

Socio-Economic Aspects of the Impact of Military Actions on the Labor Force

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Abstract

Ukraine has a significant in quantity and unique in quality parameters, in particular, the level of education, a resource - the labor force, which, along with natural resources, can serve as the basis for economic growth and the achievement of sustainable development goals. The study is aimed at a thorough identification of the main factors influencing the formation and use of the labor force in Ukraine, including by comparing with the indicators of the EU countries, before the start of the active phase of military aggression by the Russian Federation. It was found that until February 24, 2022, there were negative trends in the change in the quantitative and qualitative indicators of the labor force due to the demographic crisis, the transformation of the national economy and shortcomings in state regulation of labor market development processes. The military actions not only exacerbated pre-existing problems, but also led to the emergence of new ones. A significant number of refugees and internally displaced persons, with the termination of the activities of half of the economic entities, provoked a sharp increase in real unemployment and a decrease in wages. The specific problem of the labor market of Ukraine - the "labor crisis", which has and will have a significant impact on the labor force, is carefully considered.

Keywords:

military actions, labor force, labor migration, demographic situation, labor crisis

1. Introduction

A skilled workforce, along with capital, plays a strategically important role in shaping the prerequisites for meeting the needs of each individual and achieving the goals of sustainable development of mankind. Today there is a further modification in the understanding of the labor force. In the conditions of the formation of a post-industrial society, we are talking not only about the physical ability to perform certain jobs, but rather about the intellectual ability to perceive information, generate new knowledge to create new products and services, where the share of

the material basis is constantly decreasing. Consequently, in the study of the labor force, its qualitative characteristics (mental abilities, general educational and professional level of knowledge) come to the fore with a study of the influence of factors on the shift, and quantitative parameters (the number of real and potential workers) are used to track the overall dynamics in the long term [1].

The formation and effective use of the labor force is most significantly influenced by such factors as: the availability and effectiveness of the implementation of the state strategy for the development of labor potential; the functioning of the system of learning throughout life; work migration; balance of the labor market; demographic, political, social and economic situation. In the past few years, the list of these factors has been supplemented by two more, which received a higher level of priority, in particular, we are talking about COVID-19 and the military aggression of the Russian Federation.

Ukraine today owns a unique human resource, because in the structure of the labor force, the number of which at the end of 2021 amounted to 17321.6 thousand people, a large share, which is 53.6%, is occupied by people with higher (full, basic and incomplete) education, although the dynamics before and during the active phase of the military confrontation is dominated by negative trends in the deterioration of quantitative and qualitative indicators [2]. Changes in the labor force of Ukraine are important not only for domestic needs, but because of the geographical proximity and the already established long-term practice of labor migration, and for the EU labor market. Tracking changes in the labor market in the conditions of a military conflict allows us to form the necessary information basis for

adjusting the state policy of both Ukraine and the EU regarding the labor force, the qualitative parameter of which significantly affects the creation of a product necessary to achieve the goals of sustainable development of mankind.

2. Methodology

To form a clear understanding of the impact of military actions on the workforce, our study was conducted in two time periods, that is, before February 24, 2022, which corresponds to the beginning of the active phase of the military aggression of the Russian Federation against Ukraine and after this date. The basis of the study within both these time periods was the analytical data of the State Statistics Service of Ukraine, the National Bank of Ukraine, the State Employment Service, Eurostat, International Labor Organization (ILO), International Organization for Migration (IOM), United Nations High Commissioner for Refugees (UNHCR), as well as to obtain operational information that has not yet been included in analytical reports - the results of sociological surveys. The processed material makes it possible to single out those problems that were typical for the formation and effective use of the labor force before and during large-scale military actions, i.e. ensures the identification of the influence of all factors and the prediction of possible changes in the short and long term in accordance with the duration of the active phase of the military confrontation.

To determine the impact of military actions on the labor force, the following methods were applied: induction and deduction, comparison and systematization to characterize the labor force before and during the active phase of military confrontation; synthesis and analysis - to determine the essence of the influence of the main factors on the labor force; morphological analysis - to clarify the essence of the modern understanding of the concept of "labor force"; abstract-logical - for theoretical generalizations and conclusions of the study.

3. Research Results and Discussions

Currently, The concept of "labor force" began to be used by D. Ricardo to characterize the economically active population, that is, those

individuals who are able and willing to work. A. Smith argued that an increase in the productivity of useful labor depends primarily on increasing the dexterity and skill of the worker, and then on improving the machines and tools with which he works. In modern conditions, this position can be partially agreed, in particular from the point of view of further mechanization, automation and the increasing use of artificial intelligence to create "smart" products. Despite this, the focus on improving the level of education of the worker, who is faced with tasks, where the share of physical labor decreases, but the need for creative problem solving based on existing knowledge and experience, remains not only relevant, but also a priority. Today, the labor force is increasingly used as a component of cyber-physical systems, in which the boundaries between man and machine are blurred [3].

Later, K. Marx joined the formation of the theoretical basis for understanding the essence of the concept of "labor force", who saw in it the totality of physical and spiritual abilities that a person possesses and can use them to create consumer value. In the modern sense, we are talking about the basic triad that forms the workforce, that is, the physical and mental abilities and skills and spiritual forces used in the labor process and ensuring the productive and high-quality achievement of the tasks set [4].

Quantitative and qualitative characteristics are used to characterize trends in the change of labor force. The first group includes the number of the economically active population and the unemployment rate, and in relation to the second, it is relevant to consider the state of health, physical capacity, the level of general education and vocational training of the able-bodied population, as well as motivation in conjunction with the economic, social and political processes that take place in a certain period within the country and through the strengthening of globalization processes - in general, on the scale of the global labor market. In the future, we will pay attention to key indicators that make it possible to clearly characterize the formation and effectiveness of the use of labor force before and during the active phase of the military confrontation in Ukraine.

In the formation of the labor force, the number of the economically active population plays a key role. Before presenting generalized analytical data, we briefly note that the economically active

population in Ukraine includes persons aged 15 to 70 who are engaged in economic activities that generate income, including pensioners, as well as the unemployed who are looking for work. The economically inactive population includes those groups of the population that are on the receipt of the state or individuals, in particular, we are talking about students, the unemployed who do not want to look for work and not working pensioners [5].

In accordance with the data of the State Statistics Service of Ukraine within 2019-2021. changes in the number of labor force were negative, in particular, in 2019 - 18066.0 thousand people, in 2020 - 17669.8 thousand people, in 2021 - 17405.0 thousand people. More clearly negative trends can be traced in the change in the number of employed population within 2010-2021, when at the beginning of this time period 19180.2 thousand people were employed, and at the end - only 15610 thousand people, that is, the reduction was 18.6 %, which can be characterized as an existing crisis by the time the active phase of the military aggression of the Russian Federation began. The decline in the labor force can primarily be explained by a decrease in the population. If in 1991 51,944.4 thousand people lived in Ukraine, then in 2021 their number decreased to 41,588.3 thousand people, that is, by more than 20%, and within the last decade, negative trends are intensifying (an overall reduction in 2020 was 7.6 per 100 population) both due to a higher death rate over births and an increase in the scale of labor migration, which creates conditions for moving to permanent residence in other countries, in particular the EU [6].

Comparison of the level of employment in Ukraine and EU countries indicates a somewhat different level of this indicator. For example, in 2015, the employment rate in Ukraine was 60.2%, while in the EU it was 64.6%, later in 2019 it was 62.9% and 68.4%, respectively, and in 2020, i.e. e. with COVID-19, 61.0% and 67.6%. These data allow us to state the fact of less efficient use of the labor force in Ukraine, in particular, due to the further orientation of the national economy towards raw materials, which provides for the export of mining and agricultural products with a low share of value added [7].

The formation of an excess labor force in the labor market, which is not in demand in the current conditions, entails an increase in unemployment. A high level of unemployment provokes negative

economic and social consequences due to a decrease in the price of labor, the need to search for jobs in other industries, the need to acquire new professions and improve qualifications, the emergence of psychological stress and uncertainty about the ability to meet one's own needs in the future.

Comparison of the unemployment rate in Ukraine and the EU is of interest, first of all, from the standpoint of tracking the dynamics over the past few years. If in 2015 the level of this indicator in Ukraine was 9.2%, then in the EU it was 10.2%, but gradually the situation changed in different directions, because in 2020 it was already recorded 9.6% and 7.2%, respectively, and in 2021 - 9.8% and 7.0% [8].

If the governments of the EU countries made every effort to overcome COVID-19 by supporting the able-bodied population with the subsequent rapid return to work, then in Ukraine the policy of self-survival was more likely applied. Most economic entities, lacking financial support from the state, were forced to reduce the number of jobs and reduce wages. The workers found themselves in a difficult situation due to the lack of demand in the domestic labor market and the existence of restrictions on labor migration to the EU countries, which in general had a negative impact on the quantitative and qualitative indicators of the labor force.

According to analytical data, the life expectancy of Ukrainians is lower compared to other countries. The majority of men cannot live to retirement age, which is caused by unsatisfactory conditions for the reproduction of the labor force. Thus, in 2020, the average life expectancy for men was defined as 66.39 years, while in Poland - 74.1 years and Germany - 79.0 years. Low wages hinder economic access to a balanced and high-calorie diet, poor health care does not ensure proper physical fitness, and harsh working conditions accelerate malnutrition and premature aging [9].

In the age structure of the population of Ukraine, a high proportion is occupied by older people. The largest share is occupied by people aged 40 to 49 (in 2020 - 26.4%) and from 50 to 59 (in 2020 - 22.0%) years, which indicates the aging of the population, and therefore the aggravation of the problem of reducing productivity and complication of the possibility of applying adaptation procedures within the regulation of the labor market [10].

Labor migration is the movement of the able-bodied population between national economies. In

accordance with this, it is possible to consider three parties that are participants in this process, in particular, we are talking about labor migrants, the country-importer and the country-exporter of labor. The total number of labor migrants, according to the World Migration Report 2022, in 2020 amounted to 281 million people. Ukraine is considered a labor exporting country, as it occupies the 8th place in the world ranking. By 2014, the number of employees was estimated at 2.2-2.7 million people, but after the initial first stage of the military aggression of the Russian Federation, which consisted in the seizure of Crimea and certain territories of the Donetsk and Luhansk regions, their number increased to 5.5- 6 million people [11].

Let us briefly characterize the basis of the actions of Ukrainian labor migrants through the definition of the main factors influencing their activity [12]:

- a significant difference in wages. For example, the average salary in Poland, where the largest number of Ukrainian labor migrants are located, reached 1,500 euros at the end of 2021, while in Ukraine it was only 451 euros;
- high unemployment in the importing country, as noted above.

Labor migration is caused by such circumstances in the labor importing country as: imbalance of the labor market; the need for cheap labor; the difference in wages between a resident and a labor migrant. These circumstances are typical for most EU countries that accept Ukrainian workers.

Strengthening labor migration from the exporting country, including in Ukraine, is due to high unemployment and low living standards.

Ukraine is a labor exporting country, which gives rise to both certain advantages and threats. The benefits include [13]:

- investments in the national economy, coming in the form of income transferred by labor migrants to their families. According to the National Bank of Ukraine, in 2021, 15 billion dollars came to Ukraine from Ukrainian workers. USA, which is 25.4% more compared to the same period in 2020. It is also interesting that the value of the transferred funds of employees was 17 times more than foreign direct investment and 20 times more than the amount of loan tranches received from the IMF;
- lowering the unemployment rate;
- the experience gained, which is further used for the development of the national economy.

Along with the advantages, the threats are no less significant (Table 1).

Table 1: The main threats arising from the emergence of modern trends in the development of the labor market

<i>№</i>	<i>The main threats</i>
1	labor migrants create added value outside the exporting country, that is, we are talking about the inefficient use of labor
2	transformation of temporary labor migration into moving to a permanent place of residence with the departure of all family members;
3	- exacerbation of social threats, associated with the existence of "distance families", the orphanhood of workers' children and the destruction of families;
4	deterioration of the demographic situation.

In general, labor migration allows solving problems at the level of each individual guest worker or exporting country in a tactical dimension, but in a strategic one it provokes an aggravation of a number of problems.

The specifics of the labor market of Ukraine is quite a significant proportion of informally employed persons. Thus, in accordance with the data of the State Statistics Service of Ukraine in 2020, the share of the employed population in the informal sector of the economy was 20.3%. It can be argued that against

the backdrop of the transformation of the national economy, accompanied by privatization processes and the disaggregation of large and medium-sized enterprises, the informal sector of the economy has performed and continues to perform the function of unemployment shock absorber for a certain part of the laid-off workers from the formal sector. The largest part of informally employed workers is characteristic of agriculture due to the spread of employment in private peasant farms. When characterizing the impact of informal employment on the labor force, one should take into account the specifics of the national labor market and proceed from the following points: the positive aspect is that informal employment contributed to the self-realization of the employee and the receipt of additional income, which removed some of the problems with the unsatisfactory level of wages at the main place of work; negative aspects are the violation of labor legislation, in particular in terms of non-payment of taxes, and a decrease in labor productivity at the main workplace due to secondary employment.

Military actions have a significant impact on the labor force, but due to their temporary nature, such a problem as the "labor crisis" requires special attention, which has been and will continue to be relevant to the labor market in Ukraine. First of all, we note that the "labor crisis" in economically developed countries is mostly associated with the gradual extinction of some professions due to a decrease in their relevance, in particular due to mechanization and automation, the widespread use of artificial intelligence and changes in the needs for certain goods and services. Such a crisis is accompanied by an increase in the unemployment rate, followed by the need to retrain workers. In Ukraine, the situation is significantly different, because the labor crisis is caused by the destruction of the mechanism of labor motivation, when material remuneration remains practically the only incentive, but its real level does not allow the employed person to ensure the satisfaction of priority needs. There is a wide spread of motivational passivity, when any increase in wages does not provoke an increase in interest in increasing labor productivity, because this promotion will still not allow achieving at least individual goals. The already traditional practice, when the prices of essential goods rise first with a further increase in the level of wages, but with a time

lag and by a smaller amount, reinforces passive work behavior focused on expectations, gradual adaptation and minimal changes in labor intensity.

The labor crisis is based on the disproportionate development of individual sectors of the national economy. The above can be illustrated by the data of the State Statistics Service, according to which, in 2020, most of the labor force is used in wholesale and retail trade (22.9%), as well as in agriculture, forestry and fisheries (17.1%) and industry (14%, 8%) [14].

In fact, today the national economy of Ukraine is characterized by two key parameters [15]:

- raw orientation through attempts to strengthen their positions in the world food markets;

- mass consumption of products, not their production.

These parameters have a direct impact on the workforce through the fading of interest in scientific research and gradual career growth, which requires the systematic acquisition of new knowledge. The priority is not employment in the real sector of the economy, but non-material production, including trade, which deepens technological dependence, weakens the country's competitive position in world markets and complicates the possibility of forming and developing a labor force.

After the end of military actions, the labor market should stabilize, but the "labor crisis" discussed above will not disappear, and may become even more acute, because it requires a restructuring of the state regulation system and a change in public perception in determining the level of prestige of each profession.

4. Conclusions

The formation of the labor force as a key factor in the social production of material goods requires the implementation of a targeted state policy for continuous reproduction, maintaining the required number, developing a qualification level and stimulating useful and socially important work. Statements about the formation of an innovative model of economic development in Ukraine turned out to be mostly declarative, because in reality there is a deepening of raw material orientation and a decrease in demand for intellectual work in industry. The reduction of the labor force in Ukraine is due to the demographic crisis associated with a decrease in the population and its aging, the economic crisis,

which increases the number of labor migrants, as well as the uncertainty in the development of the country, which hinders the processes of self-improvement and the desire to achieve personal interests in relation to each person. The duration of transformational processes in the national economy has formed an adaptation mechanism for a significant number of the population, which consists in the active implementation of temporary (pendulum) labor migration to financially support families remaining in places of permanent residence. The last few years, preceding COVID-19 and military aggression, were characterized by increased trends in the transformation of temporary labor migration into permanent, which created new threats to the labor market, in particular in terms of the loss of the economically active population in mature and professionally trained age. Thus, 75% of labor migrants were over 30 years old, 50% of them had a complete higher education, and 30% had a vocational education.

The military actions significantly changed the labor market in Ukraine due to the significant number of refugees and internally displaced persons; the termination of almost half of the economic entities with a ratio of the number of applicants to vacancies as 1 to 20; reduction in the level of wages by 25-50% and the spread of the practice of laying off workers; rising unemployment and a legal ban on labor migration for men. The military actions also had an impact on the EU labor market, where in previous years 5.6-6 million Ukrainians realized their labor potential as workers, because there was a displacement of 5.3 million refugees with a simultaneous mass exodus of men to protect Ukraine. The labor crisis has been and will remain one of the most difficult problems in the process of formation and use of the labor force in Ukraine, since it requires the improvement of state regulation of the labor market and the reassessment by society of the criteria for the prestige of professions.

In the future, significant losses in the labor force will hinder the post-war reconstruction of Ukraine, when, with the availability of financial resources, the necessary number of performers will not be available. EU cranes have the opportunity, through the implementation of the refugee support program, to further increase their workforce with qualified personnel who are ready to work to improve their own well-being in a safer environment.

References

- [1] Counts, G. S. Social status of occupations. *School Review*, 1925, 33, p.16-27; Deeg, M. E., and Paterson, D. G. Changes in social status of occupations. *Occupations*, 1947, 25, 205-208
- [2] Deeg, M. E., and Paterson, D. G. Changes in social status of occupations. *Occupations*, 1947, 25, 205-208
- [3] Statista. Number of civilian casualties in Ukraine during Russia's invasion verified by OHCHR as of June 22, 2022. URL : <https://www.statista.com/statistics/1293492/ukraine-war-casualties/>
- [4] International Labour Organization. The impact of the Ukraine crisis on the world of work: Initial assessments. URL : https://www.ilo.org/wcmsp5/groups/public/---europe/---ro-geneva/documents/briefingnote/wcms_844295.pdf
- [5] Eurostat. Disparities in minimum wages across the EU. URL : <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20200203-2?inheritRedirect=true&redirect=%2Feurostat%2F>
- [6] Pieńkowski J. The Impact of Labour Migration on the Ukrainian Economy. Luxembourg: Publications Office of the European Union, 2020. URL : https://ec.europa.eu/info/sites/default/files/economy-finance/dp123_en.pdf
- [7] World Migration Report 2022. <https://worldmigrationreport.iom.int/wmr-2022-interactive/>
- [8] Chmielewska I., Dobroczycki G., Puzyńkiewicz J. A new wave of Ukrainian migration to Poland. URL : <https://financialobserver.eu/poland/a-new-wave-of-ukrainian-migration-to-poland/>
- [9] Eurostat. Total unemployment rate. URL : <https://ec.europa.eu/eurostat/databrowser/view/tps00203/default/table?lang=en>
- [10] McAuliffe, M. and A. Triandafyllidou (ed.), World migration report 2022. International organization for migration (IOM), Geneva. 2022 <https://publications.iom.int/books/world-migration-report-2022>
- [11] Shtangret, A., Korogod, N., Bilous, S., Hoi, N., & Ratushniak, Y. Management of Economic

Security in the High-Tech Sector in the Context of Post-Pandemic Modernization. *Postmodern Openings*, 12(2), 2021, 535-552. <https://doi.org/10.18662/po/12.2/323>

- [12] Pylypenko, K. A., Babiy, I. V., Volkova, N. V., Feofanov, L. K., & Kashchena, N. B. Structuring economic security of the organization. *Journal of Security and Sustainability*, 9(1), 7-38. 2019. [https://doi.org/10.9770/jssi.2019.9.1\(3\)](https://doi.org/10.9770/jssi.2019.9.1(3))
- [13] Zhurakovska, I. V., Sydorenko, R. V., Shmatkovska, T. O., Brodska, I. I., 2020, Factors of influence on employment in small and medium-sized business in Ukraine. *Financial and credit activity: problems of theory and practice*. Vol. 32(1): 109-119.
- [14] Campbell, S. G., Üngör, M. "Revisiting human capital and aggregate income differences," *Economic Modelling*, Elsevier, vol. 91(C), pages 43-64. 2020 DOI: <https://doi.org/10.1016/j.econmod.2020.05.016>
- [15] Akramov, T. Foreign aid allocation, governance, and economic Growth. International Food Policy Research Institute (IFPRI), Issue briefs, 2012, 7(2), 4-12. Available at: <https://www.ifpri.org/publication/foreign-aid-allocation-governance-and-economic-growth-0>