

The impact of the war on demographical and economical situation in the Subcarpathian region of Ukraine

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Annotation. The article focuses on the study of the impact of the Russian war on the demographic and economic situation in Subcarpathia (Transcarpathia), the westernmost region of Ukraine. Despite the fact that the region was not directly in the zone of military conflict, it nevertheless suffered significant economic and social consequences. The purpose of the research is to study the reasons and factors that influenced the migration processes of the population living along the Ukrainian-Hungarian border in the context of the Russian-Ukrainian war. The study is based on a survey conducted in the fall of 2022 in the territory of the Zakarpattia region, where a significant number of representatives of the Hungarian minority live (making up 12% of the region's population). Three categories were chosen as respondents for the survey in this community: 1) persons who moved to safer areas of Hungary or other European countries; 2) persons who temporarily left, but expressed a desire to return; 3) persons who emigrated before the war. In the process of research, various factors, causes and results of migration were studied within each category of respondents. The findings showed that, in addition to the Russian invasion in 2022, the reasons for the migration processes were the economic challenges that already existed in Ukraine, as well as the difficulties faced by the national minority. The factors that influenced the local population's decision to stay were the availability of housing, employment, social connections and psychological factors. Recognizing the impact of social factors, the study focused on economic aspects, particularly income levels, financial status and war-induced changes in these parameters in each target group. The demographic and economic analysis was based on a questionnaire survey of more than 600 respondents, most of whom decided to stay in Transcarpathia after the war. The study clearly indicates that protracted martial law favours the search for permanent residence for emigrants, especially those in Hungary and Europe in general, and even internal refugees are more inclined to seek permanent residence and long-term residence in Subcarpathian region..

Keywords: war in Ukraine, economic impacts, Hungarian minority, migration, Subcarpathia.

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Вплив війни на демографічну та економічну ситуацію в Прикарпатському регіоні України

Анотація. Стаття сфокусована на дослідженні впливу російської війни на демографічну та економічну ситуацію у Закарпатті, найзахіднішому регіоні України. Незважаючи на те, що регіон не перебував безпосередньо у зоні військового конфлікту, проте зазнав помітних економічних і соціальних наслідків. Метою дослідження є вивчення причин та факторів, які вплинули на міграційні процеси населення, яке проживає вздовж українсько-угорського кордону в контексті російсько-української війни. Дослідження базується на опитуванні, проведеному восени 2022 року на території Закарпатської області, де проживає значна кількість представників угорської меншини (що становить 12% населення області). Респондентами для анкетування в цій спільноті було обрано три категорії: 1) особи, які переїхали до безпечніших районів Угорщини чи інших європейських країн; 2) особи, що тимчасово виїхали, але виявили бажання повернутися; 3) особи, які емігрували до війни. У процесі дослідження вивчалися різні фактори, причини та результати міграції в межах кожної категорії респондентів. Висновки показали, що окрім російського вторгнення у 2022 році, причинами міграційних процесів стали економічні виклики, які вже існували в Україні, а також труднощі, з якими стикалася національна меншина. Факторами, які вплинули на рішення місцевого населення залишитися, були наявність житла, працевлаштованість, соціальні зв'язки та психологічні фактори. Визнаючи вплив соціальних факторів, основна увага в дослідженні була зосереджена на економічних аспектах, зокрема на рівні доходу, фінансовому стані та змінах у цих параметрах, спричинених війною, в кожній цільовій групі. Демографічний та економічний аналіз базувався на анкетному опитуванні понад 600 респондентів, більшість з яких після війни вирішила залишитися на Закарпатті. Дослідження чітко вказує на те, що затяжний воєнний стан сприяє пошуку постійного місця проживання для емігрантів, особливо тих, хто перебуває в Угорщині та загалом Європі, і навіть внутрішні біженці більше схильні до пошуку постійного житла та довгострокового перебування в Закарпатті.

Ключові слова: війна в Україні, економічні наслідки, угорська меншина, міграція, Закарпаття.

Introduction

The full-scale invasion of Ukraine in February 2022 has caused massive civilian casualties and the destruction of civilian infrastructure; forcing people flee their homes seeking safety, protection and assistance. Since February 2022, millions of refugees from Ukraine have crossed borders into neighboring countries, and millions more have been forced to flee within the country. The study concentrates on the demographic and economic dimensions of the war in Subcarpathia, the westernmost region of Ukraine. It covers the situation namely in the Ukrainian-Hungarian border region, home to a substantial Hungarian minority comprising 12% of the regional population. Even though the region was not directly engaged in the conflict, it suffered significant economic and social consequences.

It is important to note that a native Hungarian minority, which until 1920 continuously belonged to the Kingdom of Hungary, inhabits this area and the population was almost predominantly Hungarian. Then it was under the authority of Czechoslovakia until 1939, but after World War II, it was annexed by the Soviet Union. After the independence of Ukraine in 1991, Subcarpathia became the territory of the country. According to the last Ukrainian census in 2001, 12% of the region's population was Hungarian, and the majority of Hungarians lived in the examined border areas. However, after the 2014 revolution and the annexation of Crimea, the Hungarian population significantly declined, driven not only by economic reasons

but also by unfavourable changes in Ukraine's minority policy and military conscription, which prompted some male residents to flee. These effects intensified after February 24, 2022.

Literature Review. It is important to note that most analyses that examine the consequences of war emphasize that war primarily affects the European economy beyond the parties involved (*Pisani-Ferry, 2022; Madina-He-Akmal, 2022; Loftin, Lynch, and Calhoun, 2011*). Of course, the development of the international economy as a whole is significantly hindered by the disruptions in the real economy and money market caused by the Russian-Ukrainian conflict. Militarized conflicts and wars in the past have shown that they have a tremendous impact on regional and global economies (*Jola-Sanchez and Serpa, 2021; Hang et al., 2021*).

Geopolitical risks have a significant negative impact on the process of determining oil prices (*Antonakakis et al., 2017; Mitsas, Golitsis, and Khodaykulov, 2022*). Higher oil prices, for example, rose due to the Gulf War in 1990. After the invasion, the price of oil increased from \$21 per barrel in July to \$46 per barrel by mid-October (*IMF, 2022*). The IMF recognizes geopolitical risks as a factor threatening economic well-being (*Palakandaras et al., 2018*), and the term refers to tensions or wars between states that affect international relations, and the broader concept also encompasses risks arising from the escalation of such conflicts (*Caldara and Iacoviello, 2018*).

A significant discovery highlighted in the study by *Koppány K. and Vakhal P. (2022)* concerning the war is that, unlike the short-term recovery observed in global value chains following anomalies caused by natural disasters, political decisions (such as Brexit), and the pandemic, the consequences of war, including the partial or complete destruction of physical and human infrastructure in Ukraine, the enduring ripple effects of sanctions against Russia, and the adverse impacts on other countries, particularly energy-dependent Europe, are far more profound and enduring.

The study aims to provide insight into the situation of the Subcarpathian region of Ukraine in the context of the Russian-Ukrainian war. The analysis focuses on both demographic and economic aspects and evaluates their interrelated (extinguishing) effects from the point of view of the population living along the Ukrainian-Hungarian border in the westernmost region of Ukraine.

Methodology. The research is primarily methodological, relying on the collection and analysis of primary data, predominantly quantitative with a smaller qualitative component. Questionnaire was chosen as the main research method. In course of the study preparation, consultations were conducted with several experts to develop the questionnaire. Due to the limited mobility during wartime, an online survey format was chosen. The study focused on three groups: 1) Subcarpathian Hungarians who remained in their homeland after the outbreak of the war; 2) those who temporarily fled due to the war; and 3) those who had emigrated from Subcarpathia much earlier.

The research window lasted a little over a month, taking place between September 5 and October 9, 2022. The majority of responses were collected during the first two weeks of the survey. We gradually involved various organizations (educational institutions, business associations, etc.) after it became evident that the activity of advertising on social media was diminishing or the representation of certain groups was inadequate.

The questionnaire was prepared in the Hungarian language and targeted the Hungarian population living along the border or those who had previously emigrated from Subcarpathia. It was accessible online, and out of the 1,783 initiated responses, 611 became completed and evaluable. The dominant portion of the 611 respondents currently resides in Subcarpathia (479 individuals, 78.4%), 94 individuals (15.4%) left Subcarpathia in 2022 due to the war, and 38 individuals (6.2%) had previously left Subcarpathia (Table 1).

Table 1.

**The distribution of the research sample by gender and marital status
(in absolute numbers)**

Category	By Gender		By Marital Status					Total
	Male	Female	Living with Partner	Divorced	Married	Single	Widowed	
People living in Transcarpathia	97	382	18	19	387	42	13	94
Number of people who moved away after the war	36	58	9	0	70	13	2	479
Number of people who moved earlier	18	20	5	1	26	6	0	38
Total	151	460	32	20	483	61	15	611

Note: Questionnaire research (own editing).

The results indicate that the highest level of representativeness was achieved among those who remained in their homeland, which was the primary target audience for the expected results of the study.

Results

The following analysis examines two directions based on the questionnaire research presented above. On the one hand, the mobility of the Hungarian national minority living on the Subcarpathian border, as well as the economic situation of the target group in relation to the war and other effects.

Mobility issues of the target group.

Below, we present the mobility-related motivations of the people living in the region, analysing the results of the survey. Due to the methodology of this questionnaire survey, it is not suitable for estimating how many people left the region since the war or before it. However, we had the opportunity to measure factors such as why did they stay, or did they leave their home? What other change would move those who are still planning the future at home? With whom did they go, or would they go? What country would they move to and why? Below are the outcomes derived from the survey and the analysis of responses provided by the Subcarpathian Hungarians within the sample.

The migration-related motivations of people living in Subcarpathia after the war.

The first and most important question we had to ask the Hungarians staying in Subcarpathia was why they decided not to leave their homeland (Fig. 1).

It can be observed that in the first place is the uncertainty underlying behind the moving. Since they feel that they are not exposed to a direct threat of war in their homeland, they consider staying at home to be a lower risk than moving to an uncertain place. This mainly occurs in the middle and older age groups. The second most common reason is a strong local identity and attachment to Subcarpathia and their hometown. The third most prevalent reason is a sense of vocation, as many of them hold positions and roles within the local community that require them to stay (e.g., teachers, healthcare workers, clergy).

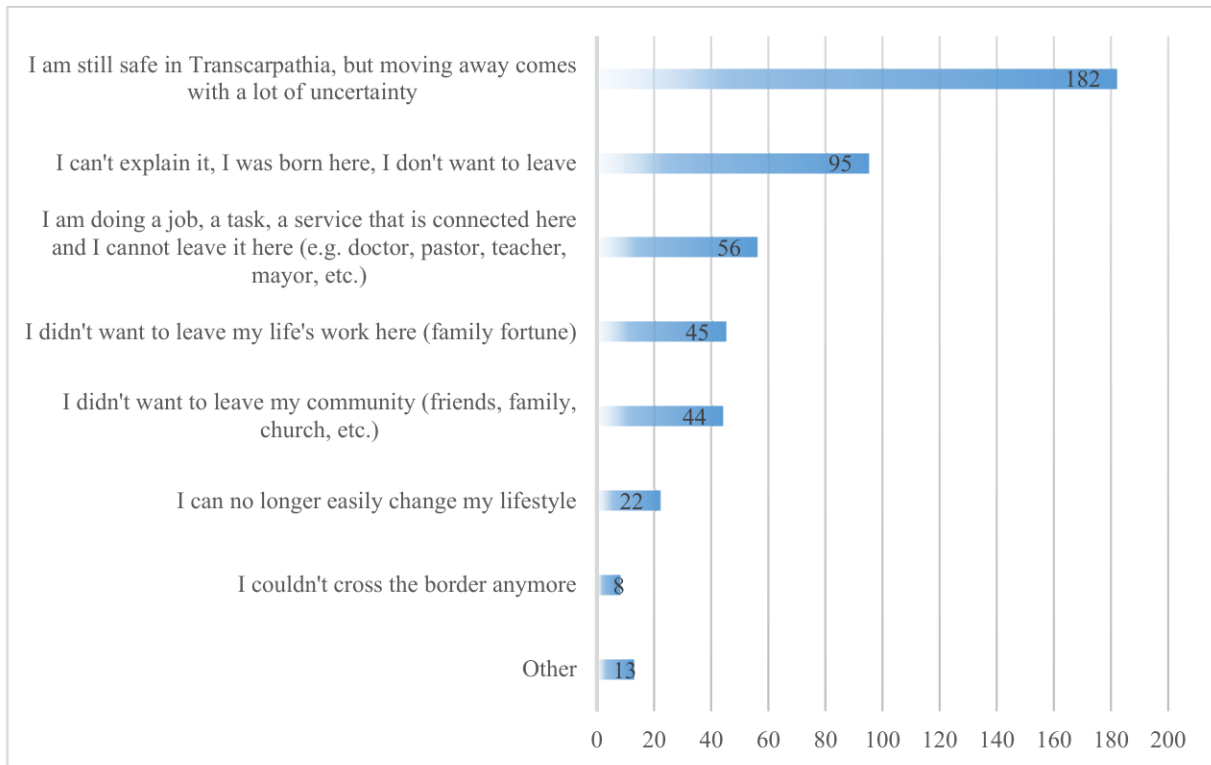


Figure 1. Responses to the survey question: “Why did you decide to stay in Subcarpathia even after the outbreak of the war?”

Note: Questionnaire research (own editing).

As an interesting fact, it's worth to note that two-thirds of those who stayed at home have never spent more than 2 months abroad in their lifetime and do not plan to do so in the future (35%).

The next question examined what new negative event would cause them to move from Subcarpathia. Almost 60% of the respondents (n=293) chose that the further escalation of armed conflicts to Subcarpathian direction would mean the tipping point for them to relocate. After that, significantly behind (10.6%), respondents indicated that they would change their place of residence due to the strengthening of anti-Hungarian sentiment, as well as difficulties in making a living and high inflation (10%). In almost every case, this decision would affect the entire family, as respondents mostly identified their family or spouse as accompanying them, rather than relocating alone. However, in the case of older parents and relatives, they preferred to stay at home.

For the next question, we examined which countries respondents would consider as potential migration destinations. A significant majority (92%) indicated Hungary, only two dozen people answered that they would move to Germany, Austria, the Czech Republic, or possibly another neighboring country.

Temporary or permanent migration.

While in the case of those who stayed at home, the question of which country they would move to was a hypothetical one, for those who temporarily or permanently relocated, it was a highly practical, almost life-defining question. 96% of those who moved in 2022 (n=94 people) came to Hungary, which is not a surprising. Of course, according to our assumption, there is not such a high ratio, because many Subcarpathians had previously worked in the Czech Republic, Austria, and Germany, and their families after the outbreak of war likely moved to these workplaces.

A similar pattern is observed among those who had previously moved, 92% of respondents (n=38 individuals) also live in Hungary. In addition to language and cultural ties, the respondents see the planned or actual move to Hungary mostly in terms of relatives and friends already living there. Given the strong Hungarian identity of the respondents, it's reasonable to assume that if the research had expanded into dual or rather Ukrainian (or other Ukrainian nationalities) directions, the results might have shown greater diversity in the choice of destination countries.

Among the population who left Subcarpathia in 2022 after the outbreak of the war, we investigated the other effects of this mobility process with additional questions. For example, with whom they left their former place of residence.

It can be concluded that the emigration caused by the war primarily (45%) affected families with small children in such a way that the entire family moved together from their place of residence. 17% are those who came alone. However, it is clear from the survey that a smaller number of multi-generational families left after the outbreak of the war, so in many cases the grandparents stayed at home. When we investigated the reason for this, 94.4% of the respondents indicated that there was no will to do so, and only 1-1% indicated that the parents did not come for financial, health, or other reasons.

When asked whether the older parents plan to move in the future, it can be seen that the parents' stay at home was not only a decision due to the speed of the situation, but also that $\frac{3}{4}$ of the respondents do not have any long-term intentions to leave. 17% have plans, but the processes have not yet been started, and in the case of only 6%, the relocation of the extended family have already started.

For those who temporarily relocated, we also examined the specifics of their new living environment and their adaptability to it. 66% of respondents moved to a place where they have relatives or acquaintances.

Regarding enrolment in schools, 67 responses were received, with 68.7% indicating that their children were enrolled in September-October 2022. It was expected that as time passed and the war's hopelessness persisted, the attachment of families with children to their new place of residence and school system would grow stronger.

Examining the housing situation of those who relocated after the war, it is noticeable that 67% of them have their own rented apartments, while the remaining third is divided among various options such as shared accommodations, refugee housing, workers' dormitories, staying with relatives, or owning their own property.



Figure 2. Housing conditions

Note: Questionnaire research (own editing).

One of the most important and difficult questions in the study of Subcarpathian Hungarians staying at home is what can be expected in relation to the return of families who moved after the war. Of course, we know that this issue is greatly influenced by how long the

war lasts, so the following diagram reflects a current situation in September 2022, which may change significantly if the current situation persists for a longer period.

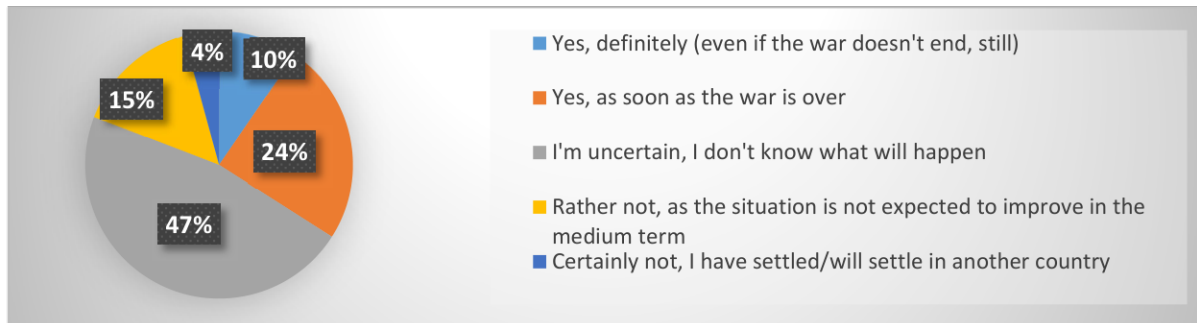


Figure 3. Responses to the survey question "Are you planning to move back to Subcarpathia?"

Note: Questionnaire research (own editing).

A positive aspect in the current scenario is that merely 4% of the respondents affirmed their definite decision not to relocate, citing their established residence. When considering those who would rather not move (15%), approximately one-fifth of the respondents fall into the category of individuals not planning to return to their homeland. Nevertheless, the majority comprises those in a state of uncertainty (47%). If Ukraine continues to face prolonged conflict and an unpromising economic situation, it is anticipated that the proportion of those opting not to return will significantly rise. On the other hand, 10% express a strong commitment to returning home, to the extent that they would consider doing so even before the conclusion of the war.

Overall, it can be seen that the uncertainty about the future is the greatest among temporary resettlers in the autumn of 2022. Therefore, this population group could still be kept in Subcarpathia if the war ended as soon as possible.

2. Economic situation assessment from the perspective of the population.

Due to the article's scope limitation, detailed figures for the economic situation assessment cannot be provided. However, let us explore the key findings after analysing the data. We conducted a comparative examination to determine whether individuals who temporarily relocated and those who remained at home were more frequently employed or engaged in income-generating activities.

In the fall of 2022, the proportion of employed individuals was higher among those residing at home than among those who relocated after the war. A significant portion of Subcarpathia's residents is employed in various public budget institutions (21.6%). Understandably, this percentage was notably lower for those who relocated in 2022 (8.7%). When considering the sector breakdown, both those who stay at home and those who moved are primarily involved in agriculture (35% and 23%, respectively).

For individuals who relocated, scrutinizing the shifts in employment dynamics reveals a significant decrease in the proportion of those engaged in trade, with nearly a 50% reduction in those who worked (or had a business) in this sector before and after the war. Conversely, in the education and research sector, an opposite trend emerged. The initial percentage, relatively low before the war at 18.7%, increased to 34.6% following the outbreak of war. This indicates that a greater number of individuals in this sector either chose to remain at home or retained their positions, leading to a rearrangement of the proportions in this manner.

Our hypothesis was that industrial investments in Hungary near the Hungarian-Ukrainian border could greatly benefit the Hungarian population in Subcarpathia, given their proximity

to the border. While a majority of respondents supported this concept, it did not constitute an absolute majority. The rationale provided was that these projects might not be feasible due to the uncertainty surrounding the border situation, and there was an emphasis on the significance of investments within Subcarpathia itself. Those who considered such investments worthwhile anticipated that an average monthly wage of approximately 800-1000 EUR would be necessary for the viability of such endeavours.

When examining the average income of families, there are significant differences among the three samples. In terms of euros, an average family in Subcarpathia earned 830 EUR, while those who relocated after the war earned 1600 EUR, and those who had moved earlier earned over 2600 EUR per month on a family level. These income differences, especially among young people, force the decision to relocate.

Conclusion

The article examines the consequences of the Russian-Ukrainian war on Subcarpathia and within it, the native Hungarian minority living near the Ukrainian-Hungarian border. The analysis of demographics and economics relied on a questionnaire survey, through which we scrutinized over 600 respondents. The majority of these individuals chose to stay in Subcarpathia following the war. Some departed their homeland in the initial days of the conflict, while others had relocated before, primarily since 2014.

As per the research findings, those who opted to remain in their current location express hope that the conflict will not intensify and reach the westernmost region of Ukraine. Given that their livelihoods, employment, and other aspects of their existence are tied to this area, they have chosen to stay home rather than face the uncertainties associated with relocation. Conversely, those who decided to move cited the threat of war, economic conditions, and ethnic atrocities as factors that led them to believe there is no promising future in their homeland.

Based on the conducted analysis of the economic situation, a key finding is that, in comparison to individuals who choose to stay at home, those who relocate tend to have a higher family income (with the disparity increasing the longer the relocation period). However, it is important to note that additional expenses, including housing and food, are also considerably higher for those who move. In the autumn of 2022, a noteworthy portion of individuals categorized as "temporary movers" still harboured thoughts of returning home if the war concluded promptly. However, as the state of war prolonged, coupled with the mobilization of men and other adverse effects, the likelihood of such a return diminished.

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