

Demographic Transformation of Post-Soviet Cities of Russia

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Abstract—The dynamics of the system of cities in Russia in 1989–2010 is analyzed based on the population census data in 1989, 2002, and 2010, as well as the current population register. The extent of the decline or less often of the increase of the population size are considered for cities of different sizes for each intercensal period (1989–2002 and 2002–2010) and factors contributing to this are noted. The change in the population size of cities is analyzed, depending on their size and geographical location, expressed in the distance to the center of the federal subject. It turned out that in the 1990s and in the 2000s, the population of cities of different sizes, but located at a distance of up to 50 km from the regional center increased, and at greater distances the dynamics were not so well-defined. The dependence of the growth/decline of the population of cities on their size is more variable: the population of cities of different sizes both grew and declined. The dynamics of the natural increase and migration increase of cities with different sizes of population show that the higher the population size the greater the importance of migration increase as a compensator of natural decrease.

Keywords: urbanization, settlement system, city, distance, size of the city, migratory increase

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In Soviet times, it was natural and familiar to write about changes in the system of settlements: industrialization forged not only new machines, stoves, and pipes but also new cities that replaced, at the same time, old villages and towns. The changes were visible and it seemed necessary and proper to analyze them. In the post-Soviet period, interest in this topic has markedly subsided. It seems that everything now is at a standstill: everything that has been formed is fine; however, first depopulation, problems with finances and infrastructure, followed by institutional factors of varying severity (e.g., Federal Law no. 131-FZ of October 6, 2003 “On the General Principles of Local Self-Government in the Russian Federation”), and globalization (or rather different attitude and inclusion of different areas in it) put the thesis about the sustainability of the settlement system in serious doubt.

The current Russian system of settlements is very different from the Soviet system, both qualitatively and quantitatively. Urbanists, architects, sociologists, etc., try to write about the qualitative side—about the merging of the imperial socialist principles with the pseudo-capitalistic principles. The quantitative side always seems to be easier, but as applied to the settlement in the RSFSR—Russia it does not look easy. In 1989, 147 million people lived in Russia, in 1037 cities, 2193 urban-type settlements (UTSs) and 152922 rural-type settlements (RTSs). By 2010, Rus-

sia inherited 142.9 million people distributed over 1100 cities, 1286 UTSs and 153124 RTSs¹, 19416 (12.7%) of which, however, remained without a permanent population. At first glance, the system of UTSs underwent the biggest transformations, whose number decreased over 1989–2010 by more than 40% (907). However, it is not entirely so: much was transformed, not only the system of UTSs.

The increase in the number of cities is inexpressive: over twenty odd years, 63 cities were added. At the same time, more than two dozen cities (closed administrative-territorial formations (CATFs))² were opened to the world. Several dozen UTSs became cities through the standard Soviet way of developing the urban system. About another ten towns became cities, having stepped out of RTSs, and bypassing the stage of UTSs (including, Moskovskiy, Urus-Martan and Shali in Chechen Republic, northern Muravlenko, and Polysayeyvo). At the same time, nearly 20 cities, for some reason (inclusion in other larger cities, transformation into UTSs or RTSs) disappeared. Thus, compared to previous periods, when only in the European

¹ In parallel with this, the same people lived in 516 urban districts and in 1825 municipal districts // Results of the National Population Census 2010. T 1. Size and distribution of the population. M.: Rosstat, 2012. http://www.gks.ru/free_doc/new_site/perepis2010/croc/perepis_itogi1612.htm.

² For further details see [6].

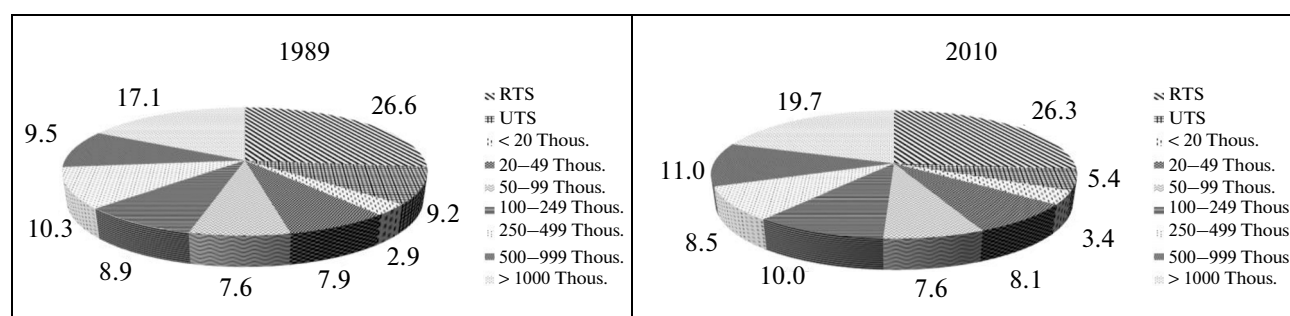


Fig. 1. Russia's population size living in cities of varying population size, urban-type settlements (UTSs) and rural-type settlements (RTSs), %.

Author's calculations based on the data: RSFSR Urban settlements according to the Soviet census of 1989, Moscow: RIITs, 1991; Results of the National Population Census 2010 T 1. Size and distribution of the population. Moscow: Federal State Statistics Service, in 2012.

part of Russia, 115 new cities were formed in 1946–1958 (i.e., nine cities per annum) and in 1959–1991, when 135 cities (four per annum) were formed [1, p. 128], the changes did not seem significant.

The redistribution of the population between settlements of different sizes shows that the biggest transformation in the 1990s occurred in cities with a population of 250 000 to 499 000 and 500 000 to 1 million people. The population from the former settlements shifted to the latter settlements (Fig. 1). In the background of the Russian depopulation, such changes show, firstly, a trend towards the concentration of the population not just in cities, as in the 1960s–1970s, but in the largest cities.

The second explanation is also based on depopulation, but from spatial position: in the background of the general decline in the number of residents, there was the growing importance of all the southern cities of the North Caucasus republics that were still growing, which affected the quantitative picture of the redistribution.

Finally, a third explanation lies in the administrative and statistical surface: the change in the boundaries of cities due to the attachment of other settlements (mostly UTSs, but also RTSs) has played a significant role in the formal real redistribution of the population. However, just as earlier, the population of the city itself and the population of the city with its municipalities were taken to be the population of the city. They differed quite significantly: in 1989, the population of Bryansk, for example, was 448 026, and the population with its urban-type settlements (UTSs Belye Berega, Bolshoye Polpino, and Radica-Krylovka) was 469 410, i.e., a difference of 5%, or the population of one medium-sized rural area.

Just as earlier, the analysis today continues to be hampered by errors or even the lack of statistical data. For example, to understand how the system of settlement was changed, it is desirable to have the data on

the size and structure of the population and migration flows to the lowest possible hierarchical level (up to villages) and for as long a period as possible. In reality, we do not have any data for any long period of time on a historical time scale (even for the postwar period, there is no continuous statistical series), or at the village level. Moreover, it is only at this detailed level that we can judge the real transformation processes of the rural settlement system. How villages in Central Russia or South Siberia are becoming extinct can now be judged by the works describing some regions or areas. To such works, we could include, for example, the works of T.G. Nefedova and N.E. Pokrovsky for Kostroma region [11, 14]; L.E. Fuchs' book about resettlement in Western Siberia [15]; the article written by J.A. Zayonchkovskaya and G.V. Ioffe about the resettlement transformations in the Moscow region [17]; and the work of A.G. Makhrova, T.G. Nefedova, and A.I. Treyvish for the Moscow region [8].

In this paper, however, a different task was posed: to aggregate the data across the country at the lowest possible hierarchical level. We wanted to know (a) whether there are general laws for the country in the development of urban settlements; whether trends of the dynamics depend on the population size or factors of spatial location, or whether in the transformational-crisis period, only socio-economic factors were significant (in other words, is it more important to be located in the center, to be "large" or "sit on oil?"); (b) the specificity of the macroterritories of South, Central or North Russia; and (c) where the stability of the urban network is higher—in the area where there is one giant city and a dozen small ones, or where there are several cities of roughly equal size? These are not all the questions and not all of them have been given consistent and thorough responses in the text; however, the formulation seems to be appropriate and relevant.

In this paper, the sources of information involved materials of three censuses (1989, 2002 and 2010) and the data of the current register³ for 1991–2011, obtained through the statistical portal Multistat (database Economy of Russian cities).

About 1100 cities of Russia, which had a continuous series of data over the years, were the object of analysis. As the dynamics were analyzed, the continuity of the series was perhaps the most important requirement for statistical information. Therefore, 40 cities were excluded from the analysis based on the population current accounting data, whose details appeared as they arose: statistical (e.g., for CATF that statistically existed in closed mode earlier) or real (in connection with the assignment of the status of a city) or, conversely, as they disappeared due to accession to another city. For example, Kayerkan and Petergof were thus removed from the analysis. The first one was merged with Norilsk, the second one was merged with St. Petersburg. In the study there are no new cities such as Stroitel' (Belgorod region) or Magas (Ingushetia). For obvious reasons, the data on Grozny was also not considered.

Comparative analysis of the census data in 2002 and 1989 showed that the country's population of 1.8 million exceeded the population calculated from the data of the current register, which was attributed to migration, or more precisely to arrivals from the CIS and Baltic countries. Between the censuses of 2002 and 2010, a similar adjustment of the current register's data amounted to almost one million people.

At the same time, the territorial projection of this underestimation was different; it can be judged indirectly by the difference in the census data and estimates of its date [9]. Migration registration in Russia in the post-Soviet period was changed several times and this was reflected in different ways in these specific cities and regions. Local statistical bodies interpreted innovations in different ways: some faster, others slower. Analysis of the five-year cumulative and aggregate indices in this case not only facilitates the analysis, by reducing the considered numbers but also helps to neutralize the influence of the problems associated with the change of the registration method.

GENERAL DYNAMICS OF URBAN POPULATION

The Russian depopulation in 1990–2000 was manifested in a reduction of the population of most cities. Such a situation occurred in at least half of all cities in the first (1989–2002) and in the second (2002–2010) intercensal periods. The situation in the 1990s and 2000s was different in acuity of manifestation, but had similarities in territorial localization and in the causes of the observed dynamics.

³ Analysis of the events of natural and migratory population movements that are recorded administratively and have legal status (birth, death, marriage, divorce, arrival, departure).

In 1989–2002 compared to 2002–2010, all the processes were more sharply associated with an increase in the population size and with its fall. It so happened that evolutionary and revolutionary demographic changes, if the systemic economic crisis in all its manifestations can be regarded as such a change, were more clearly manifested in the 1990s. The cities stratified under the influence of demographic and socioeconomic factors:

—old age structure and natural population decline in old industrial regions and cities of central Russia; the natural increase in the south of Russia and in the republics that have not passed to the end of the demographic transition and that are actively urbanizing:

—inflow of migrants in some cities in the west of the country, which are attractive by geographical position or economically; sharp outflow from the north and east.

The impact of these divergent factors was manifested in the fact that in the 1990s there were cities where the population was intensively declining, and cities that were rapidly growing.

The population size of five cities at least halved: all of them are small and all of them are very northern⁴. All these cities lost their population during the mass outflow of the population to the west. Bilibino, Pevek in Chukotka, Igarka in Krasnoyarsk krai, Susuman in Magadan oblast, and Severo-Kuril'sk in Sakhalin oblast are such cities.

Another 46 cities lost 25 to 50% of their population over these years. Here also northern cities make up most of them (36). Four of them are regional cities—Anadyr, Magadan, Petropavlovsk-Kamchatsky, and Murmansk. Even the status of a regional center could not prevent the intention of the population to migrate; in the 1990s, people were ready to flee the northern capitals and move to very small towns, to the countryside, *but* in the south or in the center of Russia. The intensive reduction of the population size was compounded by the migration from the north in 1991–1993 in Ukraine and Belarus—a phenomenon that J.A. Zayonchkovskaya called “siding along national flats.” The cities that are not northern in this group are mostly small and very small towns, such as Gorbatov in Nizhny Novgorod oblast, Makariev in Kostroma oblast, or former coal mining towns (e.g., Kizel and Gremyachinsk in Perm Krai).

Most cities (431) are in the group where the population size contracted to 5 to 25% of their size in 1989. Among them small and medium-sized cities with a fragile mono-dependent economy are prevalent, but large cities—the second largest cities of the regions—Severodvinsk, Berezniki, Rybinsk, Komsomolsk-na-Amure, Nizhny Tagil, etc., are also present. Almost

⁴ It should be recalled that several cities have lost residents and have either disappeared or have been transferred to the category of UTSs or even RTSs, and they are not considered in this article. Such is the fate of Chekhov, Gornozavodsk, and Krasnogorsk in Sakhalin oblast, Kluchi in Kamchatka krai, etc.

half of the second-largest cities of the region, especially where they are powerful, are in this group. In some regions, such as Sverdlovsk, Chelyabinsk, Kemerovo, Irkutsk, and Rostov oblast, where there are significant third cities, almost all of them are characterized by a decline in population. Many cities of Moscow region belong to this group, and they are almost imperceptible in the previous groups. Six of the 15 Moscow-area towns with a population of over 100,000 (in 1989) are in this group. Here, moreover, there are a number of regional centers (17)—from Birobidzhan to Samara and the federal city, St. Petersburg.

The fullness and composition of this group indicate that in the early 1990s a number of cities that were different in population and socioeconomic characteristics underwent a period of depopulation. At that time, the population, disoriented by the transformational crisis, had not yet begun active migration from small- and medium-sized cities to large ones, which contributed to the fall of the size of the population of the big cities also. In the next intercensal period this group was predominantly represented by small- and medium-sized cities.

333 cities (32%) had a relatively stable population size—95–105% of the recorded size in 1989. 26 cities (8%) with a population of 100,000 to 250,000 and 37 regional centers were among them. The group of regional capitals is represented by centers of such regions that in the 1990s were not distinguished by any positive socioeconomic dynamics: Veliky Novgorod, Smolensk, Kurgan, Penza, Kursk, and Barnaul. At the same time, they are characterized by relatively low real estate prices and were attractive for migrants from CIS countries. In the same group, there are 6 of 15 of Moscow region's cities with a population of 100,000.

Finally, the two groups of growing cities are seen in general as an oasis of well-being in the background of the general depopulation and negative changes in the structure of the population. However, this well-being is also different.

199 Russian cities grew by 5–25%. They included the following cities: Moscow; a number of large, medium, and small cities in the South of Russia, not necessarily with an "ethnic component"; the capitals of Siberia (Yakutsk, Kyzyl, Abakan, Gorno-Altai); and the industrial cities of Volga and Chernozem (Stary Oskol, Dimitrovgrad, Cheboksary, Nizhnekamsk, Volzhskiy) that developed dynamically in the late Soviet period and were therefore not very old in their age structure, as well as smaller towns, but of the same nature (Agidel, Gubkin, Kurchatov). By the 1990s, they had not yet had time to enter into the zone of intense natural decrease, and even a slight increase in migration contributed to their growth. These factors, coupled with the ongoing migration attempts in the 1990s, provided the population growth of the oil & gas cities of Khanty-Mansi Autonomous Okrug and Yamalo-Nenets Autonomous Okrug.

However, this group barely includes other cities of Siberian and Far Eastern regions (8 of 172 noncapital

cities, i.e., 4.6%), except for the regional capitals (six capitals are included), and do not include a single town in the north of the European part of the country. On the other hand, this group includes 85% of all cities of Krasnodar Krai, 84% of Stavropol krai, 75% of Bashkortostan, 68% of Tatarstan, and 59% of the Kaliningrad oblast. At the same time, the population size of the city was less important than the spatial and geographical position, relatively late industrialization, and the ethnic factor. The progressive cities of Kaliningrad oblast, except for the Kaliningrad itself, are small, but the geographical position plays a key role in their growth. The cities of Moscow oblast had not yet become as attractive to migrants as they became in the next intercensal period to actively fill this group.

Even larger growth—of over 25%, is seen in 1989–2010 in 38 cities—raises many questions and doubts, primarily related to the quality of the statistics. 12 Russian cities in the South, mostly in the Caucasian republics are in this group. They include Nazran, which showed an unprecedented almost sevenfold increase in 13 years, and Makhachkala, which has become an absolute champion in this sense. Apart from the southern cities, this group also includes 8 cities from the oil & gas regions of Russia, namely, Khanty-Mansi Autonomous Okrug and Yamalo-Nenets Autonomous Okrug, as well as several small towns, which are located in the immediate vicinity of regional capitals and that became their reference unloading centers—Tsivilsk in Chuvashia, Vsevolzhsk and Sertalovo near St. Petersburg, and Gur'evsk near Kaliningrad.

The situation quite seriously changed in the next intercensal period of 2002–2010 and the demographic background became more homogeneous. In contrast, the socioeconomic differentiation of individual cities became more evident. Cities with economic potential, or those situated near cities with economic potential, began to be actively built and attract migrants. Moreover, if in the 1990s it was mostly immigrants from the former Soviet republics, who dreamed to settle in Russia anywhere and as cheap as possible, in the 2000s, when migration for permanent residence between Russia and CIS countries⁵ strongly declined, and internal migrants began to play an increasingly important role.

Together with a marked depletion of the migration potential of the North and Far East, groups of cities, showing a huge decline in population, were numerically reduced and virtually disappeared. A reduction by 50 percent or more is no longer typical for any Russian city (apart from CATF), the population of eight cities was reduced by 25–50% instead of 46 cities in the previous period. Nevertheless, it is still mainly the northern cities and the recently strongly expanded

⁵ At the same time, there was a transformation of significance: migration for permanent residence moved back under the influence of the rapidly growing temporary labor migration.

Nazran. The ups and downs of the former capital of Ingushetia are linked with objective realities—an outburst of forced migration to the city in the 1990s, the formal loss of capital authorities, and most importantly the quality of the census in 2002 and 2010.

The size of the population in 45% of Russian cities was reduced by 5–25% compared to 2002. In contrast to the previous period, in the 2000s there is no city with a population of over 500 000 people in this group. If we consider that there were no cities with a population of more than 100 000 in the group where the population size contracted 25–50%, it becomes clear that among the larger cities, in the 2000s, only a few economically troubled or secondary regional cities had negative dynamics. Demographically weakened territories lacked the demographic resources to maintain their population, and economic trouble made them uncompetitive compared to other major cities.

This large group includes only four cities that are regional capitals: Petropavlovsk-Kamchatsky, Nalchik, Murmansk, and Ivanovo; another 25 were the second-largest cities in their respective regions. The northern cities, formerly belonging to the group with the highest decrease were now here: 57% of noncapital cities of Siberia and of the Far East and 59% of the Northwest. There are entire regions that are depressed in terms of the demographic and economic points of view, where almost all of the cities are in this group. Kirov, Ivanovo, Pskov, Irkutsk oblast, and Karelia are such cases. On the other hand, this group includes only 9% of the cities of Moscow oblast and 14% of Leningrad oblast.

Cities that are in relative equilibrium compose another representative group. Their number has increased in comparison to the 1990s by 10% to 385. The composition of this group is fundamentally different from the previous one. Except for Moscow, all million-plus cities belong to this group, as well as 47 regional centers. 53 million citizens live in cities of this group and the share of the population that lives in dynamically relatively sustainable cities rose sharply compared to the 1990s from 36.7 to 51.1%.

The group of cities that grew 5–25% includes Moscow, 20 regional centers, and more than a hundred cities of various sizes and functions. Most of them have a population of up to 100 000; they are all local points of growth in regions: Berdsk in Novosibirsk oblast, Balabanovo in Kaluga oblast, Pokrov in Vladimir oblast, Gagarin in Smolensk oblast, and Borisoglebsk in Voronezh oblast. However, of course, other explanations also exist: the low-base effect, problems related to the census, and local administrative transformations, which Russian urban settlements underwent after the adoption of the federal law on municipalities and that promoted the accession of UTSS and towns to cities. The decrease in the intensity of the Western drift was manifested in the fact that several regional capitals such as Yuzhno-Sakhalinsk, Syktyvkar, and Anadyr rose amid a lack of attractive alternative centers nearby. In

the cities of the south of Russia, the higher birthrate, in comparison to the national average, promotes growth. The same group includes one-third of the cities of Moscow oblast and 60% of the urban settlements of Khanty-Mansi Autonomous Okrug and Yamalo-Nenets Autonomous Okrug.

The group of cities with more than 25% growth in the 2000s has barely increased, but its composition has almost completely changed and the share of residents living in these growing cities has increased. They include among the largest cities in Russia, Krasnodar; among large cities, Sochi and Makhachkala; and another eight large cities, including four in Moscow oblast, Zheleznodorozhniy, Khimki, Korolev, and Balashikha. By all perturbations of groups' structure regional affiliation of the fastest growing city remains unchanged: in the 1990s, Nazran was among the fastest growing city, and in the 2000s, it was replaced by another Ingush city, Magas the new capital of the republic.

CHANGES IN POPULATION SIZE DEPENDING ON THE SIZE AND GEOGRAPHICAL POSITION OF CITIES

It is believed that the size of the city determines its strength, resilience to shocks, and ultimately success. In Russia, the power, expressed in population-size parameters, also determines the additional possibilities of centralization and control. In the crisis of 1990s, A.I. Treyvish and T.G. Nefedova found that a population of over 250 000 was the smallest size of Russian cities likely to prosper, and cities with a population of above 250 000 had the chance to develop, or at least not to regress [12]. We try to assess what was happening with the trend of population dynamics of cities with a different initial population size in 1989.

SMALL TOWNS

In general, it is the most representative and motley group, which for specific analysis, we divide into the smallest towns (“dwarfs”), with a population of up to 20 000 and small towns, with a population of 20 000–50 000.

Dwarf-cities. In 1989, there were 349 of these very small towns in Russia.⁶ In many of them, the population not only did not reach the Soviet city's threshold of 12 000 people but did not even reach 3 000–5 000 people. “Cities that can hardly be called cities,” “between a town and a village,” “not a city, not a vil-

⁶ The number of cities in general and the number of cities in a group (small, medium, large, etc.) significantly varied from 1989 to 2010. This was stated above. Analysis of the population-size dynamics demanded a certain completion of the indicators for the population size of settlements that were not cities (and existed, for example, as UTSS) (and, where it is possible) at the date of the census of 1989 or 2002. Therefore, the number of the analyzed cities in the tables and figures is significantly greater than the number of real cities of a group on the census date.

Table 1. The dependence of the population size dynamics of cities with less than 20000 people on the distance from the regional center, 1989–2010

Distance to a regional center, km	Growth				Decrease			
	number of cities	pace, %	average population size, thous. people		number of cities	pace, %	average population size, thous. people	
			1989	2010			1989	2010
To 49.9	28	149.6*	12.4	18.7	24	85.9	13.0	11.1
50–99.9	24	128.3	11.7	15.0	56	83.5	12.0	10.0
100–249.9	28	120.1	13.0	15.7	120	82.5	12.6	10.4
Over 250	13	134.2	13.0	17.4	74	76.8	12.9	9.9

* Without Magas—126%.

Here and below in Tables 2–4, according to the author's calculations: Urban settlements in RSFSR, according to the Soviet census of 1989, Moscow: RIITs, 1991; Results of National Population Census of 2002. T 1. Size and distribution of the population. Moscow: Rosstat, 2004; Results of the National Population Census of 2010. T 1. Size and distribution of the population. Moscow: Federal State Statistics Service, 2012.

lage” are some of the expressions and metaphors that can be used to describe them. A rural-urban lifestyle, underdeveloped social services, and dependence on one, rarely on two companies (often in the same branch), lead to the fact that these cities can grow rather “in spite of” rather than “as a result.”

In the 2000s, the trend on the attractiveness of life in the outback had not yet emerged in Russia, but it had become visible. Today, Myshkin lives more on tourism than through servicing pipelines. Dozens of websites and media draw attention to Kozelsk and Tarusa (Kaluga oblast), Pokrov and Kirzhach (Vladimir oblast), and Velikiy Ustyug (Vologda oblast). In the absence of other growth factors and the low base population, even a small group migrating here is capable of establishing in a few years of material growth in such cities. The surrounding rural areas partly support migration there, but this source has been significantly exhausted. Most small towns in Russia do not have, as a rule, their own demographic growth resources. The southern regions of Russia and the republics of Siberia are the only exceptions.

In general, in 1989–2010 there were no growing small towns in 19 Russian regions, which contained more than three of the smallest towns. This is the case in Arkhangelsk, Ivanovo, Kirov, Pskov, Tver, Ryazan, Kursk, Irkutsk, and Chelyabinsk oblast, as well as Karelia, Mordovia, and other regions of Russia. We have not seen strictly the opposite situation, except for Belgorod, Kabardino-Balkaria, North Ossetia, Khanty-Mansi Autonomous Okrug and Yamalo-Nenets Autonomous Okrug, where there are only two cities of this size in each of these regions.

In the 2000s, the share of growing cities among very small ones decreased from 20.7 to 9.2%. Moreover, the positive dynamics of the individual towns that grew was usually provided not by one but by several factors: location near a large city, ethnic structure of the popu-

lation or a dynamic developing sector of the economy (usually, tourism, health resorts, the food industry).

Up to a 250-kilometer zone clearly represents the dependence of the population dynamics on the distance from the centers of regions: the farther away, the worse the ratio of growing and depopulated cities, the lower the growth rate or the higher the rate of decline (Table 1). There are not many growing cities in a very remote area, while 8 of 12 growing cities are associated with the exploration, production and/or processing of oil and gas: Tarko-Sale and Gubkinskiy in Yamalo-Nenets Autonomous Okrug, Pokachi and Pyt-Yah in the Khanty-Mansi Autonomous Okrug, Kedroviy in Tomsk oblast, Khadyzhensk in Krasnodar krai, Bavly in Tatarstan, and Vilyuisk in Yakutia.

SMALL TOWNS WITH A POPULATION OF 20000 TO 50000

In 1989 there were 360 such cities in Russia, and 12.3% of the urban population lived there. They represent a very significant reservoir of Russian cities. G.M. Lappo [7, pp. 155–156] wrote that small towns lack the benefits of large ones, but also do not have many of the shortcomings and vices of large towns. The low level of development and improvement of the service sector, economic weakness, and remoteness from large centers are the most common shortcomings of small towns. Their inhabitants have a limited choice of places of study, occupation, work, and ways of spending free time. However, these shortcomings cannot be overshadowed by the undeniable advantages that small towns possess and that will be increasingly appreciated by people in the future, especially, harmony with nature. He adds the words of T. Guerra about Suzdal: “Suzdal is like a branch after rain: Every drop sparkles [and] shines like a diamond. How beautiful it is. And how fragile it all is!” Fragility is manifested, in particular, in the absence of the demographic

Table 2. The dependence of the population size dynamics of cities with 20000–50000 people on the distance from the regional center, 1989–2010

Distance to a regional center, km	Growth				Decrease			
	number of cities	pace, %	average population size, thous. people		number of cities	pace, %	average population size, thous. people	
			1989	2010			1989	2010
Less than 49.9	31	128.4	32.2	41.1	29	86.9	35.5	30.8
50–99.9	26	120.5	32.2	38.5	43	87.7	31.3	27.5
100–249.9	33	121.9	30.6	37.3	101	31.6	31.6	27.0
Over 250	24	121.7	34.6	41.8	68	81.9	31.1	25.5

growth base. Suzdal lost more than 10% of its population in 1989–2010.⁷ However, this tourist center of the Golden Ring of Russia is well known not only among Russian but also among foreign tourists (and therefore is attractive to investors) and is situated only 35 km from Vladimir and 220 km from Moscow. However, not only Suzdal was shrinking, the population of most towns was declining. This was particularly noticeable in the 2000s, when the demographic resources in the European part of the country (where most of them are situated) became quite exhausted under the influence of the long-term evolution of mortality and fertility. In the 1990s, dynamics of over 105% in the period between censuses was shown by almost every fourth town with a population of 20000–50000, and in the 2000s, only by every sixth town. The highest share of growing cities is among the small towns in southern Russia (80% in the North Caucasus and in the Southern Federal District), the lowest share is in the Far East, where only Lesozavodsk in Primorsky Krai grew in this category. Meanwhile, all 13 small towns were among growing towns in Krasnodar krai, and in Stavropol krai 9 of 10 small towns grew. The proportion in the oil and gas-rich regions of Russia is slightly worse. For the growth of small towns where people are close to nature and partly living on nature, the naturally favorable climate was a highly significant factor in survival in an era which is far from the agrarian epoch.

Another factor in possible (but not indispensable) growth is related to being located near the regional centers (Table 2). There is a positive proportion only in the group of cities located at a distance of 50 km. In all other cases, the further the distance from regional centers the smaller the chance of stability and growth. Some other well-located cities (not necessarily near their capital) are growing, such as the new Baltic port Baltiysk, Kalach-on-Don, a shipbuilding center on the river, and Kinel, a railway center.

However, many cities among resource cities, which once flourished, have failed: Boksitogorsk in Lenin-

grad oblast, named after the extracted raw materials; Udachnyi in Yakutia, a center of diamond development; Kirovsk in Murmansk oblast, the capital of apatite; Kachkanar in Sverdlovsk oblast, famous for iron; and many others.

There are now only a few towns with the status of a district center, whereas small towns in the Soviet era almost universally performed management and maintenance functions for the surrounding areas: from 276 small towns district centers, 82 have positive dynamics.

Medium-sized cities (50000–100000 people). During the first and second periods between censuses, it was not easy to maintain the population of cities with a population of 50000–100000. On the one hand, they were affected by inertia-accumulated demographic problems associated with long-term trends of a declining birthrate and aging. On the other hand, the relative lack of attractiveness of migration due to problems with the mass closure of enterprises-branches, meticulously installed there during the Soviet period, unemployment, social deprivation, and problems with financing on the residual principle, according to which all that is “in the middle” does not get anything or very little.

The share of medium-sized cities, showing a negative trend in the 1990s exceeded 40%, and in the 2000s, dropped to 31%. Due to this, there was an increased number of cities whose population size did not change significantly.

A fifth of all medium-sized cities in Russia showed stable positive dynamics. Some of them, especially in Moscow oblast, thanks to this, were reclassified as large cities. Generally steady growth was observed in three categories of cities. The first category is in the agglomeration zone of the largest cities (Reutov, Krasnogorsk, Lobnya, and others in the area of the powerful attraction of Moscow, Berdsk near Novosibirsk, Gatchina near St. Petersburg, and Verkhnyaya Pyshma near Yekaterinburg).

The second category is located in the south, and is supported by natural growth and the young age structure of the population: Dagestan, Krasnodar and

⁷ Moreover, Suzdal is among the group of small towns in Russia. It had a population of 10500 in 2010.

Table 3. The dependence of the population size dynamics of cities with 50000–100000 people, depending on the distance from the regional center, 1989–2010

Distance to a regional center, km	Growth				Decrease			
	number of cities	pace, %	average population size, thous. people		number of cities	pace, %	average population size, thous. people	
			1989	2010			1989	2010
Less than 49.9	27	126.4	70.9	89.5	11	87.5	72.9	63.3
50–99.9	10	122.9	65.2	80.6	18	86.8	64.2	55.4
100–249.9	26	117.2	68.6	81.1	41	87.4	68.2	59.5
Over 250	10	111.2	71.6	79.9	20	82.2	64.7	53.7

Stavropol krai, and Rostov oblast had 3–5 such cities each. The third category, the smallest small group includes cities where growth is based on the presence of one, or rarely two, types of economically profitable activity that provides them with increased migration. For the “Russian” Kumertau in Bashkortostan, it is the gas storage complex and helicopter manufacturing; for Gubkin–Lebedinsky, it is a mining and processing complex; and for Nefteyugansk and Noyabrsk, it is oil production.

The analysis revealed that cities located near the regional centers had the highest rates among the average-growing cities. The rate of the slowdown with increasing distance from the regional center, which is according to the growth of a peripheral nature, is expressed mildly, but clearly (Table 3). The table also shows how the ratio of growing and shrinking cities changes with provinciality. If in the first radius from the center the number of cities with increasing population exceeds by a factor of 2.5 the number of cities with a declining population, the proportion of all others is reversed. As a result, by 2010, we have tangible differences in the average population of cities located near the regional capitals and in the periphery. Moreover, for medium-sized cities the degree of provinciality does not matter—the situation 120 km from the center is about the same as the situation 250 km. In previous studies [5, 1], we have shown that the local centers of attraction in the regions may be at distances of at least 200 kilometers from the center, but they are almost never medium-sized cities. In order to perform the functions of peripheral growth points for such cities, the population capacity is generally lacking.

Big cities. The number of cities with a population of 100000 to 250000 people in the 1990s–2000s increased from 85 to 91. However, growth was not linear, more than a dozen industrial centers of the Urals, Siberia, and partly from the Center left the group, but others, primarily southern cities, filled it and even increased. On the other hand, Rybinsk, Severodvinsk, Bratsk, Angarsk, etc., from the group of cities with a population of 250000 moved to this group.

As a result of the divergent processes in general for the 1990s–2000s, this group was relatively balanced.

Twenty-eight percent of the cities grew steadily; the major changes were that there was a sharp reduction in the number of cities with sharply negative growth. There were 34 in 1989–2002, but just 23 in 2002–2010. Thus, during the period of transformational growth, when internal mobility and clarity in the choice of spatial trajectories increased, the attraction of big cities, including 12 regional centers and 19 second-largest cities in the respective regions, increased. However, the main driver of stability of large Russian cities, but not separate regional capital or the second-largest regional cities as a whole, and Moscow’s suburbs, were the 15 cities with a population of more than 2 million, and they define a positive trend. Not all of them were growing for more than a 20-year period, but even those that were not expanding and were located at a relative distance from Moscow, namely, Noginsk, Serpukhov, Orekhovo-Zuevo, and Kolomna, did not show strong negative dynamics. The parameters of the growth of Khimki or Balashikha, especially in the 2000s, when Moscow’s building boom spilled over, were truly spectacular.

Big cities, showing steady growth during both the census periods, were mostly developed industrial centers such as Stary Oskol, Novotroitsk, Dimitrovgrad, Balakovo, Engels, and Neftekamsk. Because of their size, they are usually not monofunctional, but their basic industrial function determines their appearance and the limited internal demographic resources makes it impossible for them to move straight up. As in other classes, southern cities and the capital were growing. Institutional status benefits under monocentric conditions appear not only at the country and Moscow level, but also at the regional level (Table 4). However, the factor of distance from the regional centers of big cities is a significant part. In an area of up to 50 km from the capital, the likelihood of growth is much higher than in any other area. The situation is particularly negative at a distance of 50–100 km from the regional capitals. In the absence of statistical information about the directions of the internal migration, we can only assume that this is the area from which there is an active outflow of the population in one or even two directions—almost everywhere in the direction of their

Table 4. The dependence of the population size dynamics of cities with 100 000–250 000 people, depending on the distance from the regional center, 1989–2010

Distance to a regional center, km	Growth				Decrease			
	number of cities	pace, %	average population size, thous. people		number of cities	pace, %	average population size, thous. people	
			1989	2010			1989	2010
Less than 49.9	11	118.1	139.6	165.8	4	91.8	162.2	148.1
50–99.9	2	105.5	165.5	175.6	14	91.6	127.3	116.7
100–249.9	13	122.8	159.3	194.3	17	86.6	152.0	131.3
Over 250	3	107.8	162.5	173.2	9	89.3	124.2	111.2
Regional centers	9	113.7	186.9	211.9	3	87.8	194.3	174.9

regional centers or the surrounding areas (0–50 km from the center) and sometimes further, towards the second-largest cities of the respective regions, located at a considerable distance from the regional capitals.

Cities with a population of over 250 000. In the context of Russian monocentricity 3/4 of the large cities are regional capitals; i.e., they have two potentially positive factors in terms of possible growth—agglomeration effects and institutional advantages. The large cities which showed a negative trend in terms of the population size should be of greater concern. In the 1990s every third city developed in such a way, while in the 2000s, every seventh city. The relatively diverse labor markets, attracting migrants from their neighborhood and from more distant places and the increased demand for labor, especially in labor-intensive and the low-end service industries, which in the 2000s began to increase in the employment structure not only in Moscow (as in the 1990s) but also St. Petersburg a few years later, as well as many regional capitals, were key to the improvement.⁸ Thus, in the 2000s, in relation to the preceding period, the dynamics markedly improved:⁹ firstly, a group of northern regional cities (Petropavlovsk-Kamchatsky, Murmansk, Arkhangelsk, etc.), in the 1990s lost all the active migrants and their population size stabilized; secondly, in a group of Ural-West Siberian industrial centers (Chelyabinsk, Kemerovo, Yekaterinburg, Novokuznetsk, Perm); and thirdly, in some central regional centers in which there was a contraction of the population from the territories of their areas (Tver, Tula, Vladimir, Voronezh).

In general, in 1989–2010, the population of 35 major cities in the country increased, but the population of 41 large cities decreased. In 1989 27.8 million people lived in cities which showed further growth, while in 2010, their population increased to 32.4 mil-

lion. The size of the opposite group fell from 25.9 million to 24 million. Regional centers were divided into growing and depopulated ones equally. Of the 18 major cities that are not regional centers, the population of only 6 grew: Volzhskiy, Togliatti, Cherepovets, Naberezhnye Chelny, Surgut and Sochi. These large subcenters have a different geographical position in the settlement pattern of their regions, but, except for Sochi, they were created with a common history. In their current form, they were all formed in the former Soviet Union as industrial centers of basic industries, quickly built, and actively attracted new inhabitants.¹⁰ Therefore, their growth in the 1990s–2000s had an inertial nature (the consequences of a relatively young population structure).

However, speaking about such a group, which contains the largest and economically most powerful cities in the country, we note that when cities like these fall apart, as was observed in the 1990s–2000s, it is a sure sign of a large country's demographic problems. It is another question that this is also a manifestation, on the whole, of the suburbanization processes, whose started in Soviet Russia was delayed due to the non-market economy (primarily due to the lack of land and labor market, as well as due to the specific approach to the presence of suburban housing among city people), and which was then imposed on the total socioeconomic crisis. And this conglomerate of massive and differently oriented processes manifest themselves differently in the old (demographically, and from point of view of urbanization) European or young northern and eastern parts of the country, ethnically colored or relatively monoethnic. However for a vast country, where some processes negate others, and a lot of administrative and territorial reforms are implemented, in general it appears that the trends in the

⁸ For details, see the works of N.V. Zubarevich, for example [3, 4].

⁹ However, “improved” does not always mean population growth, but in many of the examples mentioned further, they indicate a reduction in the rate of contraction of the population.

¹⁰ That is why, as G.M. Lappo remarks [7, p. 54], we can observe an incomplete functional structure, the appearance of industrial fluxes, a marginal increase in the share of the population, and a lack of maturity of the urban environment. And among the big cities these diseases of youth are not outlived, and in the post-Soviet period it was difficult to eliminate them.

numbers of different groups of cities show some fluctuation, but not any unambiguous and understandable trends. T.G. Nefedov and A.I. Treyvish believe that this is normal, because as the system of cities becomes more mature and stable, the changes and shifts of the stages of urbanization usually become less expressive and prone to short-term fluctuations around a certain mean state of homeostatic balance [13]. Only the dependence curves of cities' population size dynamics on the distances to regional centers appear unambiguous: in 1989–2002 and in 2002–2010, the average population of settlements ranging from very small to the largest cities, located at a distance of 50 km from the capital, increased. At all other distances, growth, stagnation, or decline is possible, depending on the cities considered.

DYNAMICS OF NATURAL AND MIGRATION INCREASE OF CITIES

The breakdown of the total increase (decrease) of Russian cities into its two components, natural and migratory increase, determines the actual mechanisms of urban existence.

In 1991–2011, a natural decrease of the population was typical for every city, for the largest and quite small ones. In the 2000s, due to the more favorable age structure of reproductive urban women, fertility increased almost everywhere, which reduced the scale of natural decrease. Apparently, the differentiation of the natural decrease in recent years has been affected some improvement in mortality in the country's largest cities; however, we do not have appropriate data on cities with a population of 100000.

The overall intensity of natural decrease (on average for each type of city) did not depend on the size of the city (whether Visotsk with a population of 975 [1989] or Cherepovets with a population of more than 300000), nor on their position in the settlement system of the region (both 10 km from the regional center, and 260 km from it), and in some cases, it was only determined by the macro location—in the depopulated north or in the still-growing south of the large country where a particular city is located. Young cities, according to the date they were founded and the age of their residents, oil and gas cities, as well as cities built in the late Soviet period near either hydro-electric power stations or atomic power stations, seem to be a particular oases of natural well-being.

Throughout the years, we observe a reduced natural decrease in the population size of towns with a population of up to 50000 inhabitants, located in the zone of influence of the agglomeration of regional capitals. Apparently, the observation is the result of not only the modification processes of fertility and mortality but also of migration increase. Migrants, who, in general,

are younger relative to the entire population, provide additional birth in the cities.¹¹

Migration processes in cities with different population size are more differentiated than natural processes. Although as a whole for 1991–2011, cities of all types showed a total migration increase, the situation varies. People started leaving dwarf-cities in 2006. Small towns with a population of 20000 to 50000 faced migration decrease in 2011, and before that, rate of migration increase had been steadily reducing.

The average migratory growth in cities of all types since 1996 closely followed the following dependence: the farther away from the regional center a city is located the lower the attractiveness of migration. In 1991–1995, this trend was broken by a short deurbanization trend¹² and the scale, and most importantly, the indiscriminate selection of the place of residence of the population fleeing from the CIS and Baltic states after the collapse of the former Soviet Union. Residents of the former Soviet republics in the early stages willingly settled in the countryside, and in near and far small- and medium-sized cities, for a short time, improving the demographic situation in them. Only the largest cities in the country avoided the “correct” trend. Among them, in the early 1990s, cities located at a distance of 50–100 km from regional centers (only three, Taganrog, Rybinsk, and Togliatti) were especially attractive; later, they quickly lost their positions. Most of the other major cities grew through migration for most of the period; and the most peripheral cities (such as Surgut, Sochi, Novokuznetsk, Magnitogorsk, Orsk actively attracted people), as well as semidistant cities (located 50–250 km from regional centers), did not turn out to be less attractive. Obviously, they could not compete with the regional centers for the mobile population.

With regard to cities with different-sized populations, it is necessary to talk about some slight shifts in time and space in the process of drop in migration. Until the early 2000s, the concentration of migratory increase was observed in those small towns that were located at a distance of 100–250 km from regional centers; however, during the 2000s, the significance of the central-peripheral gradients for these cities increased, and migration increase shifted to the central zone. Simultaneously, small towns located at a distance of over 250 km from regional centers began to show a steady migration decrease.

Similar trends are observed for medium and large cities. There are two differences from small towns: (1) contraction of migration increase in the central zone started earlier and was already noticeable in

¹¹ The problem of the influence of migration on the birth rate is discussed in the work of S.V. Sakharov and S.V. Surkov [2].

¹² In general, the absolute size of the flow of residents to villages was small—about 120000 people in 1991–1992, but regionally differentiated.

Table 5. Natural decrease and migration increase in cities with different-sized populations, total for 1991–2011

Population of cities, thous. people	Natural decrease, thous. people	Migration increase, thous. people	Substitution of natural decrease by migration increase, %
Less than 19.9	–531.5	116.5	21.9
20–49.9	–1066.2	594.2	55.7
50–99.9	–1077.7	530.2	49.2
100–249.9	–1110.4	590.9	53.2
Over 250	–4604.5	2978.4	64.7

Calculated according to data base “Economy of Russian cities” of the statistical portal Multistat.

1996–2000; (2) at the same time, even in the 2000s, towns located at a distance of 100–250 km from the center were in a better state than those that were located an additional 50–100 km farther from regional capitals. In short, the farther they were from regional centers, the more significant “centrality” became, also for them, which, in the Russian version, was “centrality, institutionalism and agglomeration.” In 2011, for medium and large cities the entire migratory gain was concentrated in cities close to the center, and those that were located at a distance of more than 100 km saw a decline in migration.

For the group of the largest cities, which are mainly the centers of their regions, the contraction of migratory growth was typical for the whole period under review; i.e., it began on average five years earlier.

As a result, the higher the population size of cities the greater the importance of migration increase to compensate natural decrease. For small towns, it is 22%, but for the largest ones, it is almost 65% (Table 5). Migration significantly and multilaterally affects the state of Russian cities, through its impact on the age structure of the population, fertility, and partly mortality. However, its effect is different by cities. In some cases, it provides the opportunity to stop the decrease slightly, in others is a full-fledged “secondary channel.” Small- and medium-sized cities have always been in a difficult situation. In the 2000s, the pull toward the center intensified even in these cities—apart from those that are located in South Russia, export mineral resources, are part of agglomerations, and are “ethnic”—the reduced external migration from former Soviet republics and the emergence of competition for internal migrants meant that migrants no longer sufficed. Cities differentiated. Close to the capital the increase from migration remained stable, but in cities in the intra-regional periphery the migration increase decline to zero, and then turned negative. In terms of the migration pattern, these cities finally moved closer to the countryside [10, p. 427].

What are the causes of the observed concentration? And what are its consequences? We list below some of

the most apparent causes and consequences of the observed concentration:

—low infrastructure saturation, leading through depopulation to a general scarcity of space and movement of space not to a mosaic pattern, as in Europe, but rather to a “patchwork” and fragmentation [16];

—immaturity of the urban system, which has retained many cities that are uncomfortable to live in, fractionality of the urban network, combined with the presence of usually one large urban center, and dacha settlements instead of Western suburbanization;

—radial pattern of the transport network, which, regardless of the quality of communication, provides great benefits to suburban areas;

—hypercentralization of power and resources at all levels; strengthening of the territorial concentration of production;

—poor use of the potential of the global economy and economic diversification in remote small- and medium-sized cities, bureaucracy involved in building a small individual economy; popular demand for the eco-life, which was repressed during the Soviet era;

—growth of mobility, with people wanting to live where they feel more comfortable—there is work, which they can relatively quickly reach, diverse leisure, more opportunities for self-realization, and the provision of services. In the current Russian conditions, this is provided in large cities and the territories near them.

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