

**Chugaievska Svitlana,**  
PhD, Dr in Economics,  
Andrzej Frycz Modrzewski Krakow University,  
Krakow, Poland  
**Moroz Yulia,**  
Prof. Dr in Economics,  
Zhytomyr Polytechnic State University, Ukraine

**ANALYSIS OF THREATS TO UKRAINE'S NATIONAL SECURITY:  
DEMOGRAPHIC DEFORMATIONS, LOSS OF HUMAN CAPITAL AND  
LABOR CRISIS AS A RESULT OF THE WAR**

The state's national security is based on its population's potential and resources. A person, as a carrier of knowledge, skills, values and worldview, is the central element that determines the sustainability and stability of society, the efficiency of state institutions and the ability to withstand the challenges of the modern world.

A person is both a subject and an object of the state's national security. As a subject, a person decides on forming the country's security policy. On the other hand, a person, his or her life and health, honor and dignity, inviolability and security are the highest social value in Ukraine and the main goal (object) of the state national security policy [4].

Demographic processes in a country are one of the most important factors affecting its long-term stability and development, and demographic deformations pose serious challenges to national security, as they can lead to a weakening of economic potential, increased social tension, reduced defense capability, and loss of cultural and national identity.

Since the beginning of Russia's full-scale invasion of Ukraine on February 24, 2022, the country's national security has been under constant threat. The war has brought not only direct destruction to the infrastructure and economy, but also caused demographic changes, large losses of human capital, and a deep labor crisis. These factors have long-term implications for Ukraine's stability and development, which makes it important to analyze them in order to develop national security strategies and rebuild our country after the war.

Among the key challenges to Ukraine's national security in the context of demographic deformations, depopulation is the most threatening. However, research

in this area is complicated by the inability to establish the actual size of Ukraine's population as of today and to calculate the real loss of people not only during the years of the full-scale war, but also for the entire period since 2014. Since Ukraine's independence, the only all-Ukrainian census was conducted in 2001, which recorded a total population of 48.5 million people. Given the lack of reliable data on the number of people in Ukraine and their territorial distribution, it is extremely difficult to manage the state's national security, as it is almost impossible to plan any indicators of the country's socio-economic development.

According to the latest estimates of the State Statistics Service of Ukraine, as of January 1, 2022, 41.2 million people (excluding the temporarily occupied territories) lived on the territory of our country [5], which indicates negative trends in population decline (about 7 million people in 20 years) not only due to the war but also due to other factors. The war only became a catalyst for the deepening of the demographic crisis. It caused the next wave of population decline, which, according to the Institute of Demography and Quality of Life Problems of the National Academy of Sciences of Ukraine, amounted to 35.8 million people in July 2024, including 31.1 million people in the territories controlled by Ukraine. Thus, based on the above-calculated figures, the total decrease in the population of Ukraine since 2001 is about 17 million people, and compared to the highest recorded number in 1993 of 52.2 million people, it is almost 20 million people less. Even more threatening to national security is the UN forecast for Ukraine to reduce its population to 20.6 million people in 2100 [12].

Among the key reasons for the critical decline in Ukraine's population are large-scale migration processes, declining birth rates, increasing mortality, and military losses.

It is worth noting that migration processes began long before the war in Ukraine, primarily due to socioeconomic reasons. There was a significant labor migration when people left for better working conditions and higher wages. Today, the nature of migration processes has changed significantly, as the main reason is the war. According to the UN, as of November 18, 2024, the total number of refugees from Ukraine amounted to 6785.9 thousand, of which the majority - 6255.7 thousand - were recorded in Europe, and 560.2 thousand - in other countries. The largest number of Ukrainian migrants is in Germany, Poland and the Czech Republic [10].

Ukraine is one of the countries with the lowest fertility rate in the world. Before the full-scale war, in 2021, the fertility rate was 1.16, which is below the natural reproduction rate (2.1-2.2) and significantly below the local maximum in 2012 (1.53) [8]. Today, it is extremely difficult to calculate the exact coefficient figure, but according to some estimates, in 2023 it could be 0.8-0.9 [3].

The birth rate is threatening for the demographic reproduction of Ukraine - in 2024, it decreased by 1.5 times compared to pre-war 2021. But even more critical is the ratio of newborns to deaths, which is one to three [7].

The war has caused significant civilian casualties. According to UN estimates, since February 24, 2024, the number of deaths is 12340, and the number of injured is 27836. Since the beginning of 2014, the official number of civilian deaths is 15747. However, the actual scale of civilian casualties is likely to be much higher, as much information cannot be verified due to the lack of access to areas where prolonged intense fighting was taking place at the beginning of the armed attack in 2022, such as Mariupol, Lysychansk, Popasna, and Sievierodonetsk [11]. In addition, infrastructural destruction, inadequate access to medical services, and the mental health consequences of war result in additional civilian casualties.

Unfortunately, since the beginning of the full-scale war, Ukraine has lost 43,000 soldiers on the battlefield, and 370,000 have been wounded [13]. Such losses are very sensitive for the state, as the dead usually belong to the most active age groups. In addition, injuries to the wounded lead to long-term disability, limiting their ability to work.

Another equally important and difficult challenge to Ukraine's national security in the demographic sphere is the aging of the population. According to current estimates, children under 18 comprise only 15% of the total population, while the 60+ age group accounts for 27% [7]. Since independence, the average age of the population in Ukraine has increased by almost 10 years and is currently 42.1 years old [12]. The increase in the share of older people in the demographic structure puts additional pressure on the pension and healthcare systems, and the decline in the share of young people in the nation poses a problem for the formation of future generations of labor resources.

Human capital - the knowledge, skills, and good health that people accumulate throughout their lives - is a key resource for economic development, technological

progress, and social stability of the state, and its loss poses serious threats to national security. The most significant threats are the loss of young people and skilled workers, which leads to an outflow of intellectual potential and will become even more significant soon. According to UNESCO, 85251 students from Ukraine are currently studying abroad [9]. However, this figure is obviously much higher. For example, according to the Ministry of Education and Science of Poland, more than 43 thousand Ukrainian citizens registered after February 24, 2024 are studying in Polish universities alone [6], and according to official German statistics, this number is about 10 thousand people [1]. In addition to students, many school-age children live abroad and study in local schools. For example, in Poland and Germany, their number is about 200 thousand people in each of these countries [14]. As a result of the war, the state is experiencing a shortage of highly qualified specialists in medicine, science, engineering, and the IT sector.

The loss of labor resources both in the pre-war period and as a result of the war has serious consequences for Ukraine's national security. According to the National Bank of Ukraine, the labor force in the age group of 15-70 years old at the beginning of 2024 decreased by more than 25% compared to 2021. A study of the Ukrainian labor market conducted by the European Business Association shows that in 2023, 74% of employers reported a significant staff shortage, 17% reported a partial staff shortage, and only 7% did not experience a staff shortage. The Ministry of Economy of Ukraine estimates the shortage of personnel in the labor market at almost 30%. According to its estimates, over the next ten years, Ukraine will have to attract an additional 4.5 million employees to the labor market [2].

The shortage of labor resources leads to a decrease in the country's ability to support its own economy and, as a result, a reduction in production, lower government revenues, and limited ability to finance social and security measures. In addition, the shortage of labor will complicate the recovery process.

The state must take urgent measures to address the problems of demographic deformations, loss of human capital, and reduction of labor resources. The Strategy of Demographic Development of Ukraine for the period up to 2040 has been developed

[8], but it is, unfortunately, more abstract in nature. It is necessary to develop several practical measures to implement the provisions of this strategy.

In our opinion, the priority directions of the state policy in the field of ensuring the national security of Ukraine in the context of demographic changes should be

- development of policies and procedures for the return of domestic migrants to Ukraine, regardless of the time of their departure abroad;

- development of a mechanism for attracting qualified foreign migrants to the labor market of Ukraine, taking into account the best international experience;

- creating conditions for increasing the birth rate by implementing effective social protection programs, supporting young families, improving working conditions for women and increasing access to quality healthcare;

- investing in human capital as an innovative object;

- preservation and self-sufficient development of labor resources.

Summarizing the above, Ukraine's national security strategy in the future should include a detailed plan to restore human capital, stabilize the labor market, and overcome demographic challenges.

### **References:**

1. Germany International Student Statistics 2025. URL: <http://surl.li/ghgtre>
2. Labor market recovery is the way to our victory. URL: <http://surl.li/duzyvf>
3. Landa V., Revuk M. Three important demographic indicators. In 2023, the fewest children were born in the last 300 years. URL: <http://surl.li/kodlae>
4. National Security Strategy of Ukraine “Human Security - Country Security”. Decree of the President of Ukraine of 09/14/2020 № 392/2020. URL: <http://surl.li/tevfyu>
5. Official web portal of the State Statistics Service of Ukraine. Demographic and social statistics / Population and migration. URL: <http://surl.li/cnfiim>
6. Poland's Data Portal. URL: <http://surl.li/zzmsak>
7. Portal for access to government data for citizens and businesses «Opendatabot». URL: <https://opendatabot.ua>
8. Strategy of Demographic Development of Ukraine until 2040. Order of the Cabinet of Ministers of Ukraine dated 30.09.2024 № 922-p. URL: <http://surl.li/hbxbwe>

9. The Ukrainian Study Abroad Market. URL: <http://surl.li/uzevry>
10. Ukraine Refugee Situation. UNHCR. URL: <http://surl.li/sgqyxd>
11. Ukraine: Protection of Civilians in Armed Conflict – November – 2024. United Nations Ukraine. URL: <http://surl.li/kkfdnw>
12. Worldometers - real time world statistics. Population. Ukraine. URL: <https://www.worldometers.info/>
13. Zelensky names Ukraine's losses in a full-scale war: 43 thousand soldiers died on the battlefield. URL: <http://surl.li/oyqkuo>
14. *Statista*. The *Statistics Portal for Market Data, Market Research* and Market Studies. URL: <https://www.statista.com/>