

PEOPLE IN TRANSITION:

SPATIAL SHIFTS IN POPULATION WITHIN THE MOSCOW REGION

An NCEEER Working Paper by

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Executive Summary

The overarching goal of this working paper is to reveal how post-communist transformations affected population distribution in the Moscow Region. The article is integral to a project focusing on the evolving geography of Russia's shrinking population. This is the second of three working papers envisioned by this project. Our first paper contained our version of Russia's 2026 population projection disaggregated into federal districts. [Among other things, we showed that Russia is unable to sustain itself demographically and depends on immigration to an ever-increasing extent.]

There is, however, one federal district that can prevent population decline and even ensure growth through domestic migration alone, although that would boost demand for immigrants elsewhere, that is, in all other districts. The district in question is the Central Federal District (CFD), containing Moscow and 17 other regions.

Given the existing polarization of Russia's settlement system and even of that of the CFD itself, whereby a disproportionately high share of migrants both domestic and international head to Moscow, we set out to focus our further research on Moscow and its environs and subsequently on regions whose population is declining (Novosibirsk) or is relatively stable (Stavropol).

We first outline the exceptional role of the Moscow Region in Russia in terms of population dynamics and migration and as the niche for Russia's largest urban agglomeration. We then characterize the migration-induced population growth of Moscow and the Moscow Oblast, including upward adjustments of their population estimates in the wake of the 2002 census. The following three sections of the article reflect our attempt at disaggregation of previously uncovered trends. We then look into recorded and unrecorded migration streams and

into origins of labor migrants to Moscow and to the Moscow Oblast. Finally, we switch to a larger-scale analysis, focusing on population growth poles within the most ecologically clean and “prestigious” western sector of the Moscow Oblast.

Introduction

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We first outline the exceptional role of the Moscow Region in Russia in terms of population dynamics and migration and as the niche for Russia's largest urban agglomeration.

¹ In this paper, the Moscow Region consists of the city of Moscow (1091 sq. km) and of the Moscow Oblast (47,000 sq. km).

We then characterize the migration-induced population growth of Moscow and the Moscow Oblast, including upward adjustments of their population estimates in the wake of the 2002 census. The following three sections of the article reflect our attempt at disaggregation of previously uncovered trends. With this in mind, we first look at changes in the structure of the Moscow Oblast's settlement system, including its urban and rural components. We then look into recorded and unrecorded migration streams and into origins of labor migrants to Moscow and to the Moscow Oblast. Finally, we switch to a larger-scale analysis, focusing on population growth poles within the most ecologically clean and "prestigious" western sector of the Moscow Oblast.

Distinguishing Features of the Moscow Region

In Russia, the Moscow Region is not only dominant in many ways but also truly exceptional. In 2010, this region had a population of 17.3 million people or 12.3% of Russia's entire population. The Moscow Region exceeded its closest rival, the Saint Petersburg Region (that is, Saint Petersburg and Leningrad Oblast) by a factor of 2.8. Besides its leadership in population concentration, the Moscow Region remains the *only* ethnically Russian territory in all of the Russian Federation with positive population dynamics, which is only possible through migration.

Indeed, domestic migration in Russia has assumed a markedly centripetal character. In 2009, out of 80 "subjects" of the Russian Federation (republics, oblasts, krais, and the cities of Moscow and Saint Petersburg) only 16 gained population through domestic migration, whereas the remaining 64 subjects lost. Moscow and Moscow Oblast drew in 57% of those gains; Saint Petersburg and Leningrad Oblast accounted for 19%, whereas the share of all other gainers

combined was only 24%. It seems that the global financial crisis only boosted the attractiveness of Moscow.

For comparison, in 2008 the share of Moscow and Moscow Oblast in Russia's overall positive net domestic migration was 37%, whereas in 2007 it was 36.1% (Ioffe and Zayonchkovskaya, 2010, p. 114). Also in 2008, the Moscow Region accounted for 35.2% of the total 2,425,921 international labor migrants who registered their stay in Russia and were authorized to work. It appears that migration to the Moscow Region does not merely offset negative natural increase of population but ensures population growth.

Moscow and Moscow Oblast are two constituent parts of the Moscow Urban Agglomeration. The criterion traditionally used for delimiting urban agglomerations in Russia and the former Soviet Union at large is having a two-hour accessibility to Moscow by public transportation. By this measure, only the extreme western and extreme eastern parts of Moscow Oblast are outside the agglomeration. They account for 5% of the total population of the Moscow Oblast and for 2% of that of the Moscow Region at large.

The Moscow Region has long been a focus of human geographers' attention. Thus, one of these authors researched changes in its spatial structure and land use throughout the 1990s (Ioffe and Nefedova, 1998) as well as the Von Thunen-like economic landscape in Moscow Oblast's agriculture (Ioffe and Nefedova, 2001). The most thorough treatment of population issues in the region is contained in two Russian monographs (Moskovskii Stolichnyi, 1988 and Makhrova et al, 2008), both of which were coauthored by Andrei Treivish, one of the most insightful of Russia's human geographers. We will use some of the latter book's insights while interpreting our own results below.

Population Growth and Migration

Throughout the entire 20th century, the population of the Moscow Region exhibited rapid and steady growth (Fig. 1). Between the censuses of 1897 and 2002, it had increased by a factor of seven, whereby the population of the city of Moscow had increased by a factor of ten and that of Moscow Oblast by a factor of 4.7. During the same period, the population of Russia within its current borders had doubled.

After World War II, the population of Moscow grew on average by 100,000 per annum. This was the case in the 1960s when the Muscovites had robust natural increase (of about 6.9 per 1000 residents); this was also the case in the 1980s when the natural increases dropped to 1.9 per 1000 residents. The same growth rate was exhibited between 1989 and 2002 when 1.4 million people were added to Moscow's population despite the ever-increasingly negative rate of its natural increase—from minus 2.3 per 1000 residents in 1990 to minus 5.3 per 1000 residents in 2002.

Steady growth despite the socio-economic crisis accompanying and following the breakup of the Soviet Union and despite the deep demographic crisis afflicting Russia as a whole and Central Russia in particular (Ioffe and Zayonchkovskaya, 2010, p. 111) confirms the exceptional role of Moscow as the locomotive of Russia's development. It seems that Moscow's potential has not been exhausted. On the contrary, the mobilization of previously suppressed resources such as private property, market, and openness to the world gave the city a second breath.

According to current population statistics,² the population of Moscow stabilized by 2010. However, this is hardly so. Our skeptical attitude derives from the results of the previous (2002) census. Specifically, current statistics on January 1, 2002 revealed that Moscow had 8.5 million residents, that is, 0.5 million less than in 1989 (*Demographic*, 2002, p. 22). If the reversal of Moscow's population growth had been confirmed, it would have signified a major turning point supposedly conditioned by the socio-economic crisis. However, the 2002 Census conducted in October revealed a whopping 1.8 million undercount of migrants. Incorporating those 1.8 million resulted in a total of 10.4 million residents of Moscow.

Indeed, in the 1990s, when entry to Russia was virtually unrestrained, Moscow was inundated by labor migrants and repatriates from the former Soviet republics as well as by the Chinese, Vietnamese, and Afghans who for the most part could not legalize their stay in Russia due to rigid registration requirements.³

Thus, a 2002 survey of Ukrainian labor migrants in Moscow (conducted by Zhanna Zayonchkovskaya) showed that half of them had lived in Moscow for more than three years

² At the time of writing the results of the 2010 Census have not yet been published. Current population statistics use the last census population as the base or point of departure and annually add/subtract natural increase and recorded migration to/from that base.

³ Prior to 2007, registration was only possible at the official place of residence. However, most of new migrants did not have a residence registered in their name. Only a few Muscovites agreed to register their migrant relatives in their apartments. While most migrants rented their residences, their owners did not want to acknowledge their tenants. The owners were well aware of Soviet-era regulations, according to which any registered tenant could claim a part of residence as his/her own. Mass illegal migration and equally mass corruption followed. Estimates showed that about half of all migrants were not registered (Zayonchkovskaya and Mkrtychan, 2008, p. 236). Adopted in 2002, the Law on Legal Stay of Foreigners in the Russian Federation introduced new rules of entry, stay, and employment for foreigners. Among other things, the migration card was introduced in order to record entry and exit. Stay in Russia was differentiated into three statuses: temporary stay (up to 90 days but with the possibility of extension up to one year); residency permit; and permanent residence. However, any status was to be assigned by police, was conditioned by the official place of residency and was subject to some limitations. As discussed in our first paper (Ioffe and Zayonchkovskaya 2010, pp. 120-121), beginning 15 January 2007, registration and job authorization requirements were significantly simplified for migrants from visa-waiver countries (countries of the CIS except Turkmenistan). As a result, the percentage share of registered migrants increased to 88% (Zayonchkovskaya and Tyuryukanova, 2010, p. 29), and the share of working migrants with job authorization exceeded one half, up from 15%-25% (Ibid., p. 92). Unfortunately, the advent of the global financial crisis produced a setback in job authorization rules that are now even more rigid than before 2007, which is motivated by the protection of Russia's own workers. As a result, shadow employment has grown yet again.

(many with relatives) and were not registered as residents of Moscow. Consequently they remained invisible for statistics. And Ukrainian migrants in Moscow are in the hundreds of thousands.

In 1994, the number of people from Asia and Africa (Afghans, Middle Easterners, Chinese, and Vietnamese) living in Moscow without registration was estimated as 180,000 (*Transit Migration*, 1994, p. 11). According to more recent research, every third employed migrant from the CIS countries had lived in Russia for more than one year and every fourth such migrant is essentially a permanent resident⁴ (Zayonchkovskaya and Tyuryukanova, 2010, pp. 37, 38), but most of them either have to use temporary registration and be constantly concerned about its extensions, or get by without registration at all because it is still difficult to qualify for a residency permit. Consequently, these migrants are not reflected by population statistics that only cover those who have officially resided at a certain census-designated place for at least one year. Our observations suggest that refraining from registration is even more typical for domestic migrants than for international ones. In part this has to do with the law on freedom of movement, according to which a Russian citizen is not required to register unless he or she changes the place of permanent residence.

Thus, the problem of recording migrants retains its topicality, and one can expect that the just-conducted 2010 census will result in an upward adjustment of Moscow's current population records just as the 2002 census did. According to a preliminary estimate by Moscow's TV Channel 1 (announced during a newscast on November 14, 2010), 11.7 million 2010 census forms were filled out in Moscow.

⁴ These data are based on a 2009 survey of 1575 migrants in six regions of Russia, including 450 respondents (29% of the sample) in Moscow and Moscow Oblast (Zayonchkovskaya and Tyuryukanova, 2010, pp. 14-16).

In January 2010, the population of the Moscow Oblast was 6.75 million people. It is the second most populous subject of the Russian Federation. Yielding only to the city of Moscow, it exceeds Saint Petersburg almost 1.5 times and its immediate “follower,” Krasnodarskii Krai, 1.3 times. Population dynamics of the Moscow Oblast contrast with those of the city of Moscow. Whereas Moscow’s population increased by 2.4 million people or 29.6% between 1979 and 2010, the population of the Moscow Oblast increased by 418.6 thousand or 6.6%.

The slower pace of the oblasts’ population growth is noteworthy, as is the inversion of urban and rural population change during the 1990s (Table 1). Indeed, throughout a century-long period prior to the 1990s urban population either grew more rapidly than rural population or urban population alone grew whereas rural population declined. That the opposite occurred in the 1990s is a clear sign of crisis.⁵ Although the 2002 census prompted the upward adjustment of the Moscow Oblast’s population as well (by 227 thousand people or 3.5%), it also confirmed the interruption of population growth and the above-mentioned inversion (Table 1). Also, urbanization slightly declined from 79.7% in 1989 to 79.3% in 2002.

Settlement Reclassification and Structure

Pre-reform (pre-1990s) trends in population dynamics as well as their reaction to the breakup of the Soviet Union were much the same in the Moscow Oblast as in Russia at large, but thereafter they began to diverge. From 2003 to 2010, in the Moscow Oblast the total population and urban population resumed growth, whereas in the entire country both continued to decline.

⁵ This inversion occurred in Russia as a whole. The steepest decline in urban population (by 0.7%) was recorded in 1992. In 1990, a decline of urban population was recorded in 11 regions of Russia; in 1991, in 47 regions; and in 1994, in 64 regions (*Naseleniye*, 1999, p. 19). As for rural population, it grew from 1991 to 1994, adding 3.3%, and then its decline resumed.

At the same time, in the Moscow Oblast, rural population was shrinking more rapidly than in Russia as a whole (by 5.6% and 1.4% respectively).

To a significant extent, the divergence of trends has to do with settlement reclassification. Due to the commencement of population decline in much of the country, scores of towns have been demoted to rural villages since 1990. As a result, the rural population of Russia gained 1.012 million people (2.6% of the total) in 1990-2002 and 1.122 million people (2.9%) in 2003-2009. In contrast, in the Moscow Oblast, the number of rural dwellers increased only by 0.7% from 2003-2009. However, from 2003 to 2009, the process assumed the opposite direction whereby some rural villages received urban status, with rural population losing 9.1% of the total and urban population gaining 2.4%. Absent reclassification, the countryside of the Moscow Oblast would have exhibited significant population growth.

During the post-Soviet period, the downward settlement reclassification, i.e. “conversions” of towns into rural villages was spurred by the emergence of a land market and the ensuing quest for the most conveniently located plots. Also, some preferences provided to the rural population, like discounted utility payments and heightened welfare benefits, played their role. These incentives have worked in the Moscow Oblast just as they have in Russia as a whole. And yet, vastly more widespread in the oblast have been the processes of the opposite nature, like the annexation of nearby villages by growing cities and the conferring of urban status to outsized villages. This is a highly unusual situation for today’s Russia.

The urban settlement system of the Moscow Oblast includes 77 cities and towns and 75 urban posiolki or UTS⁶. On January 1, 2010, 17 cities which exceed 100,000 residents held

⁶ Here, we mean a specifically Russian settlement category, posiolokgorodskogotipa, literally, an urban-type settlement (UTS). These are midway between rural and urban settlements but are classed as urban. There are no exact population-size thresholds for assigning settlements to UTS and cities, although UTS are usually smaller. Thus, in the Moscow Oblast there are some towns with less than 10,000 residents. In the following size bracket, from 10,000 to 20,000, both

43.7% of the Moscow Oblast's urban population. The largest of them, Balashikha, has 198,000 residents. More than a quarter of urbanites (27.1%) resided in cities sized from 50,000 to 100,000. This sort of distribution was fairly stable throughout 1979 – 2002, but experienced change thereafter. Most affected by this change have been UTS with less than 10,000 residents, whose overall population declined by 26.4%.

As for the smallest UTS, with populations less than 5,000, they have been particularly affected by reclassification and annexations and as a result have fallen in number by half (from 51 in 2002 to 25 in 2010), while the total number of people living in them declined 40%. In contrast, the largest settlements showed growth. Thus, the population of cities with more than 100,000 residents grew 10.2% mostly as a result of the few cities that exceeded 100,000 after 2002. Particularly significant growth was exhibited by the cities with 20,000 to 50,000 residents (Table 2).

Despite the fact that urban population growth has been positively related to city size, one can attest to a slowing urbanization. Apparently, the overall demographic crisis affects even the capital city agglomeration, if there is not enough population to sustain its entire urban network. Whereas between 1979 and 1989, only urban settlements below 10,000 residents used to shrink, now the growth/decline threshold has shifted to 20,000 and is inching toward 30,000 residents.

The rural settlement network of the Moscow Oblast has been shrinking. In 1979, there were 6480 rural villages; by 1989, their number had declined to 6010 (a 5.8% decline); by 2002, only 5875 rural villages remained (a 9.3% decline from 1979).⁷ In the 1980s, the rural settlement network in Russia as a whole was shrinking more rapidly than in the Moscow Oblast: the number

towns and UTS are available but the latter are more widespread. However, the largest UTS in the oblast, Nakhabino, has 34.7 thousand residents and the smallest town, Ozherelye, has 10.6 thousand residents.

⁷ At this writing, we are unable to follow the process to 2010. It took two years to publish full results of the 2002 census, and it will likely take about two years to publish full results of the following, 2010, census as well.

of Russia's rural villages declined 13.6%. In the 1990s, however, their number increased 1.5% largely as a result of reclassification. Despite that increase, from 1989 to 2002, in Russia as a whole, rural population declined by 0.8%. In contrast, in the Moscow Oblast rural population increased even despite upward reclassification (conferring urban status to some villages).

Just as in Russia as a whole, in the Moscow Oblast smaller rural villages (less than 200 residents) and very small (less than 10 residents) are particularly abundant (Fig. 2a). This may attest to the fact that a transformation of the rural settlement network is underway. As is usual in Russia, this transformation assumes the character of polarization whereby medium-sized villages melt away as most of them depopulate and become small, whereas some grow and join the ranks of large and stable villages. The polarization of the rural settlement network around Moscow is going slower than in other oblasts of central Russia and slower than in Russia's northwest but more rapidly than in Russia as a whole.

In 2002, 82.3% of rural villages in the Moscow Oblast had less than 200 residents (74.6% in Russia as a whole and 84.1% in the CFD), but they accounted for just 13.7% of the rural population (11.6% in Russia as a whole and 20.7% in the CFD). Rural villages with more than 1000 residents are as rare in the Moscow Oblast as in Russia as a whole – 6.2% and 5.2%, respectively. However, mid-sized settlements, from 201 to 1000 residents, are almost twice less numerous in the Moscow Oblast (11.5%) than in Russia as a whole (20.2%). About two-thirds of rural folks (63.4%) in the Moscow Oblast live in large villages of more than 1,000 residents, and every third of those villages has more than 3,000 residents (Fig. 2b).

Thus, rural population's concentration in the Moscow Oblast is well above that of Russia as a whole (where 51.7% of the rural population lives in villages of more than 1000 residents) and especially above that of the CFD (38.5%). Historically, the predominant size of rural villages

has been a function of the size of arable land attached to each village. In the forest biomes, unlike in steppes and forest-steppes, that size used to be small, and in European Russia it used to decline from the southeast to the northwest. With biomes shaped as more-or-less latitudinal belts, the average size of rural villages used to be and remains for the most part one of the most “zonal” of socio-spatial characteristics. From that general perspective, the “azonal” or extra-territorial character of the Moscow Oblast reveals itself most accurately in the heightened share of large villages compared with the CFD.

Compared to its pace in the 1980s, the polarization of the rural settlement network slowed down in the 1990s. Whereas from 1979 to 1989, the number of villages with less than 10 residents increased 88.3%, from 1989 to 2002 their number increased only 28.4% (Table 3). Likewise, the increase in very large settlements (> 1000 residents) slowed down, which seems to be a response to the stagnation of cities. Still, however, the share of rural population residing in very large villages increased significantly (by 12%).

In the 1990s, population growth in large villages also occurred in Russia as a whole (by 7.5%, although the actual number of these villages declined 3.6%), which can probably be attributed to the arrival of international migrants in the Russian countryside. In the 1990s, these migrants were mostly forced migrants/repatriates from the former Soviet republics (Zayonchkovskaya and Mkrtychan, 2004, p. 163). International migrants preferred to settle in the largest villages, thus facilitating the growth of those villages. Most probably, settlement reclassification played its role as well.

The pace of the Moscow Oblast’s rural settlement network restructuring in the 1990s was slower than in Russia as a whole. This had a great deal to do with a tenacious habit of Russia’s big city dwellers to have second dwellings in the countryside. Earlier, these used to be

predominantly seasonal, summer-time dwellings, like dachas with detached single-family homes and vegetable gardens with shacks.

However, in the 1990s Muscovites began vigorously to buy up abandoned houses in traditional villages.⁸ Specifically, in the Moscow Oblast, most dying villages received a second wind exclusively due to dachniks (i.e., people who live in dachas). This influx helps sustain the settlement system, including villages where not a single permanent resident is left. The 2002 census detected 353 such villages in the Moscow Oblast—6% of the total. Of importance is the economic support of rural dwellers by the dachniks, many of whom buy the products of household farms.

Migration Trends

Since at least the 1960s, migration has been the major factor of population growth in Moscow and the Moscow Oblast alike. Its role has been growing as the natural increase has been declining. In the 1960s, migration contributed 1.2 times more than natural increase to the population growth of the entire Moscow Region; in the 1970s and 1980s, it contributed three times more; since 1989, when natural increase became negative, migration has been the *only* factor of population growth.

From 1979 to 1988, one million people were added to the Moscow Region's population through migration, which is on the scale of previous decades. But the 1989-2002 migration is definitely out of scale both with previous decades and with what came thereafter (Fig. 3). However, as mentioned above, the 2003-2009 migration is undoubtedly underrated, and if so, it will be subject to upward correction when full results of the 2010 census are published.

⁸ In fact, this process started in the 1970s (Ioffe and Fingerov, 1987), although under the Soviets most rural houses bought by urbanites were officially registered as belonging to some rural-based figureheads. Transactions were legalized in buyers' real names and got much more widespread with the advent of a market.

Annual migration dynamics in the Moscow Region as well as in Russia as a whole vividly reflect the shock associated with the breakup of the Soviet Union. Moreover, the Russian population seems to have had a premonition of adverse events (Zayonchkovskaya, 1995). On the eve and in the aftermath of the Soviet breakup, the pattern of migration sustained an impact from the drastic drop in quality of life due to pervasive deficits of food and other essentials and to galloping inflation. As a result people preferred to stay put, and some were drawn to the land as a source of food. On one hand, younger people stopped leaving the countryside in droves. On the other hand, some urbanites moved to villages. As a result, cities sustained negative net migration in their exchange with the countryside. This situation lasted three years, from 1991 to 1993. For example, in 1993, only 39% of all international migrants to Russia ended up in cities and 61% in the countryside (Zayonchkovskaya, 1999, pp. 123-124). In 2009, the ratio was exactly opposite.

Moscow replicated the all-Russia trend, having lost 42,000 people through migration from 1991 to 1993 (Fig. 4). One may doubt the accuracy of this statistic, but the distortion of net migration's usual age profile suggests that moving out of Moscow did in fact take place. Thus, the age group that sustained the highest net decline was children below 14 years of age (whom parents tried their best to bring to places where they could be better fed) and recent college graduates who began to return to their countryside homes more frequently. At the same time, those from 15 to 20 years of age continued to head to Moscow for schooling. In 1993, Moscow also lost a fair number of men aged 30–60, particularly 30–45 (Moiseyenko, 1999, p. 13-14). Quite possibly, this decline was due to outmigration of the military to the former Soviet republics. People used to leave Moscow for the Moscow Oblast and the adjacent regions of the CFD, from which most migrants had come to Moscow in the first place.

The flight of some Muscovites to the village was counterbalanced by the inflow of repatriates and refugees from the post-Soviet countries, particularly from the Trans-Caucasus, where ethnic conflicts were in full swing, as well as from the Far North and Siberia, where labor pools attached to natural resource sites proved to be unsustainable under new economic conditions. This inflow offset the migration losses of the Moscow Oblast's cities (in favor of rural villages) and much of the migration losses of the city of Moscow as well. Most probably, there were no losses at all, as scores of forced migrants from the former Soviet republics had only Soviet passports on hand and therefore did not even try to register either in Moscow or in the Moscow Oblast although in the latter this was slightly easier to accomplish.⁹

The presence of a large number of unrecorded migrants has become a fixture of the post-Soviet period. In 1994, positive net migration to Moscow was restored and since that time it has been relatively steady. Based on migration records alone, the overall net migration to Moscow from 1989 to 2002 amounted to 422,000. Adjusted by census data, it was 2.2 million people, which exceeded negative natural increase by a factor of 2.8. From 2003 to 2009, recorded net migration to Moscow amounted to 378,000, which is twice the size of negative natural increase.

The migration trend of the Moscow Oblast also sustained a decline in the early 1990s but not as deep as that of Moscow (Fig. 4). Even at that time both the cities and the countryside had positive net migration. The census adjustment of 2002 added 30% to the net migration of the oblast's urban areas and doubled that of the oblast's countryside. The 2002 census thus reaffirmed the attractiveness of the Moscow Oblast. From 1989 to 2002, its urban areas received 490,000 migrants (net inflow) which was just 40,000 short of negative natural increase.

⁹ The inter-government CIS agreement asserting that former Soviet citizens have citizenship preferences once they move from one post-Soviet state to the other was signed only in 1994. This agreement, however, bore general and declarative character and no specific instructions how to use it followed. Consequently, the agreement in question has never become a true instrument of protection of migrants' rights.

In the countryside, net migration (about 200,000) exceeded negative natural increase by a factor of 2. From 2003 to 2009, annual net migration to the urban areas of the Moscow Oblast exceeded that of 1989-2002 1.5 times; and annual net migration to rural areas exceeded that of 1989-2002 1.3 times. In terms of attractiveness for migrants, assessed as net migration per 10,000 residents, the cities of the Moscow Oblast have no match in all of Russia. Their attractiveness exceeds the average for Russia's urban areas by a factor of 4.5, and for Saint Petersburg and the cities of the Leningrad Oblast by a factor of 2.

While this attractiveness makes itself felt throughout much of the CIS, three-quarters of recorded migrants to Moscow and Moscow Oblast are migrants from other regions of Russia (Zayonchkovskaya and Mkrtychyan, 2009). One has to take into account, though, that recorded migration does not provide accurate information about the migration streams into the Moscow Region. This is largely because the inflow of temporary labor migrants vastly exceeds stationary net migration, that is, migration for permanent residency.

For example, in 2008 the city of Moscow received 55,100 migrants who relocated to Moscow for permanent residency whereas the number of official labor migrants (i. e., those legally employed) was 623,200. The respective Moscow Oblast statistics were 80,700 and 230,200.¹⁰ And as was already mentioned, those legally employed most probably do not exceed one-third of the total number of labor migrants. One should also take into account that quite a few temporary labor migrants employed in Moscow reside in the Moscow Oblast where real estate rents are lower. It therefore appears that labor migrants add quite a bit to the oblast's actual population – in our judgment about 1 million people.

¹⁰ In 2008, there were three times more official labor migrants in Moscow and 1.5 times more official labor migrants in the Moscow Oblast than in 2007. The 2009 statistics structured by region have not been published yet.

Legally employed migrants already account for more than 10% of Moscow's overall labor force and 6.3% of that in the Moscow Oblast, and these percentages grow fast. Thus in the Moscow Oblast, the share of legal labor migrants in labor force increased four times just from 2005 to 2008; in Moscow, it increased 2.5 times. These percentages would likely double if illegal labor migrants were counted. Most (90%) of legal labor migrants to the Moscow Oblast are from the CIS countries. In the city of Moscow, their numerical dominance is less pronounced (60%).

The structures of inflow by country of origin differ between the city of Moscow and the Moscow Oblast. Thus, in Moscow among the newcomers for permanent residency, those from Ukraine and the Trans-Caucasus are most numerous. In contrast, in the Moscow Oblast, Central Asians (who are less competitive than other groups) are most numerous (Table 4). The makeup of labor migrants by country of origin differs drastically from the makeup of stationary migrants. Among labor migrants to both Moscow and Moscow Oblast, Central Asians are dominant (Table 4).

For labor migrants from "distant abroad" (i.e., from without the CIS), the Moscow Oblast is not yet overly attractive. In 2008, there were only 22,700 of those migrants, with half of them (10,700) being from Turkey, 3,900 from Vietnam and 3,300 from the former Yugoslavia. In Moscow, the non-CIS labor migrants were much more numerous, totaling 245,700, with three country leaders—China (80,900), Vietnam (71,700),¹¹ and Turkey (40,000). These three countries of origin account for 78% of non-CIS labor migrants in Moscow. At the same time, there is already a noticeable stream of migrants (15,600) from the world's most advanced countries, including the USA and Japan. This stream accounts for only 6.3% of the non-CIS inflow, but in the 1990s it did not exist at all.

¹¹ Additionally, there are quite a few illegal labor migrants from China and Vietnam. Thus, in 2010, in the city of Moscow's Eastern District (okrug), the police uncovered 12 underground textile factories.

It is obvious there is an ethno-cultural contrast between migrants and permanent residents in the Moscow Region. This contrast feeds into social tension and is fraught with ethnic conflict. According to representative surveys, the attitude of every fourth Muscovite and every third resident of the Moscow Oblast to migrants is either negative or extremely negative (Tyuryukanova, 2009, p. 170).

Spatial Differentiation of the Population Dynamics

To reveal changes in the population geography of the Moscow Oblast, we created three choropleth maps (Figures 5, 6, and 7) structured by rayons (municipal districts) and the so-called extra-territorial cities.¹² Around Moscow, whose own physical plan consists of concentric rings and radial spokes, an identical rings-and-spokes settlement structure has long taken shape, with population density decreasing with distance from Moscow. The population density gradient is steep – from 664 people per sq. km in the rayons abutting the Moscow city line to 74 people per sq. km in the most remote rayons just 110 km from Moscow. This profile of population density brings about the quasi-Thunen economic landscape in agriculture analyzed by Ioffe and Nefedova (2001).

The same centripetal structure—with some qualifications—reveals itself in the 1979-1989 population dynamics (Fig. 5), although the zone of population decline girding Moscow from the east and southeast is at odds with that structure. This zone, however, is an epiphenomenon of sorts; its availability is due to the fact that the population of some urban settlements abutting the Moscow city line is not included in the population of their respective rayons. It is these

¹² Extraterritorial cities are located at the junctions between the rayons and therefore are unable to be identified with any of them. All those cities are townships or *gorodskijyeokrug*. Alongside the central city, a township includes several nearby settlements. Altogether, there are 36 townships in the Moscow Oblast. However, populations of those townships that are rayon seats and are located within rayons (e.g., Serpukhov or Kolomna) are included in rayon populations.

settlements that are effectively extensions of Moscow that have shown the most rapid growth. For example, from 1979 to 1989 the city of Troitsk gained 31.7%.

From 1979 to 1989, in most of the Moscow Oblast, population was growing; in those rayons where it was not, the decline was just within 1%-3%. Figure 5 and subsequent maps (Fig. 6 and 7) largely reflect the growth of urban population. As for rural population, from 1979 to 1989 it declined everywhere except for the extreme southeast. The steepest (more than 20%) rural population decline occurred in immediate proximity to Moscow, precisely where Moscow's closest urban satellites evinced the steepest growth. To some extent this growth was due to "absorption" of the nearby rural population. The farther away from Moscow, the gentler was the decline in rural population.

In summary, prior to the breakup of the Soviet Union and before economic reform, pervasive urban population growth in the Moscow Oblast was accompanied by pervasive rural population decline. Much of rural population with roots in the immediate environs of Moscow had been absorbed by Moscow and its urban satellites long before 1979. That absorption brought down rural population density. In rayons abutting Moscow from the south and west, population density exceeded 60 people per sq. km; it was slightly below that level in the northern sector, whereas in the western and eastern vicinities of Moscow it did not exceed 20 people per sq. km. This means that by the beginning of the 1980s, absorption of rural population by the center of the entire settlement system was largely over.

Also, throughout much of Soviet history, the government tried its best to restrain the growth of Moscow which they believed was excessive, and the major instrument of restraint since the 1970s was a ban on industrial expansion within the Moscow city line. Because this ban was at odds with industrial concentration stimuli (along the lines of the classic

Weberiantriangle¹³ as well as additional stimuli resulting from pull of skilled labor), it boosted industrial growth and boosted it right outside the Moscow city line. That growth, in turn, provided rural and small-town dwellers with industrial jobs, and the country folks were joining urbanites. The spatial inversion of rural population decline (whereby the closer to Moscow the more rapid it is), which is revealed in Figure 5, bears the imprint of these ambiguous central planning principles.

The spatial profile of the 1989 – 2002 population dynamics is very much apart from that of 1979 – 1989. Almost all of the Moscow Oblast sustained population decline (Fig.6). Definitely, this decline resulted from the shock associated with the Soviet economic collapse. Even the populations of cities whose basic industry was R & D in spacecraft and nuclear physics (such as Korolev, Dolgoprudny, and Dubna), the cities that experienced steady growth prior to 1989, sustained a decline in the 1989 to 2002 period.

In the Moscow Oblast, the crisis was even more painful than in Moscow. Thus, in Moscow, the 1998 industrial output was 30% of that in 1989, and in the Moscow Oblast it was just 31%. The average recorded personal income which in the Moscow Oblast was 22% short of that in Moscow in 1989, was only 43% of Moscow's in 1998 (Makhrova et al, 2008, pp. 18, 110). In very few rayons, population grew from 1989 to 2002 in excess of 10%, and only one of them, Odintsovsky, exhibited equally vigorous growth before 1989.

The rural and small-town populations of the territories abutting Moscow from the southwest grew from 1989 to 2002 despite the fact that the cities of Troitsk and Dzerzhinsk continued to grow as well. The outer fringe of Moscow's city line became more appealing. Indeed, as soon as the market system was legalized, large shopping malls, warehouses,

¹³ The Soviet industrial location policy emphasized the so-called territorial production complexes. Within such complexes, industrial location largely followed Weber's routine with minimization of transportation costs being the leading criterion.

automobile repair shops, and other enterprises mushroomed within that fringe as the city of Moscow consigned those enterprises to accessible destinations with land values lower than within the city. Overall, the population concentration around Moscow increased only within the narrow southwestern sector, whereas in other sectors it slowed down noticeably.

Beginning in the mid-1990s, the land and real estate markets emerged and have been growing rapidly, so the Moscow Oblast got new development stimuli. Figure 6 reflects the early stage of the Muscovites' quest for the most attractive land. Not only has the concentric rings structure been retained, the profile of rural population dynamics became centripetal once again. Whereas during the previous period (1979-1989), the closer to Moscow the steeper was rural population decline, in 1989-2002 it was the other way around, that is, the closer to Moscow the more significant the rural population growth. Within the southern and southwestern sectors growth in excess of 10% was pervasive. Elsewhere, rural population declined gently, but the pace of decline increased with distance from Moscow.

During the next period—from 2002 to 2010—pervasive urban *and* rural population growth characterized all rayons abutting the Moscow city line (Fig. 7). Also, the R&D centers received a second wind. Compared with the 1980s, population dynamics became more differentiated. Thus, spacious zones of depopulation took shape in the east and northeast and also along the border with the Tver Oblast. Positive net migration everywhere except in just three rayons (Fig. 8) reinforces spatial differentiation. In 2008, migrants were particularly drawn to the oblast's southern rayons and to cities in proximity to the Moscow city line, two groups of destinations with more than 15 migrants per 10,000 residents and accounting for 49% of all net migration (75,300) to the Moscow Oblast.

Migration did not offset negative natural increase. From 2002 to 2010, the zone of gravitation to Moscow expanded, this time due to market incentives. Specifically, land and real estate price differentials have been at work. On average in 2000, real estate prices per one square meter in the cities of the Moscow Oblast were 2.2 times lower than in Moscow; in 2007, they were 2.4 times lower. Within the oblast, center-periphery price gradients are almost equally steep (Makhrova et al , 2008, p. 70). As a result, the Moscow Oblast outstripped Moscow in terms of annual housing construction and is now number one in all of Russia. In Russia as a whole, total living space in apartments commissioned in 2007 has not yet exceeded that of apartments commissioned in 1990, but in the Moscow Oblast the 2007 new housing space was three times that of 1990. New apartment blocks are built not only in cities but in the countryside as well; 85% of new dwellings have been commissioned in rayons abutting the Moscow city line (Nefedova, Treivish, 2008, p. 151).

To a significant extent, new housing construction in the Moscow Oblast meets external demand. For example, in 2005 the oblast residents bought 58% of all new apartments, and Muscovites bought 15%. About one-quarter of new apartments were bought by migrants from other regions of Russia, and some by migrants from the CIS countries (Makhrova, 2008, pp. 98-99).

External buyers are becoming more numerous with time. Predictably, the Muscovites are buying real estate in proximity to Moscow, whereas migrants prefer to buy in remote rayons where prices are lower (Ibid.). The significant population growth which unexpectedly befell the two peripheral rayons, Volokolamsky and Shakhovskoy (Fig. 7), is probably due to purchases of the Moscow Oblast's real estate by residents of neighboring regions.

Just as real estate prices spur housing construction in cheaper areas, land values squeeze Moscow-based industry out of Moscow. Meat and milk processors, candy factories, and other businesses claiming a lot of land such as office centers are among the industries most prone to relocation. In such a way, the post-2002 shifts have been marked by a refreshing influence of market relations. They may eventually facilitate a leveling of economic potential and social environment within the entire space of the Moscow urban agglomeration.

The Case Study Sector

In order to deepen our understanding of the settlement system transformation under the influence of crisis and of subsequent resumption of economic growth, we set out to enlarge the scale of our analysis. Given the rings-and-spokes structure of the Moscow agglomeration, we have selected one of the spokes – that extending west, with the three rayons, Odintsovsky, Rouzsky, and Mozhaisky, strung on it. These rayons traverse all the available Moscow accessibility zones, which allows us to focus on distance friction as a factor of settlement transformation.¹⁴

The corresponding maps (Figures 9 and 10) were produced in stages. First, we used the 1 centimeter = 1 km base map. A lattice imposed on that map divided the western sector of the Moscow Oblast into squares sized 1 sq. km. We then tallied the rural population of each square. Thus we arrived at three (1979, 1989, and 2002) matrices maps that structured population by square. The next step was to calculate % change in population from 1979 to 1989 and from 1989 to 2002. Finally, the squares that fit a certain bracket of population change (see legends of Fig. 9 and 10) were connected by isolines.

¹⁴Unfortunately, at this writing no such analysis (whereby the primary unit of information is a settlement or a census-designated place) can extend to 2010, as the spatially detailed results of the 2010 census have not been published yet.

The western sector of the Moscow Oblast is the least urbanized and the most popular and prestigious for second dwellings (dachas) and recreation. The Moscow River flows through all three rayons. One of them, Odintsovsky, abuts Moscow and is full of recreation centers (including elite ones), sporting facilities, health care, and office centers. The rayon leads the Moscow Oblast in housing construction. The military town of Kubinka is located here, with a nearby military airfield. Rouzsky and Mozhaisky are among the most ecologically clean and picturesque rayons of the oblast, with a dense network of streams and several water reservoirs. In the Rouzsky rayon, there are important recreation facilities for authors and composers.

In terms of population numbers, Odintsovsky with its 269,100 population (2010), by far exceeds the two other rayons (66,100 in Rouzsky and 69,400 in Mozhaisky). In these three rayons, the 1979 – 2010 population change has followed the classic distance friction pattern: the closer to Moscow, the steeper the population growth. Accordingly, in Odintsovsky, which is closest to Moscow, population increased 15.6%; in Rouzsky, which is the second closest, it increased 14.1%; and in Mozhaisky, which is most remote, it declined 4.8%.

The urbanization statistic in all three rayons is lower than in the oblast as a whole. In Rouzsky and Mozhaisky rayons, only 48% of the populations are urbanites, and in Odintsovsky, 68% are. Settlement re-classification affected Rouzsky the most. As a result of the post-2002 demotion of some urban settlements into rural ones, the share of urban population in the rayon dropped from 59% to 48%.

During the crisis of the 1990s, growth in the number of urbanites was retained only in Odintsovsky rayon. Disregarding settlement reclassification, rural population declined in all three rayons. The fact that reclassification (a shift from urban to rural) occurred in Odintsovsky

and Rouzsky but not in Mozhaisky indirectly reflects heightened land values in the two rayons that lie closer to the city of Moscow.

One of the maps of population dynamics (Fig. 9) shows extensive rural depopulation from 1979 to 1989, which is reflected in large areas falling within the lowest bracket, i.e., identifying population decline by more than half. During the following inter-census period, 1989 – 2002, depopulation slowed down, and the largest areas fell within the next-to-last bracket (identifying decline by less than 50%) and within the following one, identifying growth (Fig. 10). Particularly noticeable are changes in the Rouzsky rayon, where new growth poles emerged in the south only a decade after population declined.

At the same time, the UTS Tuchkovo stopped being a growth pole, as some of its enterprises closed down. Even in the peripheral Mozhaisky rayon, gravitation toward Mozhaisk strengthened. Within three sectors radiating from Mozhaisk, population began to grow; a little growth pole also emerged in the northwest (Fig. 10). Apparently the demand for land and cheap housing and the possibility of satisfying that demand under new market conditions stand behind that change.

In a broader sense, this new market system stands behind all the changes that a comparison of figures 9 and 10 reveals. Although Fig. 7 showed that the Moscow urban agglomeration shrank somewhat, having left behind a relatively spacious oblast periphery, a switch to a larger-scale analysis also suggests that the periphery is likely to be within the agglomeration's reach. When full results of the 2010 census are published, one will be able to follow and reflect on this process with a higher level of certainty. But even now we stand in awe of the speed of change produced by the market system in Russia. It is almost like people were waiting for a signal.

Conclusions

The Moscow Region is the only ethnically Russian region of the Russian Federation exhibiting steady population growth. Given the current demographic crisis in Russia, this growth is only possible through migration, which more than offsets negative natural increase and which led to a significant 2002 upward adjustment of the population estimates of both Moscow and the Moscow Oblast. Once the 2010 census results are processed, another upward adjustment is likely, as scores of migrants remain unrecorded and work illegally.

The crisis that accompanied and followed the breakup of the Soviet Union produced setbacks in population growth during the 1990s. Not only did population growth decelerate, but also urbanization stagnated and rural-to-urban migrations reversed. In addition, a durable but still incomplete spatial polarization of rural population change, depending on distance from Moscow, has slowed down.

However, the Moscow Region quickly capitalized on the effects of post-communist transformations. As the market system arose in Russia, it had a revitalizing influence on the Moscow Region. Specifically, the emerging real estate and land market restructured the environs of Moscow, leading to some shrinkage of the Moscow urban agglomeration and to the expansion of peripheral zones. At the same time, the analysis of the transformation of the settlement system within the selected sector of the Moscow Oblast reveals that the extreme west of the oblast also experienced the revitalizing influence of the market system. Overall, a shifting scale of analysis proved to be a useful tool for uncovering spatial change in population around Moscow.

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Table 1
Moscow Oblast Population Dynamics

	Total	Urban	Rural
Population in thousands of people			
1979	6,334.1	4,744.6	1,589.5
1989	6,646.4	5,294.8	1,351.6
2002	6,618.5	5,248.5	1,370.0
2010	6,752.7	5,459.7	1,293.0
Growth in thousands of people			
1979-1988	312.3	550.2	-237.9
1989-2002	-27.9	-46.3	+18.4
2003-2009	134.2	211.2	-77.0
Percentage growth			
1979-1988	4.9	11.6	-15.0
1989-2002	-0.4	-0.9	1.4
2003-2010	2.0	4.0	-5.6

Sources: Census data (1979, 1989, and 2002) and current records (January 1, 2010) provided by the Moscow Oblast Bureau of Statistics.

Table 2

Moscow Oblasts Urban Population Distribution between Urban Places of Different Size

Population Size in Thousands of People	% share				% growth		
	1979	1989	2002	2010	1989/1979	2002/1989	2010/2002
< 10	8.0	7.5	7.0	4.9	5.8	-8.2	-26.4
11-20	10.0	9.4	10.2	8.4	5.0	8.2	-14.2
21-50	17.1	13.1	14.0	15.9	-14.4	5.5	18.4
51-100	25.6	29.7	27.6	27.1	29.5	-7.7	1.9
> 100	39.3	40.3	41.2	43.7	14.2	1.8	10.2
Total	100.0	100.0	100.0	100.0	11.6	-0.9	4.0

Source: Data provided by the Moscow Oblast Bureau of Statistics.

Table 3

Moscow Oblast Rural Settlement Dynamics by Size

Number of Residents	Number of settlements		% Population Change	
	1989/1979	2002/1989	1989/1979	2002/1989
No more than 10	188.3	128.4	182.2	124.5
11-50	101.7	91.1	92.3	88.2
51-200	70.0	81.3	71.8	81.9
201-500	61.7	85.0	60.8	85.8
501-1000	74.8	90.3	78.1	91.0
> 1000	110.9	102.8	98.5	112.0
Total	94.2	96.3	85.0	101.4

Source: Data provided by the Moscow Oblast Bureau of Statistics.

Table 4

**Percentage Distribution of Net Migration to Moscow and the Moscow Oblast by
Countries of Origin**

Countries and Regions	2009 Net Migration for Permanent Residency		2008 Temporary Labor Migration ¹⁵	
	Moscow	Moscow Oblast	Moscow	Moscow Oblast
Belarus	4.3	3.2	-	-
Moldova	12.3	14.4	13.0	14.8
Ukraine	36.1	28.2	17.7	20.7
Trans-Caucasus*	26.4	17.8	6.4	7.3
Kazakhstan	4.6	12.3	0.3	0.2
Other countries of Central Asia**	16.3	24.1	62.6	57.0
Total	100.0	100.0	100.0	100.0

* Armenia, Azerbaijan, and Georgia.

** Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan.

Sources: Chislennost i Migratsiya Naseleniya Rossiiskoi Federatsii, Gosstat 2008 and 2009;
http://www.gks.ru/bgd/regl/B09_107/IssWWW.exe/Stg//%3Cextid%3E/%3Cstoragepath%3E::|tab2-06.xls; and
http://www.gks.ru/bgd/free/b10_107/IssWWW.exe/Stg//%3Cextid%3E/%3Cstoragepath%3E::|tab2-06-09.xls.

¹⁵ According to Russia-and-Belarus union state regulations, citizens of Belarus while in Russia enjoy the employment rights of the Russian Federation's citizens. Consequently, no temporary migrants from Belarus are recorded.

Figure 1. Population of Moscow and of the Moscow Region against the Backdrop of Russia as a Whole

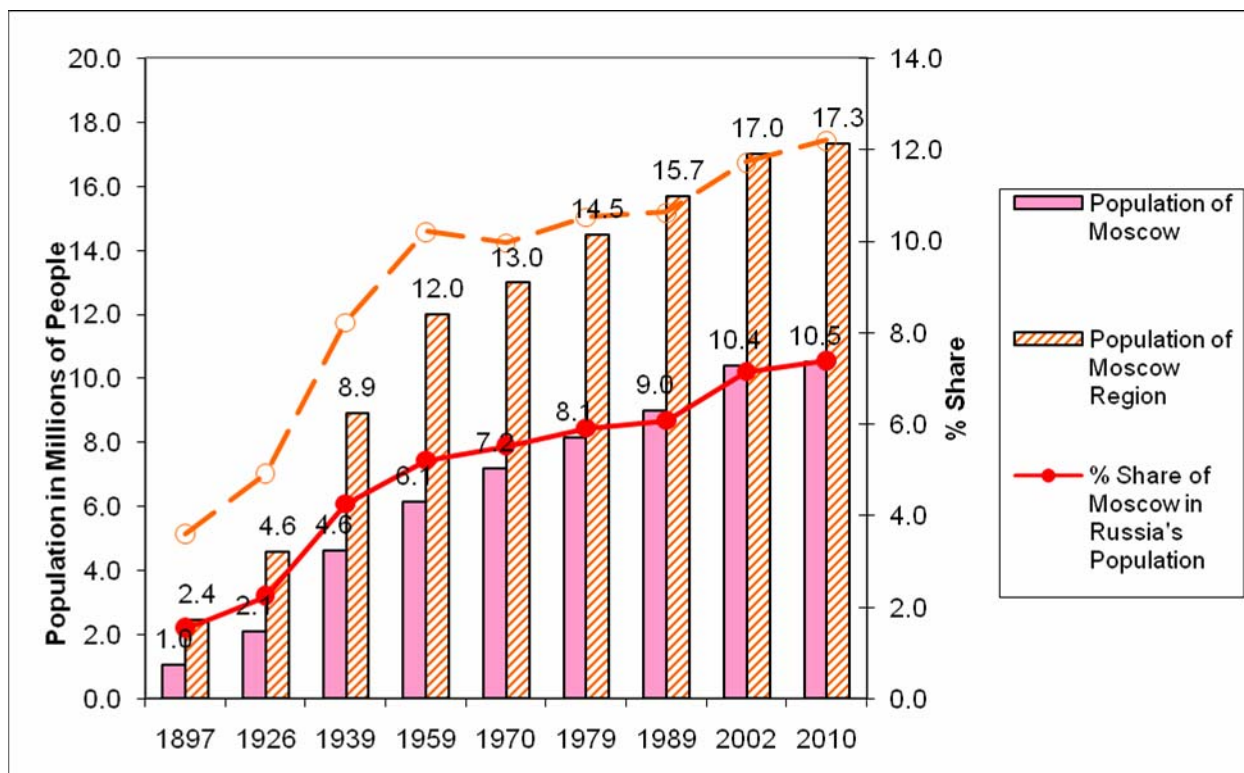
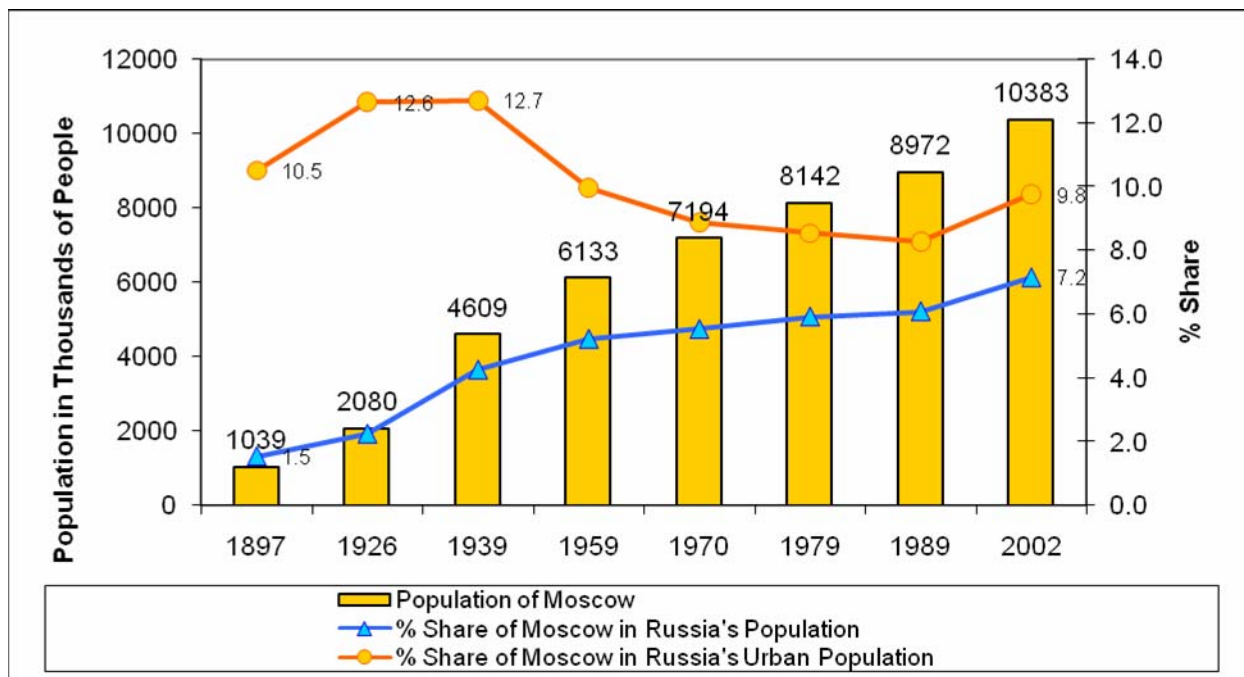


Figure 2. Distribution of Rural Settlements (Fig. 2a) and Their Respective Population (Fig. 2b) by Settlement Size Categories in the Moscow Oblast: 1979 – 2002

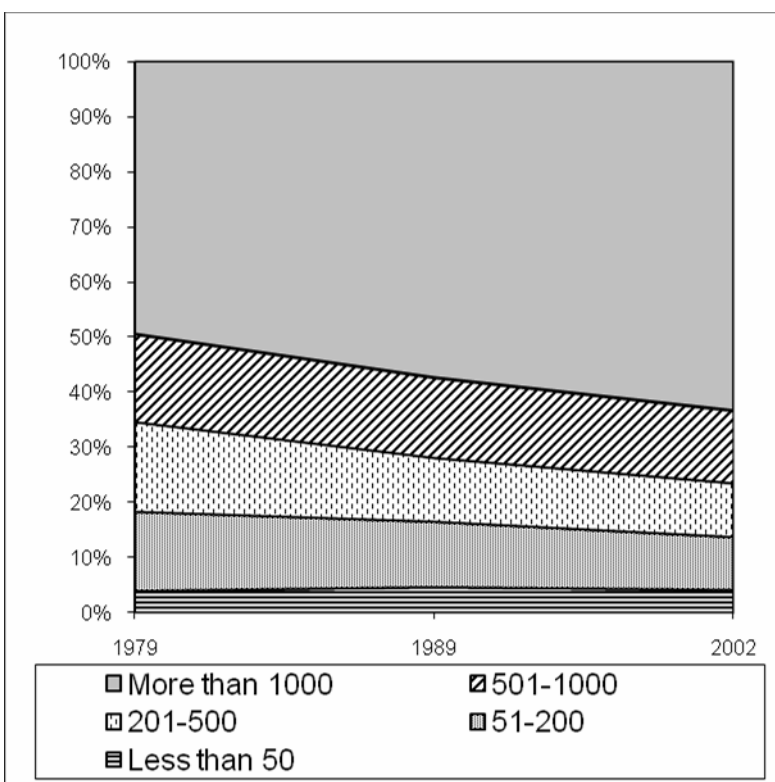
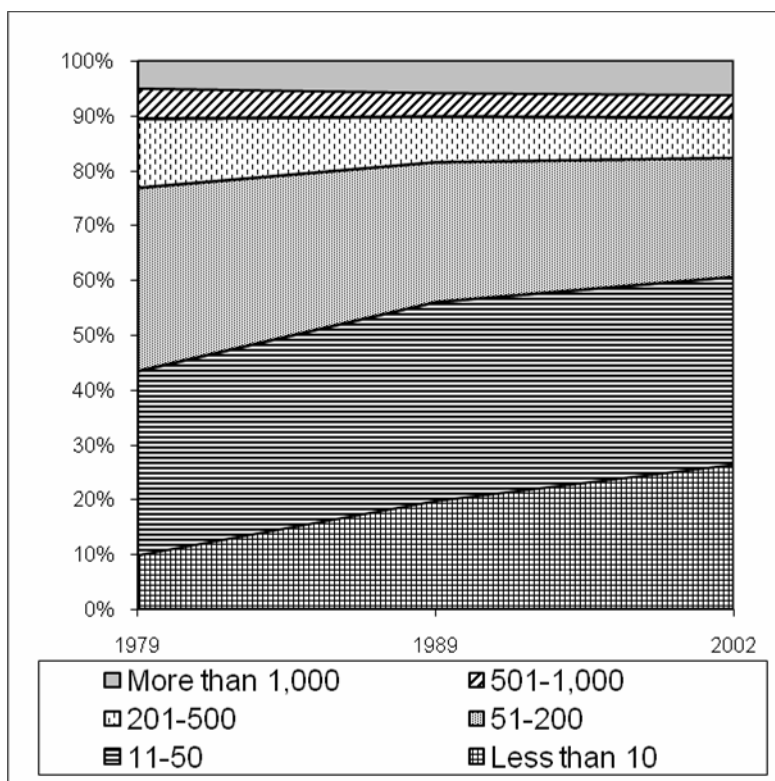


Figure 3. 1961–2009 Net Migration to Moscow and to the Moscow Oblast in Thousands of People

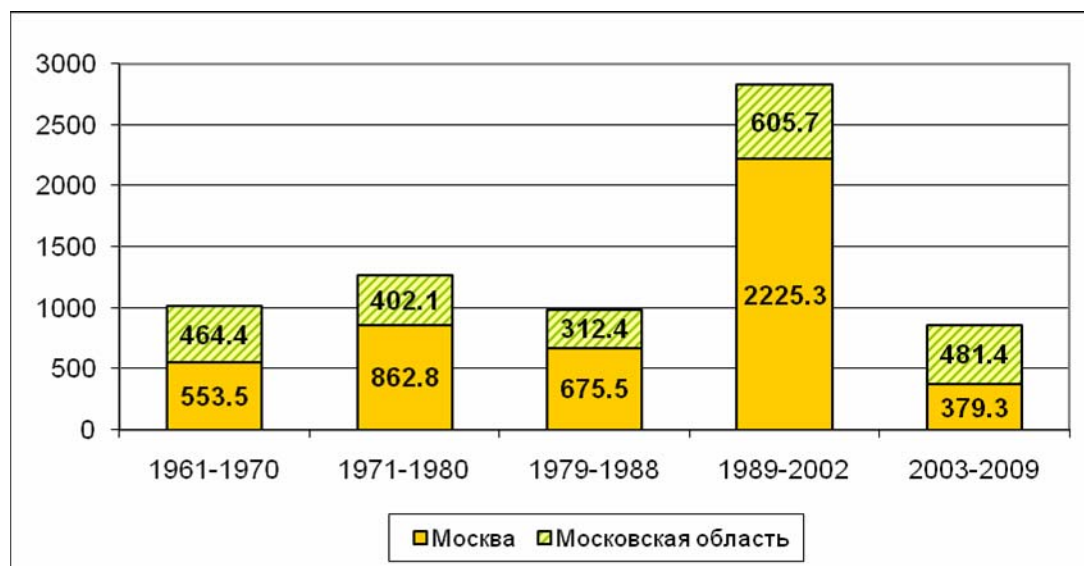


Figure 4. 1989–2009 Time Series of Net Migration to Moscow and to the Moscow Oblast in Thousands of People

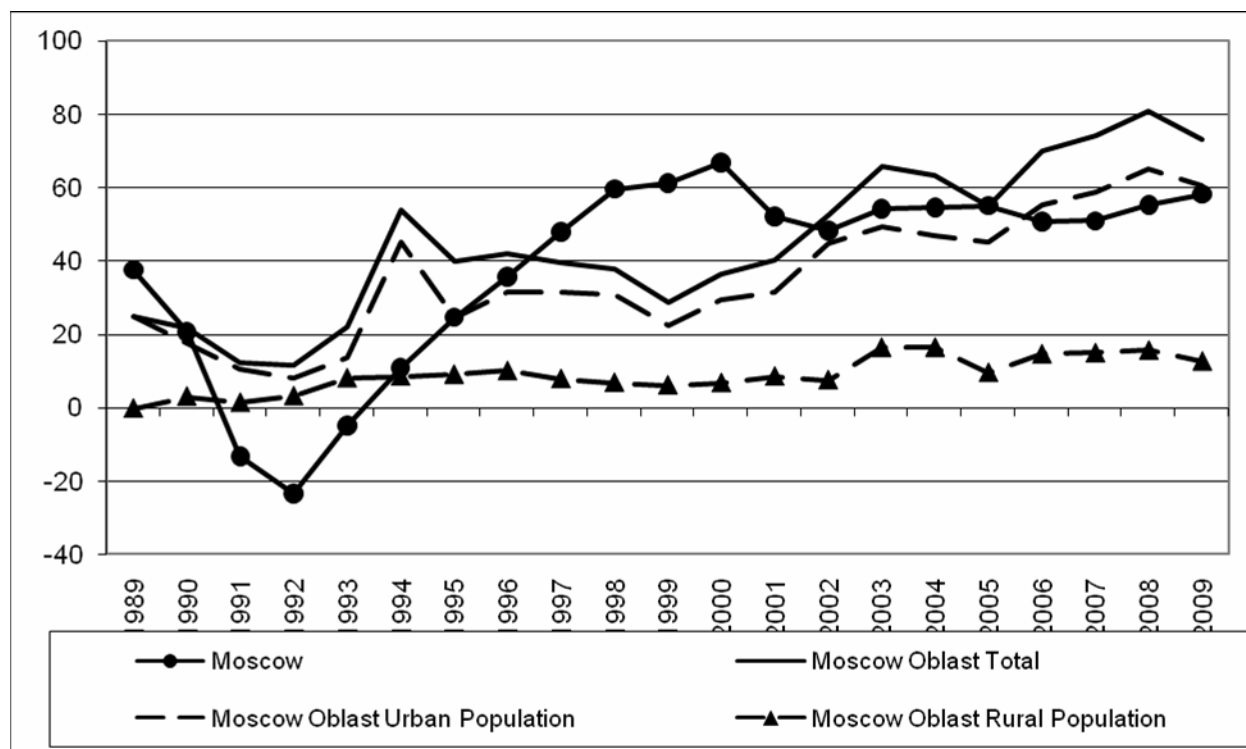


Figure 5. Population Change: 1979 to 1989.

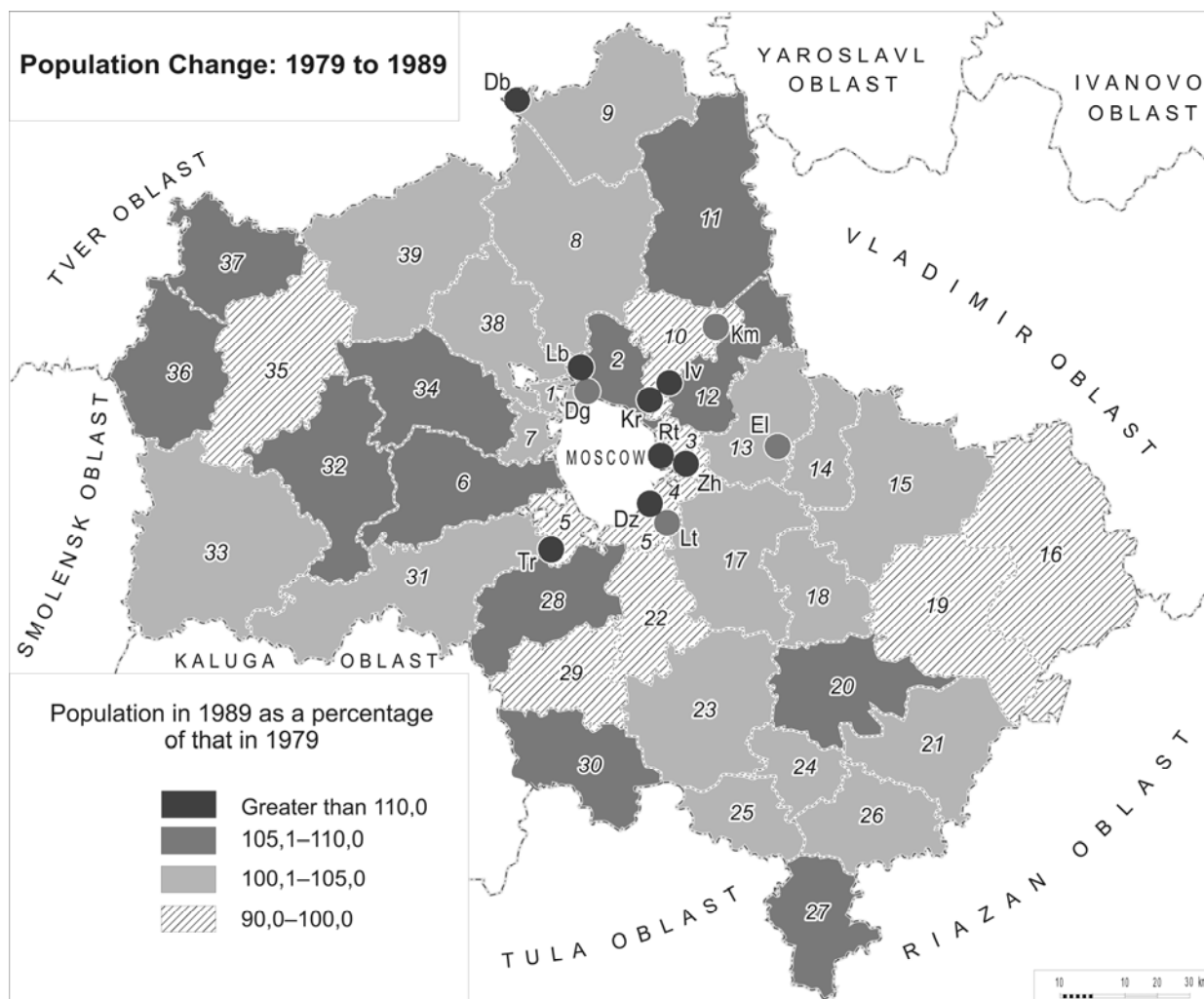


Figure 6. Population Change: 1989 to 2002.

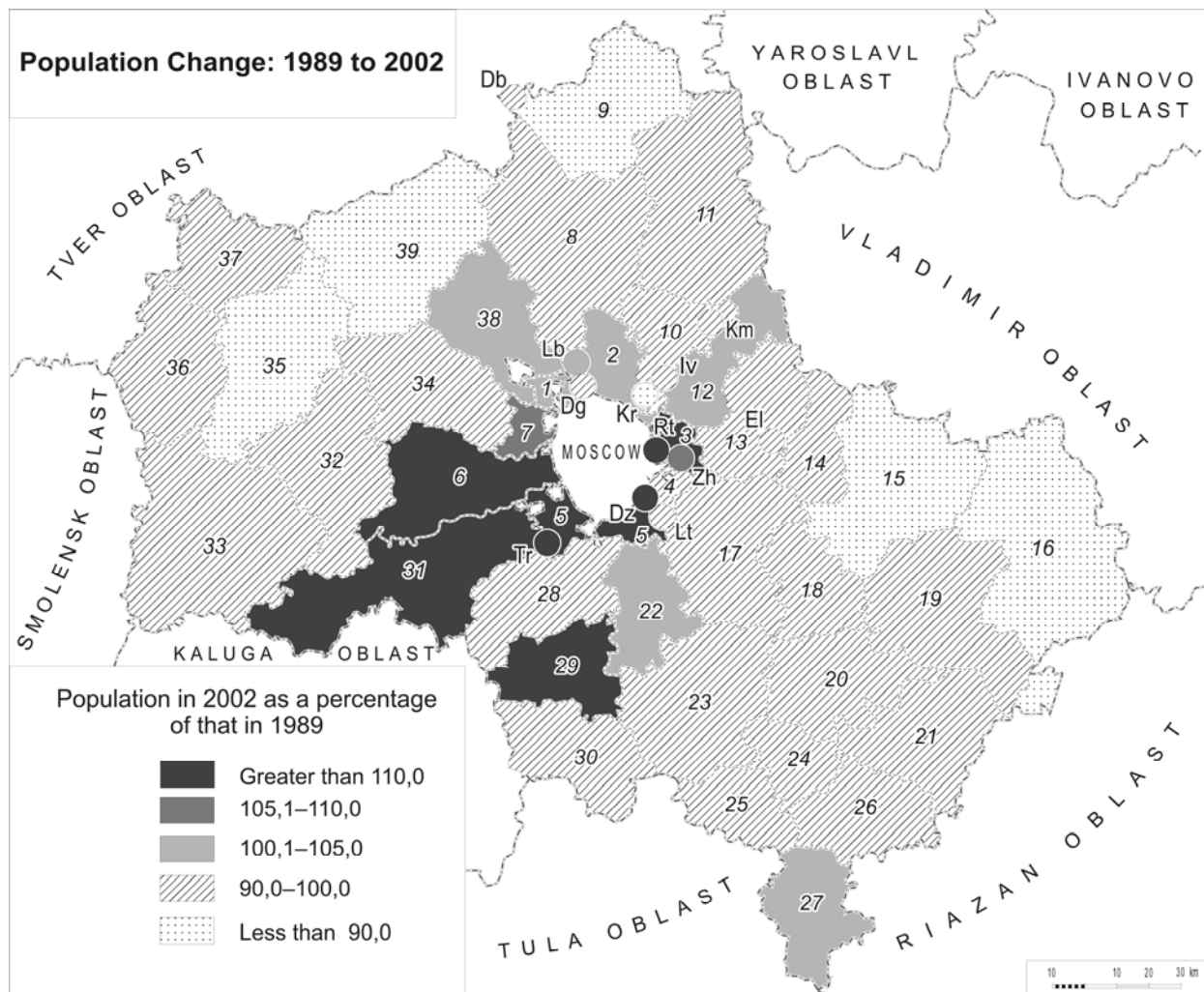


Figure 7. Population Change: 2002 to 2010.

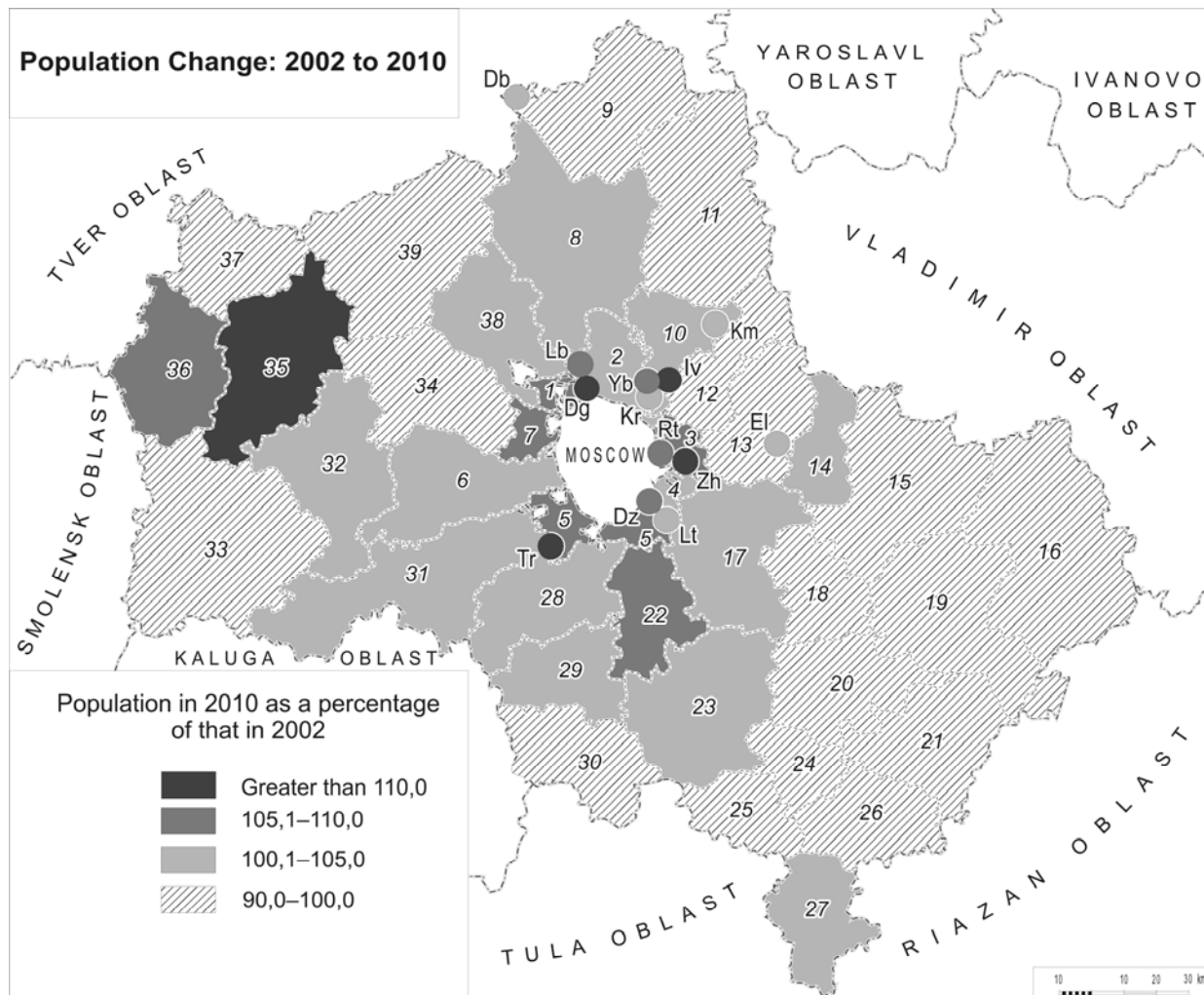


Figure 8. Population Change Due to Migration.

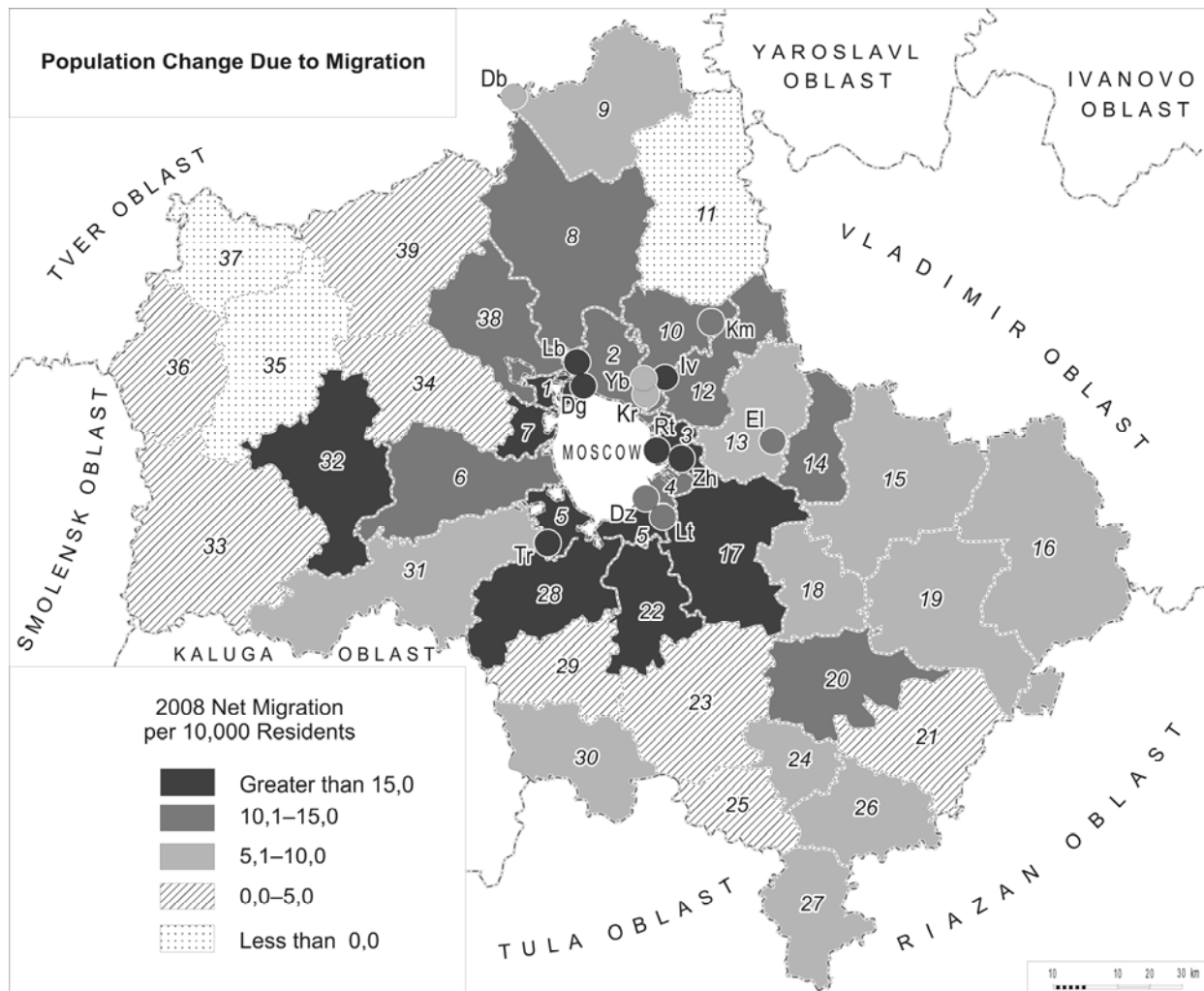


Figure 9. Moscow Oblast's Western Sector: Population in 1989 as a Percentage of that in 1979.

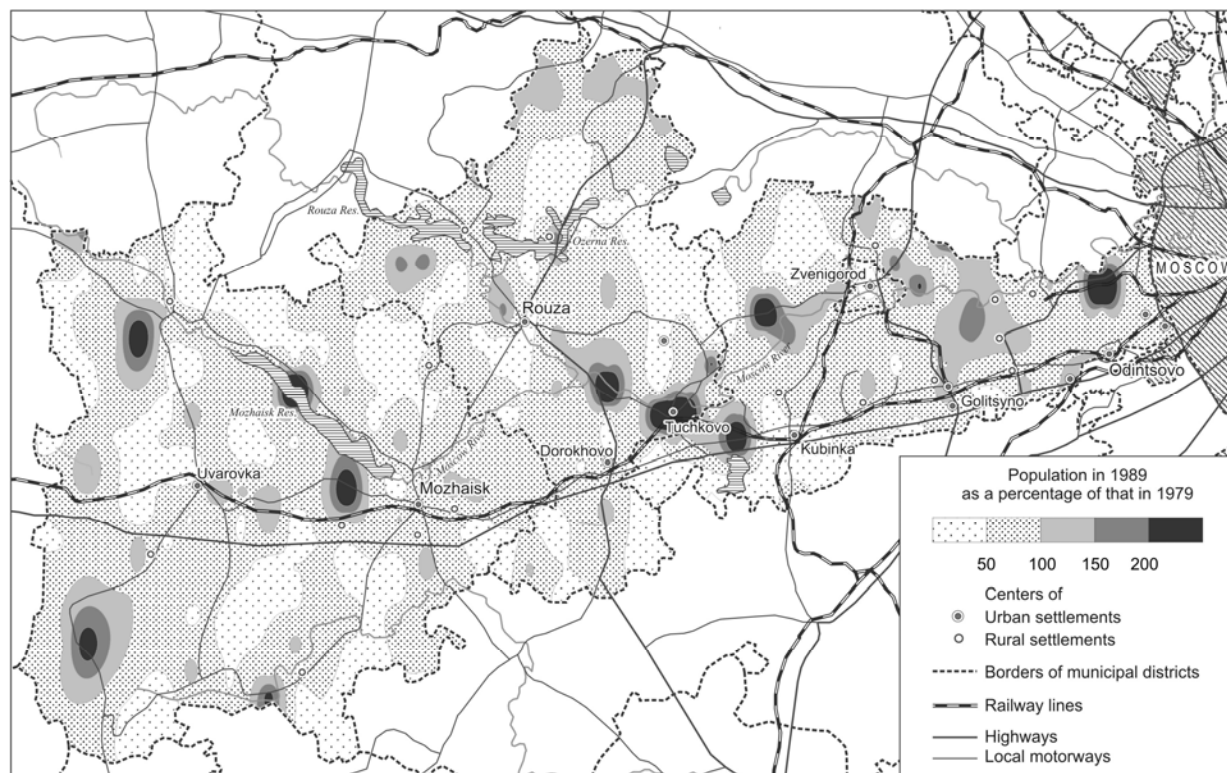


Figure 10. Moscow Oblast's Western Sector: Population in 2002 as a Percentage of that in 1989.

