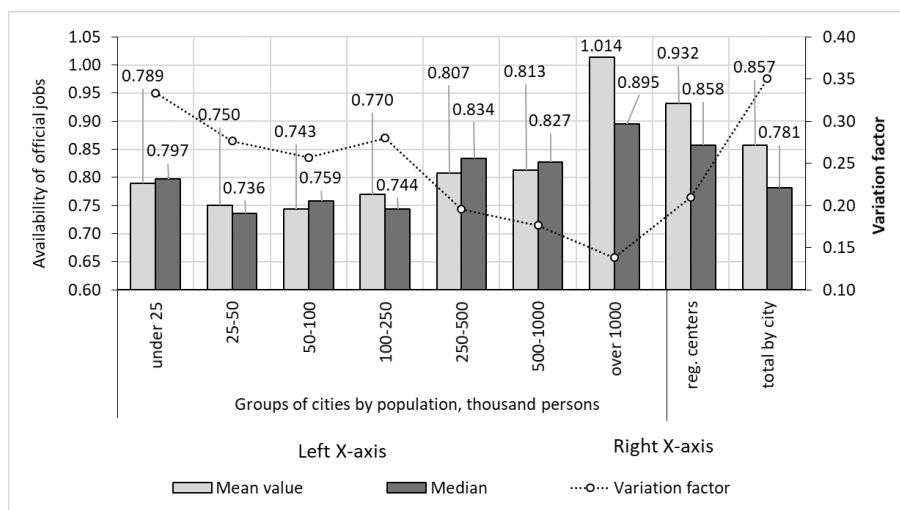
The high concentration of jobs and, consequently, the high level of availability of jobs can be an indicator of the “organizing power” of settlements for the surrounding area and reflect the intensity of labour relations for a local settlement or agglomeration system. In this regard, cities and settlements with a high level of jobs availability play a special role — they provide employment opportunities not only to their inhabitants but also to the inhabitants of surrounding areas. It is difficult to distinguish the border values of jobs availability to recognize the LLM of a settlement or municipal unit as “strong” or “weak” because it is hardly possible to taken into account informal employment, which is highly differentiated by region and municipality, and correspondingly — the overall level of employment of the population.

In absolute values of the number of official jobs concentrated in cities, the largest cities of the country play an undeniable role, especially million-plus cities and regional centers. Small and minor cities, because of their small population, are not comparable in terms of employment, so their absolute role in the national labour market is less. However, the same cannot be said about their role in the surrounding area, especially in relation to the smallest cities.



**Figure 5.** Ratio of the number of official jobs to the population of working age in 2016. Note: due to the lack of data on the age structure of the population of CATE, municipalities of the Chukotka Autonomous Okrug and separate MU of the Irkutsk Oblast and Zabaikalsky krai, the availability values are not calculated for them. Source: calculated on the basis of the data of the Federal Tax Service and MU DB.

The average level of availability of jobs in urban settlements and urban districts of Russia, whose centers are cities, was 0.857 in 2016, which is significantly higher than the national average (0.78). The urban median value (0.781) is also significantly higher than that for municipalities (0.630) (Fig. 5). With the exception of a group of small towns (especially with a population of less than 25,000 people), the jobs availability in big cities (100,000 people and over) increases with the increase in their population (Fig. 6).



**Figure 6.** Availability of official jobs in cities of different size and regional centers in 2016. Note: data on 1,086 urban settlements and urban districts with a city-status settlement as a centre. Source: calculations on the basis of the Federal Tax Service data and MU DB.

## The role of cities in the provision of jobs in comparison with the surrounding territories

The group of small towns with a population of up to 25,000 people has the highest relative distribution of jobs availability among all groups of cities by size (see the values of the coefficient of variation in Fig. 6). This suggests that, despite relatively high average levels of availability, there are a large number of both “weak” and “strong” small towns in terms of jobs availability.

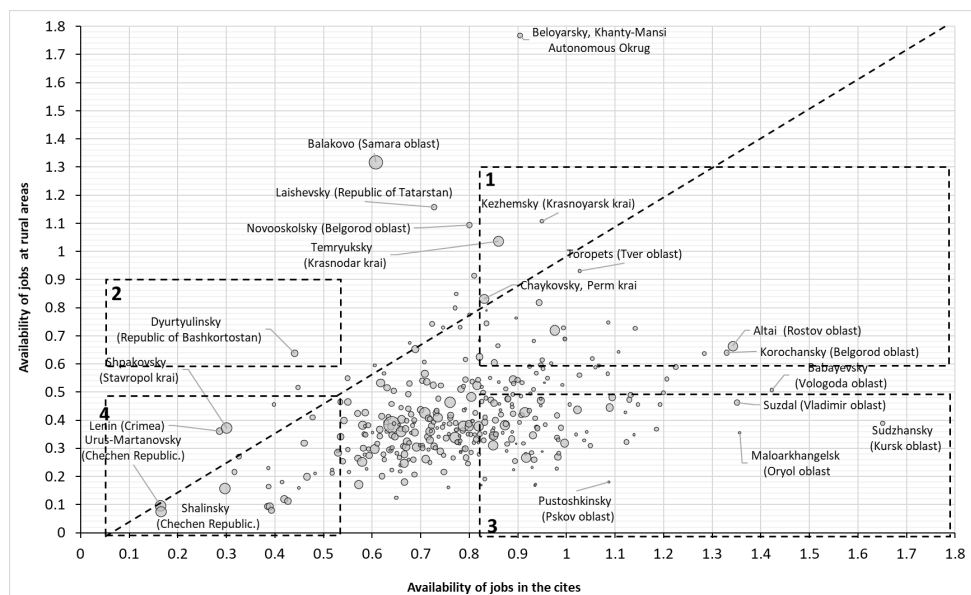
The role of small towns for local labour markets can be ascertained by comparing the jobs availability in the central town and its surrounding rural areas. The higher the gradient between them, the greater the role of the central town, and vice versa — a small difference indicates that the town has largely lost its dominant organizing function in relation to the surrounding territory (except in cases where jobs availability is high both in the town and in the surrounding countryside).

To assess the role of small towns and illustrate the urban—rural gradient, let’s consider the municipal units (Fig. 7), which contain the only urban settlement — the town, and the rest of the settlements are rural (the total number of such municipal units, for which information is available, is 348).

Taking into account the diversity of causes and combinations leading to different levels of jobs availability in urban and rural settlements, it is possible to distinguish four polar groups of municipal units (see Fig. 7 and Table 3). For the majority of municipal units, the availability of jobs in cities significantly exceeds the values for surrounding rural settlements (the average value of availability in cities is 0.74, and in rural settlements — only 0.41). Municipalities and their centers in this group (group 3) are relatively evenly distributed throughout the country. Among them there are several subgroups. The high availability

of jobs in cities is largely achieved through the development of a variety of manufacturing industries (primarily in the agricultural industry, wood processing, partly in mechanical engineering). It is noteworthy that the same group includes municipal units located both outside the main agricultural zone (North, Non-Chernozem) and in the relatively favourable zone in terms of agroclimatic conditions but with an excess of the rural population for intensive highly mechanized agriculture (primarily in crop production). Quite numerous is the subgroup of micro-towns with a population of less than 10,000 people, in which the institutions of the budgetary area, public administration and services are concentrated, limitedly supplemented by local manufacturing, forestry or production of construction materials. A separate subgroup identifies areas with a highly developed agro-industrial complex (and other manufacturing industries), which are part of large agglomerations (e.g. Timashevsky, Ust-Labinsk and Elabuzhsky districts). In them, “overpopulation” of rural settlements and the lack of jobs availability is attributed to the focus of residents on employment outside the region.

The latter, the least numerous subgroup is represented by municipal units with high job availability in urban areas, as opposed to the surrounding rural areas with underdeveloped rural economy. Availability of jobs in this subgroup is provided mainly by large mining enterprises (for example, in the towns of Osa and Chernushka it is oil production, in the town of Kotelnikovo — extraction and processing of potash ores, in the town of Uchaly — mining and processing works of non-ferrous metals).



**Figure 7.** Availability of jobs for urban and rural population (ratio of the number of official jobs to population of working age) in municipal units with only one urban settlement as the centre.

Note: the position of the Turukhan municipal unit (1,75/3,03) of the Krasnoyarsk krai and the Usolsky municipal unit (0,49/2,65) of the Perm krai extends beyond the boundaries of the area of the chart.

Source: calculations on the basis of the data from the Federal Tax Service and MU DB.

**Table 3.** The combination of jobs availability in rural and urban settlements of municipal units with the only urban settlement as the center.

<b>High availability</b>		<b>City</b>	
		<b>Low availability</b>	
Rural area	High availability	<b>Group 1</b> Centres of mining districts (Olekminsk, Nyurba, Kodinsk, Beloyarsky) Manufacturing centres outside the main agricultural zone (Toropets, Valdai, Kstovo, Maloyaroslavets, Kondopoga) Manufacturing centres in agricultural areas (Aksay, Korocha, Novy Oskol, Zmeinogorsk, Laishevo)	<b>Group 2</b> Single cases — small towns with underdeveloped industry and mining in the territory of the district (Usolsky district — sylvinites, Dyurtyulinsky district — oil production)
	Low availability	<b>Group 3</b> Manufacturing centers outside the main agricultural belt (Borovichi, Gagarin, Melenki, Pudozh, Nerekhta) Manufacturing centers in agricultural areas (Budyonnovsk, Rossosh, Yadrin, Sergach, Sudzha) “Micro-cities” (Kholm, Beliy, Spas-Demensk, Novosil, Pustoshka, Maloarkhangelsk) Manufacturing centers in agglomeration (Timashevsk, Ust-Labinsk, Elabuga) Mining centers (Kotelnikovo, Uchaly, Osa, Chernushka).	<b>Group 4</b> Poorly developed municipal units and cities of the North Caucasus (Lagan, Urus-Martan, Shali, Gudermes, Mayskiy, Tyrnauz, Ardon, Ust-Dzheguta, Digora) Selected areas with depressive centres and periphery (Meshchovsk, Yuzha, Chermoz, Yelnya) Suburb of a large city — Mikhailovsk (Shpakovsky district of the Stavropol Krai) Shchelkino, Old Crimea

A reverse situation, where the availability of jobs in the city is significantly inferior to rural settlements, is very small and represented by isolated cases (group 2), when the center of the municipal unit is a small town with a poor economy, while in the rural settlements of the district there is active mining activity, which generates demand for labour resources. Unlike the previous group, where there are prerequisites for the emergence of rural—urban labour migrations, in this group the labour migration vector is directed oppositely.

The most easily explainable is the situation of municipal units in group 4, which has low job availability in both the central city and the surrounding countryside. It is either depressive small cities of central Russia, with industry destroyed in the post-Soviet period and

inefficient sector of agriculture, or cities (often — relatively large) of the North Caucasus. They combine underdevelopment and the high role of the shadow economy rather than formal employment.

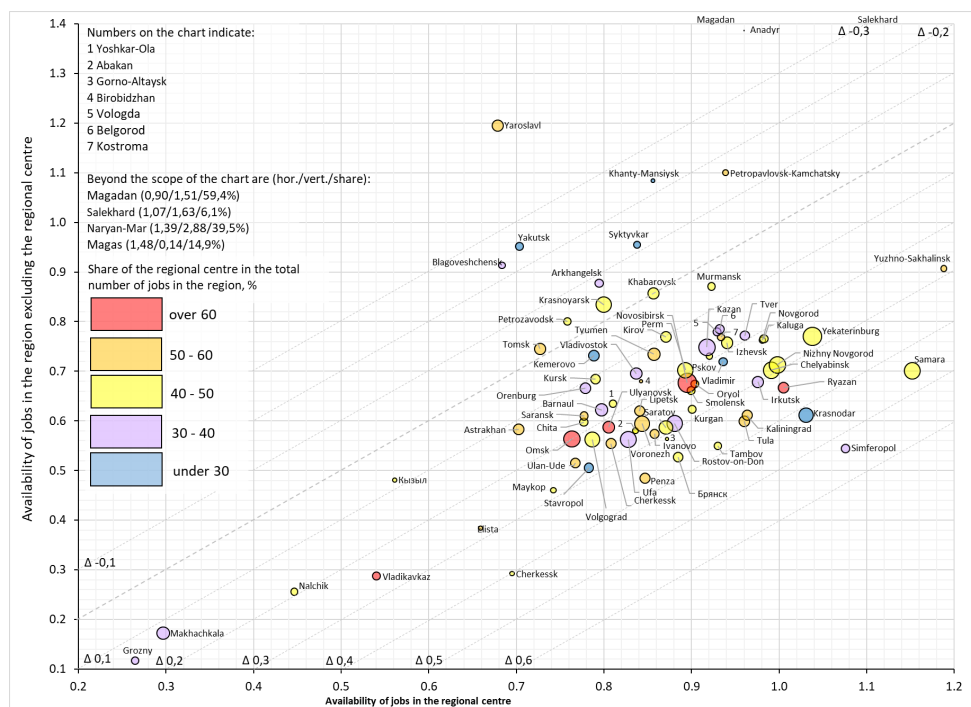
In the group of cities with high job availability in both urban and rural settlements, there are also several subgroups. First of all, these are local mining centers, where the extraction activities involve the territory of surrounding settlements. The second and third subgroups are represented by centers of the manufacturing industry, both in the main agricultural zone (in this case, high employment is caused by the development of agro-industrial complex), and beyond (where employment in rural settlements can be linked to manufacturing and forestry development). Extreme cases of high availability of jobs in rural settlements, along with the central city, also have an explanation (for example, the Balakovo Nuclear Power Plant is located in the nearest rural settlement, not in the city of Balakovo; in the Taman rural settlement of the Temryuk district, high jobs availability is associated with the emergence of over 12,000 new jobs in 2016 alone for the construction of the Crimean bridge, etc.).

The large variety of small towns of different subtypes indicates the existence of individual reasons for falling into groups 1 and 3: location in an area favourable to agriculture is not yet a guarantee for the emergence of a favourable situation in the rural labour market. The opposite is true — there are often situations where the rural environment of the city may have even more jobs than the central city, especially in the case of natural resources in the territory.

The situation in the labour markets of the largest cities, in particular, regional centres that determine the labour market of most of the regions of the Russian Federation (and often neighbouring regions), is also specific. In most regions (67 out of 80, excluding cities of federal subordination, Moscow and Leningrad oblasts) the availability of jobs in the regional center exceeds the indicators of the remaining territory (the position under the bar line in Fig. 8), which accounts for an average of 57.6 per cent of jobs and 64% of the population of working age. Differences between capital cities in the degree of concentration of jobs are quite large: the highest (over 60% of the total amount of jobs in the region) is in Omsk, Novosibirsk, Ulyanovsk, Ryazan and Vladikavkaz, the smallest (less than 30%) in Kemerovo, Krasnodar, Vladimir, Stavropol, Khanty-Mansiysk, etc .

A large positive difference in the level of jobs availability between the centre and the rest of the region is one of the factors of intensification of labour migration (the second factor is differences in wages).

Differences in job availability between the regional centre and the rest of the territory can reach two or more times even in regions where the centre is not overcrowded (for example, in the Republic of Crimea and the Republic of Ingushetia). The total number of regions in which the job availability gap is very large (0.3 or more) is 12; they include relatively large regions, such as the Samara oblast, the Krasnodar krai, the Penza and Tula oblasts. Minimal differences between the centre and the rest of the territory are in the regions of the North and the Far East with a non-agricultural profile of the economy in rural areas, as well as the presence of large non-capital industrial centers (for example, in the Arkhangelsk and Murmansk oblasts, the Republic of Komi, Republic of Karelia, Krasnoyarsk and Khabarovsk krais, the Tomsk oblast).



**Figure 8.** Availability of jobs (the ratio of the number of official jobs to the population of working age) in regional centres and in the rest of regions in 2016. Source: calculations on the basis of the data from the Federal Tax Service and MU DB.

## Conclusion. The current state of the urban labor markets in Russia

The contemporary labour market of Russian municipal units and cities, in particular, is experiencing contradictory trends. Economic stagnation and decrease of demand for labour resources, the reduction in the number of jobs that have become apparent since 2014 are combined with the demographic processes of the removal of a significant number of labour resources from the labour market (transition from working age to the over working age category). This allows to maintain and even slightly increase the employment rate, as well as to reduce the unemployment rate, which by the end of 2017 fell to its minimum value in post-Soviet history (5.2% according to the ILO methodology, which corresponds to the 1992 level). However, while national labour market indicators appear to be relatively stable and positive, at the lower territorial levels (regions and municipalities) strong differentiation remains. There are signs of divergence at the municipal level, i.e. increasing differences between territories, primarily on basic differentiating axes: city—village and big city—small city.

Data on the state of labour markets of Russian cities after 2010 indicate a strong differentiation between them depending on size. In small cities, the reduction of corporate employment (in large and medium-sized enterprises, in budgetary organizations) is more intense than in large cities and regional centers. The availability of jobs increases linearly with the

increase in the city's size, except for the group of the smallest towns with a population under 25,000 people. Regional labour markets of most regions of the Russian Federation are dominated by the regional centre: it has much higher availability of jobs than in all of the remaining territory. Compression of local labour markets of small towns and rural areas results in reproduction of socio-economic gradient and intensification of spatial mobility processes (both pendulum and temporary labour migration and permanent migration).

A transformative process of redistribution of labour resources between sectors (primary, secondary and tertiary) in the cities of Russia in the last decade occurs according to a scenario close to American-Asian model, but not as intense as in the late Soviet period and at the stage of market transformations, which was noted by A.I. Treyvish on the example of regions of Russia (Typology of regions 2008). This scenario implies an intensive reduction of agricultural employment in favour of the services sector without an intermediate stage with the growth of industrial employment (European model). Moreover, the cities of Russia experience severe reduction of employment in the sectors of material production and construction. In this regard, there is a tendency of low-quality tertiarization of the urban economy due to intensive employment growth in retail trade; it is particularly typical for the largest cities of the country.

Processes of transformation of local labour markets, as even incomplete data show, are very intensive, but at the moment they are investigated relatively poorly, primarily due to lack of information. The need to monitor the state of the labour market of Russian cities calls for the need to develop quantitative and relatively simple tools for their assessment. In the absence of relevant statistical information at the municipal level on labour markets from the Federal Statistical Service of the Russian Federation, the tax statistics of the Federal Tax Service of the Russian Federation remain, in fact, the only source of information, covering the territory of the country in a full range of enterprises and organizations. It is reasonable to use these data for annual monitoring of the labour market at the local level.

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## Reference list

- Antonov EV (2016) Labour mobility of the population of Russia (according to the 2010 All-Russian census data). *Moscow University Bulletin. Series 5: Geography*. 2: 54–63. (in Russian)
- Averkiewa KV, Antonov EV, Denisov EA, Faddeev AM (2015) Territorial Structure of the Urban System in the Northern Sverdlovsk Oblast. *Regional Research of Russia*.5(4): 349-361. DOI: 10.1134/S2079970515040036
- Economy of the cities of Russia. "Multistat" database. URL: [http://www.multistat.ru/?menu\\_id=9310014](http://www.multistat.ru/?menu_id=9310014). (in Russian)
- Federal Tax Service of the Russian Federation (FTS of the Russian Federation). Statistics and analytics. Data forms of statistical tax reporting by Form 5—personal income tax in the context of municipalities. URL: <https://www.nalog.ru>. (in Russian)



- Kuznetsova GY (2003) Geographical study of single-industry settlements in Russia: thesis.... Cand. of Geogr. Sciences. Moscow Pedagogical University. Moscow. (in Russian)
- Lyubovny VY, Kuznetsova GY, Lycheva TM et al. (2001) Methodological recommendations on the formation of territorial special programs to promote employment development in single-industry cities. Library of local governance. Vol. 41. Moscow, MNF. (in Russian)
- Makhrova AG, Bochkarev AN (2018) Analyzing local labor markets through commuting (a study of Moscow municipalities) *Vestnik of Saint Petersburg University. Earth Sciences.* 63(1): 56—68. <https://doi.org/10.21638/11701/spbu07.2018.104>
- Makhrova AG, Kirillov PL (2015) Seasonal fluctuations in population distribution within Moscow metropolitan area under travelling to second homes and labour commuting: approaches and estimations. *Regional studies.* 47(1): 117 — 125. (in Russian)
- Mikryukov NY (2016) Factors, problems and models of development of monocities in Russia: thesis.... Cand. of Geogr. Sciences. Lomonosov Moscow State University, Faculty of Geography. Moscow. (in Russian)
- Mkrtychyan NV, Florinskaya YF (2016) Socio-economic effects of labour migration from small towns of Russia. *Economic Issues.* 4: 103-123. (in Russian)
- Municipal Units Database of Rosstat (MU DB). URL: <http://www.gks.ru/dbscripts/munst/munst.htm>. (in Russian)
- Nefedova TG (2015) Employment of population and a phenomenon of seasonal work in the Stavropol Krai. *Moscow University Bulletin. Series 5: Geography.* 2: 93-100. (in Russian)
- Nefedova TG, Averkieva KV, Makhrova AG (Eds) (2016) Between the home and... home. Return spatial mobility of the population of Russia. A new chronograph. Moscow. [in Russian] DOI: 10.15356/BHAH2016
- Nekrasova EV (2012) Optimization of internal migration as a mechanism for solving the problems of monotowns in Sverdlovsk region. *Economy of the region.* 2: 315 — 320. (in Russian)
- Plyusnin YM, Zausaeva YD, Zhydkovich NN, Pozanenko AA (2013) *Seasonal Workers.* Moscow: A New Chronograph. (in Russian)
- Treyvish AI, Nefedova TG (2010) Cities and countryside: state and ratio in the space of Russia. *Regional studies.* 2: 42 — 57. (in Russian)
- Typology of regions by structure of employment in the economy (1960, 1975, 2002) (2008) In *National Atlas of Russia.* vol. 3: 462–463. URL: <http://национальныйатлас.рф/cd3/462-463/462-463.html>. (in Russian)
- Veliky PP (2010) Neotokhodnichestvo, or excessive people of the contemporary village. *Sociological research.* 9: 44-49. (in Russian)
- Vlasova NY, Kuznetsova GY, Lycheva TM, Lyubovny VY (1999) Issues of employment in monotowns of Russia. In *Proceedings of the international scientific-practical conference “Current state and prospects of employment and the labour market of Russia”.* Moscow. (in Russian)