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POPULATION GEOGRAPHY

Labor Markets of Urban Agglomerations in Russia[1]

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Abstract—The article analyzes the current state of the labor market in Russia's largest urban agglomerations. The zonal model of agglomeration (out of three elements) is applied to consider the indicator of official jobs security (formal employment) and wage level, as well as their differences with distance from the center. For this, tax reporting data from the Federal Tax Service are used that most fully characterize the state of the labor market and span the full range of enterprises and organizations. The balance method (ratio of supply and demand for labor) of existing disparities in the well-being and wage was used to assess all agglomerations in terms of the relative and absolute potential for labor migration development. A strong differentiation in the structure of the labor market in Russian agglomerations is demonstrated. The situation in the center of an agglomeration in the main turns out to be much better than on its periphery; however, cases of various combined indicators up to inversion are possible, when the center of an agglomeration lags behind its environs both in job saturation and wages. Based on the combination of these indicators, 12 groups of agglomerations were identified for which the need for a differentiated policy is substantiated. The policy is considered in more detail with a case study of four polar groups. The necessity of improving the legislative framework for managing labor market development in agglomerations is substantiated, which does not correspond to the challenges and needs posed by the current situation.

Keywords: labor market, employment, agglomerations of Russia, labor mobility, commuting, wages, delimitation, seasonal work, tax statistics

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INTRODUCTION AND FORMULATION OF THE PROBLEM

The spatial organization of the modern labor market is a complex structure. It combines many nodes, the key of which are places of employment and residence of workers, which are connected to a single whole by transport links. Complication of territorial organization of the economy and settlement pattern that accompanies agglomeration processes leads to the need to consider the labor market as a kind of continual system spanning vast territories around the center of an urban agglomeration. It can be expected that the characteristics and state of the labor market in different parts of agglomerations may have local characteristics depending on the location of the territory and the nature of the local economy, and that differences between them can initiate spontaneous and self-regulating processes of the redistribution of supply and demand for labor resources, which are realized through permanent or temporary labor migration.

So far, studies of the labor market in Russian agglomerations have been limited, focusing on some of them: Moscow (e.g., Makhrova and Bochkarev, 2018), St. Petersburg (Bugaev, 2015) and a number of others (Averkieva et al., 2015; Bedrina et al., 2018; Fedorova and Ponomareva, 2014; Iglovskaya, 2014; Kozlova and Makarova, 2016; Popov, 2018), which was associated with limited factual information. The study of labor markets in agglomerations requires immersion at a fairly low territorial level, the level of individual populated areas for which there is very limited statistical information. Thus, the study of labor markets in agglomerations is the next, synthesizing stage after considering the situation at the level of local labor markets (hereinafter referred to as LLM), studies on which have also been scant recently.

LLM research in Russia in the post-Soviet period was mainly based on periodic data from sample surveys (e.g., in relation to the most problematic group, single-industry towns (see Kuznetsova, 2003; Lyubovny et al., 2001; Mikryukov, 2016; Vlasova et al., 1999), or devoted to one of the main aspects determining specifics of LLM functioning as part of an agglomeration: labor commuting (Makhrova and Bochkarev, 2018; Makhrova and Kirillov, 2015) and *otkhodnichestvo* (Mkrtchyan and Florinskaya, 2016; Nefedova, 2015; Plyusnin et al., 2013). Generalizing works in which the situation in the LLM of municipalities would be considered are rare in Russia (Antonov,

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2016; *Mezhdu domom* ..., 2016; Treyvish and Nefedova, 2010). Some overview of the dynamics and state of labor markets in all cities of Russia in the post-Soviet period was presented by us earlier (Antonov, 2019). The methods and sources of information proposed in the study made it possible to form a basis for considering the state of LLM in all municipalities of Russia and therefore to analyze the state of LLM of the largest agglomerations of the country.

In the foreign literature on LLM of agglomerations, the most notable are studies on metropolitan statistical areas (MSA) in the United States, although there are not many of them, which has also been noted by American researchers (Mulligan et al., 2016). In a major summarizing work in recent times, Enrico Morreti (2012) examined the differentiation of labor markets in the largest metropolitan areas of the United States (about 320 in total) by key parameters: size, wages, educational level, industry structure, unemployment rate, etc. Based on the results from analyzing labor markets, the author reached a conclusion about the existence of "three Americas." On one pole are the growing high-tech centers with their prosperous labor markets; on the other, depressed old industrial areas with an aging workforce, poor and obsolete workers for the modern economy, and dwindling physical capital. Between them are hundreds of other small urban agglomerations whose futures have not yet been determined, but which, according to the author, must inevitably continue to drift to one of the two poles, while the overall differentiation will only increase. It should be noted that such a concept of internal stratification of socioeconomic space is popular among Russian researchers as well; the division of the country into "four Russias" by N.V. Zubarevich (2015) is significant. These and other comparative studies of US MSA labor markets (e.g., the more complex ten-member MSA typology based on the labor market (Mulligan et al., 2014) or study of their concentration processes (Azar el al., 2020)) treat each MSA on the whole as a single and internally homogeneous system, without paying any attention to their internal structures.

In contrast to the United States, comparative studies of labor markets in metropolitan areas in Europe are virtually nonexistent. This applies not only to the supranational level, but also to individual, even large countries with a developed system of urban agglomerations. Studies of LLM in Germany (Longhi et al., 2012), Great Britain (Webster, 2000), and France (Combes et al., 2015) focus on intracountry differences in individual labor market parameters (primarily wages and unemployment rate), without barely touching on the topic of agglomeration. Scenarios examining the functioning of labor markets within agglomerations are found in studies devoted primarily to delimiting agglomerations (Duranton 2015; Kanemoto and Kurima, 2005), mostly in relation to determining the size of the labor market and intensity of commuting (Strumsky et al., 2019) as criteria for identifying the boundaries of agglomerations themselves (Boix et al., 2012; Brezzi et al., 2012; Knapp and Schmitt, 2003). However, they are rather methodological in nature and make no attempt to show the real differences in labor markets within agglomerations.

This study proposes to study their internal structure with model examples of Russia's 35 largest agglomerations.[2] As an agglomeration model, it is proposed to use a belt model that subdivides agglomerations into a center, core, and their environs (see section *Materials and Methods*), indentified in accordance with transport accessibility (Antonov and Makhrova, 2019). In fact, it is proposed to consider two key characteristics of LLM of urban agglomerations in their belts: job availability and wage gradient. Thus, the use of the classical balance method makes it possible to assess the absolute (expressed in terms of people) potential for labor migrations, as well as its relative characteristics, which is determined by the observed disparities in jobs and wage level. In addition, as a result of the study, it is proposed to group the largest Russian agglomerations according to the potential for the development of labor migrations, which may be of practical value in developing measures to manage development of the labor market and improve an agglomeration's transport infrastructure.

MATERIALS AND METHODS

The current state of labor markets in agglomerations is considered based on 2016 data from statistical information presented in reports of regional divisions of the Federal Tax Service (FTS).[3] To assess the number of employees and size of wages for the full range of organizations, statistical tax reporting data in the form of 5-NDFL are used, making it possible to establish the number of individuals engaged in legal labor activity in a municipality, as well as the amount of remuneration for labor activity.[4]

The first of two indicators used to assess the state of LLM is *job security*, which means the ratio of the num-

[2] It is also necessary to stipulate that the belt models used for the Moscow and St. Petersburg agglomerations are somewhat rough, since their delimitation is based on the 2-h isochron of transport accessibility, but actual labor migrations spread far beyond its limits.

[3] Data for 2017 and 2018 are also currently available. However, comparison of the data for 2016 and 2017–2018 indicates a change in methodology for accounting for taxpayers and their deductions, most clearly visible in municipalities with large military contingents and in closed administrative-territorial units (ZATO in Russian) of the Russian Defense Ministry. Therefore, in order to exclude the subjective factor, 2016 data are used as the most complete to assess the internal structure.

[4] To calculate the wage level, data on income code 2000 are used (for a breakdown, see Order of the Federal Tax Service of Russia N MMB-7-11/387@ of September 10, 2014 (as amended on October 24, 2017) On approval of codes for types of income and deductions).

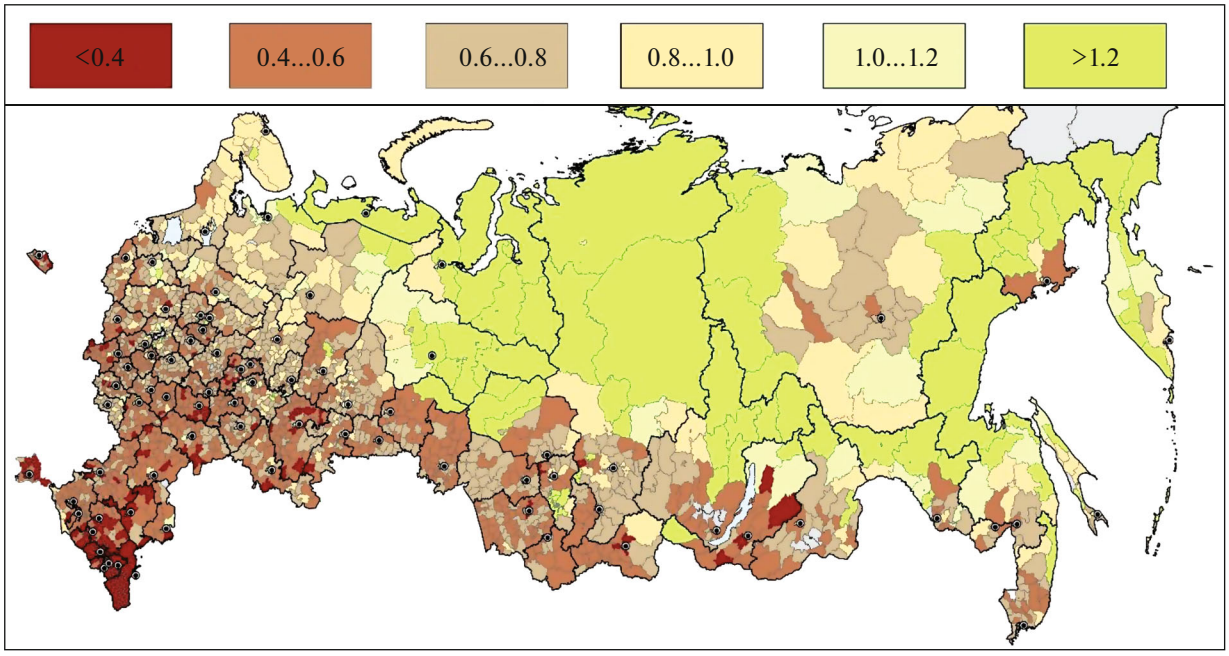

Fig. 1. Ratio of number of official jobs to working-age population in 2016.
Note: ZATO (closed administrative-territorial units), municipalities of the Chukotka Autonomous Okrug, and some MD of Irkutsk Oblast and Zabaykalsky Krai were excluded from consideration due to the lack of necessary data.
Source: calculated from data of Russian Federal Tax Service and Federal State Statistics Service database on municipal districts.

ber of jobs (formal) to the size of the economically active population (EAP). Since data on the number of EAP in the municipality context are not published, for an alternative assessment, our method is forced to use data on the size of the working-age population (the source is the database of munipal indicators, hereinafter referred to as RF FSSS MIDB). The used indicator can theoretically vary for municipalities from 0 to infinity; the actual average and median for municipal districts and urban districts in 2016 was 0.78 (Fig. 1). This value is below 1, which is explained by significant shadow employment, individual entrepreneurs and self-employed who do not pay income tax (21.2% on average in the Russian Federation in 2016, according to a Rosstat labor force survey), as well as incomplete participation of the working-age population in the labor force. The general nature of job security distribution among municipalities reveals several pronounced patterns that confirm the characteristic features of polarization of the Russian socioeconomic space: (1) "north–south," with increased values in the areas of rotational employment and in general in the northern and eastern regions of the country with higher living costs, pushing out the unemployed population; (2) "center–periphery," with increased values in regional centers; (3) "city–village," "large city–small town," when the level of provision increases almost linearly from rural areas to cities depending on the size of their population (with rare exceptions, see (Antonov, 2019)).

The second metric used is *relative wages*—the ratio of the average accrued wages for the year in the center of the agglomeration to the average value in the municipalities outside it, but inside the 2-h isochron. Since all municipalities of the agglomeration are located in relative proximity to each other, as a rule, within the same region, correction coefficients that could correct different costs of living in them are not introduced; nominal values are used.

When determining the boundaries of the belts of urban agglomerations and their municipalities, we use the delimitation results obtained in (Antonov and Makhrova, 2019) (Figs. 2a, 2b). The central urban district (UD) is considered the center of the agglomeration (polycentric agglomerations have two municipalities: in the Tula–Novomoskovsk agglomeration, the Tula and Novomoskovsk UDs; in the Samara–Tolyatti agglomeration, the Samara and Tolyatti UD); this is the conditional first belt of the agglomeration. The center and all adjacent municipalities—urban and municipal districts (MD)—are taken as the core. We consider the core without the center to be the second belt. As the environs, we consider all municipalities according to the basic version of delimiting an agglomeration without the municipalities of the core (third belt).

RESULTS

The distribution of the number of official jobs by conditional belts of all considered agglomerations

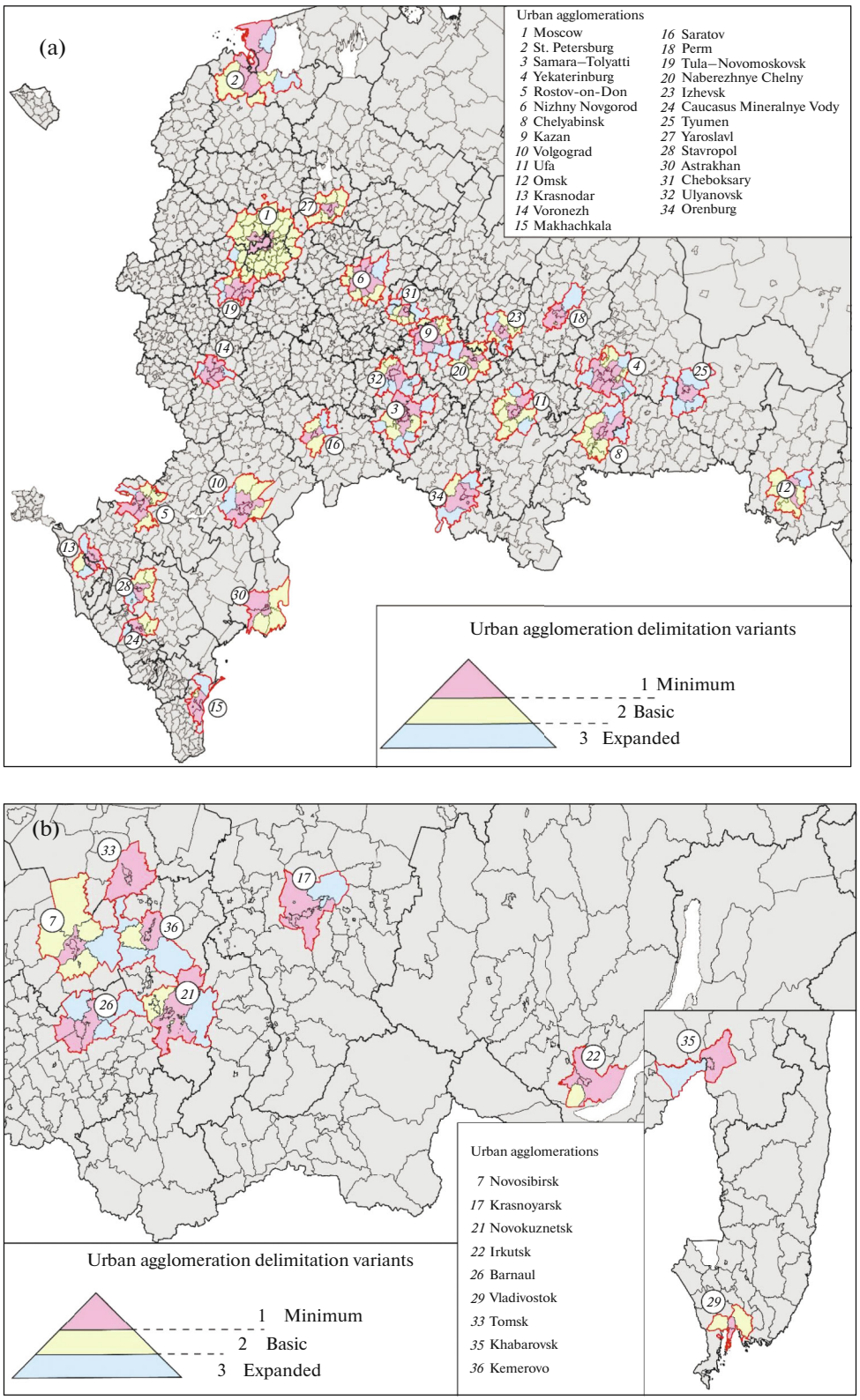

Fig. 2. Borders of largest urban agglomerations according to different delimitation variants: (a) European Russia, (b) Asian Russia.
Source: (Antonov and Makhrova, 2019).

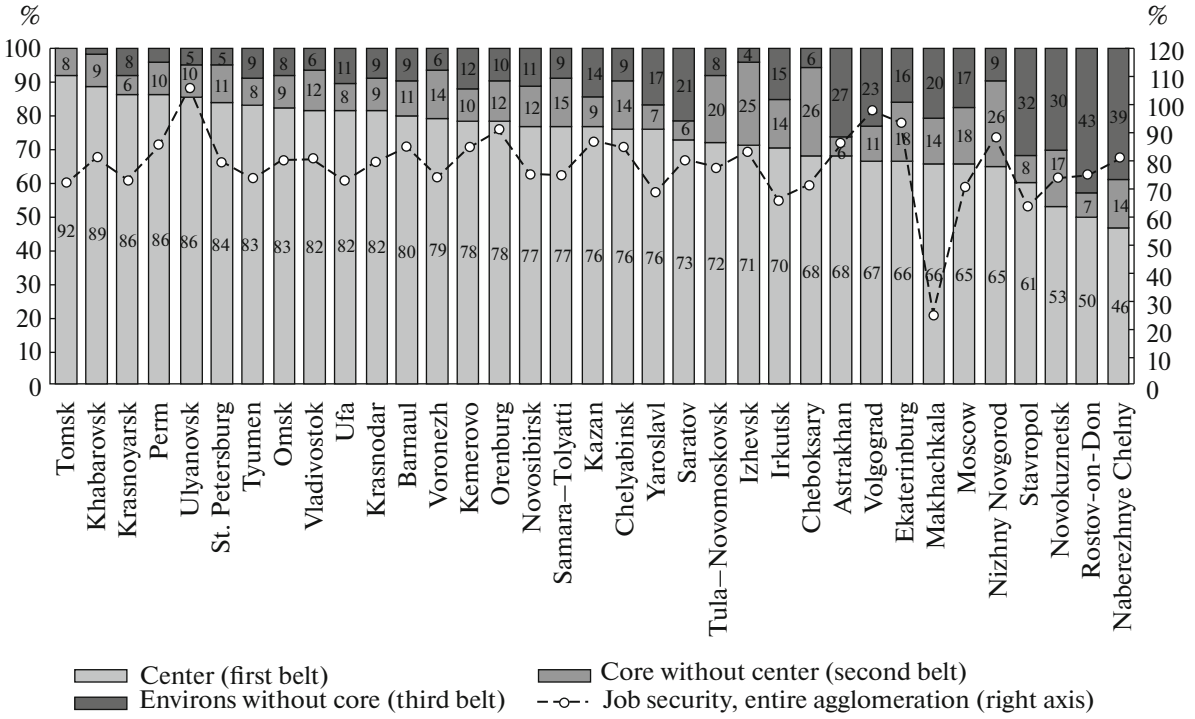

Fig. 3. Distribution of number of official jobs in largest agglomerations of Russia in 2016 between different belts, %, and overall job security for entire agglomeration, %.
Source: calculated according to data of Russian Federal Tax Service and Federal State Statistics Service database on municipal districts.

shows that, on average, 28% are located outside the central city (cities) (Fig. 3), with about 12.4% in neighboring first-order municipalities and another 15.6% in the remaining municipalities (if it goes beyond the boundaries of first-order neighbors). The highest concentration of employed people is typical of most agglomerations of Eastern Russia that do not have a developed suburban zone. The maximum dispersion of employment within the agglomeration is observed in federal subjects of the South and Volga region with a denser settlement pattern and developed agroindustrial complex, a developed network of cities surrounding the agglomeration center, and some industrially developed agglomerations (Naberezhnye Chelny, Novokuznetsk, Nizhny Novgorod, Yekaterinburg, etc.).

The agglomerations of St. Petersburg, Moscow, Yekaterinburg, Samara–Tolyatti, Nizhny Novgorod, Chelyabinsk, and Izhevsk are characterized by the highest job security (over 85%) (see Fig. 3). Apparently, there is a shortage of labor resources in the central city, taking into account informal employment and even the smaller job saturation in the periphery. The lowest security in terms of official jobs is observed in certain agglomerations of Southern Russia, especially Makhachkala, Stavropol, Astrakhan (in which, among other things informal employment plays a large role). This differentiation illustrates diametrically opposed forms of employment in labor markets: more institutionalized and formal in the largest agglomerations of million-plus cities and with the maximum share of informal and shadow employment in southern regions.

In most cases, the center of the agglomeration has higher job security than the surrounding municipalities: with an increase in theoretical boundaries, only in four agglomerations in the second belt does job security increase (Fig. 4). Only the agglomerations of Yaroslavl (primarly due to the high availability in the Yaroslavl, Rostov, and Gavrilov-Yamsky MD), Saratov, Novokuznetsk and Naberezhnye Chelny (due to the Yelabuga, Nizhnekamsk, Tukayevsky MD), on average, benefit from expansion of their agglomeration zone, and the level of security in them increases from the center to the periphery, which is an atypical situation.

As a relative measure, we can consider the job security gradient (as the availability of a fundamental opportunity for employment (Fig. 5, value of Δ) between the center and the rest of the agglomeration municipalities, i.e., between belts 1 and 2 + 3 in the accepted terminology. As a measure of the absolute potential for labor migration, it is possible to use the difference between the number of jobs and the size of the working-age population in territories outside the

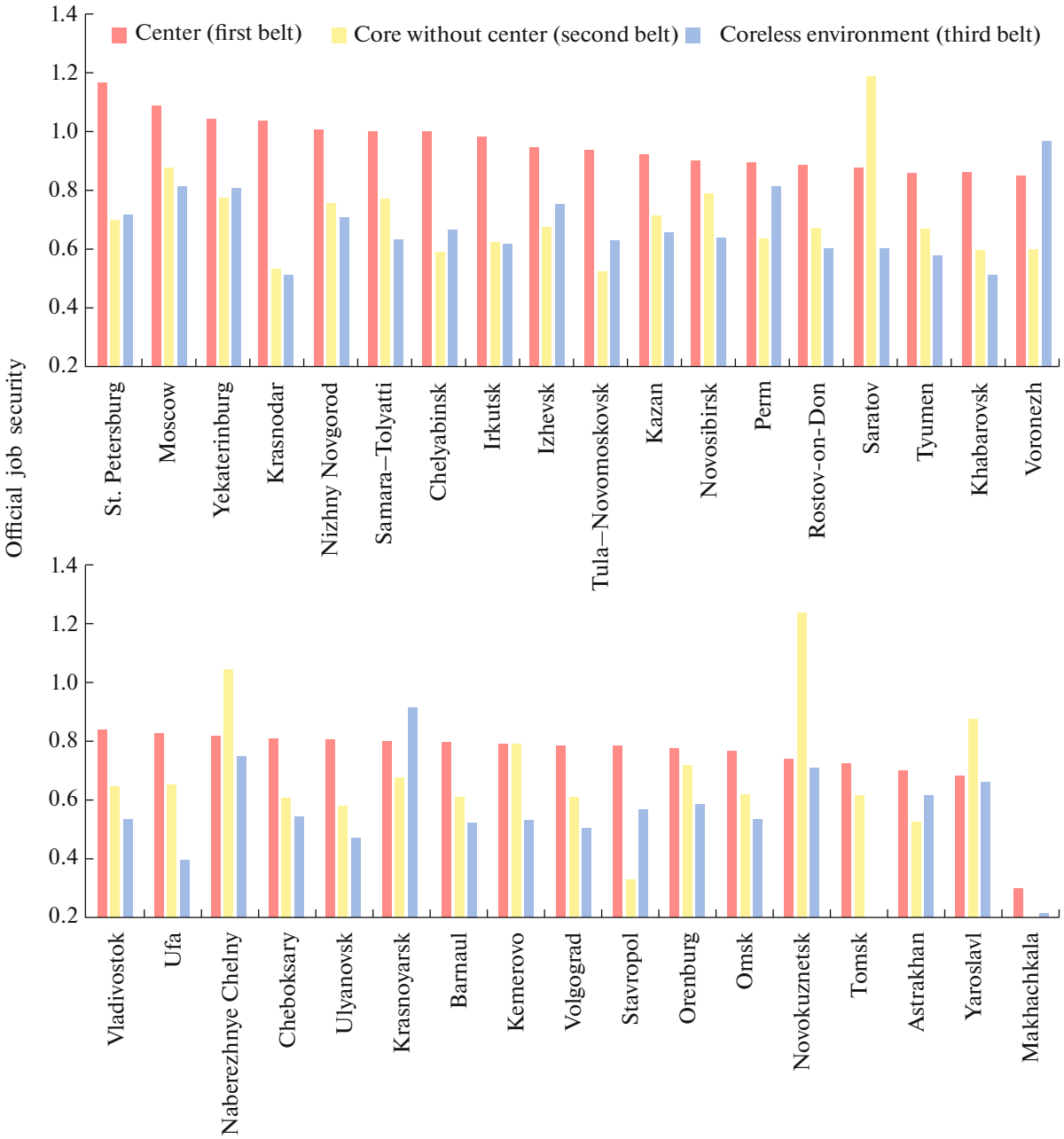

Fig. 4. Official jobs security (ratio of number of jobs to population of working age) in largest agglomerations of Russia in 2016.
Note: central urban district is considered center of agglomeration (two municipalities each for Tula–Novomoskovsk agglomeration—Tula and Novomoskovsk; and for Samara–Tolyatti—Samara and Tolyatti).
Source: calculations based on data from Russian Federal Tax Service and Federal State Statistics Service database on municipal districts.

center of the agglomeration (the size of the circle for the agglomeration in Fig. 5).

The greatest relative potential for the development of labor migration in terms of job security is observed in the agglomerations of Krasnodar and St. Petersburg, as well as, but to a lesser extent, in the agglomerations of Tula–Novomoskovsk, Chelyabinsk, Irkutsk, and Ufa. The prerequisites for this are minimal in the agglomerations of Yaroslavl, Novokuznetsk, Krasnoyarsk, and Naberezhnye Chelny, where the differences between the center and periphery in terms of job security are the lowest among all the largest agglomerations.

The agglomerations of Moscow (838000), Rostov-on-Don (318000), Makhachkala (312000), Caucasus Mineralnye Vody (292000), St. Petersburg (250000),

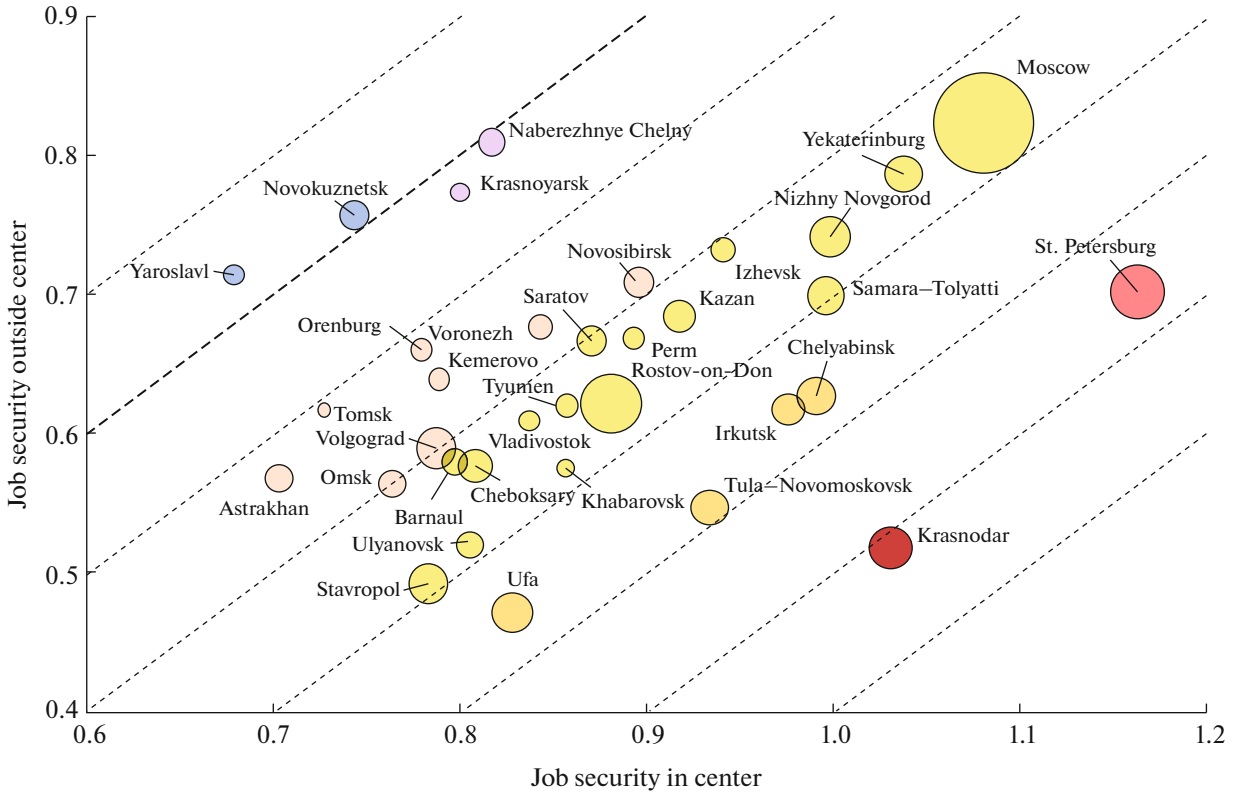

Fig. 5. Relative and absolute potential for development of labor migrations to a center in largest agglomerations of Russia in 2016. Area of circle is proportional to difference between working-age population and number of official jobs.
Note: calculations do not take into account closed cities that are part of an agglomeration. Makhachkala agglomeration (0.30/0.19—Δ0.11) is located outside area of graph.
Source: calculations based on data from Russian Federal Tax Service and Federal State Statistics Service database on municipal districts.

and Krasnodar (154000) are distinguished by the size of the absolute potential (shortage of jobs in the agglomeration outside the center). The total aggregate potential (shortage of jobs) in the largest agglomerations of the country is estimated at 4.5 mln.

DISCUSSION

In addition to the job security gradient, standard monocentric models of labor market organization in large cities and metropolitan areas imply the existence of a wage gradient between the central districts (central business district) and the periphery. It is this gradient that makes it possible to fulfill the so-called equilibrium utility of workers (Rosen, 1979; Roback, 1982), which is determined by the ratio of their wages and total cost of living, differentiated depending on distance from the center of the agglomeration and primarily determined by housing costs (Bartik and Eberts, 2006). Empirical studies carried out in some US cities (Eberts, 1981; Timothy and Wheaton, 2001) show that the difference in wages between the center and periphery of an MSA reaches 15%, while the differences in wages between an MSA are significantly larger (Beeson and Eberts, 1989; Moretti, 2012). In both cases—intra- and interagglomeration differentiation of wages—the key role is played not by the personal characteristics of the labor force (level of education, qualifications, etc.), but by the geographical factor and internal features of the LLM. In particular, the level of wages in the same professions in different MSA for employees with the same skill and education level may differ by a factor of several. This also applies to both high- (engineers, researchers, lawyers) and low-skilled workers. Moretti (2012) identifies the following as the key factors determining the differences in wages between agglomerations: the presence or absence of an industry driver of the economy (or, conversely, an inefficient industry acting as a brake), the level of innovative activity, and cost of living.

The available tax statistics on wages make it possible to estimate the wages gradient within Russian agglomerations. These estimates (Fig. 6) indicate the existence of significantly greater differences between the center of the agglomeration and its periphery compared to, e.g., the United States: in the agglomerations of Moscow and St. Petersburg, they are greater than 50%, while in more than half of all agglomerations, the

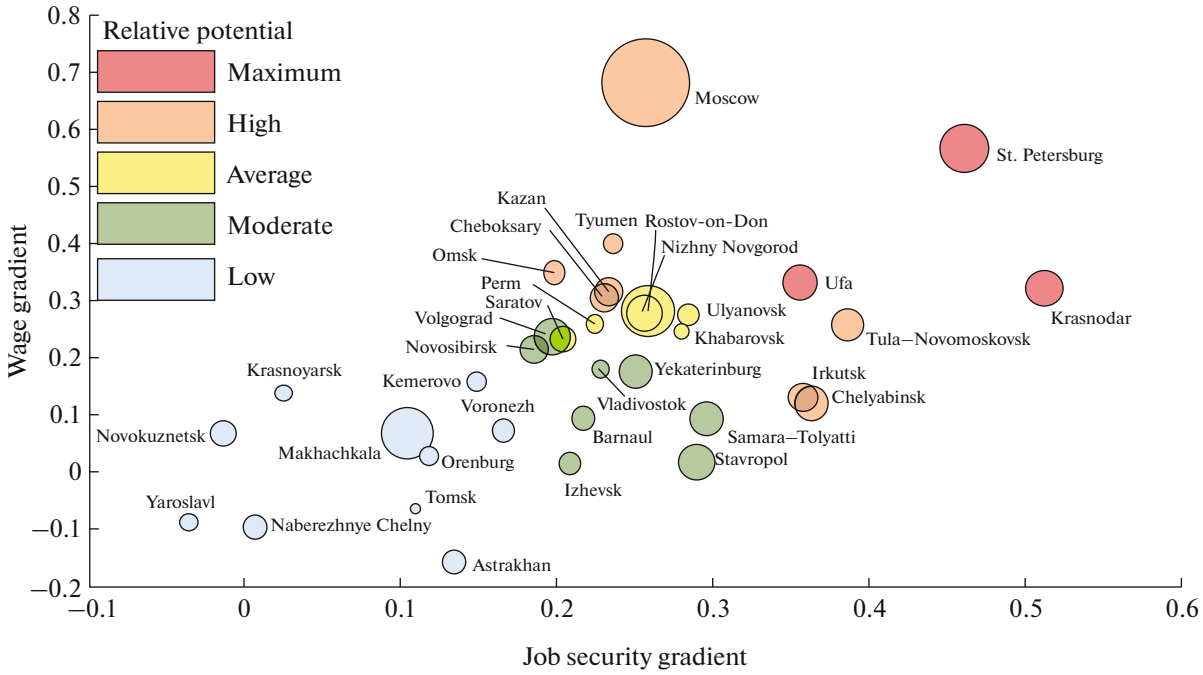

Fig. 6. Assessment of potential for development of labor migrations between center of largest agglomerations of Russia and their surroundings in 2016.
Note: Size (area) of circle is directly proportional to absolute potential for labor migrations flows (size of working-age population surrounded by agglomeration without jobs).
Source: calculations based on data from Russian Federal Tax Service and Federal State Statistics Service database on municipal districts.

differences are 20% or more. Such high wage gradients within agglomerations should spur permanent and temporary labor migrations. It is possible to quantify the potential for development of the latter.

The assessment of the potential for labor migration development is based on the combined wage and security in terms of official jobs gradients for the population of the center (a central city or several cities in the case of polycentric agglomerations) and the rest of the agglomeration within 2-h isochron of transport accessibility. Agglomerations are grouped on three bases: relative potential (wage and security gradients) and absolute potential, estimated by the size of the working-age population outside the agglomeration center not provided with official jobs in their municipalities (see Fig. 6). In most cases, assessment of the absolute potential can deviate from the real balance of labor resources because informal employment is not taken into account in this simplified model (especially for the southern European Russia) and the existence of substitute labor migrations to municipalities surrounding the agglomeration from outside (in particular, in the Moscow and St. Petersburg agglomerations). It is not possible to reliably assess substitute labor migrations at the municipal level based on the available data.

The existence of a high relative and absolute potential does still says nothing about real labor migrations with the corresponding intensity within an agglomeration. In a number of cases, especially within the influence of the Moscow and St. Petersburg agglomerations, labor migration is initiated and proceeds not within the agglomerations of regional centers themselves, but between their environs and Moscow and St. Petersburg (i.e., the environs of one agglomeration and the center of the other). In this case, the relative remoteness, even in the case of a relatively developed transport infrastructure, leads to the development of not labor commuting, but periodic, rotating ones. In addition to Moscow and St. Petersburg, such powerful acceptors include, first of all, the oil and gas producing okrugs of Tyumen oblast.

The group of agglomerations with the maximum relative potential includes those with high job security and wage gradients (see Fig. 6). Thus, they have two key prerequisites that push out the labor resources of the environs: the impossibility of fundamentally ensuring full employment at the place of residence with better prospects in the center of an agglomeration, as well as powerful wage disparity that compensates for the costs of outside employment and labor migration. Among such agglomerations (assuming conditional boundaries for gradients of 0.3, Table 1), one (St. Petersburg) had an absolute potential of over 250000 people, and two others (Krasnodar and Ufa), from 100 to 250000 people.

Table 1. Groups of agglomerations by potential for development of labor migration

Relative potential for development of labor migration	Absolute potential for development of labor migrations (unemployed environs of center of agglomeration in the second and third belts)		
	>250000	100000–250000	up to 10000
Maximum (both gradients 0.3 or more)	*St. Petersburg*	**Krasnodar** **Ufa**	
High (one gradient of 0.3 or more)	*Moscow*	**Chelyabinsk** **Tula–Novomoskovsk**	*Cheboksary* *Kazan* **Irkutsk** *Omsk* *Tyumen*
Medium (both gradients 0.2–0.3)	*Rostov-on-Don*	*Nizhny Novgorod*	*Saratov* **Ulyanovsk** *Perm* **Khabarovsk**
Moderate (one gradient 0.2–0.3)		*Volgograd* *Stavropol* **Samara–Tolyatti** **Yekaterinburg**	*Novosibirsk* **Barnaul** **Izhevsk** **Vladivostok**
Low (both gradients less than 0.2)	**Makhachkala**		*Novokuznetsk* **Astrakhan** **Naberezhnye Chelny** **Voronezh** *Kemerovo* **Orenburg** Yaroslavl *Krasnoyarsk* **Tomsk**

Within the group, agglomerations are ranked according to the absolute potential for development of labor migration. *Italics* denote agglomerations where the wage gradient dominates; **bold**, job security gradient.

To be included in the group with a high relative potential, at least one gradient greater than 0.3 is required, regardless of the values of the second gradient. It is assumed that the imbalances themselves, at least in terms of tension in the labor market (job security) or wages, should spur labor migration. In addition to the largest, Moscow agglomeration, the Chelyabinsk and Tula–Novomoskovsk agglomerations stand out in terms of absolute potential, while their leading gradients are the job security. The agglomerations of Cheboksary, Kazan, Irkutsk, Omsk and Tyumen have an insignificant absolute potential in this group.

Agglomerations with an average relative potential have both gradients with values of 0.2–0.3. Among large agglomerations (in absolute potential), these include those of Rostov-on-Don (318000 people) and Nizhny Novgorod (139000 people). In four more agglomerations, the absolute potential is less than 100000 people.

A group with a moderate potential combines agglomerations in which at least one of the gradients is 0.2–0.3. The prerequisites for the development of labor migration in them are limited, even taking into account the presence of several agglomerations with large absolute potential (in particular, the Volgograd, Stavropol, Samara–Tolyatti, Yekaterinburg agglomerations).

If none of the gradients exceeds 0.2, the agglomerations are assigned to the group with a low relative potential. One of these, Makhachkala, has an absolute potential that is very large (third place among all agglomerations in Russia and over 300000 working-age people with no official work in the surroundings of the center of the agglomeration), but is largely compensated by employment in the informal sector. Nine more agglomerations, in addition to the low relative potential, have a small absolute potential. For all agglomerations of this group, the prerequisites for the labor migration flow are assessed as low.

A wide variety of labor market structures in Russian agglomerations requires a differentiated approach to their management. We proceed from two premises: the place of residence of labor resources should be as close as possible to the place of employment. In addition, we believe that large Russian agglomerations should

Table 2. Possible strategies for managing labor markets of agglomerations of various groups

Group no.	Description of group	Examples of agglomerations	Possible activities
1	Low job security in general throughout agglomeration	Makhachkala, Astrakhan, Yaroslavl, etc.	Stimulating job creation, supporting small business, institutionalizing informal employment, integration with neighboring agglomerations
2	High absolute and relative potential for labor migration (high job security in center, low security in periphery, high wage gradient, high job shortage)	St. Petersburg, Krasnodar, Ufa	Development of intra-agglomeration transport infrastructure, curbing population growth in suburban zone
3	High gradient in job security, low wage gradient, average absolute labor migration potential	Samara–Tolyatti, Stavropol, Irkutsk, Chelyabinsk, Tula–Novomoskovsk	Stimulating job creation, supporting small business
4	Inversion or absence of significant differences in job security between center and other belts of agglomeration	Novokuznetsk, Naberezhnye Chelny, Krasnoyarsk, Saratov	Accelerated development of residential function of suburban zone of agglomeration, development of transport infrastructure, and inclusion of peripheral zones in labor migration

have maximum internal self-sufficiency in terms of job security for the population, which means that long-distance (interregional) migrations outside the diurnal rhythm should also be minimized, except for cases when this is the most rational in terms of living conditions (e.g., shift work in the Far North).

The first of the target groups of agglomerations requiring specific labor market policies are those with low overall job security. This group (item 1, Table 2) includes, first of all, the agglomerations of Southern Russia and the Volga region. For them, priority areas may be activities aimed at supporting new job creation, primarily in small business. In addition, these regions still have a high proportion of informal employment and self-employment, with respect to which an institutionalization policy is advisable: creating conditions for existence in the legal field. For some agglomerations, the problem of a job shortage can be partially mitigated by integration with the labor markets of larger agglomerations (e.g., for the Yaroslavl agglomeration, from the Moscow capital agglomeration), which may be possible via infrastructure projects.

A different policy, in our opinion, should be implemented in agglomerations with generally good job security, but strong internal differences between the center and surrounding belts (item 2, Table 2). These are large agglomerations, the shortage of jobs on the periphery of which is unlikely to be overcome in the near future via economic incentives (taking into account the overall recession in the economy). It is advisable to solve the problem of the labor market surrounding the agglomeration here through the development of intra-agglomeration transport infrastructure in order to facilitate access of labor resources to the labor-deficient center. Without the appropriate development of such an infrastructure, it seems inappropriate to accelerate the development of the residential function of the suburban zones of agglomerations of this group, which will only further exacerbate labor market problems in peripheral belts.

The third group for which a special policy is advisable in relation to the labor market includes many agglomerations with a developed industrial function (item 3, Table 2). In these, the municipalities of the core are saturated with industrial employment, but the wage level in them hardly differs from the peripheral belts. As a result, monetary incentives for development of labor migration are small and if such migrations happen, it yields no significant economic dividends for the population. In order to saturate the suburban and peripheral belts with at least some type of employment, it seems feasible to stimulate new job creation (in small business, in the service sector).

Lastly, the policy in relation to agglomerations may be quite different, in which there is an inverse situation with job and wage saturation between the center and the rest of the agglomeration belts (item 4, Table 2). For these, the development of suburban transport infrastructure is not a limiting factor. For such agglomerations, it may be advisable to accelerate the development of the suburban zone to cover the potential shortage of labor resources, not from labor migrants from the center, but from their own labor resources and the inclusion of remote agglomeration belts in labor migration (strengthening of second-order centers).

Achieving the goals of labor market development and implementation of indicated measures is impossi-

ble without synchronized planning and intermunicipal cooperation within agglomerations. In Russian practice, however, this happen very rarely due to the lack of mechanisms for implementing and delineating authority between local governments of different municipalities. Despite the fact that the socioeconomic development strategies of regions hosting large agglomerations declare the need for the coordinated development of labor markets within agglomerations, actual measures to develop transport infrastructure, economic support measures and incentives in the labor market falls on the shoulders of municipal self-governing bodies. They must ensure achievement of target indicators of their own activities, which can often run counter to the goals of the coordinated development of a larger structure—an agglomeration. Therefore, to successfully reform the labor market so that it meets the challenges of the time, new legislative support is required, which should secure for all stakeholders the rights, responsibilities, and funding sources for the necessary activities.

CONCLUSIONS

The results obtained allow us to draw the following main conclusions.

(1) There is a strong differentiation in the structure of the labor market in Russian agglomerations. The situation on the labor market in the center of an agglomeration (both in terms of job security and wage level) in most agglomerations is much better than in their peripheries; however, various combinations of these parameters are possible in different groups of agglomerations, up to inversion.

(2) The existing job security and wage gradients create the prerequisites for development of labor migration between different agglomeration belts. These prerequisites do not always translate into real labor migrations due to the peculiarities of geographic location (the influence of neighboring agglomerations) and different levels of transport infrastructure development. At the same time, the obtained estimates for the relative and absolute potential (based on the balance of labor resources) can be used as an indirect indicator for assessing the intensity of labor migration along with direct observation methods.

(3) Based on the situation in the labor markets of agglomerations and the existing differences within belts, a differentiated policy for managing labor markets would be expedient.

(4) For now, the goals of coordinated development of labor markets in Russian agglomerations are limited by institutional barriers and imperfect legislation.

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CONFLICT OF INTEREST

The author declares no conflict of interest.

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