

Migration processes in the regions of the Asian border region of Russia: the experience of building a typology

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Abstract. Russia is one of the most attractive countries for international migration. The diversity of its regions, significant differences in geographical, economic position are manifested in the uneven risks caused by migration flows. An assessment of the specifics of the socio-economic development of the Asian border regions was carried out on the basis of an analysis of regional statistics regarding international migration, factors that restrain and stimulate the flow of migrants to the region are revealed. The article presents a typology of the regions of the Asian border region on the basis of a set of indicators combining the features of the demographic situation, border status, economic status, as well as educational and migration strategies.

Keywords: migration processes, typology, socio-economic development, Asian border region

1. Introduction

Russia is a unique state with the maximum territorial extent, climatic, natural, socio-economic, national, and ethnocultural diversity, which gives rise to extreme contrasts and a high level of differentiation of its regions. Russia ranks second in the top ten most attractive countries for immigration, accounting for about 11 million migrants from more than 30 countries of the world. At the same time, due to the influence of the global geopolitical and socio-economic situation, changes in the migration legislation over the past years, the ratio of the contribution of the countries of the near and far abroad to the total amount of migration growth has changed dramatically. If from 2000 to 2005, according to official statistics, their shares in the total flow of migrants were approximately equal, then since 2007, the number of labor migrants from the CIS countries noticeably outpaced the influx of foreign labor from other countries. According to the data from Rosstat for 2015, the leaders in terms of migration are Uzbekistan (12.4% of all migrants who arrived in Russia), Kazakhstan (11.0%), and Tajikistan (8.0%) [1, 2].

It should be noted that the main characteristics of migration in Russia are the diversity and multiplicity of migration routes, the irregular nature of migration, the tendency for the emergence of long-term or permanent migrants, the functioning of the informal migration infrastructure based on developed ethnic communities and national diasporas. Migration is a problem for border, law enforcement, and migration systems, public health systems, because cyclical movements of people across borders can damage the national integrity of the Russian state.

The diversity of Russian regions, significant differences in the geographical, economic situation are also manifested in the uneven risks caused by migration flows [3]. Border regions are most affected by

the negative effects of migration. They bear most of the migration costs of controlling the entry and initial adaptation of migrants, as well as the consequences of their criminal and illegal activities.

The purpose of the article is to present the structure of the Russian regions of the Asian border area from the standpoint of assessing the current migration situation and the complex of factors determining the regional differences in its development.

2. Materials and Methods

In order to assess migration processes and develop a typology of the regions of the Asian border region of Russia, the following data were used: (1) statistical data provided by the Federal State Statistics Service (Rosstat); (2) data of relevant departments and ministries that manage migration data (Federal Migration Service (as of 2016), the Ministry of Internal Affairs of the Russian Federation), and other open data sources. The complex of statistical indicators captures the following: (1) features of the migration situation; (2) changes in the composition of the population, including demographic indicators, characterizing the age and sex composition and working capacity of the population; (3) the situation on the labor market and employment of the population; (4) the potential of regional education systems for the preparation of labor resources, (5) the socio-economic situation of the region; and (6) the level and quality of life, including the crime rate.

According to the classification of the Federal State Statistics Service, indicators of socio-economic development are divided into the following groups: macroeconomic indicators and indicators of the standard of living of the population (demographic situation, economic activity of the population, incomes of the population and socio-economic differentiation, nutrition, housing, health, medical care, education, offenses, etc.) [4]. The most representative indicators were taken from each group. These indicators are calculated for all regions of Russia. The number of recorded crimes per 100,000 population and the number of recorded killings and attempted murders were taken as security factors in the region. The migration increase rate per 10,000 people was used to estimate the level of migration in the region. The dummy variable *asian_border* takes the value 1 if the region has a border with the Asian state, and 0 if the region has no boundaries. Data for all indicators were taken from the website of the Federal State Statistics Service and calculated for 2015. All monetary indicators were logarithmic. To build a typology of the regions of the Asian border region of Russia, the following statistical methods were used: univariate analysis of variance, cluster analysis using the *k*-means method, regression analysis. Statistical calculations were carried out using the SPSS 23.0 statistical software package.

3. Results

At the first stage of the study focused the specifics of the migration situation, an analysis including all regions of the Russian Federation was carried out. The analysis included all regions in order to subsequently show the specifics of the regions of the Asian border region of Russia.

To determine the differences in socio-economic development between the regions of the Asian frontier and other regions, the method of analysis of variance was used. Based on the data presented in Table 1, it is possible to speak about the presence of statistically significant differences at a significance level of 0.1 between the regions of the Asian frontier and the other regions. This applies to indicators of unemployment, the number of people with incomes below the subsistence minimum, the density of roads, and the number of crimes.

On average, in the regions of the Asian border region, the unemployment rate, poverty rate, and crime rate are higher, and the density of roads is lower. The regions of the Asian border region have higher risks and low socio-economic development, which necessitates a further research on these regions.

The typology of the regions of the Asian border region is based on the distribution of regions across two clusters, built on the basis of 8 variables characterizing socio-economic development. To build the clusters and find their centers, the *k*-means method was used. The regions of the Asian frontier can be divided into two almost equal groups. The first cluster is characterized by low unemployment, a population with incomes below the subsistence minimum, and a number of registered crimes. At the same time, the average values of road density, number of students, life expectancy, GRP per capita, and

retail trade turnover exceed the average values in the second cluster (Table 2). The regions of the first cluster are more developed economically, have a higher standard of living, as well as a higher level of security.

Table 1. The results of single-factor analysis of variance.

Indicators		Sum of Squares	DF	Mean Sq.	F	Sig.
Unemployment_rate, %	Between Groups	28.488	1	28.488	3.809	0.054
	Within Groups	598.390	80	7.480		
	Total	626.878	81			
The population with cash incomes below the subsistence minimum. (poverty)	Between Groups	191.766	1	191.766	7.906	0.006
	Within Groups	1940.414	80	24.255		
	Total	2132.180	81			
Roads_density	Between Groups	791102.096	1	791102.096	5.397	0.023
	Within Groups	11727341.919	80	146591.774		
	Total	12518444.015	81			
A number of students enrolled in undergraduate programs, specialties, graduate programs per 10,000 people (students)	Between Groups	5094.182	1	5094.182	0.492	0.485
	Within Groups	827756.708	80	10346.959		
	Total	832850.890	81			
Migration rates per 10,000 people (migration)	Between Groups	8108.968	1	8108.968	1.655	0.202
	Within Groups	392012.124	80	4900.152		
	Total	400121.092	81			
A number of crimes recorded per 100,000 population (crime)	Between Groups	4284008.702	1	4284008.702	15.703	0.000
	Within Groups	21825661.054	80	272820.763		
	Total	26109669.756	81			
Life expectancy at birth, the number of years (lifeexpectancy)	Between Groups	43.550	1	43.550	9.583	0.003
	Within Groups	363.550	80	4.544		
	Total	407.100	81			
GRP per capita, rub. (ln_grp_pc)	Between Groups	0.229	1	0.229	0.774	0.381
	Within Groups	23.662	80	0.296		
	Total	23.891	81			
Retail trade turnover per capita (in actual prices; rubles) (ln_retail_trade_pc)	Between Groups	.078	1	0.078	0.979	0.326
	Within Groups	6.410	80	0.080		
	Total	6.488	81			

Table 2. Cluster centers.

Asian_border (Asian border regions)	Cluster	
	1	2
1.0 unempolyment rate	6.3	8.8
poverty	15.2	20.3
roads_density	166.9	55.2
students	366.4	303.5
crime	1655.8	2514.1
lifeexpectancy	70.70	67.79
ln_grp_pc	12.64	12.531
ln_retail_trade_pc	11.91	11.876

The regions with high socio-economic development in the Asian border region include such regions as Novosibirsk, Chelyabinsk, Volgograd, Orenburg Astrakhan, Samara, Saratov, Omsk, and Altai. The second cluster, lagging behind in the socio-economic development of the Asian frontier regions, includes, for example, the republics of Tyva, Altai, Buryatia and the Amur, Kurgan, and Jewish Autonomous regions, as well as the Transbaikal, Primorsky, Khabarovsk regions.

In the regions of the Asian borderland, there is a migration outflow, the average value of the migration growth rate for these regions is negative. At the same time, in the regions of the first cluster, the absolute value of the coefficient is lower, which indicates a smaller outflow from the regions. However, this difference in outflow between socially-developed and non-developed regions is not statistically significant.

4. Discussion

As one of the aspects of migration, the factors of its occurrence are considered in E. Lee's econometric model, after Ravenstein [5, 6] who divided the spectrum of reasons for migration into pushing, pulling,, and also adding intermediate factors to his model [7, pp. 47-57]. Economic, social, political, and environmental disadvantages of the previous place of residence are pushing factors. (The benefits that a migrant gain when moving to a new location; intermediate factors as potential limitations of mobility as attracting factors). In contemporary scholarship, using the terminology of E. Lee, among the main attracting factors are listed the following ones: a higher standard of living [8], employment opportunities, and material support for families [9], personal security and accessibility of education [10]. The push factors include poverty, food insecurity [11, 12], political instability, lack of investment in transport, agricultural, and energy infrastructure, unemployment [13, 14].

Based on the study, it was revealed that the regions of the Asian frontier region have a lower level of socio-economic development compared with the rest of Russia. The lag is manifested in statistically significant differences for groups of the Asian border regions and other regions in terms of unemployment, the number of recorded crimes, the density of highways, and the number of people with incomes below the subsistence minimum. However, the regions of the Asian border region are also heterogeneous, and it can be divided into two groups by socio-economic development. The per capita GRP level has the greatest positive impact on security in the border regions. While for other regions, such factors as the life expectancy, high income, and low migration growth are also important. The Asian border regions are at risk in terms of security and socio-economic development.

5. Conclusion

The typology developed is our attempt to build a holistic vision of migration processes in the context of the challenges and threats facing Russian society, taking into account not only quantitative indicators of population migration, particularly its international component. Also, the developed typology links them with indicators of geographical, demographic, and socio-economic status.

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