

Main indicators of population migration in the Russian Federation and their dynamics

*Galina S. Zhukova**, and *Galina V. Boykova*

Financial University under the Government of the Russian Federation, 49, Leningradskiy Avenue, Moscow, 125993, Russian Federation

Abstract. The dynamics of internal and international migration processes in the Russian Federation in 2015–2019 is studied. The results of a comparative statistical study carried out for three process indicators and 120 factors are presented. The indicators for 2020 are not included in the comparative analysis, as they are not typical for Russia and are caused by the pandemic.

1 Introduction

Transformation of the financial and technological crisis into a social one and then a political one began to manifest itself clearly in several countries, including Russia. The relationships of man and nature, habitat, authorities, sources of well-being and life support turned out to be unbalanced. The population is experiencing an increase in environmental threats, climate change, widespread self-destructive forms of human behavior, geophysical and many other emerging problems. In the context of global integration, citizens can study and analyze in more detail issues related to the financial, economic, social, labor and other policies of various regions and states, as well as other aspects of life. Therefore, there is a desire, and sometimes the need to change the place of further residence (both within the country and abroad).

Currently, internal and external migration should be considered as global social phenomena, and a powerful source of demographic improvement. Various aspects of migration processes that are currently being observed are studied by many authors [1-12,14-16,20-22]. This is understandable: in the life of any state, population migrations play an important role and affect all spheres of life of the countries' peoples. Migration processes for Russia are one of the main factors that determine the socio-economic development of modern Russian society and its demographic well-being. International migration helps to contain the dwindling population and labor force in the country. Internal migration of the population affects the socio-economic relations in the country, resolves issues of labor and employment of the population, as it allows millions of Russians to find new jobs.

Unemployment has a significant impact on the country's economy. Its consequences are negative, as the economic opportunities of society are lost or not fully used. Unemployment lowers the population's standard of living, leads to political instability and can cause

* Corresponding author: gszhukova@fa.ru

psychological stress in society. The main damage caused by unemployment entails a significant lag of the country in economic development from the leading countries of the world.

Population migration issues need to be regularly monitored and analyzed in order to correctly determine the reserves and plan the growth of the country's population, rationally and responsibly pursue the state's migration policy.

2 Formulation of the problem

Large inflows of international migrants can provoke social, economic and other problems in the state. Territorial movements of people during internal migration are, as a rule, of a different nature and occur for a variety of reasons, have complex routes, connections and consequences. One of the main problems of migration processes is their massiveness, unpredictability in the long term, which almost always contains a negative component and causes difficulties in management.

Conducting a systematic analysis of these processes helps to identify potential threats, to search for possible ways of their elimination or regulation in the interests of the country. For example, knowledge of the parameters of internal Russian migration makes it possible to identify the least attractive territories for life and work in the country, to differentiate regions by population outflow. And then for territories that are of priority importance for the national interests of Russia, to develop and implement programs of various levels (federal, regional, etc.) in order to change the direction of unwanted migrations.

In the conducted study the calculations of the main indicators of migration in Russia for 2015–2019: the number of arrivals, the number of departures, and migration growth of the population were carried out. The results of a comparative analysis of the dynamics of migration processes are presented. To determine the parameters of migration (total), the following was taken into account: migration within Russia (internal migration), broken down into intraregional and interregional; international migration (external migration), with a separate accent on the CIS countries and all other foreign states. All migration indicators were studied separately for the following categories: urban population, rural population. Problems of illegal migration, assessment of its scale, sources of information are not analyzed in the work.

To obtain the digital information required to achieve this goal, the selection and sorting of statistical data on three quantitative indicators of migration in Russia (number of arrivals, number of departures, migration population growth) was carried out based on 120 factors. We used the most recognized official statistical sources in Russia [13,17-19], as well as the results of a number of scientific studies.

The main parameters that shape modern international migration processes in the Russian Federation, their dynamics, average annual values for the years under consideration are shown in Table 1 (with a breakdown by categories of 'urban' and 'rural' population).

Table 1. Indicators of international migration in Russia, people

Indicators / year	Number of arrivals		Number of departures		Migration population growth	
	Urban population	Rural population	Urban population	Rural population	Urban population	Rural population
International migration (total)						
2015	464779	133 838	276 481	76 752	188 298	57 086
2016	453988	121 170	250 494	62 716	203 494	58 454
2017	461525	127 508	307 952	69 203	153 573	58 305
2018	453344	133 341	378 234	62 597	75 110	70 744
2019	480958	220 276	330 020	86 111	150 938	134 165
Average annual values:	462 919	147 227	308 636	71 476	154 283	75 751
International migration with CIS countries						
2015	426 262	109 892	242 071	56 757	184 191	53 135
2016	400 298	111 475	201 694	54 786	198 604	56 689
2017	410 525	113 927	258 715	62 303	151 810	51 624
2018	400 327	110 617	331 581	44 337	68 746	66 280
2019	432 564	185 433	299 062	62 935	133 502	122 498
International migration with other foreign countries						
2015	2015	38 517	23 946	34 410	19 995	4 107
2016	2016	53 690	9 695	48 800	7 930	4 890
2017	2017	51 000	13 581	49 237	6 900	1 763
2018	2018	53 017	22 724	46 653	18 260	6 364
2019	2019	48 394	34 843	30 958	23 176	17 436

Table 2 shows the values of migration indicators in Russia in 2015–2019, broken down by internal processes forming these indicators.

Table 2. Indicators of international and internal migration of the population of Russia, broken down by territories of arrival / departure (countries, Federal Districts and subjects of the Russian Federation), people

Indicator / year	2015	2016	2017	2018	2019
International migration, people					
Number of arrivals in the Russian Federation, total	598617	575158	589033	565685	701234
including arrivals from the CIS countries	536154	511773	524452	510944	617997
Number of departures from the Russian Federation, total	353233	313210	377155	460831	416131
including arrivals in the CIS countries	298828	256480	321018	375918	361997
Migration growth	245384	261948	211878	104854	285103
Intra-Russian migration by territories of arrival and departure, people					
Total	4135906	4131253	4184467	4345881	4048535
including arrival in the Central Federal District	1084531	1104998	11125740	1204833	1103972
Northwestern Federal District	514162	531726	564395	571905	537392
Volga Federal District	773956	780451	752440	768918	732939
including departure from the Central Federal District	957799	956771	1000837	1076392	1013461
Northwestern Federal District	475751	493189	519324	532734	498129
Volga Federal District	834768	827225	814535	838115	776459

Table 3 shows the values of another indicator of the process under study - the migration growth coefficient (that is, growth per 10,000 population). Tables 2-3 clearly show how different the territories of Russia are in terms of their attractiveness for life and work.

Table 3. Dynamics of the migration growth coefficient of population in some Federal Districts and subjects of the Russian Federation, people

Subject of the Russian Federation / year	2017	2018	2019
Russian Federation	14.4	8.5	19.4
Central Federal District	50.6	46.8	47.1
Northwestern Federal District	54.7	36.3	35.4
Volga Federal District	-11.7	-22.4	-9.7
Southern Federal District	26.9	30.2	37
North Caucasian Federal District	-25.9	-25.6	1.8
including: the City of Moscow	89.2	78.6	37.6
the City of Saint Petersburg	121.4	51.5	26.9
Republic of Adygea	20.8	54.4	213.9
Leningrad region	171.2	238.9	203.5
Moscow region	111.3	139.7	144.1
Omsk region	-50.1	-57.4	-62.6

Table 4 reflects the summary values of the main indicators of migration of the Russian Federation's population (without breakdown into constituent processes and categories of migrants). Figure 1 illustrates the dynamics of the main indicators using comparative charts.

Table 4. Summary indicators of migration processes in Russia, people

Indicator / year	Number of arrivals	Number of departures	Migration population growth
2015	4734523	4489139	245384
2016	4706411	4444463	261948
2017	4773500	4561622	211878
2018	4841566	4636712	204854
2019	4799769	4514666	285103
Average for the year	4767153.8	4529320.4	237833.4

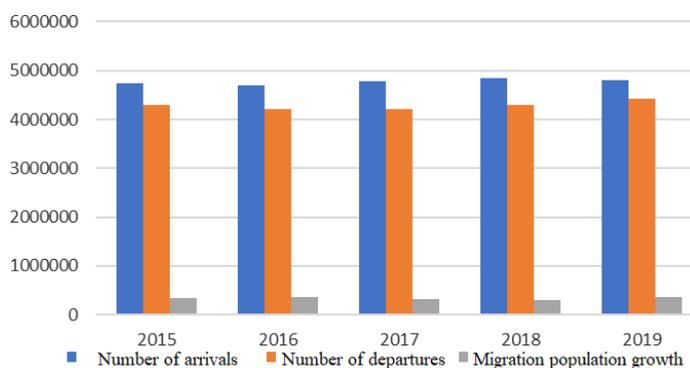


Fig. 1. Dynamics of the main indicators of migration in Russia

Descriptive statistics makes it possible to systematize data by individual signs and criteria, determining the magnitude of deviations or the correspondence of values to any indicators. Thus, the standard deviation enables to calculate the dispersion of the investigated random variable relative to its mathematical expectation, to analyze how the studied sample values differ from the calculated average value of the investigated variable. Asymmetry makes it possible to determine the magnitude of diametrically opposite sample values.

The main characteristics of migration processes were chosen as the random variables under study. Since migrations are usually classified into three groups - an arrival group, a departure group, and a group of resistant values (in our case, migration growth), descriptive statistics were carried out taking into account this feature. The result of the study of the main indicators of the dynamic migration process using statistical applied methods made it possible not only to study the dynamics of international and internal migration processes taking place in Russia, but also to make forecasts for the future.

3 The results obtained and their discussion

In Russia, the use of migrant labor largely depends on economic and demographic reasons. The country still has an imbalance between the demand and supply of labor in the domestic labor market, and a shortage of skilled workers. This is due, in particular, to the fact that blue-collar occupations are low paid, especially in distant regions of the country.

Now, our country is taking a lot of measures to increase the number of employed citizens. Regulation of unemployment is carried out in several directions at once, and the main one is to ensure equal opportunities for all residents of the Russian Federation.

Mass migration of the population from the countries of the former USSR to Russia has made it possible for many people to find a new job and a new home in Russia. Modern migration processes are dynamic processes that have an impact on all spheres of life in modern society. We can say that migratory movements of the population constantly participate in the changing of the face of modern Russia.

Based on the research carried out, the following results are revealed.

1) The comparative category 'Number of arrivals' has a positive trend. Analyzing the data obtained, carrying out calculations with a reliability level of 95%, it can be argued that the number of migrants arriving in Russia remains high from year to year, the average value of this category over the past five years (before the pandemic) was 4 771 153 people. All this testifies to the fact that the country maintains a high level of life support; unemployment is in the right balance, the problems of employment of the population are solved satisfactorily.

2) The comparative category 'Number of departures', according to relative estimates, also has a positive trend, but deviations are observed in some time periods. This characterizes the observed trend as unstable. A possible reason for this factor can be socio-economic instability, crises, epidemics, and natural disasters.

1) The category 'Migration growth' serves as the main indicator of the processes under study. The average value of the annual migration growth of the population over the past five years is 241,833 people. The results obtained indicate a favorable migration situation in the country. The positive value of this indicator, which is at the average level of values and does not have significant deviations, indicates a stable socio-economic situation and the stability of the policy of the Russian state.

4 Conclusions

The applied methodology, in combination with various modeling tools, statistical processing of large data sets, makes it possible to create predictive models with which you can analyze and design the required results.

Having analyzed the main indicators of migration processes, we come to the conclusion that the most important area of modern migration policy in Russia now is optimization of internal labor migration flows. The state has to develop such a modern migration strategy that will unite the national, socio-economic and other interests of modern Russian society, as well as determine specific steps to achieve global goals.

Given the dynamic nature of migration, it is necessary to identify those natural processes that contribute to an increase in the territorial mobility of the population as society modernizes and the level of socio-economic development of the country grows.

To optimize external migration flows, in particular, it is necessary: to promote voluntary resettlement of compatriots to Russia; stimulate the return of emigrants to the Russian Federation; attract qualified foreign specialists for permanent residence in Russia; improve migration legislation, develop socio-economic measures to increase migration attractiveness of territories with the greatest population outflow; create conflict-free conditions for integration of migrant population into Russian society.

If earlier it was rather difficult to organize the processes of control and analysis of migration movements of the population, then with the development of information technologies, it became possible to build economic and mathematical models of these processes, conduct a system analysis, calculate the values of indicators, and build a forecast for future years.

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