UNEMPLOYMENT IN UKRAINE'S ECONOMY: COVID-19, WAR AND DIGITALIZATION[1]

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The article examines unemployment trends in Ukraine in the long and medium term, taking into account the impact of pandemic COVID-19 in 2020–2021, the Ukrainian-Russian war in 2022, the factors of the domestic labor market in 2002–2019, as well as the prospects for post-war reconstruction and digitalization of the country's economy. Using methods of correlation and regression analysis, the authors identified factors of long-term influence on unemployment in the pre-pandemic period. These include the inflation index, the number of university graduates, the number of arrivals and departures, the average annual minimum wage, and the number of economically active population. The resulting model substantiates that an increase in the inflation index, the number of arrivals to Ukraine, and the minimum wage reduces the level of unemployment in the country. On the other hand, an increase in the number of graduates and departures increases unemployment. The influence of the number of economically active population on this indicator is controversial and requires further research. Based on the identified factors, measures to reduce unemployment in Ukraine are proposed. Having assessed the impact of lockouts caused by the COVID-19 pandemic on employment, the dynamics of the unemployment rate in 2020–2021 was analyzed. It was substantiated that mass vaccination of Ukrainians against coronavirus disease and further reduction of COVID-19 incidence would help stabilize the labor market situation. However, in 2022 the invasion of the Russian Federation radically changed the government's priorities in the fight against unemployment. Therefore, this article analyzes current economic policies to stimulate employment and business recovery in Ukraine, as well as the potential macroeconomic consequences of military action. The COVID-19 pandemic and the war are identified as black swans that led to unpredictable changes in the labor market and accelerated the digitalization of the domestic economy. It is argued that the latter (in the sense of the development of artificial intelligence and quantum computers) will become another black swan in the long-term postwar period. On this basis, the main trends that will influence the Ukrainian labor market in the future (technological transformations, changes in economic and social models, increasing globalization, environmental changes) and the corresponding directions of digital transformations are analyzed.

Keywords: COVID-19 pandemic, digitalization, factor, labor market, population, Ukraine, Ukrainian-Russian war, unemployment.

JEL Classification: H56, I18, J64, O33

Introduction. Unemployment is one of the most significant problems of the modern economy. Its growth causes significant negative social, economic and political changes. The impact of unemployment on social life is detrimental. Scientists have found a correlation between the growth of suicide, crime, mental illness and high unemployment [1]. In addition, the reduction in employment reduces the previously achieved standard of living.

In 2020–2021, the COVID-19 pandemic was a crash test for global and national economies, especially employment. A series of lockdowns swept through many countries around the world to prevent an increase in the incidence of disease and the collapse of national health systems. At the same time, they led to business closures and the loss of millions of jobs.

For Ukraine, the decline in employment has caused serious economic and social damage. Given the potential changes in the structure of the domestic economy due to the COVID-19 pandemic, the government should have supported industries that create decent and productive jobs. However, the Russian Federation's full-scale military invasion of Ukraine on February 24, 2022, divided the lives of Ukrainians into "before" and "after" and significantly changed labor priorities. Due to active hostilities and the COVID-19 pandemic, millions of civilians lost their jobs and were forced to move to safer western regions of Ukraine or abroad. Unless the government forms a coherent government policy to address the labor crisis, the massive number of unemployed could make it difficult to stabilize the economy even after the war.

Analysis of the recent literature. Unemployment accompanies every economic system, so many scholars have addressed the issue. Among foreign researchers, we should mention the works of A. Okun and A. Phillips [1], H. Axelrad, M. Malul, I. Luski [2], D. Bell, D. Blanchflower [3], etc. Ukrainian scientists, such as V. Karyuk, G. Bilokur [4],

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V. Beztelesna, G. Yurchyk [5], S. Shumska [6], K. Tarasova [7], and others studied this topic too. Despite the thorough analysis of the state, laws and causes of unemployment carried out by many Ukrainian and foreign scientists, the issue of overcoming it in Ukraine under the current martial law and the COVID-19 pandemic is relevant and requires further research.

Thus, **the article aims** to identify and quantify the factors influencing the long-term unemployment in Ukraine, as well as to analyze current trends and prospects for the domestic labor market development during and after hostilities.

The *objectives of the article* are as follows:

– to identify factors influencing the unemployment level in the domestic economy in the long run;

– to analyze changes in the unemployment rate of Ukraine's population before and after the COVID-19 pandemic beginning;

– to assess trends in the labor market and unemployment in Ukraine during and after hostilities, considering the transition to a digital economy.

Research methods. The methodological basis of the study includes a systematic approach combined with a comparative method and analysis of statistical data. These methods make it possible to assess changes in the level of unemployment before and after the COVID-19 pandemic, as well as recent trends in the development of the Ukrainian labor market in connection with the current war and the transition to a digital economy. Correlation and regression analysis is used to identify long-term factors influencing the level of unemployment in Ukraine.

Research results. Unemployment is one of the key indicators for measuring efficiency and identifying trends in the functioning and development of labor and market relations in the economy of the country. Until recently, the leading causes of unemployment in Ukraine were economic instability, the global economic crisis, underdeveloped market infrastructure, migration, and imbalances in the regional distribution of the population. At the same time, Russia's invasion of the country prompted a change in trends in the domestic labor market, as the enemy's deliberate destruction of civilian infrastructure and killing of civilians called into question the physical existence of both businesses and their employees. However, even in a state of war, the government is trying to rebuild the economy by encouraging employers to work in unoccupied territories with economic leverage. Let us examine changes in unemployment in Ukraine in recent years and the prospects for the functioning of the domestic labor market during and after hostilities.

Given the transformational changes in employment over the past decades, it is advisable to clarify the long-term drivers of unemployment in Ukraine. That is why we conducted a study to reveal the impact of various factors on the unemployment rate (performance indicator Y) by estimating the parameters of multiple regression with the least-squares method. The factor indicators were chosen based on a literature review (in particular, [5; 6;

7; 8]) and available statistical data [9; 10; 11; 12; 13]. Factors included six independent variables: inflation index (x_1), number of graduates (x_2) (including colleges, technical schools, and universities), number of arrivals and departures (x_3 and x_4), average annual minimum wage (x_5), and number of the economically active population (x_6). Because we studied long-term labor market trends and unemployment from 2002 to the present, the years 2020–2021 were excluded from consideration This is due to the fact that in 2020–2021 there were abnormal deviations in the performance indicator Y caused by the COVID-19 pandemic impact. The first months of 2022 were also excluded for the same reason and because of the lack of reliable statistics during the war. The authors used quarterly data to study the impact of the COVID-19 pandemic in 2020–2021.

Table 1 shows the initial data for calculating the regression. It demonstrates that from 2002 to 2019, the inflation index growth ranged from -0.06 in 2002 to +43.3 percentage points in 2015; the number of graduates and the economically active population decreased by 25.1% and 15.9%, respectively; the number of arrivals in the country increased by 6% and the number of departures decreased by 64.9%, and the average annual minimum wage increased by almost 28 times.

Using MS Excel «Data Analysis» package to calculate the regression parameters, the authors formed the following model:

$$Y = 0.38633704 - 0.00044087x_1 + 0.00006863x_2 - 0.00000009x_3 + 0.00000039x_4 - 0.00000759x_5 - 0.00001453x_6.$$

The coefficient of determination R2 is 0,6152. The closer it is to 1, the closer the relationship between the efficiency index and the factors. Thus, the conclusion is that the selected factors explain the changes in the efficiency indicator by 61.52%, and the rest (38.48%) are characterized by the influence of other factors, not included in the model.

According to the regression, a 1%-increase in the inflation index reduces the unemployment rate in Ukraine by 0.00044087%. It confirms Phillips' law on the relationship between unemployment and inflation [14]. If the number of graduates rises by 1,000 people, the unemployment rate increases by 0.00006863%, as supply in the labor market grows with unchanged demand. It means that some graduates join the unemployed, while others are employed immediately after graduation. Increment in the number of arrivals to Ukraine by 1,000 people reduces the performance indicator by 0.00009%. This is due to the fact that a significant portion of new arrivals are tourists, which contributes to the creation of new jobs to serve them. Therefore, an increase in the number of departures per 1,000 people, including tourists, increases the unemployment rate by 0.00039%. If the minimum wage in Ukraine increases by 1 UAH, the efficiency rate decreases by 0.00000759%, as jobs with the minimum wage become more attractive to the unemployed.

Table 1 – Initial data for regression estimation

Year	Inflation index (%) x_1	Number of graduates (thousand people) x_2	Number of arrivals (people) x_3	Number of departures (people) x_4	Average annual minimum wage (UAH) x_5	Number of the economically active population (thousand people) x_6	Unemployment rate (%) Y
2002	99.4	512.2	42473	76264	152.5	20669.5	10.30
2003	108.2	579.4	39489	63699	185.0	20618.1	9.70
2004	112.3	464.4	38567	46182	221.0	20582.5	9.20
2005	110.3	515.1	39580	34997	298.5	20481.7	7.80
2006	111.6	551.5	44227	29982	362.5	20545.9	7.40
2007	116.6	602.7	46507	29669	430.0	20606.2	6.90
2008	122.3	623.3	37323	22402	528.3	20675.7	6.90
2009	112.3	642.1	32917	19470	650.8	20321.6	9.60
2010	109.1	654.7	30810	14677	894.0	20220.7	8.80
2011	104.6	626.5	31684	14588	972.5	20247.9	8.60
2012	99.8	612.9	76361	14517	1104.2	20393.5	8.10
2013	100.5	576.3	54100	22187	1182.5	20478.2	7.70
2014	124.9	484.5	42698	21599	1218,0	19035.2	9.70
2015	143.3	447.4	30659	21409	1298.0	17396	9.50
2016	112.4	386.7	14311	6465	1476.0	17303,6	9.70
2017	113.7	421.1	28360	20234	3200.0	17193.2	9.90
2018	109.8	412.9	39307	24252	3723.0	17296.2	9.10
2019	104.1	383.8	45011	26789	4173.0	17381.8	8.60

Source: developed by the authors on the basis of [10; 11; 12; 13; 14]

According to the model, the unemployment rate decreases by 0.00001453% if the number of economically active population per 1,000 people increases. This result does not seem logical, since the labor supply increases as the share of the economically active population increases. This paradox can be partially explained by the growing number of private entrepreneurs, who create new jobs, thus contributing to the reduction of unemployment. However, the effect of this factor on unemployment is controversial and requires further research regarding other factors.

Taking into account the results of modeling, in the long run, other things being equal, to reduce unemployment in Ukraine it is advisable to implement the following measures: (1) develop the tourism industry to stimulate the creation of new jobs, (2) stabilize the economic situation in terms of controlling inflation and raising the minimum wage, (3) monitor changes in demand for labor in the market and adjust labor supply to this demand, etc. At the same time, the COVID-19 pandemic in 2020–2021 and the Ukrainian-Russian war in 2022 have significantly corrected national unemployment trends.

To determine the impact of coronavirus disease, the authors analyzed quarterly changes in the unemployment rate in Ukraine in 2017–2021, that is, before and after the start of the pandemic (Figure 1). Figure 1 shows the seasonal fluctuations of the performance indicator, which fall in the first quarter of each year. The unemployment rate decreased from the first to the third quarter of 2017, but increased from the third to the first quarter of the following year. This trend persisted until the second quarter of 2020 and can be explained by the peculiarities of the spread of the COVID-19 pandemic in Ukraine. The first case of infection in the country was recorded in March 2020. Subsequently, the Cabinet of Ministers imposed a state of emergency throughout the country with heavy quarantine restrictions, which significantly affected the labor market [15]. In the first quarter of 2021, this phenomenon was complicated by the peak of the COVID-19 pandemic and the introduction of another quarantine in Ukraine.

In recent years, the unemployment rate in the country of 10–11% posed a serious economic and social threat, although in 2021 this figure was gradually decreasing due to the development of new types of business and forms of employment, especially distant employment. Mass vaccination of Ukrainians against coronavirus disease and further decrease of COVID-19 incidence would help to stabilize the situation in the labor market. However, the beginning of 2022 radically changed the life of the country. A full-scale war made it impossible to make any forecasts and government strategies to combat unemployment, questioning the very existence of the national economy.

It is worth mentioning the black swan theory in modern realities. Its author is an American mathematician Nassim Nicholas Taleb, who studies the problems of chance and probability. In his book «The Black Swan: The Impact of the Highly Improbable», he considers events such as the black swan, i.e., unpredictable events that have a significant impact on the world [15]. According to his theory, first, the COVID-19 pandemic and later the Ukrainian-Russian war became black swans as the disease, and the war results are impossible to predict.
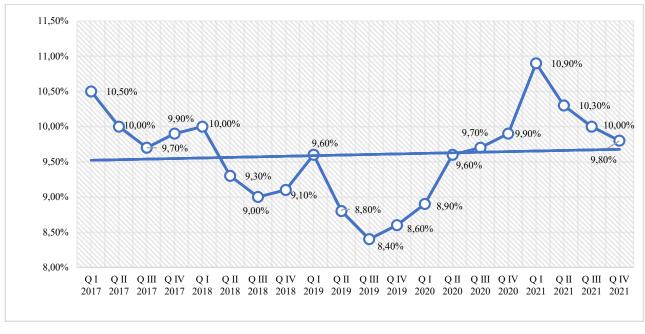
Figure 1 – Dynamics of the unemployment rate in Ukraine in 2017–2021, %

Source: compiled by the authors based on [10]

After the outbreak of active hostilities in Ukraine, the COVID-19 pandemic ceased to be a key factor affecting the domestic labor market. In the first quarter of 2022, about 25% of Ukraine's population migrated to western regions and abroad. Daily life in the eastern territories was disrupted, and the western regions received millions of unemployed, which increased pressure on the regional labor market. According to the Ministry of Economy, 30–35% of businesses were closed in the first month of the war [16]. The Ukrainian government implemented an unprecedented policy of deregulation and business liberalization to avoid mass unemployment and economic recession. It was designed to stimulate economic activity by businesses and to relocate them to safe regions when necessary. The measures included a significant reduction in the tax burden on employers and self-employed workers, in particular [17]:

– the opportunity to apply to a simplified tax system for private entrepreneurs and legal entities if their annual calendar income does not exceed UAH 10 billion and several additional conditions are met. The single tax was installed at 2% for all three groups of taxpayers. Moreover, the payment of the tax for the martial law period is voluntary for taxpayers of the 1st and 2nd groups;

– voluntary payment of the unified social tax (UST) for private entrepreneurs, freelancers, and farmers starting from March 1, 2022, and until the end of martial law, as well as during the year after martial law. In addition, UST payment is voluntary for employers who have opted for the simplified tax system, and private entrepreneurs for employees called up during the mobilization for military service in the Armed Forces of Ukraine;

– reduction of the value-added tax (VAT) rate from 20% to 7% on the import and supply of gasoline, heavy distillates, liquefied gas, oil, and crude petroleum products derived from bituminous rocks (minerals) for the period of martial law;

– VAT exemption on imports and supplies of defense goods in the customs territory of Ukraine, as well as operations on import and supply of special personal protective equipment and bulletproof vests for voluntary formations of territorial communities, formed following the laws of Ukraine;

– zero rate of excise tax for gasoline, other petroleum products, heavy distillates, liquefied gas, propane, isobutane;

– reduction of the total taxable income by the amount of charitable assistance provided by philanthropists in favor of combatants, employees of organizations involved in national security and defense, individuals living in settlements where hostilities are taking place and/or those who have been forced to leave their place of residence during the legal regime of martial law and state of emergency;

– exemption from land tax and payment for state and communal land and shares located in areas of hostilities, temporarily occupied territories, and areas that are littered with explosives and/or where there are fortifications, from 1.03.2022 until December 31 of the year following the year in which the martial law was terminated;

– exemption from paying environmental tax on facilities located in areas of active hostilities or the temporarily occupied territories in the 2022 tax year, etc.

In addition to tax benefits, the government has allocated UAH 25 billion for sowing to compensate for the interest and provide loan guarantees for small and medium-sized agricultural producers [18]. According to experts, credit

and tax havens will cause a large-scale state budget deficit in 2022. The government plans to cover it by attracting internal and external financial resources. However, it will not be easy to do this and slow down the fall of the gross domestic product (GDP). The World Bank predicts that the country's GDP will decline by 45.1% in 2022. The reasons are (1) the destruction of a large number of infrastructure facilities, which makes it impossible to restore business and trade flows; (2) the delay of the sowing campaign and the reduction of cultivated areas due to field developments and agricultural equipment and fuel reserves destroyed by the enemy; (3) the migration of Ukrainians abroad in search of shelter, etc. [19].

The poverty level is expected to increase 11-fold. The share of Ukraine's population with incomes below the subsistence minimum may reach 70% in 2022, compared to 18% in 2021 [21]. Therefore, along with prioritizing funding for the army, the current government policy is aimed at restoring lost jobs and creating new ones, rather than feeding the unemployed. For example, in April 2022, the government allocated 1 billion UAH from the state budget to rebuild war-damaged infrastructure in Kyiv, Chernihiv, Sumy, and Zhytomyr regions. It means new jobs for these territories [20]. Such a policy is more rational, as it allows us to stop the country's slide into the abyss and direct the available resources to economic recovery, rather than spending them unproductively on unemployment and related social benefits. However, foreign investment is expected to play a key role in supporting and reviving Ukraine's economy after victory over the enemy. They will help jump-start economic recovery in war-torn areas and regional labor markets.

As noted above, forecasting in wartime is a thankless task because of the high level of uncertainty of further developments. However, even under such critical conditions it is possible to talk about new opportunities for the national economy that will open up after the end of hostilities. Reconstruction of the country will require large investments and millions of new jobs, which can be achieved through effective investment management. The structure of demand for labor will change significantly, especially in terms of increasing the need for specialists and workers in the construction industry, architects, designers, etc. This will help overcome the crisis in the labor market and improve living standards.

Against the backdrop of the war in Ukraine, the COVID-19 pandemic still affects and will continue to affect the further development of the domestic economy and unemployment. Combined with the war, this factor will stimulate employment growth in the health care system, including pharmaceuticals, physical and psychological rehabilitation, the expansion of remote employment, the introduction of new digital technologies, and much more.

Along with pandemics and war, advances in technology can bring the most unpredictable changes to today's labor market and society. Artificial intelligence and quantum computers could be the black swans of the future. Such changes will create a new political, managerial or economic reality that strengthens humanity and makes it more vulnerable at the same time [21].

Based on [23; 22; 23], it can be identified the following trends that will affect the domestic labor market in the future:

1) technological transformations;
2) change in economic and social models;
3) growing globalization;
4) environmental changes.

The main trend of the future is a change in professions and positions due to globalization, automation of routine work, technological advances, and digitalization. Many professions will disappear or be forced to change their content, e.g., the use of new technologies requires innovative skills [23]. According to the authors, secretaries, cashiers, call center operators, accountants, bankers and other professionals will soon leave the market and be replaced by new technologies and services. The changes will also affect realtors and travel agents due to the proliferation of specialized online platforms. The transformation will lead to serious job losses and an increased need to retrain workers to find new jobs. The concept of lifelong learning is already a trend in the developed world. Traditional education in Ukraine does not keep up with these challenges and requires reforms to become modern, multidisciplinary, and practice-oriented [23].

According to [25], Ukraine aims to reduce the unemployment rate to 5% in 2030, i.e., twice compared to the third quarter of 2021, when this indicator was 10%. The goal is quite ambitious and did not take into account the factor of hostilities in the country. Today, its achievement largely depends on the timing of the end of the war, further macroeconomic stabilization and economic growth in Ukraine, which will have a positive impact on labor market participants. An effective post-war macroeconomic policy will help create new jobs [25].

The World Economic Forum identifies three absolute leaders that will dominate the global labor market in the coming years: e-commerce, big data, and cloud technologies [24]. The development of these activities requires workers with top-notch and high-paying skills for the coming years, namely [24]:

– design, analytical thinking, and innovations;
– critical thinking and analysis;
– creativity, originality, and initiative;
– leadership and social influence;
– use of technologies;
– technological programming and others.

Part of the population with the above skills will be more competitive in the labor market and get a desirable and well-paid job.

Another trend is the further development of remote employment and flexible working hours in Ukraine, caused by the COVID-19 pandemic and internal and external migration of Ukrainians because of the war. For example, today the government allows teachers to work remotely, even abroad. Considering modern realities, staff and

employers will look for forms of cooperation that will be comfortable for both parties [23].

Changes in economic models are already taking place and transforming the contours of national economies. In the context of Ukraine's recovery after the war and accession to the European Union, they mean the introduction of new resource- and energy-efficient, waste-free technologies in the construction and restoration of infrastructure and other facilities, full integration of national legislation with European Union requirements and their strict implementation, eradication of corruption, and changes in lifestyles. In addition, the coronavirus crisis has charted a future in which new industries will replace sectors with traditionally huge contributions to GDP in the medium term. Innovative technologies and services for people will drive further economic development. The digitalization of all sectors will stimulate entrepreneurial innovation, regional economic growth and productivity, labor market expansion, and political participation.

The necessary components for the digital economy deployment are as follows [24]:

– information and telecommunication technologies (ICT) for processing information with the help of computers and telecommunication means;

– human capital, i.e., a system of characteristics that determines a person's ability to use digital technologies;

– favorable business climate, i.e., transparent and clear rules for the market players, the absence of regulatory barriers, and a regulatory framework allowing business development on a digitalization basis;

– effective management that involves modern digital technologies and the availability of productive and accountable institutions that use the Internet to empower citizens.

As a result of the globalization of the world economy, the impact of the COVID-19 pandemic, and the rapid development of digital technology, millions of people around the world have lost their livelihoods, while millions more are threatened by global recession, structural economic transformation, and further automation. In Ukraine, war exacerbates the impact of global change. For example, the Russian Federation and Ukraine are leading suppliers of grain and sunflower oil to the world market. Therefore, the enemy's blockade of trade ships with these goods in Ukrainian ports and the reduction of crops due to military action means higher prices for these products around the world and the threat of a food crisis and loss of jobs in the industry.

Environmental change and the labor market are closely linked to globalization. The growing global environmental threat caused by humanity's unsustainable use of natural resources has already led to many regional, national, and international environmental disasters. It is worth mentioning the Chernobyl tragedy in 1986, which led to the radioactive contamination of large areas in Ukraine, Belarus, and other neighboring countries, making these areas uninhabitable. The consequences of the accident were internal displacement of many people, loss of fertile land, the need for special services for decontamination of areas, disposal and management of nuclear waste, etc., which also affected the labor market.

In March 2022, the Russian army threatened to repeat the tragedy by taking over the Chernobyl nuclear power plant. Enemy tanks raised clouds of radioactive dust in the exclusion zone. The military dug trenches in the most contaminated part of the zone and stole dangerous sources of radiation. Due to Russia's nuclear and energy blackmail, some Western countries have decided to urgently change their energy strategies. For example, Britain plans to increase the capacity of its nuclear power plants in the near future in order to provide itself with cheap energy and create new jobs in the industry [25].

Along with this, positive environmental changes are taking place. For example, the world is actively creating green jobs with the help of digital technologies to reduce pollution, ensure the transition to green energy, increase the share of recycled resources, etc. Ukraine also supports the creation of green jobs in the construction and operation of renewable power plants and other industries. The demand for green energy specialists is expected to grow over time.

Conclusions and prospects for further research. Overall, innovation, digital technologies, customers with new habits, global and national threats will form new opportunities and barriers to postwar business development in various sectors of the national labor market. Consider the main directions of these changes.

1. *The use of new technologies in the domestic economy.* Over the next few years, blockchain technology will be consolidated and used for a variety of purposes, increasing information transparency and decentralization. New models will challenge the way organizations store and manage data transactions and enable Internet companies to develop new financial products and services. The expansion of the Internet will spawn millions of data sources capable of measuring and combining physical and digital data (for example, through biometric authentication) to create and promote goods and services. Quantum computing will open up new possibilities for the real-time economy and change the nature of employment.

2. *The emergence of new competitors in the domestic labor market.* Once innovative technology enters the financial market, new big competitors will create digital banks and challenge traditional banking institutions. Small financial companies will likely specialize in certain sectors and give way to large corporations that focus on online payments and general financial services for their customers, changing the job market.

3. *Legislation update. In 2021, the Law of Ukraine «On Payment Services» was adopted.* It considered the norms of European regulatory acts, notably the Second Payment Directive (PSD2) and the Electronic Money Directive (EMD). This law protects the rights of consumers of payment services and ensures the transparency of their provision [26]. It will transform the financial sector, foster competition, provide better protection against fraud, and change the structure of the workplace.

4. *Introduction of new business models as a result of the economy's digitalization.* A world without cash will soon become a reality. All transactions will become digital and help companies create a complete picture of their market and better understand market opportunities. The digital world will make financial services more transparent and accessible without the involvement of conventional bankers. Data markets will enable new businesses to obtain external information and produce new products and services, as well as new professions and jobs.

5. *New threats to Ukraine's economy.* New global threats will continue to expand and transform national economies. According to the authors, the stock market economy will find a better legal framework and continue to grow. Mass hacker attacks will force countries and companies to invest heavily in cybersecurity, and political systems will suffer from recurring crises caused by the ongoing digital security crisis.

In general, the authors believe that the digitalization of Ukraine's economy will create more opportunities to increase productivity, reduce production costs, improve the competitiveness of domestic companies and develop the labor market, as human needs can be better met in the digital age. The COVID-19 pandemic has demonstrated that no single institution or individual can meet the economic, environmental, social and technological challenges of our complex interdependent world alone. The coronavirus crisis accelerated systemic changes that were evident even before it began. The Ukrainian-Russian war was a great challenge to Ukraine's existence. However, the terrible devastation created new opportunities for the reconstruction of the domestic economy in the postwar period. To ensure the positive effect of these transformations, the authorities need to promote human development, lead in the competition for capital in the global market, create a favorable environment for doing business and attracting investment, modernize sectors of the economy, etc. Further research in this area should be devoted to the development of mechanisms for the implementation of these directions.

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БЕЗРОБІТТЯ В ЕКОНОМІЦІ УКРАЇНИ: COVID-19, ВІЙНА ТА ДІДЖИТАЛІЗАЦІЯ

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У статті досліджено тенденції безробіття в Україні у довго- та середньостроковому періодах, що враховують вплив пандемії COVID-19 у 2020–2021 рр., україно-російської війни 2022 року, фактори розвитку вітчизняного ринку праці у 2002–2019 рр., а також перспективи післявоєнної відбудови країни та діджиталізації її економіки. За допомогою методів кореляційно-регресивного аналізу ідентифіковано фактори довгострокового впливу на рівень безробіття у вітчизняній економіці у передпандемічному періоді, до яких віднесено індекс інфляції, кількість осіб-випускників закладів освіти, кількість прибулих та вибулих осіб в країні, середньорічну мінімальну заробітну плату та кількість економічно активного населення. На основі побудованої моделі обґрунтовано, що збільшення індексу інфляції, кількості прибулих до України та мінімальної заробітної плати знижують рівень безробіття в країні. Натомість зростання кількості випускників і кількості вибулих з країни збільшує безробіття. Суперечливим є вплив чисельності економічно активного населення на результативний показник, що потребує подальших досліджень. На основі ідентифікованих факторів запропоновано заходи для зменшення безробіття в Україні. З метою оцінювання впливу локдаунів, спричинених пандемією COVID-19, на зайнятість населення проаналізовано динаміку рівня безробіття у 2020–2021 рр. Обґрунтовано, що масове щеплення українців проти коронавірусної хвороби і подальше скорочення рівнів захворюваності на COVID-19 поступово б сприяло стабілізації ситуації на ринку праці. Проте у 2022 році вторгнення Російської Федерації кардинально змінило пріоритети уряду у боротьбі з безробіттям. Тому у статті проаналізовано поточну економічну політику щодо стимулювання зайнятості і відродження бізнесу в Україні, а також потенційні макроекономічні наслідки війни. Визначено, що пандемія COVID-19 та війна є «чорними лебедями», які призвели до непередбачуваних змін на ринку праці та прискорили діджиталізацію економіки. Обґрунтовано, що остання (в сенсі розвитку штучного інтелекту і квантового комп'ютеру) стане ще одним «чорним лебедем» у довгостроковій післявоєнній перспективі. На цій підставі проаналізовано основні тренди, які матимуть вплив у майбутньому на вітчизняний ринок праці (технологічні трансформації, зміна економічних і соціальних моделей, зростання глобалізації, екологічні зміни), та відповідні напрями цифрових змін.

Ключові слова: пандемія COVID-19, діджиталізація, фактор, ринок праці, населення, Україна, україно-російська війна, безробіття.

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