

## Labor Migration in the Region: Assessment, Forecasting, Approaches to Management

V. F. Potudanskaya \*

Omsk State Technical University, Omsk, Russia

N. V. Borovskikh

Omsk State Technical University, Omsk, Russia

E. A. Kipervar

Omsk State Technical University, Omsk, Russia

### Abstract

The article considers labor migration in the region. The goal of the study was to define the key problems related to the development of labor migration in the region, its forecasting and substantiating approaches to the labor migration management by federal and regional authorities. Regression analysis, methods of demographic forecasting, as well as techniques of table and graphical representation of statistical data were used as statistical methods of the study. The problems of assessing, forecasting and managing labor migration are considered through the example of a typical peripheral region of the Russian Federation – the Omsk Region. Based on the study results, the authors have identified trends in the development of labor migration in the region, substantiated the forecast for the labor migration development, and identified approaches to managing migration flows. The paper contains the results of assessing internal and external migration indicators based on the study results. The dominant role of the internal labor migration in the migration flows of the region's population is proved. The factors of migration attractiveness of the Central and Southern regions of Russia are revealed. The reasons for the population migration from the Omsk Region are analyzed. Labor migration is defined as the predominant type of migration in the region under study. The paper substantiates the areas of regulating labor migration, the essence of which is to ensure a decent standard of the population's life in the region and to create an appropriate migration infrastructure.

**Keywords:** Labor migration; Omsk region; Population dynamics; Demographic burden; Forecasting the population; Migration loss; Migration attractiveness; Migration consequences.



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### 1. Introduction

Today labor migration covers more and more countries and regions. It becomes global and thus not only contributes to distributing new knowledge, technologies and progressive productions, but also creates a number of socio-economic contradictions and problems. Unlike the developed countries that have accumulated more centuries-old experience in managing migration processes, for the first time in its post-restructuring history Russia has faced a large-scale spontaneous movement of the population, including due to the search for work. Thus, it is necessary to study the issues on analyzing the impact of labor migration on the formation of the region's human resources potential, and the labor market situation.

Russian and foreign researchers have created a certain theoretical basis for studying the essence of labor migration, its functions, and conditions of emergence and management instruments. The works of such researchers as T.I. Zaslavskaya, V.I. Perevedentsev, L.L. Rybakovsky, A.B. Topilin, V.N. Bobkov, H.A. Volgin, O.D. Vorobyeva, V.L. Inozemtsev, S.A. Kartashov, A.B. Kashpov, A.E. Kotlyar, A.A. Nikiforova, Yu.G. Odegov, G.G. Rudenko, and G.E. Slezinger are devoted to studying the concepts of "migration" and "innovation process".

Such national researchers as D.I. Valentey, T.I. Zaslavskaya, Zh.A. Zayonchkovskaya, V.I. Perevedentsev, N.M. Rimashevskaya, as well as foreign researchers V.B. Wood, P. Martin, A. Rogers et al. made a considerable contribution to developing the theory and practice of labor migration management, and analysis of its impact on the economy of the country (Bevir *et al.*, 2015; Blinova, 2009; Borońska-Hryniewiecka, 2016; Boubtane *et al.*, 2015; Čábelková *et al.*, 2015; Chiabai *et al.*, 2014; Mazin, 2014; Motrich and Nayden, 2009; Nivorozhkina and Kolosova, 2014; Ryazantsev, 2001; Rybakovsky *et al.*, 2000; The Economist, 2016; Vorobyov, 2007; Zaslavskaya T. I. and Vinogradova, 1968; Zaslavskaya T. I., 1973).

Meanwhile, the problems of assessing the impact of migration processes on the economy of peripheral regions remain insufficiently studied. Methodological instruments to forecast the development of labor migration activity of the population and to manage labor migration flows in local labor markets must be substantiated. Thus, the above allows stating that it is urgent to study assessing, forecasting and substantiating of approaches to the management of labor migration in the regions. It is of practical value and will be interesting for a wide range of people.

## 2. Methods

The aim of the study was to identify the key problems of developing labor migration in the region, its forecasting and substantiating approaches to the labor migration management by federal and regional authorities. The theoretical and methodological basis of the study included the works of modern domestic and foreign researchers devoted to studying the essence of labor migration, methods of forecasting it, and approaches to optimizing migration flows of the population. The problems of assessing, forecasting and managing labor migration are considered through the example of a typical peripheral region of the Russian Federation – the Omsk Region. According to the main socio-economic indicators, the level and dynamics of the region's development correspond to the all-Russian trends. The region does not border with other states (except for the Republic of Kazakhstan). Therefore, this region is typically peripheral in terms of analyzing the migration activity of the population and can be considered as an object of the analysis.

The current state of migration processes in the region was studied on the basis of methods of statistical research that contributed to substantiating conclusions and recommendations offered in the article. At the same time, statistical data were collected and analyzed (the total population of the region, the size of the population of employable age, the balance of internal and external migration, the unemployment rate, the gender structure of the population and other indicators). The results were grouped and summarized. The regression analysis, methods of demographic forecasting, as well as techniques of table and graphical representation of statistical data were used as statistical instruments. The initial statistical information was processed by using such applied software as Excel and Statistica. The development of recommendations on the labor migration management was based on such study methods as abstract-logical and monographic. The methodological approach to solving the problems on assessing the impact of labor migration on the socio-economic situation of the region and the local labor market was based on the systemic comprehensive study, and identification and generalization of the impact of all facts of labor migration.

## 3. Results

Based on the study results, the authors have identified trends in the development of labor migration in the region, substantiated the forecast for the development of labor migration, and identified approaches to managing migration flows. The article considers labor migration as a complex socio-economic category that has a contradictory nature and impact on the local labor market, as well as the labor and human resources potentials of the region.

The object of the study was a typical peripheral Russian region – the Omsk Region. The study results make it possible to make a conclusion about the tendency for a gradual reduction in both the total size of the population in the region and its employable part by using regression analysis methods. A linear trend model that most adequately reflects the change in these indicators has been formed. Based on the results of studying migration processes in the Omsk Region for 1991 – 2017, it is offered to distinguish three main periods in the development of this socio-economic phenomenon. The work gives characteristics of all three periods. Positive and negative consequences of labor migration in the region have been determined and substantively disclosed at each stage of the migration development for the period 1991 – 2017. The article shows the results of assessing internal and external migration based on the results of assessing indicators. The dominant role of internal labor migration in the migration flows of the region's population has been proved. The factors of migration attractiveness of the Central and Southern regions of Russia have been revealed.

The reasons for the population migration in the Omsk Region have been analyzed. Labor migration has been defined as the predominant type of migration. The socio-demographic portrait of a typical migrant leaving the region has been formed. The authors used the methods of time series analysis and data extrapolation to define the forecast values of the total population of the region, the population of employable age, and the migration loss of the population. The paper substantiates the areas of regulating labor migration, the essence of which is to ensure a decent standard of the people's lives in the region and to create the relevant migration infrastructure.

## 4. Discussion

The labor migration considered by the authors as a social and economic category has a contradictory nature in the context of impact on the economic and social components of the development of regions and the country, as a whole. At the state level it is necessary to take measures on managing migration flows, to solve problems on accounting migrants, to provide the procedure of using the labor force that comes from outside, to protect the domestic labor market from illegal migration, and to prevent the brain drain processes (Bevir *et al.*, 2015; Blinova, 2009; Borońska-Hryniewiecka, 2016; Borovskikh, 2017; Boubtane *et al.*, 2015; Čábelková *et al.*, 2015; Chiabai *et al.*, 2014; Level of life of the population from the Omsk Region, 2017; Mazin, 2014; Motrich and Nayden, 2009; Nivorozhkina and Kolosova, 2014; Ryazantsev, 2001; Rybakovsky *et al.*, 2000; Smirnova, 2010; The Economist, 2016; Trud i zanyatost v Omskoy oblasti v, 2016; Vorobyov, 2007).

At the regional level, the arrival of labor migrants increases the population of the territory and its economically active part. However, it is necessary to take socio-economic measures to regulate migration flows in order to protect public order, to smooth tension in the society, and to reduce disproportions on the labor market. Labor migration has an impact on the human resources potential of the region and the country as a whole. This impact can be both positive and negative.

In the modern economy when the borders of regions and countries become more and more open for people to move, the population's mobility to search for better life and employment conditions increases. In accordance with

the economic model offered by C. Tiebouts (1960), the American researcher, which is known as the “voting by the feet” model, migrants change their residence to territories with more favorable social and economic living conditions. The indicator of migration attractiveness of the territory is the level of labor migration. Thus, the more migrants arrive to the region, the more promising it is for living in terms of the socio-economical aspect.

The essence of labor migration is manifested through its functions, including: distributive, selective, exchange, regulating, stimulating and renewal.

Labor migration can be differentiated and analyzed by using the following classification characteristics (Level of life of the population from the Omsk Region, 2017; Trud i zanyatost v Omskoy oblasti v, 2016; Vorobyov, 2007)

- By time factor – irrevocable, long-term, short-term, circular, episodic, seasonal migration,
- By territorial factor – intercontinental, intracontinental, intercountry, regional, intraregional,
- By the legality degree – legal and illegal,
- By age – migration of the population of employable age and migration of the population that is older than employable age,
- By migrants’ qualification – migration of highly qualified specialists, skilled, low-skilled and unqualified,
- By type of activity – migration with subsequent employment in agriculture, mining, construction, transport and communications, manufacturing, wholesale and retail, hotel and restaurant complexes, finances, and
- By categories of personnel – migration with subsequent employment as managers, specialists, employees and workers.

The review of the references that reflect the experience of Russian regions in regulating migration processes has allowed making the following generalizations (Blinova, 2009; Mazin, 2014; Motrich and Nayden, 2009; Nivorozhkina and Kolosova, 2014; Ryazantsev, 2001; Rybakovsky *et al.*, 2000; Smirnova, 2010; Vorobyov, 2007; Zaslavskaya T. I. and Vinogradova, 1968; Zaslavskaya T. I., 1973):

- 1) Migration processes are managed in accordance with the program and legislative documents developed at the federal level, while conceptually the migration policy is neither reflected nor fixed in regional document,
- 2) A considerable number of regions (especially this is peculiar of CFD and FEFD regions) have a negative migration balance formed mainly by the mechanical loss of the population within the internal labor migration,
- 3) In most recipient regions the migration growth towards external migration does not compensate neither the quantity nor the quality of the migration loss of the region’s population,
- 4) In practice, mainly administrative direct measures of regulating migration flows are taken. They include monitoring of migration processes and measures taken to further detect migrants in the country and in the region, and

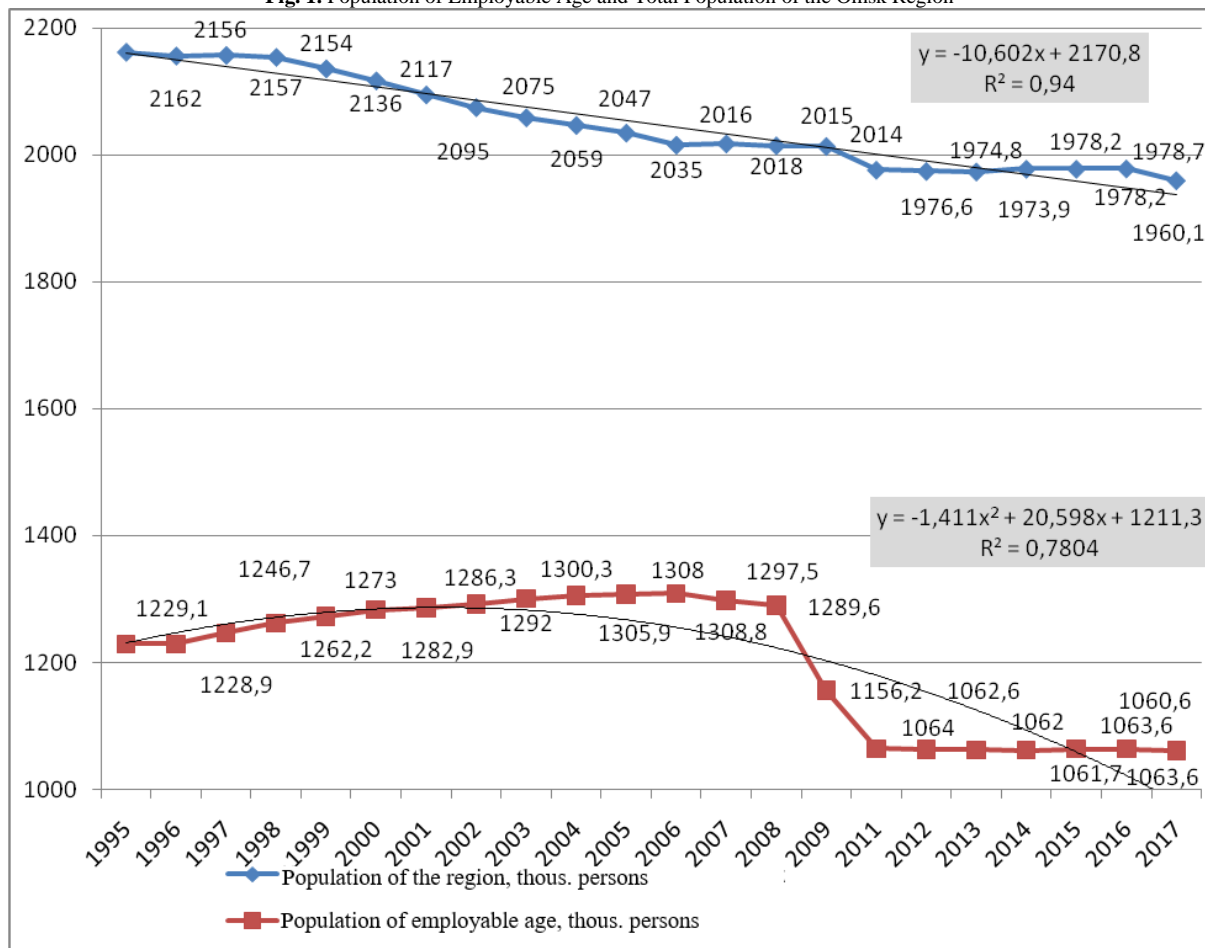
5) Migration processes are monitored through the population census, the current registration of migrants by the Administration of Federal Migration Service, as well as through the collection and analysis of specialized statistics on the population’s migration, while the degree of the data details does not allow differentiating migrants neither by their education level, age, nor by the migration reason, which also makes it necessary to improve the data collection.

The Omsk Region is a territorially isolated unit located on the territory of Russia and is a part of the Siberian Federal District. The Omsk Region has features of a peripheral region. According to its socio-economic indicators, the level of the region’s development corresponds to all-Russian trends. The region does not border with other states (excluding the Republic of Kazakhstan). Therefore, this region is typical in terms of the migration activity of the population and can be considered as the analysis object.

The area of the Omsk Region is 141.1 thous. km square. As on January 1, 2018 the density of the population was 14 persons per 1 km<sup>2</sup>. In the early 2018, 197,260.1 thous. persons lived in the region. The level of urbanization was 72.5 %.

Since 1995 up to now the population of the Omsk Region has been steadily decreasing (Fig. 1). In general, for 1995-2017 the population had decreased by 202 thous. persons, which was 9.3 % of the 1995 level. In 2006-2007, the decline of the population slowed down. It was related to the increase in the natural growth of the population. When constructing a time series model by using such software as Excel and Statistica, the authors selected a linear trend model that most adequately reflected the trend of changes in the indicator under analysis. The equation takes the form of a linear one and is characterized by the formula  $y = -10.602 + 2,170.8x$ , the calculated coefficient of determination ( $R^2$ ) being 0.94. The average error of approximation (A) is 8.6 %.

Fig. 1. Population of Employable Age and Total Population of the Omsk Region



The number of people of employable age also decreases. This tendency was the most appropriately shown by the polynomial equation  $y = -1.411x^2 + 20.598x + 1211.3$ . The coefficient of determination was 0.78. The average error of approximation was 7.9 %. The coefficients of determination calculated by two models and the average approximation errors proved high quality of the selected models.

The natural growth of the population in the Omsk Region is unstable by years for the period under consideration (Table 1), and tends to decrease. The Omsk Region is the region characterized by an average urbanization index. At the beginning of 2017 the share of the urban population was 71 %, which corresponded to the average urbanization indicators for the Siberian Federal District (Zaslavskaya T. I. and Vinogradova, 1968).

Table-1. Main Labor and Demographic Indicators of the Omsk Region's Development

Indicators	2005	2010	2011	2012	2013	2014	2015	2016	2016 compared to 2010, +,-
Size of the population. thous. persons	2,016.3	1,976.8	1,974.8	1,974.0	1,973.9	1,978.2	1,978.5	1,972.7	-4.1
Size of the population of employable age, thous. persons	1,289.6	1,235.3	1,218.1	1,198.6	1,178.0	1,159.8	1,136.8	1,113.2	-122.1
Gender structure of the population (ratio of females in the total structure of the population), %	53.6	53.9	53.8	53.8	53.7	53.7	53.7	53.7	-0.2
Size of the population of employable age, thous. persons	1,289.6	1,235.3	1,218.1	1,198.6	1,178.0	1,159.8	1,136.8	1,113.2	-122.1
Size of those who were born per 1,000 persons	10.5	13.2	13.6	14.9	14.7	15.1	14.4	13.3	0.1
Size of those who died per 1,000 persons	15.6	13.9	13.5	13.8	13.4	13.2	13.4	13.2	-0.7
Natural growth, loss (-) per 1,000 persons	-5.1	-0.7	0.1	1.1	1.3	1.9	1.0	0.1	0.8
Demographic burden (persons of unemployable age per 1,000 persons of employable age)	650	640	648	650	647	676	706	740	100

It is also necessary to note the dynamics of the indicator related to the demographic burden. In 2005, there were 650 citizens of unemployable age per 1,000 persons of employable age in the region. In 2016 this number was 740, which also corresponded to the all-Russian trend. As a result of socio-economic reforms carried out in the country in the 1990s, the demographic burden started decreasing both due to the considerable decrease in the birth rate, and the increase in the number of citizens of employable age who were born during the pre-reform period. In the future, more and more citizens born in the 1960-1980s will reach the unemployable age, and taking into account the sharp decline in the birth rate that took place in the 1990s, the burden on those who work will dramatically increase.

Based on the results of studying migration in the Omsk Region for 1991 – 2017 (Zaslavskaya T. I. and Vinogradova, 1968), the authors offer to single out three periods in the development of this socio-economic phenomenon. They considerably differ in terms of both qualitative and quantitative composition of migrants.

The first period (1990s – early 2000) was characterized by the increase in the migration activity of the population and the growth of migration flows from the former Soviet republics. The migration had mainly the family and return nature. The absolute majority of migrants arriving in the region were the Russians by their nationality. The Russian citizens actively moved to foreign countries. At this stage, the labor migration infrastructure was formed. Special services aimed at regulating migration flows were formed. “Intellectual” migration gradually increased, and the number of highly qualified specialists leaving the region increased.

The second period (2000-2013) had the following features: the directions of migration flows changed, the external and internal labor migration intensified, the migration attractiveness of central regions of the country (Moscow, Moscow Region, St. Petersburg, Leningrad Region) and southern regions of the country (the Krasnodar Territory) gradually increased, the level of the society’s informatization caused the decrease in the asymmetry of information in local labor markets, and those who had left the region obtained access to the information on vacancies and wages in other regions.

The third period (2014 – up to now) is characterized by the intensification of the global globalization, the increase in the share of the population with nonstandard and remote employment. The conflict in the southeast of Ukraine contributed to the increase in the inflow of refugees from this country to the region. The differentiation of regions in terms of wages and life quality continues increasing. More and more residents of the region strive to leave it in search for more favorable ecological and economic conditions for living.

The negative migration growth in the region has been observed since 2003 (Table 2).

**Table-2.** Balance of the Population Migration in the Omsk Region, persons

Indicators	2003	2005	2007	2009		2013	2015	2017
Migration, in total, including	-9,631	-2,153	-1,735	-340	-1,786	-2,773	-1,800	-9,853
In Russia (interregional)	-2,827	-1,212	-3,650	-3,286	-6,144	-7,579	-8,021	-11,002
International migration, including	-6,804	-941	1,915	2,946	4,358	4,806	6,221	1,168
- to CIS and Baltic countries	569	3,080	2,620	3,335	4,281	4,785	6,194	1,135
- to other foreign countries	-7,373	-4,021	-705	-389	77	21	27	35
External (for the region) migration	-9,631	-2,153	-1,735	-340	-1,786	-2,773	-1,800	-9,853

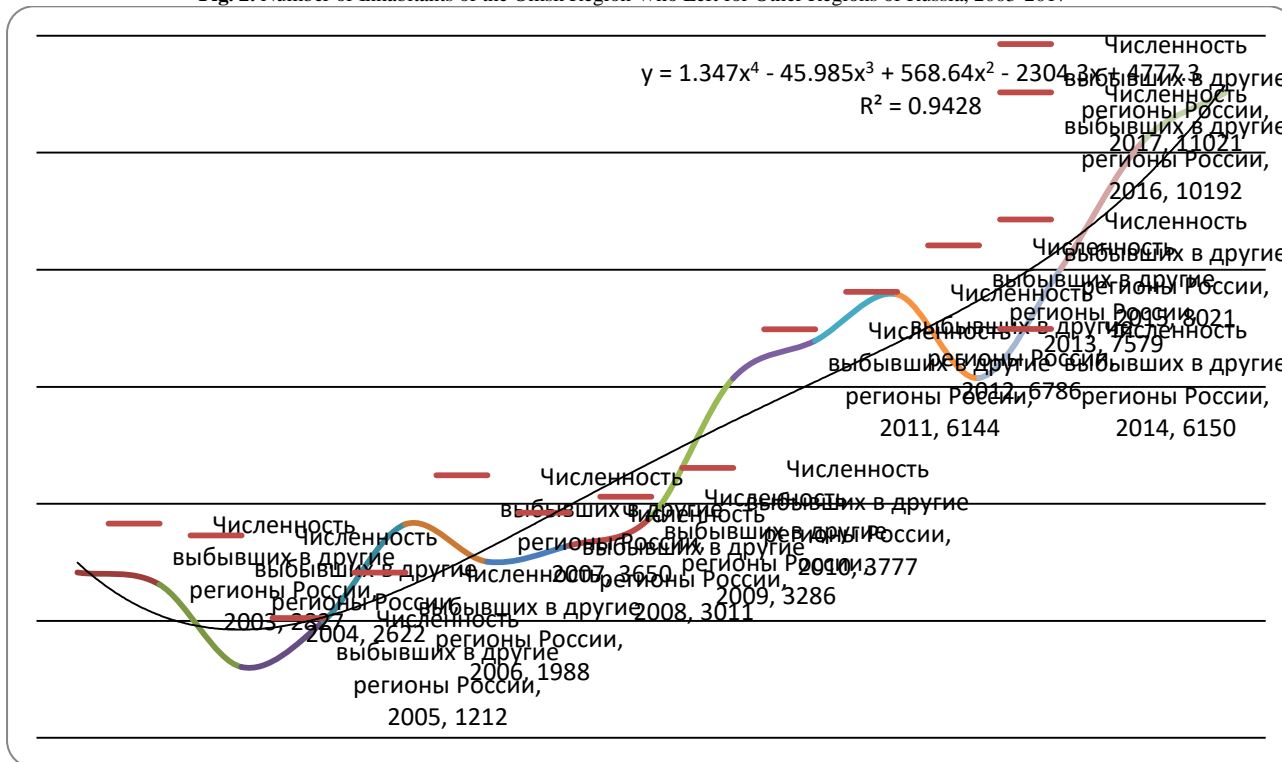
For 15 years of the observation period (2003-2017), the migration outflow of the population towards the interregional migration had increased, i.e. more and more citizens of the Omsk region leave for other Russian regions. Since 2003 to 2017, 78,266 residents of the Omsk Region had moved to other Russian regions. At the same time year by year the number of those who leave continues to increase (Fig. 1). Using the method of coarsening intervals, the authors have determined the average annual number of the people who left the region for four years’ periods. Thus, for example, for 2003-2006 on average 2,162 residents of the Omsk Region had left for other regions of the country per year, while in 2007-2010 this number was 3,431 persons, and 9,745 persons in 2011-2017, i.e. almost 10,000 inhabitants of the region left it. Mathematically, the polynomial equation  $y=1.347x^4-45.985x^3+568.64x^2-2304.3x+4777.3$  most adequately shows the tendency of the increase in the number of migrants. The coefficient of determination is 0.94, and the average approximation error is 8.9 %.

The external labor migration had positive growth for the period of 2003-2017. Foreign citizens actively came to the region. The total number of those who arrived in the Omsk Region from other areas was 31,551 people. External labor migration is predominantly circular, short-term and often illegal. The analysis of migration flows of the region allows making the conclusion about the dominating role of the interregional internal migration.

The key factors of the regions’ migration attractiveness include the following [22-23]: availability of jobs, relatively high level of wages, concentration of economic, political and cultural life, the largest training centers, and the well-developed socio-economic potential of the territory. Purposeful and systematized work on monitoring the factors of the regions’ migration attractiveness, the creation of conditions for the optimal allocation of labor resources, taking into account the needs of regions, and ensuring a decent standard of living allow substantiating a complex of measures on regulating migration processes.



Fig. 2. Number of Inhabitants of the Omsk Region Who Left for Other Regions of Russia, 2003-2017



According to the citizens of the Omsk Region who have departed, the following regions are the most attractive in terms of migration: Moscow, Moscow Region, St. Petersburg, Leningrad Region and the Krasnodar Territory, which also corresponds to the all-Russian trend and preferences of the migrants who leave other regions. The main area of intraregional migration in the country is the population’s movement from eastern to central regions, which increases the differentiation in the population’s distribution in the country. The availability of information, development of means and communication systems reduce the asymmetry of information in the labor market of those regions where the migrant goes. This contributes to the mobility of the population, including due to the change of work.

The migration loss of the population of employable age additionally increases the demographic burden on the remaining employable population of the region, and thereby contributes to the growth of demographic tension in the region.

Table-3. Reasons for the Migration of Population in the Omsk Region

Reasons for migration	Those who arrived in the region, persons		Those who left the region, persons		Migration growth (+), loss (-)	
	2015	2016	2015	2016	2015	2016
Moving to obtain education	7,488	4,193	7,023	3,510	465	683
Moving to work	5,822	20,187	7,595	6,010	-1,773	-3,923
Returning to the previous residence	967	895	1,026	875	-59	20
Ecological unfavorable situation on the territory	63	42	123	146	-60	-104
Incompliance with natural and climate conditions	54	43	135	175	-81	-132
Moving for familial reasons	29,768	22,185	27,555	20,111	2,212	2,074
Returning due temporary absence	-	13,184	-	13,665	-	-481
Other reasons	4,090	3,248	5,640	5,348	-1,550	-2,100
Without specifying reasons	387	-	1,020	1,077	-633	-1,077
In total	49,070	46,063	50,214	50,926	-1,144	-4,863

The analysis of the reasons for the population’s migration allows differentiating migration flows and determining the prevailing type of migration. The reasons why migrants come to the Omsk Region include the following (Table 3): 1) for family reasons (48 % of the migrants who arrived), 2) for education purposes (9 %), and 3) to work (43.8 %). They leave the region mainly for family reasons (39 %), to work (12 %), and to obtain education (7 %). In accordance with the methodology of providing information, the data on migration flows and reasons for migration are provided to the territorial statistics committee based on the results of analyzing the information that comes from territorial bodies of the Directorate for Migration Affairs (Administration of Ministry of Internal Affairs). Thus, the officially registered migration represents only a part of the whole migration flow. Besides, interviewees may be afraid to disclose information about the reasons for their departure and arrival to the region, their financial situation and the legality of their stay in the country. Consequently, it is possible to state that

in fact the indicators of labor migration, i.e. the number of those who arrived to and departed from the region due to job changes is much higher than the official data.

Based on analyzing the data of the Federal State Statistics Service and its territorial body in the Omsk Region (Borovskikh, 2017) Labor and employment in the Omsk Region in 2016, 2017; (Level of life of the population from the Omsk Region, 2017), the authors have made a socio-economic “portrait” of the modern domestic labor migrant of the region (Table 4).

**Table-4.** Socio-Demographic Characteristics of Migrants, 2017\*

Characteristics	Characteristics allocation	Structure, %
Gender	Female	52.9
	Male	47.9
Age	Employable age	74.4
	Younger than employable age	16.2
	Older than employable age	9.4
Level of education **	Higher professional	40.7
	Incomplete high	7.7
	Secondary technical school	19.4
	Secondary school	13.1
	Miscellaneous	19.1

**Notes:** \* – characteristics are defined and calculated by using the indicator of migration loss;

\*\* – education is indicated for migrants aged 14 and older.

The characteristics of labor migrants are formed and analyzed by the migration loss indicator. In the Omsk Region it was 9,853 persons in 2017 (Table 2). According to the gender, in the structure of those who departed, the number of women was 52.9 %, which corresponded to the gender structure of the region’s population (Table 1), and did not give any grounds to make a conclusion about the predominant share of women among those who left the region. The region was left by 7,331 persons of employable age or 74.4 % of all those who departed, 1,605 persons of the age that was younger than employable (16.2 %), 917 persons or 9.4 % who were older than the employable age. The migrants who departed had mainly higher (40.7 %) or secondary professional education (19.4 %). Consequently, both male and female citizens of employable age who have higher professional or secondary education are characterized by the greatest mobility.

Socio-economic consequences of labor migration of the population can be both positive and negative. The authors think it is reasonable to analyze consequences of the labor migration impact on the economy of the region and its social component in relation to each post-reconstruction stage of the migration development (Table 5).

**Table-5.** Socio-Economic Consequences of Labor Migration in the Region (Through the Example of the Omsk Region)

Period	Positive	Negative
1990s – early 2000s	Tension reduction in the labor market (especially in the segment of low-skilled labor) due to citizens arriving from other CIS countries; mitigation of employment problems and social tension in the society; exchange of cultural experience and traditions	“Brain drain” to foreign countries; lack of highly qualified staff; the lack of continuity in the transfer of production experience and scientific activity; aggravation of socio-economic problems; aging of the population in the region due to the retirement of its employable part; increase in the demographic burden on the workers
2000 – 2013	Development of cooperation and specialization in the industry; growth of the risk to lose a part of the region’s labor and human resources potential forever; attracting cheap workforce; impoverishment of intellectual potential of the region.	Aggravation of socio-economic problems in the society and the economy of the region; intensive movement of rural population to urban areas; labor exhaustion of agriculture; loss of traditions, loss of family ties, replacing qualified employees with less qualified personnel due to the deficit of labor resources of the required qualifications
2014 – up to now	Transfer of knowledge and experience in various areas of activity (it is especially typical for circular migration)	Scarcity of remote territories; worsening of the social and economic situation in small towns; workforce, whose reproduction and training required regional and national budgetary funds, and that creates GRP outside the region; underproduction of GRP

The main negative consequence of the population's labor migration for the region at all stages of the migration development is the loss of a part of the labor and human resources potential, and, what is most important, its most valuable and high-quality part – the qualified population of employable age. Partially, this negative moment is compensated for by the reduction of tension in the regional labor market and mitigation of the natural decline in the population.

Using the methodology of time series analysis and data extrapolation, as well as based on the constructed regression equations (Fig. 1, 2), the authors defined the forecast values of the total population in the Omsk Region, the population of employable age and migration loss of the region's population (Table 6)

**Table-6.** Forecast Values of the Total Population of Employable Age and Migration Loss in the Omsk Region

Forecast period	Predicted values		
	Size of the population, thous. persons	Size of the population of employable age, thous. persons	Migration loss, persons
2018	1,955.2	1,001.3	10,284.5
2019	1,941.3	998.8	15,968.5
2020	1,921.8	991.9	17,881.2
2021	1,911.3	983.5	18,105.3
2022	1,901.2	981.4	19,579.8

Analyzing the forecast values, it is possible to make the conclusion that subject to maintaining the revealed tendency of indicators' changes, in 2022 the population of the region will be 1,901 thous. people. The forecast decline in the size of the population will be 9.2 % for twenty years (2002 – 2022), and by 3.1 % for five years (2017 – 2022). In 2002 the forecast indicator of the population of employable age was 981.4 thous. people. Thus, the reduction will be 22 % for 2002 – 2022, and 7.6 % for 2017 – 2022. The mechanic outflow of people from the Omsk Region will increase even faster. According to the forecasts, in 2022 the migration loss will be 19,579 people. Thus, in order to maintain the labor and human resources potential of the region, the government of the country and the region should take drastic measures to improve the quality of life and the ecological and economic situation in the region.

## 5. Conclusion

In the context of globalization, increased level of informatization of the society, growth of regions' differentiation according to their social and economic development, the growth of the population's migration activity is inevitable. The migration policy should be one of the main components of the economic, social and demographic strategy of the state. The change in the number of external and internal labor migrants should be taken into account when forming forecasts and programs for the development of territories, especially peripheral ones, including the Omsk Region.

The regulation of labor migration at the regional level should be comprehensive and systematic and implemented in two main areas. The first area should be associated with increasing the level of social and economic development of the region, and include maintaining and creating jobs with a decent level of pay, forming large infrastructure facilities, and stimulating business processes in the region. It is also necessary to create comfortable living conditions in the region that depend not only on the population's income level, but also on the development of social sectors and the availability of housing.

The second area includes a set of measures on adjusting migration processes in the region that can include the following:

1) Socio-economic descriptions (passports) of territories and the placement of relevant information on the portals of migration services. At the same time, it is reasonable to supplement passports with a list of areas and specialties characterized by a shortage of staff. The information should contain the details of potential employers to contact them,

2) Functioning of district (regional) migration analytical centers to monitor information on local labor markets and to take measures on forming migration flows in the interests of regions, and

3) Applying the practice of assigning graduates of secondary specialized educational institutions and higher professional institutions in the region through a system of mandatory distribution and the need to work for three years in the acquired specialty.

The implementation of the offered measures will contribute to improving the efficiency of regulating internal and external labor migration in the region. Improving the system of distributing and allocating the population of employable age should take into account the needs of regions and the migrants' preferences and aim at ensuring the stability of the regional labor market functioning and development.

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