The social-political challenges of internal displacements in Ukraine

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Smutchak Z.V.1a

^a Flight Academy of National Aviation University, Ukraine

Abstract

Migratory threats which are connected with mass internal inter-regional migrations, caused by the annexation of Crimea and military aggression in Donbas by Russia, have been disclosed in the article. The social-political and psychological threats of large-scale forced displacement are determined. Traditional migrations are mainly due to social-economic factors and the independent voluntary choice of participants in these processes regarding the intention to move, dictated by the freedom of choice of the person. Instead, forced displacements are caused by immediate threats to life and health. Analyzing the factors of migratory attraction, the cluster analysis was performed using the k-means method and using the STATISTICA program. The results of cluster analysis show that in large regions the level of IDP migratory activity is higher and the impact on the formation of demographic capital is more significant. It does not affect the number and composition of the population as a whole, but causes changes in its location, gender, and the age structure of the inhabitants of individual regions, is a consequence and an important factor of regional differences, directly related to industrialization and urbanization, rural depopulation. In terms of volume, internal migration significantly outperforms international migration. Measures for the proper formation and development of demographic potential at the macro level are proposed. Without proper regulation, forced displacement becomes a growing burden on host communities' ability to provide basic services, destroys civilian infrastructure and community cohesion, undermines public investment in reform, and creates insecurity, hopelessness, and despair among large populations that can easily become national and global risks.

Keywords: interregional migrations, forced massive internal migrations, migration, social-political threats state migratory policy.

Соціально-політичні виклики внутрішніх переміщень в Україні

Смутчак 3. В. 1а

а Льотна академія Національного авіаційного університету, Україна

Анотація

У статті розкрито міграційні загрози, пов'язані з масовими внутрішніми міжрегіональними міграціями, спричиненими анексією Криму та військовою агресією на Донбасі Росією. Визначено соціально-політичні та психологічні загрози широкомасштабного примусового переміщення. Традиційні міграції обумовлені, в основному, соціально-економічними чинниками та самостійним добровільним вибором учасників цих процесів щодо намірів переїзду, продиктовані свободою вибору людини. Натомість вимушене переміщення обумовлене безпосередніми загрозами життю та здоров'ю. Аналізуючи фактори міграційного залучення, кластерний аналіз проведено з використанням методу k-середніх та за допомогою програми STATISTICA. Результати кластерного аналізу свідчать, що в великих регіонах рівень міграційної активності внутрішньо переміщених осіб більший та вплив на формування демографічного капіталу є вагомішим. Внутрішня міграція, тобто переміщення в кордонах окремих держав, не менш важлива для економічного та соціального розвитку, ніж міждержавна. Вона не впливає на чисельність та склад населення країни в цілому, проте спричиняє зміни в його розміщенні, статево-віковій структурі мешканців окремих регіонів, є наслідком і важливим чинником регіональних відмінностей, напряму пов'язана з процесами індустріалізації та урбанізації, депопуляції села. За обсягами внутрішня міграція значно переважає міжнародну. Запропоновано заходи для належного формування та розвитку демографічного потенціалу на макрорівні. Без належного врегулювання вимушене переміщення стає зростаючим тягарем для можливості приймаючих громад надавати базові послуги, руйнує цивільну інфраструктуру та згуртованість суспільства, підриває засади державних інвестицій у реформи та викликає відчуття невпевненості, безнадійності й відчаю серед великих груп населення, що може легко перетворитися на національні та глобальні ризики.

Ключові слова: міжрегіональні міграції, вимушені масові внутрішні міграції, міграція, соціально-політичні загрози державна міграційна політика.

Introduction

Currently, migratory processes in Ukraine have different effects on its demographic development, participation in the international division of labor, access to European and world markets, social and national security. This fact is of particular relevance now, since Ukraine signed the Association Agreement with the EU in June 2014. Today, the main strategic goal is a preservation of state sovereignty, territorial integrity of Ukraine and integration into the European economic and migratory space, ensuring of the world standards of quality and expectancy of life, the realization of citizens' rights and freedoms. The analysis and consideration of current migratory trends in our country in the context of Ukraine's participation in the European and world migratory space is considered as one of the important factors in shaping its own national policy. This problem is directly and indirectly within the national security plane of Ukraine.

Today, the problem of the emergence of a large number of internally displaced persons in the regions of Ukraine due to the annexation of Crimea by the Russian Federation, the external military aggression of Russia in the Donbass, and the military conflicts that continue in Donetsk and Luhansk regions is particularly distinguished. Seeking to impede the will of the Ukrainian people for a European future, Russia has occupied part of the territory of Ukraine – the Autonomous Republic of Crimea and the city of Sevastopol, unleashed military aggression in the east of Ukraine and tries to destroy the unity of the democratic world, revise the world order, which was established after the Second World War, to undermine the basics of international security and international law, to allow impunity to use force in the international arena. It is worth noting that for these reasons, the most urgent problem for Ukraine was the rapid increase in internal (resettlement) migration and emigration.

Since April 2014 – according to the information from the United Nations, since the start of hostilities in the Donbass from Donetsk and Luhansk regions, more than 2 million people have left these territories, 1 million 750 thousand people have moved to other regions of Ukraine, and more than 300 thousand people have emigrated to the Russian Federation. From annexed Crimea, nearly 25,000 people became displaced to mainland Ukraine. The largest number of internally displaced persons from Donbass are located in Donetsk region – 660 thousand, Lugansk region - 249 thousand, Kharkiv region - 2010 thousand, in city Kyiv – 116 thousand, Zaporizhzhya region – 116 thousand, Dnipro region – 76 thousand, Kyiv region – 48 thousand, Odessa – 36 thousand people. These figures are close to real, since it is impossible to accurately calculate in the context of hostilities and anti-terrorist operations. Annexation of Crimea, hostilities in the Donbass, terrorism, and encroachment on the territorial integrity and sovereignty of the country were the main reasons for the high intensity of migration of the population in Ukraine. Based on its geographical location and the level and features of socio-economic development, as well as the development of the labor market and wages in the country, Ukraine is an active participant in international economic processes and one of the largest labour donors in Europe. In the context of the socio-economic crisis, the role of labour migration as a source of tension in local labour markets is increasing. The rapid activation of international mobility of the Ukrainian population, which occurs in the context of globalization and increasing intensity of world migration, causes an urgent problem – regulation of migratory processes, giving them an organized, safe and non-conflict nature.

The purpose of the article consists in research of modern challenges and threats that entailed the mass interregional migratory transferring of population to the separate regions of Ukraine, to reveal the socio-political and psychological threats of large-scale forced displacement and to carry out the cluster analyses in order to reveal the factors of migratory attraction.

Methods and Materials

In order to identify the connexity between the factors of migratory attraction and the migratory activity of internally displaced persons, a method of cluster analysis was conducted, the results of which showed that in large regions the level of migration activity of internally displaced persons is higher and the impact on demographic capital formation is greater. Cluster analysis was performed using the k-means method and using the STATISTICA program.

Results

The Concept of State Migratory Policy of Ukraine states that "it aims at ensuring effective state management of migration processes, creating conditions for sustainable demographic and socio-economic development of the country. enhancing national security by preventing the occurrence of uncontrolled migratory processes and eliminating their consequences, harmonization of national legislation in sphere of migration with international standards, strengthening of social and legal protection of Ukrainian citizens consider or work abroad, adherence to the principles of protection of Ukraine's interests, and the threat posed to Ukraine's national security by: illegal migration; aggravation of the demographic crisis; departure from the borders of Ukraine by scientists, specialists, skilled labour" [1].

Passing of important laws and innovations of state migration policy gives grounds to claim that the main motivation behind such actions was due to an external factor, and, in particular, the reform of the migration sphere was significantly intensified after the Ukraine-EU Summit in November 2010 a plan of visa liberalization was presented to Ukraine [2].

During the years of state independence, during the period of economic reform and transformation of the whole socio-economic system, as well as in connection with the democratization of social life, economic crisis and declining living standards of the vast majority of the population, the nature, volumes, composition and orientation of internal and external migration flows significant changed and got new meaning. These changes consist in the fact that the volume of daily labour pendulum migratory flows has been reduced to a minimum, the mass flow of rural residents to cities has practically stopped, and instead there is a partial reorientation of migration flows from urban settlements to rural areas, and the seasonal migration and foreign travel abroad has increased ten times.

The problems of external migration of Ukraine's population in general and its regions, in particular, are complex and often interconnected. During the years of state independence, there are three main periods of interstate migration of the population: 1991 – 1993; 1994 – 2004; 2005 – 2014. Before and during the years of the collapse of the USSR (1989 – 1991 pp.). As well as in the first years of the statehood of Ukraine (1991 – 1993 pp.), 2,4 million people came to Ukraine from Russia, Kazakhstan, Uzbekistan and other CIS countries, many of whom were displaced persons from their places of work, as well as representatives and descendants of the deported peoples, as well as persons who were repressed, disenfranchised and political prisoners.

The profound and constant social changes in the former Soviet Union were accompanied by the expansion of processes of displacement across international borders, often forced by violence and threats. These migration movements have reached over 9 million people and are the largest external migration processes in Europe since the Second World War. At the same time, over 2 million IDPs from the Donbass in 2014–2015 are the largest migration in Europe at the beginning of the 21st century.

The urgency of the problems associated with massive interstate migration processes is compounded by the general demographic crisis that has engulfed Ukraine since 1991, which has also largely caused the migration crisis, which in modern times is reflected in the decrease in the intensity of migration in the midst of areas, in significant increase due to the Donbas military conflict at the interregional level and the intense flows of foreign labour migrants (Fig. 1)

According to the diagram, migratory activity is decreasing at the intra-regional and inter-regional levels. Thus, if in 1991 within the regions of the country thousand people 594,2 changed a residence, in 2000 - 461.9 thousand people, in 2007 - 435.8thousand people, in 2014 – only 273,7 thousand people (59% less). The intensity of population exchange between regions of the country also decreased: 354,8 thousand people left for permanent residence in other regions in 1991, and 385,8 thousand people arrived, in 2000 these figures amounted to 274,9 thousand of arrived and departed people, in 2007 - 276,0 thousand people, and in 2014 – 211,1 thousand people (38% less). Since 2013, numerous internal resettlements in Ukraine caused by annexation of the Crimea and hostilities in the Donbass have been forced. Forced migration

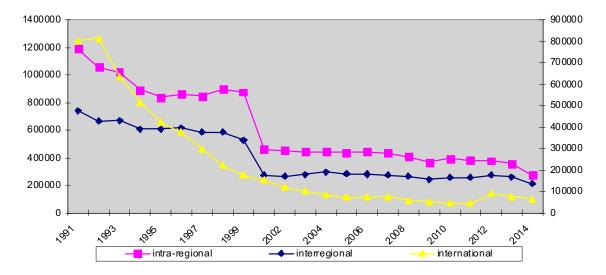


Fig. 1. Migration of the Ukrainian population during the years of state independence (1991–2016), individuals.

compiled using a source [3, 11, 17]

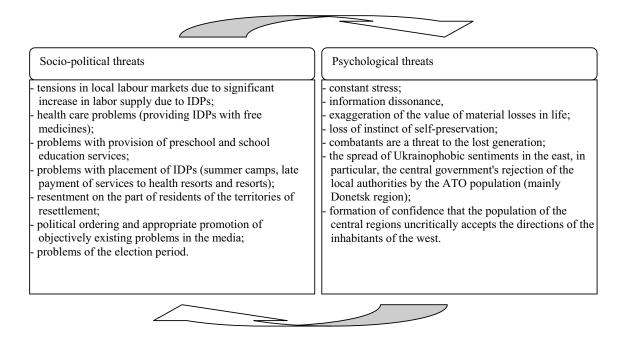


Fig. 2. Socio-political and psychological threats of large-scale forced displacement [17, 18]

is fundamentally different from voluntary, aimed at improving material and social status, in that, on the contrary, it causes loss of social status and destruction of the well-being of migrants. Currently, the largest IDPs are located in Kharkiv, Dnipropetrovsk, Zaporizhzhya, Kyiv regions and in city Kyiv. The smallest number of displaced persons in Ternopil, Chernivtsi, Ivano-Frankivsk, Rivne, Zakarpattia and Volyn regions. Thus, most IDPs are in the regions closest to their previous residence, indicating their intention to return to abandoned homes. Excessive concentration of displaced persons places is a heavy burden on the infrastructure, labor market and housing of the regions of the universe. At the same time, according to sociologists, part of IDPs focuses on permanent residence in other regions of Ukraine. In particular, 45% of people displaced to the western regions [4, 17]. The tendency for resettlement will be more pronounced, the longer the conflict lasts, the more devastating its effects will be. Therefore, it should be borne in mind that the events in the Donbass will be a significant factor in the redistribution of the population throughout Ukraine not only in the short term but also in the medium term.

Gradually forced resettlement from Donetsk and Lugansk regions has become a sign of internal displacement. In this context, it is also worth noting the socio-political and psychological threats of large-scale forced displacement (Fig. 2).

The processes of forced displacement of the population from the eastern regions of Ukraine have their own peculiarities that significantly differentiate this territorial movement from traditional types of migration. Traditional migration is caused mainly by socio-economic factors and the voluntary choice of the participants of these processes regarding intentions of moving, dictated by the freedom of choice of the person. Instead, forced displacement is conditioned by imminent threats to life and health. The dominance of IDP security motives in 2014-2015, that is, at the beginning of the conflict and during its deployment, led to an urgent departure from the hostilities of the temporarily occupied territories of Donetsk and Luhansk regions to the safe territory of the country [12, 15, 20].

The most widespread were "the desire to save their own lives and prevent harm to health" (82,2% of respondents, "trying to save the lives of loved ones" (70%). The "socio-political beliefs" of citizens who sought to stay in Ukraine played a much smaller role (36,2%), «relocation of enterprises, institutions, organizations» (32,9%), «loss of employment» (20,4%), «loss of business» (11,2%) [5, p. 29 – 33]. In order to identify the connection between factors of migratory attraction and IDP migration activity, indicators were identified that could be divided into stimulants (the indicators that should strive for magnification) and stimulants (the indicators whose magnitude should strive for reduction) (Table 1).

Table 1

Influence of socio-economic indicators on IDP migratory activity

| Stimulants | microlevel | meso-level | macro level | Disincentive | microlevel | meso-level | macro level |
|-------------------------------------|------------|------------|-------------|---|------------|------------|-------------|
| Number of active enterprises | + | + | + | Wage arrears | - | + | + |
| Average population size | + | + | + | Debt on social payments | + | + | + |
| Average monthly wage | + | + | + | Unemployment rate | + | + | + |
| Number of employees with higher | + | + | + | Number of enterprises with poor | + | + | + |
| education | | | | working conditions | | | |
| Gross regional product | + | + | + | The population of the retirement age | + | + | + |
| Level of reception and departure of | + | + | + | Proportion of workers employed in | + | + | + |
| employees | | | | enterprises with harmful working conditions | | | |
| Capital Investments | + | + | + | Number of enterprises with harmful working conditions | + | - | - |
| Number of vacancies | + | + | + | Frame turnover | + | + | + |
| Economically active population of | + | + | + | Population growth (natural, | + | + | + |
| working age | | | | mechanical) | | | |
| Certification training | + | + | + | The number of unemployed people | - | + | + |
| Employed population | + | + | + | Population without higher education | - | + | + |

Note: made by the author

Employment and unemployment rates by regions in 2017 can be noticed in the comparative chart, which states that the average share of unemployed people is 10% (Fig. 3).

The dependence of gross national product and total population income was also established (Fig. 4). The chart shows that, as a rule, in regions with

high GNPs, the income level is also higher than in other regions. These areas include Vinnytsia, Dnipropetrovsk, Lviv and Kharkiv regions, as well as the city of Kyiv.

As noted, the formation of demographic potential due to IDP migratory activity is a complex multifactorial task. At the meso-level it can be solved

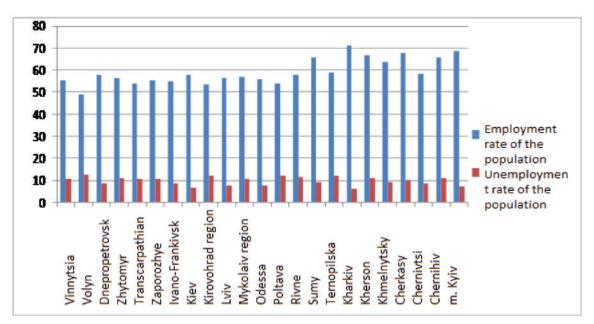


Fig. 3. Comparison of employment and unemployment rate by region in 2018 built by the author according to the source [3, 13]

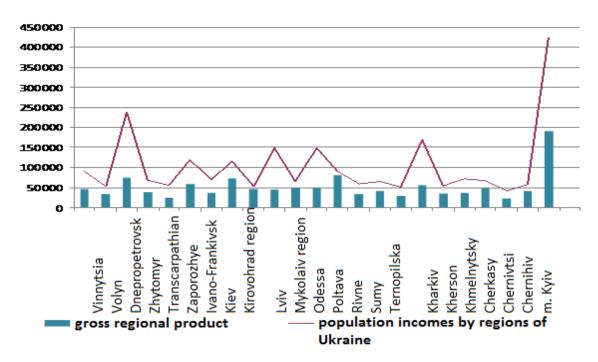


Fig. 4. Gross National Product and Total Population Income Distribution in 2018 built by the author according to the source [3, 14]

by carrying out cluster analysis, which aims to identify territories with similar factors of migration attraction, which determines the peculiarities of their influence on the formation of demographic potential in a particular region. Cluster analysis allows you to consider a considerable amount of information and drastically reduce, compress large amounts of socio-economic information, make it compact and clear. Among the problems of socio-economic information, the combination of cluster analysis with other quantitative methods, for example, with regression analysis, is quite promising [6, p. 42-43; 16].

A cluster is a group, a class of homogeneous units of population. The main task of cluster analysis is to form such groups in multidimensional space. The homogeneity of the population is determined by the rule of calculation of a certain metric, which characterizes the degree of similarity of the j and k units of the population. Such a metric can be the distance between them c_{jk} or the coefficient of similarity r_{jk} . Units similar to the selected metric units are considered to belong to one type, homogeneous [6, p. 42-43].

On the features of the metric scale a matrix of distances of size nxn with zero diagonal elements

is formed. Different distance metrics are used, the most famous of which is the Euclidean distance:

$$c_{jk} = \left[\sum_{i=1}^{m} (z_{ij} - z_{ik})^2\right]^{1/2}, \quad (1)$$

where z_{ij} and z_{ik} – standardized values of the i characteristic in the j and k units of the population [6, p. 42–43].

Iterative k-means clustering procedure is most appropriate for solving the problem of grouping regions of the country by the level of IDP migration activity.

Analyzing the factors of migration attraction, the cluster analysis was performed using the k-means method and using the STATISTICA program. Only stimulus metrics were selected for analysis. The analysis revealed 4 clusters. Objects under analysis were taken from 23 regions of Ukraine (not including temporarily occupied Donetsk and Lugansk regions and the ARC) and the city of Kyiv. The initial data are presented in table 2.

The results of the four-cluster solution of this problem (the values of distances within regions within the cluster), grouped by the status of IDP migration activity and the level of demographic potential formation, are shown in table 3.

Table 2

Socio-economic Indicators Affecting IDP Migratory Activity in 2017

| Region | Number of active enterprises (up to total) | Average population size | Monthly average wage (relative to national average) | Share of employed | Gross regional product | The share of young people in the total number | The level of reception of employees | The level of retirement of seeyolgme | Economically active population of working age | Percentage of permanent population aged 16-59 years | Share of capital investment per person | Share of employees with higher education |
|------------------------|--|----------------------------|---|-------------------|---------------------------|---|---|--|---|--|--|--|
| Vinnytsia region | 0,032 | 0,037 | 0,862 | 0,553 | 0,031 | 0,162 | 90£'0 | 0,301 | 0,619 | 0,025 | 0,001 | 0,755 |
| Volyn region | 0,022 | 0,024 | 0,823 | 0,488 | 0,015 | 0,158 | 0,301 | 0,303 | 0,558 | 0,016 | 0,001 | 0,738 |
| Dnipropetrovsk region | 0,074 | 0,076 | 0,977 | 0,580 | 0,102 | 0,164 | 0,337 | 0,332 | 0,634 | 0,052 | 0,003 | 0,783 |
| Zhytomyr region | 0,025 | 0,029 | 0,822 | 0,564 | 0,020 | 0,174 | 0,256 | 0,269 | 0,633 | 0,019 | 0,001 | 0,770 |
| Transcarpathian region | 0,023 | 0,030 | 0,895 | 0,538 | 0,014 | 0,179 | 0,254 | 0,285 | 0,601 | 0,020 | 0,001 | 0,805 |
| Zaporizhzhia region | 0,042 | 0,041 | 996'0 | 0,552 | 0,044 | 0,163 | 0,280 | 0,299 | 0,618 | 0,028 | 0,001 | 0,744 |
| Ivano-Frankivsk region | 0,028 | 0,032 | 0,855 | 0,550 | 0,022 | 0,172 | 0,259 | 0,272 | 0,601 | 0,022 | 0,001 | 0,777 |
| Kyiv region | 0,055 | 0,041 | 1,011 | 0,580 | 0,054 | 0,170 | 0,337 | 0,357 | 0,621 | 0,028 | 0,001 | 0,756 |
| Kirovohrad region | 0,023 | 0,023 | 0,815 | 0,533 | 0,019 | 0,178 | 0,319 | 0,322 | 0,608 | 0,002 | 0,001 | 0,772 |
| Lviv region | 0,059 | 0,000 | 0,899 | 0,562 | 0,048 | 0,177 | 0,301 | 0,305 | 0,608 | 0,041 | 0,003 | 0,782 |
| Mykolaiv region | 0,032 | 0,027 | 0,944 | 0,568 | 0,025 | 0,163 | 0,303 | 0,315 | 0,633 | 0,019 | 0,001 | 0,751 |
| Odessa region | 0,064 | 0,056 | 0,921 | 0,561 | 0,050 | 0,160 | 0,330 | 0,340 | 0,604 | 0,038 | 0,003 | 0,685 |
| Poltava region | 0,033 | 0,033 | 0,922 | 0,540 | 0,049 | 0,165 | 0,316 | 0,334 | 0,614 | 0,023 | 0,001 | 0,745 |
| Rivne region | 0,021 | 0,027 | 0,846 | 0,551 | 0,017 | 0,165 | 0,239 | 0,263 | 0,623 | 0,018 | 0,001 | 0,678 |
| Sumy region | 0,020 | 0,026 | 0,837 | 0,574 | 0,019 | 0,157 | 0,272 | 0,279 | 0,631 | 0,018 | 0,001 | 0,758 |
| Ternopil region | 0,021 | 0,025 | 0,782 | 0,510 | 0,013 | 0,165 | 0,257 | 0,274 | 0,579 | 0,017 | 0,001 | 0,797 |
| Kharkiv region | 0,058 | 0,063 | 0,879 | 909,0 | 0,065 | 0,168 | 0,305 | 0,302 | 0,645 | 0,044 | 0,003 | 0,796 |
| Kherson region | 0,025 | 0,025 | 0,822 | 0,562 | 0,016 | 0,175 | 0,337 | 0,352 | 0,631 | 0,017 | 0,001 | 0,721 |
| Khmelnytsky region | 0,027 | 0,030 | 0,836 | 0,547 | 0,020 | 0,161 | 0,281 | 0,294 | 0,601 | 0,020 | 0,001 | 0,754 |
| Cherkasy region | 0,029 | 0,029 | 0,851 | 0,567 | 0,025 | 0,164 | 0,306 | 0,320 | 0,632 | 0,019 | 0,001 | 0,813 |
| Chernivtsi region | 0,016 | 0,021 | 0,791 | 0,566 | 0,000 | 0,151 | 0,315 | 0,310 | 0,618 | 0,015 | 0,001 | 0,700 |
| Chernihiv region | 0,021 | 0,024 | 0,793 | 0,561 | 0,018 | 0,170 | 0,275 | 0,289 | 0,631 | 0,016 | 0,001 | 0,793 |
| Kyiv | 0,178 | 0,069 | 1,567 | 0,618 | 0,234 | 0,164 | 0,361 | 698,0 | 0,664 | 0,047 | 0,003 | 0,802 |

compiled by the author according to the source [3, 14]

Table 3

Summary table of results of cluster analysis of regions by status of IDP migratory activity

and level of demographic potential formation

| No. of The composition cluster of the cluster | | Distance | The level of demographic potential formation | Level of IDP migration activity | |
|---|------------------------|----------|--|---------------------------------|--|
| 1 | Kyiv | 0,00 | high | high | |
| 2 | Dnipropetrovsk region | 0,023788 | | | |
| | Zaporizhzhia region | 0,016197 | | | |
| | Kyiv region | 0,024201 | | | |
| | Lviv region | 0,017019 | Relatively high | Relatively high | |
| | Mykolaiv region | 0,014040 | Kelatively liigh | Kelatively iligii | |
| | Odessa region | 0,023262 | | | |
| | Poltava region | 0,013653 | | | |
| | Kharkiv region | 0,026180 | | | |
| | Zhytomyr region | 0,010673 | | | |
| | Transcarpathian region | 0,020345 | | | |
| | Ivano-Frankivsk | 0,009219 | | | |
| 3 | Sumy region | 0,011719 | average | average | |
| | Ternopil region | 0,022655 | average | average | |
| | Khmelnytsky region | 0,010387 | | | |
| | Cherkasy region | 0,019423 | | | |
| | Chernihiv region | 0,013648 | | | |
| 4 | Vinnytsia region | 0,014701 | | ovaroga | |
| | Volyn region | 0,022483 | | | |
| | Kirovohrad region | 0,016266 | low | | |
| 7 | Rivne region | 0,028042 | low | average | |
| | Kherson region | 0,018976 | | | |
| | Chernivtsi region | 0,023290 | | | |

Source: calculated by the author

Euclidean Distances between Clusters

| | tances between Cluste w diagonal Squared d | | ıal | |
|-----------|---|-----------|-----------|-----------|
| | Cluster 1 | Cluster 2 | Cluster 3 | Cluster 4 |
| Cluster 1 | 0,000000 | 0,037716 | 0,052702 | 0,053130 |
| Cluster 2 | 0,194206 | 0,000000 | 0,001537 | 0,001425 |
| Cluster 3 | 0,229569 | 0,039206 | 0,000000 | 0,000423 |
| Cluster 4 | 0,230499 | 0,037750 | 0,020557 | 0,000000 |

Source: calculated by the author

As a result of cluster analysis, the following Euclidean distances were obtained between each of them, indicating that groups 4 and 2 are the closest to each other – the Euclidean distance is 0,001425, which is the minimum indicator of this sample of regions (Table 4). Practically the same distance (Euclidean distance = 0,001537) from each other are groups 3 and 2. The Euclidean distance between group 4 and group 3 (0,000423, respectively) is minimal among the studied regions.

The next stage of the analysis is the calculation of the criterion of significance of indicators. Dispersive analysis of variance is the selection and evaluation of individual factors that cause a change in the investigated random values. This is the lay out of the total sample variance into components due to independent factors. Each of these components is an estimate of the dispersion of the aggregate [7, p. 150].

Table 4

Table 5

The meaning of the criterion of significance for the clustering indicators of regions by the status of IDP migratory activity and the level of demographic potential formation

| Index | es | F-criterion |
|------------------------|---|-------------|
| x_1 | Number of active enterprises (to total) | 83,7643 |
| x_2 | Average population size | 10,5761 |
| x_3 | Monthly average wage (relative to national average) | 131,6951 |
| X_4 | Share of employed population | 4,0476 |
| <i>x</i> ₅ | Gross regional product | 34,7045 |
| x_6 | The share of young people in the total number | 0,2029 |
| <i>x</i> ₇ | The level of reception of employees | 7,0560 |
| x_8 | The level of retirement of employees | 6,6599 |
| x_9 | Economically active population of working age | 2,2885 |
| <i>x</i> ₁₀ | Percentage of permanent population aged 16-59 years | 10,3698 |
| <i>x</i> ₁₁ | Share of capital investment per person | 6,0580 |
| <i>x</i> ₁₂ | Share of employees with higher education | 4,5308 |

Source: calculated by the author

Table 6

The average value of grouping attributes within clusters

| index | cluster 1 | cluster 2 | cluster 3 | cluster 4 |
|------------------------|-----------|-----------|-----------|-----------|
| x_1 | 52,400 | 61,200 | 53,250 | 53,056 |
| x_2 | 2,820 | 4,200 | 4,233 | 3,078 |
| x_3 | 14,660 | 10,600 | 13,967 | 14,111 |
| x_4 | 15,120 | 13,200 | 14,492 | 14,389 |
| x_5 | 50,360 | 39,100 | 43,475 | 42,722 |
| x_6 | 28,320 | 45,300 | 30,592 | 34,144 |
| x_7 | 31,600 | 39,200 | 29,742 | 30,211 |
| <i>x</i> ₈ | 12,240 | 11,100 | 12,692 | 12,822 |
| x_9 | 10,060 | 6,500 | 7,458 | 8,067 |
| x_{10} | 2334,200 | 3431,000 | 1773,500 | 2035,111 |
| <i>x</i> ₁₁ | 2475,200 | 3596,000 | 1910,500 | 2167,444 |
| <i>x</i> ₁₂ | 0,514 | 0,270 | 0,544 | 0,476 |

Source: calculated by the author

In the study, the value of the F-criterion (Table 5) suggests that the most significant indicators are: average monthly wage, relative to the national average (131,6951); number of active enterprises (83,7649); gross regional product (34,7045); average population (10,5761); share of permanent population aged 16-59 years (10,3698).

We summarize the results of the distribution of regions by clusters in Table 6, defining the average values of indicators by regions.

The results of the study are shown in the general diagram (Fig. 5)

The graph of averages of grouping values within the four clusters, shown in Figure 5, indicates the direct link to the selected factors. The benefit is that curves do not intersect with clusters. Gaps in the average values explain the dominance of the absolute values of these values in comparison with the other three.

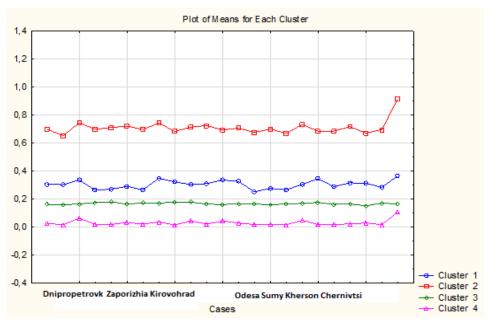


Fig. 5. Graph of averages of grouping values within four clusters of regions of Ukraine Source: developed by the author



Fig. 6. Map of the grouping of regions of Ukraine by the level of migratory activity and the level of demographic potential formation

The results of cluster analysis show that in large regions the level of IDP migration activity is greater and the impact on demographic capital formation is more significant. In general, the results of the distribution of Ukrainian regions by clusters can be more clearly illustrated by means of a map (Fig. 6).

The first cluster is in the city of Kyiv. It is characterized by a high number of active enterprises, wages, employed population, capital investment, gross regional product, permanent population aged 16-59 years and the number of employees with higher education.

The second cluster includes Dnipropetrovsk, Zaporizhzhia, Kyiv, Lviv, Mykolaiv, Poltava, Odessa and Kharkiv regions. It is characterized by a relatively high level of migration activity of the population. This cluster includes the regions of the central-western and southern economic regions of Ukraine, which are dominated by: manufacturing, light and food industry, shipbuilding, port economy and leisure activity industry. Accordingly, in the western and southern regions, the recreational and health sector and the tourism industry are developing.

The third cluster included the Zhytomyr, Zakarpattia, Ivano-Frankivsk, Sumy, Ternopil, Khmelnytskyi, Cherkasy and Chernihiv regions. This cluster is characterized by the average level of population, wages, economically active population of working age and economically active population of working age.

The fourth cluster united Vinnytsa, Volyn, Kirovograd, Rivne, Kherson and Chernivtsi regions. The areas that are a part of this cluster are agricultural regions of Ukraine. The gross regional product of these regions is overwhelmingly composed of the results of the agro-industrial complex of the light industry and the food industry.

The high level of development of agricultural production in these regions is due to two main factors: favorable soil and climatic conditions of the forest-steppe part and a relatively larger number of the rural population. It is worth noting that large regions and cities have a relatively high level of migration activity and influence on the formation of demographic potential, which makes it possible to generate social capital at the national level [12, 13].

Discussion and Conclusion

For the proper formation and development of demographic potential, at least at the macro level, it is necessary to develop the areas with the highest concentration of migrants. In particular, it concerns expanding the capacity of local communities to accommodate IDPs in order to avoid negative attitudes towards displaced people, to ensure social cohesion in local communities.

The creation of socio-economic preconditions for the development of the territories of mass residence of internally displaced persons should take place with the involvement of the labor potential of internally displaced persons. Creating new jobs is a top priority for such territories. This is possible both through the expansion of existing production facilities and through the construction of new enterprises in the regions and cities of Ukraine where IDPs are most concentrated. The economic feasibility of such enterprises can be enhanced by providing preferences for the sale of products in foreign and domestic markets, taking into account consumer demand. The system of quotas for newly created jobs for displaced persons will allow to provide a certain part of those who willing to work.

A potential source of financing for the expansion of a production base or the construction of new businesses is foreign investment, whose entry process should be as simple as possible. The Ukrainian economy is in dire need of investment, including this purpose. But despite the lack of funds to build the economy, the need to reduce unemployment, attract foreign direct investment, it should not go at all costs, for example, by reducing environmental standards and creating a kind of «shelter for pollution». Potential environmental impacts should be considered immediately when

considering possible FDI projects and not be eliminated afterwards. Authorities need to integrate environmental goals into the policies of key sectors of the economy, in particular industry, agriculture, transport, tourism, and clearly follow them when developing, promoting and implementing investment strategies and programs.

The Ukrainian government, regional and local authorities need analytical and methodological expertise to provide them with the necessary approaches to sound foreign direct investment decision-making, taking into account the economic, environmental and social principles of sustainable development. Achieving the maximum effect from FDI (economic stability, new technologies, rising incomes and employment) and minimizing negative impacts (environmental degradation, TNC monopoly, social and cultural interventions) are the main tasks of such developments.

Awareness and conversance of the community is an important factor in the sustainable development of certain territorial entities. Local communities that are most influenced, and not always positive, from investment projects, should also be involved in the decision-making process. Attracting investment should also take into account the precedency of priority industries. This is also mentioned in the Resolution No. 505, which provides for the activity of the Ministry of Economic Development to determine the most effective sectors for investing the industries and to direct the funds of international and volunteer organizations to expand the scope of IDP work and to select investment projects by region administrations on the basis of job creation for IDPs. On the one hand, it is attractive to develop industries that do not require high investment costs – such as the food industry, and on the other hand – high-tech industries should become a priority. A state program of measures to implement structural restructuring of the economy towards the priority development of high-tech industries is needed. The knowledge-intensive high-tech industry of Ukraine remains unattractive to foreign capital. This indicates the low effectiveness of public policy on creating a favorable investment climate in hightech industries, or the lack of a consistent agenda for prioritizing the development of knowledgeintensive sectors of the economy. The state should develop a program to attract investments to the regions with the highest concentration of IDPs. The support of high-tech industries is required, and those high-tech industries that are capable of stimulating the growth of other sectors and sectors of the economy should be given priority development. It is also important to focus on those high-tech industries that are capable of retrofitting traditional sectors of the Ukrainian economy: food, light, metallurgical, and chemical industries. Creating conditions to encourage the private sector and foreign manufacturers to invest more in high-

tech knowledge-intensive industries is an important strategic objective of governmental structures. Participation of international organizations can help to find the most efficient types of economic activities for attracting investment in accordance with the Law of Ukraine «About stimulating investment activity in priority sectors of the economy to create new jobs» and employment opportunities for internally displaced persons. International projects can also help to compose "map for investors" for targeted cities, which determines the prospects for further research.

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