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Regional out-migration patterns in Russia

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Abstract

Russian society has been perceived by many scholars as relatively immobile. Migration abroad is indeed not as common in Russia as it is, for example, in Ukraine or Moldova, whose citizens migrate abroad in large numbers to improve their living standards. Leaving aside the deliberations whether Russians are less mobile than other big world populations this text concentrates on differences between Russian regions in patterns of mobility focusing on migration outflows. Given the size of the country and socio-economic diversity of its regions, Russia constitutes an interesting object of investigations. The analysis of regional diversity of migration outflows was performed using several sources of migration data – the official Population Registry data, Labour Force Survey (LFS) data and the results of Russian population censuses. The paper examines regional differences of different types of migration outflows (intra-, interregional and international). Spatial diversity has been presented by means of choropleth maps based on values of a complex index constructed separately for each migration type. Cluster analysis which was used to identify different types of regions in terms of diverse mobility patterns has shown that there is quite a clear division into European and Asian part of Russia. The paper ends with a brief discussion of implications of out-migration and shortly touch upon migration policy issues.

Keywords

Out-migration patterns, Russia, regional perspective

Introduction^{*}

Contradictory views have been expressed as far as the assessment of the level of internal mobility of Russian population is concerned. Most researchers view it as relatively immobile (e.g., Friebel, Guriev 1999; Andrienko, Guriev 2003; Denisenko, Mkrtchyan, Tyuryukanova 2011). However, some others argue that the population of Russia is not significantly less mobile comparing to other big countries of the world. Heleniak (2012) calls the apparent immobility of the Russian population a myth arguing that low annual mobility data results from imperfection of the statistical system which is not capable of capturing the temporary internal movements.

As far as external mobility is concerned, Russian citizens definitely less frequently migrate out of their country than, for example, Ukrainian or Moldovan citizens¹. This is not surprising taking into account the opportunities to move within their own country. Given the higher wages and in general more favourable economic situation in the country (mainly due to high oil prices) coupled with absorptive capacity of some Russian regional labour markets, Russians do not necessarily need to go abroad to find a well-paid job.

Leaving aside international comparisons this paper offers a regional perspective on human mobility in Russia. It aims at answering the following research questions: How does regional diversity of outmigration patterns in Russia look like?; What may be responsible for differences in out-migration patterns? and What are the potential challenges and risks related to out-migration and its uneven distribution within the country? It examines regional diversity as regards different migration types in Russia – intra-, interregional and international – treated as measures of spatial mobility, with a focus on their coexistence. It argues that migration policy should not be limited to the country level and certain solutions on regional level are indispensable.

The paper is structured as follows: the first section briefly describes the available migration data and its limitations, the next two examine regional diversity of different types of migration outflows (internal and international) and the last one focuses on the existing mobility patterns when looking at all the three migration types jointly, discusses challenges and risks connected to the obtained picture and offers possible solutions and recommendations.

Data

Out-migration in Russia, especially its international dimension, is not well recorded. In particular, the data on outflows to non-CIS countries is believed to be least reliable. But even in case of internal migration data, which to a greater extent reflect the reality, it has to be borne in mind that they show only a small fragment of the whole phenomenon as short-term migration is usually not registered and as many internal migrants do not complete the registration. Since the system of propiska² was abolished Russian citizens have enjoyed the freedom of movement guaranteed by the constitution. Under current residential regulations they do not need to register their whereabouts if they stay away

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For example, emigration to the EU per 100 000 of the home country's population in 2011 was 14.2 persons for Russia, 59.6 for Ukraine and 481 for Moldova (Eurostat data - immigration by country of previous residence, data for some receiving countries missing).

An official Soviet residential registration system which restricted an individual's right to choose his/her place of residence and to move within the country.

from the place of permanent residence for less than 90 days. In case of a longer absence, they should register in their new place of stay. However, Russian law does not foresee any penalties for not complying with these registration provisions. Not registered people may, however, have problems e.g. with official employment, with the police, access to health services and educational institutions, obtaining credits etc. (for details see Zayonchkovskaya, Mkrtchyan 2007). Despite those potential problems people often do not bother to register.

Although the available data are not suitable to assess the scale of the migration phenomenon, they could provide us with some valuable information concerning regional patterns and their spatial diversity. In order to compensate for data gaps and to minimize the effect of special events which may influence the data, I have used arithmetic means calculated for longer time series drawn from population registry and LFS data. I have used data for years 2006-2012 in order to go beyond the crisis years but without going back to the early 2000s when the migration situation in Russia looked slightly differently.

In some regions, such as the Northern Caucasus republics, the available statistics are extremely unreliable. Official data often indicates that migration is not particularly prevalent among residents of these regions while it is not the case in reality, as evidenced by their presence in Moscow and other Russian receiving regions.

As I want to concentrate on mobility patterns of Russian population, I decided to exclude departures of non-Russian citizens in case of international migration, trying to eliminate return migration this way. Registry data provided by the Federal State Statistics Service of Russia (Rosstat) allows to differentiate between Russian citizens and third country nationals by international migration exchange. Such an approach may prove especially significant in case of regions where percentage of those having foreign citizenship among people leaving the region is extremely high, e.g. in Tula, Smolensk, Tambov and Astrakhan oblasts where the share of third country nationals (not possessing Russian citizenship) exceeded 90% of all departing abroad in 2012 (*Chislennost' i migracija*... 2013).

To measure the intensity of migration in a region³ I consider the frequency of departures of its residents (number of departures per 1000 resident population). A departure is defined as deregistration from place of residence in Russia. In case of temporary labour migration departure is understood as declaration of employment outside of the home region. In this case number of departures has been deflated by the total number of regional workers employed within and outside the region. In case of international migration, departures concern deregistration for permanent residence in another country or, since 2011, deregistration at the place of stay which is performed automatically upon the expiration of allowed period of stay (concerns stays of 9 month or longer). In case of intranational moves, deregistration at the previous place of residence is made automatically by registration in a new place within Russia.

Analysis is based on official data on population movements including population registry data, results of the most recent population census (2010) and Labour Force Survey data. Internal migration has been divided into two categories: intraregional and interregional flows. Intensity of migration outflows for the Russian regions has been counted by means of construction of the complex index. A simple method of index construction has been applied – known in Polish geography as the Zioło's procedure (Runge 2006)⁴. This way we obtain a 1-dimensional index out of n indicators (dimensions) which enable us to order the regions according to the values of the complex index.

The analysis used data for 83 federal subjects of Russia (see Figure 8 in the Appendix). These are 46 federal provinces (oblasts), 21 republics, 9 territories (krais), 4 autonomous districts (okrugs), 2 federal cities and 1 autonomous province (autonomous oblast). Three out of four autonomous okrugs are parts of oblasts at the same time – in such a case an autonomous okrug is represented as one region, while the rest of its parent oblast is treated as a second, separate region.

For formula see Appendix.

Internal migration

As far as internal migration is concerned, the often listed barriers to mobility of workers include administrative impediments – problems with obtaining registration and consequences of non-registration (see Zayonchkovskaya, Mkrtchyan 2007), underdeveloped housing market (Karachurina 2006; Mkrtchyan 2012), liquidity constraints, which lock some regions into poverty traps (Andrienko, Guriev 2003), dependence on in-kind benefits (Friebel, Guriev 1999, 2000, 2005), and high physical cost of moving due to underdevelopment of transportation network and long distances (Kumo 2006). Not without significance may be also the historical legacy. Long-term mobility restrictions might have made people less mobile, less likely to engage in migration or to look for a job outside of their place of residence.

For many years internal migration in the Russian Federation has followed the trend referred to as western drift (see Mkrtchyan 2004). Russian Far East have noted steady negative migration balance. Huge interregional differences in wages and unemployment levels combined with institutional and geographical factors (the country's size and thus long distance intranational moves) cause that internal migration flows may potentially be considered an alternative to international migration. In particular, many residents of Russian regions see Moscow as a competitive alternative to the foreign destinations. In 2012 wages in Moscow amounted to 190% of average wages in Russia but, for example, almost four times the average wages in Dagestan, which was a region with the lowest income level (*Regiony Rossii* 2013).⁵

Intraregional migration flows

As regards intraregional movements, the complex index has been developed on the basis of population registry data for years 2006-2012 (average flows have been calculated for two periods separately: 2006-2011 and 2011-2012. This division into two periods was necessitated by the change in registration rules in 2010.⁶) and 2010 population census data, all indicators related to the population size⁷. The population census data includes the number of people who have moved within a particular region after October 2009.

Figure 1 presents the intensity of intraregional migration flows. Classes for the choropleth map were based on the value of the complex index. The higher the value of index I, the higher the intensity of intraregional migration.

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Higher wage levels were recorded only in Yamalo-Nenets, Chukotka, Nenets and Khanty-Mansi AOs, but these are regions with unfavorable climatic conditions.

Until 2010, Rosstat only collected data on registration and deregistration in place of permanent residence. Since 2011 its statistics on long-term migration include also registration by place of stay for periods of 9 months or more. All the Rosstat data on migration were taken from consecutive editions of the publication: *Chislennost' i migracija naselenija Rossijskoj Federacii*.

Data on population size were taken from Rosstat's *Chislennost' i migracija naselenija Rossijskoj Federacii* and 2010 population census data, accordingly.

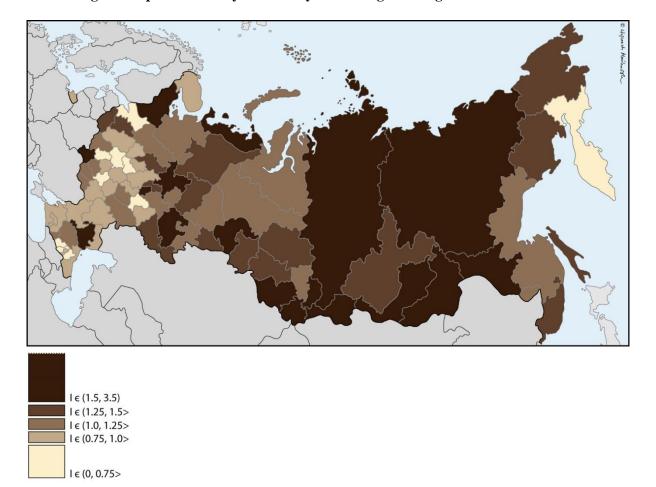


Figure 1. Spatial diversity of intensity of intraregional migration flows in Russia

Source: own elaboration, graphic design: Wojciech Mańkowski

The figure suggests that intraregional migration has been most common in regions of Eastern Siberia, bordering them regions of the Russian Far East and a few more regions located westwards i.a. republics of Bashkortostan, Karelia and Kalmykia, Tyumen, Bryansk and Kirov oblasts. High intensity of intraregional mobility in case of Sakha Republic and Krasnoyarsk Krai can be partly explained by the regions' size. We can hypothesize that relatively high prevalence of intraregional flows in case of regions located at the Mongolian border may be to some extent motivated by low attractiveness of Mongolia as a potential destination and thus intraregional movements may gain popularity at the expense of international migration. In general, high intensity of intraregional flows results mainly from moving from the countryside to the regional centers (Karachurina, Mkrtchyan 2013). The lowest intensity of intraregional migration has been in general recorded in regions situated in the European part of Russia (i.a. Moscow Oblast, the regions surrounding it, in particular Kaluga, Vladimir, Lipetsk and Ulyanovsk oblasts, and Leningrad Oblast) and on Kamchatka Peninsula. In case of regions located in western Russia, low intraregional mobility may result from their relatively small size and proximity to larger cities (Moscow and Saint Petersburg) located in neighbouring regions being a more competitive destination.

Interregional migration outflows

In case of interregional migration flows the complex index has been constructed taking into account the following data describing 5 dimensions (indicators):

- Rosstat official residential registration data, as in case of intraregional flows and for similar reasons, this was calculated as two separate components: average number of interregional departures per 1000 population for the years 2006-2010 and 2011-2012 (2 dimensions);
- population census data: the number of people who have left their region of previous residence after October 2009 per 1000 population and the share of people working in other regions in the total number of employed population of a region (2 dimensions);
- data on interregional labour migration drawn from the Labour Force Survey: number of people of working age who declared working in other regions per 1000 of home region's employed population, the average for years 2006-2010 and 2012⁸ (1 dimension).

Figure 2 depicts classification of Russian regions as far as intensity of interregional migration outflows is concerned.

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There was no data for 2011 available. Moreover, it has to be noted that in case of the LFS data there are some missing values for certain years (counting the mean for years 2006-2010 at least partially compensates for the data gaps) and there were no data at all for the Chukotka Autonomous Okrug and the Republic of North Ossetia-Alania (for these regions complex index has been calculated based on four instead of five dimensions).

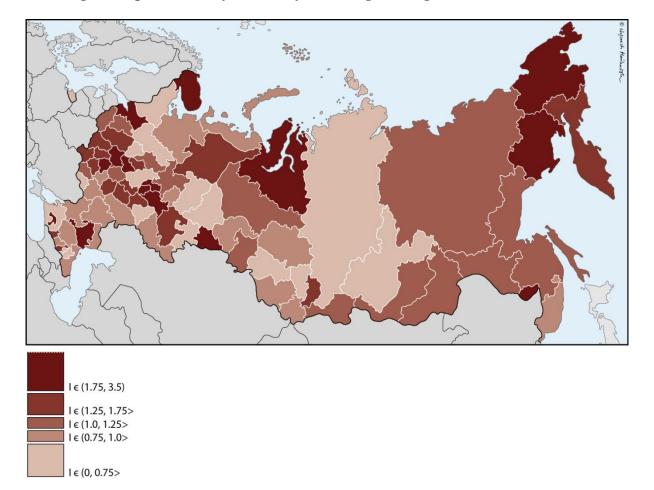


Figure 2. Spatial diversity of intensity of interregional migration outflows in Russia

Source: own elaboration, graphic design: Wojciech Mańkowski

Migration to other Russian regions has been relatively most often undertaken by residents of the north-eastern end of Russia (Kamchatka Krai, Magadan Oblast and Chukotka AO), numerous regions located in the European part of Russia, however not forming a continuous area (i.a. oblasts: Murmansk, Leningrad, Moskovskaya, Tula, Valdimir and republics: Kalmykia, Adygea, Tatarstan, Chuvashia and Mari El) and Yamalo-Nenets AO, Kurgan Oblast and Jewish AO. The least likely to engage in interregional migration were inhabitants of regions located in Siberian Federal District (Krasnoyarsk Krai, Irkutsk, Kemerovo and Novosibirsk oblasts) and i.a. Sverdlovsk, Vologda, Chelyabinsk and Yaroslavl oblasts, Perm Krai and Republic of Karelia.

In the post-Soviet period settlement migration has been to a large extent replaced by more flexible, temporary forms of mobility such as pendulum migration or seasonal labour migration. The official registry data provided by Rosstat shows the classic type of migration involving the change of residence, usually of the whole family or household. It is much more difficult to assess the level of the flexible, temporary or seasonal migration types. Plyusnin (2012) in an article devoted to one of the less studied migration types in Russia – intranational seasonal labour migration, traditionally in Russia called *othodnichestvo* – argues that it is the housing system that does not allow a family to move closer to their place of employment. This phenomenon concerns mainly residents of small towns and villages who temporary move to bigger cities in search of a job. Among typical regions where *othodnichestvo* was a traditional survival strategy in the imperial (pre-Soviet) period and where it has been restored in the post-Soviet times Plyusnin lists i.a. Kostroma, Vologda, Tver, Ryazan, Ivanovo, Leningrad and Arkhangelsk oblasts, Chuvash Republic and Republic of Mordovia. Some of these are indeed among

the top interregional labour out-migration regions according to both LFS and population census data (Leningrad, Ivanovo, Tver oblasts and Chuvash Republic and Republic of Mordovia).

Comparing relative intensity of changes of residence and working outside of the region (which may be represented as settlement and labour migration respectively) we can distinguish regions for which the discrepancies between these two migration types are the largest⁹. Thus, we can list regions from which labour migration outflows are relatively large comparing to other Russian regions while settlement migration outflows are relatively small (e.g., Moskovskaya Oblast, Republic of Adygea, Leningrad Oblast, Chuvash Republic, Tula Oblast, Mari El Republic, Vladimir and Ivanovo oblasts) and regions from which settlement migration outflows are relatively high while labour migration outflows relatively low (e.g., Chukotka and Yamalo-Nenets AO, Magadan and Murmansk oblasts and Kamchatka Krai). The first group consists of regions located in the neighbourhood of big cities such as Moscow and Petersburg which may influence people's decision not to leave or deregister from their place of permanent residence (home region)/register at the new place of stay while choosing to work in the neighbouring big city located in another region. The second group is composed of peripheral regions which offer relatively harsh living conditions which may influence people's preference for settling in more attractive regions where work is available.

International migration

According to Rosstat data the number of people leaving Russia every year has fallen from over 140 thousands to less than 40 thousands in years 2000-2011 (see Figure 3). The sharp increase in year 2012 is caused by the afore mentioned changes in data registration and collection rules – since 2011 data on departures include not only persons who have deregistered from their place of permanent residence in Russia for other place of residence but also deregistration from place of stay and include, for example, also migrants who in fact might not have left the country but whose allowed period of stay expired.

Official data, however, do not concord with the receiving states data. Figure 3 exposes that fact depicting comparison of official Russian data and data of the selected receiving states.

The line graph presents summary data for the EU and US according to receiving states' data¹⁰. Since 2004 the number of arrivals to the EU and US has exceeded the Russian data on departures to non-CIS states almost twice. At the same time it has to be noted that the Eurostat data has many gaps (i.a. it does not include any data on immigration to Belgium, Greece, France, Hungary, Malta, Portugal) and EU and US represent only some of the receiving states for Russian migrants. Therefore, it may be assumed that in reality the number of people leaving Russia is much higher and definitely much higher than presented by Rosstat.

These regions have been identified by counting the difference between complex indices for interregional migration (residence) and labor in the other region (the former made out of 3 dimensions representing changes of residence; the latter – out of 2 representing work outside of the region accordingly).

Large fluctuations of the US and EU data result from the Eurostat data fluctuations which were caused by existing data gaps (e.g. the lack of statistics for Germany for some years which is the main receiving country for Russian migrants among the EU member states).

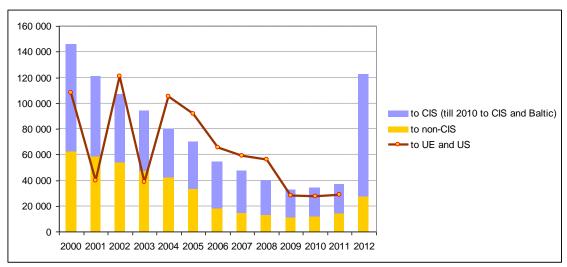


Figure 3. Migration from Russia, 2000-2012

Sources: based on *Chislennost' i migracija naselenija Rossijskoj Federacii*, issued in years 2000-2013; Eurostat; US Department of Homeland Security

Rosstat lists among the main receiving states for emigrants from Russia apart from the EU member states and US also Australia, Israel, Canada, China, Norway and Turkey. The most interesting among them as destinations for migrants from Russia seem to be China and Turkey. Both of them are usually perceived as sending states as far as their migration exchange with Russia is concerned (they both do have a negative migration balance with Russia¹¹). Although a significant part of those migrating from Russia to those destinations may be return migrants, a noteworthy trend occurred recently when it comes to analyzing migration exchange with these states – namely, Russian citizens have started to migrate to these countries in considerable numbers. This concerns, however, mainly unregistered (including labour) migration. Contemporary migration from Russia to China and Turkey has not been thoroughly investigated yet. There have been only a few studies devoted exclusively to this topic which is partly due to the fact that the phenomenon itself is relatively new.

Unfortunately receiving states do not usually report information concerning the region of origin of immigrants, so from the perspective of spatial diversity of out-migration intensity within Russia data coming from countries of destination will not be of much help. Therefore we have to build on the Rosstat data on departures of Russian citizens abroad complementing it with census data on the number of people residing in a region but employed abroad. Figure 4 presents the spatial diversity of international migration outflows as for Russian regions. Similarly to internal migration, the registry time series data have been divided into two sub-periods: 2006-2010 and 2011-2012 for which the mean values were calculated. The complex index has been thus constructed based on the following indicators (3 dimensions):

- average number of departures abroad of Russian citizens per 1000 population in years 2006-2010 (registry data published by Rosstat);
- average number of departures abroad of Russian citizens per 1000 population in years 2011-2012 (registry data published by Rosstat);
- share of people residing in a region but working abroad in total number of employed residents of a region (population census data).

According to Russian data.

I ∈ (1.5, 5.5)

I ∈ (0.75, 1.0>

Figure 4. Spatial diversity of intensity of international migration outflows in Russia

Source: own elaboration, graphic design: Wojciech Mańkowski

 $l \in (0.55, 0.75 >$

I ∈ (0, 0.55>

The highest intensity of international outflow is observed in regions of the Far East (with the exception of the Amur Oblast), West Siberia (without Altai Republic and Tyumen Oblast) and a few regions located in the European part of Russia, i.a. Kaliningrad, Pskov, Leningrad, Murmansk and Astrakhan oblasts and Republic of Karelia which is of no surprise as they all are border regions. We may assume that these located in the European part of the country (apart from Astrakhan) are mostly sending regions of migrants going to Western Europe¹², while in case of Astrakhan it is probably Kazakhstan that attracts residents of that region. In 2012 share of emigration to non-CIS countries in case of Astrakhan Oblast according to Rosstat amounted to 10%. Not only does Astrakhan oblast border Kazakhstan, but also 16,3% of its population are Kazakhs (according to Russian 2010 population census). Residents of Russian Far East – mainly of Amur Oblast, Khabarovsky and Primorsky Krai – recently often choose China as a destination country¹³. It is worth mentioning that emigration to China is often of permanent character. Lower costs of living and geographical closeness make it more attractive for inhabitants of Russian Far Eastern regions to migrate to China than to move to remote Moscow or Europe. Russian speaking community is quite numerous in China and besides many companies are oriented solely on the Russian market. Chinese becomes a desired foreign language to

The newest Rosstat data (as for 2012) proves it, however, only for Karelia. Migration to non-CIS countries amounted to 79% of all its residents' departures abroad.

A lot of information on this subject can be found on the Russian internet i.a. on blogs, forums, portals dedicated to emigration etc. (e.g. http://mirpocle50.ru/v-kitai-za-blagopoluchnoi-starostiu/, http://expat.su/china/category/emigratsiya-v-kitay/, http://mirpal.org/Эмиграция в Китай.html).

learn and more and more young Russians go to China to study. Chinese society is considered to be unaffected by xenophobia and the state is open to foreigners coming to their country (especially entrepreneurs) what is an additional advantage of this destination. Among migrants of working age coming from Russia to China highly skilled specialists start to prevail (Blyaher, Fedoreeva 2009). Moreover, in recent years it has been Russian pensioners from the Russian Far East who started to emigrate to China in order to spend the rest of their life there. They mainly settle in border regions from where they can visit Russia frequently e.g. in order to collect their pension or visit relatives. Living on Russian pension in China where costs of living, first of all rental rates, are lower allow them to maintain higher standard of living. Often they live on their property in Russia either by selling it, changing for a smaller one or renting out. Renting or buying a flat in China is much cheaper what provides additional resources for a decent life. ¹⁴

The lowest I scores are observed in regions bordering Mongolia and in numerous regions located in the European part of Russia. In case of the former this could probably be explained by purely geographical factors as Mongolia is still not an attractive country to emigrate for Russian citizens (despite its recent rapid economic development). In case of the latter, again the competitiveness of Moscow plays a role.

In case of international migration share of newcomers (defined here as persons living in the region but born outside of it) does matter. Result of the correlation analysis showed that there is a positive correlation between the share of newcomers (measured as an average from 2002 and 2010 population census data) and intensity of international migration outflows (measured by the above mentioned complex index). Pearson's correlation coefficient amounted to .56 (p<.001). We obtain stronger correlation (r=.66, p<.001) while taking into consideration only foreign-born newcomers (those residing in the region who were born abroad). While for intra- and interregional migration outflows we cannot observe such a strong relationship. For interregional migration correlation is lower in case of the share of newcomers (correlation coefficient at the level of .34, p=.002), while in case of foreign-born newcomers the correlation is not significant (r=.17, p=.128). In case of intraregional flows we get negative coefficients: -.27 (p=.012) and -.34 (p=.001) accordingly. Such result in case of intraregional migration may be explained by the fact that people who do already have a migration experience (as they were not born in the region) are more eager to migrate over longer distances, in particular to another country. In other words, in regions which do have higher share of residents born outside their territory, in particular abroad, the propensity to migrate abroad is greater¹⁵.

To examine regional diversity of international migration rates in Russia it is also worth looking at differences between relative intensity of migration according to registry data (which may be treated as settlement migration) and data on regional residents working abroad (labour migration). By counting the differences between complex index calculated for international migration outflows according to registry data and values of indicator calculated for work abroad according to population census data we can identify two extreme region types for which discrepancies between those two migration types are the largest:

- regions from which settlement migration outflow is relatively high while number of residents working abroad is relatively low;
- regions from which settlement migration outflow is relatively low while the number of residents working abroad is relatively high.

Among the former we can name i.a. Yamalo-Nenets, Khanty-Mansi and Chukotka AOs, Magadan and Omsk oblasts, Sakha and Komi republics and Altai Krai. Among the latter – i.a. Kaliningrad Oblast,

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Recently Chinese authorities allowed foreigners a long-term rental which is not without importance.

Note that by Rosstat data I have included departures of Russian citizens only by constructing a complex index. Hence, taking also foreign citizen into account the relationship between share of foreign-born newcomers and intensity of international out-migration will be stronger (.671, p<.001).

Republic of Karelia, Primorsky Krai, Republic of North Ossetia-Alania and Astrakhan Oblast. We can thus hypothesize that in the former case these are mainly regions with the least favourable living conditions which residents decide to leave altogether rather than look for a job abroad. In case of the latter, residents of these regions tend to work abroad more often but rarely deregister from their place of residence when leaving Russia.

Spatial diversity of mobility patterns and implications of out-migration

In order to distinguish regions representing different types as far as patterns of mobility are concerned cluster analysis has been conducted. By running hierarchical clustering using a Ward method¹⁶ Russian regions were divided into 5 groups (clusters) gathering regions similar to each other in terms of intensity of different types of migration outflow (for corresponding dendrogram see Figure 9 in the Appendix). The geographical information matrix was built out of 11 dimensions¹⁷:

- average intraregional, interregional and international migration outflows by Rosstat data for years 2006-2010 and 2011-2012 separately (6 dimensions altogether);
- intra- and interregional migration outflows as recorded by 2010 population census (2 dimensions);
- share of employed in other regions and abroad among total number of employed in a region as recorded by 2010 population census (2 dimensions);
- average interregional labour migration outflows for 2006-2010 and 2012 as recorded by LFS¹⁸ (1 dimension).

Figure 5 presents the classification obtained as a results of the clustering procedure.

Standardization in the range from -1 to 1 and squared Euclidean distance as the distance measure were applied.

As before all dimensions are relative measures – have been counted per 1000 of population (or per the number of employed in case of labour migration).

Chukotka Autonomous Okrug and Republic of North Ossetia-Alania for which there is no data concerning internal labour migration have been excluded from the cluster analysis based on 11 dimensions. They have been, however, classified to the appropriate clusters based on cluster analysis run on 10 dimensions (without internal labour migration according to LFS). In this case North-Ossetia belonged to the same group as Dagestan, Kabardino-Balkaria, Ingushetia and Chechnya and Chukotka – to the same cluster as Magadan, Murmansk and Yamalo-Nenets AO. Therefore Chukotka AO and North Ossetia have been classified to the corresponding clusters also in case of the widened classification.

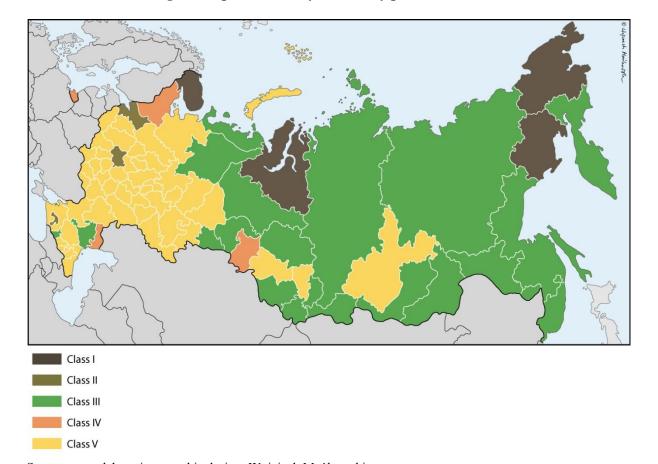


Figure 5. Spatial diversity of mobility patterns in Russia

Source: own elaboration, graphic design: Wojciech Mańkowski

To facilitate description of the clusters shown above the arithmetic mean for each class for each dimension has been counted. This way the classes can be roughly described as follows:

Class I (the cluster formed by Murmansk and Magadan oblasts, Yamalo-Nenets and Chukotka autonomous okrugs) consists of regions from which emigration to other Russian regions and abroad is relatively high in comparison with the rest of the country, while interregional labour outflow is relatively low.

Class II (formed by Leningrad and Moskovskaya oblasts and Republic of Adygea) includes regions for which intraregional and foreign migration outflows are relatively low, while interregional labour migration is exceptionally high.

Class III (formed mainly by regions located in the Asian part of Russia, apart from those included in class I and Omsk, Irkutsk, Novosibirsk and Kemerovo oblasts) comprises regions for which intraregional migration is relatively high and international labour migration outflow relatively low (excepting Primorsk).

Class IV (formed by Kaliningrad, Omsk, Astrakhan oblasts and Republic of Karelia) is composed of regions having relatively low emigration rates as far as interregional migration is concerned and high rates as regards international migration outflow, both for residence (excluding Kaliningrad) and labour (apart from Omsk).

Class V (formed mostly by regions located in the European part of Russia and Irkutsk, Novosibirsk and Kemerovo oblasts) consists of regions having exceptionally low interregional and international emigration (also including international labour migration) rates¹⁹.

The above map shows that quite a clear division into European and Asian part of Russia can be seen while the majority of Russian regions has been classified to two classes (III and V).

High intensity of migration outflows does not have to translate into population decline as they may be compensated by migration inflows or positive natural increase rate. Figure 6 presents migration balance for Russian regions for years 2006-2012 according to Rosstat registry data (taking into account both interregional and international migration).

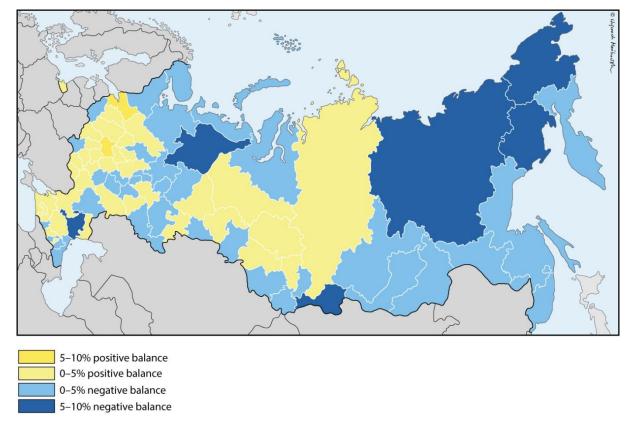


Figure 6. Migration balance for years 2006-2012, in per cent of 2006 population

Source: based on *Chislennost' i migracija naselenija Rossijskoj Federacii*, issued in years 2007-2013; graphic design: Wojciech Mańkowski

The above map shows that a considerable part of Russian territory noted negative migration balance in years 2006-2012. The highest negative migration balance in recent years was recorded in the Republic of Kalmykia, Magadan Oblast, Chukotka AO, Komi, Sakha and Tuva republics. However, in some of the regions possessing negative migration balance, depopulation does not take place thanks to positive natural increase, e.g. in Sakha, Tuva, Altai, Dagestan and Chechen republics, Yamalo-Nenets and Nenets AO (see Figure 7).

We can identify regions within Russia which are to the greatest extent affected by depopulation by comparing the results of the two latest population censuses: 2002 and 2010. As we can see from Figure 7 there are also regions which suffer from depopulation despite having positive migration

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Arkhangelsk and Pskov are exceptions in terms of interregional outflows, Novosibirsk for international outflows and Saint Petersburg for international labour migration outflows.

balance. These are i.a. Krasnoyarsk Krai, Tomsk, Novosibirsk, Kemerovo, Sverdlovsk and Chelyabinsk oblasts. Thus it is clear that in their case the incoming migration flows are not able to compensate for population losses incurred due to negative natural increase.

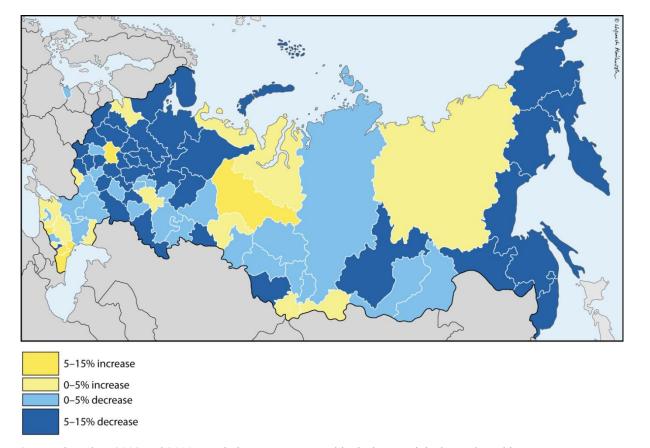


Figure 7. Percentage change in population size between 2002 and 2010

Source: based on 2002 and 2010 population censuses; graphic design: Wojciech Mańkowski

As we are focusing on out-migration in this text, I will not go into details as regards problems with too low rates of natural increase (much below the replacement fertility). I will concentrate on regions having negative migration balance where natural increase is not able to compensate for population losses incurred due to out-migration. Comparing figures 6 and 7 we see that they form two main zones: one extending from Chukotka, through Kamchatka, Magadan, Khabarovsk, Sakhalin to Primorsk in the east and Irkutsk Oblast in the west and the second stretching from Murmansk in the north, through Karelia, Arkhangelsk, Komi as far as Orenburg Oblast in the south.

Although looking on out-migration from the perspective of the country as a whole we may think that it is only international migration outflow that matter for country's development, adopting the regional perspective allows us to concentrate also on regional challenges connected to out-migration. They may, however, prove to be relevant also on federal level, especially in case of such a vast country as Russia. As usually these are the most entrepreneurial individuals who opt for migration, regions' potential to create new jobs decreases which may result in further outflow. Thus migration outflow deepens the peripherality of the most peripheral regions and thus acts as an impediment to their economic development and leads to further deterioration of living conditions of their residents. Looking at the mobility of Russian population from this perspective, regions may be perceived as entities competing for people. On the top of that, geopolitical questions also come into sight – for example, the issue of Chinese immigration to Russia, in particular to Far East and Siberia, has been attracting interest for some time (Alexseev 2001; Gel'bras 2004). That is why the debate on mobility

of residents of Russia should not be just considered at the country level but should be brought to the regional level as well.

Regional authorities may, on the one hand, use certain strategies to encourage their residents to stay within the region and to counteract the outflow outside of it. Making intraregional mobility an alternative to interregional and international movements seems like a proper solution to counteract depopulation. The authorities of Magadan Oblast currently implement a programme of intraregional migration, aimed at limiting out-migration, which involves moving people from the least attractive/hardship locations to locations within the oblast offering more agreeable conditions²⁰. On the other hand, counteracting the outflow this way may not be enough. Given the low natural increase, in order to stop depopulation of these regions it may be necessarily to adopt additional, more proactive measures. First, there is little chances to achieve that without thorough modernization. Secondly, it may seem tempting to attract migrants from the outside, both from other Russian regions and from abroad. However, as regards attracting foreign citizens, the issue may be two-sided. On the one hand, there is a risk that regions inhabited by the increasing number of foreign citizens may break out of control of Moscow. On the other, appropriately tailored migration policy may counteract such a scenario. According to the Concept of the State Migration Policy of the Russian Federation for the Period up to 2025 (2012), Russia is going to attract migrants meeting certain conditions, most preferably highly skilled and culturally close.

We can, however, look on the problem of depopulation of certain Russian regions from the completely different angle: a country does not have to be densely and evenly populated to function effectively. Therefore, counteracting depopulation of some Russian areas (northern ends of the country) should not be a goal in itself. Especially taking into account, that Soviet authorities used to locate large enterprises on areas practically unsuitable for habitation. In the face of this legacy, we may treat these areas as overpopulated and thus depopulation may be perceived as a natural process. Moreover, taking into account the standard of living on these areas, it seems more appropriate to take care of the current residents instead of attracting new ones. In particular as the number of those willing to move to hardship locations probably will not be high without a considerable compensation (which would make the whole idea economically inefficient). Thus an alternative idea may be, instead of trying to make people live in hardship conditions on a daily basis, to send them there only seasonally (e.g. as shift workers coming for several months)²¹. Surprisingly enough, the newest Russian policy seems to be targeted at further managing of the unoccupied territories. The authorities seem to be returning to the Soviet tradition, e.g. by drawing visions of new mega-projects, tightening the registration rules or considering to reintroduce mandatory first-job placement.²² However, this way already chosen once proved to be an inadequate solution so it rather seems to be time for a completely new model.

[&]quot;Support to municipalities in optimizing the settlement system in the Magadan Oblast in 2013-2018" Decision of regional administration concerning the programme can be found at:

http://www.garant.ru/hotlaw/magadan/494111/#review, access: 4.03.2014.

Which is not totally uncommon in Russia. Rotational villages (vahtovye poselki) are occupied e.g. by oil workers.

Recently, the State Duma announced that it plans to reintroduce compulsory first-job placement for graduates.

Summary and conclusions

The paper discusses and explains the regional diversity of out-migration patterns in Russia and points to the potential challenges and risks related to out-migration and its uneven distribution within the country. Based on a variety of migration data Russian regions have been divided into groups gathering regions similar to one another as far as out-migration trends are concerned, including both internal – additionally divided into intraregional and interregional – and international flows. Cluster analysis run on Russian regions according to intensity of out-migration undertaken by their residents allows to distinguish two dominating groups of regions with a clear division into West and East. Certain outliers have also been identified: the cluster gathering Yamalo-Nenets, Chukotka AOs, Murmansk and Magadan oblasts as regions from which emigration to other Russian regions and abroad is relatively high in comparison with the rest of the country, while interregional labour outflow is relatively low; cluster concentrating Kaliningrad, Omsk, Astrakhan oblasts and Republic of Karelia which have relatively low emigration rates as far as interregional migration is concerned and high rates as regards international migration outflow and cluster formed by Leningrad and Moskovskaya oblasts and Republic of Adygea for which intraregional migration is exceptionally high.

Examination of intensity of out-migration trends for different migration types (intra-, interregional, international) allows to indicate regions for which a specific migration type dominates or is least likely. As regards intraregional migration, it is most frequently occurring in Eastern Siberia and the bordering it Far Eastern regions, while the intensity of this migration type is the lowest in numerous regions located in European part of Russia and in Kamchatka Krai. Migration to other Russian regions has been most commonly undertaken by inhabitants i.a. of the north-eastern end of Russia, Murmansk Oblast and Yamalo-Nenets AO, while least likely in regions belonging to Siberian Federal District. Propensity to migrate abroad has been highest in Far Eastern and West Siberian regions and northern regions located along the Russian western border, and the lowest in regions bordering Mongolia. In case of international migration outflows the intensity of out-migration is correlated with the share of newcomers resident in a region. As shown on the maps, regional out-migration patterns may also be partially explained by location of the region in relation to local centres and neighbouring countries.

The presence of considerable regional differences as regards out-migration patterns and the possible implications of out-migration may be treated as an indication that migration policy in its outward dimension should be shaped also on regional level and thus depopulation constitutes a challenge not only to federal authorities but also to their regional counterparts. It seems that a systemic approach is needed to implement such a solution on a larger scale as it has to base on interregional cooperation.

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Appendix

Formula for the construction of the complex index (the Zioło's procedure):

$$T_i = rac{\sum\limits_{j=1}^{n} \left(rac{x_{i,j}}{83} * 100\right)}{n}$$

where:

 $i = 1 \dots 83$ number of regions

 $j = 1 \dots n$ number of dimensions (indicators)

 $x_{i,j}$ – value of indicator j for region i

 I_i – value of complex index for region i

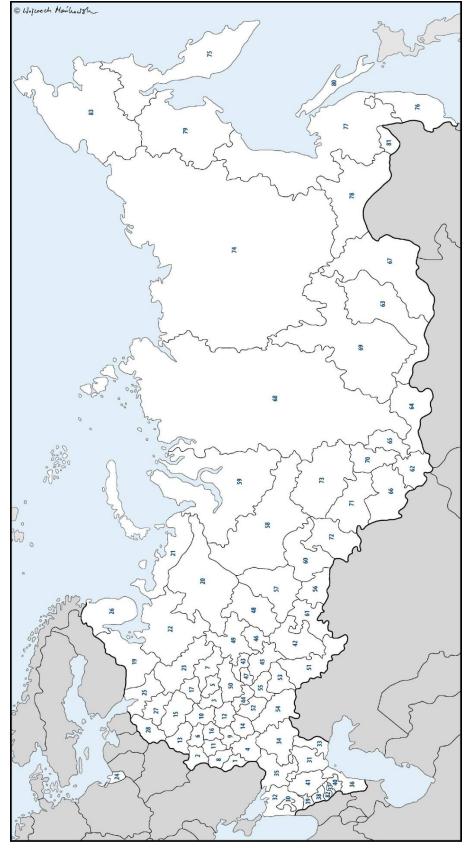
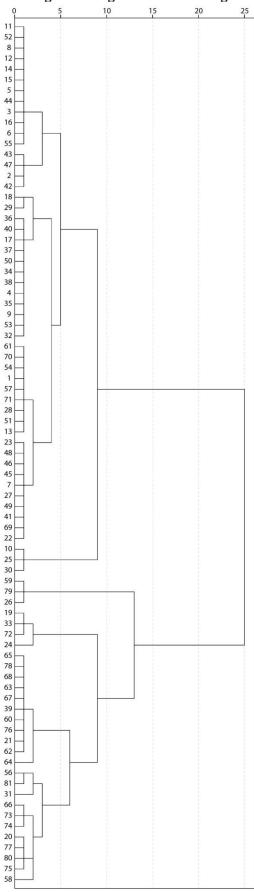


Figure 8. Regions on which the analysis is based

Source: graphic design Wojciech Mańkowski

Figure 9. Dendrogram using Ward's method generated by SPSS



Legend:

- 1 Belgorod Oblast
- 2 Bryansk Oblast
- 3 Vladimir Oblast
- 4 Voronezh Oblast
- 5 Ivanovo Oblast
- 6 Kaluga Oblast
- 7 Kostroma Oblast
- 8 Kursk Oblast
- 9 Lipetsk Oblast
- 10 Moskovskaya Oblast
- 11 Oryol Oblast
- 12 Ryazan Oblast
- 13 Smolensk Oblast
- 14 Tambov Oblast
- 15 Tver Oblast
- 16 Tula Oblast
- 17 Yaroslavl Oblast
- 18 Moscow city
- 19 Republic of Karelia
- 20 Komi Republic
- 21 Nenets Autonomous Okrug
- 22 Arkhangelsk Oblast (without Neneck AO)
- 23 Vologda Oblast
- 24 Kaliningrad Oblast
- 25 Leningrad Oblast
- 26 Murmansk Oblast
- 27 Novgorod Oblast
- 28 Pskov Oblast
- 29 Saint Petersburg city
- 30 Republic of Adygea
- 31 Republic of Kalmykia
- 32 Krasnodar Krai
- 33 Astrakhan Oblast
- $34-Volgograd\ Oblast$
- 35 Rostov Oblast
- 36 Republic of Dagestan
- 37 Republic of Ingushetia
- 38 Kabardino-Balkar Republic
- 39 Karachay-Cherkess Republic
- 40 Chechen Republic
- 41 Stavropol Krai
- 42 Republic of Bashkortostan
- 43 Mari El Republic
- 44 Republic of Mordovia
- 45 Republic of Tatarstan
- 46 Udmurt Republic
- 47 Chuvash Republic
- 48 Perm Krai
- 49 Kirov Oblast
- 50 Nizhny Novgorod Oblast
- 51 Orenburg Oblast
- 52 Penza Oblast
- 53 Samara Oblast
- 54 Saratov Oblast
- 55 Ulyanovsk Oblast
- 56 Kurgan Oblast

- 57 Sverdlovsk Oblast
- 58 Khanty-Mansi Autonomous Okrug
- 59 Yamalo-Nenets Autonomous Okrug
- 60 Tyumen Oblast (without Khanty-Mansi and

Yamalo-Nenets AO)

- 61 Chelyabinsk Oblast
- 62 Altai Republic
- 63 Republic of Buryatia
- 64 Tuva Republic
- 65 Republic of Khakassia
- 66 Altai Krai
- 67 Zabaykalsky Krai
- 68 Krasnoyarsk Krai
- 69 Irkutsk Oblast
- 70 Kemerovo Oblast
- 71 Novosibirsk Oblast
- 72 Omsk Oblast
- 73 Tomsk Oblast
- 74 Sakha Republic
- 75 Kamchatka Krai
- 76 Primorsky Krai
- 77 Khabarovsk Krai
- 78 Amur Oblast
- 79 Magadan Oblast
- 80 Sakhalin Oblast
- 81 Jewish Autonomous Oblast
- 82 Republic of North Ossetia-Alania
- 83 Chukotka Autonomus Okrug

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