Internal migration in Russia in the 2010s: macroregional features

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Abstract: *The article analyzes the largest migration flows within Russia based on data from internal migration in the years 2011-2020. It evaluates the outcomes of population movement between major regions of the country. The time frame of the study (2011-2020) is determined by changes in the methodology of migration recording in Russia since 2011. These changes are associated with fluctuations in the annual migration volumes reported by Rosstat, as well as the influx and outflow of the population between specific regions and population groups, highlighting distinct age-related migration patterns. The calculations were conducted using individual de-identified migrant data, enabling the identification of initial registrations and so-called "auto-return" in each migration flow. The analysis is not limited to regional boundaries when identifying different parts of the country and specific migration "hotspots." The study's findings indicate that the scale of internal migration in Russia during the 2010s remained relatively unchanged, with population movements between major regions remaining at similar levels to previous decades. The major attraction centers for migrants, such as the Moscow and St. Petersburg agglomerations, have solidified their positions. Migration primarily occurs among students and young working-age individuals, although in certain parts of the country there is a significant proportion of older individuals within the migration flows.*

Keywords: *migration statistics, Far East, North Zone, Centers of migration attraction, age of migrants, agglomerations.*

Introduction

The end of the 2010s allows us to assess the decade's population flow between individual parts of the country as a result of internal migration. This article makes an attempt to summarize the results of internal migration at the "macro level" between large parts of Russia, parts which, as the author sees it, in terms of migration are united by internal similarities and at the same time differ from other groups of regions similar in size and role.

The changes made in the 2010s to the recording of long-term migration in Russia greatly complicate comparisons with previous periods, and at the same time make it possible to understand that we can speak, based on statistical data, not of exact figures of population flow, but rather of their interval values. Oddly enough, over the past more than ten years since the changes in migration recording, not all researchers, and especially managers, have realized that the figures published by Rosstat cannot be used without certain procedures for "dissecting" them, that the dynamics of migration indicators in individual regions during the 2010s are often associated not with real processes, but with the specifics of how they are recorded. Using the example of individual macroflows (between large parts of the country), this article demonstrates that, depending on how we count, certain trends in interregional migration can be called into question, and some may even be statistical artifacts.

The latest research on internal migration shows a great diversity of topics. In the context of our study, several key themes can be identified. Above all, in many developed countries (USA, Australia, etc.) researchers are busy elucidating the various reasons for the reduction in internal migration (Sunganani et al. 2020; McCollum et al. 2020; Bernard, Pelikh 2019). This issue represents, judging by the publications, a large research task. At the same time, analysts involved in the comparative study of internal migration in different countries report that in some European countries the annual intensity of internal migration is growing (Alvarez, Bernard, Lieske 2021).

In countries with high concentrations of population in metropolitan cities, the role of the latter in national population movements continues to be studied. Thus, in the UK, despite the decline in interregional population flows, London remains a "key driving force" of migration (Lomax et al. 2014). Population concentration continues in major metropolitan areas in China (Tao et al. 2015) and other catching-up countries. It should be noted that new angles for studying internal migration are also emerging. Thus, the connection between internal migration and natural climatic conditions and the consequences of human economic activity can be traced in China, where it is influenced, for example, by soil erosion (Zhang, Zhuang 2019).

Finally, when studying internal migration, especially between large parts of countries, greater success is achieved by disaggregating migration flows. Thus, in Germany, flows between the former western and eastern parts are disaggregated by citizenship (the country has a significant part of the population without German citizenship), age and gender (Stawarz et al. 2020). The significance of the age features of migrants and the population, as well as the importance of using high-quality statistical data, are demonstrated by many studies (DeWaard et al. 2019).

Our work aims to analyze internal migration on a macro scale, its role in the flow of population between large parts of the country. The calculations demonstrate the difficulty of assessing the scale of migration in modern Russia, a difficulty associated with the new methodology for recording long-term migration in force since 2011.

Methodology and data

Along with the generally accepted division of Russia into federal districts, the article analyzes the regions of the Far North and areas of equivalent status (hereinafter referred to as the North), from which the territories of the North belonging to the Republics of Tyva and Altai are excluded. The latter are considered together with other territories of Southern Siberia. In addition, in some cases, the calculation was carried out for the large urban agglomerations of Moscow, St. Petersburg and other Russian cities with a population of 250,000 people or more. These agglomerations consist of centers (cores) around which they are formed, as well as populated areas considered part of their outer zone. In the case of Moscow and St. Petersburg, the cores are equal in territory and population to these federal cities within their current borders; in other large cities they consist of the inhabitants of the urban areas proper. If there are other populated areas within the urban district of these cities, they are not included in the cores. The outer zone of agglomerations is limited by a radius whose size depends on the size of the population living in the core. For Moscow and St. Petersburg, this radius is defined as 100 km, for other cities with a population of over 750,000 people - 50 km, and for cities with a population of 250 to 750,000 people - 30 km. As calculations show, at approximately this distance from large cities of the corresponding size, positive migration gain is maintained (Karachurina, Mkrtchyan, Petrosyan 2021). In this way, migration rates are calculated not for large cities, but for urban agglomerations; this article analyzes the indicator of migration gain (loss). This approach is discussed in detail in (Mkrtchyan, Gilmanov 2023a).

We used individual depersonalized data on internal migration in Russia for 2011-2020 provided by Rosstat[1], thanks to which there are "innovations" in our work that have not previously been used in such calculations. Above all, this takes into account the impact of auto-return on macroflows, which became possible with the advent of access to the corresponding arrays of migration data. Secondly, migration analysis was carried out not at the regional, but at a more spatially detailed level, down to individual settlements, which made it possible to identify, for example, the Far North and areas of equivalent status and large urban agglomerations, and to analyze the impact of their migration links with other parts of the country. Finally, the data used made it possible to analyze migration by extremely disaggregated age groups of the participating population.

The scale of internal migration in the 2010s

The volumes of migration within Russia published by Rosstat over the past three decades have varied significantly. Until 2010, internal migration was declining - in the 1990s at a rapid pace, and in the 2000s almost reaching a plateau, where it continued to stagnate slightly. However, according to calculations from the results of the 2002 All-Russian Population Census, which revealed an undercount of not only international but also internal migration, in the 1990s the number of migrants did not fall below 3 million people (Mkrtchyan 2009). According to the results of the 2010 All-Russian Population Census, a year before it was held, 2.6 million people changed their place of residence in Russia, and if those who did not indicate their territory of residence are proportionally distributed between those living in Russia and other countries, then this

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[1] The migration data of Rosstat are obtained as a result of the processing of records of arrivals and departures from the territorial bodies of the Ministry of Internal Affairs of the Russian Federation (since 2019, forms of federal statistical observation), which are made when registering and removing persons from registration at the place of residence, as well as when registering at the place of stay for a period of 9 months or more (Rosstat 2023).

number increases to 2.8 million people. It turns out that even in the 2000s the number of intra-country migration movements did not fall significantly below 3 million people.

Figure 1.   **Migration within Russia by type of registration, thousand people**
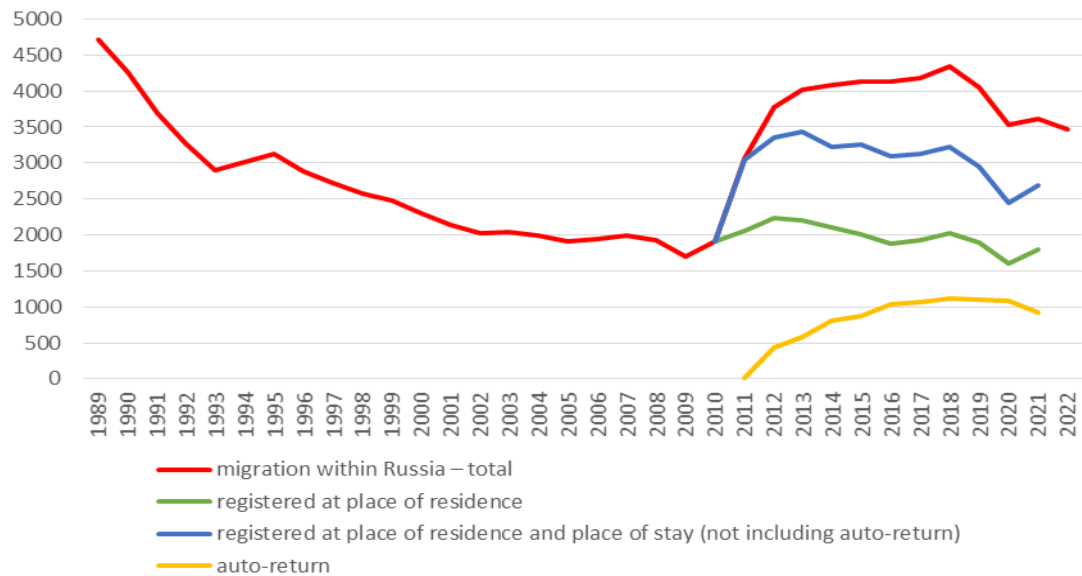
Source: Rosstat.

Beginning in 2011, Rosstat changed its methodology for recording long-term migration in Russia, including data on those registered at their place of stay for a period of 9 months or more. As a result, by 2012-2013 the volume of recorded migration had already doubled compared to the 2000s from 2 to 4 million people, after which the volumes stabilized at this level until the most recent years (Figure 1). However, the new methodology assumed that upon expiration of the registration at the place of residence, a person automatically left for the place of permanent residence (in statistical documents - "returned to the place of residence after a temporary stay in another territory", hereinafter referred to as auto-return), and this is also taken into account as long-term migration. At first, the number of such migrants was small, but by 2014 it exceeded 20% of all recorded migrants, and since 2016 it has steadily exceeded 25% of them.

The number of migrants, still based on registration at the place of residence (as it was before 2011), remained virtually unchanged in the 2010s. The number of new registrations at the place of residence was 1-1.25 million people annually, decreasing in 2020 to 0.83 million. As a result, the number of registrations at the place of residence and place of stay (all migrants registered by Rosstat, with the exception of auto-returns) throughout the 2010s was 3-3.4 million, but in recent years has begun to decline.

It turns out that the number of real, registration-based, rather than "automatically returned" migrants did not exceed or practically did not exceed the level of 3 million people and, apparently, did not differ much from the real volume of intra-country migrations in the 1990-2000s. It is likely that the increase in the volume of migrants to the level observed in the very early 1990s (to more than 4 million people) is close to a statistical artifact. As the results of many years of field research show, in reality, after the expiration of the temporary registration period, the majority of migrants, for example, young people who leave to study in large cities, do not return to their place of permanent residence. Many either remain living without registration, or obtain a new registration in the same locality, or move to another region or locality where

they obtain a new registration. But we also cannot say that no one returns to their place of permanent residence; such cases undoubtedly occur. Therefore, in reality, the volume of migrants in Russia in the 2010s was between 3 and 4 million people, closer to the lower limit of this range.

In addition to distorting the scale of migration in Russia, auto-return significantly distorts the picture of population redistribution between individual parts of the country and between settlements and their groups, as will be shown below. Typically, the greater the scale of migration, the greater the flow of population between individual parts of the country and the greater the "tension" of the migration field. However, due to the fact that auto-return is carried out in strictly the opposite direction from the prevailing migration flows, recorded using registration at the place of stay, it, on the contrary, smooths out the picture of population flow. Only the time lag of auto-return (from 9 months to 5 years, usually 1-3 years) made it possible to sharply increase the flow of population in the early 2010s. However, by 2016, due to auto-return, the scale of population flow returned to the values of the 2000s (Zakharov 2018: 383-386). Auto-return distorts greatly also the structural characteristics of migration (Mkrtchyan 2020), but this issue will not be addressed in this article.

Redistribution of population between macroregions

In the 2010s, as a result of internal migration, the population shifted towards the Central, Northwestern and Southern federal districts. This macro-level picture of population flow within the country dates back three decades; the shift from east to west (western drift) and from north to south has been stable for a long time. Auto-return does not change this general picture, but it does significantly reduce the scale of population flow, especially in the direction of the Central and Northwestern Federal Districts, where the two main Russian large urban agglomerations are located. The data published by Rosstat (taking into account auto-returns) shows the scale of the flow into these three districts to be 1.8 million people; without taking into account auto-returns, the flow increases to 2.6 million, i.e., is 1.5 times greater (Table 1). At the same time, auto-return underestimates most of all the outflow of population from the Volga and North Caucasian districts (by more than 1.7 times), while the outflow from the Ural district without taking it into account increases only by 1.1 times.

The Far Eastern Federal District, located in the place where the western drift "emerges," lost population to all districts, while in migration exchange with the North Caucasian District the losses were purely symbolic. If auto-return is not taken into account, the Far East actually receives a very small increase in migration from the North Caucasus, which, of course, does not change its position as a territory of stable migration outflow.

The scale of the losses decreases from the Far Eastern District to the Ural District, where the western drift is already beginning not only to "take away" population, but also to compensate for losses at the expense of regions located further to the east. However, the Ural District also receives a significant influx from the west, from the Volga and North Caucasian Federal districts. Does this indicate a reversal of the western drift, at least in some local manifestations? We are not so sure, believing that here we are dealing with a steady migration outflow of the population which has been characteristic of the North Caucasus for thirty years and of the Volga region for the last two decades. This outflow is not associated with the macro-situation of these regions, but with a wide list of socio-economic causes, a detailed analysis of which is beyond the scope of this study. In terms of the absolute scale of the migration

loss, the Volga District is the leader, but in terms of the relative scale, in the last decade it can easily compete with the Far Eastern District, especially without the auto-return mitigating the outflow.

Table 1. Net migration between federal districts (FD) of Russia, including and excluding auto-return, 2011-2020, thousand people

In migration with territories:	Russia, total*	Central FD	Northwestern FD	Southern FD	North Caucasian FD	Volga FD	Ural FD	Siberian FD	Far Eastern FD
	Migration gain (loss) for territories:								
	All migration (including auto-return)								
Russia, total*	0.0	1114.6	364.5	258.5	-302.9	-549.3	-128.7	-362.8	-394.0
Central FD	-1114.6	0.0	-49.9	-134.1	-141.0	-405.7	-106.6	-157.9	-119.5
Northwestern FD	-364.5	49.9	0.0	-18.9	-49.7	-103.0	-61.2	-95.1	-86.5
Southern FD	-258.5	134.1	18.9	0.0	-68.2	-62.8	-71.5	-113.9	-95.2
North Caucasian FD	302.9	141.0	49.7	68.2	0.0	7.9	34.3	2.2	-0.4
Volga FD	549.3	405.7	103.0	62.8	-7.9	0.0	24.5	-17.9	-20.9
Ural FD	128.7	106.6	61.2	71.5	-34.3	-24.5	0.0	-40.1	-11.7
Siberian FD	362.8	157.9	95.1	113.9	-2.2	17.9	40.1	0.0	-59.8
Far Eastern FD	394.0	119.5	86.5	95.2	0.4	20.9	11.7	59.8	0.0
	All migration (not including auto-return)								
Russia, total*	0.0	1720.5	680.4	242.1	-527.6	-954.2	-142.8	-541.2	-477.2
Central FD	-1720.5	0.0	-35.2	-247.2	-237.0	-649.1	-157.2	-239.3	-155.4
Northwestern FD	-680.4	35.2	0.0	-59.7	-92.2	-195.4	-98.1	-149.9	-120.2
Southern FD	-242.1	247.2	59.7	0.0	-114.2	-87.0	-91.0	-149.8	-107.1
North Caucasian FD	527.6	237.0	92.2	114.2	0.0	16.9	52.6	9.9	4.7
Volga FD	954.2	649.1	195.4	87.0	-16.9	0.0	73.6	-19.0	-15.0
Ural FD	142.8	157.2	98.1	91.0	-52.6	-73.6	0.0	-64.2	-13.1
Siberian FD	541.2	239.3	149.9	149.8	-9.9	19.0	64.2	0.0	-71.0
Far Eastern FD	477.2	155.4	120.2	107.1	-4.7	15.0	13.1	71.0	0.0

Source: Rosstat, unpublished data.

The scale of western drift in 2011-2020, calculated based on the size of the migration loss of three districts of the Asian part of Russia, was estimated by Rosstat at almost 0.9 million people (Table 2). Not taking into account auto-returns, this increases to almost 1.2 million, or by a third. According to current records, in 1991-2000 the scale of the western drift amounted to 929,000 people, and in 2001-2010 to 563,000 (Mkrtchyan, Karachurina 2014). But the results of the first two post-Soviet censuses significantly increased the scale of outflow. According to the author's estimates, for 1991-2000 it almost doubled, amounting to 1,730,000 people, and in 2001-2010 came to 1,060,000.

According to the data of the 2020 All-Russian Population Census, actually carried out in 2021, the population of the Siberian and Far Eastern districts was undercounted by more than 200,000 people, while the Ural district lost little if any. It turns out that the scale of the western drift is close to our estimate without taking into account auto-return, i.e., 1.2 million, perhaps slightly higher. It is worth refraining for the time being from more or less accurate assessments of the scale of the western drift in the 2010s based on the results of the 2020 All-Russian Population Census, since Rosstat has not published the results of population migration recalculations. In addition, the results of this census are worse than previous ones, so there are

doubts as to whether it is worth relying on them at all in these calculations. It turns out that the western drift in the 2010s was less than in the 1990s, but more than in the 2000s. This is despite the fact that the potential outflow from the eastern districts of Russia greatly decreased over the previous two decades.

According to data published by Rosstat (Table 2), the annual scale of western drift in 2012-2019 ranged from 80,000 to 108,000 people with a maximum in 2013, and in 2020 decreased significantly, along with a fairly significant reduction in overall internal migration volumes in the first year of the COVID-19 pandemic. Without taking into account auto-return, the scale of drift increased until 2018, after which it began to decline synchronously with the reduction in the volume of intra-Russian migration. At the same time, the outflow from the Far East had been decreasing since the middle of the decade, while the migration loss from Siberia and the Urals, on the contrary, had been increasing until 2019. Apparently, the decrease in outflow from the Far East reduced their replenishment from western drift.

Table 2.   **Net migration in districts of the Asian part of Russia, 2011-2020, thousand people**

Year	Total		Ural FD		Siberian FD		Far Eastern FD	
	total	without auto-return	total	without auto-return	total	without auto-return	total	without auto-return
2011	-73.6	-73.3	1.9	2.3	-28.3	-28.5	-47.2	-47.2
2012	-80.9	-84.1	-1.6	5.5	-29.0	-37.8	-50.2	-51.9
2013	-107.8	-112.1	-16.3	-4.6	-38.5	-50.2	-52.9	-57.3
2014	-96.4	-114.8	-14.2	-9.3	-36.4	-53.1	-45.8	-52.4
2015	-101.8	-127.6	-20.4	-19.1	-38.0	-55.3	-43.4	-53.1
2016	-89.1	-123.6	-15.7	-18.6	-37.6	-58.0	-35.8	-47.0
2017	-96.0	-133.3	-20.0	-24.0	-40.9	-62.7	-35.1	-46.6
2018	-99.4	-146.2	-18.4	-27.3	-44.5	-69.7	-36.4	-49.1
2019	-86.8	-137.1	-20.5	-29.5	-40.3	-68.3	-26.0	-39.2
2020	-53.7	-124.4	-3.4	-33.4	-29.2	-57.6	-21.1	-33.4
Total	-885.4	-1176.5	-128.7	-158.1	-362.8	-541.2	-394.0	-477.2

Source: Rosstat, unpublished data.

Table 3.   **Net migration of the North of Russia, 2011-2020, thousand people**

	All migration within Russia			Including without auto-return		
	North-total*	Including:		North-total*	Including:	
		European North	Asian North		European North	Asian North
Russia, total	-702.7	-253.1	-449.6	-857.8	-319.8	-538.0
Central FD	-214.3	-94.0	-120.3	-277.1	-120.3	-156.8
Northwestern FD	-191.9	-115.9	-75.9	-271.6	-160.6	-111.0
Southern FD	-103.4	-24.2	-79.2	-115.8	-25.8	-90.0
North Caucasian FD	41.4	3.0	38.4	69.6	7.0	62.6
Volga FD	-47.7	-26.1	-21.7	-29.4	-28.8	-0.6
Ural FD	-71.7	-1.2	-70.6	-93.8	-0.7	-93.1
Siberian FD	-71.6	3.2	-74.8	-68.6	6.1	-74.7
Far Eastern FD	-43.4	2.1	-45.6	-71.2	3.2	-74.4

*Note: * – Regions of the Far North and areas of equivalent status, excluding the territory of the Republics of Tyva and Altai.*
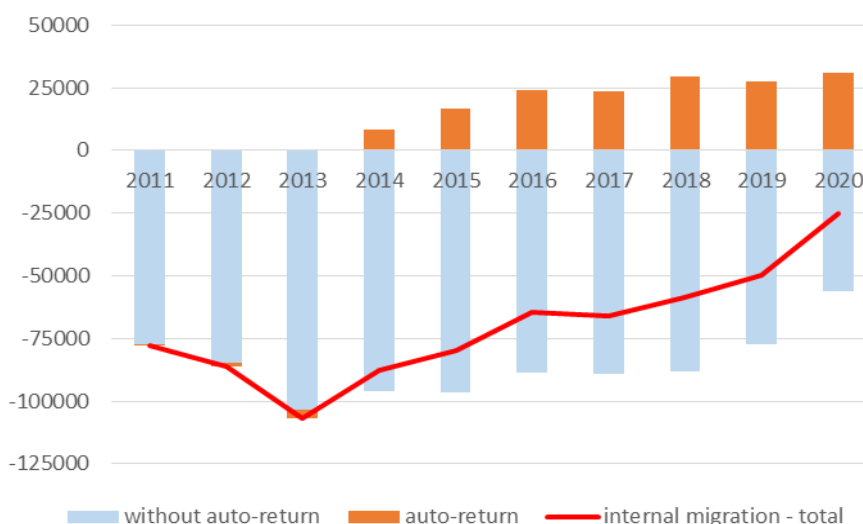
Source: Rosstat, unpublished data.

The outflow from the territories of the Far North and similar areas is, at the macro level, the second direction of interregional flow of population in Russia, as significant as the western drift. Its scale in the 2010s amounted to 0.7 thousand people, and if you do not take into account auto-return, then 0.85 million (Table 3).

Note that the outflow from the North is a component of the western drift, since many of its territories are located in the Asian part of the country. It turns out that most of the migration loss of the North can be attributed to the western drift, and vice versa, part of the western drift can be attributed to the outflow from the North. If we consider these macroflows separately, it turns out that from the figures published by Rosstat (excluding auto-returns), the outflow from the European North will be 253,000 people, the outflow from the north of Asia (the northern part of the western drift) – 450,000, and from the south of Asia - 435,000 i.e., slightly less than from the north of Asia. But, taking into account that during the period of time considered 191,000 of the migration losses of the northern territories of the Ural, Siberian and Far Eastern districts were due to outflow to the south from these districts, the ratio of outflow from the north and south of Asian Russia in the total volume of western drift will change to 258,000 and 627,000 thousand, respectively.

Therefore, the north of Asia (the Urals, Siberia and the Far East) is still "responsible" for less than 1/3 of the western drift. Without taking into account auto-return, the role of northern Asia in the western drift is reduced to 1/4 of its total volume. This means that the south of the Urals, Siberia and the Far East compensates for about 30% of the outflow to the European part of the country through migration from the north. At the same time, we note that the intensity of outflow from the Asian north is twice as high as from the south of this part of the country.

Figure 2.   **Net migration in the regions of the Far North and areas of equivalent status, thousand people**

Note: * – Regions of the Far North and areas of equivalent status, excluding the territory of the Republics of Tyva and Altai.
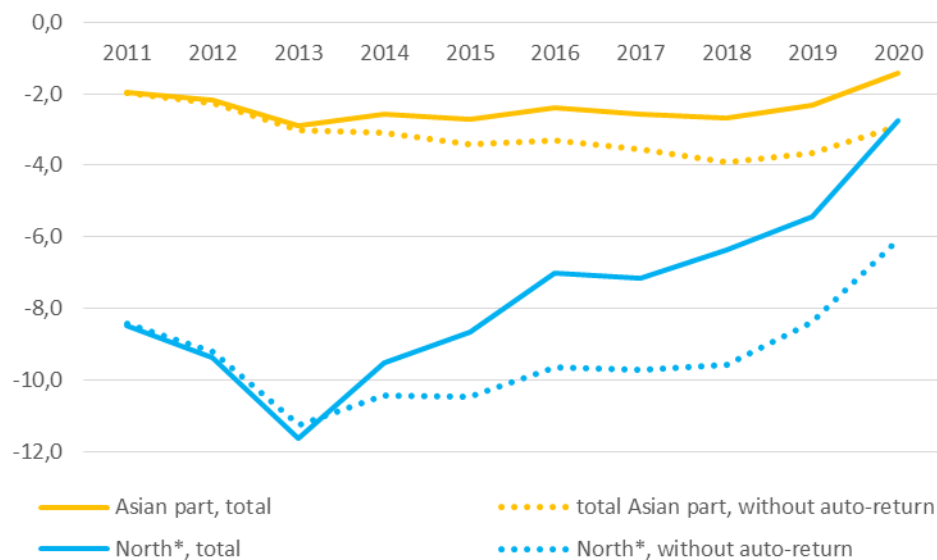
Source: Rosstat, unpublished data.

It should be noted here that the Asian North accounts for only 17% of the population of the three Asian federal districts. Therefore, 1/3 is quite a large value. The intensity of outflow is approximately twice as high as the average for the Asian part of Russia.

As in any direction of intra-country population flow, auto-return significantly reduces the outflow from the North (Figure 2). Although in the early 2010s it even slightly increased the outflow, in 2015 it decreased it by 17%, in 2019 by 35%, and in 2020 by more than 50%.

In intensity, the western drift is far less than the outflow from the North, although in recent years these indicators have become closer (Figure 3). If we do not take into account auto-return, the intensity of the western drift even increased until 2018, and only then began to decline. The outflow from the North decreased significantly over the course of the decade, shrinking by almost half from 2013 to 2020. The drop is noticeable even without taking into account auto-returns and the atypical year 2020. The reasons for the decrease in migration loss in the Russian North require a separate study.

Figure 3. **Intensity of western drift and outflow from the North, per 1000 permanent residents**

*Note: * – Regions of the Far North and areas of equivalent status, excluding the territory of the Republics of Tyva and Altai.*

Source: Rosstat, unpublished data.

In the rest of Russia, which attracts migrants from the East and North, the Central, Northwestern (the part that does not belong to the North) and Southern districts stand out. As mentioned above, the Volga and North Caucasus regions experienced a steady migration outflow. If we consider these large pieces of the European part of the country without taking into account migration between them and the North and Asian Russia, then the Central District has the largest migration gain, followed by the Northwest (Table 4). The Southern District, however, is already losing population, since the outflow from it to the Center and the Northwest is greater than the influx from the Volga region and the North Caucasus.

At the same time, the Center is losing population due to migration to the Northwest, but more than offsets the outflow thanks to the positive balance of migration with the rest of the districts of the European part (excluding the territories of the North). At first glance, this is

strange: the Moscow agglomeration is approximately three times larger than the agglomeration of St. Petersburg, and Moscow benefits slightly in migration exchange with the "Northern capital". But besides Moscow, in the gigantic Central District there are practically no areas of sustainable migration growth (except perhaps the Voronezh and Belgorod regions), and in the Northwest there is the steadily attractive Kaliningrad region. Therefore, moving to the Northwest is more desirable for residents of the Center than moving to the Center is for residents of the Northwest. The advantage of Moscow (Moscow agglomeration) lies in its attractiveness for residents of other parts of the European part of Russia.

Table 4. **Population redistribution in the European part of Russia (excluding the territories of the North), taking into account auto-return, 2011-2020, thousand people**

	Total	Central district	Northwestern district*	Southern district	North Caucasus district	Volga district*
Total	0.0	636.7	259.0	-46.2	-263.9	-585.6
Central FD	-636.7	0.0	43.9	-134.1	-141.0	-405.5
Northwestern FD*	-259.0	-43.9	0.0	-43.0	-46.7	-125.3
Southern FD	46.2	134.1	43.0	0.0	-68.2	-62.7
North Caucasian FD	263.9	141.0	46.7	68.2	0.0	7.9
Volga FD*	585.6	405.5	125.3	62.7	-7.9	0.0

*Note: * – without parts classified as the Far North and areas of equivalent status.*

Source: Rosstat, unpublished data.

The Volga District is the main migration donor for the European part of Russia. It has a migration gain with the North Caucasus, but its size is very small.

The largest centers of population attraction in Russia are the agglomerations of Moscow and St. Petersburg; they literally "drive" migration flows in Russia and ensure the migration attractiveness of their districts. For 2011-2020, taking into account auto-return, their migration gain amounted to 1,443,000 and 628,000 people, respectively. Without taking into account auto-returns, the increase was significantly greater – 2,294,000 and 1,023,000 people. The ratio of the migration growth of these two centers is determined primarily by the imbalance of their human masses: the number of residents of the Moscow agglomeration, based on the 2020 All-Russian Census, is estimated by us at 21 million people, while the St. Petersburg agglomeration is 7 million; both of them have seriously increased their population in the last decade. It even turns out that the agglomeration of St. Petersburg is growing due to migration from other parts of the country somewhat faster than that of Moscow. Between the two largest agglomerations, the flow of population is in favor of Moscow, but the difference is quite insignificant at the level of statistical error (about 1 thousand people per year, taking into account auto-return).

With what can the population influx into the two largest Russian agglomerations be compared? The migration gain of these two agglomerations, taking into account auto-returns amounting to 2,070,000 people, exceeds the migration gain of all other agglomerations of cities with a population of 250,000 people or more, which, according to our estimate, came to 1,837,000 people. According to the 2020 All-Russian Census, 55.9 million people lived in these agglomerations, and they have also increased their population in the last decade. It turns out that the intensity of migration growth in the two largest agglomerations is more than twice as high as in the agglomerations of all other Russian cities with a population of 250,000 people or

more. For a detailed analysis of the migration gain of large urban agglomerations, see (Mkrtchyan, Gilmanov 2023b).

The components of migration gain of the two largest agglomerations differ significantly (Figure 4). Almost a third of the migration gain in the Moscow agglomeration comes from migration from the regions of Central Russia; in St. Petersburg, the "weight" of influx from the regions of the Northwest (including its Northern part) is slightly lower. The Moscow agglomeration is growing significantly more due to the influx from the Southern and Volga districts, and the St. Petersburg agglomeration is growing due to the districts of the Asian part of the country, as is also noted by other studies (Mikryukov et al. 2020). This is not a new picture; closer ties between St. Petersburg and the regions of the east of the country have been known for quite a long time (Zamyatina 2014; Zamyatina, Pilyasov 2013).

Figure 4. **Components of net migration of the Moscow and St. Petersburg agglomerations, 2011-2020, thousand people**
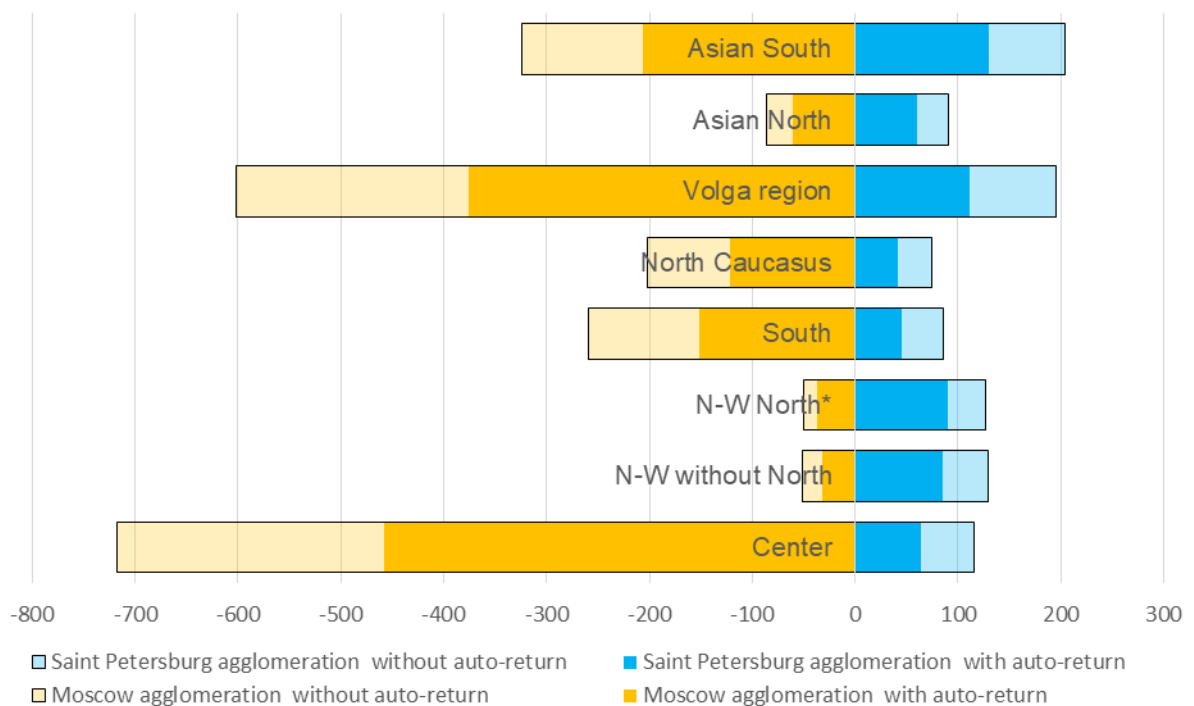
*Note: * – Including areas with status equivalent to the Far North of the Volga District.*

Source: Rosstat, unpublished data.

There are no centers of attraction for migrants comparable to the two largest agglomerations in Russia. The Krasnodar Krai, and in recent years Crimea, contribute to the growth of the migration attractiveness of the South of Russia, but not even their presence can lead to a comparable migration gain in the population of this large part of the country. Even without taking into account the outflow of population to the Center and the Northwest, the migration gain in the Southern District (taking into account auto-returns) amounted to 412,000 people, and taking this outflow into account - only 259,000. Of course, the South of Russia is an attractive place for Russians to move to, especially older ones, as will be shown below, but as a place where one can pursue a career or get an education, it is in no way comparable to the capital's agglomerations, and is even behind, for example, the agglomerations of the Urals and Siberia, and in terms of earning power, many territories of the Russian North.

Features of the age structure of population flow

The migration outflow from the regions of the Far North and areas of equivalent status, as well as western drift, affect age groups of the population to varying degrees. The outflow from the North is formed by two main waves of migration:

1. Young people of college age. The network of universities in the regions of the Far North and areas of equivalent status consists of a relatively small number of higher education institutions, and in a number of regions, for example in the Nenets Autonomous Okrug, there are no universities at all, while in the Yamalo-Nenets and Chukotka Autonomous Okrug there are only small branches, and in Norilsk only one university. The outflow of young people is ensured by the fairly good quality of school education and the financial possibilities of many parents to ensure that their children live away from home. In addition, sending a child "to the mainland" is often accompanied by the purchase of housing in the city where he will receive an education, with an eye to the parents' eventual move there once they've worked enough years in the North to retire;

2. population aged 50-65 years. In the North, retirement is possible 5, and in some jobs 10, years earlier than established by law, which makes it possible for "young" northern pensioners to move at a fairly active age to regions with more comfortable natural and climatic conditions (Efremov 2016).

The outflow from the Asian part of the country (western drift) also includes young people of student age, pensioners and people at the age of highest economic activity (Figure 5). Moreover, the outflow peaks are smoother.

Figure 5.   **Net migration of the North and Asian part of Russia by 1-year age groups, 2011-2020, people**
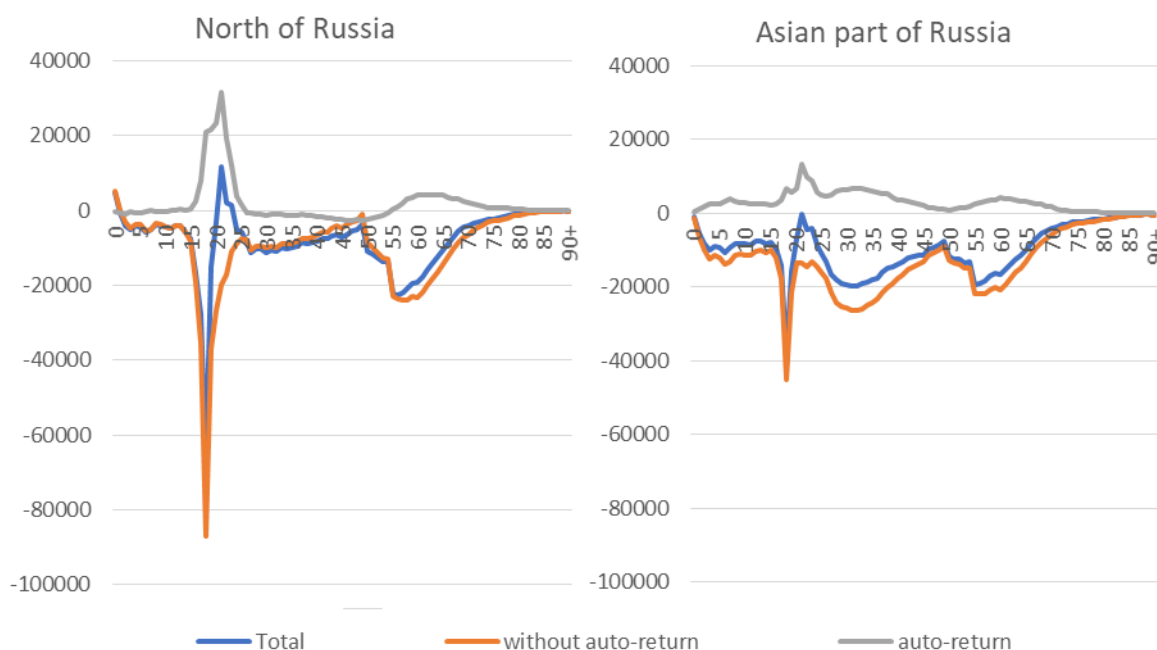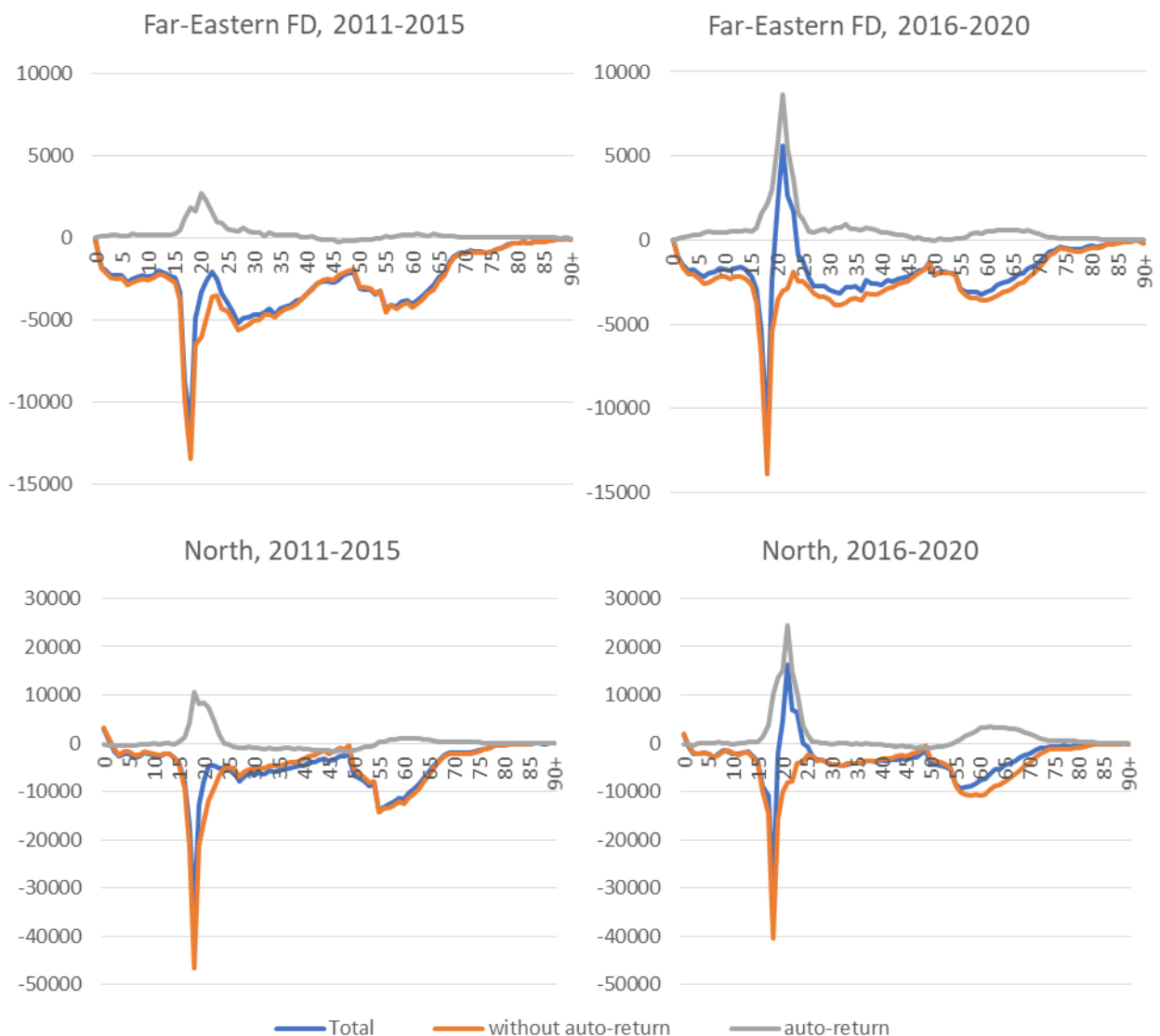

Source: Rosstat, unpublished data.

As can be seen in Figure 5, auto-return reduces the outflow of the population, but its smoothing effect is primarily noted among young people, primarily students.

At certain ages (20-23 years) it is so large that it ensures population growth. Auto-return did not show its power right away; the number of registrations at the place of stay had first to accumulate. Therefore, its influence is especially strong in the second half of the 2010s (Figure 6). This feature of migration recording creates a statistical illusion that almost all those who leave for study return home after graduation to the place where they graduated from school. In fact, this rarely occurs and, if it does, is often a consequence of failed plans, of personal failure[2].

Figure 6.   Net migration in the Far East and North by 1-year age groups, 2011-2015 and 2016-2020, people

Source: Rosstat, unpublished data.

In the North, auto-return overestimates the outflow of the population in the most active working ages (Table 5). This means that many people at this age travel to the North and register at their place of stay for a long period (exceeding 9 months). And this is in addition to the fact that the North attracts intra-country labor migrants. Therefore, despite the outflow of young

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[2] According to the materials of the student expedition "Migration processes in regions and settlements with different types of economic activity (Republic of Komi and YaNAO), 2022" in the framework of the project "Open Russia".

people of student age, the migration balance of the North from an economic and demographic point of view is not as unfavorable as it might seem at first glance. In the North, the outflow of people aged 50 years and older, excluding auto-returns, amounts to 42% of the total migration loss and is 1.4 times higher than the outflow of the population aged 20-49 years. 30% of western drift also consists of older people, but more people of active working age leave the east for the west of the country than people over 50.

Table 5. **Net migration in the Asian part and the North of Russia by enlarged age groups, 2011-2020, thousand people**

|	Asian Russia			The Far North and areas of equivalent status*		
	total	without auto-return	auto-return	total	without auto-return	auto-return
Total	-885.8	-1161.4	275.6	-702.9	-857.9	155.0
0-14	-119.8	-156.9	37.2	-54.7	-50.5	-4.2
15-19	-85.5	-106.1	20.5	-133.6	-187.1	53.5
20-24	-24.5	-69.0	44.5	7.1	-83.3	90.3
25-29	-77.8	-104.7	26.9	-46.3	-44.6	-1.6
30-49	-286.1	-369.0	82.9	-162.3	-128.4	-34.0
50-64	-222.6	-264.3	41.7	-248.8	-272.4	23.6
65 and older	-69.6	-91.4	21.8	-64.2	-91.6	27.4

Source: Rosstat, unpublished data.

*Note: * – Excluding the territory of the Republics of Tyva and Altai, isolated from the main territory of the North.*

At the influx pole, in the districts of the European part of the country that are growing due to internal migration, the distribution of migration growth by age groups naturally mirrors the migration decline in the North and East of the country and those parts of the European part that are losing population. The peaks of influx in the Center and Northwest occur at student ages, which is not surprising, given that migration in these districts is dominated by Moscow and St. Petersburg, the largest university centers in the country. Let us also pay attention to the second peak in the Center, also associated with the Moscow agglomeration. There is no such peak in the Northwest, which distinguishes it from the Center, nor is there a rise in ages over 50 years (Figure 7).

The differences between the statistics that Rosstat relies on (taking into account auto-return) and migration without auto-return are clear: auto-return underestimates all peaks, but while student peaks are underestimated slightly, peaks at ages 20-39 are underestimated more. As we can see, there is no decline in migration growth to zero at the age of 21. In the Northwest there is no peak at the age of 25-35, as in the Center; in fact, until the age of 35 there is a slow decline in the first peak. It is not clear what these differences from the Center are connected with, since the largest agglomerations are "responsible" for both peaks. Apparently, the motivation for migration in them is very similar, as is the age "portrait" of its participants, but it turns out that people move to the Northwest at a younger age. The question of why the migration gain in the Center is more age-related than in the Northwest requires further research.

Figure 7.   **Net migration in the Central, Northwestern and Southern districts by 1-year age groups, 2011-2020, people**
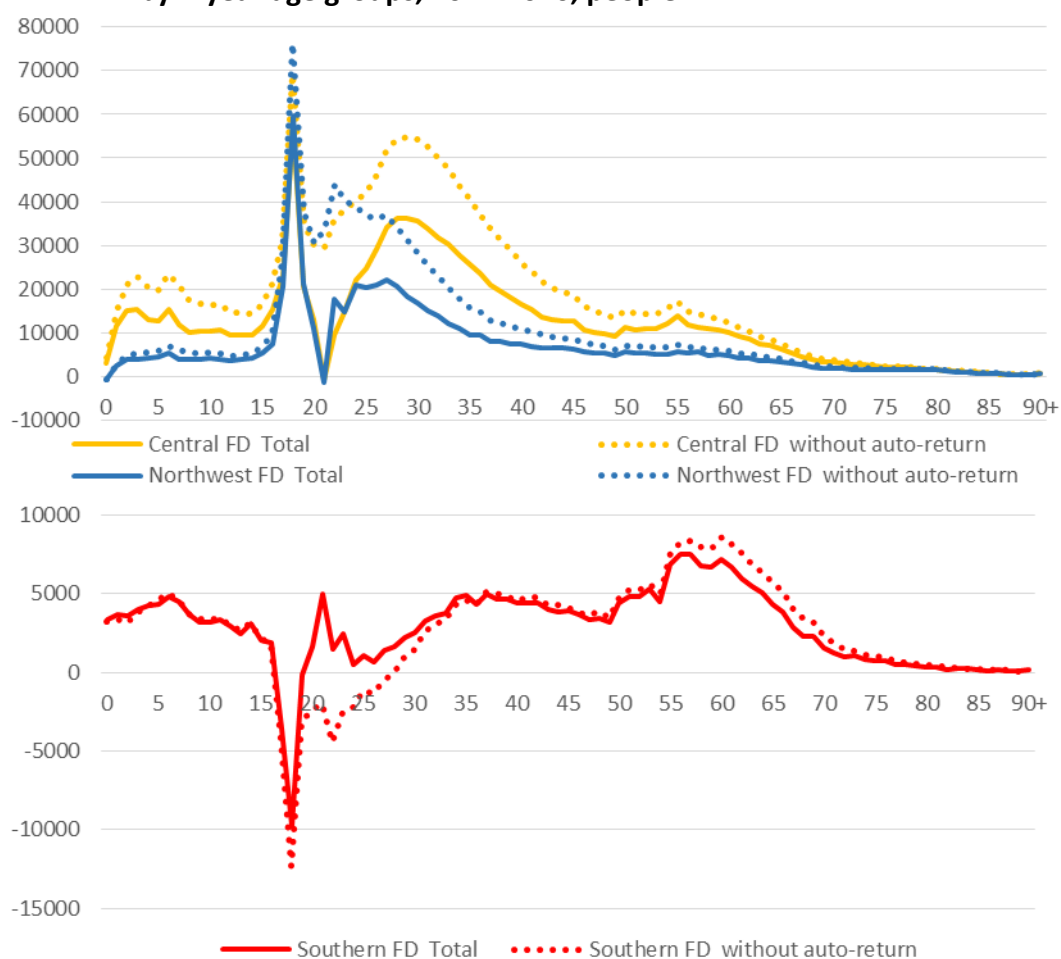
Migration gain in the Southern District, in addition to the fact that it is not comparable in scale with that in the Center and Northwest, is determined by other age groups of the population. First of all, the South is losing young people of student age, which is a consequence of the low demand for universities in its cities among residents of other parts of the country (Gabdrakhmanov, Nikiforova, Leshukov 2019). The migration gain of young people aged 20 years and older is largely a statistical artifact, since without taking into account auto-return it disappears. However, a study based on other data, namely the Monitoring of Employment of Graduates (Antosik, Ivashina 2021), shows that there is an influx of university graduates into certain regions of the South, primarily into the Krasnodar Krai, but this, apparently, occurs primarily within the district, in particular from the Rostov region. In terms of youth migration, the South of Russia is fundamentally different from the Center and Northwest and is little different from the rest of the country. At the same time, the main specificity of the migration balance of the Southern District is the influx of persons aged 50 years and older.

The result is that 2/3 of migration gain in the Center and 3/4 of that in the Northwest is provided by persons aged 15-49 years, and without auto-return the share of these ages increases even more. In the South, the picture is different: only a third of the migration gain is made up of people aged 15-49 years, and without including the auto-return of their children, the share goes down to 20%. 45% of the district's total migration gain comes from persons over 50 years of age,

and when auto-return is taken into account, the figure rises to 57% (Table 6). While in the Central and Northwestern districts migration counteracts population aging, in the South, on the contrary, it accelerates it. Auto-return smooths out this picture; without it, the role of migration in the population dynamics is even more contrasting.

Table 6. **Net migration in the Central, Northwestern and Southern districts by enlarged age groups, 2011-2020, thousand people**

|	Central district		Northwestern district (without North)		Southern district	
	total	without auto-return	total	without auto-return	total	without auto-return
Total	1,114.6	1,720.5	613.4	992.3	258.5	242.2
0-14	167.5	257.9	53.8	72.7	54.2	54.7
15-19	127.7	172.4	114.2	156.6	-9.6	-15.8
20-24	58.3	173.9	62.5	187.4	11.0	-13.7
25-29	160.3	248.6	102.1	175.0	7.0	-2.2
30-49	389.4	607.5	171.6	265.7	80.1	79.9
50-64	156.2	197.3	72.7	91.7	89.4	103.5
65 and older	55.2	62.9	36.4	43.1	26.4	35.7

Source: Rosstat, unpublished data.

If we "isolate" the Moscow agglomeration from the Central District, and the St. Petersburg agglomeration from the Northwestern District, the migration balance of the remaining territories will change fundamentally (Figure 8). It is clear that the largest centers of population attraction on a national scale determine not only the size, but also the distribution by age of the migration gain of the population of their districts. Features of the population flow within the districts are also visible - agglomerations pull educational migrants (+- 18 years) and people of the most active working age away from their immediate surroundings.

It turns out that in the overall migration growth of the Center and the Northwest, the non-agglomeration zone is "responsible" for only the small (36,000 and 42,000 people, respectively, excluding auto-return) migration gain of the population aged 50 years and older. Part of this influx is made up, in particular, of migrants from the North, who call these parts of the country the "Middle Zone" - the answer given to the question "Where do you plan to move?" in a survey of residents of the cities of Vorkuta, Ukhta, and Salekhard[3].

Considering that the population of the St. Petersburg agglomeration and, in particular, St. Petersburg, is almost 3 times smaller than the Moscow agglomeration and Moscow, it is interesting that the influx of persons aged 18 years into the St. Petersburg agglomeration in absolute terms is practically no different from the influx into the Moscow agglomeration. This indicates the very high attractiveness of the "Northern capital" for students.

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[3] According to the materials of the student expedition "Migration processes in regions and settlements with different types of economic activity (Republic of Komi and YaNAO), 2022" in the framework of the project "OpenRussia".

Figure 8. **Net migration in the Central and Northwestern federal districts by 1-year age groups, 2011-2020, people**
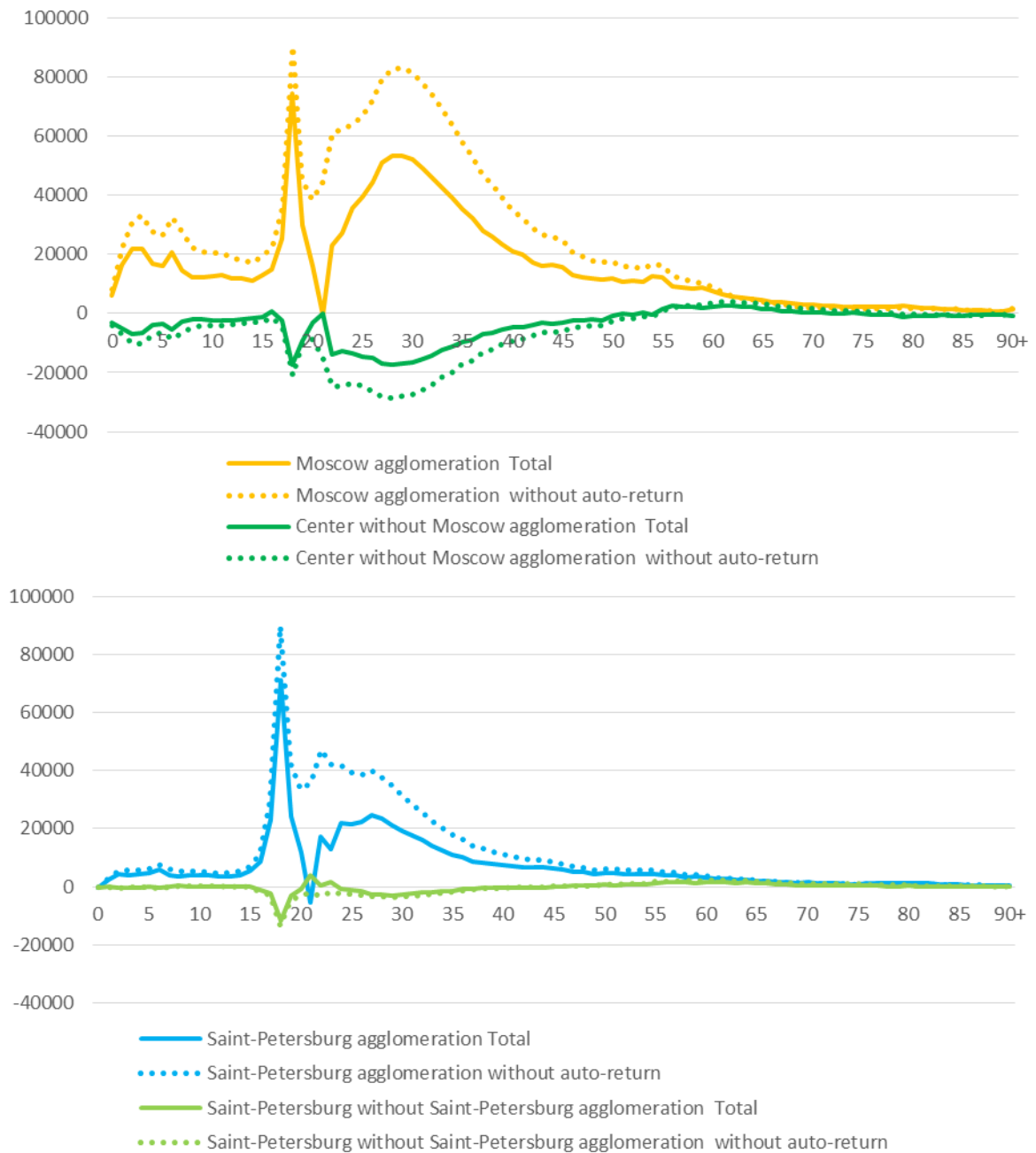
Source: Rosstat, unpublished data.

Conclusion

This work analyzes the redistribution of the Russian population between groups of regions clearly delimited by their features of spatial-geographical location and understandable from an administrative point of view (with the exception of metropolitan agglomerations), and makes a fairly general assessment of migration in the country in the 2010s at the macro level. Similar attempts were made earlier, including by the author (Mkrtchyan 2003; Mkrtchyan, Karachurina 2014), so the study carried out is largely of a "monitoring" nature. It should be noted that there are few changes in the directions of migration in Russia compared to previous decades; even the volume of the redistributed population remained almost at the same level.

This is the result of directly opposite processes:

- firstly, one could have expected an increase in the flow of population between individual parts of the country, since the number of migrants recorded by Rosstat in the 2010s more than doubled compared to the 2000s. However, as the analysis showed, this doubling did not occur; the undercounting of migration in past decades gave way to its "overcounting." Moreover, this overcounting (associated with auto-return), due to its nature, does not perturb the migration field, but greatly smooths out its differences;

- secondly, Russia has achieved a fairly high level of population concentration in large cities; the official level of urbanization has frozen at 73-75%. The exodus of the population from settlements and territories that were extensively developed under the conditions of a planned economy, but which in a market economy have become "overpopulated", has been completed or is close to completion. For example, the North of Russia was already considered overpopulated by 20-40% in the early 1990s (Zaydfudim et al. 1994). This led to the expectation that the potential for population outflow from these parts of the country was almost exhausted, as illustrated, for example, by the title of the chapter on internal migration in one of the significant demographic reports (Vishnevsky, Bobylev 2008): "Internal migration: a great past and a modest future." But the flow of population, apparently, is not abating...

As calculations have shown, an important component of the western drift is the outflow from the North. At the same time, the question of how to classify, for example, the outflow of persons from Yakutia, the Magadan region or Sakhalin region (as outflow from the North or as western drift), may vary depending on the research objectives. This article only shows the ratio of both flows in the Asian part of the country, and also calculates the extent to which the outflow from the North smooths out the losses of the territories of the Southern Urals, Siberia and the Far East from western drift.

Throughout the 2010s, calls at various levels continued, if not to redirect migration flows in an eastern/northern/geostrategically "important" direction, then at least to stop the outflow of people from these places, especially of young people. For example, one of these goals was supposedly the development of the Far Eastern Federal University. However, analysis shows that even on the scale of the Far East, this had no impact: Primorsky Krai lost, and continues to lose, to Khabarovsk Krai in terms of flows of student-age migrants.

Proposals have been made to create new cities in Siberia and the Far East[4], but in practice a disproportionate share of new housing (35% of the entire country in 2022 (Rosstat 2022)) continues to be built in the Moscow and St. Petersburg agglomerations and in the Krasnodar region. Compared to 2012 (27%), the share of these regions in housing supply has increased, while, for example, in the Far East (within the current boundaries of the district) in 2012 only 4% of new housing in Russia was built (Rosstat 2014), and in 2022 – 3.5% (Rosstat 2022). And this is against the backdrop of constant lamentations about the impossibility of further concentration

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[4] The Siberian Dreams of Sergey Shoigu (2021). *Newsland*, 21.10. 2021. https://newsland.com/post/7493613-sibirskie-mechty-sergeia-shoig

of the population in the largest megacities. Migration is an important driver of housing prices not only in Russia: in China, population influx shows a significant positive correlation with urban housing prices (Lin et al. 2018). It is not surprising, therefore, that the population of Russia continues to concentrate in the largest agglomerations. The housing market is very much connected with demand; the real priorities of the economic authorities and big business are also pragmatic.

Calculations also showed that the main participants in the macro-regional flow of the population are people of student age and the age of greatest economic activity. It is they who are drawn into the largest urban agglomerations. At the same time, there is a noticeable flow of older people from the North and East of Russia, for whom the southern, most climatically favorable regions of the country are attractive. This is far from a new trend (Karachurina, Ivanova 2017). This article shows only the most general features of the redistribution of the population of certain ages; it remains a promising direction for further research.

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