The Influence of Large-Scale Military Conflicts on Employment and Unemployment Dynamics

Mariia Zub ¹, Svitlana Atamanska ², Vitalii Turenko ³, Liudmyla Krymchak ⁴, Petro Rebryk ⁵

¹ Department of Management and Administration, Cathedra of Finance, Accounting and Taxation, A Separate Structural Unit of the "Khmelnytskyi Trade and Economics College of the State Trade and Economics University", Khmelnytskyi, Ukraine.

² Department of Information, Library, Archival Affairs and Socio-Political and Humanitarian Disciplines, Faculty of Law, European University, Kyiv, Ukraine.

³ Philosophy of Humanitarian Department, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine.

⁴ Department of Social Work, Faculty of Medicine Diagnostic and Rehabilitation Technologies,

Oles Honchar Dnipro National University, Dnipro, Ukraine.

⁵ Interregional Academy of Personnel Management, Kyiv, Ukraine.

¹ Corresponding author: 545mystery@gmail.com

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Abstract: The importance of this topic stems from the recognition that military conflicts represent intricate socio-economic phenomena with profound effects on the employment landscape. Gaining insight into how military conflicts influence the labor market is vital for crafting successful socioeconomic recovery plans and aiding communities amidst such turmoil. This research seeks to explore the connections between military conflicts and the labor market, while evaluating their repercussions on the socio-economic conditions of affected populations. The focus of the investigation is the influence of military conflict on employment dynamics. In other words, the study concentrates on scrutinizing and interpreting how warfare and related events shape job availability and unemployment rates. The analysis relies on statistical data, enabling the formulation of impartial conclusions regarding the labor market fallout from military conflicts. The methodology includes a comparative approach—examining the labor market prior to and following military conflict—and employs economic modeling to predict potential outcomes and devise socio-economic recovery approaches. Findings indicate that military conflicts markedly alter employment and unemployment patterns, potentially worsening socio-economic challenges within conflict zones. Comprehending these dynamics is crucial for formulating robust socio-economic recovery strategies during wartime conditions. The practical value of this study lies in its relevance to shaping policies for employment and socio-economic progress under conflict circumstances. The outcomes of this research offer valuable insights for governmental bodies, international entities, and civic organizations engaged in social welfare and labor market enhancement efforts in conflict-affected settings.

Keywords: employment rate, impact of war, labour market, military conflict, military operations, recovery strategies, recommendations and strategies, unemployment.

Introduction

Ilitary conflicts traditionally seriously impact the socio-economic situation of the countries that experience them. One of the main aspects worth investigating is the impact of such conflicts on the labour market, mainly changes in employment and unemployment levels. This study aims to analyse this impact to understand its mechanisms and potential consequences.

Countries at war face more severe problems than poverty, budget deficits, or slow socio-economic development. These problems are associated with the weakness of state institutions, the destruction of physical, human, and social capital, the distortion of economic incentives, and the spread of mass poverty and unemployment. The ability of the state to ensure security, including economic security, by using the principles of the rule of law and a network of social services is crucial.

The Russian invasion of Ukraine has not only precipitated a deterioration in the country's economic situation but also initiated a radical transformation in the structure of demand and supply within the labour force. The impact of military conflicts has increased labour needs in specific industrial sectors, particularly in infrastructure, the military-industrial complex, and medical assistance. Concurrently, other sectors, such as tourism and retail, have experienced a reduction in labour demand due to a decline in both domestic and external demand for their services. These dynamic changes in employment structure reflect the complex economic consequences of military actions and the necessity for additional labour market regulation strategies.

Literature review

The martial law conditions we observe in Ukraine led to a significant decrease in economic activity, the withdrawal of investments and labour resources, and increased risks for workers and enterprises. It results in a decrease in labour demand and a reduction in jobs. Additionally, due to significant migration processes, people leaving dangerous areas and gathering in safer zones create additional pressure on the labour market in specific regions and industries. Therefore, this study is critical for understanding the impact of martial law on Ukraine's labour market. Numerous scientists are engaged in research on the labour market in Ukraine, and we will consider the works of some of them.

Blyzniuk and Yatsenko [1] investigated the identification of critical threats to social security in the Ukrainian labour market caused by the war of the Russian Federation against Ukraine and substantiated prospects for their neutralisation. The analysis of trends revealed threats to the labour market caused by military actions on the territory of Ukraine, in particular, increased tension in the labour market due to hostilities, leading to a reduction in human potential, which became the most noticeable consequence of the occupation of Crimea and parts of Donbas during the Russian aggression [2].

Serohina [3] studied the impact of military actions on productive employment in Ukraine. She concluded that all the problems that arose in this area due to military actions led to a decrease in the quality of the workforce, increased economic pressure on the population, and reduced budget revenues. Given the situation in the labour market during the war and the need for its recovery, it is essential to identify the main threats affecting all processes related to the workforce. It is necessary to consider the problems that arose before the war and those that appeared during the conflict. It is crucial to support Serohina's view on the need to develop a set of measures for the economic recovery of Ukraine.

Khandii and Shestopalov [4] analysed the unemployment rate both before the war and during military actions. In their work, special attention was paid to the impact of the war on entrepreneurial activity and employment of the population in Ukraine. They studied the dynamics of employment by region and changes in wage levels. Given the significant level of human and material losses caused by the war, they emphasised the importance of ensuring security, eliminating negative consequences, and the recovery process.

In their work, the authors pointed to the necessity of planning and developing recovery strategies at both national and regional levels. They emphasised that this is a long-term process that requires active participation from all segments of society and government bodies, local self-government, and the development of measures to achieve the previous level of the country's economic condition and address social and economic issues, including overcoming high unemployment.

Their work also considered strategic measures aimed at business relocation and support for the unemployed and the able-bodied population to curb further unemployment growth. The authors also proposed measures to increase employment levels and promote entrepreneurship development.

The impact of the war on the labour market in Ukraine is examined in detail. The author analysed the labour market before the conflict and compared it with the current state, focusing on assessing structural changes, employment and unemployment levels, and the impact on population income. The work paid great attention to the employment and social protection peculiarities of veterans, internally displaced persons, and minorities.

The analysis of the labour market in Ukraine during the war indicates complex and large-scale problems. The military conflict leads to a significant reduction in employment and an increase in unemployment, which negatively affects population income, unemployment growth, and economic stability. Many enterprises halt or limit their activities. Some sectors of the economy become unattractive or non-viable due to infrastructure and production destruction, leading to job losses [5]. Military actions and conflict have caused severe disruptions in the labour market, leading to high unemployment rates, significant job losses, and a slowdown in economic activity [6]. However, the migration process affects the overall unemployment dynamics, as part of the population is forced to seek work abroad, alleviating

pressure on the domestic labour market. These factors, particularly migration and mobility, play an essential role in enhancing the impact of conflicts on labour markets [7]. Labour emigration helps maintain employment opportunities for those who remain in the country and ensures a certain employment balance [8]. The mobilisation of state resources, including retraining and labour distribution, also reduces unemployment and ensures specific stability in the labour market [9, 10].

A detailed analysis of the impact of the war on the labour market is currently impossible. During martial law, the State Statistics Service of Ukraine could not collect and analyse specific data, including the dynamics of labour resources, so statistical information from the State Employment Service of Ukraine and information from job search websites were used for the analysis. Petrenko et al. [9] believe the labour market needs restoration and reform, and new vacancies and professions will emerge after the war. Employers should expect that many veterans will be looking for jobs after the war, so the state must create appropriate conditions for job searching and employment.

In her work, Novak [11] successfully analysed state policy tools to support employment under martial law and proposed valuable suggestions for further improvement. This aspect of the study is very relevant in the context of the military conflict, as ensuring stability in the labour market is one of the essential tasks for ensuring the country's social and economic development.

A comparative analysis of the labour market under the influence of the military conflict and the COVID-19 pandemic reflects significant similarities in their economic consequences, particularly the reduction in the number of jobs and total working hours. It prompts a more thorough analysis and the development of effective strategies to overcome the consequences of both crises to stabilise the labour market and support the population (Figure 1).

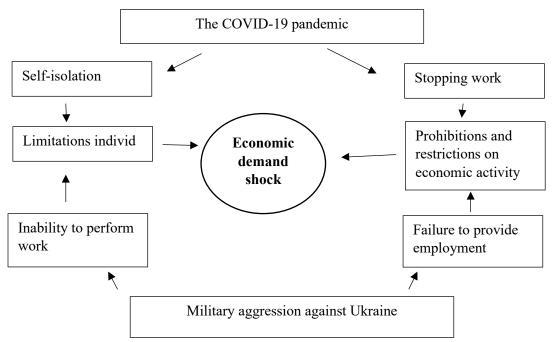


Figure 1. Shaping the Economic Shock of Demand in the Labour Market Source: compiled by the author based on data from [11]

Ensuring the effective use of partial unemployment support programs to compensate for the consequences of the temporary suspension of employment contracts during the military conflict requires a focus on developing and implementing unique national strategies to support enterprises, preserve jobs, and ensure employment stability to prevent the growth of hidden unemployment [12]. To achieve this goal, it is necessary to expand the arsenal of state support tools for enterprises and employment protection in conflict conditions, including developing and implementing new job preservation strategies.

In their study, Pankova and Kasperovych [13] analysed the current state and revealed the dynamics of changes in the domestic labour market during the full-scale invasion. They also developed strategies to stabilise the situation and restore the labour sector and national economy, which serves as the basis for the post-war revival of Ukraine. Their analysis resulted in recommendations for the necessary legislative measures to ensure balanced, sustainable, and, at the same time, rapid development of the labour sector and national economy in the context of post-war recovery.

One of the main priorities for post-war Ukraine is restoring human potential in terms of quantitative (population) and qualitative (development of human capital) indicators. In addition, the state and businesses will need to ensure employment for those returning from abroad and for demobilised soldiers, including persons with disabilities or partial loss of work capacity [14].

Consequently, an analysis of the research above leads to the conclusion that several measures should be implemented in order to ensure the stable development of the labour market during a military conflict:

- 1. Provide opportunities for self-employment for non-disabled persons, which will help relieve the social and economic sectors.
- 2. Promote and raise the prestige of craft professions and working specialities.
- 3. Develop and improve the state support system for producing high-tech and agricultural products.
- 4. Create programmes for retraining and advanced training, support for youth self-employment and focus on dual education opportunities.
- 5. Pay attention to rural areas to create favourable conditions for economic activity, increase the number of jobs and develop programmes to promote employment in these areas.
- 6. Develop strategies aimed at improving the investment climate and combating illegal processes in the economy in general and the labour market in particular.

Consequently, great attention is paid to various important aspects related to labour market issues in wartime conditions, such as legislative support for the labour sector [15], determining the priorities of regulatory policy in the context of digitalisation and military conflict [16], as well as other aspects, the number of studies on which is constantly growing. A significant contribution to these studies is the participation of leading scientific and analytical centres in Ukraine, such as the National Institute for Strategic Studies and the Razumkov Centre [17, 18, 19].

Methods

The research will use quantitative and qualitative analysis methods. Quantitative analysis evaluates statistical data on changes in employment and unemployment levels during military conflicts. Qualitative analysis will include studying the impact of military actions on specific sectors of the economy and the labour market.

Results

The military conflict is expected to change the labour market significantly. In particular, possible changes in the employment structure, the magnitude of unemployment, and the increase or decrease in labour demand in specific sectors of the economy. The study's results will help better understand these changes and develop strategies for socioeconomic recovery after the military conflict. The impact of the military conflict on the labour market is a complex and multifaceted phenomenon that requires careful analysis. This study aims to help understand this impact and develop effective strategies for restoring socio-economic stability after the war.

To achieve the goal of post-war recovery in Ukraine, it is essential to include the implementation of the following tasks in the primary documents, which are specific and necessary to ensure balanced, sustainable, and rapid development of the labour market and the national economy:

- 1. Establish and implement mechanisms for continuously monitoring the labour market to identify current and anticipated labour supply and demand, considering various aspects such as demographic changes, internal migration, living conditions, and projected labour needs.
- 2. Expand employment stimulus programmes that will contribute to the long-term recovery based on global social and economic development trends and Ukraine's existing capacity to participate in them.
- 3. Maximise digitalisation opportunities to restore human potential and engage it in post-war recovery processes, including ensuring transparency, awareness, and the fight against corruption.

- 4. Develop special programmes for veterans, addressing their psychological and professional rehabilitation needs.
- 5. Ensure the population is retrained, considering the economy's needs.
- 6. Introduce tax breaks and incentives for companies using digital technologies.

Given the diversity of armed conflicts worldwide, it is impossible to develop unified labour standards that could be applied, for example, at the international level. It demonstrates the priority of national legislation in adapting the regulation of labour relations to wartime conditions.

Implementing these measures will contribute to stabilising the labour market and the economic recovery of Ukraine after the military conflict.

In this respect, based on the Ukrainian experience, it should be recognised that:

- a) armed conflict is dynamic; therefore, it may go through different stages of development, which may also affect the world of work, and labour legislation may need to be systematically reviewed to reflect new realities;
- b) given that the territory of a country may suffer unequally from the effects of armed conflict, it may be appropriate in some cases to provide different legal regulation of labour relations for different regions of the country;
- c) armed conflict should never be considered a 'justified reason' for unreasonable and prolonged restriction of workers' rights, as it is a period when they become more vulnerable and, therefore, require additional legal protection [20].

The research results, based on a thorough analysis of statistical data and studies conducted in Ukraine, provide an objective picture of the impact of martial law on labour processes. The research also indicates changes in the structure of the workforce, where martial law leads to the reorientation of the economy and a shift in the distribution of workers across industries and professions. It creates additional pressure on the labour market in certain regions [21]. Wage analysis reflects the complex economic situation resulting from martial law. It leads to a decrease in the actual value of labour and a deterioration in workers' social conditions. However, due to high levels of migration and mobilisation, unemployment has somewhat decreased and stabilised.

The analysis of the regulation of labour relations during the armed conflict in Ukraine leads to the following conclusions.

There is no single approach to regulating labour relations during armed conflicts. Such conflicts are always unique, differing in scale, intensity, duration, the technical capabilities of the participants, and the weapons used. In most cases, however, armed conflicts are no longer as extensive and all-encompassing as in the First and Second World Wars but have a hybrid nature. For example, in Ukraine, as of early autumn 2023, active hostilities are taking place in only 6 of the country's 27 regions. Unfortunately, this does not mean that the rest of the country lives an everyday life. Since missile strikes continue across Ukraine, there is no place where a person feels safe. However, it is worth noting that the intensity of airstrikes varies depending on the region. For example, while the number of air raid alarms between 22 February 2022 and 12 May 2024 was 4,376 in the Donetsk region, in the Lviv region, it was only 525 times (see Figure 2).

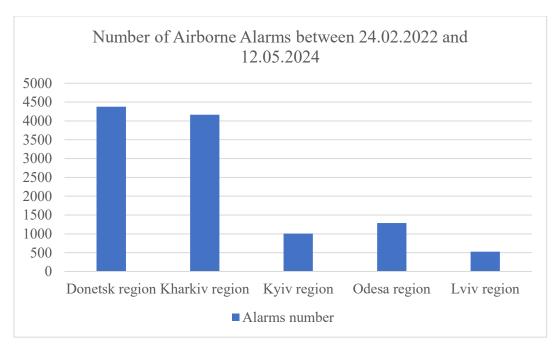


Figure 2. Statistics on the Number of Airborne Alarms between 24.02.2022 and 12.05.2024 Source: compiled by the author based on data from [22]

The initial shock in February-March 2022 led to a significant drop in employment. Survey data from early March show that 75 per cent of small businesses ceased operations. Public transport in most cities temporarily stopped functioning, and there was a mass exodus of people from affected areas. The result was not so much an increase in unemployment but a record reduction in the workforce. Most people who lost their jobs could not (e.g., due to the suspension of public transport) or did not want to (mainly for safety reasons) look for new jobs. However, by April 2022, the economy began to recover from the initial shock (see Figure 3).

It should be noted that before the full-scale invasion in February 2022, the State Statistics Service of Ukraine conducted a monthly labour force survey with a sample of over 15,000 households to collect (among other things) data on the labour force. Unfortunately, this activity ceased in 2022, so we do not have official data on the state of the labour force. Therefore, some indirect measures are used, but their size, scale, and frequency are much less comprehensive.

According to statistical data, the unemployment rate in Ukraine has noticeably increased as a result of the war (see Figure 4). It seriously affects the living standards of the population and poses a threat to social stability.

In such uncertain conditions, the state's essential task is developing and implementing effective labour market policies during the war. It includes creating new jobs, supporting workers who have lost employment opportunities, and ensuring social protection and reintegration for affected population groups (State Statistics Service of Ukraine).

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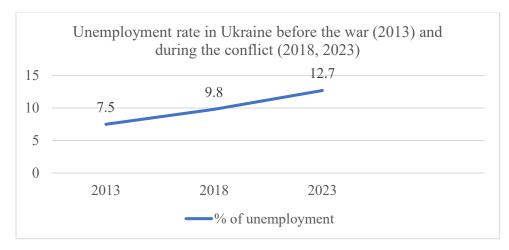


Figure 3. Unemployment Rate in Ukraine before the war (2013) and during the Conflict Source: compiled by the author based on data from [23]

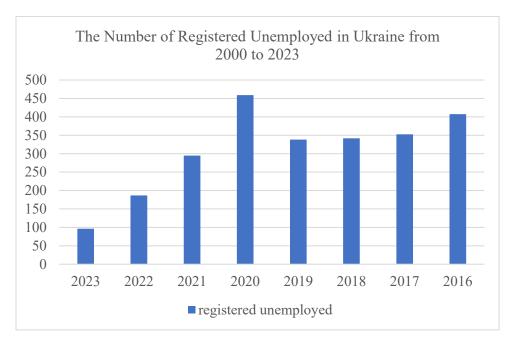


Figure 4. Number of Registered Unemployed in Ukraine from 2000 to 2023 Source: compiled by the author based on data from [24]

According to official data of the State Statistics Service of Ukraine [23], the number of registered unemployed was 295 thousand at the end of 2021, and the number of unemployed persons was 1709.5 thousand, with an unemployment rate of 10.3%. According to the National Bank of Ukraine [25], the average unemployment rate for 2022 was 25.8%, an increase of 15.5% compared to the previous year. This could lead to an increase in the number of unemployed people in Ukraine to 3 million.

According to the Ministry of Finance [24], the number of registered unemployed significantly decreased in 2023, especially compared to 2020, when it was the highest (see Table 1). There are several possible reasons why the number of registered unemployed in Ukraine in 2023 may be lower than in 2020: first, economic activity; in 2020, due to the COVID-19 pandemic, restrictive measures were introduced, such as lockdowns and quarantines. It led to an increase

in unemployment. However, in 2023, with the economy's gradual recovery after the crisis, the unemployment rate may decrease. Second, migration processes, where some of the unemployed may go abroad in search of work, may also reduce the number of registered unemployed in Ukraine. As of early November 2023, the number of registered unemployed was 97.3 thousand [25].

Table 1. Number of Unemployed Registered by Region

Region	Number of registered unemployed
Zaporizhzhia	9 thousand
Dnipropetrovsk	7 thousand
Kharkiv	6.7 thousand
Sumy	6.4 thousand
Chernivtsi	1.2 thousand
Zakarpattia	1.5 thousand
Ternopil	1.8 thousand

Source: compiled by the author based on data from the [25]

Therefore, the unemployment rate is highest in the regions closest to the combat zones. According to the National Bank, the number of registered unemployed in Ukraine significantly decreased throughout the year: as of October 2022, there were 239.1 thousand unemployed.

According to the Ministry of Economy and the National Bank of Ukraine, the unemployment rate will continue to decrease. According to the State Employment Service, as of the end of February 2023, 150 thousand people in Ukraine were unemployed (see Figure 5).

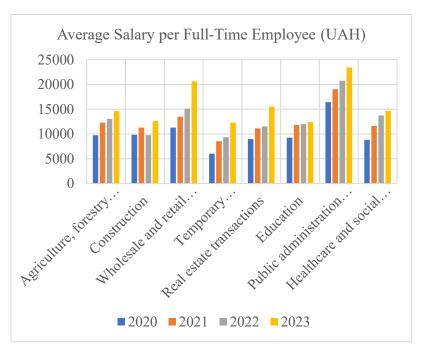


Figure 5. Average Salary per Full-Time Employee (UAH) by Type of Economic Activity in 2020–2023 Source: compiled by the author based on data from [25]

Due to martial law, the State Statistics Service of Ukraine cannot obtain and analyse specific data, including information about labour resources. Therefore, statistical information from the State Employment Service of Ukraine and information from job search websites were used for the analysis. It was noted that the labour market needs restoration and reform, and new vacancies and professions may emerge after the war ends. Employers should be prepared because many veterans will be looking for jobs after the war, so the state must create appropriate job searching and employment conditions.

Discussion

In Ukraine, most laws aimed at aligning the regulation of labour relations during armed conflict were developed in the first months after the conflict began. Since then, although the conflict has continued for 27 months, significant amendments to labour legislation during wartime have not been made. Against the backdrop of constant dynamics in labour legislation reform in Ukraine, this seems quite extraordinary. In this case, given the uncertainty of the end of the armed conflict, it would be more beneficial for the legislative body to focus on improving the regulation of labour relations in light of the current situation rather than attempting to improve labour legislation in the long term.

Employment and unemployment are studied at theoretical and practical levels due to their importance for analysing the economic situation. For example, the study by Pihul [26] examines the main factors affecting the labour market and analyses statistical data on employment and unemployment. The work by Tyshchenko et al. [27] considers the prerequisites and causes of external labour migration as a phenomenon characteristic of the domestic labour market. In his work, Kovach [28] analyses the features of the Ukrainian labour market and develops proposals for its active regulation.

One cannot agree with the definition by Havrylenko et al. [29] states that internal migrants pressure the labour market. They argue that the employment structure was geared towards industrial production in the eastern regions, unlike the western and central regions, where migrants primarily move. It leads to an imbalance between labour supply and demand, even considering the relocation of enterprises. As a result, the number of applicants per vacancy increases.

Internal migrants can also create new opportunities for developing the labour market in the regions to which they move. For instance, when they relocate, they can bring new skills, work experience, and innovative ideas that contribute to the development of local businesses and industries. In addition, the increase in the labour force can stimulate businesses to increase production and expand their operations. It is also essential to consider that internal migrants can help alleviate labour shortages in specific sectors with a noticeable lack of skilled workers. It can enhance the competitiveness of businesses and promote overall economic growth.

Therefore, although internal migrants may pressure the labour market in certain regions, they can also positively impact economic development and the labour market by bringing new opportunities and resources.

The impact of the war on the labour market in Ukraine has been highly significant, mainly due to the increase in unemployment. The conflict has led to the loss of many jobs as businesses have been destroyed or forced to cease operations. Ukraine has faced several complex challenges that significantly affect the labour market. High unemployment rates generate economic and social problems, such as declining living standards and increased social tension. To overcome these problems, comprehensive measures are needed for economic development, job creation, and business support [30]. One possible solution is the implementation of support programmes and incentives for digital entrepreneurship and self-employment. It can reduce unemployment and stimulate innovation and the development of modern technologies, positively affecting economic development and increasing the country's competitiveness [31].

It is worth agreeing with the view that the mismatch between supply and demand in the labour market is one of the critical causes of unemployment in both peacetime and wartime. This problem arises when the number of people seeking employment (labour supply) exceeds the number of available jobs (labour demand).

Job losses also have another negative effect – the retraining of workers. Many people who have lost their jobs due to the war are forced to seek new earning opportunities and acquire new skills to adapt to the changed circumstances. Interestingly, despite the lack of timely improvements in labour relations legislation during martial law, labour law reforms in Ukraine are in full swing. For instance, the Verkhovna Rada of Ukraine adopted a new Law on Collective Agreements at the beginning of 2023, and a new Law on Collective Labour Disputes is being finalised. The same can be said about the reform of the legal regulation of individual labour relations. In the autumn of 2022, the Ministry of Economy of Ukraine developed a draft Labour Law to replace the existing Labour Code of Ukraine. At the beginning

of 2023, the International Labour Organisation, responding to a request from the Ministry, developed detailed technical comments to facilitate national development. In late autumn of 2023, a working group of representatives from the Ministry and academics was created to transform this draft Labour Law into a full-fledged Labour Code of Ukraine project [32].

Studies have shown that armed conflict can lead to long-term negative consequences for employment, unemployment, and overall economic growth. The studies also highlight the importance of post-conflict reconstruction efforts to restore the labour market and create new jobs. From the above analysis of the regulation of labour relations during the armed conflict in Ukraine, the following conclusions can be drawn:

Due to the unique nature of each conflict, there are many approaches to regulating labour relations during armed conflicts. Modern armed conflicts are hybrid, varying intensities and spread across the country. Ukraine is carrying out labour law reforms, but it is essential to review the legislation to match the actual wartime conditions systematically. It is necessary to provide additional legal protection for workers during armed conflict and avoid unjustified rights restrictions.

Conclusion

The impact of armed conflict on the labour market can significantly affect employment and unemployment levels. Businesses may close or reduce their operations during a conflict, leading to job losses and increased unemployment. Population displacement, infrastructure destruction, and supply chain disruptions can also affect changes in the labour market.

Therefore, in the context of the Ukrainian experience, it is essential to understand the dynamics of armed conflicts, adapt legislation to modern realities, and ensure additional protection of workers' rights during martial law. As a result of the research, ways to improve employment levels and reduce unemployment in Ukraine during the war have been identified:

- a) Development of small and medium-sized enterprises: Supporting and stimulating the development of small and medium-sized enterprises can create new jobs and reduce unemployment. It can be done by providing entrepreneurs with financial support, advice and training.
- b) Retraining and skills development programmes: Introducing retraining and skills development programmes can help people find new jobs in sectors that have shown resilience during the war.
- c) Infrastructure and tourism development: Investing in infrastructure and tourism development can help create new jobs in the service sector and support the economy of war-affected regions.
- d) Establishing support programmes for the military and veterans: Providing support and opportunities for military personnel and veterans to find employment and entrepreneurship can help them successfully integrate into civilian life.
- e) Development of social programmes: Social programmes must be developed to support people who lost their jobs due to the war, providing them with assistance and support to quickly return to the labour market [33, 34].

These measures can improve employment levels and reduce Ukraine's unemployment during the war. By analysing information on the shutdown of small businesses, interruptions in public transport, and the exodus of people from affected areas, one can see how the war has led to a sharp deterioration in the labour market situation. The loss of jobs and the need for worker retraining also significantly impact the labour market. Creating new jobs, supporting the unemployed, and reintegrating affected population groups are essential tasks for the state. Analysis of statistical data on the unemployment rate and the number of registered unemployed in Ukraine shows the severe impact of the war on the labour market. It is paramount not only to respond to the current situation but also to develop long-term strategies for economic recovery and ensure sustainable employment growth. It is also necessary to improve the support system for the unemployed, providing them opportunities to acquire new skills and retraining so they can successfully reintegrate into the labour market during post-crisis recovery.

Furthermore, it is crucial to consider migration processes and their impact on the labour market. Given that some unemployed individuals may seek work abroad, it is necessary to consider opportunities for retaining and attracting qualified personnel to Ukraine.

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