

## ASSESSMENT OF ECONOMIC ACTIVITY OF THE RURAL POPULATION BY AGE AND GENDER GROUPS: A CASE STUDY OF UKRAINE

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### *Abstract*

*In the article we proved that the transformations taking place in the labour market lead to radical changes in the economic activity and inactivity of the rural population, which requires additional analysis and finding ways to address existing disparities. In the research we grouped the regions of Ukraine by the level of economic activity of the rural population in 2019 at the age of 15-70 years and in working age, the results of which are presented in the form of cartograms. The results of the analysis revealed that the level of education has a stronger positive impact on the level of economic activity of women. This means that education is more important for women in terms of improving their position in the labor market. The article has proven that currently, the level of economic activity of the rural population and the rural labour market in Ukraine remain underdeveloped, need constant change and adaptation to world standards. In modern conditions, the main factors influencing the processes taking place in the rural labour market are: structural adjustment of the economy, in particular the predominant development of agriculture; accelerated economic growth; building the potential of entrepreneurship; scientific and technological progress, digitalization of society; state regulation of labour potential development, labour market, and employment.*

**Key words:** rural population, economic activity, rural development, economically inactive rural population, gender groups, working age

### INTRODUCTION

Indicators of economic activity occupy an important place in the system of criteria for the effectiveness of economic development of the rural population and reflect the general economic situation at the level of the agricultural sector. In Ukraine, the situation in the field of economic activity of the rural population is quite problematic. The difficult situation with the efficient use of labour is due not only to the growth of agricultural efficiency but also to the formation of the labour market. The prolonged economic crisis in the field of agricultural production has led to significant changes in the living standards of the rural population of Ukraine, which has manifested itself in declining incomes and increasing informal employment. The crisis has led to a reduction in the number of employees. On the other hand, the intensive development of large agricultural holdings,

which has been observed since 2019, also does not contribute to the growth of employment. On the contrary, the growth of incomes of large agricultural enterprises stimulates them to make large investments in equipment upgrades and the introduction of innovative technologies, which on the one hand significantly reduces the overall need for labour, and on the other – increases the demand for highly skilled workers.

In general, in the agricultural sector, there is a reduction in the number of people employed directly in agriculture, which significantly affects the lifestyle of people living in rural areas. Thus, the problems of adaptation of the rural population to changes in external conditions are accompanied by a significant transformation in the field of economic activity, in particular - when the age structure of those employed in agriculture changes. Accordingly, the solution of current problems in the field of economic activity of the rural

population of Ukraine is quite relevant, which necessitates the study and analysis of its specifics.

Many works and specific scientific researches are devoted to the research of problems of economic activity and employment in the agrarian sphere. Their results are widely covered in the works of such leading scientists as O. Agres [1], O. Apostolyuk [2], S. I. Bandur [3], D. Bohynia [4], O. Bugutskyi [5], V. S. Diiesperov [7-8], M. Dziamulych [9-12], Yu. Ya. Luzan [17], P. M. Makarenko [18], L. O. Marmul [19], V. M. Oliinyk [21], A. Popescu [22-33], M. S. Riabukha [34], T. Shmatkovska [36-38], R. Sodoma [39], O. Stashchuk [40-41], I. N. Tofan [42], I. Tsybaliuk [43], V. Yakubiv [44], Ya. Yanyshyn [45], O. Yu. Yermakov [46], I. Zhurakovska [47] and others.

Despite the complex set of problems considered in the works of leading economists, it should be noted that much of this work is devoted to the problems of income and unemployment of the rural population. At the same time, the transformations taking place in the labour market lead to radical changes in the economic activity and inactivity of the rural population, which requires additional analysis and finding ways to address existing disparities.

Given the scientific achievements of these scientists, it should be noted that identifying problems of economic activity or inactivity of rural residents, their distribution by appropriate groups, analysis of factors affecting the level of unemployment and working capacity of peasants requires further research. All this requires a detailed analysis of the situation and the development of recommendations for improving the efficiency of the economically active population of rural areas.

## MATERIALS AND METHODS

To select the most effective methods of managing such socio-economic phenomena as economic activity of the population, its employment, and unemployment, as well as for their correct characterization, it is

important to adequately assess them. Unemployment and employment are very complex and multifaceted phenomena, so they need to be characterized from different angles and by various indicators [16].

According to the recommendations of the International Labour Organization (ILO), the entire population aged 15-70 is divided into three mutually exclusive and exhaustive categories: employed, unemployed, economically inactive (Fig. 1).

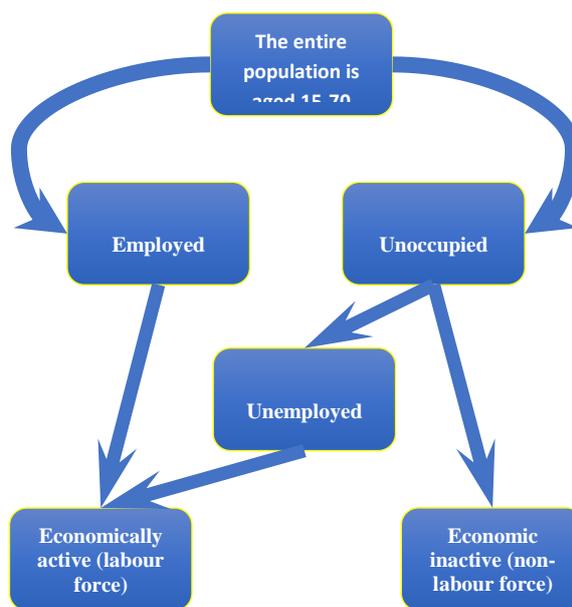


Fig. 1. The structure of the economically active rural population according to the methodology of the International Labour Organization

Source: generalized and systematized based on [15].

The number of the economically active rural populations is an absolute indicator of economic activity, which reflects its size. This indicator quantitatively reflects the labor potential of the country's population. However, little can be said about the economic activity of the country's population, operating on only one indicator. To assess economic activity, it is important to know how this indicator changes in dynamics, how large or small it is for the entire population. Relative indicators are used for this purpose [16].

The economically inactive rural population (persons who are not part of the labor force) are persons aged 15-70 who did not belong to the employed or unemployed population during the surveyed week [13].

The economically inactive population includes pupils and students, pensioners, persons receiving disability pensions, persons engaged in housekeeping; persons who have stopped looking for a job, having exhausted all possibilities of obtaining it, but who can and are ready to work; other persons who do not need to work regardless of the source of income [19]. However, it should be noted that the labor market has a highly dynamic nature, so we should consider not only the number of each group for a certain period of time but also the movement (flows) of people between different groups [8].

The level of economic activity of the rural population is its relative indicator, which reflects its “popularity” compared to other types of activity (inactivity). It is calculated as the ratio of the economically active population ( $P_{ea}$ ) to the total population aged 15-70 years ( $P_{15-70}$ ):

$$L_{ea} = \frac{P_{ea}}{P_{15-70}} \times 100$$

The economically active population of rural areas can be divided into two categories - employed and unemployed. Employees include persons of both sexes between the ages of 15 and 70 who, during the period under review, performed hired work for remuneration (money or payment in kind), as well as other work that brought income; were temporarily absent from work due to illness or injury, days off, annual leave, leave both with and without maintenance, time off, leave at the initiative of the administration, strike and other reasons; performed work without pay at the family business [14].

The employment rate is a relative indicator of it, which shows its prevalence among adults. It is calculated as the ratio of the employed population ( $P_e$ ) to the total population aged 15-70 years:

$$R_e = \frac{P_e}{P_{15-70}} \times 100,$$

The number of unemployed ( $P_{ue}$ ) is an absolute indicator of unemployment, which reflects its size. To assess unemployment, it is

also very important to know how this indicator changes in relation to past periods, as well as how widespread this negative phenomenon is in society. Relative unemployment rates are used for this purpose. The unemployment rate ( $R_{ue}$ ) is a relative unemployment rate that shows its prevalence among the economically active population. It is calculated as the ratio of the number of unemployed to the number of the economically active population ( $P_{ea}$ ):

$$R_{ue} = \frac{P_{ue}}{P_{ea}} \times 100,$$

The analysis of the given economic indicators provides an opportunity to estimate losses from the incomplete use of labour resources due to unemployment [16].

The distribution of the employed population by types of economic activity is carried out on the basis of a comprehensive assessment by integrating data from a sample survey of the population, state statistical surveys of enterprises, institutions, organizations, and administrative reporting.

## RESULTS AND DISCUSSIONS

Note that the agricultural population directly related to agriculture, which provides the economically active, and those who are dependent on them, can be considered only 2.6 billion people, or 38% of the world's population. Of these, about 2 billion people lived in Asia, 0.5 billion – in Africa. The share of economically active (employed and job seekers) in agriculture is about 40% of the total number of economically active. In developed countries, the share of the population whose livelihoods are directly related to agriculture is 4%, in developing countries – 45%, and in the least developed countries - 66%. The share of economically active in agriculture is 4%, 48%, and 65%, respectively [16].

The rural population in Ukraine is the basis for the formation of the labour force in the agricultural sector of the economy, the number of which is significantly reduced due to negative socio-economic and demographic

processes. According to official statistics, the total population of Ukraine is 42.1 million permanent residents. Note that of the rural residents – about a third. If we estimate the indicators of 2018, the rural population in Ukraine for 10 years decreased by about 16%. Economically active rural population – about 16%. The employment rate of the rural population in 2019 in Ukraine was 62.2%, urban – 68.2%. The total number of people employed in agriculture is 2.9 million. The unemployment rate among the rural population in Ukraine is currently 10.9%.

Note that agriculture in Ukraine employs about 16.7% of the economically active population. For comparison: in US agriculture, in the G7 countries and in Japan, 2.5, 4.7 and 7.2% of the population are employed, respectively.

It should be noted that only employment, the income from which allows not only the basic reproduction of the workforce but also provide an opportunity for the educational, professional, cultural, and spiritual development of the employee at a cost that is acceptable to the employer from the standpoint of effective activity, can be considered productive. In Ukraine, the level of social capital is extremely low,

unsatisfactory condition with the access of the rural population to social infrastructure and social services, there is a demographic crisis, increasing migration of rural population to cities and abroad in search of proper work and wages, living conditions. According to official data, the number of migrant workers in Ukraine is about 7% of the socially active population. Thus, according to unofficial estimates, the number of migrant workers from rural areas reaches 2 million people.

According to the results of the analysis of official data obtained from the State Statistical Service of Ukraine, we analysed the dynamics of indicators on the economically active rural population by gender groups and the level of economic activity in 2017-2019 (Table 1).

According to the results of the study, the economically active rural population in Ukraine is declining every year, namely – in 2018 the female rural population aged 15-70 years compared to 2017 decreased by 863.7 thousand people, and the male rural population – by 959.3 thousand people. In 2018-2019, the economically active female rural population aged 15-70 decreased by 85.2 thousand people and the male rural population – by 57.6 thousand people.

Table 1. Dynamics of the economically active rural population in Ukraine by the level of economic activity and gender groups in 2017-2019

Indexes	2017		2018		2019		Absolute deviation (women)		Absolute deviation (men)	
	Women	Men	Women	Men	Women	Men	2017-2018	2018-2019	2017-2018	2018-2019
Economically active rural population (thousand people):										
At the age of 15-70 years	9,428.3	10,492.6	8,564.6	9,533.3	8,479.4	9,475.7	863.7	-85.2	959.3	57.6
Working age	8,878.4	10,156.8	8,180.9	9,215.1	8,142.9	9,160.7	697.5	-38.0	941.7	54.4
The level of economic activity of the rural population (%):										
At the age of 15-70 years	56.1	69.3	56.2	69.2	55.9	69.1	0.1	-0.3	-0.1	-0.1
Working age	66.5	76.4	66.5	76.7	65.4	77.0	0.0	-1.1	0.3	0.3

Source: Built and systematized based on [13].

The level of economic activity of the rural population of Ukraine in the studied period fluctuates. In particular, in 2018, for the rural female population aged 15-70, the studied indicator increased by 0.1%, and for men –

decreased by 0.1%. In 2019, compared to the previous year, the level of economic activity of the rural population in Ukraine aged 15-70 decreased by 0.3% for women and by 0.1% for men.

It should be noted that the level of economic activity of the rural population is influenced by a set of factors, among which it is expedient to highlight the reduction in the number of small and medium-sized businesses, reducing the level of social support at the state level as a whole. In general, for rural residents in Ukraine, the indicator of economic activity is not high enough, which indicates a lack of activity of the population in search of work.

A decrease in such categories of the population as the number of the economically active and employed population (as well as the level of economic activity and employment) means a decrease in resources for labour, i.e. this is an undesirable trend for the economy of any country. We analysed the level of economic activity of the rural population of Ukraine and one of the countries closest to the territory and borders with Ukraine (namely Poland) by age and gender groups in 2019 (Figs. 2, 3).

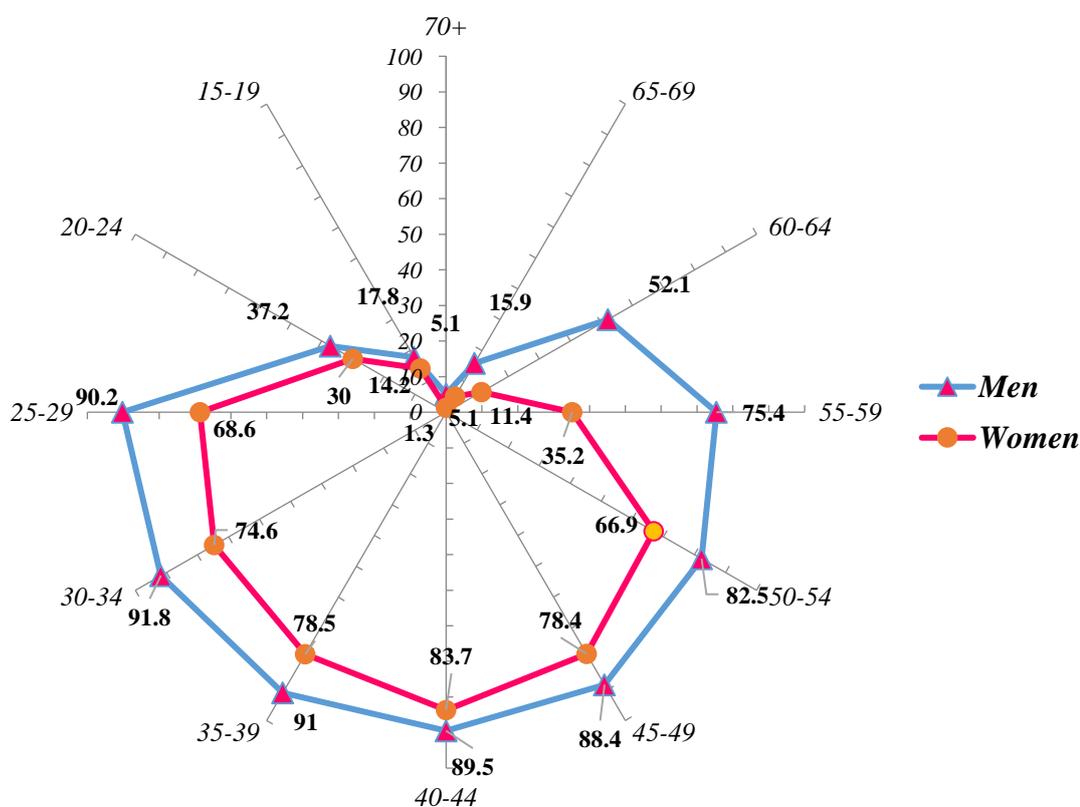


Fig. 2. The level of economic activity of the rural population of Ukraine by age and gender groups in 2019, %  
 Source: Own development based on [13].

According to the analysis, the lowest level of economic activity of the rural population in Ukraine is typical for people aged 15-19, in particular for rural women of this age group it was – 14.2%, and for rural men – 17.8%. The most active in the search for work in Ukraine is the male rural population aged 30-34 years and aged 35 to 39 years. The highest level of economic activity of the rural population of women is in the age group of 40-44 years – 83.7% (Fig. 2).

The analysis of the factors influencing the level of economic activity of the rural population by gender groups showed that the growth of economic activity of the female population, in contrast to the male population, is negatively affected by the number of children. This result is explained by the fact that it is the rural women who bear the main burden associated with raising children. To compare and contrast the identified dependencies, we analysed the level of economic activity of the rural population by

age and gender groups in 2019 in one of the countries closest to the territory and bordering Ukraine, namely Poland (Fig. 3).

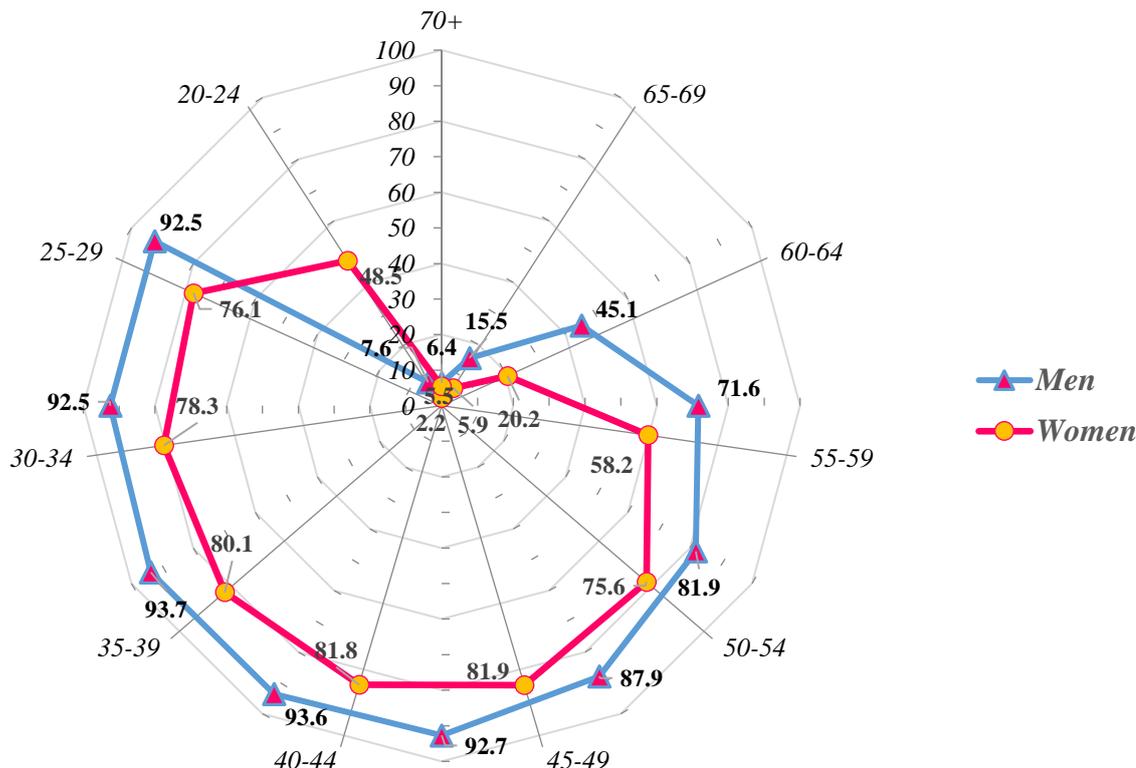


Fig. 3. The level of economic activity of the rural population of Poland by age and gender groups in 2019, %  
 Source: Own development based on [13].

In particular, it was found that the highest level of economic activity of the rural male population in Poland falls on the age groups of 30-34 and 35-39 years (93.7% and 93.6%, respectively). The lowest level of economic activity of the male rural population is in Poland for the age groups 15-19 years and 70+ years (6.4%).

It was found that the level of economic activity of the rural female population in Poland is slightly different from that in Ukraine, namely - the highest level of economic activity of the rural female population in Ukraine falls on the age group 40-44, and in Poland, the age group with the highest economic activity rural population is extended to 49 years (Fig. 3).

The study suggests that the positive impact of age and the negative impact of the status of pensioner and pupil (student) is observed for both men and women. This indicates that the structures of factors influencing economic activity in men and women are similar in both Ukraine and Poland.

The high level of female employment has led women to behave in the same way as men when making decisions about economic activity. According to the results of the study, the activity of men in the labour market depends to a greater extent on economic factors, and women - on socio-demographic.

According to the results of the study, a larger share of rural residents in Ukraine in the absence of paid work relies solely on personal farming. These are mostly people between the ages of 50 and 59. On average, 56.7% of men and 44.6% of unemployed women in all age groups participate in farming. Young people under the age of 24 consider employment in the peasant economy to be a help to the older generation; 78% of young people participate in farming only in their spare time. However, people in this age group, who consider employment in farms to be their main activity, spend an average of 29 hours a week running such farms. Given that 63% of men and 64% of women in the relevant categories have paid work, it can be concluded that personal

farming provides the bulk of employment in the rural population. 59.6% of the rural population of Ukraine combines the main work with participation in the peasant economy [46].

We compared the level of economic activity in Ukraine and countries with developed economic systems and a high level of social protection of the rural population (on the example of Great Britain) (Fig. 4, 5).

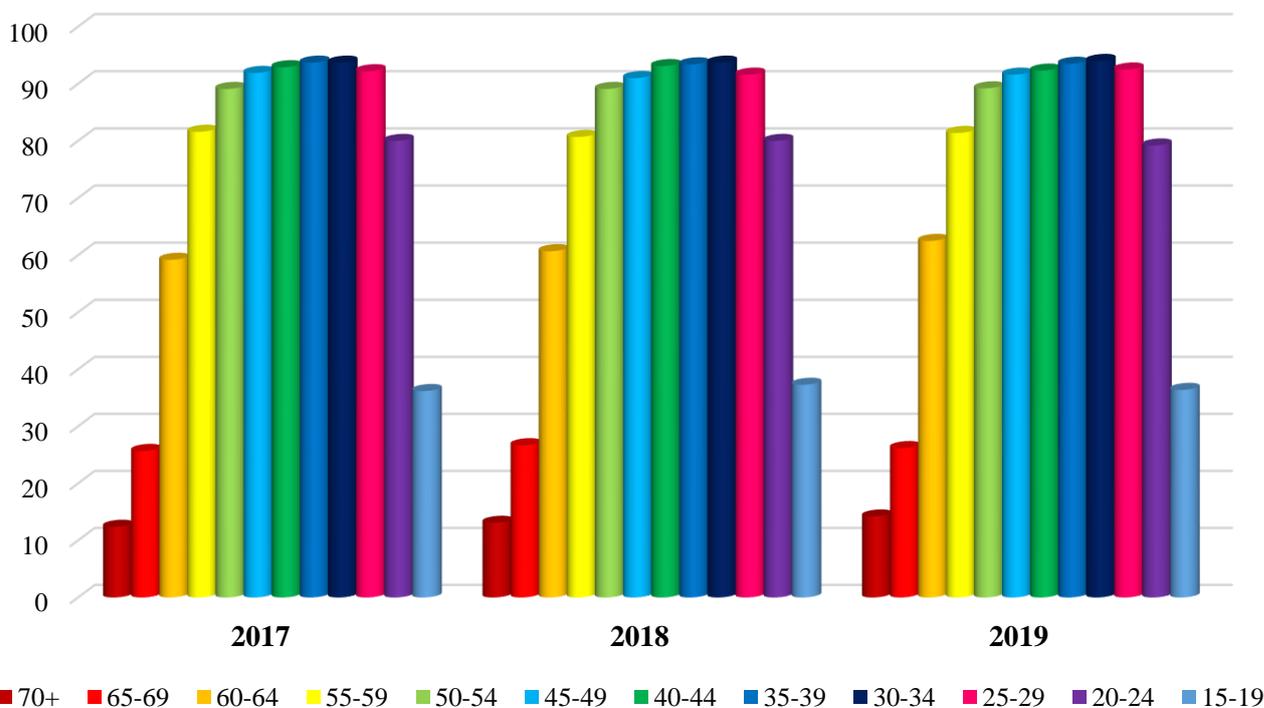


Fig. 4. Dynamics of the level of economic activity of the rural population by age groups in the UK for 2017-2019, men, (%)  
 Source: Built and systematized based on [13].

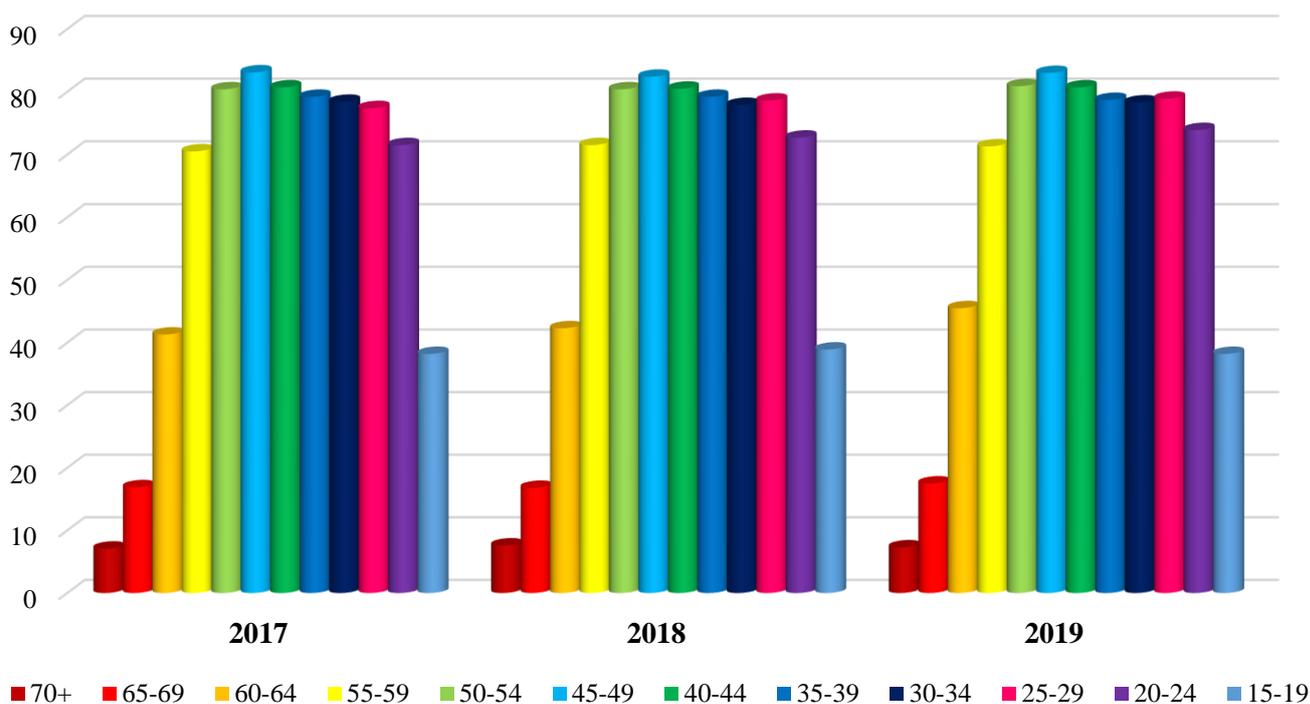


Fig. 5. Dynamics of the level of economic activity of the rural population by age groups in the UK for 2017-2019, women, (%)  
 Source: Built and systematized based on [13].

According to the results of the study, the highest level of economic activity among the male rural population in 2017-2019 in the UK is observed in the age groups of 30-34 and 35-39 years and in the dynamics – increases slightly (Fig. 4).

Regarding the female rural population in the UK for 2017-2019, it was found that the highest level of economic activity in the study period is observed for the age groups 45-49 years and 50-54 years (Fig. 5). Thus, we found a differentiation by gender and age groups in terms of economic activity of the rural population in Ukraine and the United Kingdom. Particularly significant differentiation is observed for the age group 50-54 years in both men and women. In Ukraine, the level of economic activity of the rural population of this age group is significantly lower compared to the same period in the UK and slightly lower compared to Poland (Fig. 2, 3, 4, 5).

In conclusion, it should be noted that the high level of social protection in the UK allows showing a significant level of economic activity of the rural population in the age

group 50-54 years. In Ukraine, social standards do not allow the rural population of this age group to show the same high economic activity, which causes and causes additional economic losses from insufficient use of labour potential of the rural population. Such a negative situation in Ukraine requires the development of measures to improve it and special attention from specialized scientific structures and relevant government agencies.

We grouped the regions of Ukraine by the level of economic activity of the rural population in 2019 at the age of 15-70 years and in working age (Figs. 6, 7).

According to the results of the analysis of our cartogram, a high level of economic activity of the rural population in Ukraine in 2019 is observed in agricultural regions with quality soils and good climatic conditions (Kherson, Mykolaiv region), which significantly contributes to agricultural development in this area and in regions with large urban centres, where pendulum labour migration of the rural population has become quite high (Luhansk, Kharkiv, Zhytomyr regions) (Fig. 6, 7).



Fig. 6. Cartogram of the grouping of regions of Ukraine by the level of economic activity of the rural population in 2019 at the age of 15-70 years, %

Source: Built and systematized based on [13].

Thus, and the results of the study, it should be noted that the economic system of Ukraine due to high openness is strongly influenced by global development trends. In the field of rural employment, the key features are deagrarization and diversification of the rural

economy, multi-vector migration of labour flows. Identified domestic trends in the development of the rural labour market indicate the preservation of these features in the future.



Fig. 7. Cartogram of the grouping of regions of Ukraine by the level of economic activity of the rural population of working age in 2019, %  
 Source: Built and systematized based on [13].

Universal recommendations for effective employment for different rural settlements are quite difficult to identify. However, if those located near large urban centres benefit significantly from such a neighbourhood through pendulum labour migration and diversification of their economies, remote rural settlements are exposed to significant risks, leading to the gradual decline of the economy of such rural settlements.

We believe that the raster polarization of the development of the economy of rural settlements in Ukraine will increase in the future, so it is the latter (remote areas) that should become the object of state influence aimed at solving the problem of rural employment. In our opinion, the best solution to this problem may be to support the

development of local economic systems that unite several rural settlements. The advantage of such a scenario is, first of all, the reduction of dependence on the urban economy of highly urbanized centres, as well as the expansion of opportunities by combining the potential of individual rural settlements, which allows more fully and quickly implement a diversified rural development scenario.

At the same time, there will be a strengthening of intra-village communications and connections, including pendulum labour migration between different rural settlements, which creates not only certain challenges (due to the need to improve the quality of transport) but new opportunities, additional employment in transport services,

maintenance of transport networks, etc.). Separately, we note the need to create a favourable environment for the employment of rural women in remote rural areas, which can be implemented by supporting the development of crafts, handicrafts, rural tourism, and more.

Indicators of employment and unemployment are the main characteristics of the socio-economic situation of the country and the state of the labour market. Unemployment is the most acute problem in rural areas, which significantly suppresses the economic activity of the rural population. Although compared to the unstable dynamics of the unemployed population in cities, the number of unemployed peasants in the last three years in

Ukraine remains almost unchanged. The registered unemployment rates do not fully reflect its real size. The group of persons belonging to the unemployed according to the criteria of the International Labour Organization is much broader and extremely heterogeneous in terms of the economic interests of its members. Among them may be both those who are desperate to find a job and those who only theoretically intend to find a permanent job [7].

At the next stage of the analysis, we consider it appropriate to investigate in more detail the structure of the economically inactive rural population in Ukraine, in particular women due to unemployment in 2019 (Fig. 8).

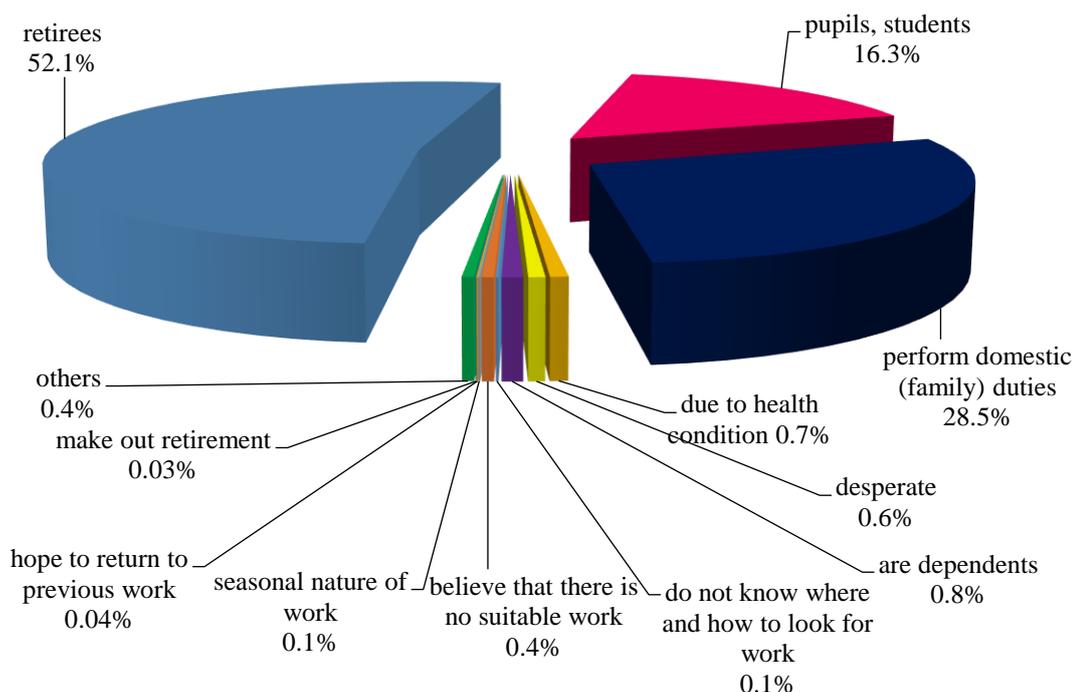


Fig. 8. Structure of economically inactive rural population in Ukraine by reasons of unemployment in 2019, women (%)

Source: Generalized and built on the basis of systematization of sources [6; 13]

According to the results of the study, the largest share in the structure of the economically inactive female population in rural areas due to unemployment is occupied by persons of retirement age – 52.1%, as well as women who perform domestic (family) duties – 28.5% and students and students – 16.3%. This situation is due to the fact that

these age groups of the rural population are the least competitive in the rural labour market. The share of the economically inactive female population in rural areas for other reasons of unemployment is quite low and does not exceed 1%, therefore, their role in shaping the total number of the

economically inactive female rural population is not significant enough.

Thus, the results of the analysis revealed that the need to expand opportunities for the formation of conditions for employment of the rural female population, which largely performs domestic (family) responsibilities (in particular, to a greater extent than the male rural population), as well as those who study at the same time and want to get a job in order to earn extra income.

To get an idea of the economic activity of rural residents in Ukraine, it is also necessary to assess their ability to show labour, economic and entrepreneurial activity.

Ukraine's labour potential is characterized not only by the degree of activity of the population in search of work. In a competitive market economy, it is especially important to take into account the quality of labour resources, which is primarily due to the level of education of the population.

For a more thorough analysis of the economically active population by gender, it is necessary to pay attention to another major factor in the formation of the active population of Ukraine, this factor is education. The analysis of the economically active rural population in Ukraine by the level of education is presented in Table 2.

Table 2. Dynamics of economically active rural population aged 15-70 by education and gender groups in Ukraine in 2017-2019, %

Researched indicators	Economically active rural population aged 15-70 years. %							
	Research period, years	By education level						
		full higher	basic higher	incomplete higher	professional and technical	complete secondary	basic secondary	initially general or have no education
The entire rural population	2017	30.8	1.2	20.1	26.5	19.3	2.1	0.08
	2018	31.6	1.3	19.5	26.2	19.3	2.0	0.08
	2019	31.8	1.2	19.5	26.6	18.9	1.9	0.07
including from the entire rural population, %:								
Women	2017	16.4	0.6	11.7	8.9	8.7	0.9	0.04
	2018	16.8	0.7	11.4	8.8	8.7	0.9	0.04
	2019	16.7	0.6	11.5	9.1	8.5	0.8	0.03
including from the entire rural population, %:								
Men	2017	14.4	0.6	8.3	17.5	10.6	1.2	0.04
	2018	14.8	0.6	8.1	17.4	10.6	1.2	0.04
	2019	15.1	0.6	8.1	17.5	10.3	1.1	0.04

Source: Systematized and built based on [13].

The results of the survey show that starting from the age group of 25–29 years, the share of people with secondary vocational education predominates in the structure of education of rural residents. In second place – general secondary education, but among the inhabitants of villages aged 50 to 59 years and older, the share of those who do not have general secondary education is increasing.

Thus, the results of the analysis revealed that the level of education has a stronger positive impact on the level of economic activity of women [20]. This means that education is more important for women in terms of improving their position in the labor market. Trends in the impact of health on participation in the labor force are the same for both men and women, but with the deterioration of

health, the level of economic activity of men decreases more [35].

It was found that for the younger generation of rural residents there is a tendency to increase the proportion of people with higher education. Obviously, higher education is becoming not only more popular but also more accessible to rural people. At the same time, both young people (13% of them have incomplete higher education) and mature people aged 40 to 49 receive higher education. For workers of this age, the incentive to pursue higher education is to extend their employment and possibly increase their wages before retirement. Among those with higher professional education, the age group from 30 to 39 years predominates, their share is 32.1% [34]. Among people with different levels of education, differences in employment are insignificant. Even those who have a high professional qualification do not show increased activity in organizing their own business but prefer to work for hire.

## CONCLUSIONS

Currently, the level of economic activity of the rural population and the rural labour market in Ukraine remain underdeveloped, need constant change and adaptation to world standards. In modern conditions, the main factors influencing the processes taking place in the rural labour market are: structural adjustment of the economy, in particular the predominant development of agriculture; accelerated economic growth; building the potential of entrepreneurship; scientific and technological progress, digitalization of society; state regulation of labour potential development, labour market, and employment. Among the tools for regulating the rural labour market, the most promising are those that take into account the objective impact of global trends and are aimed at boosting innovative employment, entrepreneurial activity, ensuring a balanced market of educational services and the rural labour market, forecasting the volume and structure of supply and demand labour, increasing the competitiveness of

professionals and expanding the range of decent jobs with a sufficient level of wages for the rural population.

At the same time, a comprehensive state and regional policy in Ukraine to ensure the implementation of economic activity of the rural population at a sufficient level should include the implementation of measures to create additional jobs in rural areas, improve tax legislation to develop entrepreneurship in agricultural and non-agricultural activities, increasing the actual level of employment of the rural population.

According to the results of the study, the development of organic agriculture in the world has shown a number of benefits for increasing economic activity of the rural population, which can be implemented in Ukraine, including job creation in rural areas; increasing the efficiency of small farms through the diversification of agricultural products; increase in incomes of agricultural enterprises and, as a consequence, increase in budgets of rural communities, other positive socio-economic changes that are extremely relevant for Ukraine.

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