

Volume 22, Issue 4/2022

PRINT ISSN 2284-7995

E-ISSN 2285-3952



SCIENTIFIC PAPERS

**SERIES “MANAGEMENT, ECONOMIC
ENGINEERING IN AGRICULTURE AND RURAL
DEVELOPMENT”**

To be cited: Scientific Papers Series “Management, Economic Engineering in Agriculture and Rural Development”, Volume 22, Issue 4/2022.

Publishers:

University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania. Address: 59 Marasti Blvd., District 1, 011464
Bucharest, Romania, Phone: + 40213182564, Fax: +40213182888, www.managusamv.ro

Ceres Publishing House, Address: 29 Oastei Street, District 1, Bucharest, 013701, Phone/Fax: +40213179023, Email: edituraceres@yahoo.com
All rights reserved

The publishers are not responsible for the content of the scientific papers and opinions published in the Volume. They represent the authors' point of view.

EDITORIAL BOARD

Editor in Chief: Prof. Ph. D. Toma Adrian DINU

Executive Editor: Prof. Ph. D. Agatha POPESCU

Members:

Prof. Ph.D. H.C. Miguel Moreno MILLAN, University of Cordoba, Spain
Prof. Ph.D. Doc. Svend RASMUSSEN, University of Copenhagen, Denmark
Prof. Ph.D. Mogens LUND, Institute of Food and Resource Economics, Copenhagen, Denmark
Associate Prof. Ph.D. Ove MADSEN, Grinsted Agricultural Academy, Denmark
Prof. Ph.D. Pascal Anton OLTENACU, Oklahoma State University, Stillwater, United States of America
Prof. Ph.D. Rangesan NARAYANAN, University of Nevada, Reno, United States of America
Ph.D. Patrick ANGEL, US Department of the Interior, Office of Surface Mining Appalachian Regional Office, United States of America
Prof. Ph.D. Gerhard MOITZI, University of Natural Resources and Applied Life Sciences, Vienna, Austria
Acad. Prof. Ph.D. Paolo GAJO, University of Florence, Italy
Prof. Ph.D. Diego BEGALLI, University of Verona, Italy
Prof. Ph.D. Alistair Mc CRACKEN, The Queen's University, Belfast, United Kingdom
Ph.D. Hab. Stefan MANN, Research Station Agroscope, Federal Office for Economics, Tanikon, Switzerland
Prof. Ph.D. Drago CVLIJANOVIC, University of Kragujevac, Serbia
Prof. Ph.D. Jonel SUBIC, Institute of Agricultural Economics, Belgrade, Serbia
Prof. Ph.D. Nebojsa RALEVIC, University of Belgrade, Serbia
Prof. Ph.D. Mamdouh Abbas HELMY, Modern University for Technology and Information, Cairo, Egypt
Prof. Ph.D. Tarek FOUDA, Tanta University, Egypt
Prof. Ph.D. Christopher Ogbonna EMEROLE, Abia State University, Uturu, Nigeria
Prof. Ph.D. Vecdi DEMIRCAN, Isparta University of Applied Sciences, Turkey
Prof. Ph.D. Mevlüt GÜL, Isparta University of Applied Sciences, Turkey
Prof. Ph.D. Philippe LEBAILLY, University of Liege, Belgium
Prof. Ph.D. Philippe BURNY, University of Liège, Belgium
Prof. Ph.D. Hab. Volodymyr Anatoliiovych KOLODIICHUK, Stepan Gzhyskyi National University of Veterinary Medicine and Biotechnologies, Lviv, Ukraine
Acad. Prof. Ph.D. Hab. Pavel MOVILEANU, Agricultural State University of Moldova, Chisinau, Republic of Moldova
Acad. Prof. Ph.D. Hab. Alexandru STRATAN, National Institute of Economic Research, Chisinau, Republic of Moldova
Associate Prof. Ph.D. Veronica PRISĂCARU, Agricultural State University of Moldova, Chisinau, Republic of Moldova
Associate Prof. Ph.D. Veronica MOVILEANU, Agricultural State University of Moldova, Chisinau, Republic of Moldova
Associate Prof. Ph.D. Hab. Mariana DOGA-MIRZAC, Moldova State University, Chisinau, Republic of Moldova
Associate Prof. Ph.D. Hab. Dariusz KUSZ, Rzeszow University of Technology, Poland
Associate Prof. Ph.D. Zuzana PALKOVA, Slovak University of Agriculture, Nitra, Slovakia
Associate Prof. Ph.D. Petar BORISOV, Agricultural University of Plovdiv, Bulgaria
Associate Prof. Ph.D. Rashid SAEED, International Islamic University, Islamabad, Pakistan
Ph.D. Cecilia ALEXANDRI, Institute for Agricultural Economics, Romanian Academy, Bucharest, Romania
Prof. Ph.D. Emilian MERCE, University of Agricultural Sciences and Veterinary Medicine, Cluj-Napoca, Romania
Prof. Ph.D. Gheorghe MUREȘAN, University of Agricultural Sciences and Veterinary Medicine, Cluj-Napoca, Romania
Associate Prof. Ph.D. Radu Lucian PĂNZARU, University of Craiova, Romania
Prof. Ph.D. Stejărel BREZULEANU, "Ion Ionescu de la Brad" Iasi University of Life Sciences, Iasi, Romania
Prof. Ph.D. Gavrilă ȘTEFAN, "Ion Ionescu de la Brad" Iasi University of Life Sciences, Iasi, Romania
Prof. Ph.D. Vasile GOȘA, Banat University of Agricultural Sciences and Veterinary Medicine "King Mihai I of Romania", Timisoara, Romania
Prof. Ph.D. Nicoleta MATEOC-SÎRB, Banat University of Agricultural Sciences and Veterinary Medicine "King Mihai I of Romania", Timisoara, Romania
Prof. Ph.D. Tiberiu IANCU, Banat University of Agricultural Sciences and Veterinary Medicine "King Mihai I of Romania", Timisoara, Romania
Prof. Ph.D. Ioan BRAD, Banat University of Agricultural Sciences and Veterinary Medicine "King Mihai I of Romania", Timisoara, Romania
Prof. Ph.D. Ioan Nicolae ALECU, University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania
Prof. Ph.D. Manea DRĂGHICI, University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania
Prof. Ph.D. Mihai BERCA, University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania
Prof. Ph.D. Gina FÎNTÎNERU, University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania
Prof. Ph.D. Romeo Cătălin CREȚU, University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania
Prof. Ph.D. Cristiana TINDECHE, University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania
Prof. Ph.D. Elena TOMA, University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania
Prof. Ph.D. Ion DONA, University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania
Prof. Ph.D. Elena STOIAN, University of Agricultural Sciences and Veterinary Medicine of Bucharest, Romania
Prof. Ph.D. Adelaida Cristina HONȚUȘ, University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania
Prof. Ph.D. Daniela CREȚU, University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania
Prof. Ph.D. Adrian TUREK-RAHOVEANU, University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania
Prof. Ph.D. Alina MĂRCUȚĂ, University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania
Prof. Ph.D. Liviu MĂRCUȚĂ, University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania
Associate Prof. Ph.D. Silviu BECIU, University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania
Associate Prof. Ph. D. Dragoș SMEDESCU, University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania

Publishing Committee:

**Assoc. Prof. Ph.D. Silviu BECIU, Lecturer Eng. Teodora POPESCU, Lecturer Ph.D. Mariana BURCEA,
Lecturer Ph.D. Ionela VLAD, Lecturer Ph.D. Eugenia ALECU, Assistant Prof. Ph. D. Student Eng. Valentin ȘERBAN**

The papers belong to the following research fields: economic engineering in agriculture, management, marketing and agri-food trade, rural economy, agricultural policies, accounting, financial analysis, finance, agrarian legislation, durable development, environment protection, tourism, agricultural extension and other connected areas.

ECONOMIC ACTIVITY OF THE RURAL POPULATION: A CASE STUDY OF UKRAINE

Oleksandr SHUBALYI¹, Oksana LIASHENKO¹, Nadia RUD¹, Iryna SHUBALA¹,
Inna MYLKO², Nataliia MYKHALCHYNETS³

¹Lutsk National Technical University, Department of Economics, 75 Lvivska Street, 43018, Lutsk, Volyn region, Ukraine. Emails: o.shubalyi@lntu.edu.ua, oksanal2008@gmail.com, rud_nadia@ukr.net, i.shubala@lntu.edu.ua

²Lesya Ukrainka Volyn National University, Department of Management and Administration, 28 Vynnychenko Street, 43025, Lutsk, Ukraine. Email: mylko.inna@vnu.edu.ua

³Mukachevo State University, Department of Economics and Finance, 26 Uzhgorodska Street, 89600, Mukachevo, Ukraine. Email: n.mykhalchynets@gmail.com

Corresponding author: rud_nadia@ukr.net

Abstract

In the article determined and substantiated that the public opinion that the residents of rural areas, due to less strict observance of the regime of quarantine COVID restrictions on economic activity, lower population density in the settlement network, and technological features of agriculture, suffered smaller losses in terms of employment and income than other strata, turned out to be too optimistic. According to the results of the study, social alienation is increasing as a result of the deterioration of the entire spectrum of social and labour relations. Further research on the chosen subject may be related to strengthening the institutional capacity and financial self-sufficiency of communities due to the decentralization of powers and resources, the transition to a two-level model of inter-budgetary relations, the development of local self-government and changes in the administrative-territorial system, overcoming the social alienation of self-employed persons, provision of force majeure in circumstances similar to the COVID pandemic, economic access to food, health care services, education, culture, transport, and digital infrastructure.

Key words: agricultural sector, rural population, economic activity, COVID restrictions, employment, labour relations

INTRODUCTION

Research on the peculiarities of the economic activity of the rural population focuses on the influence of a number of various factors on this process. At the same time, some of them have a direct and quick effect, while others have a long-term effect. The specificity of the formation of the economic activity of the population of Ukraine consists of a series of successive systemic economic crises that occurred since 2001, which had a negative impact on the socio-economic sphere and the quality of life of the country's rural population. In addition, the unfolding of such economic crises significantly worsened due to the overlap of world global crises. As a result, all these negative phenomena negatively affected the processes of the formation of economic activity of the rural population. And even recent events related to Russia's armed aggression against Ukraine impose significant

negative consequences on the processes of economic activity of the rural population. However, the study of this impact requires in-depth analysis after receiving relevant statistical data in the future.

The main problem that affected the level of economic activity in the countryside was the long-term processes of reducing production volumes in agriculture and the transformation of agrarian business in general, which continued in the early 2000s. The consequence of these trends was the growth of negative social changes in the countryside, the migration of a large part of rural residents to cities, etc. All this led to the aggravation of the problem of economic activity of the population in the countryside, and an increase in the level of unemployment, which led to a decrease in the incomes of rural residents. At the same time, the active formation of large agricultural holdings in the 2010s was

associated with the technical re-equipment of agriculture, which was accompanied by the release of surplus labour.

Thus, solving the problems associated with a significant increase in the number of jobs is directly related to the implementation of important economic tasks in the agricultural sector.

At the same time, the difficult situation with the use of the labour force is connected not only with the growth of agricultural efficiency but also with the formation of a labour market with a high level of professional mobility of the population.

All this requires a detailed analysis of the current situation and the development of recommendations for increasing the efficiency of the use of the economically active population of rural areas.

The study of the problems of economic activity or inactivity of the rural population, their distribution by appropriate groups, and the analysis of factors that affect the level of unemployment and working capacity of peasants are not new to the field of specialized economic scientific research and are sufficiently widely disclosed in the works of such scientists as O. Agres [1], O. Apostolyuk [2], I. Balaniuk [3], O. Binert [4], A. Boiar [5], Y. Chaliuk [6], M. Dziamulych [8, 9, 10, 11, 12, 13, 14, 15], V. Nahornyi [16], N. Onyshchenko [18], A. Popescu [19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30], G. Shamborovskiy [31], T. Shmatkovska [32, 33, 34, 35], R. Sodoma [36, 37, 38, 39], O. Stashchuk [40, 41, 42], A. Tiurina [44], I. Voronenko [45, 46], I. Yakoviyuk [47], Y. Yanyshyn [48], O. Yatsukh [49] and others. However, the constant changes taking place in the socio-economic sphere, as well as the development of agricultural production in Ukraine, require an in-depth study and analysis of the grouping of the rural population by activity levels; determination of employment indicators, and the level of unemployment of rural residents; study of the influence of the quality of the received education on the economic activity of the peasants.

MATERIALS AND METHODS

The economically active population is a part of the population of both sexes, which during a certain period ensures the supply of its labour force for the production of goods and the provision of services.

Those engaged in economic activity are persons aged 15–70 who perform work for remuneration under the conditions of full-time or part-time employment, work individually (self-employed) or for individual citizen-employers, in their own (family) enterprise, members working without pay households, employed in personal auxiliary agriculture, and also temporarily absent from work. According to this methodology, persons who worked for at least 4 hours per week (at least 30 hours on a personal farm) regardless of whether it was permanent, temporary, seasonal, casual, or other work, are considered employed.

The unemployed (as defined by the International Labour Organization) are persons aged 15–70 (both registered and unregistered in the state employment service) who simultaneously meet three conditions: they do not have a job (gainful occupation), are looking for work or are trying to organize own business, ready to start work within the next 2 weeks. This category also includes persons who are studying under the referrals of the employment service, have found a job and are waiting for an answer, or are preparing to start it, but at this time are not yet working.

Economically inactive population (population outside the labour force) - persons who do not have a job and are not looking for it, that is, they cannot be classified as “employed” or “unemployed” [7].

Unemployed population – persons aged 15-70 who were unemployed or economically inactive during the surveyed week.

When summarizing scientific-methodical approaches, formulating intermediate and final conclusions and proposals, techniques of abstract-logical tools, analysis, synthesis, analogy, comparison, etc. were used in the research.

RESULTS AND DISCUSSIONS

A decrease in the level of employment of the population and its economic activity negatively affects the dynamics of macroeconomic indicators. The share of the GDP of agriculture, forestry, and fisheries (according to the production method in actual prices) in the 1st quarter of 2021 was 2.8% compared to 2.9% in 2020 and almost 3% in the same period of 2019 to the total [17]. This is despite the fact that the chain index (month to previous month) of consumer prices for the specified period for food products and non-alcoholic beverages grew every year. As a matter of fact, we have a relative decrease in the production of agricultural enterprises compared to other sectors of the economy, in particular, due to unemployment and a decrease in the economic activity of employees. According to the State Statistics

Service of Ukraine, the number of the workforce, i.e. all employed and unemployed persons aged 15 and older, in rural areas, which provided supply on the labour market during the surveyed week, in the first quarters of 2019-2021 remained almost unchanged and ranged from 52.1% (2021) to 53.8% (2020). At the same time, there was a decrease in of persons of working age (women aged 15-58 years and men 15-59 years old) in the 1st quarter of 2021 by 145 thousand compared to the corresponding period of 2019, of which the age category 20-64 years – by 106.3 thousand, which was 73.3%.

The explanation for this phenomenon can be the resumption of migration processes both in the middle of the country and outside it as a result of the relaxation of quarantine restrictions in 2021 and the start of mass vaccination.

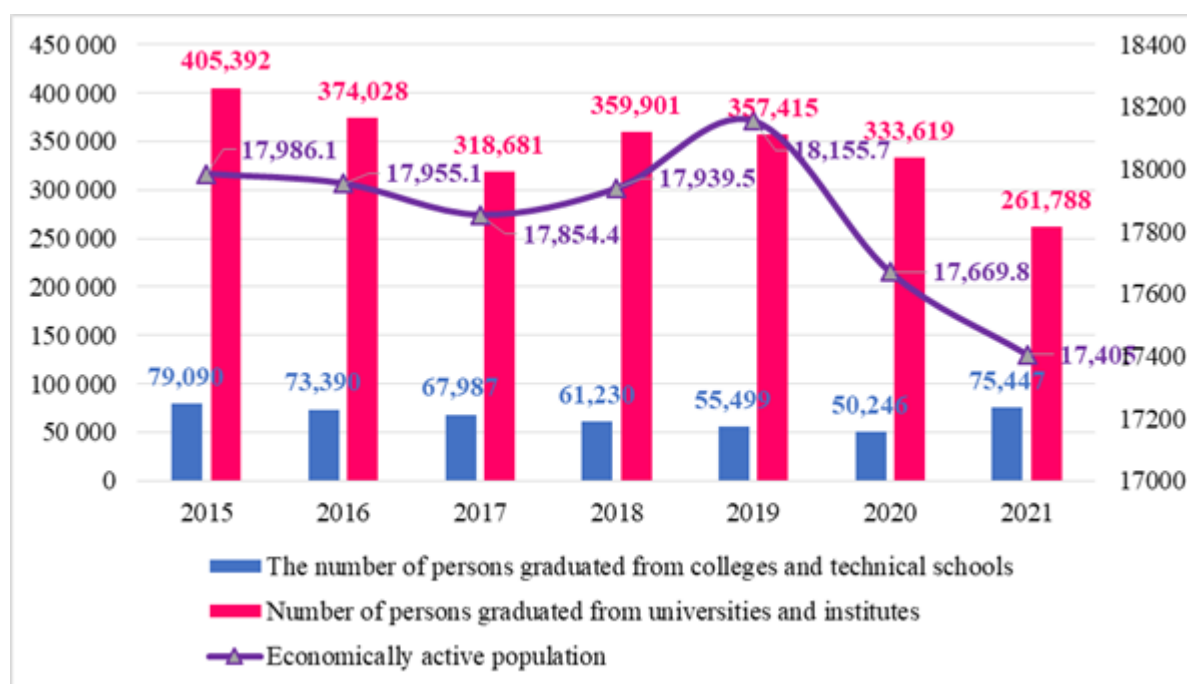


Fig.1. Dynamics of the number of the economically active population, persons who graduated from colleges and technical schools and persons who graduated from universities and institutes in Ukraine for 2015-2021, thousands of persons

Source: calculated and constructed according to data [43].

Using the data of the State Statistics Service of Ukraine, models were built that reflect the dependence of the number of economically active population aged 15-70 on graduation from educational institutions and the demographic situation in the country.

$$Y = 12,288.4794 + 48.0279X_1 + 8.5791X_2 \dots\dots\dots(1)$$

where:

Y – the number of the workforce, thousands of people;

X₁ – number of persons who graduated from colleges and technical schools, thousands of persons;

X₂ – number of persons who graduated from universities and institutes, thousands of persons.

The model shows that the number of persons who graduated from institutions of higher education has a positive effect on the number of the economically active population, therefore, a balanced interaction of the education system and the labour market will lead to an improvement in the situation in the latter and contribute to an increase in the quality of the workforce. This is confirmed by the calculated elasticity coefficients, which are equal to:

$$E_{y/x_1} = \frac{\partial y}{\partial x_1} \times \frac{\bar{x}_1}{\bar{y}} = a_1 \times \frac{\bar{x}_1}{\bar{y}} = 0.2672....(2)$$

$$E_{y/x_2} = \frac{\partial y}{\partial x_2} \times \frac{\bar{x}_2}{\bar{y}} = a_2 \times \frac{\bar{x}_2}{\bar{y}} = 0.1434$$

.....(3)

Thus, the following conclusions can be drawn:

- a 1% increase in the number of persons who graduated from colleges and technical schools, all other things being equal, will cause an increase in the number of the economically active population by an average of 0.27%;
- an increase in the number of university and institute graduates by 1%, other things being equal, will cause an increase in the number of the economically active population by an average of 0.14%.

The presented results generally correspond to the current state of the labour market, which presents an increased demand specifically for graduates of colleges and technical schools. (Fig. 2). As we can see, in 2021, compared to the same period of the previous year, there was a reduction in the number of employed rural population by 361.7 thousand people, or by 7%, including wage earners by 153 thousand, and employers by 4.5 thousand.

Collapse business has become the most alarming signal about the effectiveness of state measures aimed at supporting micro and

small enterprises in rural areas during the lockdown period associated with COVID-19.

The release of workers from agricultural enterprises, including due to COVID-19, led to a significant increase in unemployment among the rural population in 2020–2021 (Fig. 3).

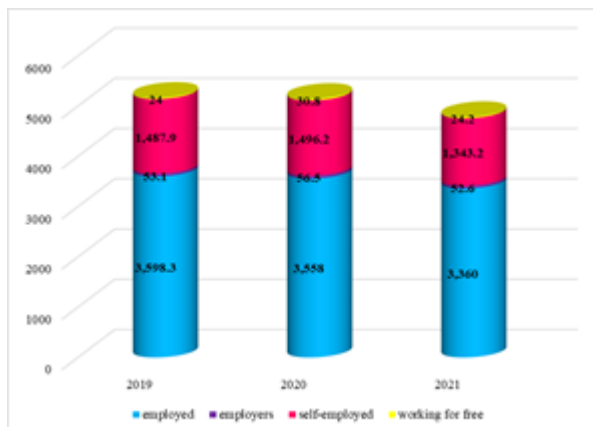


Fig. 2. The number of the employed rural population in Ukraine by employment status in 2019–2021, thousands of people
Source: [43].

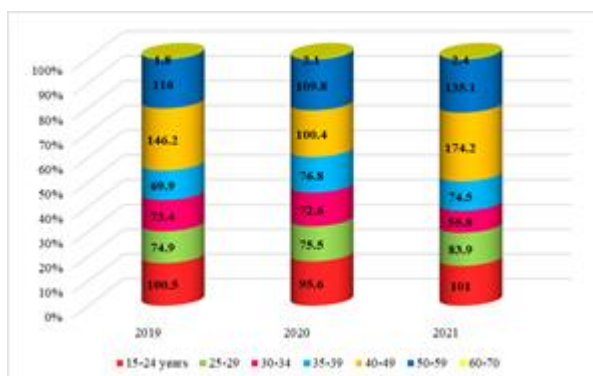


Fig. 3. Unemployment within the rural population of working age in Ukraine (according to the ILO methodology) for 2019–2021, thousands of people.
Source: calculated and constructed according to data [43].

As you can see, out of the seven analyzed age groups, the unemployment rate has increased in six, with the exception of 30–34-year-olds. For unknown reasons, the population aged 25–29 (+2.8%), 15–24 (+2.4%), and 40–49 (+2.1%) turned out to be the most vulnerable in terms of keeping their workplace. In our opinion, internal pendulum labour migrants could hardly compete with them. According to expert assessments, there was no mass influx of workers from abroad into rural areas

either, and those who returned, as a rule, were in no hurry to find a job and were looking for various opportunities to return back as soon as possible. This is confirmed by the data of the National Bank of Ukraine, according to which in 2020, compared to the same period in 2019, remittances to Ukraine increased by more than 2.6% (from 8.701 to 8.928 billion USD). From this amount, private transfers from persons working abroad for more than one year increased by 7.5% (from 677 to 728 million USD). The constant leader among countries remains Poland, whose share in total revenues is almost a third - 30.3%, although a decrease of 8.3% is observed over the same period [20]. Analytical data from the State Statistics Service of Ukraine (Fig. 4) show that in agriculture, the number of persons who had the status of unemployed in 2021 was equal to 119.8 thousand, or more than every fifth of all workers who worked in the economy of the country.



Fig. 4. The number of persons who had the status of unemployed in Ukraine in 2019-2021, thousand persons.

Source: calculated and constructed according to data [43].

As we can see, in contrast to the general dynamics of the labour market, the number of registered unemployed, including qualified workers, in the specified industries decreased by 2.6 and 2.1 thousand people, respectively, during the analyzed period. So, we can conclude that, despite the quarantine measures, the demand for agricultural workers has decreased compared to other industries, but not critically. However, this may not be true, since, for various reasons, not all unemployed people in rural areas turn to employment centres for help, and those who turn to them may not receive the appropriate

status even in the conditions of a pandemic, both objectively and subjectively. objective reasons. The increase in unemployment among officially employed residents of rural areas has expectedly increased the burden on the expenditure part of the mandatory state social insurance fund in case of unemployment. In total, during the period when quarantine restrictions were in effect, the number of service recipients increased by 20% from 509.2 thousand in 2019 to 611 thousand in 2021 (Table 1).

Table 1. Provision of services by the State Employment Service of Ukraine to residents of rural areas in 2019–2021, thousands of people

Indicators	2019	2020	2021	Deviation 2021 to 2019	
				thousands of people	%
Received services	509.2	539.5	611.0	101.8	120.0
Had the status of unemployed	246.5	269.1	326.3	79.8	132.4
In total, got a job, incl. before acquiring the status of unemployed	126.9	103.4	99.2	-27.7	78.2
Underwent professional training	46.3	32.6	30.0	-16.3	64.8
Participated in public and other works of a temporary nature	51.2	34.5	23.0	-28.2	44.9
Number of unemployed persons covered by vocational guidance services	232.9	221.2	275.8	42.9	118.4
Received unemployment benefits (at the end of the period)	107.7	146.2	150.5	42.8	139.7

Source: calculated and constructed according to data [43].

As we can see, the unfavourable situation during the COVID-19 pandemic had a negative impact on the volume of employment, including before the client became unemployed. Other active types of services of the State Employment Service decreased, namely: vocational training – up to 64.8% and participation in public works – up to 44.9%. Therefore, despite the systematic and operational measures of the state, in extreme conditions, the rural unemployed found themselves in a kind of institutional trap. On the one hand, they were released, depriving them of the basic means of subsistence, while on the other hand, opportunities for employment and finding a new place of work were significantly narrowed.

CONCLUSIONS

It has been established that the public opinion that the residents of rural areas, due to less strict observance of the regime of quarantine COVID restrictions on economic activity, lower population density in the settlement network, and technological features of agriculture, suffered smaller losses in terms of employment and income than other strata, turned out to be too optimistic. As a result of the introduction of two all-Ukrainian lockdowns in 2020-2021, the number of the employed rural population decreased by 361,000 people, or by 7%, of which 198,000 were employed and 153,000 were self-employed. The unemployment rate during the specified period also increased by 1.7 percentage point, or up to 11.5%. In April-May 2021, almost 120,000 workers, or one in five of the total in the economy, received the status of unemployed, dismissed from agricultural, forestry, and fishing enterprises. At the same time, the number of applicants for one vacancy in rural areas has doubled due to a simultaneous reduction in the financial capabilities of the State Employment Service, especially regarding the implementation of active forms of returning them to employment status. In the conditions of the pandemic, the state and local authorities have become even more distant from the vital problems of the self-employed in rural areas. Social alienation is increasing as a result of the deterioration of the entire spectrum of social and labour relations. In the first half of 2020, compared to the same period of the previous year, the share of the population with average per capita equivalent monthly income lower than the legally established and the actual living wage increased from 2.7 to 3.3% and from 33.6 to 34, 7% respectively. As a result, the well-being of rural households worsened, the scale of poverty increased, and the problem of economic access to food products became even more acute for certain categories. Further research on the chosen subject may be related to strengthening the institutional capacity and financial self-sufficiency of communities due to the decentralization of powers and resources, the transition to a two-

level model of inter-budgetary relations, the development of local self-government and changes in the administrative-territorial system, overcoming the social alienation of self-employed persons, provision of force majeure in circumstances similar to the COVID pandemic, economic access to food, health care services, education, culture, transport, and digital infrastructure.

REFERENCES

- [1]Agres, O., Sadura, O., Shmatkovska, T., Zelenko, S., 2020, Development and evaluation of efficiency of leasing activities in agricultural sector of Ukraine. Scientific Papers: Series «Management, Economic Engineering in Agriculture and rural development», Vol. 20(3): 53-60.
- [2]Apostolyuk, O., Shmatkovska, T., Chykalov, I., Husak, A., 2020, Assessment of the rural population economic activity in the system of united territorial communities development: a case study of Volyn Region, Ukraine. Scientific Papers: Management, Economic Engineering in Agriculture and Rural Development, Vol. 20(3): 99-108.
- [3]Balaniuk, I., Kyrylenko, V., Chaliuk, Yu., Sheiko, Yu., Begun, S., Diachenko, S., 2021, Cluster analysis of socio-economic development of rural areas and peasant farms in the system of formation of rural territorial communities: a case study of Volyn region, Ukraine. Scientific Papers Series «Management, Economic Engineering in Agriculture and Rural Development», Vol. 21(3): 177-188.
- [4]Binert, O., Sodoma, R., Sadovska, I., Begun, S., Shmatkovska, T., Balash, L., 2021, Mechanisms for improving economic relations in the milk subcomplex of the agricultural sector: a case study of Ukraine. Scientific Papers Series «Management, Economic Engineering in Agriculture and Rural Development». Vol. 21(2): 101-110.
- [5]Boiar, A., O., Shmatkovska, T. O., Stashchuk, O. V., 2018, Towards the theory of supranational finance. Cogent Business & Management. 5(1).
- [6]Chaliuk, Y., Dovhanyk, N., Kurbala, N., Komarova, K., Kovalchuk, N., 2021, The digital economy in a global environment. AD ALTA: Journal of Interdisciplinary Research. Vol. 11(1), Special issue XVII: 143-148.
- [7]Davydenko, N., Bilyak, Y., Nehoda, Y., Shevchenko, N., 2020, Financial security for the agrarian sector of Ukraine. Economic science for rural development, Vol. 64.
- [8]Dziamulych, M., Hrytsenko, K., Krupka, I., Vyshyvana, B., Teslia, S., Tereshko, O., Fadyeyeva, I., 2022, Features of banks` liquidity management in the context of the introduction of the LCR ratio in Ukraine. AD ALTA: Journal of interdisciplinary research. 2022. Vol. 12(1). Special Issue XXVII: 148-152.

- [9]Dziamulych M., Krupka, I., Andruschak, Y., Petyk, M., Paslavska, R., Grudzevych, Y., Martyniuk, R., 2022, Banking liquidity risk management in Ukraine based on the application of digital and information technologies. AD ALTA: Journal of interdisciplinary research. Vol. 12(2). Special Issue XXIX: 102-107.
- [10]Dziamulych, M., Kulinich, T., Shmatkovska, Y., Moskovchuk, A., Rogach, S., Prosovych, O. Talakh, V., 2022, Forecasting of economic indicators of agricultural enterprises activity in the system of ensuring their management on the basis of sustainable development: a case study of Ukraine. Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development". Vol. 22(1): 207-216.
- [11]Dziamulych, M., Moskovchuk, A., Vavdiuk N., Kovalchuk N., Kulynych, M., Naumenko, N., 2021, Analysis and economic and mathematical modeling in the process of forecasting the financial capacity of milk processing enterprises of the agro-industrial sector: a case study of Volyn region, Ukraine. Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development". Vol. 21(1): 259-272.
- [12]Dziamulych, M., Petrukha, S., Yakubiv V., Zhuk, O., Maiboroda, O., Tesliuk, S., Kolosok, A. 2021, Analysis of the socio-demographic state of rural areas in the system of their sustainable development: a case study of Ukraine. Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development". Vol. 21(4): 223-234.
- [13]Dziamulych, M., Shmatkovska T., Petrukha, S., Zatsepina, N. Rogach, S., Petrukha, N., 2021, Rural agritourism in the system of rural development: a case study of Ukraine. Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development", Vol. 21(3): 333-343.
- [14]Dziamulych, M., Stashchuk, O., Korobchuk, T., Mostovenko, N., Martyniuk, R., Strelkova, I., Grebeniuk, N., 2021, Banking innovations and their influence on the formation of digital banking. AD ALTA: Journal of Interdisciplinary Research. Vol. 11(2), Special issue XXI: 108-112.
- [15]Dziamulych, M., Yakubiv, V., Shubala, I., Filiuk, D., Korobchuk, L., 2020, Analysis and evaluation of the rural labour market and employment of the rural population: a case study of Volyn region, Ukraine. Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development", Vol. 20(4): 165-174.
- [16]Nahorny, V., Tiurina, A., Ruban, O., Khletytska, T., Litvinov, V., 2022, Corporate social responsibility in modern transnational corporations. Amazonia Investiga. Vol. 11(53): 111-121.
- [17]Nikolaeva A., Voronenko I., Shulha O., Bondarenko I., Palchyk M., 2022, Digital and information technologies in the management of financial activities in Ukraine in the conditions of the digitalization of the economy. AD ALTA: Journal of Interdisciplinary Research. Vol. 12(2), Special issue XXIX: 91-101.
- [18]Onyshchenko, N., Serdiuk, N., Krykun, V., 2021, Pre-service teachers' training for the innovative extracurricular work. Advanced Education. Vol. 8(19): 20–32.
- [19]Popescu A., 2013, Considerations on the Rural Population as a Resource of Labor Force in Romania. Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development, Vol. 13(3): 229-236.
- [20]Popescu A., 2013, Considerations on the main features of the agricultural population in the European Union, Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development, Vol. 13(4): 213-220.
- [21]Popescu A., 2015, Research on labour productivity in Romania's agriculture. Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development, Vol. 15(2): 271-280.
- [22]Popescu, A., 2016, Research on the concentration of tourist arrivals in Romania. Scientific Papers: Series Management, Economic Engineering in Agriculture and rural development, Vol. 16(1): 425-429.
- [23]Popescu, A., 2016a, Research on the dynamics and territorial dispersion of the occupied population in Romania's tourism in the period 2007-2015. Scientific Papers: Series Management, Economic Engineering in Agriculture and rural development, Vol. 16(4): 279-288.
- [24]Popescu A., 2016b, The position of tourist and agrotourist guesthouses in Romania's accommodation structures. Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development, Vol. 16(1): 417-424.
- [25]Popescu A., Condei R., 2015, Research on Romania's employment in agriculture and its position in the European Union, Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development, Vol. 15(2): 281-289.
- [26]Popescu, A., Dinu T. A., Stoian, E., 2019, Changes, trends and relationships between average income and consumption expenditures per household in Romania in the period 2007-2017. Scientific Papers: Series Management, Economic Engineering in Agriculture and rural development, Vol. 19(2): 363-374.
- [27]Popescu, A., Dinu, T. A., Stoian, E., 2018, Demographic and economic changes characterizing the rural population in Romania. Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development, Vol. 18(2): 333-346.
- [28]Popescu, A., Grigoras, M. A., 2011, Research concerning Rural versus Urban Population–Present and Prospect. Scientific Papers: Series Management, Economic Engineering in Agriculture and rural development, Vol. 11(2): 151-156.
- [29]Popescu, A., Matei, A., 2008, Researches concerning the feasibility of Production Integration Management in a family sericultural farm, Bulletin USAMV Cluj-Napoca, Horticulture, Vol.65 (2): 302-307.

- [30]Popescu, A., Matei, A., Sladescu, V., 2008, Research concerning production diversification and integration in order to increase productivity and competitiveness of family sericultural farms. *Scientific Papers Animal Science and Biotechnologies*, Vol. 41(1): 702-707.
- [31]Shamborovskyi, G., Nehoda, Y., Demidova, N., Tarashchenko, V., Breus, S., 2021, Modeling Study on Risk Identification in the Process of Anti-Crisis Enterprise Management. *Journal of Risk and Financial Management*. Vol. 14(2), 67.
- [32]Shmatkovska, T., Dziamulych, M., Gordiichuk, A., Mostovenko, N., Chyzh, N., Korobchuk, T. 2020, Trends in human capital formation and evaluation of the interconnection of socio-demographic processes in rural area: a case study of Volyn region, Ukraine. *Scientific Papers: Series «Management, Economic Engineering in Agriculture and rural development»*, Vol. 20(2): 437-444.
- [33]Shmatkovska T., Dziamulych M., Yakubiv V., Myshko O., Stryzheus L., Yakubiv R., 2020, Economic efficiency of land use by agricultural producers in the system of their non-current assets analysis: a case study of the agricultural sector of Ukraine. *Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development"*. Vol. 20(3): 543-554.
- [34]Shmatkovska, T., Kulinich, T., Dziamulych, M., Rogach, S., Bilochenko, A., Serdiukova, O., 2022, Analysis of investment efficiency in the agricultural sector of Ukraine on the basis of sustainable development. *Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development"*. Vol. 22(3): 649-657.
- [35]Shmatkovska T., Nikolaeva, A., Zabedyuk, M., Sheiko, Yu., Grudzevych Yu., 2020, Increasing the efficiency of the labour resources usage of agrosector enterprises in the system of sustainable development of the rural territories: a case study of Ukraine. *Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development"*. Vol. 20(4): 467-476.
- [36]Sodoma, R., Brukh, O., Shmatkovska, T., Vavdiuk, N., Bilochenko, A., Kupyra, M., & Berezhnytska, G., 2021, Financing of the agro-industrial complex in the context of the implementation of international experience. *Financial and credit activity: problems of theory and practice*, 38(3): 341-350.
- [37]Sodoma, R., Cherevko, H., Krupiak, I., Andrusiak, H., Brodska, I., Shmatkovska, T., 2021, Regulation of the lending market and prospects of financial sector stabilization in Ukraine. *Financial and credit activity-problems of theory and practice*. Vol. 36(1): 4-13.
- [38]Sodoma R., Shmatkovska T., Dziamulych M., Vavdiuk, N., Kutsai, N., Polishchuk, V., 2021, Economic efficiency of the land resource management and agricultural land-use by agricultural producers. *Management Theory and Studies for Rural Business and Infrastructure Development*. Vol. 43(4): 524-535.
- [39]Sodoma R., Shmatkovska T., Dziamulych M., Vavdiuk, N., Kutsai, N., Polishchuk, V., 2021, Economic efficiency of the land resource management by agricultural producers in the system of their non-current assets analysis: a case study of the agricultural sector. *Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development"*. Vol. 21(2): 577-588.
- [40]Stashchuk, O., Boiar, A., Shmatkovska, T., Dziamulych, M., Skoruk, O., Tesliuk, S., Zintso, Yu., 2021, Analysis of fiscal efficiency of taxation in the system of filling budget funds in Ukraine. *AD ALTA: Journal of interdisciplinary research*. Vol. 11(1) Special Issue XVII: 47-51.
- [41]Stashchuk, O., Shmatkovska, T., Dziamulych, M., Kovalska, L., Talakh, T., Havryliuk, O. Integrated assessment, analysis and management of financial security and stability of joint-stock companies operating in the agricultural sector: a case study of Ukraine. *Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development"*. Vol. 21(2): 589-602.
- [42]Stashchuk, O., Shmatkovska, T., Dziamulych, M., Kupyra, M., Vahnovska, N., Kosinskyi, P., 2021, Model for efficiency evaluation of financial security management of joint stock companies operating in the agricultural sector: a case study of Ukraine. *Scientific Papers Series "Management, Economic Engineering in Agriculture and Rural Development"*. Vol. 21(1): 715-728.
- [43]State Statistics Service of Ukraine, <http://www.ukrstat.gov.ua>, Accessed on April 1, 2022.
- [44]Tiurina, A., Nahorny, V., Ruban, O., Tymoshenko, M., Vedenieiev, V., Terentieva, N., 2022, Problems and Prospects of Human Capital Development in Post-Industrial Society. *Postmodern Openings*. Vol. 13(3): 412-424.
- [45]Voronenko, I., Klymenko, N., Nahorna, O., 2022, Priority areas of Ukraine's innovative potential in the conditions of digital transformation. *Financial and Credit Activity Problems of Theory and Practice*. Vol. 1(42): 313-321.
- [46]Voronenko I., Skrypyuk A., Klymenko N., Zherlitsyn D., Starychenko Y., 2020, Food security risk in Ukraine: assessment and forecast. *Agricultural and Resource Economics: International Scientific E-Journal*. Vol. 6(4): 63-75.
- [47]Yakoviuk, I., Chyzhov, D., Karpachova, N., Hlushchenko, S., Chaliuk, Yu., 2020, National security policy in Ukraine: a change in the system of power relations of the modern world. *Revista San Gregorio*. Vol. 42: 224-235.
- [48]Yanyshyn, Ya., Sodoma, R., Markiv, G., Lypych, L., Shmatkovska, T., Shidnytska, G., 2020, Economic efficiency of the nuts complex business in the agriculture of Ukraine. *Scientific Papers Series «Management, Economic Engineering in Agriculture and Rural Development»* Vol. 20(2): 531-536.
- [49]Yatsukh, O., Demchenko, I., Ilnytsky, D., Tsap, V., Shmatkovska, T., 2021, Management of banking innovations in the conditions of digitalization. *AD ALTA: Journal of Interdisciplinary Research*. Vol. 11(1), Special issue XVII: 123-127.



МУКАЧІВСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ

89600, м. Мукачево, вул. Ужгородська, 26

тел./факс +380-3131-21109

Веб-сайт університету: www.msu.edu.ua

E-mail: info@msu.edu.ua, pr@mail.msu.edu.ua

Веб-сайт Інституційного репозитарію Наукової бібліотеки МДУ: <http://dspace.msu.edu.ua:8080>

Веб-сайт Наукової бібліотеки МДУ: <http://msu.edu.ua/library/>