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EDUCATIONAL AND OCCUPATIONAL POTENTIAL OF UKRAINE: MAIN CHALLENGES AND WAYS OF IMPROVEMENT UNDER CURRENT CONDITIONS

Problems of the skills development and the quality of human capital became the priorities of the current socio-economic development. That's why the relevance of the investigation of the main trends in the formation and development of the human potential of country (especially, educational and qualification component) significantly increased. However, the possibilities for the stable and effective development of the labour market and vocational education system in Ukraine are limited because of the influence of war. Therefore, it is extremely important to study the specific features of the development of educational and occupational potential of count-

ry under the influence of war, to define the main challenges of its development connected with constrains and limitations of effective realization during this period of time.

The aim of the paper is to identify the challenges and threats to the realization of the educational and occupational potential of Ukraine under current conditions, to determine the ways of the development of employees' individual skills and competencies needed under conditions of post-war recovery period. In order to achieve the defined aim, the authors have used data of sociological surveys, as well as all available sources of information (especially, data of State Employment Service, opendata). During research process, such research methods as analysis and synthesis, system analysis, scientific abstraction, comparison, generalization, logical approach were used. The results of the study made it possible to define that the quality of educational and occupational potential depends not only on the demographic basis of labour force reproduction, but also on the readiness of the employees to acquire new skills, to upgrade qualifications. It was also defined that the negative trends in the development of the vocational education and training (VET) system significantly increased under conditions of war due to: the damage to the network of vocational education schools in the regions affected by hostilities; the significant scale of external and internal migration; the disruption of established coordination relations between enterprises and vocational education schools; the aggravation of the problems of VET schools financing.

Calculations of the structural changes intensity coefficients (by 25 most popular occupations) indicates a higher probability of balancing the list of occupations for which vocational education schools provide training with the dynamics of changes and the occupational structure of vacancies (taking into account the degree of load on the part of unemployed). Results of calculations can be taken into account when determining the number of students and the structure of training organized by vocational education schools and employment centres.

During the investigation process, it was proved that the factors related to the employees' incentive for training, retraining, acquiring skills and competencies necessary for increasing competitiveness in the labour market, realizing their educational and occupational potential are also important. The aggravation of the problems of realization and development of the educational and occupational potential of internally displaced persons was defined as a serious challenge. Based on the results of surveys, it was outlined that internally displaced persons are interested in receiving professional assistance for career development and employment, but not able to formulate specific requests regarding areas of study and assistance.

In the paper the necessity of the widening of the 'work-based learning' practice (training organized at the workplace), which will contribute to the integration of training at the workplace and formal (academic) training for the acquisition of 'hard' and 'soft' skills, is suggested and proved. The main ways of the minimization of the risks and threats of ensuring the professional development of the labour force, the development of the educational and occupational potential of the labour force were proposed in paper. The conclusions of this article can be useful for elaboration of the measures of educational and employment policies aimed at the improvement of the quality of educational and occupational potential of the labour force in Ukraine during war and post-war recovery period.

Keywords: *education, occupation, structural changes, work-based learning, challenges, influence of war.*

Introduction. Under conditions of globalization of the world economy, increasing the competitiveness of national economies can be ensured based on the mobilization of the innovative factors of development, improving the quality of human potential. Firstly, it implies the need to create conditions for raising the educational and qualification level of the population, acquiring the necessary

skills and qualifications. Accordingly, it can contribute to improving the quality of the educational and occupational potential of the country by improving the quality characteristics of the workforce, ensuring the availability of education.

At the same time, the strengthening of crisis phenomena in the economy because of the war significantly limits the possibilities for improving the quality of educational and occupational potential. Generally, this concerns the strengthening of challenges and threats to the development of the educational and occupational potential of Ukraine, associated with the limitation of funding opportunities for the professional development of the labour force, the weakening of the motivation for qualification upgrading on the part of both employer and employee. That's why the priority is given to the study of the main problems and specifics of the development of educational and occupational potential under conditions of war, the determination of the directions for improving its implementation to ensure high-quality human development.

Statement of the problem and relevance. The most widespread approach to the study of the phenomenon of educational and occupational potential is the investigation from the perspective of skills development, the provision of professional development. Despite a significant number of publications devoted to the study of this topic, it remains extremely relevant under conditions of the development of long-life learning. Firstly, it could be a result of new challenges and risks caused by the aggravation of the crisis phenomena in the global and national labour market. Especially it concerns the worsening situation with the formation, realization, and development of the educational and occupational potential on the national and regional levels.

On the other hand, the lack of information about the development of Ukrainian labour market leads to the limitation of the possibilities for the definition of the prospects of human development, the determining of the ways for the improvement of the educational and occupational potential of Ukraine.

The relevance of the problems of the development of educational and occupational potential is determined by the fact that its quality depends not only on the demographic basis of the labour force reproduction, but also on the readiness of the employees to acquire new skills, to upgrade qualification. That's why the serious challenges are related to the threats and limitations for the improvement of the new educational practices, the implementation of the educational policy concerning vocational education system improvement. It is also connected with significant increase of the occupational and qualification mismatch between supply and demand of labour force as a result of shocks caused by the influence of war.

Recent research and publications. The significant number of scientific papers are devoted to the study of the problems of formation and development of educational and occupational potential. At the same time, many scientists investigate the educational and professional potential as a component of labour po-

tential, justifying the importance of this component to ensure innovative prospects of human development.

Analyzing the essence of educational and occupational potential, a significant number of scientists (in particular, A. Wilks, N. Mishchuk) note as a characteristic feature its ability to create the basis for the accumulation of knowledge and skills for ensuring the improvement of the educational and qualification level of the labour force [1, 2]. At the same time, another group of scientists characterizes 'professional potential' as a set of the quantitative and qualitative parameters of economically active population with a sufficiently high level of education, which determines the ability to generate and implement knowledge [3]. Mainly, Ukrainian scientists analyzing the essence of educational and occupational potential focused on the characteristics of this phenomena which are directly related to the possibilities of implementing the acquired knowledge, improving skills and competencies [4]. At the same time, the strengthening of crisis phenomena in Ukrainian labour market indicates the need to apply a comprehensive approach to the study of the specifics of the realization of educational and occupational potential under conditions of war and post-war recovery.

The novelty of the study is the determination of the specifics of the implementation and development of educational and occupational potential under current conditions; the identification of key skills and competencies necessary to improve the quality of the country's educational and qualification potential in the face of aggravating global challenges.

The **purpose of the article** is to identify the challenges and threats to the realization of the educational and occupational potential of Ukraine under current conditions, determine the ways of the development of employees' individual skills and competencies needed under conditions of post-war recovery period.

Research methods. The research was carried out using such methods as analysis and synthesis, system analysis, scientific abstraction, comparison, generalization; logical approach — for formulating conclusions; graphic approach — for data visualization. The results of sociological surveys, data from the Ministry of Education and Science of Ukraine and the State Employment Center of Ukraine were used in the study.

Main material. Under the conditions of globalization of the world economy, the development of the country's educational and occupational potential becomes one of the most important prerequisites for the formation and implementation of competitive advantages of the innovative type, necessary for increasing the level of labour force's competitiveness. Investigating the economic essence of the concept of 'occupational' potential, Alison Wicks defined it as a human capacity to engage in meaningful occupations [1]. At the same time, O. M. Levchenko, analyzing so called 'professional potential', interpreted it as an integrated set of the quantitative and qualitative characteristics of economically active population (on the level of enterprise, economic activity, region, country)

with education which determines the real and potential ability to create, accumulate, transfer and implement knowledge in material and spiritual values, under certain socio-economic conditions [3]. Thus, this group of scientists notes the priority role of the occupational component in ensuring human development.

Analyzing the educational potential (including youth potential), N. V. Mishchuk defines it as a set of accumulated theoretical knowledge and practical skills, as well as potential opportunities for further educational and qualification improvement to ensure competitiveness in the labor market [2]. At the same time, O. P. Melnychuk considers the educational component of the labour potential as an organic unity of educational and qualification characteristics and business qualities of the working age population, acquired in the process of education, which make it possible to realize one's own labour abilities and labour opportunities in order to reconcile public and individual interests on the basis of the introduction of innovative approaches and technologies [4].

Accordingly, the development of the educational and occupational potential depends not only on the possibilities of expanding the demographic base of the labour force reproduction, but also on the activation of innovative factors in the professional development (due to the increase in the educational level of the population, the acquisition of new skills and qualifications, and the strengthening of readiness for generation and acceptance of innovations). That's why the creation of conditions for balanced development of the vocational education and training system, professional development of the labour force is the priority for ensuring the sustainable development of the country.

The development of the vocational education and training system in Ukraine in the pre-war period was characterized by certain problems, which significantly complicated the activities of vocational education schools [5], in particular:

- gradual reduction of the vocational education schools' enrolment as a result of the decrease in the birth rate of the population;
- imbalances between the demand for labour (on the part of labour market) and its supply (on the part of education system) in terms of qualifications;
- lack of employers' incentive in establishing effective cooperation with educational institutions (in particular, in terms of developing the educational programs, organizing internships for pupils/students and teaching staff at workplace);
- preservation of the problems with financing of vocational education schools under conditions of decentralization (at the expense of local budgets);
- maintaining the low prestige of obtaining a vocational education, targeting young people to obtain higher education;
- imperfections of informational and statistical support for forecast of the development of the labour market.

At the same time, the negative trends in the development of the vocational education and training system significantly increased under conditions of war due to the influence of the following factors:

• destruction and damage to the network of vocational education schools in the regions affected by hostilities;

• increasing the volume of external and internal migration (students and teaching staff);

• disruption of established coordination relations between enterprises and vocational education schools as a result of the deterioration of financial results of their activity;

• growing disparities between the demand and supply of labour (by education and occupations) as a result of reduction in production volumes, a significant increase in the number of internally displaced persons;

• aggravation of financing problems of vocational education schools as a result of local budgets' limited opportunities.

Respectively, the development of the vocational education and training system in Ukraine is accompanied by increasing challenges and threats directly related to the impact of war. In particular, one of the most serious challenges facing the system of vocational education is the destruction of the educational infrastructure. As of August 1, 2022, 103 vocational education schools (according to the estimates of the Ministry of Education and Science of Ukraine) have varying degrees of damage, 10 are completely destroyed [6].

According to the statistical data, as of January 1, 2022, more than 243,8 thousand students studied in 694 vocational education schools. However, the situation changed after the start of the war, which led to the reduction in the number of students in the territory controlled by Ukraine to 194,700 (as of June 25, 2022). At the same time, according to the estimates of the Ministry of Education and Science of Ukraine, almost 18,500 students studied in vocational education schools remotely, being outside the territory of Ukraine [6]. This raised the need to change approaches to the organization of education and training under war conditions to improve the quality of educational and occupational potential, spread the practice of distance learning.

An equally serious challenge to the development of the vocational education system under conditions of war is the limitation of financing opportunities for these institutions. According to the existing legal framework, the financing of vocational education schools under conditions of decentralization is carried out at the expense of local budgets. However, the revenues of local budgets are not always sufficient to finance the needs of vocational education (especially in regions and communities that were occupied, were or are located in areas of hostilities). Respectively, the level of financing of vocational education in the regions remains insufficiently high.

According to the state web portal on the budget for citizens 'Open budget', the percentage of local budget expenditures for vocational education in the vast majority of regions (with the exception of Zhytomyr, Rivne, Cherkasy regions) in January—June 2022 decreased (compared to the same period of the previous

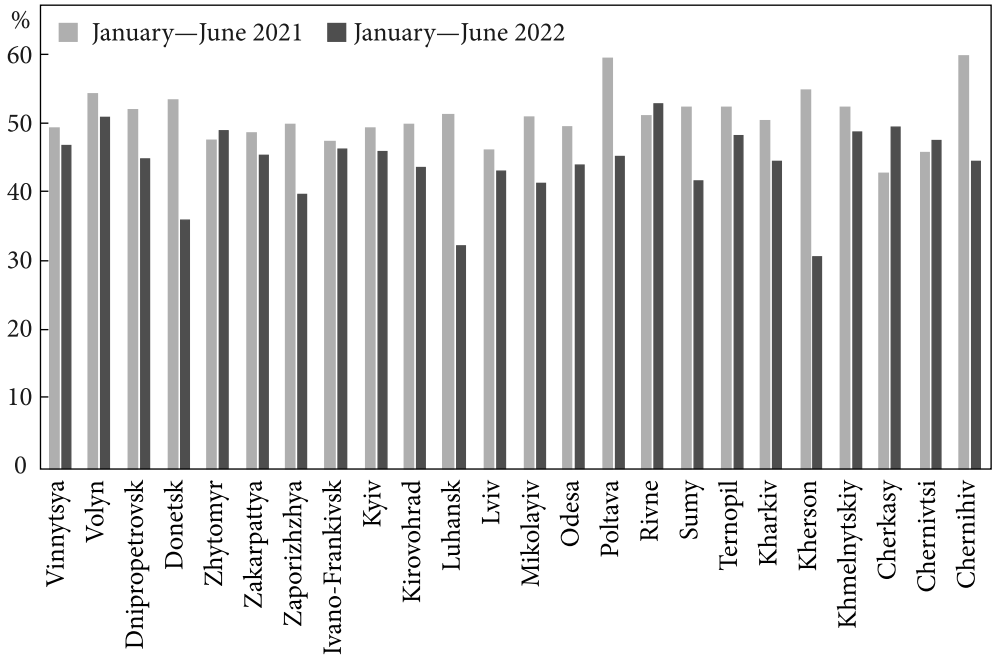


Fig. 1. Percentage of local budget expenditures for vocational education, by region
Source: [7].

year) [7] (Fig. 1). This percentage decreased most significantly in the Donetsk, Luhansk and Kherson regions, which indicates the growth of negative trends associated with the impact of military operations on the economic situation of these regions. At the same time, the situation remained more favorable in regions that had the ability to finance other expenses. But even under the conditions of expanding the possibilities of financing expenses for vocational education, risks and threats associated with insufficient use of existing resources may arise. In particular, the lack of balance between the demand for labour (on the part of labour market) and its supply (on the part of education system) in terms of educational and qualification level makes it significantly more difficult to solve the task of increasing the effectiveness of education and training of competitive labour force.

To assess the level of balance between the structure of admission to vocational education schools (by occupations), the existing load on the job (on the part of unemployed population), and the offer of vacant jobs declared by employers, it is advisable to use the method of structural changes calculation (by separate occupations), proposed by K. Gatev. This indicator, as noted by T. Romanova, characterizes the importance of structural differences (in relative terms), based on taking into account the intensity of changes in individual groups of structural elements, as well as changes in their specific weight in the general population [8].

According to the approaches used by scientists in assessing structural changes [9], the coefficient of structural changes is calculated according to the following formula:

$$K_i = \frac{\sqrt{(D_1 - D_0)^2}}{\sqrt{D_0^2 + D_1^2}} \quad (1),$$

where D_1 — the share of the structural element in the total population (in the current period of time); D_0 — the share of the structural element in the total population (in the basis period of time). The obtained values characterize the dynamics of the deviation of the structural elements' specific weights from each other in a given population during a certain period. In case of significant structural changes, this index will approach 1, and in their absence, it will be equal to 0. The scale of measurement of structural changes according to this coefficient is distributed as follows: weak structural changes are less than 0.2 (↓), sufficient structural changes are from 0.2 to 0.3 (-), large structural changes – from 0.3 to 0.98 (↑). The joint direction of the structural changes intensity vector (according to individual indicators) indicates a higher probability of balancing the list of occupations for which vocational education schools provide training with the dynamics of changes and the occupational structure of vacancies (taking into account the degree of load on the part of unemployed).

Tables 1-3 provide a list of the 25 most popular occupations, for which acceptance to vocational education schools was most active during the last period. In particular, Table 1 presents the distribution of actually accepted to vocational education schools (by occupations), as a percentage to the total number; Table 2 — distribution of registered unemployed (by occupations); Table 3 — distribution of vacancies declared by employers to the employment centres (by occupation).

According to the results of the analysis, the vectors of changes (during the last pre-war year) coincided for almost all occupations, with the exception of such occupations as 'Tractor driver (agriculture)', 'Tailor' (by vacancies), 'Information processing and software operator' (by vacancies), 'Multiskilled machine operator' (by vacancies). Thus, the results of calculations (as a result of lengthening the dynamic series) can be taken into account when determining the scope and structure of training organized by vocational education schools and employment centers. This will ensure the matching of supply and demand (on the part of labour market and vocational education system). At the same time, it should be noted that no less important are the factors related to the employees' incentive for training, retraining, acquiring skills and competencies necessary for increasing competitiveness in the labour market, realizing their educational and occupational potential.

Results of the fifteenth nationwide survey 'Ukraine during the war. Employment and Income' conducted by the sociological group 'Rating' on July 23-24, 2022, testified that the incentive to change occupation and workplace among

Table 1. **The distribution of actually accepted in vocational education schools (by occupations),%**

Occupations	Distribution of actually accepted in VET schools (by occupations). In percentage to total number. as of:				$\frac{\sqrt{(D_1 - D_0)^2}}{\sqrt{D_0^2 + D_1^2}}$	$\frac{\sqrt{(D_2 - D_1)^2}}{\sqrt{D_1^2 + D_2^2}}$	$\frac{\sqrt{(D_3 - D_2)^2}}{\sqrt{D_2^2 + D_3^2}}$	Intensity of the changes of the coefficients of structural changes (↑/ — / ↓)*		
	1.01.2016	1.01.2018	1.01.2020	1.01.2022						
	D_0	D_1	D_2	D_3	K_{i1}	K_{i2}	K_{i3}	I(K_{i1})	I(K_{i2})	I(K_{i3})
Cook	17.52	10.10	18.78	18.41	0.367	0.407	0.014	↑	↑	↓
Locksmith repairing wheeled vehicles	8.28	4.94	9.15	9.72	0.346	0.405	0.042	↑	↑	↓
Tractor driver (agriculture)	6.36	4.05	0.72	7.51	0.306	0.811	0.900	↑	↑	↑↑
Electric gas welder	5.70	3.59	6.29	6.78	0.313	0.373	0.053	↑	↑	↓
Hairdresser (hairdresser-fashion designer)	6.06	3.37	6.30	5.85	0.388	0.411	0.052	↑	↑	↓
Tailor	3.22	1.78	2.99	3.15	0.391	0.348	0.037	↑	↑	↓
Electrician repairing electrical equipment	2.72	1.61	2.98	3.30	0.353	0.405	0.073	↑	↑	↓
Plasterer	2.90	1.58	2.71	3.27	0.399	0.360	0.133	↑	↑	↓
Computer typing operator	3.44	1.36	1.51	0.99	0.562	0.074	0.291	↑	↓	—
Bricklayer	2.30	1.26	2.05	2.37	0.397	0.328	0.103	↑	↑	↓
Information and software processing operator	1.17	1.12	2.03	2.62	0.031	0.394	0.176	↓	—	↓
Locksmith repairing agricultural machines	1.57	0.92	1.67	1.79	0.357	0.393	0.049	↑	↑	↓
Electric welder of manual welding	1.21	0.77	1.48	1.59	0.302	0.425	0.050	↑	↑	↓
Seller of food products	1.36	0.56	1.13	0.80	0.541	0.447	0.233	↑	↑	—
Locksmith repairing rolling stock	1.07	0.68	1.27	1.09	0.309	0.412	0.108	↑	↑	↓
Waiter	1.14	0.51	1.03	0.81	0.505	0.455	0.170	↑	↑	↓
Whitewasher	1.05	0.49	0.87	0.87	0.482	0.382	0.003	↑	↑	↓
Machine tooler of a wide profile	0.77	0.57	0.88	0.87	0.215	0.301	0.007	—	↑	↓
Seamstress	0.91	0.54	0.73	0.78	0.352	0.214	0.043	↑	—	↓
Locksmith-repairman	0.57	0.46	1.08	1.10	0.143	0.527	0.007	↓	↑	↓
Construction carpenter	0.86	0.42	0.75	0.93	0.466	0.385	0.155	↑	↑	↓
Accounting clerk for registration of accounting data	0.82	0.41	0.87	0.83	0.455	0.481	0.033	↑	↑	↓
Installer of plumbing systems	0.61	0.46	0.70	0.72	0.199	0.288	0.028	↓	—	↓
Agent of tourism organization	0.63	0.31	0.57	0.64	0.457	0.404	0.085	↑	↑	↓
Administrator	0.59	0.36	0.59	0.69	0.339	0.342	0.103	↑	↑	↓

* ↑ — **large structural changes**. — **sufficient structural changes**. ↓ — **weak structural changes**

Source: Calculated based on [10. 11]

Table 2. **The distribution of registered unemployed (by occupations), %**

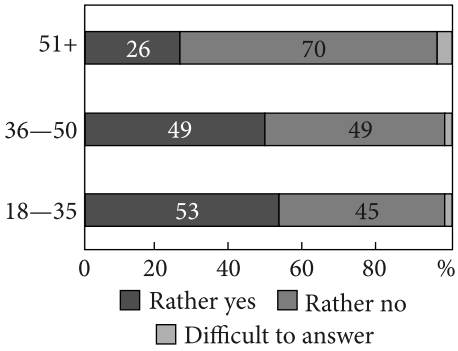
Occupations	Distribution of registered unemployed (by occupations), in percentage to a total number, as of:				$\frac{\sqrt{(D_1 - D_0)^2}}{\sqrt{D_0^2 + D_1^2}}$	$\frac{\sqrt{(D_2 - D_1)^2}}{\sqrt{D_1^2 + D_2^2}}$	$\frac{\sqrt{(D_3 - D_2)^2}}{\sqrt{D_2^2 + D_3^2}}$	Intensity of the changes of the structural changes coefficients (↑/ — / ↓)*		
	1.01.2016	1.01.2018	1.01.2020	1.01.2022						
	D_0	D_1	D_2	D_3	K_{i1}	K_{i2}	K_{i3}	I(K_{i1})	I(K_{i2})	I(K_{i3})
Cook	1.80	1.79	1.72	1.68	0.003	0.030	0.018	↓	↓	↓
Locksmith repairing wheeled vehicles	0.24	0.18	0.18	0.16	0.186	0.020	0.090	↓	↓	↓
Tractor driver (agriculture)	2.99	4.35	6.00	4.93	0.256	0.224	0.138	—	—	↓
Electric and gas welder	0.51	0.47	0.47	0.36	0.055	0.001	0.189	↓	↓	↓
Hairdresser (hairdresser-hair stylist)	0.42	0.31	0.21	0.23	0.204	0.267	0.054	—	—	↓
Tailor	0.11	0.09	0.06	0.07	0.135	0.207	0.067	↓	—	↓
Electrician repairing electrical equipment	0.28	0.22	0.20	0.19	0.179	0.047	0.056	↓	↓	↓
Plasterer	0.19	0.17	0.13	0.12	0.068	0.185	0.043	↓	↓	↓
Computer typing operator	0.57	0.40	0.31	0.31	0.241	0.188	0.009	—	↓	↓
Bricklayer	0.21	0.18	0.16	0.11	0.097	0.084	0.227	↓	↓	—
Information processing and software operator	0.02	0.03	0.03	0.03	0.192	0.102	0.013	↓	↓	↓
Locksmith repairing agricultural machines	0.17	0.21	0.23	0.16	0.155	0.078	0.249	↓	↓	—
Electric welder of manual welding	0.16	0.11	0.12	0.10	0.272	0.081	0.156	—	↓	↓
Seller of food products	3.47	3.36	2.75	3.23	0.023	0.142	0.115	↓	↓	↓
Locksmith repairing rolling stock	0.05	0.04	0.05	0.05	0.143	0.061	0.001	↓	↓	↓
Waiter	0.41	0.33	0.26	0.23	0.152	0.154	0.089	↓	↓	↓
Whitewasher	0.29	0.22	0.22	0.18	0.176	0.010	0.121	↓	↓	↓
Multiskilled machine operator	0.02	0.01	0.01	0.01	0.237	0.132	0.136	—	↓	↓
Seamstress	0.53	0.47	0.53	0.36	0.087	0.084	0.255	↓	↓	—
Locksmith-repairman	1.01	0.91	0.87	0.67	0.070	0.038	0.182	↓	↓	↓
Construction carpenter	0.03	0.03	0.02	0.02	0.144	0.278	0.161	↓	—	↓
Accounting clerk for registration of accounting data	0.12	0.12	0.11	0.12	0.030	0.043	0.037	↓	↓	↓
Installer of plumbing systems	0.03	0.02	0.02	0.01	0.185	0.267	0.068	↓	—	↓
Agent of tourism organization	0.01	0.01	0.01	0.01	0.127	0.068	0.148	↓	↓	↓
Operations manager	0.47	0.50	0.53	0.62	0.042	0.051	0.107	↓	↓	↓

Source: Calculated based on [10, 11].

Table 3. **The distribution of vacancies declared by employers to the employment centres (by occupations), %**

Occupations	Distribution of vacancies (by occupations) declared by employers to employment centres, in percentage to a total number, as of:				$\frac{\sqrt{(D_1 - D_0)^2}}{\sqrt{D_0^2 + D_1^2}}$	$\frac{\sqrt{(D_2 - D_1)^2}}{\sqrt{D_1^2 + D_2^2}}$	$\frac{\sqrt{(D_3 - D_2)^2}}{\sqrt{D_2^2 + D_3^2}}$	Intensity of the changes of the structural changes coefficients (↑/ — / ↓)*		
	1.01.2016	1.01.2018	1.01.2020	1.01.2022						
	D_0	D_1	D_2	D_3	K_{i1}	K_{i2}	K_{i3}	I(K_{i1})	I(K_{i2})	I(K_{i3})
Cook	1.90	1.77	1.81	1.99	0.051	0.018	0.067	↓	↓	↓
Locksmith repairing wheeled vehicles	0.67	0.72	0.81	0.82	0.051	0.089	0.007	↓	↓	↓
Tractor driver (agriculture)	0.31	0.16	0.19	0.21	0.418	0.093	0.076	—	↓	↓
Electric and gas welder	1.01	1.29	1.08	1.13	0.172	0.127	0.033	↓	↓	↓
Hairdresser (hairdresser-hair stylist)	0.62	0.31	0.32	0.30	0.448	0.023	0.045	↑	↓	↓
Tailor	0.20	0.07	0.08	0.04	0.603	0.100	0.522	↑	↓	↑
Electrician repairing electrical equipment	1.18	1.51	1.52	1.65	0.173	0.007	0.055	↓	↓	↓
Plasterer	0.15	0.13	0.15	0.15	0.087	0.072	0.006	↓	↓	↓
Computer typing operator	0.24	0.21	0.19	0.13	0.079	0.073	0.240	↓	↓	—
Bricklayer	0.29	0.42	0.33	0.27	0.249	0.166	0.156	—	↓	↓
Information processing and software operator	0.01	0.05	0.00	0.00	0.835	0.965	0.616	↑	↑↑	↑
Locksmith repairing agricultural machines	0.04	0.02	0.03	0.03	0.482	0.357	0.104	↑	↑	↓
Electric welder of manual welding	0.41	0.37	0.34	0.36	0.071	0.061	0.032	↓	↓	↓
Seller of food products	3.93	3.10	2.66	3.11	0.164	0.109	0.110	↓	↓	↓
Locksmith repairing rolling stock	0.25	0.36	0.49	0.44	0.248	0.221	0.089	—	—	↓
Waiter	0.65	0.84	0.75	0.55	0.179	0.084	0.209	↓	↓	—
Whitewasher	0.34	0.50	0.36	0.39	0.261	0.215	0.052	—	—	↓
Multiskilled machine operator	0.02	0.06	0.05	0.03	0.539	0.018	0.359	↑	↓	↑
Seamstress	2.86	2.84	2.49	1.92	0.005	0.092	0.183	—	—	↓
Locksmith-repairman	1.13	1.47	1.22	1.25	0.183	0.129	0.012	↓	↓	↓
Construction carpenter	0.02	0.02	0.03	0.03	0.104	0.284	0.109	↓	↑	↓
Accounting clerk for registration of accounting data	0.02	0.05	0.04	0.03	0.672	0.167	0.285	↑	↓	—
Installer of plumbing systems	0.09	0.13	0.10	0.10	0.237	0.181	0.011	—	↓	↓
Agent of tourism organization	0.00	0.00	0.00	0.01	0.987	0.357	0.616	↑↑	↑	↑
Operations manager	0.44	0.42	0.39	0.34	0.040	0.045	0.110	↓	↓	↓

Source: Calculated based on [10, 11].



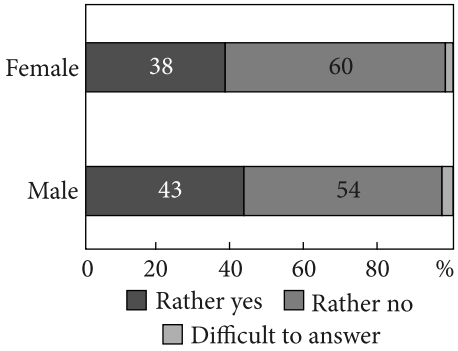


Fig. 2. Estimation by the respondents of the readiness to the change of occupation / workplace, by age group, % to a total number
Source: [12].

Fig. 3. Estimation by the respondents of the readiness to the change of occupation / workplace, by gender, % to a total number
Source: [12].

survey respondents (who lost their job during the war) remained insufficiently high [12]. The age structure of the respondents who demonstrated the readiness to change occupation and workplace was characterized by the following distribution (Fig. 2).

The above data show that respondents aged 18-35 (53 % of respondents) and 36-50 (49 % of respondents) are most motivated to change their occupation and workplace. At the same time, representatives of older age groups did not demonstrate readiness for this change (26 % of the total number of respondents). This reflects the peculiarities of the age distribution of the population (by the degree of incentive to change behavioural strategies in the labour market).

Moreover, the gender distribution of respondents shows that the majority of women are not ready to change their occupation and workplace (60 % of respondents), because they are trying to maintain their employment, social security and, accordingly, the ability to care for children (Fig. 3). At the same time, men have higher occupational mobility, as evidenced by the data: in particular, 54 % of men positively assessed these opportunities.

An equally serious challenge is the aggravation of the problems of realization and development of the educational and occupational potential of internally displaced persons. According to the results of the 'Report on the study concerning job placement of internally displaced persons in Zakarpattya and Lviv regions', conducted in July 2022, despite the fact that almost 71 % of internally displaced persons are interested in receiving professional assistance for career development and employment, only one in four was able to independently formulate specific requests regarding areas of study and assistance. This indicates the uncertainty of internally displaced persons regarding further professional prospects.

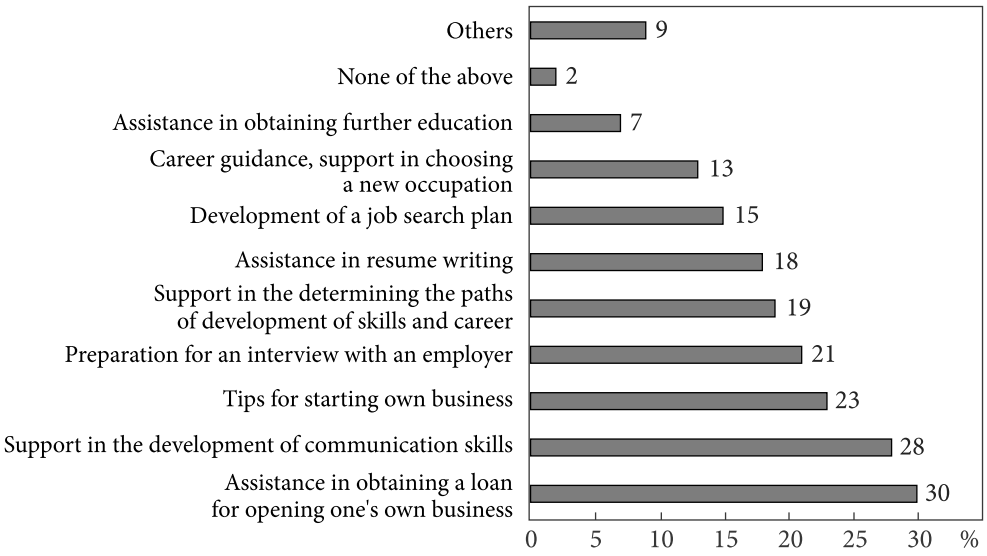


Fig. 4. List of services which are the most important for respondents (concerning career development and employment), % (* the total may exceed 100 % as multiple options are possible) *Source*: [13].

At the same time, 66 % of respondents showed interest in learning new occupation, while 25 % were not interested, and 8 % were still undecided. However, the list of services that respondents identified as the most important for career development and employment indicates a focus on obtaining further education (30 % of respondents), career guidance services (28), development of a job search plan (23), assistance in preparing a resume (21 %) (Fig. 4) [13].

Thus, this indicates the need to take into account the requests of internally displaced persons when determining the most in-demand occupations and qualifications, developing directions for adapting the labour market and the education system to modern challenges.

According to the results of the eighteenth nationwide survey 'Psychological Markers of War', conducted by the sociological group 'Rating' on October 8-9, 2022, among the survey respondents who had a job before the war, 34 % lost their jobs (from 44 % in the eastern regions to 30% in the western regions) [5]. At the same time, statistical data of the State Employment Service indicate a decrease in the number of registered unemployed from 1,001,700 (during January—September 2021) to 784,400 (during January—September 2022) [6]. To some extent, this is the result of weak motivation and insufficiently high activity of registration of the unemployed population in employment centres. At the same time, the number of registered unemployed people who have received vocational training also decreased for the same period from 76.8 thousand to 40.6 thousand, that is almost twice. This indicates a reduction in the number of the unemployed people

who participated in vocational education and training (with the assistance of the employment service).

It is also necessary to improve the structure and content of educational programs, to strengthen their practical orientation due to the involvement of employers in their preparation. Insufficient attention to these issues significantly exacerbates the problems of ensuring the high effectiveness of vocational education and training, which is necessary for the realization of the educational and occupational potential of the country under conditions of post-war recovery.

Moreover, one of the most effective tools for ensuring the improvement of the quality of the educational and occupational potential of the labour force is to increase the efficiency of the functioning of the vocational education system. In particular, this concerns the development of a dual form of education, which is aimed at ensuring that the quality of vocational education meets the requirements of the labour market, taking into account the current and prospective needs of economic entities, as well as the development of public-private partnerships in the field of vocational education [14]. According to the Order of the Ministry of Education and Science of Ukraine, the dual form of obtaining education is organized in accordance with educational programs/standards of vocational education (for specific occupations/qualifications) and curricula, which are developed together with the employers and approved in accordance with the procedure established by law. Students can receive wages during professional and practical training at the workplace, as well as directly acquire practical experience confirmed by the employer. The vocational school also issues a document on the obtained educational and / or professional qualifications to the person receiving the education based on the results of the qualification attestation.

Under crisis conditions, the need to strengthen the practice-oriented content of education becomes important. The spread of the 'work-based learning' practice (training organized at the workplace) will become a priority, which, according to scientists, will contribute to the strengthening of the integration of training at the workplace and formal (academic) training for the acquisition of 'hard' and 'soft' skills, obtaining modern knowledge necessary to increase one's competitiveness in the labour market. At the same time, the authors of the study 'Work-based Learning in Action' note that participation in 'work-based learning' not only allows the participants of this program to receive a college certificate as a result of completing the training courses [15]. Moreover, there is the possibility of receiving a salary or partial / full reimbursement of the education costs by the employer. It is possible to bring the content of education closer to the immediate needs of production (due to the flexibility of the programs, the acquisition of skills at the workplace).

In general, in order to minimize the risks and threats of ensuring the professional development of the labour force, the development of the educational and occupational potential of the labour force, it is advisable to implement the following measures concerning:

the development of the vocational education and training:

• to stimulate the strengthening of the practice-oriented content of vocational education and training, to stimulate employers to participate in the development of curricula, the organization of internships for students, teachers and industrial training instructors at workplace;

• to increase the effectiveness of career guidance toward increasing the prestige of obtaining vocational education (social advertising);

• to stimulate the development of 'work-based learning' (training that is organized at the workplace), with the aim of bringing the content of training closer to the immediate needs of production (due to the flexibility of programs, obtaining work skills at the workplace);

• to improve the functioning of the educational platform 'Vocational Education Online' to ensure distance learning in the field of vocational education;

the development of life-long learning:

• to develop short-term programs for training the adult population, including internally displaced persons;

• to increase the effectiveness of the verification of the results of informal education, obtaining professional qualifications;

the development of the meeting and anticipation of skilled labour needs:

• to create conditions for strengthening coordination and interaction between the main stakeholders (military-civilian administrations, local self-government bodies, employers, educational institutions, expert environment) regarding the determination of the volume and structure of the economy's needs in qualified labour (at the national and regional levels);

• to improve the information provision of labour market analysis by organizing and conducting surveys of employers regarding labour demand (by occupations); tracer studies of vocational education schools graduates; informing employers about the benefits of participating in research.

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ОСВІТНЬО-ПРОФЕСІЙНИЙ ПОТЕНЦІАЛ УКРАЇНИ:
ОСНОВНІ ВИКЛИКИ ТА ШЛЯХИ ПОКРАЩЕННЯ В СУЧАСНИХ УМОВАХ

Проблеми підвищення кваліфікації та якості людського капіталу стають пріоритетами сучасного соціально-економічного розвитку країн. Саме це актуалізувало дослідження основних тенденцій формування та розвитку людського потенціалу країни (зокре-

ма освітньо-кваліфікаційної складової). Разом з тим можливості для стабільного та ефективного розвитку ринку праці та системи професійно-технічної освіти в Україні значно обмежені через війну. Тому вкрай актуальним є дослідження особливостей розвитку освітньо-професійного потенціалу країни в сучасних умовах, визначення основних викликів його розвитку, пов'язаних з наявними обмеженнями, що ускладнюють можливості ефективної реалізації в сучасний період.

Метою статті є виявлення викликів і загроз реалізації освітньо-професійного потенціалу України в сучасних умовах, визначення шляхів розвитку індивідуальних навичок і компетенцій працівників, необхідних в умовах повоєнного відновлення. Для досягнення поставленої мети автори використали дані соціологічних опитувань, а також усі доступні джерела інформації (зокрема, дані Державної служби зайнятості, opendata). У ході дослідження використано такі методи: аналіз і синтез, системний аналіз, наукове абстрагування, порівняння, узагальнення, логічний підхід. Результати дослідження дали змогу визначити, що якість освітньо-професійного потенціалу залежить не лише від демографічної основи відтворення робочої сили, а й від готовності працівників отримувати нові навички, підвищувати кваліфікацію. Також у результаті дослідження визначено, що негативні тенденції у розвитку системи професійно-технічної освіти суттєво посилилися в умовах війни внаслідок: суттєвих пошкоджень мережі закладів професійної (професійно-технічної) освіти у регіонах, що постраждали від бойових дій; значних масштабів зовнішньої та внутрішньої міграції; порушення налагоджених координаційних зв'язків між підприємствами та закладами професійної (професійно-технічної) освіти; загострення проблем фінансування цих закладів. Розрахунки коефіцієнтів інтенсивності структурних змін (за 25 наймасовішими професіями) дають змогу досягти більш ефективного збалансування переліку професій, за якими здійснюється прийом до закладів професійної (професійно-технічної) освіти, з динамікою змін та професійною структурою вакансій (з урахуванням ступеня навантаження з боку безробітних). Отримані результати розрахунків можуть бути враховані під час визначення обсягу прийому учнів / студентів та структури навчальних програм, організованих закладами професійної (професійно-технічної) освіти та центрами зайнятості.

У процесі дослідження доведено, що важливими також є чинники, пов'язані зі стимулюванням працівників до навчання, перепідготовки, набуття навичок і компетенцій, необхідних для підвищення конкурентоспроможності на ринку праці, реалізації свого освітнього та професійного потенціалу. Як серйозний виклик було визначено загострення проблем реалізації, а також розвитку освітнього та професійного потенціалу внутрішньо переміщених осіб. За результатами опитувань виявлено, що ці особи зацікавлені в отриманні професійної допомоги для розвитку кар'єри та працевлаштування, але дотепер є проблеми з формулюванням конкретних запитів щодо напрямів навчання. У статті обґрунтовано необхідність розширення практики «навчання, організованого на робочому місці», що сприятиме інтеграції навчання на робочому місці та формального (академічного) навчання для здобуття «твердих» і «м'яких» навичок. Запропоновано основні шляхи мінімізації ризиків і загроз забезпечення професійного розвитку робочої сили, розвитку освітньо-професійного потенціалу робочої сили. Висновки статті можуть бути корисними для розроблення заходів освітньої політики та політики зайнятості, спрямованих на підвищення якості освітнього та професійного потенціалу робочої сили в Україні під час війни та в період повоєнного відновлення.

Ключові слова: освіта, професія, структурні зміни, навчання на робочому місці, виклики, вплив війни.