



The impact of changes in the demographic structure of the national labour market on macroeconomic indicators of Ukraine

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Abstract. The full-scale invasion of Ukraine by Russian troops on 24 February 2022 led to significant changes in the Ukrainian labour market, which require a detailed analysis and understanding of their further dynamics. The purpose of this paper is to find out how the changes in the demographic structure of the national labour market have affected Ukraine's macroeconomic indicators. Using such methods as statistical analysis, comparison, synthesis and forecasting, the study of current demographic and economic indicators was conducted. The study obtained and analysed statistics on the forced displacement of refugees both within Ukraine and abroad, taking into account age, gender, education and other demographic indicators – at least 12 million Ukrainian citizens were relocated, 75% of whom are able-bodied and more than half of whom have high professional qualifications. Separately, information on young people and students who continue or start studying abroad was studied and conclusions were drawn on their assimilation in the new society and the likelihood of their return to Ukraine. In the process of analysing the conditions for the growth of unemployment, the number of enterprises that ceased operations due to hostilities or temporary occupation was calculated – both geographically, by region, and by type of ownership. It turned out that in eastern Ukraine, the number of closed business entities reaches 80%, and almost a third of individual entrepreneurs have ceased their activities. The study also forecasts the conditions for post-war reconstruction of Ukraine, taking into account the fate of returning refugees and the country's prospects for joining the European Union. The practical significance of this study is to assess the impact of changes in the structure of the labour market on the Ukrainian economy. The results may be useful for government agencies that are already formulating a strategy for Ukraine's post-war recovery

Keywords: macroeconomic indicators of Ukraine; gross domestic product; index of business activity recovery of Ukraine; labour market; demography

INTRODUCTION

Since the beginning of the full-scale military invasion of Ukraine in February 2022, the life of Ukrainian society has changed radically. All spheres of social and economic life have been negatively affected by the war waged against Ukraine – education, culture, healthcare, everyday life, etc. The analysis of the national labour market deserves special attention, as it has suffered the most since the beginning of the war. A number of factors combined to cause the Ukrainian human capital market to experience a devastating cumulative effect, including the forced migration of millions of able-bodied citizens, the mobilisation of men and women of military age for war, and the actual destruction of businesses and damage to agricultural land where

people worked. Such changes could not leave the country's economic development unaffected – macroeconomic indicators in 2022 and 2023 differed significantly from the plans that had been calculated before the outbreak of full-scale war. In the current realities, it has become crucial to review and adjust Ukraine's planned macroeconomic indicators to make economic activity predictable, even in the face of the crisis. A number of Ukrainian scholars have devoted their research to this issue.

For example, L. Drobiazko (2023) analysed structural shifts in the occupational and qualification employment of the Ukrainian population and assessed the transformation of this market. It was noted that after the first shock in

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early 2022, when the labour market literally froze, a gradual adaptation to the conditions of war began to take place. However, according to the author, the existing destructive processes and the general uncertainty of the population in the future indicate the absence of systemic factors for the structural restructuring of the national labour market and the restoration of the demographic balance. G. Chepurko (2022), in turn, notes the hereditary nature of the Ukrainian economic crisis, as the full-scale invasion began immediately after the end of the acute phase of the COVID-19 pandemic. The only difference is that for the rest of the world, it was an opportunity to finally restore their national economies and return to full social life, while for Ukraine, one crisis immediately turned into another, even more severe and destructive one. Accordingly, it is crucial for the Ukrainian labour market to create a clear system of employment priorities, including the export of services, simplification of rules common to all participants, and the preservation and development of human capital. The imbalance of the labour market in Ukraine and the existing imbalances in supply and demand were highlighted by Vasylyeva *et al.* (2023). Among the most significant negative factors, the authors named obstacles to the free movement of labour, the loss of production capacity due to the war, and a general decline in living standards. Measures that could improve the demographic structure of the regions include the introduction of special youth employment programmes, the creation of conditions for continuous vocational education, and the introduction of state standards for certain professions.

Another dimension of the problem of changing demographics is the increase in unemployment. Many representatives of small and medium-sized businesses have lost their usual earning opportunities in the frontline area and are forced to look for new livelihoods. As noted by O. Nosova (2023), service sector entrepreneurs suffer from the decline in the population of cities and villages on the contact line. A. Rumiantsev *et al.* (2023) wrote about the decline in the level of economic education, which manifests itself in the training of insufficiently qualified specialists during the war. Such graduates cannot meet the existing demand even in the national labour market, not to mention the more demanding standards of EU countries. This problem can be solved, according to the authors, with the help of modern digital technologies, remote access to education and, accordingly, a greater coverage of potential applicants. Z. Smutchak (2023) calls the current demographic situation in Ukraine even more categorically – “collapse” and confirms the existence of a deep demographic crisis and a number of acute socio-economic problems in the country. In her opinion, regardless of whether or not forced migrants return after the election, Ukraine will face depopulation.

Thus, demographic issues have become extremely acute since the beginning of the full-scale war in Ukraine. However, few scholars have considered the direct relationship between the changing demographic structure of

human capital and macroeconomic indicators. The purpose of this study is to find out how the changes in the demographic structure of the Ukrainian labour market have affected Ukraine's macroeconomic performance.

MATERIALS AND METHODS

In the course of this study, the peculiarities of the demographic structure in Ukraine during the full-scale war and their impact on the country's economic development were considered. In particular, the method of statistical analysis was used to analyse migration processes and the conditions of youth outflow, and the method of comparison was used to compare current indicators with pre-war statistics. The indicator was the number of applicants in Ukraine, and additional factors were the total number of people registered to take the national multi-subject test and the number of people willing to take the test abroad. To obtain objective data on the losses of the national labour market, the demographic composition of citizens who were forced to migrate abroad with the outbreak of full-scale hostilities was considered – in terms of gender, age, education, etc. A separate analysis was conducted of the plans of forced migrants regarding the desire and conditions of returning to Ukraine.

The study also analysed the challenges faced by the national economy in the human capital market. The structure of employment and unemployment in the context of existing demographic changes by occupational groups was also investigated. Since official unemployment data calculated in accordance with the International Labour Organization methodology have not been published since February 2022, expert opinions and the results of sociological surveys were used to assess this indicator up to date. The materials used for this study included, in addition to the above, operational data from the Information and Computing Centre of the Ministry of Social Policy of Ukraine (2024), the annual NBU inflation report (2022), monthly surveys of enterprises from the Institute for Economic Research and Policy Consulting (2023), and statistics from Solidarity Fund PL in Ukraine (2024). As for the prospects for the national labour market, the study analysed the general economic environment and derived a business recovery index that illustrates plans to restore and expand the activities of Ukrainian enterprises. Separately, the index of changes in the number of employees was presented by month, starting in May 2022 and ending in January 2024.

Based on disparate information from the National Institute of Sociological Research (2022) and other open sources, a holistic picture of the impact of the war on the demographic situation was formed by synthesis, especially in terms of child protection and the problem of the forced removal of Ukrainian children to the aggressor country. At the same time, official statistics on the number of children born in Ukraine over the past few years were provided. Also, using the method of economic forecasting, based on the used statistical data and expert opinions, the author forecasts and describes options for further development

of the demographic structure of the labour market in the context of the involvement of foreign specialists in the economic recovery of Ukraine.

RESULTS

The deterioration of the demographic structure of the national labour market has been observed since the outbreak of the war in 2014 and the occupation of Crimea and partial occupation of the eastern Ukrainian regions. However, since February 2022, the situation has significantly worsened. Thus, Ukraine has experienced a significant outflow of labour, which has not yet been observed in the country's modern history. According to the Office of the United Nations High Commissioner for Refugees (2024), as of 15 February 2024, more than 6 million Ukrainians have moved to Europe alone, and almost half a million more have moved to other countries. Adding to these figures almost 5 million more internally displaced persons, we can draw a conclusion about the existing human resource potential of Ukraine. Moreover, according to a survey conducted by the Office of the United Nations High Commissioner for Refugees, forced migration processes have had the greatest impact on the most productive age groups of the population: in Eastern Europe, almost half (47%) of refugees are aged 35-59, and a quarter (25%) are aged 18-34.

In terms of other demographic indicators, 85% of IDPs are women, almost half (47%) have higher education, and 20% have vocational education. Obviously, the outflow of such a large number of educated people of working age has had a significant impact on the amount of human capital in Ukraine. However, the most important demographic threat is the outflow of young people as representatives of human capital who are at the stage of forming their social environment and habits of «adult life». Unlike those aged 30+, children and young people who receive a quality education in Europe, form a social circle, learn the language of the host country and get used to high standards of living will have little incentive to return to post-war Ukraine. The experience of the Yugoslav wars (1991-2001) shows that only about half of forced migrants return home after the war, mostly those who could not find a job and stopped receiving social assistance. In most cases, the application of programmes to provide a migrant with a one-time financial assistance on condition of returning to their home country results in the migrant receiving this money, leaving for their home country, and then returning to the country of protection after a short period of time. Accordingly, based on this experience, it can be predicted that the number of refugees who will return to Ukraine after the end of the war will not exceed 50%.

According to the website of the Educational ombudsman of Ukraine (2022), in the first academic year of the full-scale war, more than half a million Ukrainian children were integrated into the school systems of EU countries. According to a survey of parents of such students, 40% of children in 2022 studied simultaneously in two institutions: full-time in a foreign school and remotely in a Ukrainian

school, another 35% studied remotely in Ukrainian schools, and another 11% only in foreign schools. It is noteworthy that only 40% of parents in 2022 had a clear intention to return to Ukraine with their children after the end of hostilities. This figure will continue to decline over time and as the child's socialisation in the new place deepens. These risks also apply to students who were forced to continue or start their studies in Europe due to the full-scale war. According to the Ukrainian Centre for Educational Quality Assessment, while in 2021 the number of applicants in Ukraine was 390,000, in the spring of 2022 the system registered only 229,000 applicants, a 40% decrease. Another indicator of the migration of student youth – Report on the results of the national multi-subject test in 2022 (2022). According to this document, among those registered to take the test in 2022, almost 14% (28,000 out of 201,000) of future students took it while in 23 European countries. Another danger factor should be taken into account: developed countries are interested in increasing their own human capital at the expense of donors, and thus the risks of skilled young people not returning after completing their studies abroad are increasing significantly.

In general, to consider the impact of changes in the demographic structure of the national labour market on Ukraine's macroeconomic indicators, it is worth focusing on three of these indicators: the number of enterprises that were forced to cease operations, the Ukrainian business recovery index, and the size of the gross domestic product. Since February 2022, in addition to the brain drain, Ukraine's economy has been affected by a significant reduction in employment. The temporary occupation of the territories in 2022-2024 and the expansion of the war zone led a large number of successful and profitable businesses to shut down completely or to significantly reduce their business activities and lay off employees. According to the Labour Market Observatory portal, a fifth of non-budget enterprises closed in the second quarter of 2022. The closer the region was to the frontline, the more companies ceased operations: 77% of enterprises in Luhansk region closed in the second quarter of 2022, 56% in Donetsk region, 51% in Kherson region, 39% in Kharkiv region, 30% in Zaporizhzhia region, 28% in Mykolaiv region, 15% in Kyiv region, 14% in Chernihiv region, and 12% in Sumy region. This led to the fact that in Ukraine as a whole, even taking into account enterprises that were relocated from their regions to safer areas, the total number of employees in the non-budget sector decreased by 15% in 2022, and among employees of individual entrepreneurs, this figure reached 28%.

To understand the structure of the labour market during the war in more detail, Solidarity Fund PL in Ukraine, in cooperation with the State Employment Service of Ukraine (2023), conducted a special survey of Ukrainian employers. According to its results, currently, on average, 60% of the staff of an enterprise, regardless of its size or profile, are professionals and skilled workers. A diagram of the survey results is shown in Figure 1.

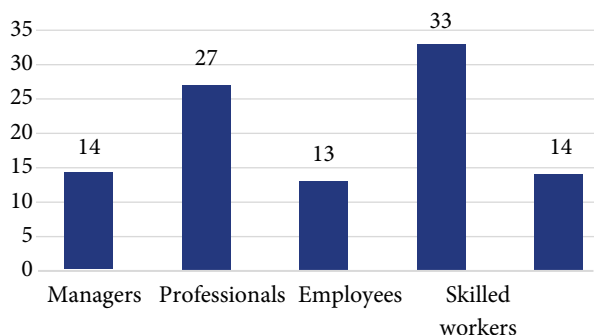


Figure 1. Professional structure of the surveyed enterprises, %

Source: developed by the author based on data from the State Employment Service of Ukraine (2023)

According to the employers' survey, amid the labour market contraction caused by the hostilities, skilled workers were in the highest demand, which indicates an increase in the overall professional level of the Ukrainian

labour market during the war. Similar conclusions can be drawn from the analysis of unemployment in 2022 and 2023. Since official statistics based on the ILO methodology have not been published since February 2022, these indicators can be calculated indirectly, based on sociological surveys and qualified expert opinions (Fig. 2). According to the annual NBU inflation report (2022), in the first year of the full-scale war, the unemployment rate is likely to have exceeded 30%, which is extremely disruptive for the national labour market and has serious negative consequences (including delayed ones) for the national economy. When studying demographic changes in Ukraine during the large-scale war, it is also worth considering that since February 2022, official information on births and deaths has also not been published for security reasons. However, a number of companies and projects, such as Opendatabot (2024), analyse information from open sources and use it to generate statistical reports and track the dynamics of changes in indicators. These data, along with official reports, are shown in Figure 3.

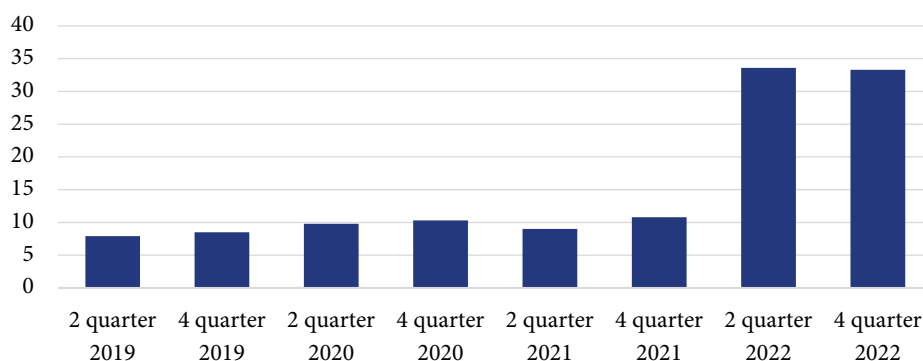


Figure 2. Dynamics of changes in the unemployment rate, %

Source: developed by the author based on NBU inflation report (2022)

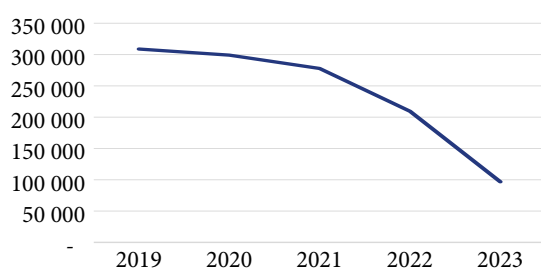


Figure 3. Birth rate in Ukraine by years, children

Source: developed by the author based on data from the State Statistics Service of Ukraine (2022) and Opendatabot (2024)

If we compare the figures for 2022 and 2023 obtained from open sources with the dynamics of the previous few years, we can note a significant decline in the birth rate, which, strategically, is also a negative factor in terms of labour supply. To understand the overall trends in the national economy in the context of changes in demographic indicators, it is also worth analysing the dynamics of

business recovery. According to the Monthly Enterprise Survey for December 2023 by the Institute for Economic Research and Policy Consulting (2023), starting in May 2023, there has been a certain stabilisation of the activity recovery index with a slight upward trend (Fig. 4).

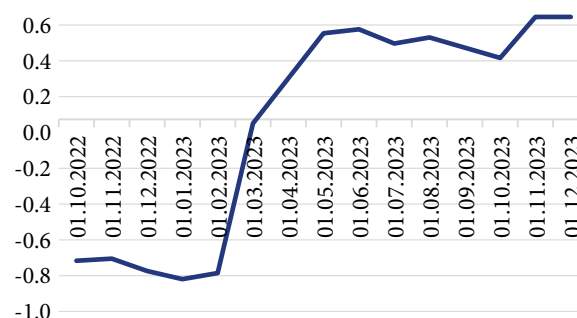


Figure 4. Index of business activity recovery

Source: developed by the author on the basis of monthly reports of the Institute for Economic Research and Policy Consulting (2023)

As can be seen from the infographic, the most severe challenge to this macroeconomic indicator in the analysed period occurred at the end of 2022 and beginning of 2023, when the Index reached negative values, but as of the end of 2023, the situation levelled off. At the same time, only 13.2% of the surveyed businessmen, describing the current state of affairs at their company, indicated a deterioration in the situation, 63.6% stated that the situation had improved, and the share of those who believe that business activity has not changed was 20.2% at the end of the year. Translating the expectations of Ukrainian businessmen for the future into the labour market, the statistics on changes in the number of employees will be indicative. Since statistics were not processed in the first months of the full-scale war, the analysis was conducted from May 2022. The data in Figure 5 shows that the indicators stabilised throughout 2023 and demonstrates that the surveyed managers do not expect significant changes in the number of employees in the first months of 2024. The share of business owners planning to increase staff increased from 2.8% to 5.1%, while 6.7% of entrepreneurs predict a reduction in the number of employees (previously 6%). All of this indicates a relative fixation of the range of labour market indicators, but not a significant improvement or recovery of the economy.

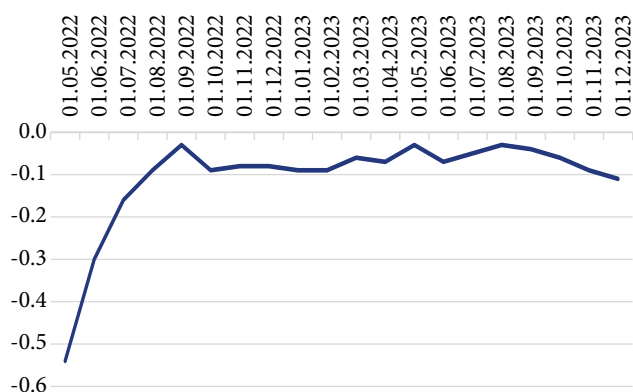


Figure 5. Index of changes in the number of employees

Source: developed by the author on the basis of monthly reports of the Institute for Economic Research and Policy Consulting (2023)

When talking about the imbalance in the labour market caused by demographic factors, it is important to take into account not only the actual, current impact on the economy, but also the long-term consequences. In this context, the situation with childhood protection is of utmost importance. The statistics on schoolchildren who were forced to migrate abroad with their parents and no longer plan to return to Ukraine were mentioned above. In addition, there are a large number of children who have remained in the country but have been subjected to psychological pressure or even physical violence by the occupiers. Formally, the right to protection and care for children affected by armed conflict is defined in Articles 38 and 39 of the UN Convention on the Rights of the Child (1989). In particular, Article 39 of the Convention requires States Parties to take all appropriate measures to promote the physical and psychological recovery and social integration of child victims of war. However, in practice, children whose homes were destroyed by the occupiers and whose parents were often killed do not always have the opportunity for psychological recovery. Moreover, with the further development of the war and regular enemy air attacks throughout Ukraine, the psychological state of children affected by the war is deteriorating. In the future, this will have an impact on the quality of human capital, educational and professional opportunities of the “children of war”.

There is a separate issue of deportation of Ukrainian children to the occupying country, which is prohibited by a number of conventions. According to the Radio Liberty website, the number of children actually abducted from Ukraine has already reached 700,000 (Over 700,000 Ukrainian..., 2023). Even if all perpetrators of these war crimes are punished in the future, the prolonged psychological pressure on children in a hostile environment will affect their personal development in the future, which will also call into question the ability and willingness of these citizens to return to Ukraine in the future. All of the above factors of changes in the demographic structure of Ukraine have a significant impact on the national labour market, and, as can be seen, it is mostly negative. Accordingly, the current state of the economy – one of the most objective macroeconomic indicators, gross domestic product (GDP) – is shown in Figure 6.

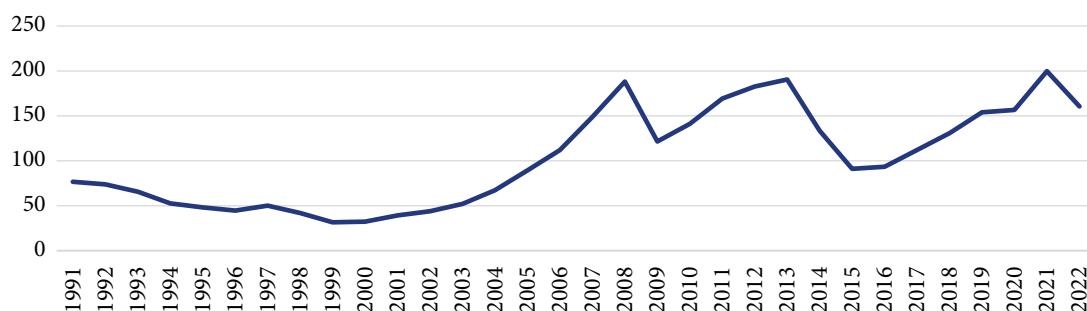


Figure 6. GDP of Ukraine, billion USD

Source: developed by the author based on data from The World Bank (2022)

The graph in Figure 6 shows the key dramatic changes in the Ukrainian economy in recent decades: gradual growth from 2000 until the global crisis in 2008; then a new stage of recovery, which ended with the outbreak of war and the temporary occupation of part of the country's territories in 2014; economic growth again, reaching a historic GDP peak in 2021, followed by a new wave of external aggression and, consequently, another economic downturn in 2022. Thus, it can be reasonably concluded that the demographic imbalance that is inevitable in a country at war has a significant impact on the labour market, national human capital, and all economic indicators without exception. It is noteworthy that the formation of reasonable plans and forecasts in such a situation is extremely difficult due to the inability to predict the end of hostilities.

However, it is already possible to predict that when the war ends and Ukraine begins its recovery, the country will face a personnel issue. Former military personnel returning to their pre-war professions will need some time to restore their skills and master the technological changes that have taken place during the war. Many citizens who have already become accustomed to their new places of residence will refuse to return, and a large number of guest workers and labour migrants from countries with predominantly low economic levels and possibly different cultural values will claim their place. Moreover, some citizens of the aggressor country will also express their desire to live and work in Ukraine. Accordingly, the authorities and public associations should already be shaping legislation and preparing society for such developments in advance.

DISCUSSION

The impact of demographic changes caused by various reasons on the volume and quality of human capital is quite significant, as can be seen from the materials of this study. Understanding the cause-and-effect relationship in this area, it is possible to formulate forecasts of further development and manage the growth of the national economy. At the same time, Ukraine is a certain research area for observing various social and economic phenomena, as military operations of this scale have not been seen on the European continent for eighty years.

T. Boeri (2022), studying the prospects for labour market recovery in Ukraine, believes that the war, for all its tragedy, is a good reason not only to rebuild, but also to radically reformat the principles of human resource management. The author believes that when planning the post-war reconstruction of Ukraine, it is necessary to take into account all the mental and physical consequences that will affect former military personnel who will return to their civilian professions. A similar vision is presented in this paper, since during the war years almost all professional fields have undergone updates and improvements that need to be mastered by veterans. Accordingly, this will reduce their competitiveness in the labour market for a certain period.

Predicting the impact of a full-scale invasion, H. Kulu *et al.* (2022) in their article in March 2022 predicted a 16%

reduction in Ukraine's population and an increase in its average age. Emphasising that the greatest demographic changes would affect the working-age population and children, the authors were confident of significant human and economic losses in Ukraine and long-term negative demographic consequences. The statistics above confirm this assumption, and there are no detailed and comprehensive programmes for the return of refugees to their homeland after the war. The most worrying thing is that the current situation will inevitably lead to another demographic hole in the next generation – in 20–25 years.

P. Strzelecki *et al.* (2022), in turn, studied the other side of the flow of forced labour migrants from Ukraine – its impact on the economies of recipient countries. Using Poland as an example, they examined the situation when an unprecedented flow of highly skilled and educated labour migrants faced high demand for labour, which led to a rapid and powerful positive effect on the Polish economy. As noted above, professional placement in a new location is a factor that reduces the likelihood of a migrant's return to their home country, and this may have a negative impact on the future recovery of the Ukrainian economy. The peculiarity of the demographic structure of Ukrainian refugees in Poland was also noted by M. Duszczek & R. Kaczmarczyk (2022). According to their research, the composition of migrants differs significantly from previous waves of guest workers in that they have a large number of children, which has an impact on their mothers' work schedules. However, over time, this problem will become much less of an issue as children are enrolled in local kindergartens and schools. Consequently, after such in-depth assimilation, it will be even more difficult for refugees to return to Ukraine.

The issue of the conditions for refugees to return to Ukraine from Europe, which is raised in this paper, was previously studied by U. Dadush & R. Weil (2022). Having analysed the statistics of voluntary return of refugees to their poor countries, the authors conclude that Ukrainian emigration will bring short-term costs to Europe, but long-term economic benefits and advise migration services to show additional loyalty to war victims. However, it is worth noting that if a large number of skilled Ukrainian workers receive preferences abroad and stay there, Ukraine's recovery from the war will be complicated. It is necessary to realise that in this matter there is a conflict of interest between the Ukrainian state and friendly countries that have agreed to shelter refugees during the war. How to resolve this conflict without complicating relations with them is a future subject for discussion with all stakeholders.

The impact of war-related stress on the socio-demographic factors mentioned in this paper was studied by S. Fel *et al.* (2022). According to their conclusions, one of the preventive measures against the development of post-traumatic stress is continuing education and related socialisation. Thus, improving one's professional level in crisis situations is not only an economic but also a psychological factor. A study of the psyche of Ukrainians in the first, most difficult weeks of the full-scale invasion was

conducted by W. Xu *et al.* (2022). The tests showed that out of a sample of 800 adult Ukrainians, almost 53% showed symptoms of psychological distress and 47% showed signs of depression. Accordingly, such large-scale mental changes in citizens have significantly affected the quality of human capital and, ultimately, the demographic structure of the labour market. As can be seen from the materials of this study, the problem is significant, but with sufficient support from the state, it can be solved.

V. Vus & I. Esterlis (2022), considering a plan for the psychological recovery of Ukrainian civilians after a large-scale invasion, believed that this war has a much greater impact on demographic indicators than any conflict in previous decades. The authors noted that the modern developed information space ensures the instantaneous dissemination of information, including negative information, which affects the ability of each individual to work and the labour market in general. According to the above materials and this study, almost all citizens of Ukraine have gone through several stages of acceptance of the new reality, from despair to fatalism. Since a large number of internally displaced persons have not been able to overcome the psychological deadlock and have lost the ability to engage in socially and economically useful activities for some time, this has had negative consequences for the labour market in Ukraine as a whole.

The closed nature of certain statistics in Ukraine and the ways in which they can be obtained through the indirect open sources mentioned above have been the subject of a study by D. Leasure *et al.* (2023). Using data from social media, in particular Facebook, combined with pre-war data, the researchers built a real-time monitoring system that allowed them to track the movement of people by age and gender and, accordingly, extrapolate conclusions about demographic changes to the national level. Similar calculations based on social media data with similar results were also made by F. Rowe *et al.* (2023). This experience of “bypassing” the blocking of official information can also be used by the enemy, so it is worth considering additional ways to ensure the protection of demographic data during war.

Post-war reconstruction, without which Ukraine's continued existence as a state is impossible, will be a serious challenge for Europe and the world, as many things have to be created from scratch. The planning of the country's revival, which is the subject of this paper, and the development of algorithms for rebuilding entire economic sectors are actively discussed in the scientific community. For example, J. Grävingsholt *et al.* (2023) believe that Ukraine's reconstruction is beginning now, even before the end of hostilities. By granting Ukraine the status of a candidate for membership, the European Union has demonstrated to the world the priorities for further joint development. Financial and technological assistance in reconstruction can give an additional impetus to the country's “green transformation” and achievement of sustainable development goals. A well-known Swedish-American economist and

diplomat, a leading international expert on national economies of the former USSR, A. Åslund (2023), in his article on the reconstruction of post-war Ukraine, emphasises the importance of financing such work and predicts that the labour market will flourish to the point where it will require specialists in all sectors.

When planning the recovery of the labour market in Ukraine and the return of macroeconomic indicators at least to pre-war levels, it is very important to take into account the specifics of the national agro-industrial complex (AIC) and the working conditions of its employees. S. von Cramon-Taubadel and O. Nivievskyi (2023) estimate that as of autumn 2022, the total losses from the war in Ukrainian agriculture reached almost USD 42 billion. Since the full restoration of Ukrainian agricultural land is possible only after complete demining and reclamation, this should be taken into account when planning the timing of the normalisation of the demographic structure of the agricultural labour market.

CONCLUSIONS

The situation in which Ukraine and its economy found themselves at the end of February 2022 was close to critical. The will of the citizens, the Armed Forces of Ukraine and the assistance of partner countries helped the country to survive the first, most difficult months and prevent the destruction of its statehood. However, the demographic structure of Ukraine's labour market was affected by extremely powerful negative factors. More than 6.5 million people were forced to go abroad, and about 5 million more lost their homes and jobs and became internally displaced. At the same time, 75% of migrants to European countries are able-bodied individuals, half of whom have higher education, which means that their skilled labour strengthens the macroeconomic performance of the recipient countries, not Ukraine. Of particular concern is the large number of children and young people who are forced to adapt to new living and educational conditions during forced migration.

The study reasonably leads to the conclusion that changes in the demographic structure of the national labour market have affected Ukraine's macroeconomic indicators as follows: the number of enterprises that were forced to cease operations – 15-30%; Ukraine's business activity recovery index – 0.5 (as of 01.12.2023); GDP – USD 160.5 billion (as of 2022). Regarding the economic features of the post-war recovery and the immediate prospects, it should be taken into account that, firstly, as mentioned above, about 50% of refugees will no longer return to Ukraine, and, secondly, experts predict Ukraine's accession to the EU in 2029-2033. As a result, Ukrainian citizens will have the opportunity to move freely within the EU and be legally employed, which will also have a significant impact on both demographics and the country's economy.

When formulating plans for post-war recovery, it is also very important to take into account the significant inflow of foreign labour migrants who will participate in the country's recovery and the fact that most workers who will

enter Ukraine under state programmes to attract immigrants will see Ukraine solely as a “springboard” to Europe or the United States. In addition to white-collar workers from developed countries, this wave will inevitably include the vast majority of low-skilled workers from developing countries, who will bring their own habits and cultural codes to Ukrainian society. Accordingly, it is necessary to think in advance about programmes for assimilating this human capital into the Ukrainian labour market so as not

to further disrupt the demographic structure. The development of theses for such rules of coexistence could be the subject of a future study.

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CONFLICT OF INTEREST

None.

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Вплив змін демографічної структури національного ринку праці на макроекономічні показники України

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Анотація. Повномасштабне вторгнення російських військ в Україну 24 лютого 2022 року призвело до суттєвих змін на українському ринку праці, що потребують детального аналізу та розуміння їх подальшої динаміки. Мета цієї роботи – з'ясувати, як вплинули зміни демографічної структури національного ринку праці на макроекономічні показники України. Завдяки таким методам, як статистичний аналіз, порівняння, синтез та прогнозування, було проведено дослідження актуальних демографічних та економічних показників. У результаті дослідження була отримана та проаналізована статистика вимушеного переміщення біженців як у середині України, так і за її кордон з урахуванням віку, статі, освіти та інших демографічних показників – всього було релоковано, мінімум, 12 мільйонів українських громадян, 75 % з яких є працездатними, а більше половини мають високу професійну кваліфікацію. Окремо було вивчено інформацію щодо молоді та студентства, які продовжують або починають навчання за кордоном, та сформовано висновки щодо їх асиміляції у новому суспільстві та вірогідність їх повернення в Україну. У процесі аналізу умов зростання показників безробіття, була порахована кількість підприємств, що припинили свою діяльність через бойові дії чи тимчасову окупацію – як у географічному розрізі, по областях, так і по формі власності підприємств. Виявилось, що на сході України кількість закритих суб'єктів підприємницької діяльності сягає 80 %, та, в тому числі, майже третина фізичних осіб-підприємців припинили свою діяльність. Також було спрогнозовано умови повоєнної відбудови України з урахуванням долі біженців, які повернуться, та перспектив вступу країни до Європейського Союзу. Практична значимість цього дослідження полягає в оцінці впливу змін структури ринку праці на економіку України. Результати роботи можуть бути корисні державним структурам, що вже зараз формують стратегію повоєнного відновлення України

Ключові слова: макроекономічні показники України; валовий внутрішній продукт; індекс відновлення ділової активності України; ринок праці; демографія