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REGIONAL CHARACTERISTICS OF POPULATION TERRITORIAL MOVEMENT IN UZBEKISTAN

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Abstract. This article analyzes the territorial movement of the population in the Republic of Uzbekistan and its regions at the regional level. Influencing factors were studied over a specific period from the perspective of their impact on natural population growth and changes in age structure. Dynamic changes in emigration, immigration, and net migration (migration balance) are analyzed based on statistical data. The causes were researched by identifying regional differences in economic specialization, employment, national composition, and age structure based on natural conditions.

Keywords: Emigration, immigration, migration balance, natural population growth, birth rate, age structure, environmental situation.

O‘zbekistonda aholi hududiy harakatining mintaqaviy xususuyatlari

Annotatsiya. Mazkur maqolada O’zbekiston Respublikasi va viloyatlarida aholining hududiy harakati mintaqalar darajasida tahlil qilingan, ta’sir etuvchi omillar aholi tabiiy harakatiga va yosh tarkibining o’zgarishiga ta’siri nuqtai nazaridan ma’lum davr oralig’ida o’rganilgan. Emigratsiya, immigratsiya va migratsiya saldosidagi dinamik o’zgarishlar statistik ma’lumotlar asosida tahlil qilingan, ta’sir etuvchi sabablar tabiiy sharoitidan kelib chiqqan holda xo’jalik ixtisoslashuvi, aholi bandligi, milliy va yosh tarkibidagi hududiy farqlarni aniqlash asosida tadqiq etilgan.

Kalit so’zlar. Emigratsiya, immigratsiya, migratsiya saldosi, aholi tabiiy harakati, tug’ilish, yosh tarkib, ekologik vaziyat.

Региональные особенности территориального движения населения в Узбекистане

Аннотация. В данной статье анализируется территориальное движение населения в Республике Узбекистан и ее регионах на региональном уровне, изучаются факторы, влияющие на естественное движение населения и изменения возрастной структуры за определенный период времени. На основе статистических данных анализируются динамические изменения баланса эмиграции, иммиграции и сальдо миграции, а факторы, влияющие на них, изучаются с учетом выявления региональных различий в экономической специализации, занятости, национальной и возрастной структуре, исходя из природных условий.

Ключевые слова: эмиграция, иммиграция, чистая миграция, естественное движение населения, рождаемость, возрастная структура, экологическая ситуация.

Introduction. The mechanical movement of the population significantly influences the development of demographic processes. Specifically, migration leads to changes in population size, age-sex and ethnic composition, as well as birth and death rates. In regions where migration inflow is directed, the population becomes younger, birth rates rise, and the share of the labor-active population increases. Conversely, in regions experiencing emigration, the population ages and birth rates decline. Furthermore, migration can alter fertility rates by affecting marriage processes and demographic trends. Territorial movement also shifts the national and religious composition of regions. Analyzing these regional characteristics is socio-economically relevant for understanding country-wide population growth and territorial changes.

Research Methodology. Studies regarding the causes and regional characteristics of migration processes have been extensively explored by foreign scholars such as J. Simon, J. Heffer, S. Stouffer, M. Miller, S. Heitman, G. Hugo, M. Poulain, G. Simon, Fletcher Baragar, Harald Bauder, and Adrian Smith. Additionally, mechanical movement has been researched by scholars from Russia and the CIS, including G.S. Vitkovskaya, S.V. Zhuravlev, Zh.A. Zayonchkovskaya, A.G. Zlotnikov, V.A. Iontsev, and others. In Uzbekistan, migration-related issues have been studied by L.P. Maksakova, R.A. Ubaydullayeva, K.Kh. Abdurakhmonov, and others. This article differs by specifically analyzing migration's impact on natural movement indicators (births/deaths) and the population's age structure.

Analysis and Results. When analyzing migration processes, it is important to study the number of people arriving in the country, those leaving the country, and the migration balance at the regional level, as well as to identify the influencing factors. In general, immigration occurs due to the relatively favorable development of a particular region compared to other areas. For example, economic factors such as higher wages, labor shortages, and availability of housing serve as key drivers. Social factors include access to quality education, healthcare services, and opportunities for family reunification. Political stability, democracy, and security also play a role. In addition, cultural aspects such as linguistic proximity and similarity of cultural values contribute to strengthening immigration processes in a country.

Migration processes have a certain impact on the socio-economic development of countries. However, migration is not always entirely successful, as it has both positive and negative aspects. Among the positive effects of migration are economic growth through the compensation of labor shortages, the inflow of skilled workers, increased tax revenues and remittances, and the strengthening of cultural diversity. Migration also helps mitigate demographic problems, facilitates the exchange of experience and technologies, and improves the living standards of migrants. Successful migration is considered beneficial for both sides. Economically, migrants often fill jobs in sectors where local labor shortages exist, such as construction, housing and communal services, and agriculture. The inflow of labor stimulates economic growth, particularly in industrially developed regions. By sending remittances to their home countries, migrants also contribute to the development of their national economies [1, 56-p].

Migration processes also have a positive impact on demographic and social spheres. In receiving countries, migration helps slow down population aging. Migrants improve their quality of life by gaining access to higher-paying jobs, quality education, and healthcare services. Furthermore, the inflow of migrants promotes diversity of traditions, languages, and cultures and ensures the exchange of knowledge and experience. Migration also encourages the development of legal frameworks, improvement of migration management, and strengthening of international cooperation [3, 76-78-p].

At the same time, migration also has certain negative aspects. These include increased social tensions, risks related to integration, pressure on infrastructure and social services, and the possibility of reduced wages. For sending countries, migration may result in the loss of intellectual potential and labor force, while for receiving countries migrants may face difficulties related to cultural adaptation and increased risks of crime. Cultural and religious differences may lead to conflicts and social tensions. Population growth due to migrants can place additional pressure on schools, hospitals, and transportation infrastructure. Moreover, the willingness of migrants to work for lower wages can increase competition in the labor market and lead to wage reductions for local workers, creating economic risks. The outflow of the most skilled and entrepreneurial specialists results in a “brain drain.” In particular, the departure of young and working-age populations may create demographic

challenges for the country. Migrants may also experience violations of their rights, illegal status, language barriers, and discrimination, which complicate their adaptation [4, 61-63-p].

Differences in the socio-economic development of the regions of the republic are among the main causes of population migration. In identifying regional differences in migration processes, it is advisable to rely on relative indicators in the analysis. From this perspective, when examining the processes in the republic and its regions during the period 2010–2024, certain territorial differences can be observed. In particular, the immigration coefficient in the republic has relatively increased during this period. For example, while the immigration coefficient was 4.9 per mille in 2010, it reached 6.5 per mille in 2024. Thus, the immigration coefficient increased by 1.6 per mille during this period. At the regional level, the immigration coefficient increased in Bukhara, Tashkent region, and Tashkent city. In contrast, this indicator showed a decline in the Republic of Karakalpakstan, Jizzakh, Navoi, and Fergana regions (Table 1).

During the study period, the highest immigration coefficient was observed in the Navoi region, reaching 11.9 per mille per thousand people. The next positions were recorded in Sirdarya (9.1‰) and Tashkent (7.8‰) regions. The high level of immigration in Navoi region can be explained by the growing potential of resource-based cities and the activities of the Navoi Free Economic Zone, which attracts young people. In Sirdarya region, immigration processes are influenced by the diversification of agriculture, the establishment of greenhouse complexes and agricultural clusters, as well as cotton-textile clusters, which attract labor from densely populated regions. In Tashkent region, the relatively high immigration coefficient is largely influenced by its proximity to the capital city, higher levels of industrialization, and the availability of employment opportunities [8, 35-37-p].

Table 1

Population Territorial Mobility Coefficients in the Republic of Uzbekistan and Its Regions (per thousand population, in per mille)

Regions	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Republic of Uzbekistan	4,9	4,7	5,7	5,1	4,7	4,4	4,4	4,9	4,9	4,7	5,6	7,4	6	6	6,5
	6,4	6,3	7,1	6,3	6	5,4	5,3	5,4	5,3	5	5,9	7,9	6,2	6,4	6,7
Republic of Karakalpakstan	8,6	8,3	7,1	8,3	7,5	6,1	5,5	5,9	5,8	5,3	4,1	6,1	4	4,2	5,2
	16,3	17,7	13,6	11,9	10,9	9,1	8	8,2	8	7,5	6,5	9,6	6,8	8	7,4
Andijan	2,2	1,8	2,1	2,3	2,1	2,2	2	2,1	2,2	2,4	1,7	2,2	2	2	2,1
	2,4	2,1	2,8	2,7	2,6	2,8	2,6	2,8	2,8	3,1	3,4	3	2,6	2,5	2,6
Andijan	2,6	3,2	2,6	3	4	3,6	3,3	3,7	3,2	2,9	2,5	3,4	3,1	3,8	4,5
	4,2	4,2	5,2	4,3	4,9	4,5	4,4	4,9	4,7	4,9	6,8	5,6	4,7	5,6	6,2
Jizzakh	7	7,5	6,5	7	6,2	6,6	6,2	7,1	8,3	7,5	5,4	6,3	4,5	4,2	5
	9,8	8,1	8,4	7,6	7,4	7,1	7,1	8	8,9	8,5	8	8	5,8	5,7	6,5
Kashkadarya	3,8	4,4	4,6	4,9	3,8	3,9	3,3	3,6	3,5	3,3	2,8	3,4	2,7	2,6	3,1
	4,1	3,8	4,9	3,7	3,8	3,8	4	4,8	4,8	5,4	9,3	6,1	4,8	4,6	4,9
Navoi	13,3	13	13,7	13,8	14,3	12,8	12,9	13,7	13,6	10,7	8,2	9,3	8,3	9,9	11,4
	15,9	19,5	21,3	16,5	18,6	14,4	14,6	14,6	14,6	11,5	10,5	10,8	8,8	12,2	12,7
Namangan	1,9	1,8	1,7	2	1,9	1,8	1,8	1,6	1,7	1,8	1,3	1,1	0,8	0,9	1,1
	2,2	1,8	2,1	2	2	2	2,1	2	2	2,3	2,9	2,1	1,7	1,6	1,7
Samarkand	3,9	3,9	2,8	3,7	3,2	3	2,8	2,8	3,2	2,1	1,3	2,4	2,2	2,6	3,1
	4,8	5,1	4,1	4,5	4,2	4	4,1	4,1	4,2	3,6	4,5	4,4	3,5	3,7	3,9
Surkhandarya	5,5	5,2	5,4	5,7	4,7	4,9	5,3	5,8	4,7	4	3,2	4,4	3,5	3,5	3,7
	6	5,8	6	5,4	5,2	5,5	5,9	6,5	5,4	5,1	7,4	6,5	5	4,8	4,8

Syrdarya	9,3	9,8	9,6	10,3	9,2	8,7	7,3	9,5	10,4	10,7	8,3	10	7,8	7,3	8,2
	12,2	9,5	11	10,1	9,7	9,3	8,8	10,4	11,1	11,3	11,2	11,6	8,9	8,5	9,1
Tashkent	5,9	4,7	8,3	6,6	6,9	6,7	7	6,6	6,7	6,4	10,4	11,9	9,2	9,4	10,5
	10,5	9	12,8	10	10,2	9,1	9	8,8	8,6	8	9	13,6	10,9	9,2	9,4
Fergana	4	4,2	3,9	4	3,9	3,5	3,4	3,7	3,6	3,4	2,6	2,8	2,2	2,2	3,3
	4,5	4	4,3	4	4,1	3,9	4	4,3	4	3,9	4,3	3,9	2,9	2,9	3,7
Khorezm	4,6	4,8	4,4	4,4	3,6	3,8	3,5	3,7	3,5	3,1	2,7	5,2	3,4	4	5,4
	5,3	4,8	5,8	4,6	4,2	4	4,2	4,3	4,1	4,1	5,6	6,4	4,2	4,9	6,2
Tashkent city	6,9	4,4	17	7,4	6,5	5,3	7,5	10	10,2	13,7	29,6	40,3	34	31,5	29,9
	7,1	8,1	12,8	13,1	9,7	7,2	6	4,3	4,1	3,1	2,4	26,5	21,5	23,2	23,3

Source: Compiled based on data from the National Statistics Committee of the Republic of Uzbekistan**.**

Note: In the fraction, the numerator indicates the immigration coefficient, whereas the denominator indicates the emigration coefficient.

It should be particularly noted that in **Tashkent city** this process began to increase starting from **2017**. Especially in **2021,** the immigration coefficient reached **40.3 per mille.** High indicators were also recorded in **2022, 2023, and 2024,** clearly distinguishing Tashkent city from other regions. This is largely associated with the construction of multi-storey residential buildings and the introduction of preferential loans allocated for them, which have attracted young people. In addition, the large number of higher education institutions, administrative bodies, and organizations in the capital city, as well as the diversification of industrial sectors, contributes to the settlement of talented young professionals [6, 030014-1-3-p].

In terms of low immigration coefficients, the **Fergana Valley regions** and **Samarkand region** stand out. In this regard, **Namangan region** has consistently been among the leading areas during the study period. High population density, strong demographic potential, a large proportion of youth in the population structure, and the full exploitation of land and water resources in these regions contribute to the relatively low number of incoming migrants.

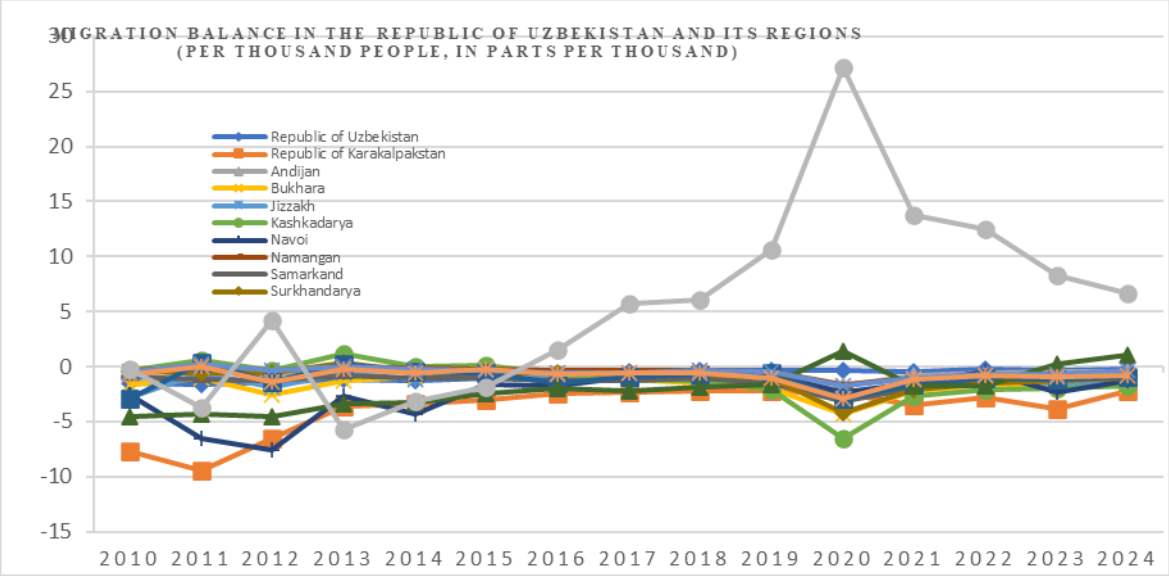
The general formation and development of **emigration processes** may be influenced by several factors. Economically, these include low wages, unemployment, poverty, and lack of future prospects. Social factors include national and religious discrimination, crime, and the low level of social infrastructure. Politically, wars, political repression, conflicts, and persecution may play a role. Demographically, emigration is associated with the age structure and population density. Ecological and natural climatic conditions such as natural disasters and unfavorable environmental conditions for health may also influence migration. Among these factors, **economic reasons are considered the leading drivers [9, 24-26**-p**].**

If we analyze the **emigration coefficient,** that is, the process of people leaving the country, at the level of the republic and its regions, we can observe certain differences. In terms of high emigration coefficients, **Navoi region** stands out. The fact that a large part of its territory consists of deserts limits irrigated agriculture. The population's employment is mainly based on desert pastoral livestock farming, which to some extent contributes to a higher level of urbanization. At the same time, the cities of **Zarafshan, Uchquduq, and Gozgon** are resource-based cities that attract labor resources while also causing the emigration of people above working age [10, 6-7-p].

During the period **2010–2015,** the emigration coefficient was relatively high in the **Republic of Karakalpakstan,** whereas in **2021–2024** this situation was recorded in **Tashkent city and Tashkent region.** In **2024**, the emigration coefficient in Tashkent city reached **23.3 per mille,** while in **Namangan region** this indicator was only **1.7 permille.** The regional differentiation coefficient in this regard reached **13.7 times,** indicating that territorial differences have been increasing over the years. For instance, in **2010** the regional difference in the emigration coefficient was **7.4 times,** which is almost two times lower compared to **2024.** Therefore, regional differences in emigration coefficients may largely be explained by higher levels of urbanization and intellectual migration [6, 030014-2-4-p].

In the early years of independence, the acceleration of **emigration processes** was observed in the population migration of the republic, resulting in a **negative migration balance.** Up to the present time, the migration balance in Uzbekistan has maintained a negative character and is observed in almost all administrative-territorial units. Differences in the socio-economic development of regions form the basis for migration processes. Population mobility occurs for purposes such as employment, education, scientific research, recreation, and tourism [7, 42-44-p].

Migration balance is a key indicator reflecting the difference between the number of migrants arriving in and leaving a particular territory during a certain period. It shows the increase or decrease in net migration. If the number of arrivals exceeds the number of departures, the balance is positive; if the opposite occurs, it is considered negative. The importance of migration balance lies in its ability to assess how migration affects the population size and structure, as well as to determine which countries or regions attract more people and which are losing their population. Therefore, migration balance is not a type of migration, but rather a **statistical indicator of its outcome [2, 58-59-p].**



If we analyze this process at the level of the republic and its regions, it shows a specific dynamic during **2010–2024.** During this period, the migration balance of the republic remained **entirely negative**, although it gradually decreased year by year. For example, while the migration balance was **–1.5 per mille in 2010,** it decreased to **–0.2 per mille in 2024.** In terms of the highest negative migration balance indicators, the **Republic of Karakalpakstan** occupies the leading position. It is followed by **Tashkent region** and **Kashkadarya region**. The peripheral location of Karakalpakstan and its relatively unstable ecological conditions contribute to high migration rates, particularly among young people. In addition, the unfavorable ecological situation in the **Aral Sea region** serves as a major factor in population migration in this area. At the same time, the deterioration of agricultural land, especially severe soil salinization, forces the population to move from rural areas to cities. In some cases, residents of the region also migrate and settle in other regions (for example, **Tashkent and Sirdarya regions**). This process leads to changes in the territorial structure of the population [9, **24-26**-p].

Considering the natural conditions of **Kashkadarya region**, the specialization of its economic activities and the structure of employment also contribute to the intensification of migration processes. In particular, the predominance of livestock farming, which generally requires relatively less labor compared to other sectors, plays a role in increasing migration. In contrast, **Tashkent region** is directly influenced by its proximity to the capital city, which serves as a key factor in the intensification of these processes.

In terms of the lowest negative migration balance indicators, **Namangan region** stands out. It is followed by **Fergana** and **Khorezm regions.** Historically, these regions developed as ancient settlements and are characterized by a large proportion of indigenous population in their national composition. They are also distinguished by their relatively stable and sedentary lifestyle traditions.

A positive migration balance has been observed in **Tashkent city** from **2016 to 2024**. For example, while the migration balance was **1.5 per mille in 2016,** it reached **27.2 per mille in 2020**, and **6.6 per mille in 2024.** This trend is largely influenced by factors such as the construction of new multi-storey residential buildings, the abolition of the requirement for permanent residence registration in the city, and the availability of employment opportunities in infrastructure development and the construction industry [9, **23-25**-p].

During the last two years, **Tashkent region** has also demonstrated a **positive migration balance.** In general, the positive shift in migration balance across regions indicates the stable development of these areas, as well as improvements in the living standards and living conditions of the population.

Conclusion and recommendations. In recent years, population migration at the regional level in the republic has increasingly developed between urban and rural areas. Migration from cities to rural areas occurs relatively rarely. However, migration from rural areas to cities has consistently remained high. This is mainly explained by young people moving to cities to pursue higher education and subsequently staying for employment, as well as by surplus labor resources from rural areas seeking job opportunities in urban centers. These factors significantly influence the internal migration balance. At the same time, the construction of multi-storey residential buildings in cities and their surrounding areas has partially helped to address housing problems. This development also contributes to the intensification of internal migration in the regions. Meanwhile, population mobility leads to changes in the territorial composition and demographic structure of regional populations.

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