
Long-term unemployment as a form of social exclusion in the labor market: the experience of Ukraine

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ABSTRACT

The article deals with the features and consequences of long-term unemployment, the main of which are weaker motivation to actively look for new job, loss of professional skills and reduced chances of new employment. All that leads to gradual degradation of the individual and increases the risks of lowering the standards and quality of life, social inequality, marginalization of the population, and societal tensions. The article is based on a sample survey of Ukrainian households, which shows the composition and structure of the labor force, as well as employment and characteristics of unemployment. Using the method of binary logistic regression allows to estimate the probability of the risk of long-term unemployment for different socio-demographic groups of the workforce.

The author shows that the risk of falling into the long-term unemployment segment increases with age, despite the increased level of professionalism, and the highest long-term unemployment rates are recorded for the age group of 40-49 years. At the same time, assessment of Ukraine's labor market of Ukraine does not confirm the hypothesis of inverse relationship between education level and the risk of long-term unemployment: the latter is rather explained by educational disparities and the mismatch between the development level of the market of educational services and the needs of the economy. As to gender, the risks for men are lower compared to women in all age groups, which may be due to women's more active behavior in the labor market.

Effective solution of the problem of long-term unemployment in Ukraine requires a comprehensive use of the measures of active labor market policy aimed at preventing the transition to long-term unemployment.

Keywords: labor market, long-term unemployment, risk probability, economic activities, unemployment rate

JEL Classification: C38

1. Introduction.

Unemployment, as a form of exclusion in the labor market, while remaining a global problem of the world labor market has both economic consequences associated with reduced purchasing power, tax revenues, production and deteriorating ratings of the country, and social, manifested in social tensions in society, increasing the likelihood of poverty, social exclusion in most countries (Clark, Oswald, 1994; Paul and Moser, 2009; Pohlan, 2019). In addition to the socio-economic consequences, the spread of unemployment leads, as numerous studies show, to significant psychological and social losses (Clark and Lepinteur, 2019;). However, low unemployment is not in itself a sufficient indicator of the “social health” of the labor market, as its important characteristic is the length of unemployment, which significantly exacerbates the negative effects of unemployment on the socio-economic status of the state. The socio-psychological consequences of losing a job and being unemployed for a long time sometimes do not even overlap with fairly generous compensation payments (Jahoda, 1981; Kluve, J., 2010), and the long-term unemployed are most often at risk of depression, suicide, deviant behavior, and stigma (Frey and Stutzer, 2002). At the same time, prolonged unemployment increases the risks of skills loss for the unemployed and reduces their chances of employment. The effectiveness of the implementation of active labor market policies directly depends on the intensification of measures for retraining, temporary employment and employment of the unemployed and determines the duration of unemployment. Since the labor market is quite segmented by different criteria, the duration of unemployment will be determined by the individual characteristics of the unemployed, the identification of which will introduce an effective system of profiling the unemployed and increase the efficiency of public funds for employment policy.

Our study involves identifying the features of the Ukrainian labor market, which is developing according to its own rules and differs significantly from the trends that occur in the labor markets of Eastern Europe. In particular, special attention will be paid to assessing the probability of falling into the segment of long-term unemployment of various socio-demographic groups of the labor market of Ukraine.

2. Literature review

Given the consequences of long-term unemployment, researchers around the world pay a lot of attention to theoretical, methodological and applied problems of its formation, development and regulation. Researchers focus on finding tools that will increase employment efficiency for the long-term unemployed and what barriers stand in the way (Koen J. et al., 2013).

The implementation of active employment policy measures to facilitate the entry of the long-term unemployed into the labor market is not always effective enough (Jacob Nielsen Arendt et al, 2020) and requires the profiling of the unemployed and their segregation into separate groups, each with specific measures. Among the main determinants of successful employment, researchers distinguish health, both physical and mental. The use of specific employment and job creation programs directly for the long-term unemployed, such as in Germany, revealed that such programs are more effective for people with physical and mental disabilities (Ivanov, Boris et al, 2020), which allows reduce labor market stigma and ensure the social integration and well-being of the most vulnerable segments of the labor market. Given the Euro-integration orientation of Ukraine, the experience of European countries (Maite Blázquez et al, 2019) in the effectiveness of using such an employment policy instrument as training and retraining programs for the long-term unemployed is useful for Ukraine.

Agreeing with researchers Singleton, C. (2018), who believe that being in long-term unemployment is not only associated with individual characteristics of the unemployed, but also with socio-economic fluctuations, it should be noted that the determinants of structural labor market imbalances and long-term Unemployment is the instability of the political situation, lack of coordination of actions of public administration, structural, macroeconomic and institutional macroeconomic crisis, which leads to a reduction in opportunities to create new jobs; gradual narrowing of labor demand with a simultaneous increase in deformation changes in its structure.

Researchers focused on the functioning of the labor market of Ukraine mainly on the identification and analysis of socio-demographic signs of long-term unemployment in the country (Kupets O., 2007), substantiation of possible tools of state employment policy (Marchenko I., 2013).

Despite the existing research on the factors of long-term unemployment in the world, individualistic features of the unemployed who have been in this status for more than one year, the Ukrainian labor market has characteristics that do not automatically transfer the findings of these studies to Ukraine. Therefore, we consider it appropriate to present the results of our study, which aims to determine the socio-demographic portrait of the long-term unemployed and identify the most likely to fall into this segment of unemployment.

3. Methodology

The methodological basis for the formation of the sample for the study of unemployment in Ukraine is a monthly survey of the labor force, which generates data on the composition and structure of the labor force, measuring employment and activities and determining the unemployment rate. The basis for its implementation is a set of households selected in all regions of the country on a scientifically sound basis. A household is a group of persons who live together in one or part of a dwelling, provide for themselves with everything necessary for life, run a joint household, fully or partially combine and spend money. "Unemployed", according to the ILO methodology are persons aged 15 and older who simultaneously meet three basic conditions: did not have a job (profitable occupation); actively looked for a job or tried to organize their own business during the last 4 weeks preceding the survey, i.e. took specific steps during the specified period in order to find a paid job for hire or in their own company; were ready to start work within the next two weeks, i.e. to start working for hire or in their own company in order to receive payment or income. The category of unemployed also includes persons who start work within the next two weeks; found a job, waiting for answers, etc. The unemployment rate is calculated as the ratio of the number of unemployed aged 15 and older to the labor force of the specified age or the relevant socio-demographic group. Accordingly, the long-term unemployment rate is calculated as the ratio of the number of unemployed people aged 15 and older who have been looking for work for 12 months or more to the labor force of that age.

The assessment of the risk of long-term unemployment in our study was performed using the method of binary logistic regression, which allows you to encode possible options in the form of 0 or 1. Logit - a model used to predict the probability of an event depending on a number of factors logistics function. Logistic regression is designed to calculate the value of the dependent variable, which can take values in the range [0; 1]. The probability of the evaluated event within the Logit model is determined by the formula (Magnus, Ya.R., 2007):

$$P_i = F(Z_i) = \frac{1}{1 + e^{-z}}$$

Where Z_i is a linear combination of independent factors
 $Z_i = b_1 + b_i X_i$

Estimation of the parameters of the Logit-model is carried out based on the method of maximum likelihood, when the estimation of regression

coefficients is reduced to obtaining the maximum probability of occurrence of a particular sample. In the method of maximum likelihood, the parameters are selected that maximize the value of the likelihood function. Maximizing the likelihood function corresponds to maximizing its logarithm.

The use of normal distribution in the model is not a limitation for the model because the possible zero mean is taken into account in the constant. Possible multiple variance in the model is taken into account when normalizing the coefficients. Estimation of the probability of occurrence of the evaluated event is carried out in the following sequence:

- determination of the dependent variable as a linear combination of independent factors;
- construction of an equation to determine the probability of occurrence of the estimated event;
- finding derivatives to assess the cumulative as well as the marginal effect of independent factors;
- performing calculations using the method of maximum likelihood;
- interpretation of the obtained results.

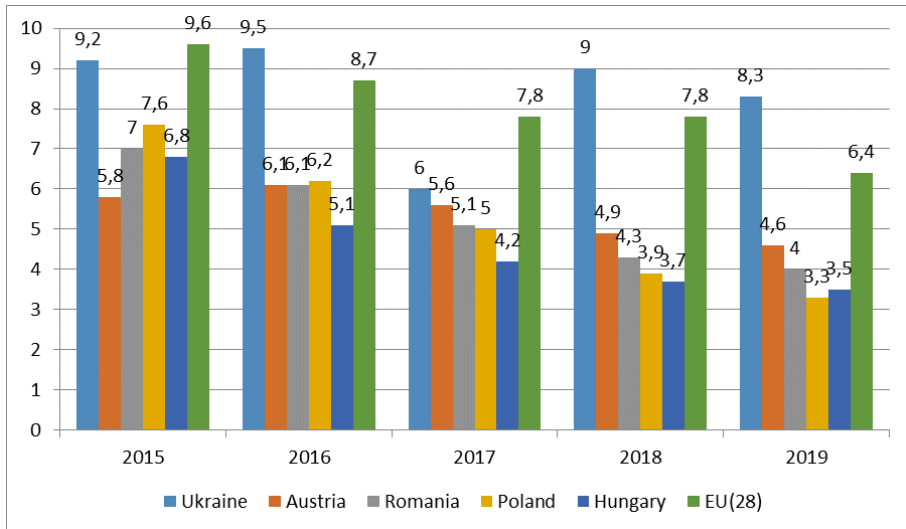
4. Results of the research

Declining demand for labor in times of crisis is a natural phenomenon, but domestic employers in such periods pursued the strategy of retaining labor. Until the mid-1970s, the study of the nature of unemployment was based on the principles of Keynesian theory (Blanchard, O., 2006), according to which its minimization required the use of methods of monetary and fiscal policy. Later, as unemployment acquired modern features, the reduction of ties with the macro parameters of the economy (Phelps, E., 1994) forced to consider the problem of unemployment in two aspects: external and internal ones (Vishnevskaya, N., 2012). Unemployment is a typical socio-economic phenomenon for a market economy. At the same time, it is an unacceptable alternative to employment and a problem that requires development of adaptive public policy instruments. According to the International Labor Organization, in the world in 2018, more than 172 million people over the age of 15 were unemployed, of whom almost 99 million were men and more than 73 million were women. The unemployment rate was 5% of the economically active population (ILO, URL).

The unemployment rate in Ukraine, compared to most European countries, remains much higher and is characterized by a lack of steady positive trends.

Dynamics of unemployment rate for 15-64 aged population in Ukraine and selected EU countries

Fig.1



Source: State Statistics Service of Ukraine

The problems are aggravated due to the persistence of significant long-term unemployment, which results in weaker motivation to actively seek work, loss of professional skills and reduced competitiveness of individuals, and lower living standards, gradual degradation of personality and increased risk of failed self-realization.

The main causes of exacerbation of long-term unemployment usually include: prolonged economic downturn, separation of the market of educational services from the needs of the labor market, lack of effective motivational and encouraging mechanisms for employment, low efficiency of employment services, etc.

The aggravation of the problem of long-term unemployment in Ukraine was observed in the late 90's - early 2000s, which period was characterized by the highest rates of this indicator (in particular, the share of long-term unemployment in 2002 was 53.5%), which was the result of the economic downturn during the 1990s. During 2002–2007, there was a decrease in long-term unemployment rates in Ukraine (both the absolute number of long-term unemployed and their share in total number of unemployed). First of all, this is due to macroeconomic stabilization, the general recovery in the labor market, and the policy of creating new jobs, which helped reduce the total number of long-term unemployed.

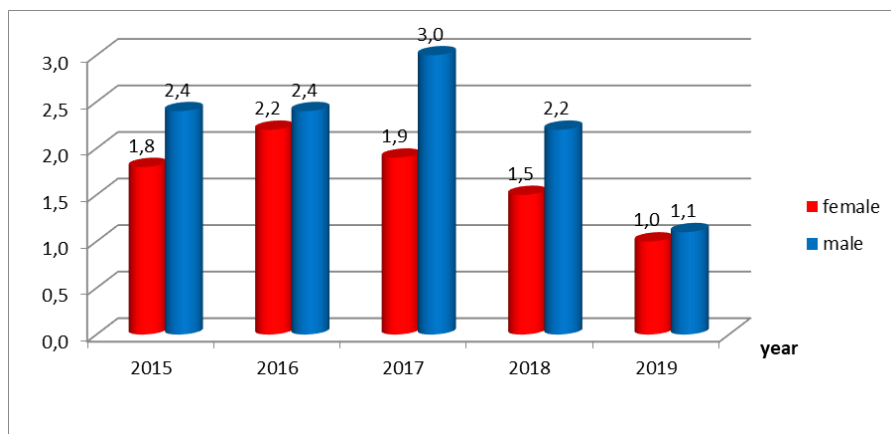
It should be noted that in Ukraine before the outbreak of global financial and economic crisis in 2008, this type of unemployment affected men and women almost equally. The crisis in Ukraine's economy had its own impact on this situation, leading to increased long-term unemployment among both men and women. At the same time, the indicators of total and long-term unemployment prevailed to a greater extent among men.

Analysis of the recent situation on Ukraine's labor market shows that the level of long-term unemployment among those aged 15-70 in 2014-2017 showed an upward trend. During this period, the rate of long-term unemployment in this group increased from 1.2% to 2.5%.

Analysis of the situation on Ukraine's labor market in recent period shows that the level of long-term unemployment among the population aged 15-70 years in the period 2014-2017 shows a tendency to increase, (in 2017 alone its value increased to 2.5%). Since 2018, there has been a reversal in the trend of this indicator for the positive, but the problem of long-term unemployment still remains relevant.

Long-term unemployment in Ukraine among those aged 15-70 by gender in 2015-2019, %

Fig. 2



Source: State Statistics Service of Ukraine

This is primarily due to the difficult economic situation in the country in conditions of the military aggression, which results in: degraded infrastructure in the industrial areas where hostilities are going on, disorganized industrial ties and critical supply of resources; complication, due to aggravated political situation, in the relations with major trading partners, which led to partial

loss of foreign markets; deteriorated investment climate with a consequent decrease in investment flows; reduced domestic demand due to the decline in production processes and falling purchasing power of the households. All this is accompanied by destructive changes in the labor market and forced layoffs. During this period, a significant number of people who lost their jobs have moved to groups with longer unemployment, thus reducing their chances of finding work. At the same time, Ukraine has not yet created proper conditions for transition of the surplus working population to small business in the private sector. Experience of the developed countries shows that the development of small business is one of the main areas of job creation. However, Ukraine has not created favorable conditions for the development of small business during the long transformation period. In modern Ukraine, the solution of this issue requires a systematic solution of problems related to improving the legal framework, tax and financial policy, development of information and advisory support, improving the system of training, retraining and advanced training for business, and the use of effective mechanisms on stimulation and motivation of entrepreneurial activity.

As to gender, long-term unemployment was quite diverse before and including 2018: among women, the long-term unemployment rate in 2018 was 1.5%, while among men – 2.2%, in 2019, with a certain improvement on the labor market, the difference somewhat reduced. Such differences are largely explained by differences in women's and men's employment strategies. Thus, according to research by domestic experts, women in search of work are more likely to take a passive position (that is, just following the ads in the media) – 92%, while among men, such position is only taken by 79%. Men try to start their own business three times more frequently than women (11.8% compared to 4.2%). Men and women have the following job seekers' requirements: high wages – respectively 72.1% and 59.2%, job stability - 66% and 57.5%, compliance with the profession - 50.0% and 45.7% and favorable working conditions - 42.7% 53.7%. Men's higher propensity for change in their career than women is additionally proven by their higher percentage in those who believe that unemployment provides an opportunity to radically change their lives and open a new path to professional success (16.2% men and 10% women) and an opportunity to develop new abilities and talents (10.3% men and 7.5% women). In addition, women are twice as likely to report discrimination against them based on age, marital status and gender by employers, which is in line with the real situation.

As to occupational characteristics in 2019, among the unemployed who were in a state of search for 12 months or more, the largest shares are accounted for skilled workers with tools - 22%., workers in trade and services

- 19% and professionals - 16%. The crisis has sharply narrowed the prospects in labor market for young people. Many of them are forced to be in the state of long-term unemployment from the very beginning of their career. The high level of unemployment among young people is explained both by the shortage of high-quality jobs and by the fact that a significant part of young people lack necessary professional skills, and work experience that meet the employers' requirements. Analysis of the age structure of long-term unemployment in Ukraine shows that young people aged 25-34 and 15-34 predominate among those looking for job for a long time. Significant long-term unemployment is recorded in the age group of 35-45 years. People in this age group usually show the highest levels of work activity, because most of them already have experience, professional skills, education and more.

In Ukraine, as the education level increases, the number of long-term unemployed women decreases. The education structure of unemployed men is somewhat different: among them, a very large percentage is accounted for by persons with vocational education (35%). The number of long-term unemployed women with full and basic higher education is 18%, for men the corresponding value is 28%. It should be noted that the predominance of male long-term unemployment over female one (both total and among those with higher and vocational education) is because for most women it is more important to keep a job to obtain a steady income and social guarantees. For that reason, women are less likely to be released voluntarily, agreeing to occupy low-paid and non-prestigious positions or those that do not correspond to their educational background and professional preferences. This is evidenced by the results of surveys in 2019 of persons who had been looking for work for more than a year. Among those released voluntarily or by agreement of the parties there are 104,000 men and only 57,000 women (that is, almost half as many).

As practice shows, the most effective period for finding a job (both by oneself and with the assistance of employment service) is the first three months of unemployment. There are many different reasons for that. Even the factor of chance can play a role. The probability of falling into long-term unemployment varies depending on job seekers' gender and age characteristics (James Obben, 2002) and their educational level.

An estimation of the risk of long-term unemployment completed using the method of binary logistic regression with SPSS and MS Excel allows to obtain the value of probability in terms of binary variables (that is, occurrence or non-occurrence of long-term unemployment). The calculation is based on the primary data of microfilms of a 2018 sample survey of households' economic activities. The primary data, namely the non-aggregated data, are

of the greatest value in this study because they contain input information necessary for such analysis. Household surveys are the most flexible of all tools for collecting statistical information. During household surveys, it is possible to cover all groups of the country's population, all spheres of economic activities and categories of workers, including part-time workers, those temporarily, accidentally and part-time employed, etc. The purpose of household surveys is to determine the size of the economically active population, areas of employment, the real supply of labor in Ukraine as a whole and in its regions, as well as the causes of unemployment and its duration.

The resulting indicator of the model (that is, being unemployed for more than 1 year) changes in a dichotomous scale, and the factor indicators change in the metric and other scales. Using the maximum likelihood method in the SPSS statistical package, it is possible to estimate the degree of probability of being a long-term unemployed person with a certain set of characteristics. A sample of 116.9 thousand people with a set of socio-demographic characteristics (gender, age, educational level, marital status, etc.) is used for the analysis. The quality of the constructed model is ensured by rather high values of the indicators of R^2 Nagelkerke and R^2 Cox & Snell, which characterize the share of influence of all the model's predictors on the variance of the dependent variable (Table 1).

Statistical characteristics of the model's quality

Table 1

-2Loglikelihood	R^2 Cox&Snell	R^2 Nagelkerke
34.65	0.578	0.863

Source: the model's calculated data

The value of -2Log likelihood indicates that the generated model is adequate; other indicators are stable according to the results of matching statistics used in logistic regression. In our case, the p -level of the hypothesis was below 5 percent, and the value of the Chi -square statistics is within the limit, which confirms a high level of the model's consistency, so we can conclude that the model is of sufficient quality. The following are the variables of the logistic regression equations. (Table 2).

Variables of the regression equation

Table 2

	Coefficient of equation B	Mean square error S.E.	Wald statistics	Significance level Sig.
Vik (age)			12.432	0.002
vik 1/(15-29)	0.433	0.121	8.506	0.006
vik 2/(30-39)	0.277	0.114	7.460	0.001
vik 3/(40-49)	-0.097	0.103	5.102	0.002
vik 4/(50-59)	-0.417	0.048	4.349	0.003
vik_5/(60-70)		0.144	7.784	0.004
Osvita (education)			21.7894	0.042
osvita_1 (higher education)	5.441	0.703	14.756	0.003
osvita_2 (vocational education)	3.356	0.743	19.754	0.002
osvita_3 (secondary education)	6.834	0.865	15.987	0.02
osvita_4 (no education)	8.231	1.124	17.876	0.003
Stat (gender)	5.880	1.456	15.632	0.010
sim_stan (marital status)	-14.836	0.825	14.965	0.012
Constant	2.824	1.463	15.986	0.021

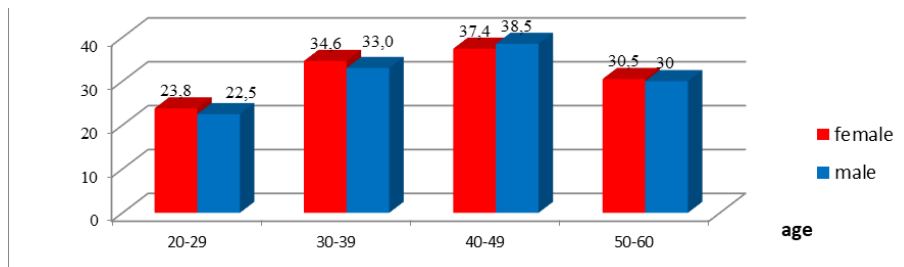
Source: the model's calculated data

Also, the significance of the factors is confirmed by the corresponding level of *p-value*. Thus, the constructed model adequately describes the data set and allows to estimate the probability of occurrence of the event (the person falls into the segment of long-term unemployment). Based on the results of the obtained model, the risks of long-term unemployment are calculated, which are estimated as a percentage in the range from 0 to 100.

An important point in the analysis of the risk of long-term unemployment is the need to determine the most “dangerous” age. We remove the extreme age groups from the analysis because there are not enough responses in these age groups. This is because very young people are not a sufficiently representative age group for the analysis of long-term unemployment, and most of them do not even belong to the category of economically active population. Most of the elderly population are also already in a state of economic inactivity due to retirement. Thus, these two age categories are not included in the analysis.

Gender and age distribution of long-term unemployment risk, 2019 (%)

Fig. 3



Source: compiled by author based on own calculation

As can be seen from the figure, the risk of falling into the long-term unemployment segment increases with age, despite the increase in the level of professionalism; the highest are the rates for the age of 40-49 years. There is a clear minimum risk of becoming long-term unemployed between the ages of 20 and 29 (in the range between 22.5 and 23.8%, as this age group includes young and energetic professionals who are more likely to be hired by employers than older persons are). If we assess the risk by gender, it is clear that the risks for men are lower compared to women in all age groups except 40-49 years. In our opinion, the mobility factor also plays an important role. The youngest category of the economically active population has the highest level of mobility, because, as a rule, at this age young people are just starting a family life and are not yet too attached to one place of residence. The reduced rate in pre-penile age is most likely due to the greater activity of individuals in this age group in finding work since they are more inclined to agree to any employment in order to receive pension in the near future.

The calculation of the probability of being unemployed for a period of more than 1 year by marital status and by gender allows us to report the influence of psychological factors on the duration of the job search.

Risk of long-term unemployment by gender and by marital status in 2018, %

Table 4

Marital status	Women	Men
Married	36.85	39.01
Single	30.15	32.12
Divorced	44.70	46.98
Widowed	27.73	29.61

Source: compiled by author based on own calculation

For both women and men, the risk of long-term unemployment for divorced is quite high. It should be noted that single people are more likely to find work sooner because employers can be expected to discriminate against single workers, who haveno commitment to dependants.

Thus, one of the hypotheses of our study is that with increasing levels of education, the probability of being long-term unemployed decreases. As is known from macroeconomic theory, the level of education determines the level of workforce competitiveness. However, a paradox of the functioning of Ukraine’s labor market is a high share of unemployed with high educational level, which is explained by the restructuring of the economy in the first years of market transformation and excessive educational level of employees.

Distribution of the risk of long-term unemployment by educational level in 2019, %

Table 5

Educational level	women	men
Full higher	10.01	13.48
Basic higher	13.69	15.24
Incomplete higher	13.64	19.12
Vocational	20.83	26.63
Complete general average	26.98	32.67
Basic general average	34.04	39.56
Primary general, no education	53.43	39.60

Source: compiled by author based on own calculation

Thus, the risk is the inverse of the educational level, there is a tendency to its reduction with increasing educational level. It is possible to assume that people with a higher level of education have a more active position in life, apart from other things, because they agree to any employment that may not correspond to their level of education.

Long-term unemployment devalues labor capital, and the longer a person does not work, the more difficult it is for him or her to find a job. In addition, the person evaluates his or her opportunities increasingly lower, not only in the labor market, but also in general as an employee, which is not at all conducive to upgrading his or her status. For some people who have lost their jobs, to get a new one it is sufficient to get proper information about jobs or a necessary advice. Others need to be retrained, as they are unlikely to get a job in their specialty. There are also people prone to long-term unemployment.

Unemployment benefits are provided not just because a person has lost his or her job, but only as a result of a certain agreement that provides that the person will somehow act to get out of this situation. And if this agreement

is not fulfilled, the person is left without help. It is commonly believed that, while within the period from 6 to 12 months the intervention of society and the state can still be effective, later it is hardly to be so.

The long-term unemployed are a high-risk group by various indicators. The ability to self-organize in forms acceptable to the society is a limitless resource. Most likely, it is exhausted within 12 months. After two or three years of "inactivity", the state practically loses these people as labor. In the future, they will need long-term rehabilitation, and more money will be spent on this than on the implementation of an active program from the very beginning. Thus, if society realizes the fact that the current policy line is simply dangerous and if funds are distributed in another way, employment services can be reoriented to a different policy.

Practice confirms that long-term unemployment raises the risks of the loss of skills for the unemployed and reduces their chances of new employment. In particular, experts believe that within 12 months, people who are not employed lose the ability to self-organization. After two or three years of inactivity, the state practically loses these people as labor and, in order to change the situation, they need to undergo long-term rehabilitation, which in turn requires additional costs. Prolonged unemployment weakens the motivation to actively seek employment; it leads to the loss of professional skills and abilities and reduced chances of new employment, lower living standards, gradual degradation of personality and reduced probability of full self-realization. At the same time, negative consequences of long-term unemployment are translated into the deterioration of qualitative and quantitative characteristics of the country's labor potential, growing social inequality, marginalization, increased social tensions in society and the need to raise social transfers (unemployment benefits, assistance for the poor, etc.).

5. Conclusions

Overcoming the problems associated with protracted long-term unemployment in Ukraine requires immediate reform of the labor market and the introduction of adequate measures to prevent the transition to long-term unemployment, to attain the strategic goals of maximizing labor potential via the provision of favorable conditions for employment and revival of motivational and encouraging measures aimed at productive employment. State policy in the field of employment should be systemic in nature and be aimed at achieving the goals of each participant of social and labor relations:

- for the state: ensuring economic growth and strengthening the competitiveness of the state, improving the welfare of the population and reducing income stratification, rational distribution of labor (sectoral,

territorial and qualification) and de-shadowing of the labor sphere;

- for employers: ensuring the efficiency of economic activities and labor productivity, and creating high-quality jobs;

- and for employees: maximum realization of professional skills, non-discrimination (age, gender, professional, etc.), appropriate working conditions, effective social protection system and favorable conditions for self-employment.

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