1. Introduction

Ukraine has been going through the process of depopulation for some time; it was caused with significant reduction in fertility and essential migration losses of reproductive cohorts that lasted almost a century. Western region that was occupied by USSR three decades later, didn’t suffer such big demographic losses as the other oblasts of Ukraine. Besides, slower rates and scale of industrialization and high level of religiousness of the population facilitated in preservation of big family traditions. As a result specific characteristics of human potential of the Western region were saved. Borderland territories due to their geographical positions and closer communication with neighboring countries even during the period of closed border had more social influence from the West, which formed specific model of demographic behavior and reflected in different features of the human potential.

The category of human potential was developed in economic science and conceptually was related with categories of human capital, labor potential, human resources, and labor force (Prybyszewski, 2007; Стефанишин, 2006). In the wide sociological aspect human potential consists of the several potentials – demo-reproductive, labor, social and educational, intellectual and spiritual potentials. Human potential of agrarian, industrial and post-industrial society is distinguished in the economic context; other specific forms of economic system functionally are also distinguished. In the social geography human
potential is considered as combined characteristic of the resources attached to the place and time. Potential represents: firstly, past tendencies, that is totality of features that appear in the system during the process of development; secondly, it is characterized with modern parameters revealing resources that may be used in the future; thirdly, category of the potential is oriented to the features and tendencies that will be revealed in the process of further development. Specific quantitative and qualitative characteristics of the human potential may contain different list of indicators that depends on the goal of particular scientific research.


2. Spatial and time aspects of the research

Elaborated by authors maps and conclusions, presented in the article, are based on official data of State Statistics Service of Ukraine dated 5.12.2001 (census of population, Всеукраїнський перепис населення України 2001 року) and 1.01.2016 (estimated data, Населення України). The analysis of demographic development from the middle of the XXth century shows that in 2000–2001 Ukraine had gone through the most critical period of extremely high level of depopulation as a result of the lowest level of fertility in its history. That is why, this time interval allows us to make adequate conclusions about modern tendencies of formation of human potential of the Western Ukrainian borderland, which includes 18 administrative rayons of Volyn, Lviv and Zakarpattia oblasts, which border with Poland, Slovakia, Hungary and Romania (fig. 1-B).

This territory is 20075 km², and almost the whole area is occupied with regime of local border traffic. It lies within the plain and mountain massifs of different nature-geographic zones which significantly differentiate conditions of population resettlement. In settlement system of Ukraine they are peripheral territories: distance between Kiev – the capital of state – and Chop is 829 km, distance between Kiev and Yagodyn is 510 km.

3. The features of population resettlement

In general, 1650.6 thousand of people, or 3.9% of the country population live in Western Ukrainian borderland (tab. 1). It is very densely inhabited territory, which concentrates 34.1% of population of three oblasts. The demographic weight of border rises: in 2001 33.8% of the population of three oblasts lived here.

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Western Ukrainian borderland</th>
<th>Volyn oblast</th>
<th>Lviv oblast</th>
<th>Zakarpattia oblast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of population, inhabitants</td>
<td>1 650 600</td>
<td>211 167</td>
<td>594 815</td>
<td>844 616</td>
</tr>
<tr>
<td>Rate of changes of population numbers, 2016/2001,%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>urban</td>
<td>98.3</td>
<td>94.8</td>
<td>96.8</td>
<td>100.2</td>
</tr>
<tr>
<td>rural</td>
<td>97.1</td>
<td>88.9</td>
<td>93.8</td>
<td>100.9</td>
</tr>
<tr>
<td>Level of urbanization, %</td>
<td>42.9</td>
<td>59.1</td>
<td>43.1</td>
<td>38.7</td>
</tr>
<tr>
<td>Rate of change of urbanization level, 2016/2001, %</td>
<td>101.7</td>
<td>104.9</td>
<td>104.4</td>
<td>99.0</td>
</tr>
<tr>
<td>Density of rural population, inhabitants per km²</td>
<td>46.9</td>
<td>21.8</td>
<td>43.9</td>
<td>61.6</td>
</tr>
<tr>
<td>Average population of rural settlement, inhabitants</td>
<td>748</td>
<td>371</td>
<td>499</td>
<td>1483</td>
</tr>
<tr>
<td>Density of rural settlement network, per 1000 km²</td>
<td>63</td>
<td>59</td>
<td>88</td>
<td>42</td>
</tr>
<tr>
<td>Share of population, in age 65 and over, %</td>
<td>12.5</td>
<td>14.1</td>
<td>13.7</td>
<td>11.3</td>
</tr>
<tr>
<td>urban</td>
<td>11.8</td>
<td>12.9</td>
<td>12.0</td>
<td>11.1</td>
</tr>
<tr>
<td>rural</td>
<td>13.1</td>
<td>15.9</td>
<td>14.9</td>
<td>11.4</td>
</tr>
<tr>
<td>Share of population in age 0–15, %</td>
<td>19.9</td>
<td>18.6</td>
<td>18.7</td>
<td>21.0</td>
</tr>
<tr>
<td>urban</td>
<td>19.1</td>
<td>17.5</td>
<td>17.9</td>
<td>20.6</td>
</tr>
<tr>
<td>rural</td>
<td>20.4</td>
<td>20.2</td>
<td>19.3</td>
<td>21.6</td>
</tr>
</tbody>
</table>

Source: Own calculation based on Всеукраїнський перепис населення України 2001 року, Населення України.
Most of the population of Western Ukrainian borderland is rural inhabitants. Average density of the rural population is 46.9 inhabitants per km², which is twice bigger than average Ukrainian level. The highest density of rural population is in plain areas of Zakarpattia, and the lowest density is in Volyn borderland (fig. 1-A). The character of rural settlement is caused with natural geographical peculiarities of the territory. Zakarpattia is marked with domination of big villages – average population of the rural settlement is 1483 inhabitants. In Lviv borderland the level of concentration of rural population is almost three times lower – 499 inhabitants. Volyn borderland is characterized with even less average population of villages – only 371 inhabitants.

Features of reliefs and landscapes directly define the density of the settlement network. In general there are 42 villages for every 1000 km² in borderland of Zakarpattia oblast. Mostly there are no natural barriers between the bordering line and rural territory, the border for inhabitants of these villages is open, and density of resettlement in the neighboring country Hungary is high. In the mountain area the border stretches over the forest complexes, the

By numbers at Fig. 1–B are marked Western-Ukrainian borderland rayons: 1 – Shatskyy, 2 – Liuboml’skyy, 3 – Volodymyr-Volynskyy, 4 – Ivanychivskyy, 5 – Sokalskyy, 6 – Zhovkivskyy, 7 – Yavorivskyy, 8 – Mostyskyy, 9 – Starosambirskyy, 10 – Turkivskyy, 11 – Velykobereznianskyy, 12 – Perechynskyy, 13 – Uzhhorodskyy, 14 – Berehivskyy, 15 – Vynohradivskyy, 16 – Khustskyy, 17 – Tiachivskyy, 18 – Rakhivskyy.

Fig. 1. Population of the Western Ukrainian borderland
Source: Own calculation and mapping based on Всеукраїнський перепис населення України 2001 року, Населення України.
access is very difficult for inhabitants of adjacent villages due to orographic factors. Similar conditions had formed in Volyn borderland, that is to north from Volodymyr-Volynsky, where only 8 villages adjoin the bordering line of almost 100 km long in the forest area. As a result they have mental closeness; orientation on tight social contacts with foreign countries is much higher in plain areas of Lviv and Zakarpattia borderlands. In general there are 59 villages for every 1000 km² in four bordering administrative rayons in Volyn oblast. Density of rural settlement network is the highest in Lviv oblast – 88 villages for every 1000 km² (fig. 2-A).

Urbanization level in the Western Ukrainian borderland is 42.9% (fig. 2-B). Thanks to migration growth the part of urban population during the period of research had been increasing in Volyn and Lviv borderland. Concentration of the population in urban settlements intensifies in Velykobereziansky, Mostysky, Yavorivsky, Zhovkivsky, Ivanychivsky and Liubomlsky rayons (fig. 2-C). At the same time urbanization had declined in Perechynsky, Khustsky and Berehivsky rayons where natural increase in villages turned out to be higher than general increase of urban population.

Urban population lives in 58 settlements including 29 towns. Among them only Uzhhorod belongs to the category of big cities (115.2 thousand people), Chervonograd (67.5) and Novovolynsk (53.0) belong to average cities. Among 26 small towns 14 of them do not reach 10 thousand citizens – legally established criteria of population for the city. Most of the urban population (66.7%) live in small towns, which in many ways (ekistic, socio-economic, demographic) are similar to big country settlements, so there are no essential differences in the conditions of recreation of human potential. There are 17% of citizens in the average town, 16.3% of urban population live in Uzhhorod.

4. Dynamic of population of the Western Ukrainian borderland

There is depopulation in the most of rayons of the Western Ukrainian borderland. During 2001–2016 the rate of reduction in border areas in average was 98.3%, though depopulation was slower than in general in three bordering oblasts and significantly slower than in general in Ukraine, where decline was 92.3%. The most rapid depopulation were in borderland in Volyn oblast – 94.8%, when in Zakarpattia oblast population increase was 100.2%.

The highest temps of reduction were in Mostysky, Liubomlsky, Shatsky, and mountain

Fig. 2. Main indicators of population settlement of Western Ukrainian borderland

Source: Own calculation and mapping based on Всеукраїнський перепис населення України 2001 року, Населення України.
Turkivsky rayons (fig. 1-B). The Zakarpattia borderland, except mountain Perechynsky, Velykoberezniyansky and Berehivsky rayons, is characterized with insignificant increase of population, that first of all is provided with prevalence of birth over death.

Most of the border town settlements are declining in population. There is especially rapid decline of population in former industrial centers which gradually are losing their industrial functions without appearance of new economic activity, such cities as Chervonograd, Yavoriv, Sokal, Volodymyr-Volynsky, Tiachiv, Khust, Solotvyno. Significant decline of the population can be seen in Berehove, the percentage of Hungarian population is very high (48%), and apparently migration losses are related with emigration to Hungary thanks to preserved family bounds. The influence of “Hungarian factor” is well recognized in Berehivsky rayon, it is widely spread for Ukrainian citizens to get Hungarian passports and practically to get double citizenship. Depopulation is peculiar to those small urban settlements that lie directly near the border and due to internal regional periferalism is characterized with backwardness of infrastructure (social, transport, industrial): Shatsk, Ulhiv, Belz, Dobromyl', Khyriv, Nyzhankovychi, Stara Sil', Nemyriv, Velyky Bychkiv. Most of the cities of this group are located in Lviv region. Lviv is multifunctional and has almost a million population, for many decades it dragged human resources away from provincial settlements. The third group of urban settlements, which population is declining – are small mountain towns (up to 10 thousand of inhabitants), which due to natural and economic geographical locations are relatively isolated from large economic cores (centers) and international streams and are underdeveloped: Turka, Perechyn. Depopulation is also peculiar to the only oblast center – Uzhhorod, which is located 3–4 km from the border. It is the smallest by number of population oblast center in Ukraine. Its population, like in other administrative centers, is declining due to natural decline, which is the result of a new European model of reproductive behavior, in which it is characteristic to bear less children, get married in more adult age than they do in villages, marriages are less strong, high level of divorces, domination of nuclear families, where the role of grandparents in bringing up the children is minimum. In the villages, especially in Zakarpattia and Volyn oblasts, there is still higher level of fertility due to preservation of traditional family ways of life.

There are certain cities in the Western Ukrainian borderland, which are marked with increase of population. Firstly, they are the cities located near the international border crossing points; they have new border functions, which are actively developing: Rava-Rus'ka, Mostys'ka, Chop, Batovo. The catalyst of their further increase will be the realization of the projects of creation of international transport corridors. Secondly, increase is inherent to the cities and towns that have suitable border geographical location and functionally tend to the region center, that is Lviv: Novoyavorivsky, Zhovkva, Dublany, Ivanofrankove, Kulykyv, and also urban type settlement Serednie, that is located in the zone of influence of Uzhhorod. Increase is also peculiar for several rayon centers and towns, which infrastructure positively contrasts with neighboring rural territories: Liuboml', Velyky Mosty, Zhvyrk, Mageriv, Staryi Sambir, Velyky Berezny, Dubove, Korolovo, Vyshkovo, Teresva, Bushtyno, Ust'-Chorna, Kobylets'ka Poliana.

Nationwide tendencies of rapid depopulation of rural population are peculiar to the bordering areas, comparing with urban population, which is connected first of all with significant migration losses of reproductive cohorts of rural settlements for many decades of XX–XXI centuries. During 2001–2016 the rate of decline of rural population of the Western Ukrainian borderland was 97.1% (in Ukraine – 94.4), of urban population – only 99.9 (in Ukraine – 94.6). Rural population is declining with the highest speed in the area in Volyn oblast – 89.6%, in Lviv oblast – 93.8%, and in Zakarpattia oblast there is increase of the population – 100.9%. Depletion of the demographic potential of rural locality is connected with industrialization processes: Lviv and industrial centers of Lviv-Volyn coal basin were attracting migrants from all Western region, especially from provincial and bordering areas.

Transformation of border functions from closed into open border made positive impulse for development first of all of urban settlements, migration losses of bordering villages had declined, new migration streams had been planning (village → border city, rayon center), which as a result defined increase of the share of border rayons in the population of border oblasts. Such tendencies are not peculiar to other borderlands of Ukraine.

5. Differences of population age structure in the Western Ukrainian borderland

The population in the Western Ukrainian borderland is characterized with more young age structure – 12.5% of people older than 65 years, against 15.9% in general in Ukraine. The share of children population is 19.9% against 15.2% in Ukraine.

Name of rayons are noted at fig. 1-B

The oldest population is in Ivanychivsky (without Novovolynsk), Starosambirsky and Turkivsky
rayons. These rayons have also the smallest share of the children population, except Turivskyy, which with Yavorivskyy rayons have the highest fertility level in Lviv oblast (fig. 3-A, 3-B). The rapid aging of the population in these areas is caused with migration losses of the working age population. Zakarpattia borderland has the most favorable age structure: there is high share of children population, especially in Rakhivskyy, Vynohradivskyy and Perechynskyy rayons, and also the lowest level of demographic aging. Peculiarity of Zakarpattia borderland is an older age structure of population in the cities (except Uzhhorod), while in Lviv and Volyn oblasts the situation is contrary, the level of aging is higher in villages. Volyn borderland, particularly Volodymyr-Volynskyy, Liubomliskyy and Shatskyy rayons due to high fertility are marked with higher level of children population; however lack of sufficient number of workplaces leads to outflow of labor resources potential, which defines quite a high level of population aging.

Calculated demographic dependency ratio of the people of working age (16–59 years) demonstrates significant spatial differences in the Western Ukrainian borderland. There is high demographic dependency ratio in urban settlements of Zakarpattia oblast and Turivskyy rayon (fig. 3-C). It is caused with more favorable rates of natural reproduction. Demographic dependency ratio is lower in urban settlements in Ukrainian-Polish borderland, it is due to lower share both children and elderly people. Demographic dependency ratios of rural population do not differ much in the borderland.

6. Conclusions

Human potential of the Western Ukrainian borderland is characterized by specific tendencies of its formation which are totally different from those found in the northern and eastern borderland areas of Ukraine. However, Ukrainian-Polish, Ukrainian-Hungarian and Ukrainian-Romanian borderland differentiate on a number of key parameters that describe human potential:

1. The processes of natural reproduction of population indicate to better quantitative parameters of human potential in Zakarpattia oblast and possibilities for population growth. There is the most concentrating form of rural settlement, which is characterized with favorable demographic tendencies, the lowest level of demographic aging, and the highest share of children and general
increase of population. Depopulation is appearing in the urban settlements in the borderland, though its rates are the lowest. The level of urbanization is declining.

2. Despite the fact that there is more favorable demographic situation in Volyn oblast on the background of nationwide indicators, borderland rayons are marked with extremely unfavorable tendencies. There are the highest rates of depopulation of rural areas, very high level of aging of rural population with sufficiently big share of children, considerable migration outflow of working age cohorts. At the same time there is the highest level of aging of urban population and the lowest share of children. The highest rates of reallocation of the population between rural and urban areas were defined.

3. In the borderland rayons of Lviv oblast there are more favorable conditions of formation of the population age structure and reproduction of human potential in urban settlements, their population is growing and the level of urbanization is increasing.

4. Positive tendencies of human potential formation of the Western Ukrainian borderland on the background of nationwide tendencies can be intensified with the help of involvement of investments in creation of new industrial enterprises in processing of the local raw materials in small and average towns, which will lead to significant activation of agricultural sector in rural area and will hold the outflow of the working age population.

References


Прицюк Н., 2007, Демографічна ситуація західноукраїнського погranиччя, Видавничий центр ЛНУ імені Івана Франка, Львів.


Стєфанишин О., 2006, Людський потенціал економіки України, Видавничий центр ЛНУ імені Івана Франка, Львів.