

Polish journal of science

POLISH JOURNAL OF SCIENCE

№27 (2020)

VOL. 2

ISSN 3353-2389

Polish journal of science:

- has been founded by a council of scientists, with the aim of helping the knowledge and scientific achievements to contribute to the world.
- articles published in the journal are placed additionally within the journal in international indexes and libraries.
- is a free access to the electronic archive of the journal, as well as to published articles.
- before publication, the articles pass through a rigorous selection and peer review, in order to preserve the scientific foundation of information.

Editor in chief – J an Kamiński, Kozminski University

Secretary – Mateusz Kowalczyk

Agata Żurawska – University of Warsaw, Poland

Jakub Walisiewicz – University of Lodz, Poland

Paula Bronisz – University of Wrocław, Poland

Barbara Lewczuk – Poznan University of Technology, Poland

Andrzej Janowiak – AGH University of Science and Technology, Poland

Frankie Imbriano – University of Milan, Italy

Taylor Jonson – Indiana University Bloomington, USA

Remi Tognetti – Ecole Normale Supérieure de Cachan, France

Bjørn Evertsen – Harstad University College, Norway

Nathalie Westerlund – Umea University, Sweden

Thea Huszti – Aalborg University, Denmark

Aubergine Cloez – Université de Montpellier, France

Eva Maria Bates – University of Navarra, Spain

Enda Baci – Vienna University of Technology, Austria

Also in the work of the editorial board are involved independent experts

1000 copies

POLISH JOURNAL OF SCIENCE

Wojciecha Górskiego 9, Warszawa, Poland, 00-033

email: editor@poljs.com

site: <http://www.poljs.com>

CONTENT

ART STUDIES

Prodma T.

JOHANN SEBASTIAN BACH TOCCATA (WITH THE
FUGUE) D-MOLL FOR ORGAN BWV 565 CHORAL
«VATER UNSER IM HIMMELREICH»3

HISTORICAL SCIENCES

Alekseeva S.

SACRED SHAMAN LAKES: AN ETHNOGRAPHER'S VIEW
FROM SIBERIA8

Talanin V.I.

THE BEGINNING OF THE END OF MODERN
CIVILIZATION: THE DEVILRY VIRUS9

JURIDICAL SCIENCES

Rotar A.

RESTORED JUSTICE IN RUSSIA42

Shevchenko V.

THE CREDITOR'S LEGAL STATUS AT THE CONCLUSION
OF THE INTERCESSION AGREEMENT45

Yurchenko V.

PSYCHOLOGICAL FEATURES OF INITIATION AND
APPLICATION OF PRE-TRIAL DETENTION DURING PRE-
TRIAL INVESTIGATION IN UKRAINE49

ECONOMIC SCIENCES

Belykh S.

COMPOSITION OF IMPORT OF FRESH APPLES TO
RUSSIA AND ITS INFLUENCE ON THE PRODUCTION OF
APPLES IN RUSSIA.....54

Kysh L.

GRAIN MARKET INFRASTRUCTURE AND LOGISTICS
DEVELOPMENT TRENDS67

Broyaka A., Khaietska O.

UNEMPLOYMENT AS A MAJOR SOCIO-ECONOMIC
PROBLEM OF SOCIETY DEVELOPMENT57

Having constructed the multiple regression model (1), we can see that coefficients of correlation, determination, and adjusted R2 have big numbers, and the relationship between the data is high. F significance in the ANOVA table shows a low number (0,00), and the model is good. If we look at p-values for coefficients,

we can notice that Serbian import (β_2) is bigger than 0,05, which is not good, and other coefficients (β_1 and β_2) have numbers lower than 0,05 which shows that Serbia should not be included into the model. We recalculate the model:

Table 4

Multiple regression model (2)					
<i>Regression Statistics</i>					
Multiple R					0,95
R Square					0,90
Adjusted R Square					0,87
Standard Error					77,62
Observations					10,00

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	2,00	371058,59	185529,3	30,80	0,00
Residual	7,00	42170,31	6024,33		
Total	9,00	413228,90			

	<i>Coefficient s</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>
Intercept, β_0	2594,65	151,36	17,14	0,00	2236,74
Import from China, β_1	-4,65	0,95	-4,90	0,00	-6,90
Import from all the other countries, β_2	-1,11	0,29	-3,90	0,01	-1,79

In table 4 we can see that the multiple regression model has even better numbers, and lower standard error. P-values of all the coefficients are now lower than 0,05. The multiple regression equation will have the following form:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_n X_n + u_i \quad (1)$$

$$Y_i = 2594,65 - 4,65 * X_1 - 1,11 * X_3 + u_i \quad (2)$$

Finally, we can draw the following conclusion: the import of fresh apples tends to decrease, which is favorable for local producers of fresh apples in Russia, so the fresh apples production increases every year; according to the regression statistics, import of fresh apples from China and all the other countries, except China, Poland, and Serbia, have the biggest relationship with the fresh apples production.

References

1. Sheth, Khushboo. Top Apple Producing Countries In The World. WorldAtlas, Aug. 15, 2018, worldatlas.com/articles/top-apple-producing-countries-in-the-world.html.
2. Briefing report of European Parliament, The Russian Embargo: Impact on the Economic and Employment Situation in the EU, [https://www.europarl.europa.eu/RegData/etudes/BRIE/2014/536291/IPOL_BRI\(2014\)536291_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2014/536291/IPOL_BRI(2014)536291_EN.pdf)
3. The data was taken from: <http://ru-stat.com>, <http://www.gks.ru/>, <http://www.fao.org/fao-stat/en/#data/QC/>, <https://ec.europa.eu/eurostat/data/database>

UNEMPLOYMENT AS A MAJOR SOCIO-ECONOMIC PROBLEM OF SOCIETY DEVELOPMENT

Broyaka A.

PhD in Economics,

*Associate Professor of Economics Department,
Vinnytsia National Agrarian University*

Khaietska O.

PhD in Economics,

*Associate Professor of Economics Department,
Vinnytsia National Agrarian University,
Vinnytsia, Ukraine*

Abstract

The problem of unemployment is one of the key issues in a market economy, and without it solving, it is impossible to adjust to adjust the effective functioning of the economy and its regulation. The theoretical and methodological foundations of the economic category of unemployment are highlighted; the nature and causes of unemployment, its types and their characteristic features are determined in the article. The state of unemployment

in Ukraine is studied and analyzed; the main problems in the Ukrainian labor market are identified; measures aimed at reducing unemployment rate are proposed.

The article reveals that economic recession and the corresponding decrease in the financial results of enterprises as well as closure of non-operating business structures have become the main causes of unemployment in Ukraine.

The authors of the article have analyzed the dynamics of the composition of the economically inactive population, the unemployment rate in Ukraine in 2010-2019 against the background of changes in the demographic situation in the country. The unemployment rate among the able-bodied population by regions of Ukraine in 2019 and the structure of registered unemployed by professional groups have been presented. The unemployment rate in Ukraine is defined to be above the average among the countries of the European Union.

Considerable attention has been paid to studying the negative socio-economic consequences of unemployment and ways to its reduction, which will spur the optimal involvement of population in active work. Unemployment is noted to be the reason of spreading of socio-economic instability and poverty in the society, the imbalance in supply and demand, irrational use of public resources, an increase in labor migration, in crime, and in the number of vulnerable social groups and other negative socio-economic consequences.

Governmental programs aimed at creating workplaces, increasing the number of employed people, protecting the domestic labor market, stimulating business development have been proposed to implement in order to overcome unemployment in Ukraine. Hence, it will be possible to reduce the rate of unemployment and achieve overall improvement of the socio-economic situation in the country.

Keywords: unemployment, unemployment rate, employment, economically active population, economically passive population, labor market, migration.

Introduction. One of the most acute socio-economic problems of Ukraine is unemployment. The unemployment rate is one of the central indicators for determining the general condition of the economy and assessing its effectiveness. The given problem has become widespread at the present stage of economic development of the country. Unemployment contributes to the spread of social instability and poverty in society, the imbalance of supply and demand, the misallocation of public resources, escalation of labor migration, growth of the crime rate, an increase in the number of socially disadvantaged groups and to other negative socio-economic factors caused by the lack of the required number of working places in the country. It determines the topicality of the subject selected.

Analysis of recent research and publications. The problems of development of the Ukrainian labor market, methods of its regulation, unemployment and its consequences, the formation and use of labor resources were studied by such domestic scientists as A. Amosov, T. Balanovskaya, V. Blyzniuk [2], D. Bohynia, I. Davydova [5], T. Dyadik [6], A. Kerbikova [8], A. Korniychuk, S. Kurlitsky, I. Melnik, N. Pravdyuk, L. Fedoryshyna, L. Yarova and other.

It is also accentuated that despite numerous studies in this field no effective mechanism has yet been implemented to prevent unemployment in Ukraine. The manifestation of negative trends in the domestic labor market is intensified by mass labor migration, military conflict in the East of the country, and the annexation of Crimea. In addition, in connection with the COVID-19 epidemic and related quarantine measures, the closure and activity suspension of domestic enterprises and organizations took place, accompanied by a reduction in production and the number of employees. The influence of these factors on the socio-economic situation in Ukraine actualizes the necessity for further research in this area.

Goals setting. The aim of the article is to investigate and analyze unemployment in Ukraine, to identify

ways to its reduction, which will contribute to the optimal involvement of employees in active work.

Research results. According to the Law of Ukraine "On Employment," unemployment is a socio-economic phenomenon in which some people are not able to exercise their right to work and receive wages as a source of subsistence [12]. It reflects economic attitudes towards forced joblessness of economically active populations. Unemployed are people aged 15 to 70 years, due to circumstances beyond their control, do not have earnings or other permanent income but at the same time it is a category of people who can immediately start working [12].

Depending on the causes of unemployment, scientists distinguish frictional, structural and cyclical unemployment. Frictional unemployment is associated with the need for time in connection with the search and expectation of a job corresponding to a certain qualification, preferences and level of remuneration. Structural unemployment is driven by changes in the structure of demand for workers in connection with changes in the structure of the economy, as a result of which the vacancy offer that does not match the existing qualifications and professions of the unemployed. Structural unemployment is predominantly forced and significantly longer than frictional. Frictional and structural unemployment make up the natural unemployment rate. Cyclical unemployment is the deviation of actual unemployment from natural unemployment in one direction or another. During the recession, the volume of national production falls below the potential level, and actual unemployment exceeds the natural level [2].

Unemployment is usually understood as an excess of labor supply over its demand. The correlation of supply and demand on the labor market is its conjuncture, it is determined by the financial and economic condition of the industries, their organizational structure, the level of technical and technological development, the social standard of living of the population, the state of social and industrial infrastructure, etc. However, the causes of unemployment are much wider, namely a

mismatch between the structure of available jobs for the qualifications of the unemployed, a reduction in production, and inadequate working conditions and wages, pushing people to release, as well as hidden unemployment, informal employment, and many others.

The first attempt to explain the nature and causes of unemployment was made by Thomas Robert Malthus, explaining it by too rapid population growth, ahead of the increase in the number of livelihoods; he considered wars, epidemics, famine, etc. as a means of eliminating unemployment [6].

Thus, according to various theories and approaches to the interpretation of unemployment as an economic category, the following phenomena can serve as the cause for it:

- population growth rates exceed production growth rates (T. Malthus, XVIII century);
- the relative backlog of labor demand from the rate of capital accumulation, the growth of the technical and organic construction of capital (K. Marx, XIX century);
- in conditions of imperfect competition in the labor market there is an increase in prices and a reduction in demand for labor (A. Pigou, 1923);
- with income growth, people tend to increase their consumption, but not to the extent that income grows; if the population's propensity to consume decreases, and the propensity to save increases, solvent demand decreases, which poses a threat to commodity circulation and, therefore, provokes unemployment (J. Keynes, 1936);
- cyclical economic development - at the stage

of the economic crisis, the decline in production leads to a decrease in the aggregate demand for goods and services and, as a result, to a decrease in the level of employment of the able-bodied population;

- the development of scientific and technological progress leads to structural changes in the economy, the emergence of new industries that require skilled workers and more time for the professional retraining of workers from the old sectors of the national economy;
- seasonal changes in production levels reduce demand for work in agriculture, construction, etc. ;
- the growth of the active-working-age population, youth, increases the supply of labor;
- the government's economic policy of increasing the minimum wages leads to higher production costs and lower demand.

Figure 1 shows the causes of unemployment in Ukraine in 2019. The largest share in the structure of the unemployed (39.6%) covers people left the service by own initiative. However, it should be noted that often workers do not leave the service by own initiative, but under the pressure of employers, who thus try to avoid making social payments in connection with the firing of workers. 21.5% - left the service for economic reasons, including in connection with the reduction of production, liquidation and reorganization of enterprises, institutions, organizations; 9.4% - not employed after graduation, which, which is why educational institutions will be required to review the specialties offered and licensed volume of entrants.

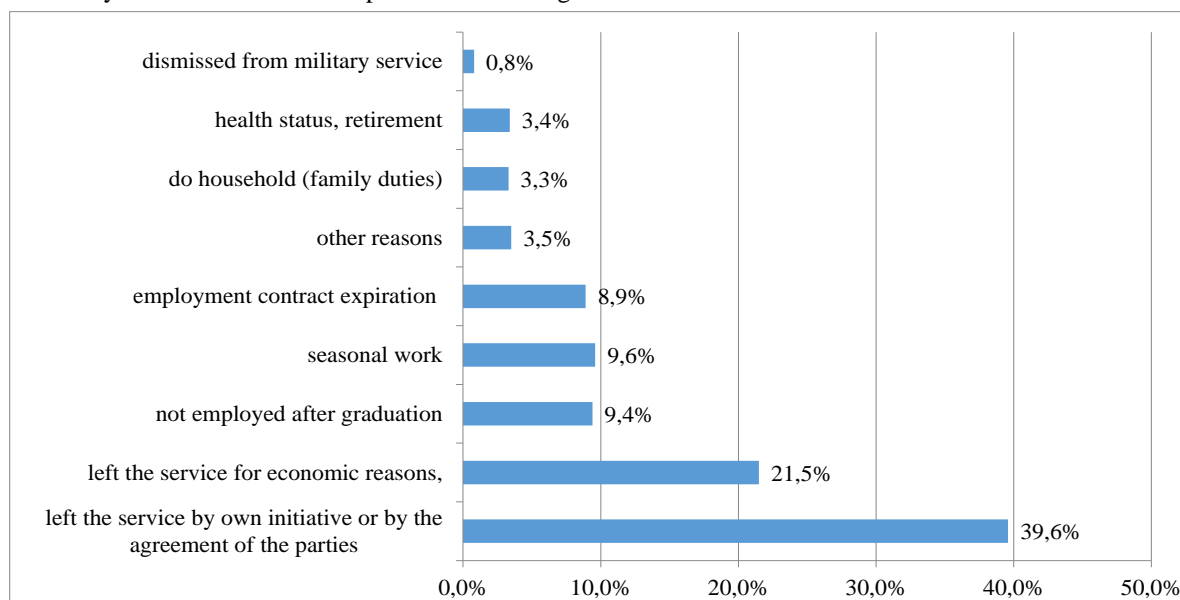


Fig. 1. The structure of the unemployed population in Ukraine in 2019 due to unemployment reasons
Source: compiled by authors according to the data of the State Statistics Service of Ukraine [11]

The main causes of unemployment have become the economic recession and the decline in the financial results of enterprises; the closure of non-working business structures, first of all, LLC, which from January 2016, regardless of the presence or absence of income, must pay tax to the Pension Fund; a reduction in the number of employees and transfer to a part-time day amid raising the minimum wages in 2017 compared

with the previous 2016 by half to 3200 UAH and its further increase to 4173 UAH in 2019 and to 4723 UAH in 2020; inconsistency of interests, requirements, and qualifications of workers with existing workplaces (in particular, unpopular working professions) and others.

According to the International Labor Organization

methodology, unemployed people in Ukraine are persons aged from 15 to 70 years (registered and unregistered in the State employment service), who simultaneously meet three basic conditions:

- 1) They did not have a job (gainful occupation);
- 2) They have been actively looking for work or trying to organize their own business in the past four weeks, preceding the survey, meaning that they have taken concrete steps during last four weeks in order to find paid work for hire or at their own enterprise;
- 3) They are ready to start working within the next two weeks that is to start working for hire or at their own enterprise [4].

The category of unemployed also includes persons who are not looking for a job because they have already found it and have an agreement to start work after a certain period, as well as begin training on the initiative of the State Employment Service.

The Table 1 shows data on the dynamics of the unemployed population of Ukraine during 2010-2019, analyzing which, we can conclude that the lowest unemployment rate was in 2013 and amounted to 7.8% of the economic population of active-working age, the number of unemployed reached just over 1.5 million

person. However, in 2019 the number of unemployed people of working age decreased to almost 1.49 million people, although the unemployment rate in the relative value to the corresponding age group was 8.6% [11]. It is due to the fact that the population of Ukraine, and accordingly its economically active part, is constantly declining, and therefore the relative share of the unemployed, even with a physical decrease in their number, is growing. Over the past 10 years, the population of Ukraine has decreased from 45778.5 thousand people in 2010 to 41902.4 thousand people in 2019, correspondingly, the economically active population has decreased from 20220.7 thousand people to 17381.8 thousand people (Fig. 2). It is explained by the decrease in the country's population because of the annexation of Crimea, the military-political conflict in the East, and a significant migration of Ukrainian citizens abroad in search of better living and working conditions. In addition, one can observe the aging of the nation, the outflow of young people abroad to study with further employment, the poor reproduction of the population (the net indicator was 0.715 in 2015, 0.697 in 2016, 0.656 in 2017, 0.62 in 2018) [8]. The highest unemployment - nearly 1.85 million people was observed in 2014.

Table 1

Dynamics of the unemployed population of Ukraine in 2010 - 2019

Years	unemployed population (by ILO methodology)			
	at the age of 15-70 years		at the working age	
	on the average, thousand people	in% of the economically active population of the corresponding age group	on the average, thousand people	in% of the economically active population of the corresponding age group
2010	1 713,9	8,2	1 712,5	8,9
2011	1 661,9	8,0	1 660,9	8,7
2012	1 589,8	7,6	1 589,2	8,2
2013	1 510,4	7,3	1 510,3	7,8
2014	1 847,6	9,3	1 847,1	9,7
2015	1 654,7	9,1	1 654,0	9,5
2016	1 678,2	9,3	1 677,5	9,7
2017	1 698,0	9,5	1 697,3	9,9
2018	1 578,6	8,8	1 577,6	9,1
2019	1 487,7	8,2	1 486,9	8,6
2019+/-2010	-226,20	0,0	-225,60	-0,3

Source: compiled by authors according to the data of the State Statistics Service of Ukraine [11]

In our opinion, this trend of unemployment in Ukraine is very far from reality. At the same time, we believe that there are many problems associated with measuring the level of unemployment in Ukraine, which do not allow an objective assessment of the realities of unemployment in Ukraine; therefore, there is always a certain deviation both in reducing the actual number of unemployed and in its exaggeration. Official statistics in Ukraine use an outdated methodology for counting unemployed citizens. In addition:

- it is impossible to take into account persons who have lost their "hope for work" in Ukraine;
- it is difficult to measure the number of unemployed persons who are not registered in the State employment service;
- statistics do not include part-time employment. Persons forced to take unpaid leaves on the initiative

of the administration are considered to be employed. According to recent estimates, there are more than 3 million of such persons in the country. They are actually unemployed, but official statistics do not take them into account;

- false information from the unemployed. A large number of employed work without formalization, so it is almost impossible to verify those who receive unemployment benefits and are involved in the shadow economy;

- it does not include the unemployed rural population that earns a living from personal household plots, nor those who works part-time or has temporary jobs. A significant part of the population is now under the conditions of forced underemployment.

As it has been already mentioned, a slight improvement in the situation on the labor market was in 2018 – 2019. Hence, the number of unemployed in

Ukraine amounted to almost 1.49 million people last year that is 8.6% of the economically active population of working age, which is 0.5% less than in the previous

year. Moreover, 44% of registered unemployed were university graduates, 37% finished vocational schools, and only 19% finished secondary schools.

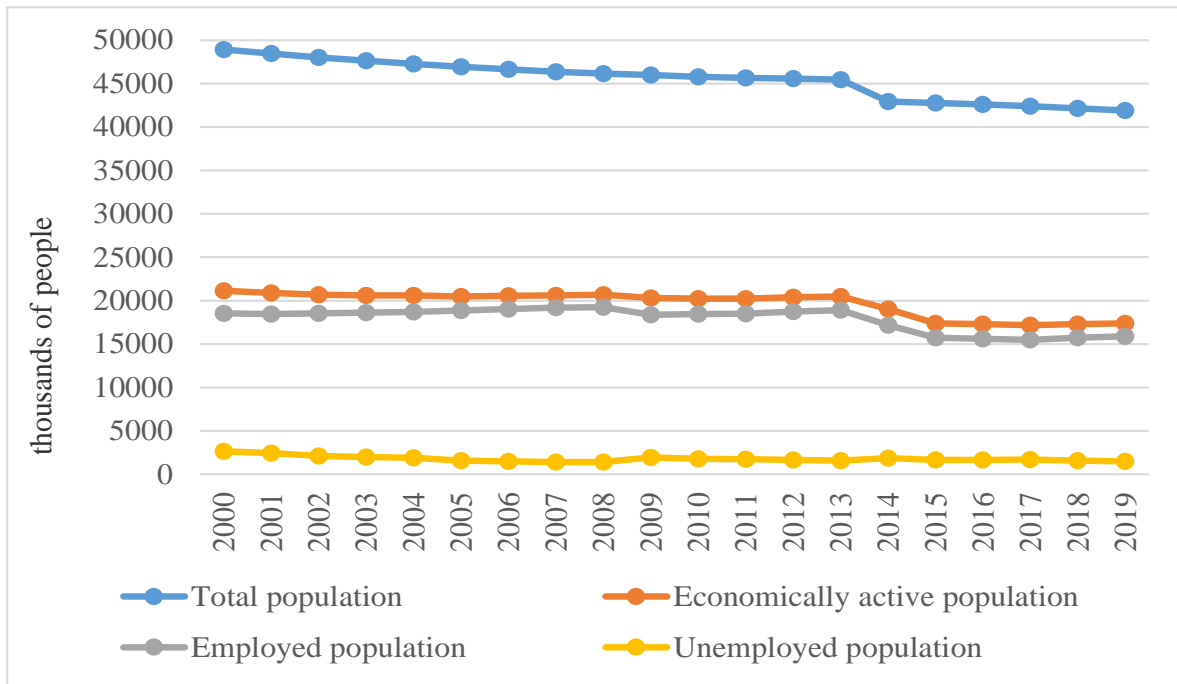


Fig. 2. Changes in the demographic situation in Ukraine in 2010-2019

Source: compiled by authors according to the data of the State Statistics Service of Ukraine [11]

Reduction in unemployment occurred in almost all regions of Ukraine. The lowest unemployment rate among the economically active population aged from 15 to 70 years was observed in the Kharkiv region (5.0%), Kyiv (5.8%), Odesa and Kyiv regions (respectively, 5.9%), and the highest - in Lugansk (13.7%),

Donetsk (13.6%), Kirovograd (11.0%), Poltava and Volyn regions (respectively, 10.6% each) [1]. The unemployment rate among the able-bodied population by regions of Ukraine in 2019 is shown in Figure 3.

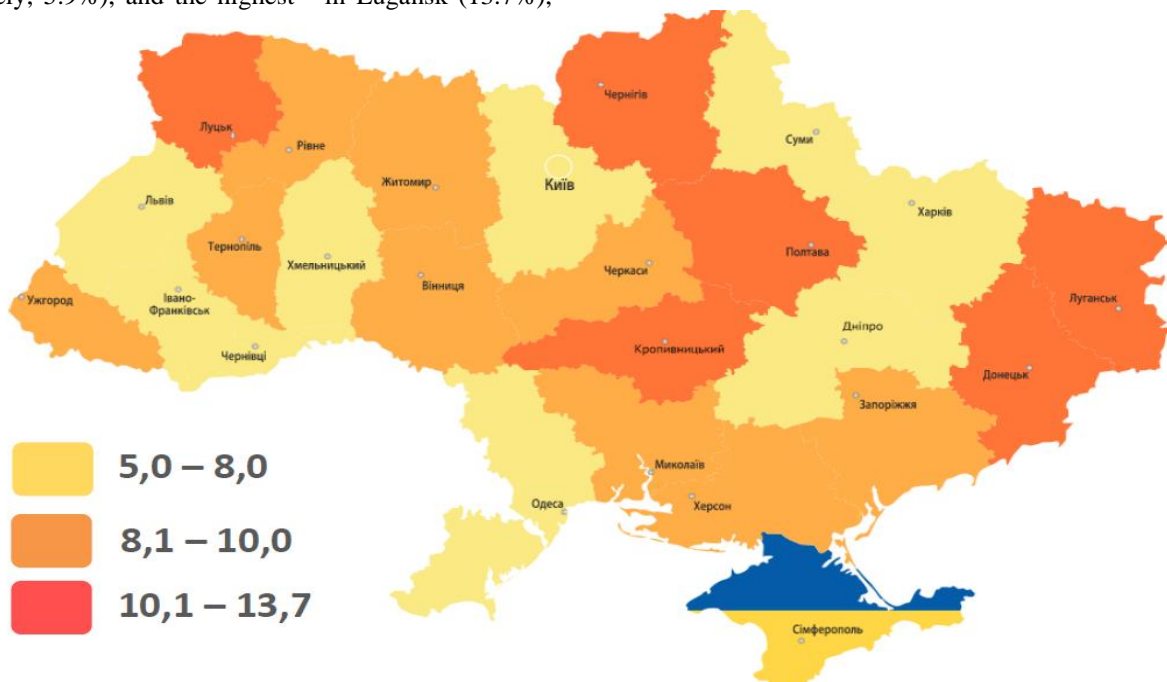


Fig. 3. The unemployment rate among the able-bodied population by regions of Ukraine in 2019, %

Source: State Employment Service of Ukraine [1]

The reduction in unemployment in 2019 in comparison to 2018 occurred among citizens aged from 15 to 39 years, while the largest share of unemployment was observed among people aged 40-49, which grew from 7.7% to 8.4% over the year. The unemployment rate among people aged 50-59 also increased from

7.4% to 8.0%. The lowest unemployment rate was observed among people aged 30-34 years (7.3%), while among young people under 25 this indicator amounted to 15.4% of the workforce of the relevant age (almost twice as high as among the entire population) (Table 2).

Table 2

The unemployment rate of the population (according to the ILO methodology) in Ukraine by sex, age groups and place of residence in 2019, %

Population categories	Total	including age groups							In active-working age
		15-24	25-29	30-34	35-39	40-49	50-59	60-70	
All the population	8,2	15,4	8,4	7,3	7,5	8,4	8,0	0,1	8,6
male	7,9	15,3	7,8	6,3	8,0	8,6	7,2	0,1	8,2
female	8,5	15,5	8,8	8,1	7,0	8,2	8,8	0,2	8,8
urban settlements	8,0	15,1	8,0	6,8	7,3	8,7	7,7	0,2	8,3
countryside	8,6	15,9	9,1	8,6	8,2	7,6	8,5	0,0	9,1

Source: compiled by authors according to the data of the State Statistics Service of Ukraine [11]

By gender, the decline in the quantity of unemployed and in the unemployment rate is observed among male population and at the same time, the corresponding indicators are growing among female population. Among men, the number of unemployed decreased by 135 thousand people (up to 808 thousand people), and the unemployment rate fell from 10.0% to 8.5%. Moreover, among women the number of unemployed increased by 44 thousand people (up to 680 thousand people), and the unemployment rate increased from 7.4% to 7.9% of the workforce.

It should be specified that the unemployment rate of the active-working-age population (according to the ILO methodology) was 4.8 times higher than the registered unemployment rate calculated for the economically active working-age population (3.5 times higher for women and 6.5 times higher for men, 5.9 times higher for urban area and 3.7 times higher for rural area) [5].

Describing the structure of registered unemployed in Ukraine by occupational groups, it should be underline that according to the State Employment Service, the largest share in 2019 is made up of workers in the maintenance, operation and monitoring of the operation of technological equipment, assembly of equipment and machines (17.8%), in the second place there are legislators, senior civil servants, executives, managers, and workers in the sphere of trade and the provision of

services (15.7 and 15.1%, respectively), in the third place there are unemployed with the simplest professions or no profession at all (13.0%) (Fig. 4). Unfortunately, the number of unemployed significantly exceeds the number of vacancies available, but one can notice a positive trend. Thus, in 2018-2019, the workload of registered unemployed per 1 vacancy was on averaged 6 people, while in 2017 there were 7 unemployed per 1 vacancy, in 2016 - 10, in 2015 - 19.

At the same time, the supply on the labor market of legislators, senior civil servants, managers exceeded almost 9 times the demand for these qualifications, the supply of skilled workers in agriculture and forestry, fish farming and fisheries was almost 7 times higher than the available number of vacancies, the supply of technical employees was almost 5 times higher than the demand for them. Meanwhile, there is a high demand for skilled workers with tools, workers for maintenance, operation and monitoring of technological equipment, assembly of equipment and machines, workers with the simplest professions or without profession. It demonstrates that in addition to cyclical unemployment, Ukraine has also got structural unemployment so the government is required to restructure labor-intensive industries, optimize workplaces and improve working conditions in the agricultural sector and spur the development of the service sector.

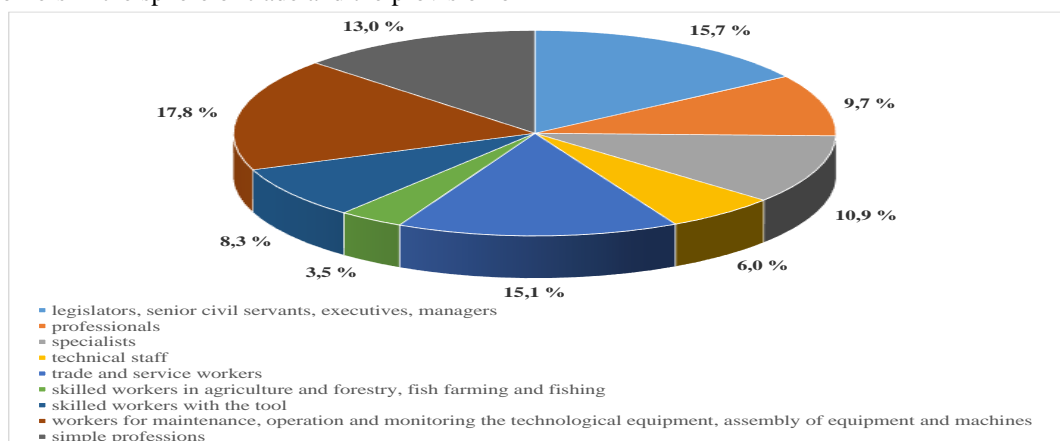


Fig. 4. The structure of registered unemployed by occupational groups in Ukraine in 2019. %

Source: compiled by authors according to the data of the State Employment Service of Ukraine [11]

The current realities of the socio-economic development of the domestic labor market, which determine a trend towards a decrease in unemployment, is the result of a negative phenomenon of increasing the number of economically inactive people due to the exclusion of a large part of the active-working-age population from the country's economic life. A significant percentage of economically inactive persons are middle-aged and elderly. Against the background of a decrease in the working-age population because of the demographic crisis in Ukraine, the loss of economic activity by a significant part of the population of the 45-59-year-old age group will determine the labor shortage. On the other hand, for regions with labor-surplus

labor markets, the economic inactivity of the population over 45 years old is more likely a consequence of the competitive advantage of the able-bodied younger population due to the absence of a sufficient number of jobs. Among the economically inactive population, the largest share is made up of pensioners (more than 50%), students, pupils - 20-25%, employed in the household within 20%, a small percentage of the unemployed among those who are desperate, those who do not know where and how to look for work, those who consider that there is no suitable work and other reasons (Table 3).

Table 3

The dynamics and composition of the economically inactive population of Ukraine in 2010-2019

Years	Economically inactive population, in total, thousands of people	including for reasons of economic inactivity									The ratio of the economically inactive population to the economically active population, %
		retirees	full-time students	perform household (family) duties, are on maintenance	health status	desperate	do not know where and how to look for work, there is no suitable job	seasonal work, hope to return to previous work	others	as a percentage of the total	
2010	11 945,0	48,9	25,7	19,5	1,8	1,4	0,9	0,6	1,2	57,2	
2011	11 657,4	49,3	25,0	20,6	1,4	1,1	1,0	0,4	1,2	55,8	
2012	11 456,9	50,3	24,6	20,5	1,2	0,9	0,9	0,3	1,3	54,9	
2013	11 270,1	51,0	24,8	20,2	1,0	0,9	0,8	0,2	1,1	54,1	
2014	12 023,0	53,3	21,5	20,2	1,2	1,2	1,0	0,5	1,1	60,4	
2015	10 925,5	53,3	22,3	19,8	1,2	1,0	1,0	0,3	1,1	60,4	
2016	10 934,1	52,8	21,4	20,8	1,2	0,8	0,9	0,2	1,9	60,9	
2017	10 945,0	53,6	20,7	22,0	1,1	0,8	0,6	0,3	0,9	61,3	
2018	10 724,8	54,7	20,9	20,9	1,0	0,6	0,6	0,2	1,1	59,8	
2019	10 430,5	54,8	19,5	21,6	1,8	0,4	0,5	0,2	1,2	57,7	
2019+/- 2010	-1 514,50	5,9	-6,2	2,1	0,0	-1,0	-0,40	-0,4	0,0	0,5	

Source: compiled by authors according to the data of the State Statistics Service of Ukraine [11]

It should be noted that the unemployment rate in Ukraine remains above the average for the countries of the European Union, where this indicator decreased from 7.8% in 2018 to 7.4% in 2019, in particular among young people under the age of 25 – from 14.6% to 14.1% of the workforce of the corresponding age. This is the lowest rate recorded in the Euro area⁶ since May 2008. The EU28⁷ unemployment rate was 6.2% in December 2019, down from 6.6% in December 2018. This is the lowest rate recorded in the EU28 since the start of the EU monthly unemployment series in January 2000 [10]. Eurostat estimates that 15.475 million men and women in the EU28, of whom 12.251 million in the

Euro area, were unemployed in December 2019. Compared with December 2018, unemployment fell by 747 000 in the EU28 and by 592 000 in the Euro area.

Among the Member States, the lowest unemployment rates in 2019 were recorded in Czechia (2.0%) as well as in Germany and the Netherlands (both 3.2%). Unemployment in Poland was 3.3% that is less than in 2018 for 0.6%. The highest unemployment rates were observed in Greece (16.6%) and Spain (13.7%) (Fig. 5).

Compared with a year ago, the unemployment rate fell in 21 Member States, remained stable in Denmark, while it increased in Cyprus (from 7.4% to 7.6%), Slovenia (from 4.4% to 4.6%), Lithuania (from 5.8% to 6.1%), Portugal (from 6.6% to 6.9%), Luxembourg

⁶ The **euro area (EA19)** includes Belgium, Germany, Estonia, Ireland, Greece, Spain, France, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Austria, Portugal, Slovenia, Slovakia and Finland.

⁷ The **European Union (EU28)** includes Belgium, Bulgaria, Czechia, Denmark, Germany, Estonia, Ireland, Greece,

Spain, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, the Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden and the United Kingdom.

(from 5.2% to 5.6%) and Sweden (from 6.5% to 6.9%). The largest decreases were registered in Greece (from 18.5% to 16.6% between October 2018 and October 2019), Bulgaria (from 4.7% to 3.7%) and Croatia (from 7.3% to 6.4%).

In December 2019, the unemployment rate in the United States was 3.5%, down from 3.9% in December 2018.

Relative to youth unemployment, in December 2019, 3.155 million young persons (under 25) were unemployed in the EU28, of whom 2.213 million were in

the Euro area. Compared with December 2018, youth unemployment decreased by 143 000 in the EU28 and by 129 000 in the Euro area. In December 2019, the youth unemployment rate was 14.1% in the EU28 and 15.3% in the Euro area, compared with 14.6% and 16.2% respectively in December 2018. In December 2019, the lowest rates were observed in Czechia (4.3%), Germany (5.8%) and the Netherlands (6.7%), while the highest were recorded in Greece (35.6% in October 2019), Spain (30.0%) and Italy (28.9%) [10].

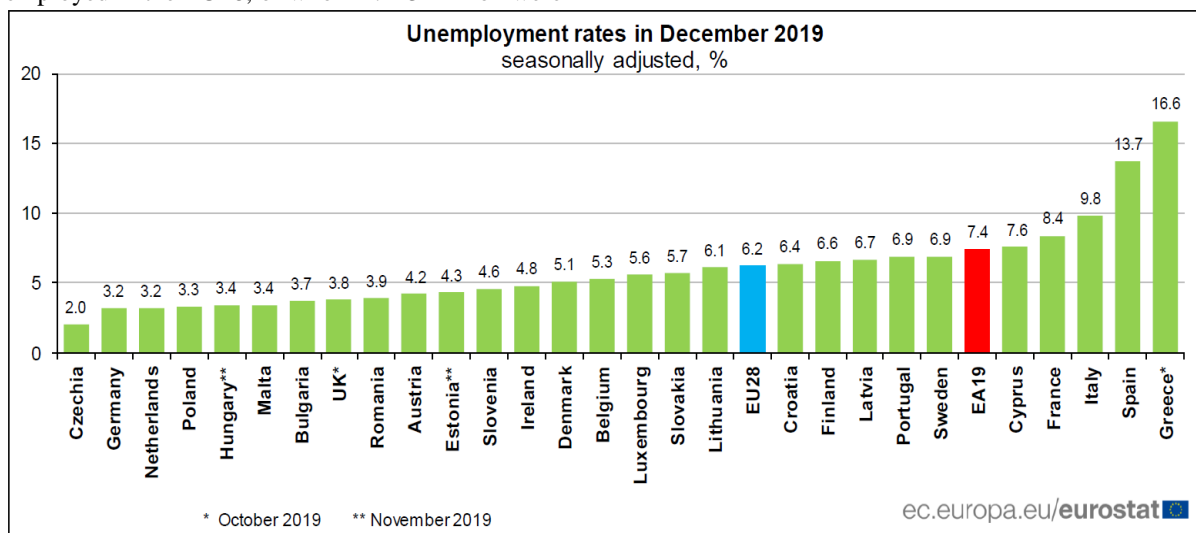


Fig 5. Unemployment rates in 2019 in Europe, %

Source: Eurostat [10]

As mentioned above, youth unemployment in Ukraine in 2019 was 15.4%, which is different from the European average to a small extent. It has a steady downward trend (in 2018 - 17.9%, in 2017 - 18.9%, in 2016 - 23.0%) in comparison to previous years [9]. The reduction of this indicator is not considered as a confirmation of the positive domestic experience of solving the problem, but rather external migration of young people, in particular to Poland, for studying at foreign universities that do not require passing the Unified State Examination, for employment abroad in order to obtain a higher level of income, including after graduation. At the same time, it is a rather high indicator, which shows insufficient motivation of employers to hire workers without relevant work experience, inappropriate choice of a profession that does not meet the needs of the market or one's own expectations, the necessity to modify university curricula with a focus on innovative and entrepreneurial activity.

The economic crisis is the main cause of external labor migration. The impossibility of finding a job or unsatisfactory working conditions within one's home country encourages people to seek better offers. This applies to people of all social backgrounds: both the unemployed and skilled workers, looking for career growth and better conditions for socio-economic and professional development [3]. In 2015-2017, 4 million citizens of Ukraine worked abroad, which is about 16% of the active-working-age population and there were 2.6-2.7 million people abroad at the same time. Accord-

ing to the Ministry of Social Policy of Ukraine, 3.2 million people were in permanent employment abroad in 2019. It makes up 18% of the total economically active population of the country. 34% of Ukrainians who have traveled abroad during these years are "pendulum migrants"; about 20% are long-term migrants, 20% are short-term migrants. About 100 thousand people left Ukraine with their families. About 563,000 people (14%) went abroad, but then returned.

Most of the Ukrainian labor migrants are concentrated in neighboring countries. Since 2014, some migrants have shifted their focus to the West, particularly in Poland, accounting for almost 40% of Ukrainian earnings in 2017 (compared with 14% in 2012). A study by the National Bank of Poland indicates that in the years 2017-2018 200 thousand of Ukrainian labor migrants came to this country annually. The number of Ukrainian migrants in Poland increased to 0.5 million people last year. A quarter of Ukrainian worked in Russia, another 11% in Italy, 9% in the Czech Republic. Other significant areas of labor emigration (from 1 to 2%) are Belarus, Portugal, Hungary, Israel, and Finland.

The most common area of employment for Ukrainians abroad is construction (39%) and work in households (16.4%). Employment of Ukrainian migrants in other areas, such as agriculture, industry, trade and services, has increased in recent years, mainly due to changes in the employment structure of Poland.

69% of labor migrants were from the West of Ukraine, although only 27% of the country's population

lives in this region. A much higher trend of migration in this region is not a new phenomenon. The West remains a relatively poor region, producing only 16% of Ukraine's GDP.

70% of labor migrants in most countries of employment are men; the only exception is Italy, where 71% of labor migrants are women, who are likely providing care services for Italian families. In Russia and Poland, physical labor predominates in agriculture, construction, and industry.

41% of labor migrants under the age of 35, compared with 34% of the total population. It is even more pronounced in Poland, where 47% of Ukrainian labor migrants are under 35 years old.

More than half of domestic labor migrants have vocational or secondary education. Migrant workers are generally less educated than the employed population of Ukraine. According to various surveys, from 16% to 37% of emigrants have higher education, while in Ukraine the share of the employed population with higher education is 48% [7].

The outflow of workforce abroad on the one hand contributed to the reduction of unemployment in Ukraine, an increase in remittances from \$ 7 billion in 2015 to \$ 10 billion in 2018, or about 8% of GDP, which is a significant contribution to household incomes and, consequently, to domestic demand, reducing a deficit of the current balance of payments. On the other hand, excessive external labor migration has led to a shortage of workers, particularly in labor-intensive industries. According to the Ministry of Finance of Ukraine, the high rate of labor migration led to an increase in the level of salaries in Ukraine. Therefore, in May 2019, the growth rate of salaries increased to 7% (compared to May of the previous year) because Ukrainian employers are forced to compete with European ones for workforce.

Currently, due to the COVID-19, quarantine restrictions and reduced of business activity in Europe, most our labor migrants have been returning home. Obviously, money transfers from migrants to Ukraine this year are supposed to be significantly less than in previous years. Reducing the income from labor migrants will put pressure on Ukraine's balance of payments. IT does not sound optimistic, considering that in the II-IV quarters of 2020 it is necessary to pay \$ 6.5 billion on external debts (government, local authorities, state-owned banks and state-owned companies), as well as \$ 2.4 billion for foreign Currency Denominated Government Bonds.

A partial halt of the Ukrainian economy in 2020 due to quarantine measures has led to a partial reduction in personnel, transfer to part-time employment, and the closure of businesses, especially small and medium ones, which raises the unemployment rate. Meanwhile, the massive return of labor migrants, filling the ranks of the unemployed in their homeland, increases the unemployment rate even more as they hardly want to sit idle for a long time and intend looking for work in Ukraine. As a result, the competition in the labor market will increase. On the one hand, competition is good for employers who now have the opportunity to choose workers. On the other hand, it is disadvantageous for

workers, since employers in conditions of a surplus of labor resources will use the consent of employees to work for low wages. In addition, citizens who returned to Ukraine should be included in social programs providing unemployment benefits in particular. It is an additional expense for the current deficit of the state budget.

However, thanks to the return of forced labor migrants the state has the opportunity to improve the demographic situation and increase the labor potential of the country. The involvement of these skilled workers will contribute to the technological and economic revival of Ukraine. The main task is to create a favorable innovation and investment climate for the resumption of production and the creation of new workplaces.

The loss of work entails certain consequences. Among the negative socio-economic consequences of unemployment, the most significant are the following:

- Unoccupied labor means underutilization of the economic potential of society, direct economic losses resulting from natural and actual unemployment. There is a reduction in production, a drop in GDP, and a decrease in tax revenues to the budget.

- Unemployment eliminates the request of trade unions to raise wages that is it works for the benefit of entrepreneurs.

- With long-term unemployment, the employee loses qualifications, and obtaining new qualifications and adapting to new conditions requires additional financial, time and psychological costs.

- Unemployment leads to a direct fall in the previously achieved standard of living. Unemployment benefits are always temporary and lower than wages. The growth of unemployment reduces consumer purchasing and investment demand, reduces the volume of savings among the population, and strengthens social differentiation.

- The very fact of unemployment causes a serious psychological trauma to the person, which leads to negative incidents (depression, overgrowth of crime, an increase in the number of suicides).

At the micro-level of unemployment it is one of the main reasons for decrease in labor efficiency and production in general, that is, deterioration in the quality of products and a decrease in their competitiveness. It is due to the fact that certain groups of the population are forced to agree to non-prestigious, uninteresting work that does not correspond to their level of skills and competence. Hence, one may have low effective, poor quality of work and high turnover of staff. Moreover, it is impossible to develop stable employee teams under such circumstances.

The unemployment rate is closely related to the magnitude of the GDP loss. According to the law of Arthur Okun, an excess of the actual level of unemployment over its natural level by 1% leads to a lag of actual GDP from its potential level by 2.5%. That is, assuming a natural unemployment rate of 5%, by appropriate calculations using the Okun formula, we obtain that at the actual unemployment rate in Ukraine in 2019 at 8.2%, cyclical unemployment causes an 8% loss of actual GDP compared to its potential volume.

For a better understanding of the relationship between the country's GDP and labor resources, we consider the dynamics of nominal and real GDP of Ukraine (Fig. 6). As we can see, the nominal GDP per capita has been increasing rapidly since 2015, driven by high inflation (43.4% in 2015, 12.4% in 2016, 13.7% in 2017,

9.8% in 2018, 4.1% in 2019), as well as reduction in population. However, an increase in real GDP per capita does not show such rapid growth. In 2018, we barely returned to the state of 2010, and only in 2019, against the background of unemployment reduction, there is a slight increase in this indicator.

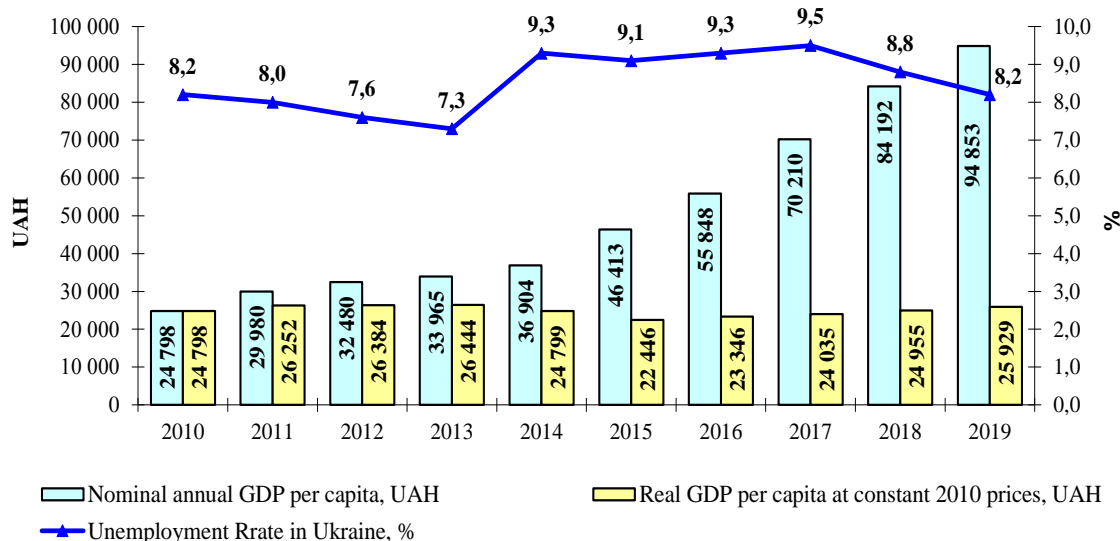


Fig. 6. Nominal and real GDP per capita vs. unemployment in Ukraine in 2010-2019
Source: compiled by authors according to the data of the State Statistics Service of Ukraine [11]

Consequently, in order to overcome cyclical unemployment, the employment regulation policy should be aimed at creating new workplaces, matching the average monthly wages to labor productivity and cost of living, which will enable unemployment reduction and production increase as well as growth of the purchasing power of the population.

Conclusions. The problem of unemployment is a key issue in a market economy, and without its solution, it is impossible to develop effective economic activity and ensure its regulation. The impact of unemployment on the national economy of Ukraine has been reflected in such economic and social consequences as: a decrease in GDP; reduction of tax revenues to the state budget; rising expenses for the payment of unemployment benefits; depreciation of the effect of higher education and vocational training; increased social tension; decrease in labor activity; the growth of forced labor migration.

To overcome unemployment in Ukraine one should undertake the following:

- to implement state and regional employment programs aimed at vocational guidance, training, retraining and advanced training of personnel;
- to bring the legislation of Ukraine in line with international standards, legislatively ensure the legalization of shadow employment, which will help to eliminating sham jobs and reduce hidden unemployment;
- to protect the internal labor market, the development of closer interaction of public administration with territorial communities, local governments to improve the planning and regulation of regional segments of the labor market;

- to provide favorable conditions for the development of small businesses and entrepreneurial activities of the unemployed, in particular by reducing taxes for enterprises, while maintaining workplaces (to compensate for the costs of hiring new employees);

- to support an alternative sphere of employment and encourage entrepreneurs to train, retrain and further employment of additional employees;

- to eliminate the discrepancy between the need for skilled personnel and the actual professional qualification structure of the labor supply, create a unified database of access to such information;

- to conduct special job fairs for educational institutions aiming at hiring university graduates;

- to attract private (both domestic and foreign) capital in regions with a stable level of unemployment;

- technically equip and timely modernize working places, which will ensure compliance with one of the main principles of organization of wages at the enterprise – the excess of the growth rate of labor productivity over the growth rate of wages.

In addition, one should improve the competitiveness of the domestic workforce by increasing its quality that is increasing the level of general education; provide advanced training in professions that are in demand on the labor market; increase employee mobility; develop such branches as medicine, culture, sports, which allow recovering of individual human capital. Particular efforts should be made to ensure decent living conditions and wages in all sectors of the national economy in order to reduce the migration mood of the population. By implementing the proposed measures, it is possible to achieve a reduction in unemployment rate, an increase in the number of employed people and, as a result, an

overall improvement in the economic and social situation in the country.

References

1. An analytical note on employment and unemployment in Ukraine in 2019 (2020). State Employment Service of Ukraine. URL: https://www.dcz.gov.ua/sites/default/files/in-fofiles/shchodo_zaynyatosti_ta_bezrobittya.pdf [in Ukrainian] (accessed 3 May 2020).
2. Bliznyuk V., Yatsenko L. (2019) Unemployment in Ukraine: socio-economic aspects. Ukraine: aspects of work. Vol. 4, pp. 19- 28. [in Ukrainian]
3. Broyaka, A.A., Lukianenko, R.O. (2019) Tendencies of the labor market development in Ukraine under the modern conditions. Economics. Finances. Law, No 2, pp. 4-10 [in Ukrainian].
4. Chernyshev, I. (1997) Measuring employment and unemployment through labour force surveys in transition countries: Methodology and data. International Labor Organization. URL: https://www.ilo.org/global/statistics-and-databases/WCMS_087922/lang--en/index.htm [in English] (accessed 3 May 2020).
5. Davydova, Iryna O., and Hatylo, Valentina P. (2019) Research on the State of the Labor Market in Ukraine as the Basis for the Formation of the Enterprise Image-Building Strategy in the Framework of Industry 4.0. The Problems of Economy. Vol. 3, pp.100–108. [in Ukrainian]
6. Dyadik, T. and Pysarenko, S. (2017) The state of employment and unemployment in Ukraine. Agrosvit, Vol. 8, pp. 35–41. [in Ukrainian]
7. How many Ukrainians went abroad and what to do with the state: an analytical note. (2018) Center for Economic Strategy. 50 p. URL: <https://ces.org.ua/wp-content/uploads/2018/04/Migration-note.pdf> [in Ukrainian] (accessed 3 May 2020).
8. Kerbikova, A., Pysmenna, O. & Tkachenko, N. (2019) The analysis of natural reproduction of the population in Ukraine. Market Infrastructure, Vol. 37, pp. 515–522. [in Ukrainian]
9. Kostiuhenko D.L. (2018) Youth unemployment in Ukraine: causes and the influence on the agricultural territories' development. Economics. Finances. Law. No 3/3. pp. 9-13. [in Ukrainian]
10. Newsrelease. Euroindicators. Eurostat (2020) No 21. [in English].
11. State Statistics Service of Ukraine. URL: <http://www.ukrstat.gov.ua/> [in English and Ukrainian] (accessed 3 May 2020).
12. The Law of Ukraine "On Employment". Notices of the Verkhovna Rada of Ukraine. (2013) No. 24, Articles 243. URL: <https://zakon.rada.gov.ua/laws/show/5067-17> [in Ukrainian] (accessed 3 May 2020).

ТЕНДЕНЦІЇ РОЗВИТКУ ІНФРАСТРУКТУРИ ТА ЛОГІСТИКИ НА ЗЕРНОВОМУ РИНКУ

Куш Л.М.

*Кандидат економічних наук,
Доцент кафедри комп'ютерних наук та економічної кібернетики
Вінницький національний аграрний університет*

GRAIN MARKET INFRASTRUCTURE AND LOGISTICS DEVELOPMENT TRENDS

Kysh L.

*Candidate of Economic Sciences,
Associate Professor of the Department of computer sciences and economic cybernetics
Vinnytsia National Agrarian University*

Анотація

У статті окреслено сучасний стан розвитку аграрного сектора економіки країни. Встановлено роль зернової галузі для аграрного сектора. Окреслено наявний стан та тенденції розвитку інфраструктурного забезпечення та логістики на зерновому ринку. Доведено, що для підвищення ефективності ведення зернового господарства недостатньо лише розширювати площі та підвищувати урожайність. Значний вплив на ефективність зернової галузі мають витрати на доробку, зберігання і транспортування продукції. З метою оцінки стану розвитку зернової інфраструктури проаналізовано наявність та потужності елеваторів на території України. Сформовано рейтинг забезпеченості регіонів елеваторами. Проаналізовано кількість сертифікованих елеваторів та їх сукупну потужність одночасного зберігання у розрізі областей України. На основі наявних даних сформовано ТОП-10 областей за кількістю сертифікованих елеваторів, потужністю одночасного зберігання зерна. Окреслено основні фактори розширення експортного потенціалу країни і роль інфраструктури та логістики у формуванні експортних поставок продукції.

Abstract

The article outlines the current state of development of the agricultural sector of the country's economy. The role of the grain industry for the agrarian sector is established. The current state and tendencies of infrastructure supply and logistics development in the grain market are outlined. It is proved that to increase the efficiency of grain management it is not enough just to expand the area and increase the yield. Significant impact on the efficiency of the grain industry has the cost of processing, storage and transportation of products. In order to assess the state of grain infrastructure development, the presence and capacity of elevators on the territory of Ukraine was analyzed. The region's security rating of elevators has been formed. The number of certified elevators and

POLISH JOURNAL OF SCIENCE

№27 (2020)

VOL. 2

ISSN 3353-2389

Polish journal of science:

- has been founded by a council of scientists, with the aim of helping the knowledge and scientific achievements to contribute to the world.
- articles published in the journal are placed additionally within the journal in international indexes and libraries.
- is a free access to the electronic archive of the journal, as well as to published articles.
- before publication, the articles pass through a rigorous selection and peer review, in order to preserve the scientific foundation of information.

Editor in chief – J an Kamiński, Kozminski University

Secretary – Mateusz Kowalczyk

Agata Żurawska – University of Warsaw, Poland

Jakub Walisiewicz – University of Lodz, Poland

Paula Bronisz – University of Wrocław, Poland

Barbara Lewczuk – Poznan University of Technology, Poland

Andrzej Janowiak – AGH University of Science and Technology, Poland

Frankie Imbriano – University of Milan, Italy

Taylor Jonson – Indiana University Bloomington, USA

Remi Tognetti – Ecole Normale Supérieure de Cachan, France

Bjørn Evertsen – Harstad University College, Norway

Nathalie Westerlund – Umea University, Sweden

Thea Huszti – Aalborg University, Denmark

Aubergine Cloez – Université de Montpellier, France

Eva Maria Bates – University of Navarra, Spain

Enda Baci – Vienna University of Technology, Austria

Also in the work of the editorial board are involved independent experts

1000 copies

POLISH JOURNAL OF SCIENCE

Wojciecha Górskiego 9, Warszawa, Poland, 00-033

email: editor@poljs.com

site: <http://www.poljs.com>