Labour market of Ukraine 2022-2023:

state, trends, and prospects

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LABOUR MARKET OF UKRAINE 2022-2023: state, trends, and prospects

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This report was prepared on the joint initiative of the State Employment Service of Ukraine, the Federation of Employers of Ukraine, the Ministry of Education and Science of Ukraine, as well as the Fund for International Solidarity (Solidarity Fund PL) and is based on a research supported by the European Bank for Reconstruction and Development (EBRD). Part of the study was supported by the EU4Skills program funded by the European Union (EU), Germany, Finland, Poland, and Estonia. The content of this report is an exclusive responsibility of its authors and does not necessarily reflect the views of the EBRD and the EU.

The publication is devoted to the issues in the functioning and development prospects of the labour market in war conditions, identification of risks and threats arising under current circumstances, as well as problems of assessing the current state and possible changes in the demand for employees and skills in the conditions of post-war development.

CONTENTS

PREFACE

Unprecedented conditions in which Ukraine found itself as a result of full-scale military invasion by russia provoked drastic changes in all spheres of public life, as well as the functioning of state and non-state institutions in the country. Contrary to different forecasts, Ukraine has not only survived, but also, despite very painful losses, heroically fights for its freedom and independence. Thanks to significant global support, Ukraine's economic system withstood powerful blows and was able to adapt to the new circumstances.

In the course of 2022, the labour market faced various challenges, but the lack of statistical data significantly limited the possibilities for assessing the real state and nature of changes occurring in Ukraine.

Needs for up-to-date information on the state and development prospects of the labour market, demands of employers as to employees and skills are caused by the need to develop the most possibly effective measures to stimulate employment and economic development, as well as to protect most vulnerable groups on the labour market. Another important factor necessitating the research of the Ukrainian labour market is the planning of programs for the post-war reconstruction of Ukraine. It is necessary to know future needs of the economy, the state and the army, as well as what human resources Ukraine will require for it.

Joint initiative of the European Bank for Reconstruction and Development, the State Employment Service, the Federation of Employers and EU4Skills program is designed to identify key changes that have occurred on the labour market during 2022 and outline its possible development prospects.

This publication provides an analysis of the situation on regional labour markets, based on the results of a study conducted in January-February 2023 in 22 regions of Ukraine. The methodology of analysis (tested in 2021 in 10 regions of Ukraine) was developed by a group of experts through generalization of the best European and Ukrainian practices within the framework of implementing the Polish component of EU4Skills. In particular, the methodology, employing quantitative and qualitative methods, contains three main components.

1. Analysis of administrative data.
2. Expert survey (focus groups).
3. Survey of employers.

The study outcome is based on the results of a representative survey of employers, attended by almost 8 thousand enterprises and organizations (except the field of public administration). The quantitative aspect of the analysis was complemented by expert assessments (this component was provided within the framework of the EU4Skills program), which were obtained in the course of sectoral focus groups and in-depth interviews with over 168 business representatives of the most important sectors of the economy.

Each component is based on the use of different sources of information, thus enabling the filling in of current gaps and bypassing their individual shortcomings. Some methodology components provide different types of information, cross-check and reinforce each other. Moreover, they provide information required for an efficient regulation of processes on the labour market and the management of the system of vocational and technical education.

ACKNOWLEDGEMENTS

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To heads of companies, HR directors, and managers who participated in expert focus groups and in-depth interviews.

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SUMMARY

DRIVERS OF CHANGE ON THE LABOUR MARKET

The unprecedented economic and migration crises were the main factors contributing to the deterioration of the situation on the labour market of Ukraine. At the end of 2022, the country's GDP shrunk by over 30%, national currency significantly depreciated, prices increased and the level of household income substantively diminished. At the same time, as a result of the full-scale aggression of the russian federation against Ukraine, entailing threats to personal safety of the population, people massively left the country. In the course of 2022, almost 8 million people left Ukraine. Meanwhile, almost 5 million people became internally displaced.

No less significant factor that affected the labour market and employment was the introduction of the martial law and mobilization. Conscription into the ranks of the Armed Forces of Ukraine substantially affected the volume of personnel recruitment, led to changes in personnel turnover, determined the specifics of supply and demand, as well as augmented the shortage of personnel on the labour market.

EMPLOYMENT REDUCTION

Substantial reduction in the employment volumes became the most significant change on the labour market of Ukraine in 2022. It happened due to a decrease in business activity or termination of operations of a significant number of companies, as well as a reduction in employment for economic reasons in companies that remained operating. In 2022, the greatest reduction in employment in Ukraine occurred due to a significant decrease in production volumes, as well as the disruption of production ties and destruction of enterprises in the regions where hostilities take place. In general, at the end of 2022, the number of companies which are not financed from the state budget in Ukraine decreased by 21.3%. Throughout the country, the number of employees at non-budget companies decreased by 15% and in the fourth quarter of 2022 amounted to 6.65 million people. The number employees working for individual entrepreneurs decreased by 28% and amounted to 604 thousand people in the fourth quarter of 2022.

A significant share of the decline in employment occurred in industrially developed regions. In particular, the employment reduction in Kharkiv, Dnipropetrovsk, Odesa, Mykolaiv, Kyiv regions and the city of Kyiv amounted to 59% of overall employment reduction. Thus, the remaining 16 regions account for less than 18% of the total volume of the reduction.

During 2022, enterprises that did not stop operating were downsized up to 5% of their staff. Overall, the number of employees decreased throughout all branches, regardless of company size. The largest reduction share occurred in the segment of microenterprises, where, compared to the beginning of the year, the number of hired employees decreased by 53%. In the segment of large enterprises, the situation was relatively better, with the employment reduction rates not exceeding 4%. Medium and small enterprises lost 6 and 8% of the total number of employees, respectively.

EMPLOYMENT AND UNEMPLOYMENT STRUCTURE

During 2022, there was an increase, in the employment structure, of the share of managers, specialists, technical experts, as well as machine and equipment maintenance workers. At the same time, the share of employees in commerce and skilled tool workers decreased. The share of the simplest professions decreased the most. This correlates with changes in the professional structure of the registered unemployed persons, with a decrease in the share of machine and equipment maintenance workers in the total number of unemployed. Obviously, this was caused by an increase in demand for representatives of this professional group. Accordingly, the share of managers in the total number of the registered unemployed people decreased. But among the unemployed, the share of commerce and service workers increased. This could be a result of their reduced employment opportunities in retail and wholesale trade due to the strengthening of crisis phenomena in this field, as well as a decrease in the household purchasing power.

SHORTAGE OF COMPETENT EMPLOYEES

Despite a significant reduction in jobs and an increase in unemployment in 2022, employers who hired employees during the year pointed out personnel shortage. The need to hire employees during the year was mainly caused by two factors: mass *departure of employees* to safer regions or abroad; general *mobilization*. The first factor caused a shortage of employees of all professions and specialties in the regions bordering the russian federation and the southern regions of Ukraine. The second factor influenced the shortage both directly and indirectly. First, a significant number of employees voluntarily joined the ranks of the Armed Forces of Ukraine or other voluntary military formations in the first days of the war. Second, the Armed Forces of Ukraine needed a significant number of qualified technical specialists, who had been in shortage on the labour market for several years already. Another indirect reason of the mobilization impacting the shortage of employees was the unwillingness of men to officially find a job and, accordingly, formalize their employment, in order to avoid mobilization.

EMPLOYMENT OF WOMEN AND YOUTH

Businesses reacted to a significant shortage in professions traditionally involving male employees through attempts to attract women to work in these professions. There are successful cases of many enterprises for retraining female staff to fill vacant positions in the professions of welders, loader drivers, drivers, etc.

During 2022, the share of employees of the main age category of 36-60 years significantly decreased in the structure of employees (by 6%). But the share of working people over the age of 60 significantly increased (from 4.2% to 8.9%). The share of working youth also increased moderately (from 31.2% to 31.6%).

CERTAIN ASPECTS OF RECRUITMENT

During 2022, economically active enterprises mainly hired employees of vocational professions. In the total structure of employees hired in 2022, the most numerous are machine and equipment maintenance workers (28%). Moreover, the most numerous professions hired in 2022 were: driver of motor vehicles, nurse, loader, handyman, boiler room operator, tractor driver in agriculture (forestry), food seller, seamstress, packer, doctor.

And 9 out of the 10 highest-demand professions are professions trained in vocational and technical institutions. The presence of two main medical professions in this list indicates an extremely high need for medical and auxiliary medical personnel, which was confirmed by expert assessments in most regions of Ukraine.

To a large extent, the volume of recruitment was not so much due to the additional demand for employees, but rather due to the need to replace employees who had left (mainly through mass departure abroad and mobilization). According to the survey results, in 2022, average personnel turnover in companies amounted to 18.4%.

The results of the study indicate that the personnel turnover between main professional groups is unevenly distributed. More than half of its total volume (54.9%) is accounted for by professional groups of machine and equipment maintenance workers (24.4%), skilled tool workers (17.6%) and simplest professions (12.9%). At the same time, 54% of the turnover of the professional group of machine and equipment maintenance workers is attributed to the professions of drivers, tractor drivers, and boiler house operators.

The analysis of personnel turnover shows that the hiring of employees in 2022 and substantial fluctuations in the number of vacancies that took place can be explained not so much by the stabilization of the work of companies, but by migration and mobilization waves.

HIGH-DEMAND AND HIGH-POTENTIAL SKILLS

Employers mentioned responsible attitude of employees to work as the most important aspect for employees of all categories and sectors of the economy. Among expert employers, it is widely believed that the lack of certain knowledge and skills can be compensated for by a responsible work-ethic and a willingness to learn from more experienced employees.

Perhaps, wartime and war conditions have led to high demand for stress tolerance. It is worth noting that a significant number of employers pointed out the importance of computer and foreign language skills. In addition to those mentioned above, employers mentioned the following: teamwork, attentiveness, result-orientedness, computer proficiency, knowledge of foreign languages, ability to work with respective equipment, ability to learn and creativity.

In the future, the importance of working with modern equipment together with the use of latest technologies and digital skills will increase. Skills of working with data and integrating artificial intelligence systems into workflows were particularly emphasized. The prospects for European integration determine the growing demand for knowledge of European norms and standards.

EXPECTED CHANGES IN THE NUMBER OF EMPLOYEES

In the next 6 months, moderate employment growth can be expected. A third of employers expect a further increase in recruitment. At the same time, almost a third of the surveyed employers could not assess the prospects for changes in recruitment volumes, and the rest of employers do not expect any additional recruitment.

CHANGE SCENARIOS

Overall risks of the negative scenario being realized[1] are the following: reduction of the labour pool and increase in the number of those unfit for employment, increase in the level of disability of population, incomprehension of the scale and importance of social and professional rehabilitation of veterans, outflow of women and young people abroad, increase in structural unemployment, increase in the shortage of competent workers (in particular due to mobilization), increase of the scale of informal employment.

If the negative scenario is implemented, employment support measures that will help overcome the shortage of qualified employees and support businesses will be of great importance.

Realization of the positive scenario[2] also carries significant risks for the labour and employment market in Ukraine. In particular, this scenario can stimulate outflow of the population abroad, high competition for employees, structural imbalances in labour supply and demand, demobilization, spread of post-traumatic stress disorders, increase in the level of disability among population, lack of labour for the implementation of recovery and reconstruction programs, lack of qualified potential (due to possible non-return of young people).

At the same time, the painful losses that Ukraine has already suffered due to russia's unprovoked military aggression will have serious consequences for decades to come. Important steps to successfully overcome the consequences of war and prevent possible risks should encompass birth incentive programs, promotion of the return of migrants, increase in the employment of war veterans, women and youth, and support for small businesses.

VULNERABLE GROUPS ON THE LABOUR MARKET

Problems with providing employment for vulnerable population groups have worsened due to the complication of the process of jobs creation in war conditions. In particular, in 2022, almost 47% of enterprises hired people with disabilities, 46% – IDPs, while only 14% – hired veterans. This indicates that veterans remain focused on continuing military service, or search (even those with disability) respective employment. Employers understand the prospects for increasing the number of representatives of this vulnerable group following termination of active hostilities. More than 30% of employers positively assessed the possibility of hiring veterans in larger numbers. At the same time, there is a decrease in the share of companies ready to hire people with disabilities (up to 32%) and IDPs (up to 36%).

Employment of representatives of vulnerable population groups is complicated due to the risks and obstacles significantly affecting the efficiency of this process. In general, employers' assessment of obstacles to the employment of vulnerable population groups indicates a lack of awareness of the serious character of these problems that will accompany the future employment and organization of work of these population groups. This requires identifying ways to support and encourage employment of vulnerable groups. Such measures could include:

- refund of/exemption from taxes for the respective employee;
- payment of the salary difference (if it is necessary to transfer an employee to a position with the lowest level of remuneration);
- compensation of employee's salary for a period of 3 to 12 months for employment of a veteran/veteran with disability in the period of up to 6 months from the date of dismissal from the ranks of the Armed Forces of Ukraine;
- compensation from 50 to 100% of the cost of retraining a veteran/veteran with disability (on a one-time basis within a certain period of time);
- compensation of expenses (accounts or salaries) for the work of corporate specialists who will provide psychological/social/medical assistance to veterans/veterans with disability.

PERSONNEL TRAINING

It can be stated that in 2022 the extent of employee training was significantly lower compared to previous years. A significant proportion of companies did not conduct any training at all, and those companies that continued to train their personnel significantly optimized this process. Industry experts noted that employee training budgets had been reduced by an average of 60-70%.

In most cases, businesses solve the problems of training employees on their own by organizing training centers,

[1] Negative scenario is that the war will continue for the next few years. Despite support from the Western countries, the economic situation in the country is deteriorating.

[2] Positive scenario: Ukraine wins the war, receives significant economic support, and becomes a member of the European Union in a few years.

mentoring etc. Secondary needs are met through the involvement of service providers and/or external suppliers. Emergence of qualification centers has significantly simplified the possibilities of hiring employees of related professions or simply experienced employees who are able to perform certain types of qualified work. The participation of institutions of higher and vocational and technical education in the structure of personnel training has been insignificant, but not non-existent for the private sector. At the same time, it is very important for the public sector and some specific branches. In particular, institutions of higher education play an important role for the sphere of education and healthcare, and establishments of vocational (vocational and technical) education are vital for the housing and communal sectors.

Regardless of the existing training needs, the financial and economic situation of companies significantly limits their ability to train employees. Many companies, especially in the segment of small and microenterprises, have no possibilities to finance training at all. According to expert assessments, the financing of personnel training is considered to be optional expenses, therefore many companies have stopped this financing in crisis conditions. This situation will be an additional factor contributing to the retainment of the large-scale shortage of qualified employees on the labour market in 2023 and subsequent years.

COOPERATION WITH INSTITUTIONS OF VOCATIONAL (VOCATIONAL AND TECHNICAL) EDUCATION

Most companies do not cooperate with institutions of vocational (vocational and technical) education. Cooperation with educational institutions is carried out mainly by large and medium enterprises in the sectors with a significant share of vocational professions. In general, this situation is traditional for Ukraine. Numerous studies[3] indicate that in recent years there has been a tendency for the situation to improve and the range of companies cooperating with institutions of vocational (vocational and technical) education expand. According to the survey results, 37% of companies reported cooperation with educational institutions.

NECESSARY STEPS TO STIMULATE EMPLOYMENT

In the course of the study, there were measures identified, the implementation of which will contribute to minimizing negative consequences of the war on the balance of supply and demand on the labour market of Ukraine. First of all, this relates to the improvement the efficiency of state employment policy with a view to developing business environment, stimulation of entrepreneurship development, improvement of the quality of vocational education and training, promotion of higher economic activity of the population through social involvement of vulnerable groups, creation of conditions for the development of state-private, public-private partnerships and programs of corporate social responsibility for the support and professional rehabilitation of Veterans, IDPs, persons with disabilities.

It is advisable to implement the following measures to meet the needs of the economy for qualified employees:

- promotion of the improvement of quality of vocational education and training through the development of dual training; more active participation of employers in the preparation of educational and professional standards, organization of on-the-job training programs, supervisory boards of educational institutions; the strengthening of practice-oriented content of the curricula allowing to acquire the most required skills;
- improving the awareness of employers (representatives of small and medium businesses) about the possibilities of confirming full or partial professional qualifications in qualification centers in order to meet personnel needs in sectors with a large shortage of stuff;
- improvement of the employee training process through organization of training centers, development of mentoring systems, involvement of services suppliers and/or external providers;
- improving the prospects for the formation of personnel potential of companies in the post-war period(in particular, standardization of the mobilization processes, creating conditions for the return of displaced persons).

With a view to improving the efficiency of the state employment promotion policy for veterans/veterans with disability, it is necessary to:

- improve the efficiency of interaction with employers to provide them with advisory support on the specifics of organizing workplaces for veterans with disabilities (ensuring barrier-free operation in the workplace);

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[3] Companies survey-2022. URL: https://fru.ua/images/doc/2022/EU4Skills_Sectoral_survey.pdf
Labour market of Dnipropetrovsk region in 2021// Dnipropetrovsk Regional Employment Service. URL: https://solidarityfund.org.ua/ wp-content/uploads/2022/09/final_dnipro_eu4skills.pdf
Evidence Based Vocational and Technical Education Management // Volyn Resource Center. URL: https://vrc.rv.ua/case_study/vet-based-on-data/

- conduct information campaigns to spread positive experience of effective corporate social responsibility programs with regard to the employment of veterans/veterans with disabilities.

It is advisable to ensure the following with a view to encouraging employers to provide labour rehabilitation and promote professional self-fulfillment of veterans/veterans with disabilities:

- compensation of employee's salary for a period of 3 to 12 months for the employment of a veteran/veteran with disability in the period of up to 6 months from the date of dismissal from the ranks of the Armed Forces of Ukraine;
- partial/full compensation of retraining costs of an employee who is a veteran/veteran with disability;
- compensation of expenses (accounts or salaries) for the work of corporate specialists who will provide psychological/social/medical assistance to veterans/veterans with disability.

In order to implement individual state support programs for veterans/veterans with disabilities it is advisable to provide:

- a possibility of receiving a one-time payment/certificate for the purchase of accommodation upon dismissal from the ranks of the Armed Forces of Ukraine;
- better informing of veterans about possibilities of receiving a one-time payment/voucher for obtaining a new profession/qualification;
- promotion of professional, social and psychological rehabilitation of veterans by providing social and psychological support.

To stimulate the employment of vulnerable population groups, it is advisable to employ the following mechanisms: payment of financial subsidies to salaries; improvement of the quality and accessibility of services/infrastructure (healthcare, housing, transport); financial support for the adaptation of workplace to the needs of people with disabilities; provision of psychological support.

In general, the implementation of these measures can help ensure that the labour market is adapted to current risks and potential challenges that may worsen in the future, create conditions for the improvement of the quality of the country's labour potential (in particular, its professional and qualification component), necessary for post-war economic recovery on basis of modernization.

MAIN DRIVERS of change ON THE LABOUR MARKET

1.1. Economic situation

Since the beginning of the full-scale invasion by russia, the state of the Ukrainian economy has been characterized by intensified crisis phenomena. The deterioration of the socio-economic situation in the country has led to a significant reduction of the GDP and a drop of the population's standard of living. At the same time, the adoption of the Law of Ukraine "On the Protection of the Interests of Subjects of Reporting and Other Documents during the Period of Martial Law or a State of War" dated 3 March 2022 No. 2115-IX significantly limited possibilities for statistical assessment of the scale of economic losses as due to the war. That is why the data of the Open Data Portal (opendata), calculations of the National Bank of Ukraine and other executive bodies, as well as expert assessments are the main source of information on the socio-economic situation in the country.

1.1.1. Gross domestic product

According to operational assessment of the State Statistics Service of Ukraine and calculations of the National Bank of Ukraine, real GDP decreased by 30.8% YoY in the third quarter of 2022, while in the fourth quarter of 2022 the drop of this indicator was 35.0% YoY.[4] Overall, according to the Monthly Economic Monitoring of Ukraine (January 2023), prepared by the Institute for Economic Research and Political Consulting, Ukraine's real GDP decreased by almost 30% in 2022 due to a significant deterioration of macroeconomic indicators.[5] The Ministry of Economy of Ukraine also confirmed GDP decline forecast (based on the results of 2022) by 32-33.5%.[6] This was primarily due to a reduction in production volumes caused by the destruction of production, transport, and energy infrastructure[7], annexation of territories by russia, disruption of logistics and production ties between companies, reduction in the volume of exports of products and services, decrease in consumer demand on the domestic market.

1.1.2. Consumer Price Index

Changes in the macroeconomic situation in Ukraine are largely influenced by changes in consumer inflation. According to estimates of the National Bank of Ukraine and the State Statistics Service of Ukraine, consumer price index growth rate has significantly accelerated since the beginning of the full-scale russian aggression (from 13.7% in March 2022 to 26.6% in December 2022).[8] Inflation increased due to higher production and logistics costs, rising energy prices, reduced demand for goods (fig. 1).

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[4] Inflation Report (January 2023) // National Bank of Ukraine. URL: https://bank.gov.ua/admin_uploads/article/IR_2023-Q1.pdf?v=4

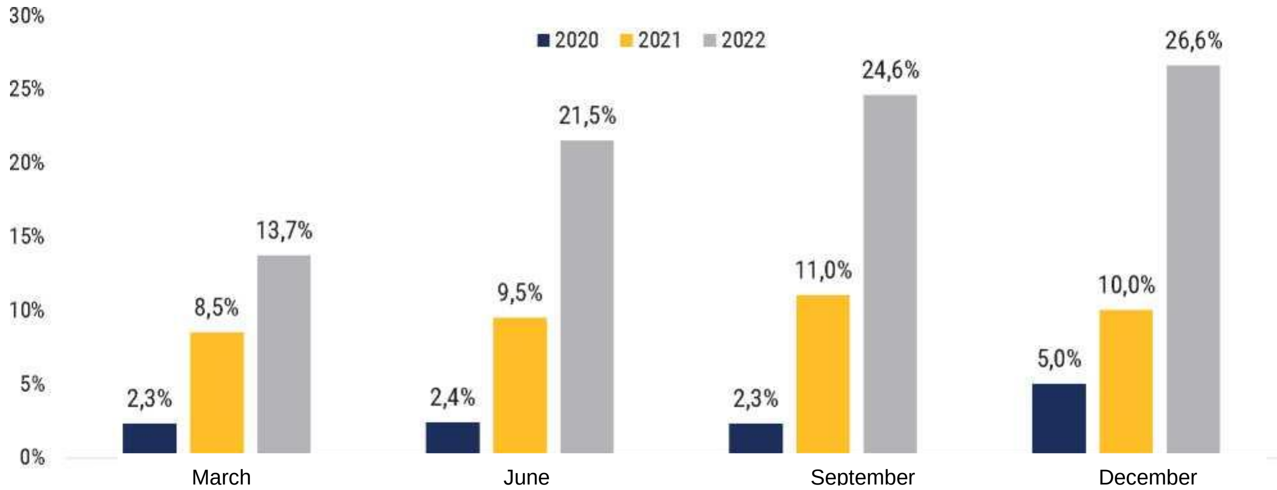
[5] Monthly Economic Monitoring Of Ukraine. No.216 (January 2023) // Institute for Economic Research and Policy Consulting. URL: https://cci.vn.ua/wp-content/uploads/2023/01/MEMU_Jan2023_216.pdf

[6] Ukraine: From War to Peace and Restoration. Analytical Assessments (December 2022) // Razumkov Center. URL: https://razumkov.org.ua/images/2022/12/27/2022-MATRA-December.pdf

[7] According to estimates of the Kyiv School of Economics, the total amount of direct losses from the destruction of infrastructure resulting from the russian military aggression could amount to USD 136 billion (indirect losses exceed 165 billion) // Financial Stability Report (December 2022) // URL: https://bank.gov.ua/admin_uploads/article/FSR_2022-H2.pdf?v=4

[8] Inflation Report (January 2023) // National Bank of Ukraine. URL: https://bank.gov.ua/admin_uploads/article/IR_2023-Q1.pdf?v=4

Fig. 1. Dynamics of changes in the consumer price index (2020-2022), %



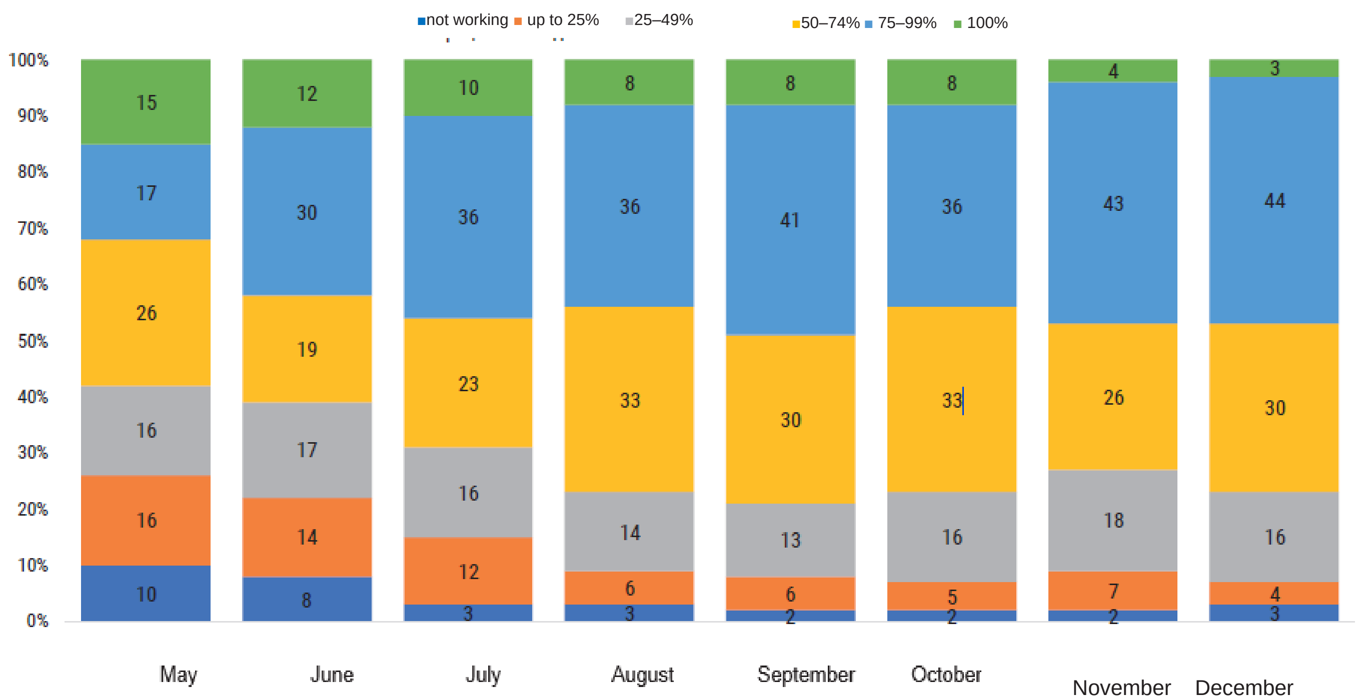
Source: NBU Inflation Report, January 2023.

A bigger deficit of the consolidated budget became another equally important factor causing changes in the country's economic situation due to the war. The deficit, according to estimates of the National Bank of Ukraine and the State Statistics Service of Ukraine, amounted to 27% of GDP in 2022.[9] It was a result of decreased economic activity, introduction of tax benefits, greater defense expenses, the financing of social programs. At the same time, food exports decreased due to logistical difficulties and domestic electricity shortage grew bigger.

1.1.3. Business activity of companies

According to the results of the survey of companies "Ukrainian Business during the War" of the Institute of Economics Research and Political Consulting, the war significantly affected the utilized production capacity of Ukrainian companies in May – December 2022[10] (fig. 2).

Fig. 2. The impact of war on the activities of companies (May-December 2022), % of respondents



Source: New Monthly Survey of Companies "Ukrainian Business during the War"

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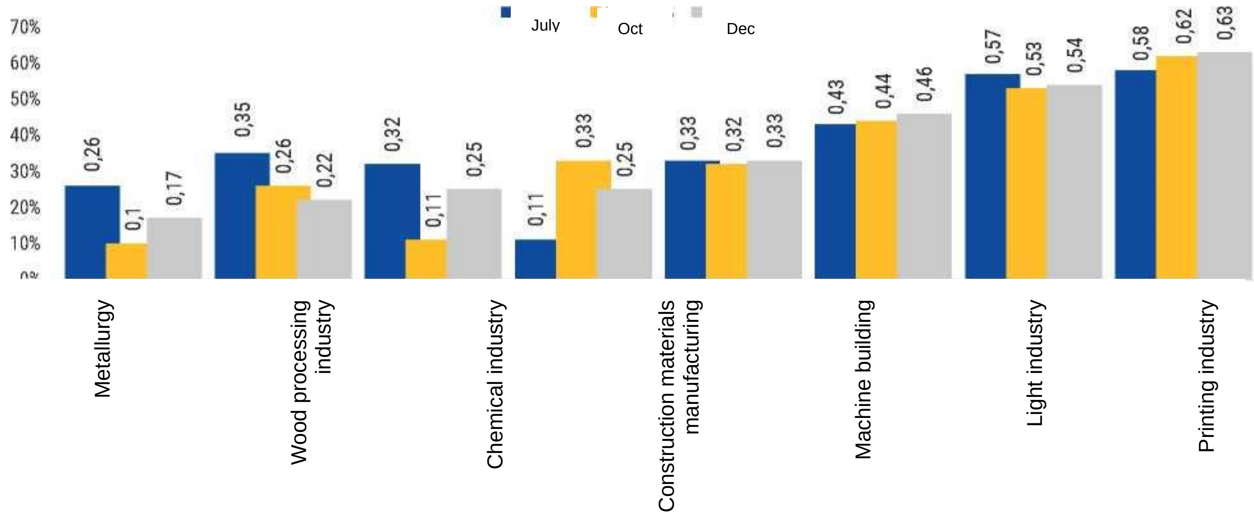
[9] Inflation Report (January 2023) // National Bank of Ukraine. URL: https://bank.gov.ua/admin_uploads/article/IR_2023-Q1.pdf?v=4

[10] New Monthly Survey of Companies "Ukrainian Business during the War" Issue #8 (12.2022). // Institute for Economic Research and Policy Consulting. URL: http://www.ier.com.ua/files/Projects/2023/TDF/ilovepdf_merged-6.pdf

According to the survey results, the share of companies with the level of utilized production capacity of 75% to 99% increased from 17% in May 2022 to 44% in December 2022. At the same time, over the same period, the share of companies operating in the range below 25% of utilized capacity decreased from 16% to 4%. This indicates a gradual adaptation of companies to working in war conditions. Moreover, the decrease in the share of companies operating at full utilized capacity (from 8% in October 2022 to 3% in December 2022) may be more likely to be the result of terrorist attacks by the aggressor country on the country's energy infrastructure. Depending on the industry, there was a significant difference between companies (in terms of utilized production capacity) depending on the level of adaptation of sectors of the economy to operating in wartime[11] (fig. 3).

Fig. 3. Share of industrial enterprises operating at full / almost full capacity (75% or more) compared to the pre-war period (July-December 2022), % of respondents



Source: New Monthly Survey of Companies "Ukrainian Business during the War"

According to the monthly survey of companies, the food industry demonstrated the highest degree of the ability to adapt to wartime challenges (the share of companies with almost full utilized capacity remained in the range of 60-67%). There were many such companies also in printing and in the light industry. Recently, there has been an increase in the share of such companies in the mechanical industry and in woodworking, indicating a gradual adaptation of these industries to operating in war conditions.

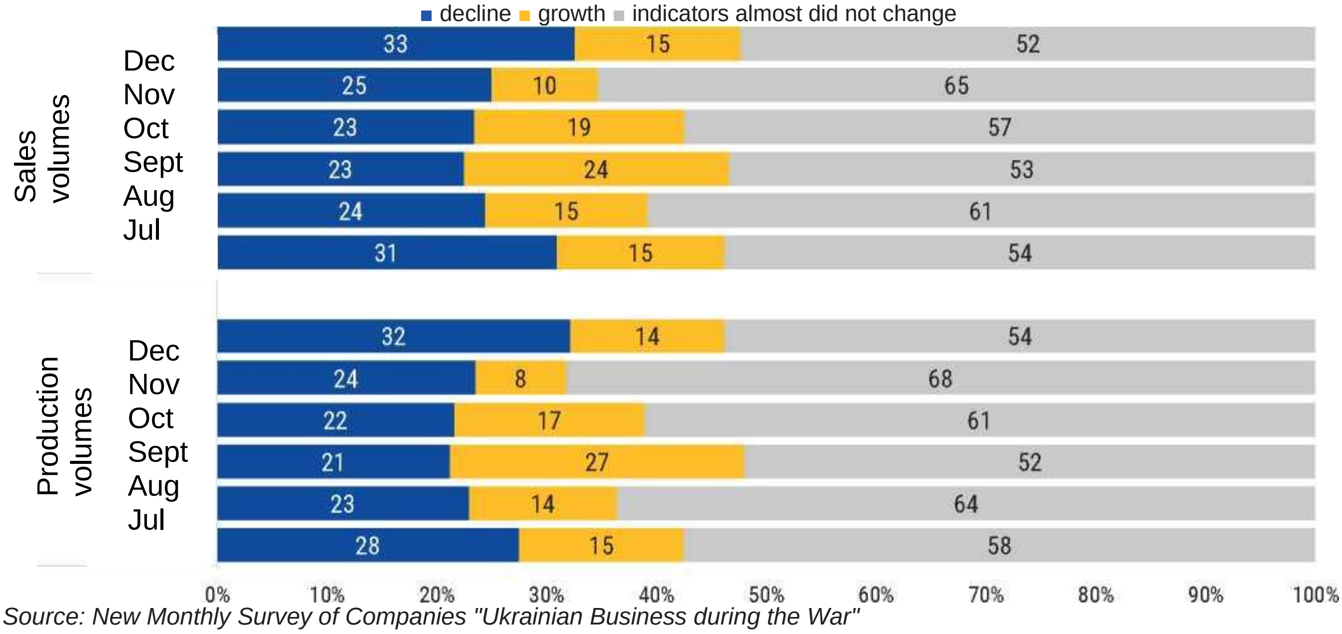
At the same time, the country's metallurgy suffered significant losses since the beginning of the full-scale russian aggression. Ultimately, it happened due to the occupation/destruction of such giant metallurgical enterprises as "Azovstal" iron and steel works, “Mariupol Ilyich Iron and Steel Works”, and the aggravation of problems with the production and sale of goods (due to power shortages in view of the shelling of energy facilities, disruption of logistics, export complications).

The difference between companies (in terms of the level of utilized capacity) remains substantial depending on the company size. In particular, the share of microenterprises operating at almost full capacity increased from 15% in July 2022 to 21% in December 2022[12]. At the same time, the level of utilized capacity of small, medium, and large enterprises decreased in the same period of time. It decreased most significantly with the beginning of attacks on the energy infrastructure. Moreover, the level of utilized production capacity of large enterprises remained

[11] New Monthly Survey of Companies "Ukrainian Business during the War" Issue #8 (12.2022). // Institute for Economic Research and Policy Consulting. URL: http://www.ier.com.ua/files/Projects/2023/TDF/ilovepdf_merged-6.pdf
[12] New Monthly Survey of Companies "Ukrainian Business during the War" Issue #8 (12.2022). // Institute for Economic Research and Policy Consulting. URL: http://www.ier.com.ua/files/Projects/2023/TDF/ilovepdf_merged-6.pdf

virtually unchanged (48% starting from October 2022). Also, small and medium enterprises managed to adapt to these challenges faster, almost reaching their full utilized capacity in September 2022. Results of the survey of companies with regard to trends in changes in production and sales volumes during July-December 2022 indicate the following dynamics of these indicators (fig. 4).

Fig. 4. Assessment of changes in the volume of production and sales of companies' products (July– December 2022), % of the surveyed companies



Source: New Monthly Survey of Companies "Ukrainian Business during the War"

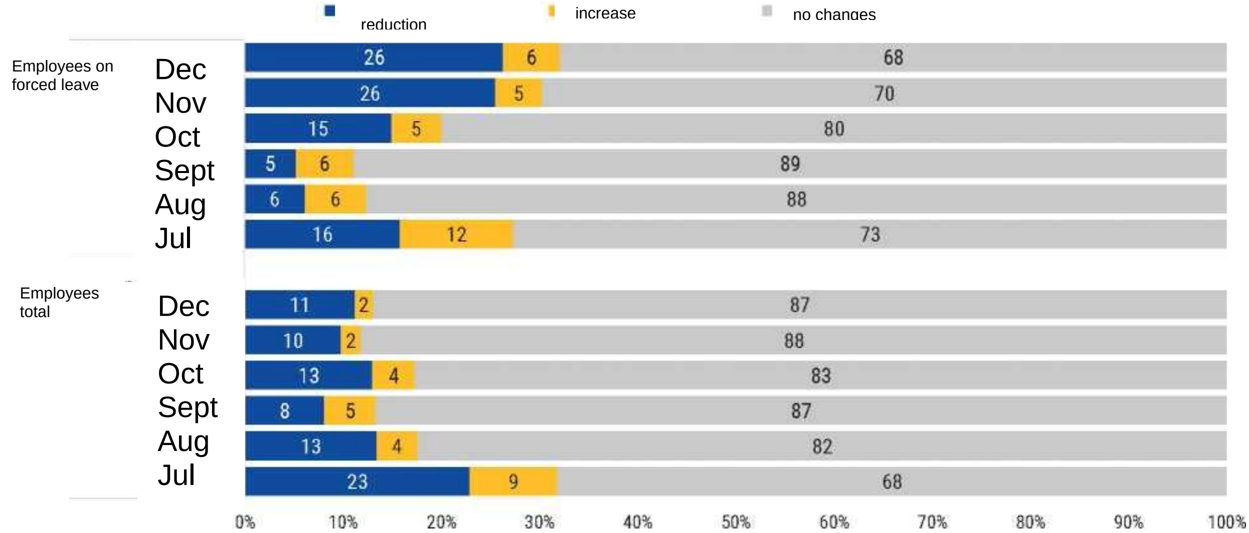
The share of enterprises that showed an increase in production volumes was the largest in September 2022 (27% of the total number of companies surveyed). However, russia's terrorist attacks on Ukraine's energy infrastructure, causing significant problems with power supply, led to a decrease in the share of such companies. Accordingly, the share of companies with lower production volumes remained quite high (in the range of 28-32%). Similar trends could be observed also with regard to the volume of sales.

According to the data of the State Statistics Service and the National Bank of Ukraine, during the first half of 2022, industrial production volumes decreased the most in the extractive industry (from -8.1% in January 2022 to -69.0% in June 2022) and in the chemical industry (from -23.4% to -64.0%).[13] Production volumes in metallurgy and metalworking also significantly decreased due to the destruction of enterprises and the breakdown of logistics ties between enterprises. Food, pharmaceutical and light industries, as well as mechanical engineering adapted to a greater extent, as they were able to adjust to changes in the economic situation the wartime. However, a decrease in the volumes of production and sales, together with the expectations as to the duration of hostilities significantly affect the dynamics of changes in the number of full-time employees. According to the monthly survey of companies, in the period from July 2022 to December 2022, the percentage of companies where the number of employees decreased (from 23 to 11%) and, accordingly, where the number of employees increased (from 9 to 2%) went down [14](fig. 5).

[13] Inflation Report (January 2023) // National Bank of Ukraine. URL: https://bank.gov.ua/admin_uploads/article/IR_2023-Q1.pdf?v=4

[14] New Monthly Survey of Companies "Ukrainian Business during the War" Issue #8 (12.2022). // Institute for Economic Research and Policy Consulting. URL: http://www.ier.com.ua/files/Projects/2023/TDF/ilovepdf_merged-6.pdf

Fig. 5. Assessment of changes in the total number of employees and employees on forced leave (July–December 2022), % of the surveyed companies



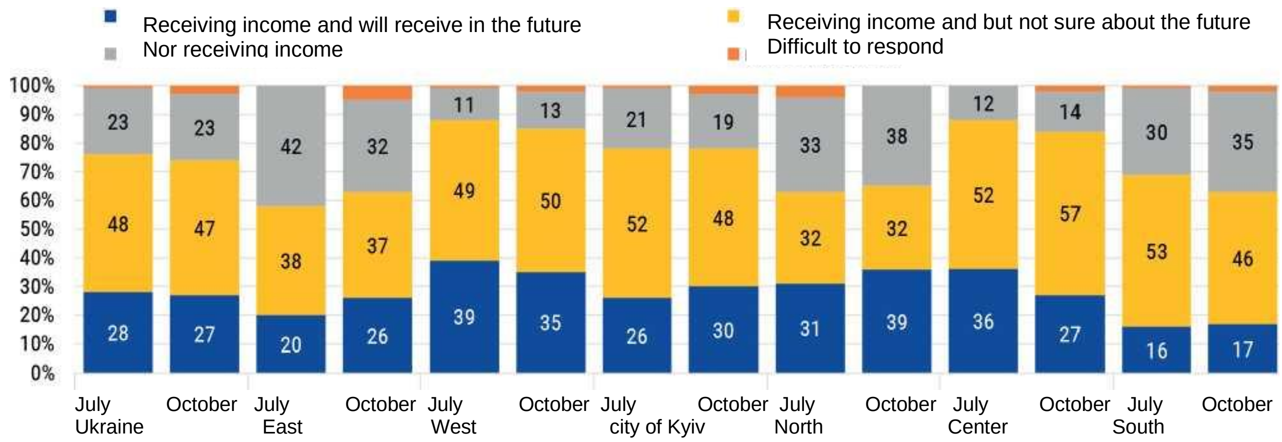
Source: New Monthly Survey of Companies "Ukrainian Business during the War"

Recently, companies have begun to actively apply forced leave to avoid the release of full-time employees (in particular, as a result of attacks on energy infrastructure). The share of enterprises using forced leave has ranged within 5-6% since the beginning of mass power outages. However, this does not fully compensate for the increase in unemployment.

1.1.4. Household income

The deterioration of the economic situation also negatively affects household income. Results of the study "Migration and Socio-Political Sentiments during Russia's Full-Scale War against Ukraine" show that the income of 78% of respondents have decreased.[15] Only 23% of respondents said that they received income and would continue to receive it in the future. The percentage of respondents who noted the possibility of obtaining stable income in the future remained the lowest in the eastern and southern regions of the country and the highest in the western and northern regions (fig. 6).

Fig. 6 Household income during the war by region (July-October 2022), % of respondents



Source: Migration and Socio-Political Sentiments during Russia's Full-Scale War against Ukraine – the Twelfth Wave of Research, October 2022.

In general, this indicates a significant dependence of household income on the economic situation, which characterizes the possibilities of its growth as the economic activity of enterprises increases, the balance of payments improves, and the country's export potential grows. This will encourage an increase in demand for labour and help

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[15] Migration and Socio-Political Sentiments during Russia's Full-Scale War against Ukraine – the Twelfth Wave of Research (October 2022) // Gradus, Advanter. URL: https://gradus.app/documents/317/Gradus_EU_wave_12_UA.pdf

improve the quality of labour.

1.2. Demographic situation

1.2.1. Features of demographic reproduction

The development of the labour market also depends on the volume and structure of the labour supply – respectively affected by demographic factors. The demographic situation in Ukraine is also significantly deteriorating due to the hostilities.

The labour supply is formed under a huge influence of birth and death rates of the population. Limited statistical information significantly reduces possibilities for analyzing the demographic indicators. In particular, birth rates are not currently being published. Opendatabot's data on the mortality rate of the population indicate that in 2022 there were over 541.7 thousand deaths[16] registered in the controlled territory of Ukraine. It should be noted that these data do not take into account information about temporarily occupied and liberated regions. An increase in the mortality rate of the population against the background of a drop in the birth rate and an increase in the level of morbidity of the population in recent years, an increase in the intensity of migration outflow can significantly limit the possibilities of expanding the labour supply and aggravate the risks of meeting the need for skilled labour.

1.2.2. Migration

One of the most important factors influencing the supply of labour is the migration abroad. According to the Office of the United Nations High Commissioner for Refugees, as of January 17, 2023, there were almost 7.98 million Ukrainian refugees abroad, while almost 4.9 million internally displaced persons were registered within the country[17]. Significant volumes of migratory movements have been substantially affecting the country's ability to ensure sustainable economic development.

The gender and age structure of Ukrainian refugees has its specifics. According to a refugee survey conducted by the Office of the United Nations High Commissioner for Refugees during May–November 2022, women accounted for almost 85% of the respondents. The vast majority of refugees staying in Bulgaria, Hungary, Moldova, Poland, Romania and Slovakia, belonged to the age groups 35-59 years (47%), 18-34 years (25%). These are the most productive age population groups, whose migratory outflow will significantly limit the ability to increase the supply of labour.

The educational structure of the surveyed refugees is characterized by the predominance of the share of the population with higher (47%), vocational and technical (20%) and full secondary education (20%). This will increase the risks of an outflow of skilled labour, which in turn will limit opportunities to improve the quality of labour in the future.[18]

1.2.3. Outflow of young people abroad

A significant outflow of children and youth is a serious challenge. The number of school-age children who are

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[16] Research Based on Data on the Controlled Territory of Ukraine (February 2, 2023) // Opendatabot. URL: https://opendatabot.ua/analytics/death-2022

[17] Ukraine Refugee Situation // UNHCR. Operational Data Portal. URL: https://data.unhcr.org/en/situations/ukraine

[18] Profiles, Needs & Intentions of Refugees from Ukraine // Regional protection profiling & monitoring factsheet. UNHCR. December 2022. URL: https://www.ecoi.net/en/file/local/2084454/Regional+Ukraine+Protection+Profiling+Factsheet+2022.pdf

abroad is quite difficult to assess: estimates vary between 1-1.5 million[19]. According to data of the European Union, as of October 4, 2022, 517.123 Ukrainian children were integrated into the school systems of EU countries[20]. At the same time, according to a survey conducted by the Educational Ombudsman of Ukraine in August 2022, almost 40.4% of surveyed parents noted that the child studied simultaneously in two institutions: full-time abroad and remotely in Ukraine, 34.9% – remotely in Ukraine, 11% – abroad. Almost 39.6% of the surveyed parents plan to return to Ukraine after the war ends, and almost 38% of the respondents are still undecided about the time of their return.[21] In general, a significant migration outflow of women with children can be a serious challenge for replenishing the labour supply in the future.

The outflow of students abroad is also significant. Information on the number of students studying abroad is quite limited. According to the Ukrainian Center for Educational Quality Assessment, in 2022 the number of applicants decreased by 40% compared to the previous year and amounted to 229 thousand people (compared to 390 thousand people in 2021). Among those who have registered for the national multidisciplinary test in 2022, 201.089 people wanted to take the test in Ukraine, and 27.944 – in 23 European countries.[22] At the same time, it should be taken into account that foreign countries are interested in attracting qualified labour force. This aggravates the risks of non-return of students following completion of their studies abroad.

1.3. Mobilization

A significant factor limiting the possibility of increasing labour supply is the need to replenish the mobilization reserve to conduct warfare. According to the monthly survey of companies "Ukrainian Business during the War", conducted by the Institute of Economic Research and Political Consulting in December 2022, the shortage of manpower due to the conscription and/or departure of employees is among the most important issues faced by companies during the war.

In particular, the share of companies that noted the importance of this matter was 19% in December.[23] At the same time, almost 22% of small and 21% of large enterprises emphasized the severity of this problem. This indicates a significant impact this factor has in terms of the possibilities of providing companies with manpower of appropriate qualifications.

According to the received expert assessments, voluntary conscription into the ranks of the Armed Forces of Ukraine and mobilization of employees became the main factors for the search and recruitment of employees in 2022. This is relevant throughout all sectors of the economy, including strategic ones, which had an opportunity to book employees from conscription. A significant number of volunteers also led to the need to replace employees who left, in turn requiring efforts from companies to this end.

Experts point out that, along with migration, mobilization has directly impacted the emergence of shortage of

[19] There are no data as to the number of children who were moved/deported to Russia.

[20] Will children who study abroad return to Ukraine? // Educational Ombudsman of Ukraine. URL: https://eo.gov.ua/chy-povernutsia-v-ukrainu-dity-iaki-navchaiutsia-za-kordonom/2022/10/07/

[21] How are schools abroad different from the Ukrainian ones? Results of the survey of parents whose children are abroad // Educational Ombudsman of Ukraine. URL: https://eo.gov.ua/chym-zakordonni-shkoly-vidrizniaiutsia-vid-ukrainskykh-rezultaty-opytuvannia- batkiv-chyi-dity-znakhodiatsia-za-kordonom/2022/08/23/

[22] Report on the Results of the National Multi-Disciplinary Test in 2022 // Ukrainian Center for Educational Quality Assessment. URL: https://testportal.gov.ua//wp-content/uploads/2023/02/Zvit_NMT_2022_na-sajt.pdf

[23] New Monthly Survey of Companies "Ukrainian Business during the War" Issue #8 (12.2022). // Institute for Economic Research and Policy Consulting. URL: http://www.ier.com.ua/files/Projects/2023/TDF/ilovepdf_merged-6.pdf

qualified workers, as the Armed Forces of Ukraine needed a significant number of qualified technical specialists who had been scarce on the market for several years already.

In addition, the mobilization process has become a factor in the expansion of informal employment on the labour market due to the unwillingness of some men to get employed and respectively formalize their work with a view to avoiding mobilization. Experts point out that such circumstances have supported small businesses in certain industries, such as construction, woodworking, and commerce.

In general, all of the above-mentioned factors significantly affect the volume and structure of labour supply, changing the prospects for the development of the labour market.

II.

KEY CHANGES ON THE LABOUR MARKET

2.1. Employment reduction

Substantial reduction of employment became the most significant change on the labour market of Ukraine in 2022. It happened due to the termination of operations of a significant number of companies, as well as a reduction in employment for economic reasons in companies that remained operating.

2.1.1. Termination of business operations

The decline in employment in Ukraine in 2022 happened mainly due to the termination of operations of a large number of companies, which peaked in the second quarter of 2022 and amounted to 18% compared to the previous quarter.[24] Most of these companies were located in the territories that were occupied in the first months of the war. Reduction in the number of non-budget companies in the second quarter of 2022 amounted to is 77% in Luhansk region, 56% in Donetsk region, 51% in Kherson region, 39% in Kharkiv region, 30% in Zaporizhzhia region, 28% in Mykolaiv region, 15% in Kyiv region, 14% in Chernihiv region, 12% in Sumy region.

In general, at the end of 2022, the number of companies which were not financed from the state budget decreased in Ukraine by 21.3%. This was due to the deterioration of the situation in Luhansk, Donetsk, Zaporizhzhia and Kherson regions, where the number of companies continued to decline in the third and fourth quarters and accounted for 31% of all companies that stopped operating. As of the beginning of 2023, the number of operating non-budget companies in Luhansk region decreased by 89%. Businesses that have not stopped their operations do not work within this region. In Donetsk region, in 2022, the number of companies decreased by 72%, Zaporizhzhia – 42% and Kherson – 82%. At the same time, in all other regions, a slight decrease in the number of companies was recorded in the third quarter, and in the fourth quarter some companies resumed operations (up to 5%), in particular, in the regions that were completely de-occupied.

Obviously, this situation has led to a significant reduction in employment. Throughout the country, the number of employees of non-budget companies decreased by 15% and amounted in the fourth quarter of 2022 to 6.65 million people. The number employees working for individual entrepreneurs decreased by 28% and amounted to 604 thousand people in the fourth quarter of 2022.

A significant share (23%) of this reduction was due to the four most affected regions. In Luhansk region, the number of employees of non-budget companies decreased by 83%, Donetsk – by 60%, Zaporizhzhia – 38%, and Kherson – 80%. As to the other regions, employment reduction took place during three quarters of 2022. In the fourth quarter, most regions experienced a slight increase in employment.

It should be noted that as of 01.01.2021, the share of companies in the four most affected regions accounted for 9.7% of the total number of companies in Ukraine (see Appendix 10). The share of employees amounted 11% of the total number of employees in Ukraine.

Industrialized regions also experienced a significant decline in employment. In particular, the employment reduction in Kharkiv, Dnipropetrovsk, Odesa and Mykolaiv regions, as well as in Kyiv region

[24] Institute of Professional Qualifications. Labour Market Observatory. URL: http://svitprof.org.ua

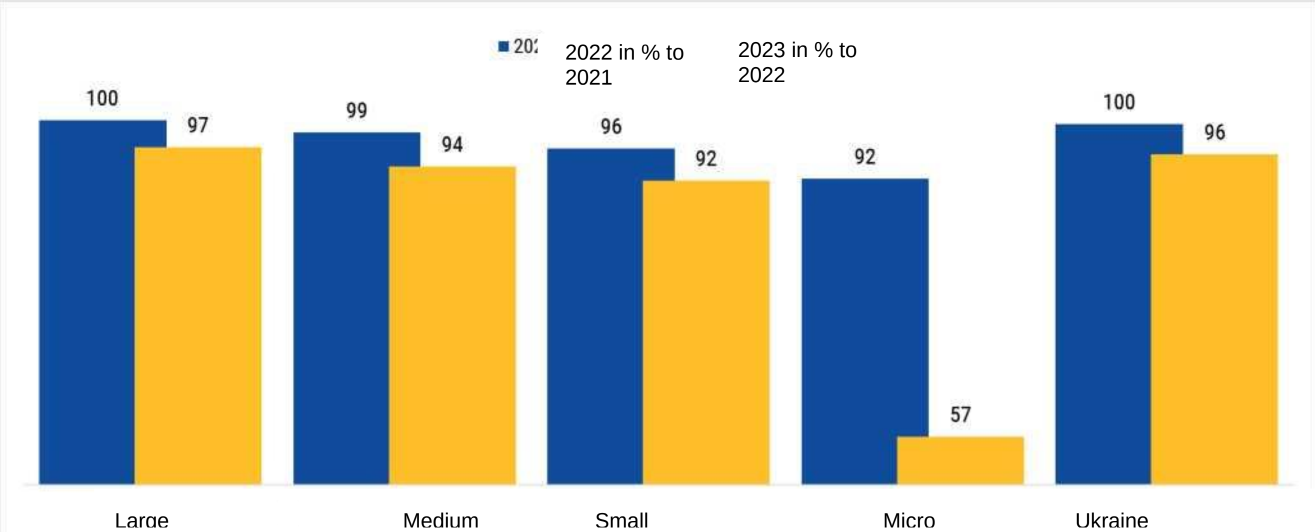
accounted for 59% of the total reduction. Thus, the remaining 16 regions account for no more than 18% of the overall employment reduction.

2.1.2. Employment reduction in operating companies

Along with the reduction in employment, caused by the termination of companies' operations, there was a reduction in the number of employees due to optimization of the number of staff in existing companies. It should be noted that according to the survey of economically active companies, carried out within the framework of this study (Appendix 1), many companies were characterized by a reduction of the number of employees prior to 2022 as well. Thus, during 2021, there was a slight reduction in the number of employees (within 1%) due to a decrease in the segments of small and microenterprises. In the segment of medium-size enterprises, there was also a slight decrease (within 1%). However, an insignificant increase (up to 1%) in employment in the segment of large enterprises was enough to cover the reduction in the above-mentioned segments.

In 2022, the situation worsened significantly. In general, in Ukraine, companies that have not stopped operating reduced their staff by up to 5%. Overall, the number of employees decreased throughout all branches, regardless of company size. The largest reduction took place in the segment of microenterprises, where, compared to the beginning of the year, the number of employees decreased by 53%. In the segment of large enterprises, the situation is relatively better, with the employment reduction rates not exceeding 4%. Medium and small enterprises lost 6 and 8% of their employees, respectively (fig. 7).

Fig. 7 Number of employees by size of companies, % compared to the previous year

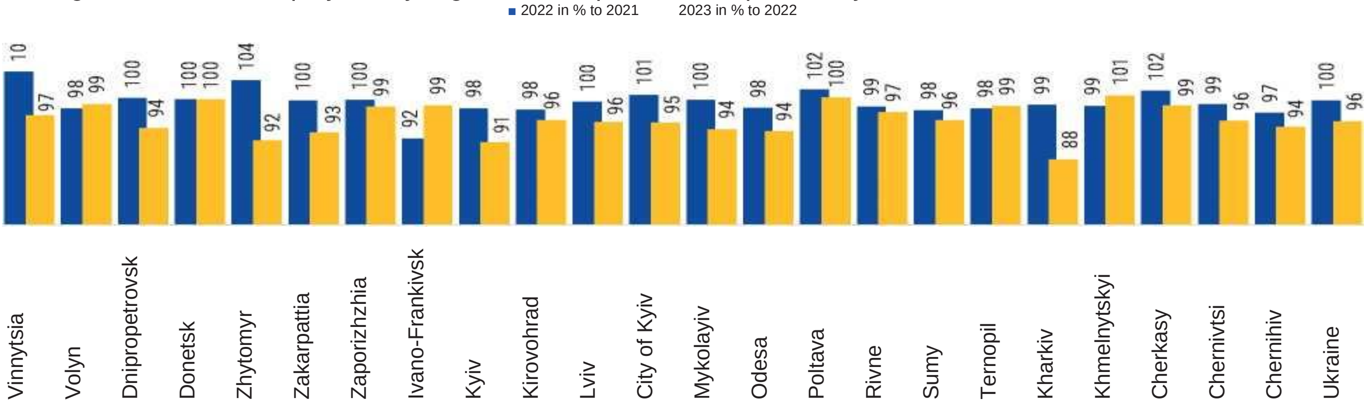


Source: Results of the Employers Survey, 2023

At the end of 2022, there was no reduction in operating companies in two regions of Ukraine (Poltava and Khmelnytskyi). Minor reductions (not exceeding 1%) occurred in several Western regions: Volyn, Ivano-Frankivsk, Ternopil. It should be noted that there were also minor staff cuts at companies that continued to operate in Zaporizhzhia region (-1%).

According to the survey results, the greatest reduction in the number of employees was experienced by companies of Kharkiv (-12%), Kyiv (-9%), Zhytomyr (-8%) and Zakarpattia (-7%) regions. Up to 6% of the staff were by cut by operating companies of Odesa and Mykolayiv regions at the Black Sea. In other regions, in particular those affected by the occupation, where the survey was conducted,[25] the reduction of the number of employees is close to the national average (fig. 8).

Fig. 8 Number of employees by region, % compared to the previous year



Source: Results of the Employers Survey, 2023

As we can see, the reduction in the number of employees during 2022 was not occurring evenly. Along with the existing regional differences, the situation was not the same for the main sectors of the economy.

According to the data of the Pension Fund of Ukraine, presented on the website opendata.gov.ua (see Appendix 1), in September 2022, the share of employees in the processing industry (almost 19%), wholesale trade (18%) and public administration (12%) remained the most significant in the structure of employees. At the same time share of those employed in the extractive industry and water supply remained the lowest. This indicates a significant differentiation of employment (by type of economic activity) depending on the degree of the adaptation of economic sectors to changes in the economic situation.

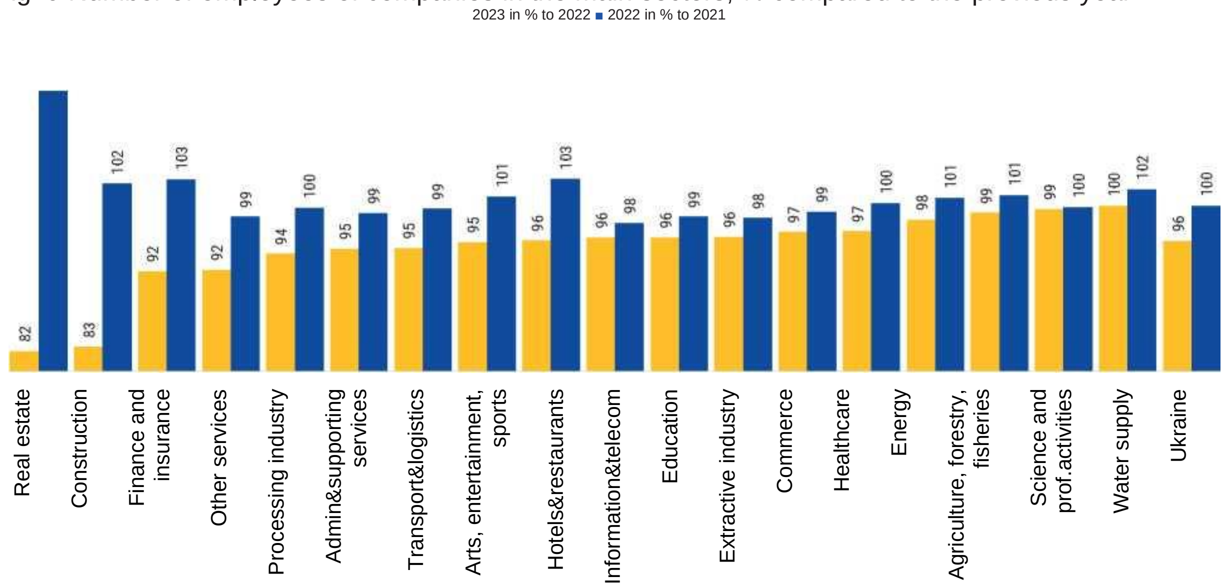
It is worth pointing out that according to the survey, at the end of 2022, there were overall no sectors with an increase in the number of employees. The largest share of the staff reduction was in construction and real estate, where the number of employees decreased by 17 and 18%, respectively. Significant personnel losses took place in companies in the extractive industry and the service sector (-8%).

The situation is relatively better in agriculture and in sectors with a significant share of state companies, in particular, water supply, where the number of employees did not decrease, as well as in energy (-2%), science (-2%), and healthcare (-3).

The situation is relatively good in commerce, as well as information and telecommunications, where staff losses generally did not exceed 3% (fig. 9).

[25] The survey was not conducted in Donetsk, Luhansk and Kherson regions.

Fig. 9 Number of employees of companies in the main sectors, % compared to the previous year



Source: Results of the Employers Survey, 2023

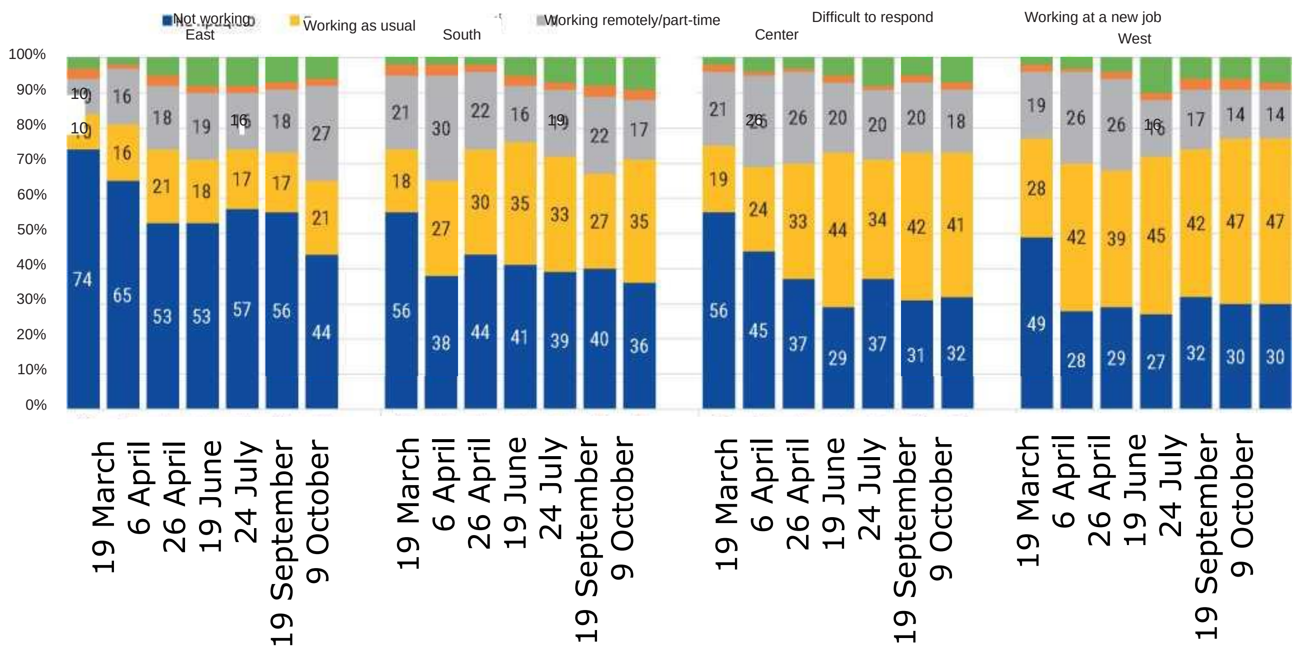
2.2. Employment and unemployment structure

Unprecedented job loss and reduced employment in Ukraine have led to significant changes in the structure of employment and unemployment, in particular, in their professional aspect.

According to the eighteenth nationwide survey "Psychological Markers of the War",[26] conducted by the Sociological Group "Rating" in October 2022, in 2022 there was a progressive recovery of employment after the first month of the war, characterized by a massive outflow of citizens, termination of companies' operations and the expansion of occupation zones. However, from mid-March 2022, the share of non-working citizens began to decline, while the share of those working as usual increased.

Regional distribution of the population structure (by employment status) confirms the conclusions regarding significant regional differentiation (fig. 10). According to this survey, the share of unemployed people remains the largest in the eastern regions. At the same time, the share of the population working as usual in the western regions remains the highest (47% in October 2022, compared to 21% of those employed under these conditions in the eastern regions).

Fig. 10. Assessment of changes in the population structure of macro-regions by employment status (March-October 2022), % of respondents

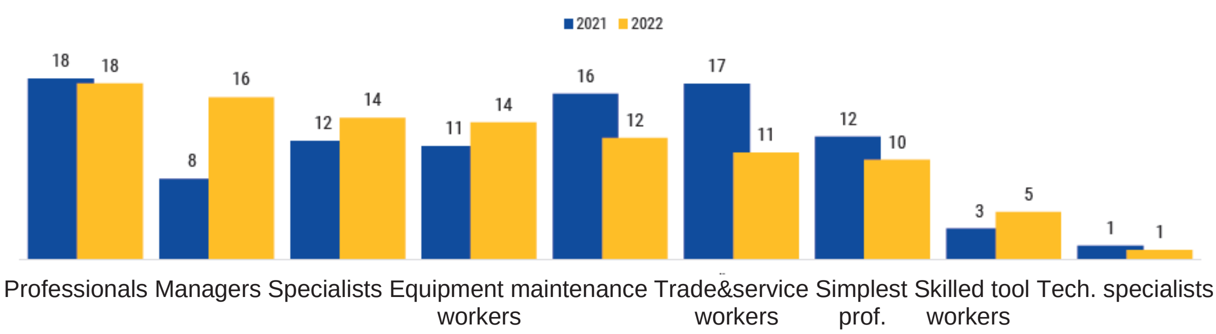


Source: The Eighteenth Nationwide Survey "Psychological Markers of the War", October 2022

[26] The Eighteenth National Survey "Psychological Markers of the War" (October 2022) // Sociological Group "Rating". URL: https://ratinggroup.ua/research/ukraine/vosemnadcatyy_obschenacionalnyy_opros_psihologicheskie_markery_voyny_8-9_oktyabrya_2022.html

The overall decline in employment has had an impact on the professional structure of employment. The comparison of data as to the structure of employees by professional group shows that during 2022 there was an increase in the share of managers, specialists, technical employees, as well as machine and equipment maintenance workers. At the same time, the share of trade and service workers as well as skilled tool workers decreased. The share of the simplest professions decreased the most. The share of professionals and skilled agricultural workers did not change (fig. 11).

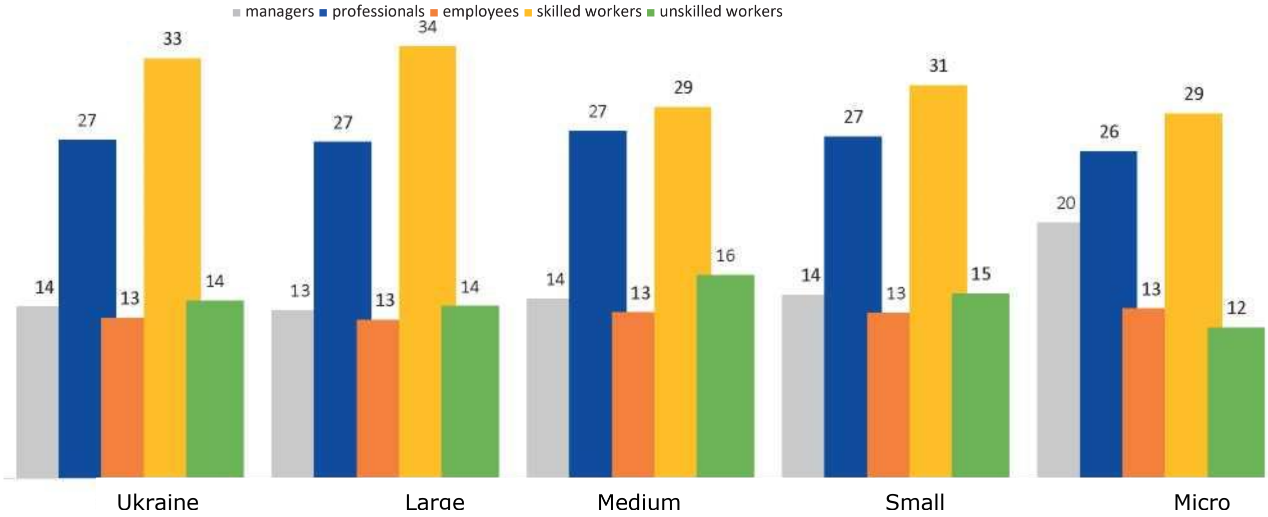
Fig. 11. Structure of employees by professional group, %



Source: The Pension Fund of Ukraine, 2022

In the course of employers survey conducted in February 2023,[27] it was proposed to evaluate the structure of employees of companies in five professional categories: managers, professionals, officials, skilled and unskilled workers. According to the survey, most of the staff of operating companies comprised representatives of professional groups of skilled workers and professionals, who are the most numerous professional groups for companies regardless of their size (fig. 12).

Fig. 12. Professional structure of the surveyed companies (by aggregated professional groups) by company size, %



Source: Results of the Employers Survey, 2023

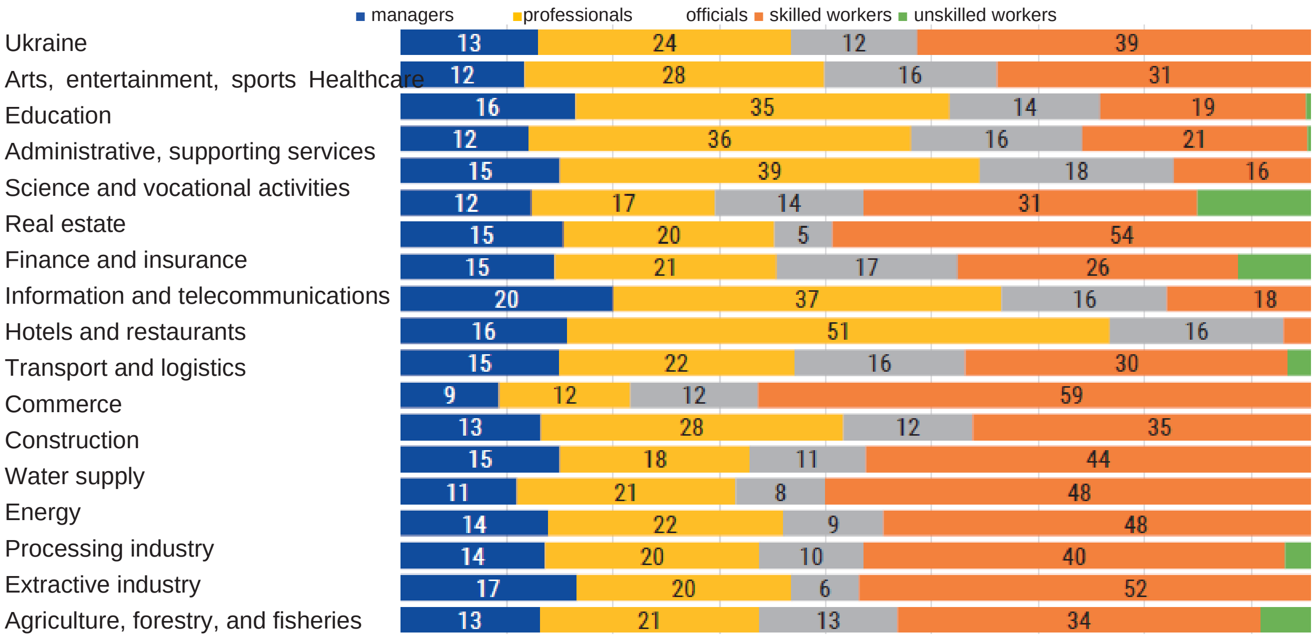
In general, the survey data show that as of February 2023, companies have relatively similar professional structures. In general, sectors can be grouped into two main groups. The first one includes sectors with the most numerous professional groups consisting of professionals. This group includes

[27] The survey did not include companies in the sectors of public administration, defense, and social insurance, as well as certain subsectors of the processing industry related to the production of military equipment, weapons, etc.

information and telecommunications, science, healthcare, education, arts, and finance. The second group includes sectors with the most numerous groups consisting of the professional group of skilled workers. This group also includes the sectors of mining and processing, energy, water supply, construction, and transport.

The share of senior management in all the sectors studied varies from 11 to 20%. The largest share of managers is in the sectors of finance (20%) and science (17%), as well as arts (17%). The share of unskilled workers range from 3 to 25%. The lowest share of unskilled workers is in information and telecommunications (3%), energy (7%) and extractive industries (8%). The largest share of unskilled workers remains in the sectors of administrative and supporting services (25%), real estate (21%) and agriculture (10%) (fig. 13).

Fig. 13. Professional structure of the surveyed companies (by aggregated professional groups) by economic sector, %



Source: Results of the Employers Survey, 2023

Analysis of unemployment is important for assessing the situation on the Ukrainian labour market. Considering absence of official statistical information on the unemployment rate (according to the ILO methodology), starting from February 2022, it is advisable to use expert assessments and results of sociological studies. According to estimates of the National Bank of Ukraine, the unemployment rate (according to the ILO methodology) in 2022, was likely to have exceeded 30%[5] (fig. 14).

Fig. 14. The dynamics of change in the unemployment rate according to the ILO methodology (* 2022 – NBU calculations), %

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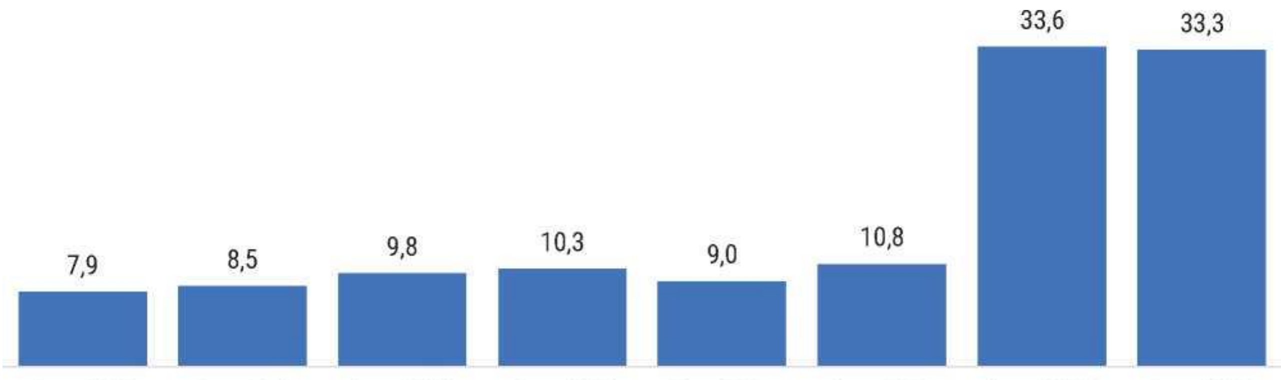


Q2 2019 Q4 2019 Q2 2020 Q4 2020 Q2 2021 Q4 2021 Q2 2022* Q4 2022*

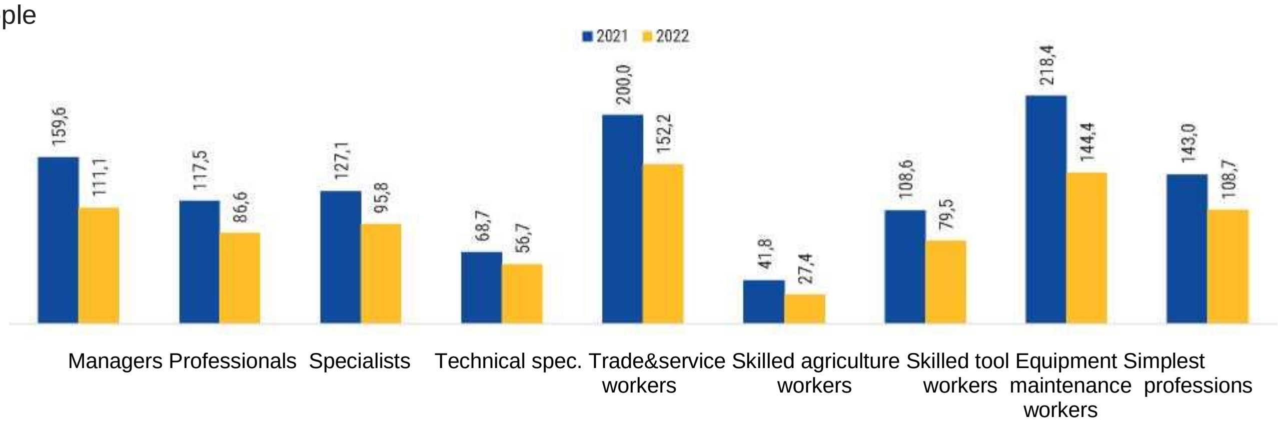
Source: NBU Inflation Report, October 2022

Despite an increase in the number of unemployed (according to the ILO methodology), the number of the registered unemployed decreased by 27% in 2022 compared to 2021. This indicates an insufficiently high motivation to register in employment centers, despite the widening of the range of services provided by the employment service.

Data of the State Employment Service illustrate more detailed information on the number and structure of the registered unemployed (by gender, age, occupation, and economic activity), although they cover only the registered segment of the labour market (see appendices 2-8). Number of registered unemployed decreased from 1,191. 0 thousand people in 2021 to 867.6 thousand people in 2022. The most significant decrease in the number of the registered unemployed was observed among young people (by 33%) and among women (by 22%). At the same time, the number of the registered unemployed internally displaced persons increased almost five-fold, although their share was only 7% of the total number of registered unemployed.

In 2022, significant changes occurred also in the professional composition of the registered unemployed in terms of numbers[28] (fig. 15). In particular, in 2022, the number of the registered unemployed machine and equipment maintenance workers decreased the most compared to 2021 (from 218.4 to 144.4 thousand people, or by 34%). Moreover, the number of unemployed trade workers, executives, and managers decreased over the same period too. This may result from a weaker motivation of people to register in employment centers.

Fig. 15. Dynamics of changes in the number of the registered unemployed by profession in 2021-2022, thousand people



Source: Data of the State Employment Center

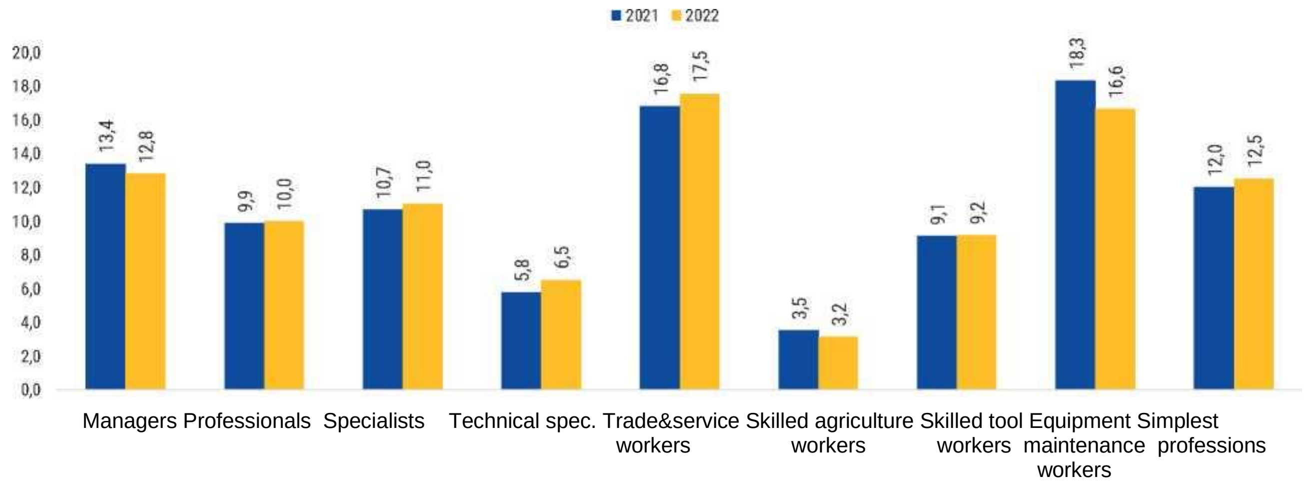
In the analysis of the dynamics of changes in the number of the registered unemployed, it is also necessary to take into account the significant reduction in the number of vacancies, which occurred due to the strengthening of crisis phenomena in the economy. In 2022, the number of vacancies for machine and equipment maintenance workers decreased most significantly (from 166.8 to 98.5 thousand), having accounted for almost a quarter of the total number of vacancies submitted by employers to employment centers. Over the same period, the number of vacancies for representatives of the simplest professions and employees of commerce and services almost halved.

During 2022, certain changes were also taking place in the professional structure of the registered unemployed[29] (fig. 16). In particular, there was a decrease in the share of machine and equipment maintenance workers in the total number of unemployed – from 18.3% in 2021 to 16.6% in 2022. The reasons for such changes in the professional structure of the unemployed may be an increase in the orientation of machine service workers towards independent job search. But for the same period the share of employees in commerce and services increased from 16.8% to 17.5%. This could be a result of reduced employment opportunities in retail and wholesale trade due to the strengthening of crisis phenomena in this field, as well as a decrease in the household purchasing power. In the professional structure of the registered unemployed, the share of unemployed executives decreased (from 13.4% to 12.8%) with the share of professionals and specialists remaining practically unchanged (within the range of 10-11%). Structural changes in other professional groups were not significant enough. In general, the professional structure of the registered unemployed in 2022 did not show significant deviations from the previously formed structure.

Fig. 16. Changes in the professional structure of the registered unemployed in 2021-2022, %

[28] The number of vacancies and the number of the registered unemployed in the professional context for 2022 // State Employment Center. URL: https://www.dcz.gov.ua/sites/default/files/infofiles/1_prof00_01.01.2023_0.xlsx

[29] The number of vacancies and the number of the registered unemployed in the professional context for 2022 // State Employment Center. URL: https://www.dcz.gov.ua/sites/default/files/infofiles/1_prof00_01.01.2023_0.xlsx



Source: Data of the State Employment Center

During 2021-2022, the number of the registered unemployed persons decreased most significantly in such types of economic activities as agriculture (by almost 41%), public administration and defense (by 38%). Over the same period, a significant reduction in the number of vacancies occurred in the following types of economic activity: construction, public administration and defense, information and telecommunications, real estate operations, and financial activities. In general, this reflects the main trends of changes on the labour market.

2.3. Shortage of competent employees

Despite a significant reduction in jobs and an increase in unemployment in 2022, employers who hired employees during the year pointed out personnel shortage. This is characteristic of all regions of Ukraine. The need to hire employees during the year was mainly caused by two factors: mass departure of employees to safer regions or abroad and the general mobilization announced at the beginning of the war. The first factor caused a general shortage of employees of all professions and specialties in the regions bordering the russian federation and the southern regions of Ukraine. The second factor influenced the shortage both directly and indirectly. First, a significant number of employees voluntarily joined the ranks of the Armed Forces of Ukraine or other voluntary military formations in the first days of the war. Second, the Armed Forces of Ukraine needed a significant number of qualified technical specialists, who had been in shortage on the labour market for several years already. The third, indirect impact of mobilization on the formation of the personnel shortage was the unwillingness of men to go to work and, respectively, to formalize their labour with a view to avoiding mobilization.

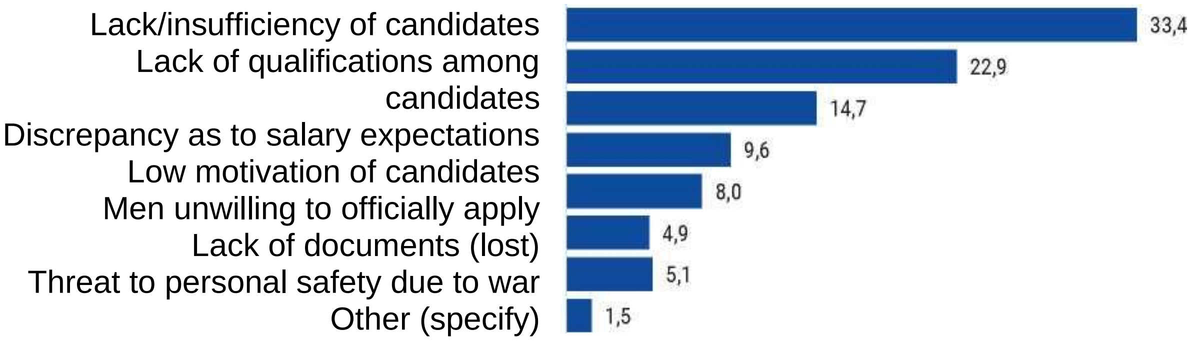
In the western regions of Ukraine, where the population increased due to internally displaced persons, the deficit of skilled workers was only partially compensated, on the one hand due to professional imbalance, and on the other – due to the indirect impact of mobilization.

It is important to note that against the background of many companies having shut down and most companies having optimized the number of employees, personnel search and recruitment continued. According to the employers survey, 77% of the surveyed c companies hired new employees on their staff. At the same time, 30% noted that they faced difficulties in selecting employees. It should be pointed out that the shortage mainly concerns engineering and qualified vocational professions.

As to the existing difficulties in selecting employees, employers most often chose: "absence or insufficient number of candidates for the position" – 33%, "insufficient qualification of applicants" – - 23%, "mismatch in candidates' salary expectations" – 15%. That is, the most common situation is when applicants are either lacking or insufficiently qualified, and if there are suitable candidates, the level of their salary requirements is higher than the proposed one.

It is also worth noting that 10% of employers pointed out low motivation of job seekers. This indicates that employers generally put more effort into searching for candidates than vice versa. 8% of employers indicated the reluctance of men to apply for a job. Expert assessments from 12 major sectors of the economy generally confirmed low motivation for work on the part of internally displaced persons, including men (fig. 17).

Fig. 17. Assessment of recruitment difficulties, %



Source: Results of the Employers Survey, 2023

For more information about recruitment, see the next section.

2.4. Employment of women and youth

The situation with employment and unemployment on the Ukrainian labour market has changed significantly since the beginning of the russian aggression. The results of the eighteenth national survey "Psychological Markers of the War", conducted by the Sociological Group "Rating" in October 2022, describe changes in the employment structure of the population by gender, age, and displacement status[30] (table. 1).

[30] The Eighteenth National Survey "Psychological Markers of the War" (October 2022) // Sociological Group "Rating". URL: https://ratinggroup.ua/research/ukraine/vosemnadcatyy_obschenacionalnyy_opros_psihologicheskie_markery_ voyny_8-9_oktyabrya_2022.html

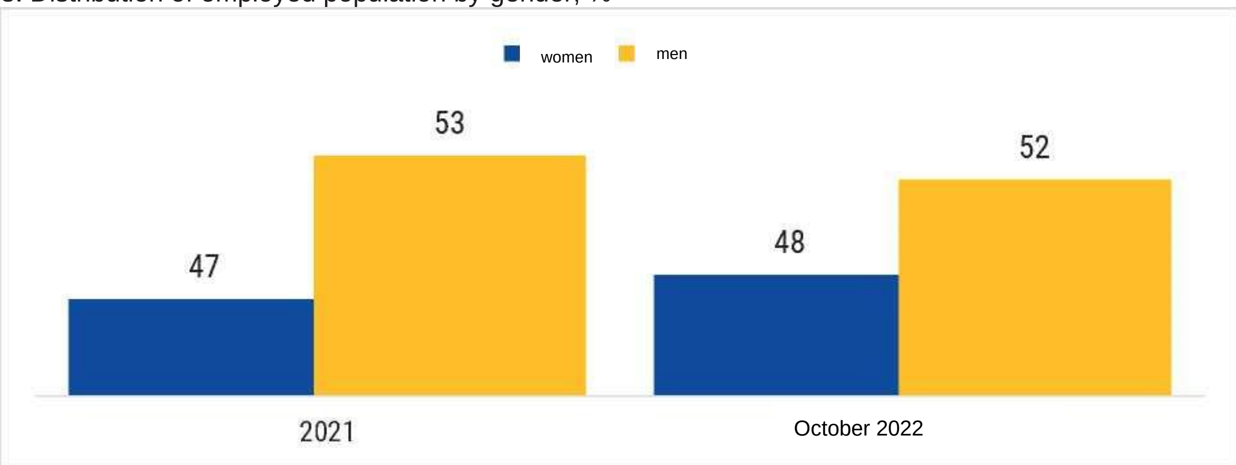
Table 1. Structure of the surveyed population by employment status (by age, gender, and place of stay), % of respondents

Population categories	Working as usual	Working remotely/part-time	Working at a new job	No working	Other	Difficult to respond
by gender						
Men	41	21	10	26		2
Women	36	15	5	41	1	2
by age						
18-35 years old	33	14	11	38	1	3
36-50 years old	47	21	8	23		1
51 + years old	35	19	3	41	-	2
by place of stay						
Changed their place of residence	21	19	6	52		2
Did not change their place of residence	43	17	8	29	1	2

Source: The Eighteenth Nationwide Survey "Psychological Markers of the War", October 2022

According to the survey, the employment situation of women on the labour market is significantly worse than that of men. In particular, almost 41% of women are unemployed, compared to 26% of men. Instead, the proportion of men working remotely/or as usual is 62%, compared to 51% of women. This indicates that women's competitiveness on the labour market remains insufficiently high. At the same time, massive outflow of skilled male workers during 2022 was accompanied by some increase in the share of women in the employment structure. According to the Pension Fund of Ukraine, the share of employed women increased by 1% in 2022 (fig. 18).

Fig. 18. Distribution of employed population by gender, %



Source: the Pension Fund of Ukraine, 2021, 2022

These data are confirmed by the results of the employers survey of February 2023. The proportion of women employed in economically active companies who participated in the survey was 48%, or almost a half. It is worth noting that a significantly lower proportion of employed women remained in small and microenterprises. Thus, the share of women in microenterprises was 37%, in small enterprises – 36%.

A large proportion of women remained in companies in s some western regions of Ukraine, in particular in Zakarpattia, Lviv, Rivne and Chernivtsi. A significantly lower proportion of women are employed in companies of Mykolaiv, Kharkiv and Dnipropetrovsk regions.

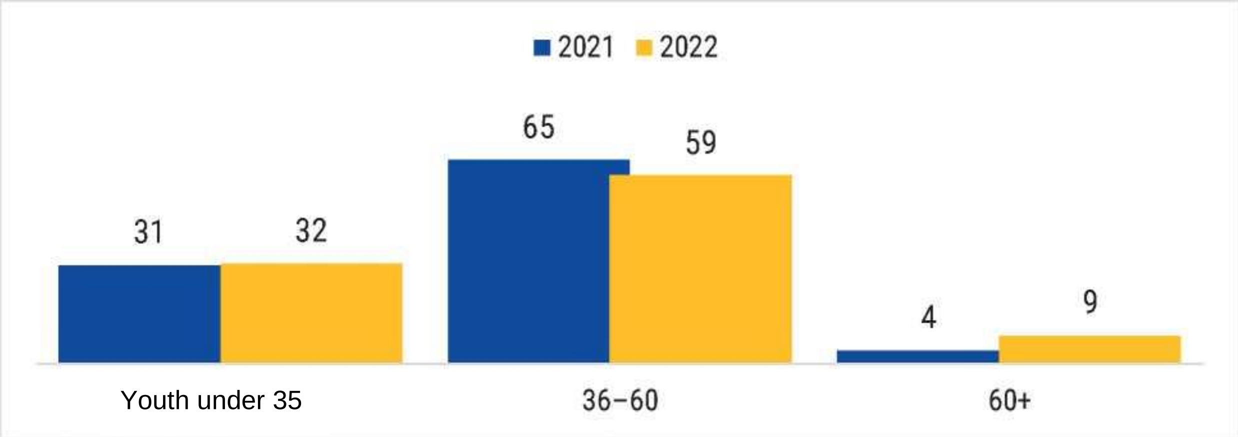
The employment of women in different sectors of the economy differs significantly. Based on the received data, it is possible to point out so called "male" and "female" sectors. Thus, the lowest proportion of employed women is in the sectors of construction, extractive industries, agriculture, energy, and other services. In these sectors, the proportion of women is between 17 and 35 per cent.

Most women are in the sectors of healthcare, education, and hotel and restaurant, as well as finance, where their share is over 60%. In other sectors, the proportion of women is close to average across the country.

The expert assessments obtained in the course of the study as the specifics of recruitment during 2022 showed that in response to the significant personnel shortage in traditionally male professions companies tried to attract women to work in such professions. There are successful cases of many companies retraining female staff to fill vacant positions in the professions of welders, loader drivers, drivers, etc.

The population aged 18-35 and over 51 years of age remains quite vulnerable on the labour market. According to the results of the study "Psychological Markers of the War"[31], in October 2022, the share of unemployed representatives of these age groups was 38 and 51%, respectively (see Table 1). According to the data of the Pension Fund of Ukraine, during 2022, the share of working youth increased, though insignificantly, from 31.2% to 31.6%. But the share of working people over the age of 60 significantly increased (from 4.2% to 8.9%). At the same time, the share of employees in the main age category of 36-60 years decreased by 6% (from 64.6% to 59.5%). Obviously, the reduction in employment in the main age group of those fit for work is compensated through the involvement of older age groups and young people (fig. 19).

Fig. 19. Age distribution of the employed population, %



Source: the Pension Fund of Ukraine, 2021, 2022

According to the results of the survey of operating companies (as of February 2023), in Ukraine as a whole, the share of young people under 25 was 13%. At the same time, the largest share of young people was recorded in large enterprises, where it amounted to 14%. In medium size enterprises, the share of young people was 9%, and in small and microenterprises 7% each.

The largest share of people under the age of 25 works in the companies in Sumy, Volyn and Zaporizhzhia regions, as well as the city of Kyiv, and amounts to over 15%. The smallest share-works in the companies in Mykolaiv, Cherkasy, Kirovohrad and Chernivtsi regions.

The largest share of employed youth under the age of 25 is in the hotel and restaurant sector and finance, where it amounts to 25%. It is worth noting that a large share of young people still works in commerce and in the extractive industry. A small proportion of young people under the age of 25 work in real estate (6%), water supply (6%), transport, education and agriculture 10% each.

[31] The Eighteenth National Survey "Psychological Markers of the War" (October 2022) // Sociological Group "Rating". URL: https://ratinggroup.ua/research/ukraine/vosemnadcatyy_obschenacionalnyy_opros_psihologicheskie_markery_ voyny_8-9_oktyabrya_2022.html

III.

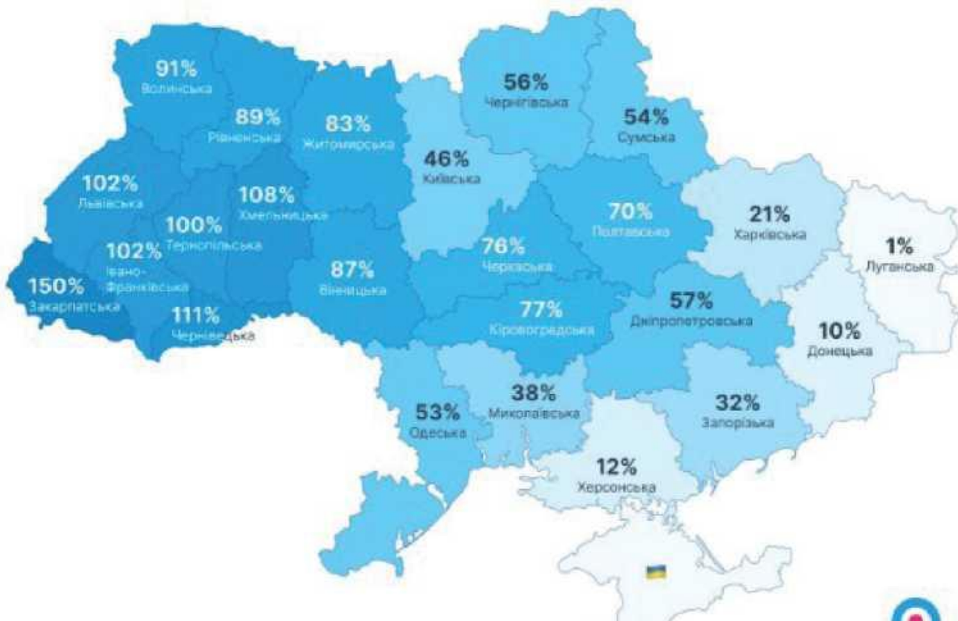
CERTAIN ASPECTS OF PERSONNEL DEMAND

3.1. Recruitment

During 2022, there was a positive trend in the number of vacancies. According to the State Employment Service, in March 2022, the number of new vacancies was almost three times smaller than in the previous year (39,713 in 2021 versus 10,104 in 2022). In the following months, the number of new vacancies began to gradually increase. In the summer months, the number of vacancies changed quite unevenly, in particular decreasing in July and increasing in August. However, the total number of new vacancies compared to the respective months of the previous year was almost half as low. Since the beginning of autumn, the number of new vacancies started reducing, with slight fluctuations. In December 2022, the number of new vacancies fell below the March 2022 level to 8,446 new vacancies.

According to the estimates of HR portal Work.ua, "...since the beginning of the russian invasion on February 24, 2022, the number of jobs offers in the country has diminished more than15 times – from 100,000 to 6,000 vacancies. The demand for work from job seekers increased fivefold – more than 100 Ukrainians applied for one job, and for some vacancies - there were up to several hundred applicants. An active recovery of the Ukrainian labour market began in the summer. In June 2022, the number of vacancies increased from 21,226 to 35,509 – by 67% compared to May, and peaked in October with 56,719 vacancies. Rocket attacks on critical infrastructure, which led to a rapid increase in the scale of power outages, significantly affected businesses and slowed the increase in the number of vacancies by the end of 2022. A new record was set in January 2023 and broken in February – over 60,000 vacancies, which is 60% of the pre-war level..." (fig. 20)[1].

Fig. 20. Statistics of the labour market recovery in Ukraine



Source: Work.ua

[1] One Year of War: Employers Have Successfully "Won Back" 60% of the Labour Market and Are Moving East // Work.ua. Job search website #1 in Ukraine. URL: https://www.work.ua/news/ukraine/2337/

It should be noted that the indicator of the number of vacancies only partially reflects trends in the changes of demand for employees. According to the employers survey conducted in February 2023, in 2022, more than 77% of the surveyed employers hired new employees. In general, it can be stated that large and medium size enterprises needed employees the most. In 2022, more than 84% of big enterprises and 77% of medium size ones hired employees. At the same time, 58% of small and only 32% of microenterprises reported hiring employees in 2022.

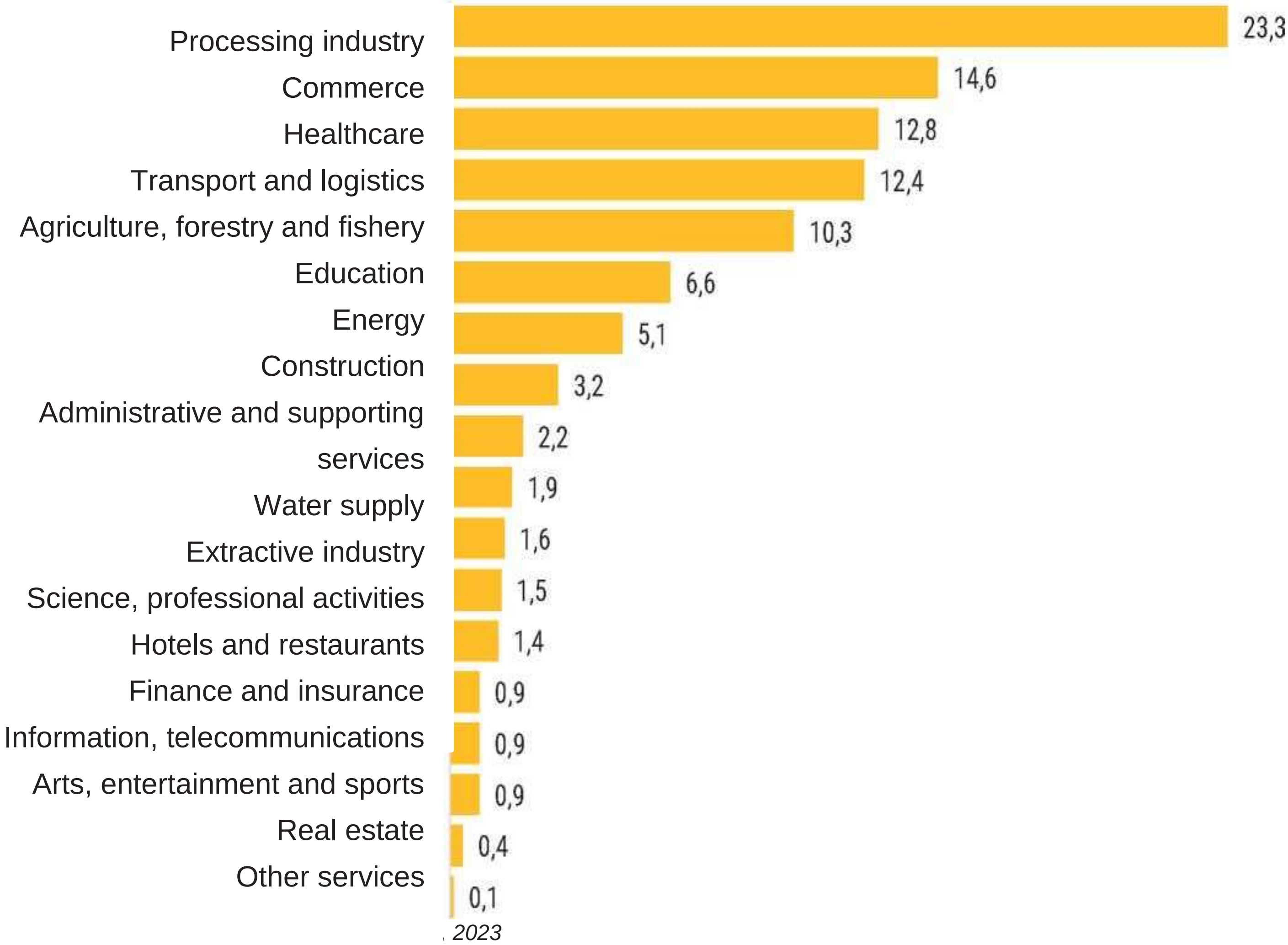
The largest share of companies that hired personnel is concentrated in the sectors of energy (92%) and water supply (87%). More than 80% of the surveyed companies hired personnel in the sectors of healthcare, transport, and processing industry (appendix 16). The smallest share of companies that hired personnel was registered in the sectors of other services (35%), information and telecommunications (62%), as well as real estate (62%) (appendix 17).

In general, companies of all regions noted an active hiring of employees. The smallest share of companies that recruited staff is in Zaporizhzhia region, and the largest – in Lviv, Zakarpattia and Poltava regions (appendix 18).

The total number of hired employees was 6.1% of the total number of employees at the beginning of 2022 and 6.3% at the beginning of 2023. Considering the above-mentioned significant reduction in employment during 2022, it can be stated that the hiring of employees was the result of mass external migration and mobilization.

In the overall structure of employees, the largest share remained that of companies in the processing industry (23.3%), commerce (14.6%), healthcare (12.8%) and transport and logistics (12.4%) (fig. 21).

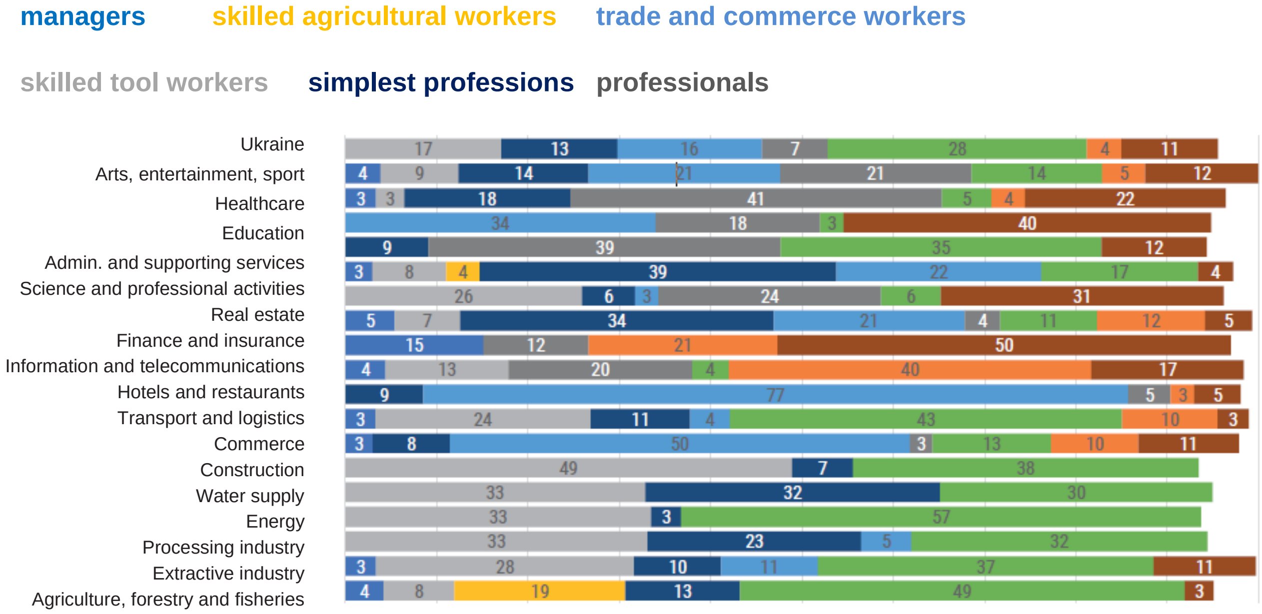
Fig. 21. Recruitment structure by type of economic activity, %



3.1.1. Recruitment by professional group

During 2022, economically active companies mainly hired employees of vocational professions. In particular, in the overall structure of employees hired in 2022, the most numerous were machine and equipment maintenance workers (28%) and skilled tool workers(18%) (fig. 22)[32].

Fig. 22. Distribution of employees by type of economic activity and professional groups in 2022, %



Source: Results of Employers Survey, 2023.

In the overall distribution structure of hired employees, the share of executives remains insignificant (2%). The share of executives and managers in the hiring structure remains the largest in finance and insurance. At the same time, the shares of commerce and service staff, as well as representatives of the simplest professions that were most important in terms of recruitment in Ukraine in previous years, have been decreasing. Traditionally, commerce and services staff accounted for most of the recruitment structure in commerce (50%) and in hotel and restaurant business (77%).

According to the survey data, the most numerous professions in which employees were hired were:

- driver of motor vehicles;
- medical nurse;
- loader;
- auxiliary worker;
- boiler room operator;
- tractor driver in agriculture (forestry);
- food seller;
- seamstress;
- packer;
- doctor.

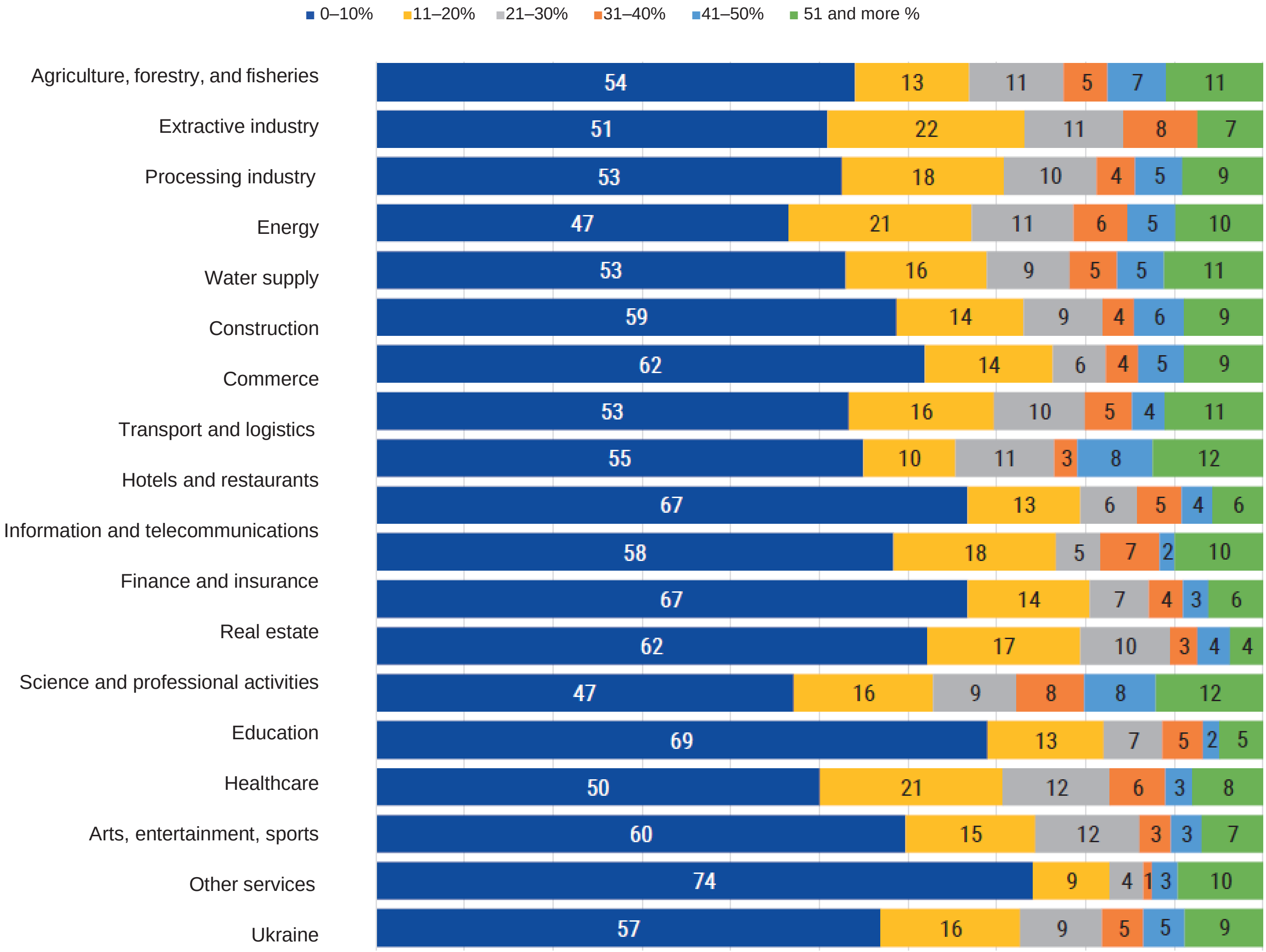
At the same time, 9 out of the 10 highest-demand professions are professions trained in vocational and technical institutions. The presence of two main medical professions in this list indicates an extremely high need for medical and auxiliary medical personnel, which was confirmed by expert assessments in most regions of Ukraine.

[32] Categories with a value of less than 3% are hidden on the chart.

3.1.2. Staff turnover by professional group

To a large extent, the volume of recruitment was not so much due to the additional demand for employees, but rather due to the need to replace employees who had left (mainly through mass departure abroad and mobilization). According to the survey results, in 2022, average personnel turnover in companies amounted to 18.4%. At the same time, the overwhelming majority of employers (57%) indicate that the turnover of personnel in companies did not exceed 10%. There is also a segment of enterprises (depending on the sector, from 4 to 12%), where the turnover of personnel at the end of the year was over 50% or more. Such distribution, with minor deviations, was typical for all major sectors. Probably, economic difficulties stimulated the growth of staff turnover in sectors with its traditionally low percentage: education, science, healthcare, and arts. These difficulties limited to some extent the intensity of staff turnover in those sectors where it is usually higher, in particular in the sectors of hotel and restaurant business, commerce, transport and agriculture (fig. 23).

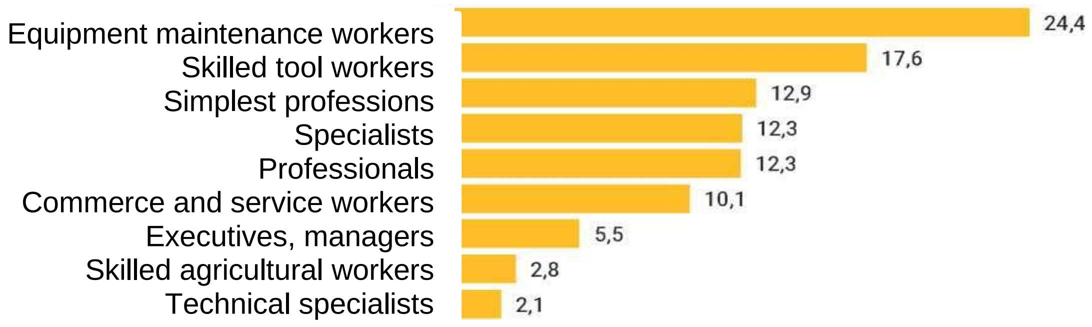
Fig. 23. Personnel turnover in companies by type of economic activity in 2022, %



Source: Results of the Employers Survey, 2023

It can be stated that staff turnover is unevenly distributed among the main professional groups. More than half of its total volume (54.9%) is accounted for by professional groups of machine and equipment maintenance workers (24.4%), skilled tool workers (17.6%) and simplest professions (12.9%). At the same time, 54% of the turnover of the professional group of machine and equipment maintenance workers is attributed to the professions of driver, tractor driver, and boiler house operator.

Fig. 24. Staff turnover by major professional groups in 2022, %



In general, for the sectors of the economy, total turnover of staff can mainly be characterized by of identifying the top 10 professions for the sector. In some ways, it may indicate a level of differentiation or uniformity of the professional structure of sectors, as well as the stability of demand for these professions. In particular, for the sector of hotels and restaurants, the top 10 professions determine 77.2% of the total staff turnover. For the sector of water supply and agriculture, top 10 professions determine 63% of the total turnover (table 2).

Table 2. Share of top 10 professions in the total turnover of staff (by type of economic activity)

KVED section	Sector	Share of total staff turnover for 10 professions with the highest turnover, %	Top 10 professions by the share of staff turnover in the sector
A	Agriculture, forestry and fishery	63.0	Tractor-machinist in agriculture (forestry), driver of motor vehicles, auxiliary worker, tractor driver, complex maintenance worker in agriculture, livestock breeder, watchman, repairman, accountant, machine milking operator
B	Extractive industry	40.1	Driver of motor vehicles, equipment electrician (locksmith) and repairman, excavator driver, electric and gas welder, underground miner, tunneller, underground electrician, stope miner, electrical equipment repairman, conveyor driver
C	Processing industry	28.2	Driver of motor vehicles, loader, auxiliary worker, seamstress, packer, locksmith-repairman, turner, machine operator of woodworking machines, electric and gas welder, mechanic of mechanical assembly works
D	Energy	41.6	Boiler house operator, motor vehicle driver, electric and gas welder, locksmith for operation and repair of gas equipment, electrical equipment repairman, locksmith-repairman, boiler house machinist (stoker), heating networks maintenance locksmith, chemical water treatment specialist, gas supply facility controller
E	Water supply	62.9	Driver of motor vehicles, locksmith of emergency recovery works, loader, amenities worker, pump installation driver, water supply controller, auxiliary worker, locksmith-repairman, electrical equipment repairman, tractor driver

Table 2 continued

KVED section	Sector	Share of total staff turnover for 10 professions with the highest turnover, %	Top 10 professions by the share of staff turnover in the sector
F	Construction	40.1	Driver of motor vehicles, auxiliary worker, bricklayer, road worker, electric and gas welder, concrete worker, plasterer, painter, manual electric welder, crane operator
G	Commerce	49.3	Seller of food products, driver of motor vehicles, seller of non-food products, sales consultant, pharmacist, loader, accountant, salesroom cashier, locksmith for the repair of wheeled vehicles, sales manager
H	Transport and logistics	54.3	Driver of motor vehicles, loader, auxiliary worker, locksmith for the repair of wheeled vehicles, locksmith-repairman, electrical equipment repairman, grain processing worker, trolleybus driver, accountant, rolling stock repair locksmith
I	Hotels and restaurants	77.2	Cook, waiter, maid, bartender, receptionist, kitchen worker, food salesman, office cleaner, dish washer, barman
J	Information and telecommunications	27.5	Software engineer, telecommunications engineer, journalist, correspondent, motor vehicle driver, computer systems engineer, offset flat printing printer, cameraman, administrator, office space cleaner
K	Finance and insurance	53.3	Cashier (in a bank), specialist, economist, manager, credit inspector, controller-cashier, insurance agent, accountant, legal adviser, lawyer
L	Real estate	46.0	Security guard, territory cleaner, accountant, janitor, motor vehicle driver, plumber, watchman, security guard, office space cleaner, industrial premises cleaner
M	Science and vocational and technical activities	33.8	Veterinary doctor, accountant, motor vehicle driver, engineer, veterinary paramedic, architect, surveyor, office space cleaner, chief accountant, specialist
N	Administrative and supporting services	51.2%	Security guard, janitor, worker for complex cleaning and maintenance of houses with adjacent territories, plumber, territory cleaner, driver of motor vehicles, amenities worker, worker for complex maintenance and repair of houses, auxiliary worker, cleaner of office premises
P	Education	41.5	Teacher of an institution of general secondary education, teacher of an institution of higher education, cleaner of office premises, watchman, master of industrial training, tutor, accountant, teacher of a vocational educational institution, assistant tutor, machinist (stoker) of a boiler room
Q	Healthcare	53.8	Nurse, junior nurse (nurse's aide, nurse's aide-cleaner, nurse-barmaid etc.), doctor, junior nurse for patient care, hospital nurse, motor vehicle driver, anesthesiologist, social worker, dentist, cook

End of table 2

KVED section	Sector	Share of total staff turnover for 10 professions with the highest turnover, %	Top 10 professions by the share of staff turnover in the sector
R	Arts, entertainment, sports	32.2	Office space cleaner, librarian, theater, cinema actor, cinema, sports coach (in a sports school, sports club, etc.), performing artist (in a choir, choral group, orchestra group, etc.), watchman, ballet dancer, accountant, stage driver, amenities worker
S	Other services	48.4	Hairdresser (hair stylist), territory cleaner, office space cleaner, motor vehicle driver, economist, social worker, accountant, game keeper, translator-dactylologist, sports coach (in a sports school, sports club, etc.)

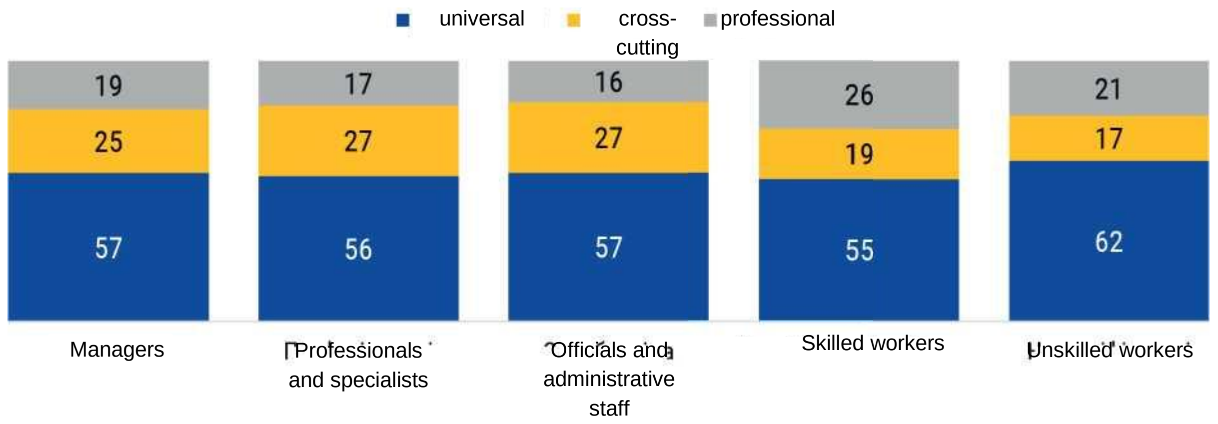
Source: Results of the Employers Survey, 2023

The analysis of staff turnover shows that the hiring of employees in 2022 and substantial fluctuations in the number of vacancies that took place can be explained not so much by the stabilization of companies' operations, but by migration and mobilization waves.

3.2. High-demand and high-potential skills

In the course of the survey, employers assessed the demand for/scarcity of skills for the main categories of employees. Summarizing the obtained results, it can be stated that general qualities and skills of employees were in highest demand among employers. For all categories of employees, more than half of the employers are more likely to choose general skills. Employers more often point out the importance of professional skills for professions of skilled workers (26%) (fig. 25).

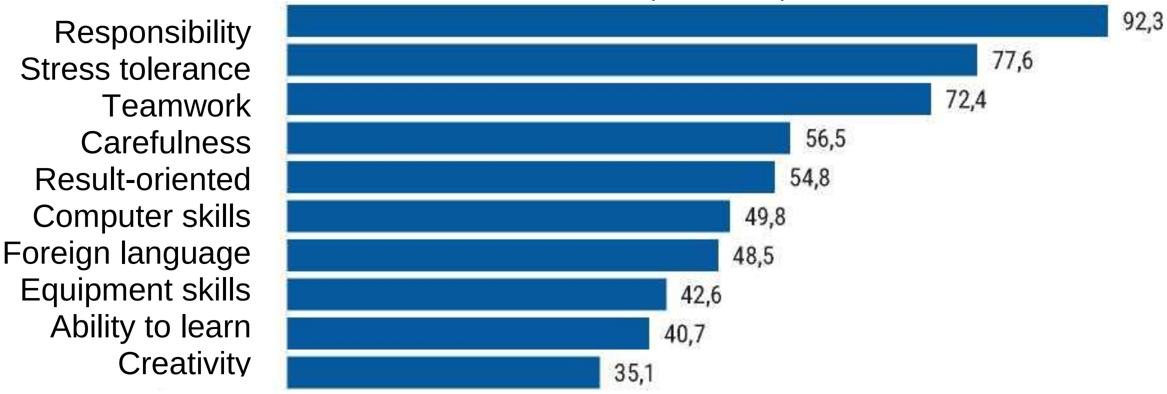
Fig. 25. Assessment of the demand for employees skills by aggregated categories of professions, %



Source: Results of the Employers Survey, 2023

Industry experts explain this situation as resulting from a widespread belief that the lack of professional knowledge and skills can be quickly compensated by the acquired work experience (provided there is a responsible attitude to work, carefulness, correct communication in the team and general ability to learn). These competencies are the ones that hold top positions among all skills in demand (fig. 26).

Fig. 26. General assessment of the demand for skills and competencies, points



Source: Results of the Employers Survey, 2023

Employers mentioned the responsible attitude of employees to work as the most important thing for employees of all categories and sectors of the economy. The full-scale war must have led to high demand for stress tolerance. It is worth noting that a significant number of employers pointed out the importance of computer and foreign language skills. However, the survey results and expert assessments of the demand for skills in the main types of economic activity indicate certain sectoral differences.

Agriculture, forestry, and fishery

The most numerous professions:
auxiliary worker, driver of motor vehicles, tractor driver in agriculture (forestry), worker for complex maintenance in agriculture, watchman, security guard, accountant, forest master, locksmith-repairman.

Highest-demand skills: working with equipment, responsibility, foreign language, working with tools, computer skills.

For agricultural enterprises, employees in the highest demand are those who can use modern equipment and tools. This is due to an active replenishment of the agricultural machinery fleet and the spread of the latest agricultural technologies. Experts have pointed out an increase in the importance of computer skills and foreign language proficiency. This is due to the need to work with technical documentation for modern equipment, which mainly requires knowledge of a foreign language, as well as active study and application of the latest approaches. Demand for employees with a foreign language proficiency is also caused by active search, on the side of producers, for more profitable sales markets.

According to experts, lack of certain knowledge and skills, can be compensated by a responsible attitude to work and willingness to learn from more experienced employees. The requirement of a responsible attitude to work in agriculture is also dictated by the high cost of the equipment used, and the risks of significant losses in case of damage.

The importance of all these skills will increase in the future. Demand for digital skills, in particular use of precision farming equipment and technologies, will also increase.

Professions in which it is planned to hire employees in 2023:
auxiliary worker, driver of motor vehicles, tractor driver in agriculture (forestry), worker for complex maintenance in

agriculture, watchman, security guard, accountant, forest master, locksmith-repairman.

Extractive industry

The most numerous professions:
driver of motor vehicles, specialist, security guard, equipment electrician (locksmith) and repariman, loader, oil and gas production operator, loader driver, manager, excavator driver.

Highest-demand skills: working with equipment, responsibility, working with tools, stress tolerance, teamwork.

In the extractive industry, equipment skills are of primary importance for most enterprises. In agriculture, companies use modern equipment of foreign manufacturers. In general, most of the work at companies is characterized by rather difficult working conditions, primarily with in terms of to underground, blasting and other work in quarries and mines. This determines the importance of employees' readiness to work under stressful conditions. Also, many companies in the mining industry are located in regions with active hostilities or in adjacent regions, which significantly increases the risks of workplace incidents.

Experts point out that hazardous working conditions require more than the usual level of interaction between different production lines, more effective teamwork, coherence, and responsibility of employees.

According to experts, in the future, the extractive industry will experience a higher demand for technological skills, production automatizing, in particular, the use of GPS technologies and automatically controlled equipment.

Professions in which it is planned to hire employees in 2023:
underground electrician, driver of motor vehicles, crane operator, underground miner, mine tunnel repair worker, equipment electrician (locksmith) and repairman, tunneller, stope miner, assistant driller for wells major repairs, security guard.

Processing industry

The most numerous professions:
driver of motor vehicles, tractor driver in agriculture (forestry), auxiliary worker, locksmith-repairman, packer, security guard, seamstress, accountant, loader, company director (head, other manager), watchman.

Highest-demand skills: working with equipment, working with tools, responsibility, foreign language, working with clients.

The processing industry sector is represented by a variety of production areas both by large and small enterprises. The industrial production sector primarily requires skills of working with modern equipment and its maintenance, as well as the use of modern tools. Experts note the growing importance of ensuring product sales, finding new markets, and working with customers. This became especially important in wartime, when most businesses were forced to readjust the supplies and sales logistics and interact more actively with new suppliers and customers.

These skills will be in demand in the future due to the deepening of European integration and growing domestic and external investment in industry.

Professions in which it is planned to hire employees in 2023:
wire picker, seamstress, poultry handler, motor vehicle driver, loader, packer, locksmith-repairman, auxiliary worker, turner, shoe top assembler.

Energy

The most numerous professions:
engineer, motor vehicle driver, specialist, foreman, electrician for the operation of distribution networks, locksmith for the operation and repair of gas equipment, locksmith for the operation and repair of underground gas pipelines, energy supervision controller, watchman, electrician of the operational-field team.

Highest-demand skills: working with equipment, knowledge of relevant regulations, working with tools, working with clients, responsibility.

The energy sector of Ukraine is represented by powerful enterprises of nuclear, thermal, hydro energy, a network of companies providing electricity transmission, and numerous industrial and civil electrical installation enterprises. Small and medium size renewable energy enterprises are actively developing in the country, having received additional incentives during the energy crisis for development due to increased demand for low-power power generation (individual domestic power plants, etc.). This situation has led to a demand for employees with the knowledge of relevant regulatory legal framework and individual work with clients.

Demand for skills of working with energy equipment is common to all energy companies. The strategic importance of the sector and the high level of danger of performing basic works in the sector lead to higher requirements of companies to the level of employees' responsibility, especially in emergency situations in which the energy system of Ukraine has found itself since the beginning of the war.

According to experts, in addition to those mentioned above, in the future, the skills of installing, using and configuring automated equipment and renewable energy provision will be in demand too.

Professions in which it is planned to hire employees in 2023:
locksmith for operation and repair of gas equipment, driver of motor vehicles, gas facility controller, boiler house operator, electric and gas welder, engineer, locksmith for operation and repair of underground gas pipelines, electrician for operation of distribution networks, locksmith for maintenance of heating networks, locksmith for repair of combined-cycle gas turbine equipment.

Water supply

The most numerous professions:
driver of motor vehicles, pump operator, emergency recovery locksmith, amenities worker, loader, water supply controller, repairman, engineer, watchman, territory cleaner.

Highest-demand skills: working with equipment, working with tools, responsibility, working with documents, working with clients.

The water supply sector is mainly represented by state and municipal enterprises. In addition to the demand for skills of working with equipment and tools, companies value bureaucratic and service components. Businesses point out a demand for skills of working with documents and clients.

In the future, the sector will experience an increased demand for skills of working with modern equipment and tools, the importance of digital skills, in particular the use of remote sensing, diagnostic and communication systems.

Professions in which it is planned to hire employees in 2023:
driver of motor vehicles, locksmith of emergency recovery works, amenities
worker, auxiliary worker, electrician for repair and maintenance of electrical equipment, locksmith-repairman, loader, tractor driver, excavator driver, electric and gas welder.

Construction

The most numerous professions:
driver of motor vehicles, company director (head, other manager), auxiliary worker, work performer, road worker, electric and gas welder, bricklayer, concrete worker, accountant, installer of steel and reinforced concrete structures.

Highest-demand skills: working with equipment, working with tools, responsibility, teamwork, working with technical documentation (drawings, diagrams).

In the construction sector, skills of working with equipment and tools remain in demand. Employers consider skills of working with technical documentation (reading technical plans, drawings, flow charts, etc.) to be important for employees. Moreover, the importance of a responsible attitude to work and team interaction is noted.

In the future, the demand for skills of working with the latest construction technologies and materials will grow (self-healing concrete, self-cleaning paints, fire-safe wood, etc.).

Professions in which it is planned to hire employees in 2023:
road worker, motor vehicle driver, elevator electrician, electrician for repair and maintenance of electrical equipment, installer of steel and reinforced concrete structures, manual electric welder, cable networks electrician, driller of operational and exploration drilling of oil and gas wells, assistant driller of operational and exploration drilling of oil and gas wells, drilling rig motorist.

Commerce

The most numerous professions:
seller of food products, sales consultant, seller of non-food products, gas station operator, salesroom cashier, motor vehicle driver, sales manager, storekeeper, company director (head, other manager), specialist.

Highest-demand skills: working with clients, responsibility, active sales, teamwork, carefulness.

For the retail sector, sales skills are most in demand, in particular, working with clients and active sales. At the same time, employers point out the importance of responsibility, carefulness, and teamwork.

In the future, the importance of e-commerce in trade will grow and, accordingly, will the demand for digital sales, digital marketing, etc.

Professions in which it is planned to hire employees in 2023:
food seller, salesroom cashier, pharmacist, motor vehicle driver, gas station operator, sales consultant, non-food product seller, paper sorter, loader, baker.

Transport and logistics

The most numerous professions:
Driver of motor vehicles, specialist, postman, postal operator, track fitter, engineer, head of the communication department, company director (head, other manager), storekeeper, locksmith for the repair of rolling stock.

Highest-demand skills: responsibility, working with equipment, working with customers, teamwork, carefulness.

In the transport sector, for mass professions that involve driving different vehicles skills in highest demand are those of working with basic and/or auxiliary equipment, as well as responsibility and carefulness. At the same time, most companies point out the importance of customer communication and teamwork.

In the future, the demand for skills of using the latest transport and logistics technologies will grow. In particular, it concerns GPS technologies and integrated logistics management programs/platforms.

Professions in which it is planned to hire employees in 2023:
driver of motor vehicles, postman, road worker, postal operator, trolleybus driver, loader, locksmith for the repair of rolling stock, sorter of mail items and printing products, transporter (rigging works), telecommunications operator.

Hotels and restaurants

The most numerous professions:
Cook, restaurant employee, waiter, bartender, administrator, food salesman, barista, kitchen worker, dish washer, maid.

Highest-demand skills: responsibility, working with clients, teamwork, foreign language, working with equipment.

In the hotel and restaurant business, employers see a responsible attitude to work, the ability to work with clients and teamwork as the most necessary skills. They emphasize the relevance of foreign language proficiency and the skill of working with modern equipment, especially in demand in the segment of elite establishments.

According to experts, in general, the demand for these skills will grow in the future. This undoubtedly applies to foreign language skills, the use of modern technologies and equipment in cooking and providing high-quality service. In the future, the introduction of European standards of service quality and safety will also be of importance.

Professions in which it is planned to hire employees in 2023:
waiter, cook, concierge, maid, specialist, restaurant employee, property and personal security specialist, bartender, security guard, plumber.

Information and telecommunications

The most numerous professions:
specialist, software engineer, company director (head, other manager), engineer, department head, manager, accountant, software development and testing specialist, system administrator, telecommunications engineer.

Highest-demand skills: working with clients, responsibility, stress tolerance, foreign language, working with social networks and media.

It is worth noting that the sector is represented by quite different companies in terms of their profile. That is why the rating of required skills reflects skills that are common to all segments, and partially, certain features characteristic of some companies in the sector. The following segments can be distinguished in the sector:

1) the segment of mass media and information content production, where there is a transition from TV and radio space to virtual space of social media, and the activity itself requires a high level of stress tolerance;
2) the segment of telecommunications companies where employers mostly point out the demand for a responsible attitude to work and effective communication with customers;
3) the segment of software production, where, in addition to professional skills, foreign language proficiency is of great importance.

In the future, according to experts, the demand for digital skills will grow in the sector, particularly, those related to machine learning and the use of artificial intelligence.

Professions in which it is planned to hire employees in 2023:
programmer (databases), road worker, journalist, cameraman, telecommunications engineer, radio and television equipment engineer, electrician of linear telecommunications and wired broadcasting structures, technician, flat offset printer, administrator.

Finance and insurance

The most numerous professions:
specialist, cashier (at an enterprise, institution, organization), economist, department (center, branch, directorate, complex, etc.) head (director, manager, etc.) (banking), manager, department head, controller-cashier, cashier (in the bank), collector-driver of motor vehicles, consultant.

Highest-demand skills: responsibility, working with clients, stress resilience, teamwork, foreign language.

In the finance and insurance sector, employers point out responsible attitude to work, working with clients and stress tolerance as key skills in highest demand. The demand for stress tolerance in general is due to high requirements for the quality and effectiveness of communication with the clients. Teamwork skills and foreign language proficiency are of great importance for employers in the sector.

In general, employers note that these skills will remain in demand in the future. At the same time, the importance of foreign language proficiency and digital skills, in particular those related to the use of artificial intelligence systems, will increase.

Professions in which it is planned to hire employees in 2023:
specialist, insurance manager, controller-cashier, economist, consultant, insurance expert-consultant, appraiser-expert, cashier (at an enterprise, institution, organization), auditor, cashier (in a bank).

Real estate transactions

The most numerous professions:
company director (head, other manager), security guard, cleaner of office premises, accountant, watchman, driver of motor vehicles, chief accountant, specialist, janitor, administrator.

Highest-demand skills: responsibility, carefulness, stress tolerance, working with clients, foreign language.

The sector includes a variety of companies accompany the purchase, sale, and lease of real estate, and may also include activities of real estate managers. Employers indicate that the main activity in the sector is working with clients, so the most popular skills are responsibility, carefulness, and stress tolerance. They emphasize the demand for specialists with knowledge of a foreign language.

According to experts, the demand for these skills and especially foreign language proficiency will grow. The importance of digital skills, in particular working with social networks ad modern design technologies etc. will also increase.

Professions in which it is planned to hire employees in 2023:
parking attendant, security guard, market controller, food seller, gas station operator, amenities worker, manager, office space cleaner, tractor driver, electrician.

Science and professional and technical activities

The most numerous professions:
specialist, company director (head, other manager), engineer, accountant, department head, driver of motor vehicles, manager, veterinary doctor, watchman, cleaner of office premises.

Highest demand skills: responsibility, computer skills, working with equipment, knowledge of relevant regulations, teamwork.

The sector is represented by a wide range of companies in the scientific and technical, architectural and engineering, design and engineering, medical, veterinary and research fields. There are many large government agencies and organizations, as well as small professional associations and individual experts working in the sector. In general, computer skills and working with respective equipment are in demand for companies in the sector. The importance of the regulatory framework knowledge is particularly emphasized. At the same time, the demand for responsibility and teamwork is also noted.

In the future, the importance of skills of working with modern equipment and digital technologies will increase, particularly, modern diagnostic systems, artificial intelligence, etc.

Professions in which it is planned to hire employees in 2023:
locksmith for the repair of equipment of boiler houses and dust-preparation shops, driver of motor vehicles, specialist, veterinary doctor, engineer-designer, locksmith-repairman, electrician for the repair and maintenance of electrical equipment, auxiliary worker, machinist (stoker) of the boiler house, accountant (with a master's degree).

Administrative and supporting services

The most numerous professions:
security guard, janitor, worker for complex cleaning and maintenance of houses with adjacent territories, driver of motor vehicles, specialist, company director (head, other manager), cleaner of office premises, accountant, cleaner of territories.

Highest-demand skills: responsibility, teamwork, carefulness, stress tolerance, computer skills.

The sector combines various areas of service delivery, but it mainly unites municipal enterprises providing utility services. The highest-demand skills in the sector are "soft" skills, namely: responsibility, teamwork, carefulness. The demand for computer skills is particularly emphasized. In war conditions, ensuring the functioning of the housing sector has become of strategic importance, and the burden of additional responsibility on employees of housing and utility services has increased, which generally explains the requirements of stress resistance.

It is noted that in the future, the importance of skills of working with modern equipment and consumers communication technologies will increase in the field of utility services.

Professions in which it is planned to hire employees in 2023:
worker for complex cleaning and maintenance of houses with adjacent territories, plumber, security guard, gardener, janitor, electric and gas welder, electrical equipment electrician and repairman, tractor driver in agriculture (forestry), territory cleaner, manager for organizing consulting services.

Education

The most numerous professions:
teacher of a general secondary education institution, teacher of a higher education institution, cleaner of office premises, watchman, associate professor of a higher education institution, tutor, assistant, laboratory assistant (education), assistant teacher, specialist.

Highest-demand skills: foreign language, knowledge of relevant regulatory legal acts, stress tolerance, web technologies and programming, computer proficiency.

The list of skills in demand in the education sector reflects general trends in its development. As a result of an active involvement of educational institutions in international cooperation and various support programs, the greatest demand is for foreign language proficiency. Trends of digitalization and spread of the use of remote (online) forms of communication and learning define the relevance of computer skills and the use of web technologies. Intensive reform of the sector leads to an increase in the importance of knowledge and legal requirements in the field of education. Greater importance of stress resistance is pointed out separately for employees in this sector.

In the future, the demand for these skills in employees of the education sector will only grow.

Professions in which it is planned to hire employees in 2023:
associate professor, teacher at an art school (by types of academic disciplines), teacher of a higher education institution, teacher of a general secondary education institution, concertmaster, master of industrial training, professor, teacher of a vocational and technical educational institution, methodologist, assistant.

Healthcare

The most numerous professions:
nurse, social worker, motor vehicle driver, emergency medicine paramedic, intern, medical registrar, general practitioner–family doctor, administrator, accountant, dentist.

Highest-demand skills: foreign language, computer skills, stress tolerance, responsibility, knowledge of relevant regulatory legal acts.

In addition to the professional medical knowledge and skills specific to healthcare, employers emphasized foreign language and computer proficiency. Significant importance is attached to responsibility and knowledge of the relevant regulatory framework. Experts particularly underlined the importance of stress tolerance.

In the future, the demand for these skills in employees of the healthcare sector will only grow. Undoubtedly, the importance of using the latest medical technologies of diagnostics, implant placement, prosthetics, etc., will increase.

Professions in which it is planned to hire employees in 2023:
nurse, doctor, social worker, social worker, general practitioner – family doctor, cook, generalist doctor, anesthesiologist, kitchen worker, occupational therapist, physical therapist.

Arts, entertainment, sports

The most numerous professions:
cleaner of office premises, librarian, administrator, sports coach (in a sports school, sports section, etc.), watchman, orchestra artist (wind, pop, folk instrumental, symphony, etc.), professional sports athlete, specialist, accountant, company director (head, other manager).

Highest-demand skills: foreign language, web technologies and programming, responsibility, working with clients, teamwork.

There are many cultural and sports institutions in the sector, mainly state-owned, as well as companies of the entertainment industry. In general, employers emphasize the demand for skills in foreign languages and relevance of the use of web technologies. At the same time, there is a demand for "soft" skills, in particular responsibility, teamwork. The importance of customer service skills is highlighted separately.

In the future, the importance of foreign language proficiency and skills of using digital technologies in communication, marketing, and diagnostics will increase.

Professions in which it is planned to hire employees in 2023:
professional athlete in sports, ballet dancer, theater, cinema etc. actor, performing artist (orchestra, choir, ensemble, stage, etc.) (with a junior specialist's diploma), performing artist (dance ensemble, dance and choral group, song and dance ensemble, etc.), observer-firefighter, vocalist (opera, chamber, soloist, bandura soloist, musical comedy, pop, etc.), assistant of slot machines hall, attractions and shooting ranges, stage setter, department (library, external program, container, preparatory, etc.).head.

Other services

The most numerous professions:
administrator, hairdresser (hair stylist), accountant, specialist, manicurist, company director (head, other manager), chief accountant, territory cleaner, motor vehicle driver, office space cleaner.

Highest-demand skills: responsibility, stress tolerance, management skills, working with equipment, working with clients.

In general, the sector comprises companies providing mainly individual services to clients, as well as a wide range of non-governmental organizations. Employers in the sector highlight skills of working with the relevant equipment and working with clients as those in the highest demand. They also note the relevance of and demand for a responsible attitude to work and stress tolerance. A significant share of small businesses in the sector determines the demand for managerial skills.

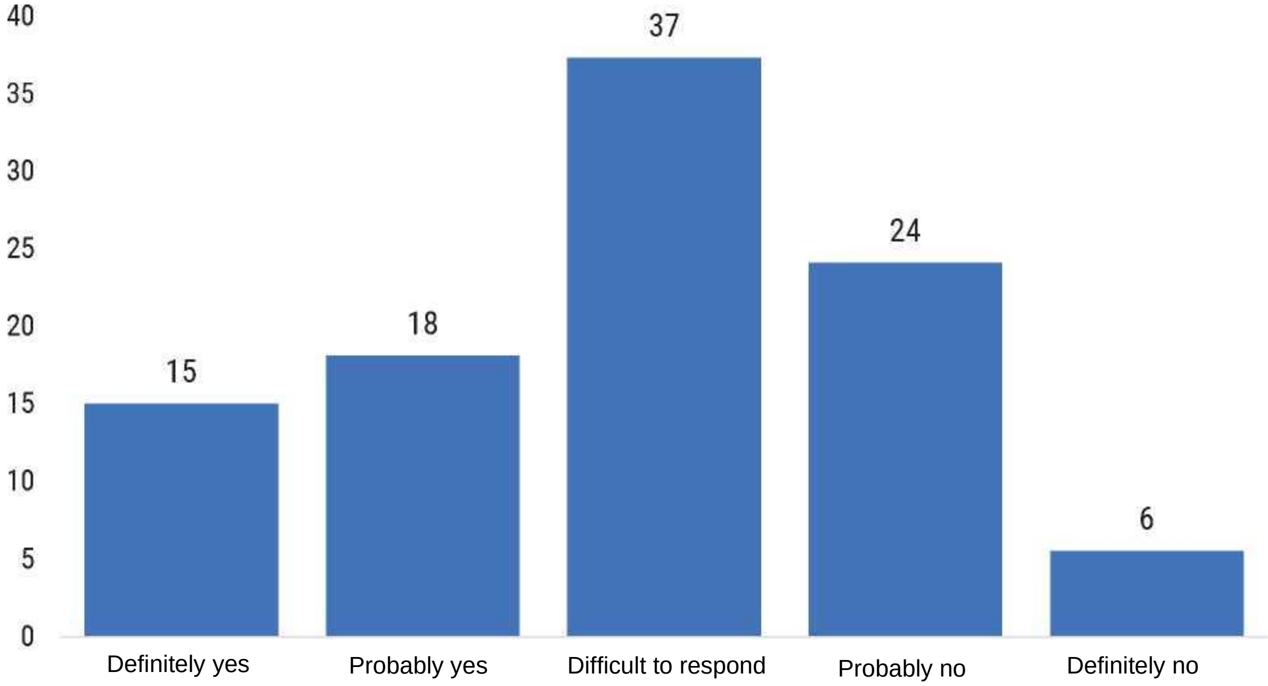
In the future, the demand for these skills will continue and at the same time the use of skills for working with the latest equipment and digital technologies, communication and marketing will increase.

Professions in which it is planned to hire employees in 2023:
territory cleaner, washing machine operator, consultant, marketing consultant, funeral services worker, digger, accountant, hairdresser (hair stylist), chairman of the management board, professional sports athlete.

3.3. Expected changes in the number of employees

According to the survey results, 37% of employers could not assess whether enterprises will need additional employees and, accordingly, could not estimate the volume of recruitment. Almost a third of employers (30%) do not expect additional hiring of employees in the next 6 months, while 6% of enterprises are confident that they will not hire employees, and 24% chose the option "probably not". At the same time, a third of employers (33%) expect a further increase in recruitment volumes. Thus, 15% of employers are confident that the company will hire additional employees, and 18% expect additional recruitment (fig. 27).

Fig. 27. Expectations of additional recruitment in the next 6 months, %



Source: Results of the Employers Survey, 2023

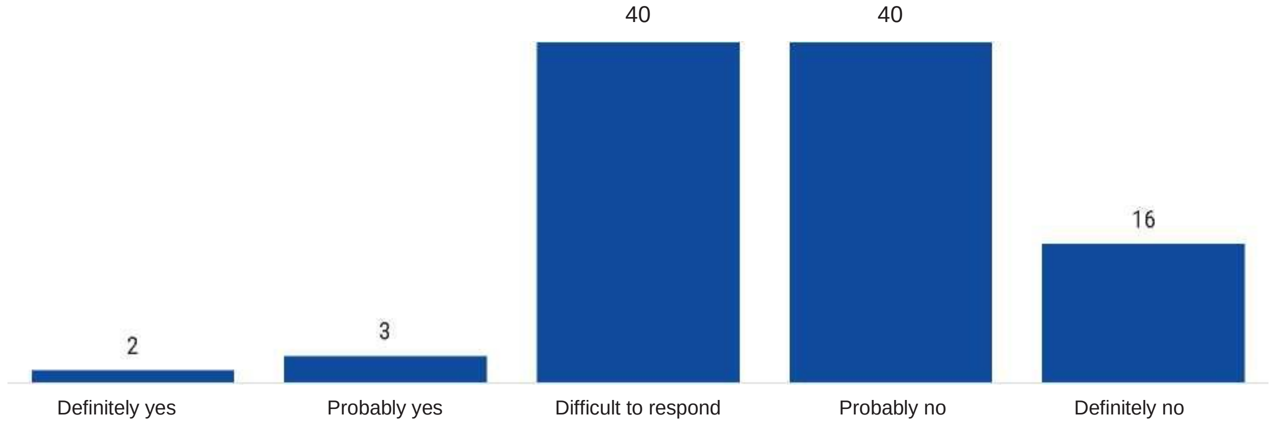
In general, it can be stated that large enterprises are more confident in assessing the prospects for additional recruitment. It is large companies that provide the most optimistic estimates for additional recruitment. More than 40% of large companies pointed out their plans for additional recruitment, while only 10% of microenterprises plan to hire additional employees in the next 6 months. The shares of companies planning additional recruitment among medium and small enterprises are 26 and 16% respectively (appendix 19).

Companies in Lviv, Zakarpattia, Volyn and Poltava regions and the city of Kyiv are most confident in their estimates of additional recruitment. It is there that the share of companies definitely planning for additional recruitment is more than 20%. Companies of Zaporizhzhia region are basically unable to plan additional recruitment (only 7% see possibilities for additional recruitment) (appendix 20).

Negative expectations for hiring additional staff prevail in the sectors of real estate, other services, information and telecommunications, and education. The share of companies in these sectors that are hesitant to give an answer or negatively assess possibilities of additional recruitment in the next 6 months exceed 80%. Accordingly, the share of companies planning additional recruitment does not exceed 20%. The least attractive situation is in the real estate sector (appendix 21).

Together with companies that plan additional recruitment, there is a small share of companies remaining (up to 5%) emphasizing the prospects for personnel reduction. At the same time, a significant share of companies (up to 40%) could not confidently answer this question. However, most employers (56%) note that they do not plan personnel reductions, with over 16% of them absolutely sure of this (fig. 28).

Fig. 28. Expectations for personnel reduction in the next 6 months, %



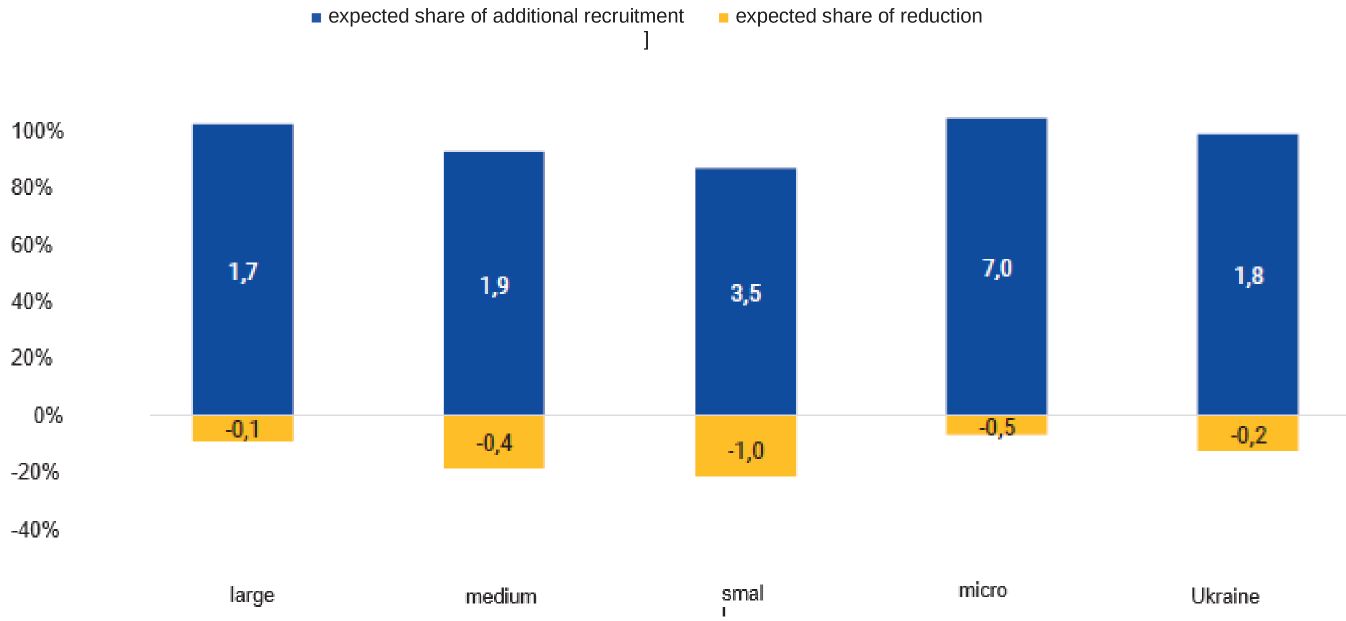
Source: Results of the Employers Survey, 2023

In general, it can be noted that this situation is characteristic of all types of companies, regions, and types of economic activity (appendices 22-24).

The obtained estimates of the volume of additional recruitment indicate that companies have rather cautious plans to increase the number of employees. The total volume of planned expansion does not exceed 2%. At the same time, the planned reduction is limited.

The most significant amount (7%) of the planned increase in the number of employees is noted by micro - enterprises. However, their weight in the total number of jobs is very small. The main volume of planned growth falls on large and medium-size enterprises, with a very small percentage of reduction, but generally significant percentage of increase (1.7 and 1.9%, respectively) (fig. 29).

Fig. 29. Share of expected additional recruitment and reduction of the current number of employees by company size, %



Source: Results of the Employers Survey, 2023

The most optimistic estimates of the volume of additional recruitment were provided by employers of the western regions, in particular, Volyn (4.9%), Lviv (3.6%), Zakarpattia (2.9%). More cautious volumes of additional recruitment are noted by companies of the central and northern regions. The lowest volumes of additional recruitment were provided by companies of Sumy (0.9%), Vinnytsia (0.9%) and Zaporizhzhia (0.2%) regions. At the same time, in these regions, the volume of planned reduction of employees exceeds the volume of planned recruitment, which indicates a trend of slow decline in employment.

The sectors of the economy where employers expect the greatest growth were the hotel and restaurant business, transport, and construction. For these sectors, the share of expected additional recruitment exceeds 3%. In addition, there are no expectations of possible reductions. The biggest reduction is expected in science, accounting for 2% of the current number of employees.

3.4. Changes in demand for employees by the main scenarios of developments in Ukraine

In order to assess the prospects of the development of the situation on the labour market and the specifics of demand for employees, a pessimistic and an optimistic scenario were identified.[33] Summary of the assessments of industry experts allowed to estimate the main risks of these scenarios implementation, as well as the necessary steps to stimulate positive trends and prevent negative ones.

Negative scenario

The war will continue for the next few years. The country's economic situation, despite support from Western countries, is deteriorating.

Experts are unanimous in their opinion that most of companies that have not stopped operating during 2022, will not stop working even in the face of further deterioration of the economic situation in the country. The only factor that can worsen this situation may be further losses of territories and the expansion of the territory of active hostilities. In all other cases, despite difficulties, instability, reduced profits, etc., most companies foresee possibilities to continue working without mass layoffs of employees. This position is dictated by the experience gained in 2022. The lack of mass layoffs of employees may be the result of the fact that during 2022 the staff was optimized as much as possible.

There is no doubt that in the negative scenario, companies have high risks of losing some of their assets due to possible hostilities, terrorist rocket attacks, and so on. Experts do not rule out the possibility of a gradual reduction of production volumes. However, for most businesses, this will not directly affect the number of employees. Agriculture, together with food industry, related to it, will remain the most stable sector of the Ukrainian economy. Staff recruitment will not stop and will gradually grow. Further mobilization will be the most negative factor for most companies, increasing the shortage of qualified employees.

[33] This subsection contains conclusions and summaries of assessments received from industry experts in the focus groups with employers in 12 major sectors of the economy of Ukraine.

General risks of the negative scenario realization:

- reducing the number of people fit for work and increasing the number of those unfit for employment;
- increasing the level of disability of the population;
- migration outflow of women and young people abroad;
- increase in structural unemployment;
- growing shortage of qualified workers, in particular due to mobilization;
- increase in the scale of informal employment;
- rejection of the scale and importance of social and professional rehabilitation of veterans.

In case of the negative scenario, employment support measures will be of great importance, promoting the overcoming of the shortage of qualified employees and support to companies.

Such steps may include:

- stimulation of the entrepreneurship development;
- promotion of the employment of women, youth, persons of pre-retirement and retirement age;
- training and retraining programs for veterans/veterans with disabilities;
- standardization of the procedure for mobilization, reserving staff and traveling abroad;
- information support of the social involvement of veterans and internally displaced persons.

Positive scenario

Ukraine will win the war, receive significant economic support, and become a member of the European Union in a few years.

The positive scenario, according to experts, will lead to a rapid economic recovery, primarily due to the return of many people, as well as investments (in particular, possible reparations) in the restoration of the affected infrastructure and housing stock. Undoubtedly, the restoration of destroyed metallurgical and energy facilities, transport and civil infrastructure will require significant capital investments. However, the restoration will allow for a significant technological upgrade and general improvement of energy efficiency. Some companies that are not currently operating will resume their activities.

At the same time, the demand for employees in general and especially for qualified employees will increase significantly, especially in the mining industry and construction, metallurgical and machine-building professions, maintenance of various industrial equipment and machinery. It is obvious that a significant shortage of qualified workers will continue in Ukraine for many years.

Summarizing, it can be stated that termination of the war, stabilization in the sphere of national security and further European integration will open a number of opportunities for Ukraine.

Such opportunities will be:

- sustainable demographic development (improvement of demographic indicators of the reproduction of population);
- return and reintegration of migrants;
- employment development in the tertiary sector (individual creative, public and digital projects);
- application of the experience of Ukrainians who have received an education/qualification abroad in business and public administration;
- investment projects attractive for the return of Ukrainians or external migrants;
- reform of the education system to attract young people from other countries to study and move;
- development of state-private, public-private partnerships and programs of corporate social responsibility for the support and professional rehabilitation of veterans.

Termination of the martial law, the opening of borders, and the simplification of employment procedures in the EU (especially in case of joining the EU) will present significant risks for the labour and employment market in Ukraine, that is, a positive scenario leads to certain risks.

Such risks may include:

- population outflow abroad;

- increased competition for employees;
- structural imbalances in labour supply and demand;
- demobilization, spread of the phenomenon of post-traumatic stress disorders;
- increase in the level of disability among the population;
- lack of manpower to implement recovery and reconstruction programs;
- lack of qualified resources (due to possible non-return of young people).

At the same time, painful losses that Ukraine has already suffered due to the unprovoked military aggression of russia will have grave aftermath for decades. Important steps must be taken to successfully overcome the aftermath of the war and to prevent possible risks.

Such important steps should be:

- birth incentive programs;
- programs to facilitate the return of migrants;
- measures to protect and support small businesses and tertiary employment;
- employment promotion for veterans, women and youth;
- development of retraining and advanced training programs;
- bringing labour legislation in line with EU norms and standards;
- development of the state employment policy at the regional and municipal levels.

These scenarios reflect a general trend of overall growth in demand for employees and the respective persistence and growth of the shortage of employees on labour market. Under any scenario, the shortage growth can become a significant factor in curbing and slowing development. Obviously, the shortage of employees will be particularly noticeable in sectors that require a significant amount of skilled workers as well as employees of engineering professions.

IV.

VULNERABLE GROUPS ON THE LABOUR MARKET

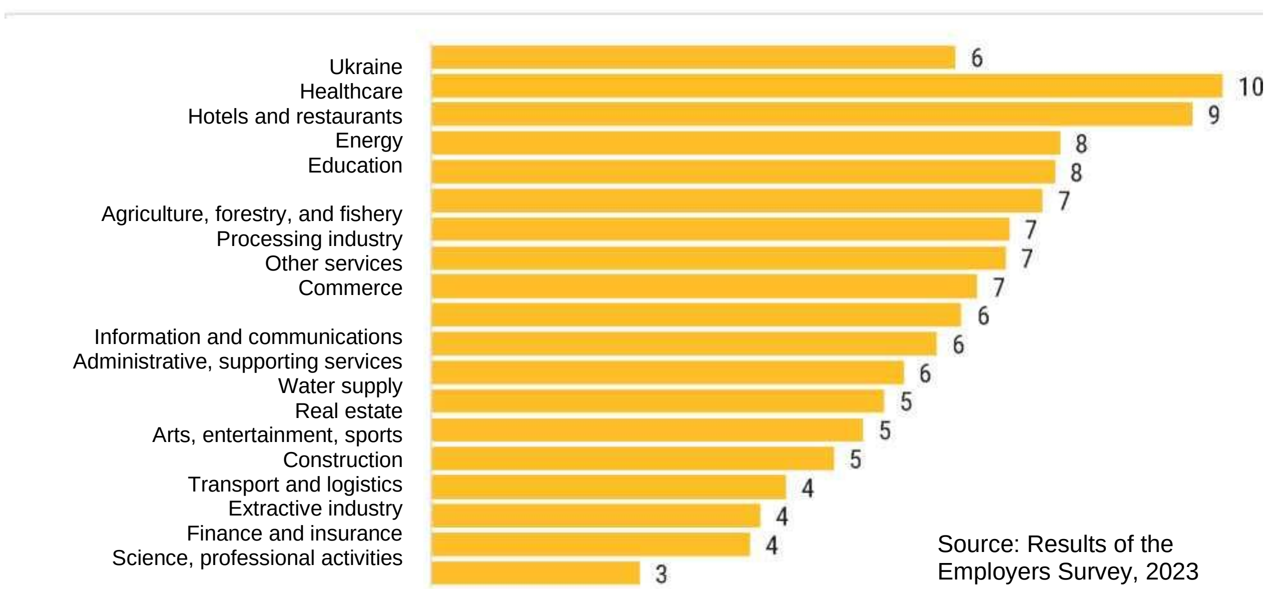
4.1. Employment of vulnerable groups on the labour market

Under current conditions, problems associated with providing employment to vulnerable population groups of Ukraine are becoming more acute. The increasing crisis phenomena on the labour market due to the impact of war significantly limits the possibilities for realization of the professional potential of employees, as their employment opportunities are narrowing. Vulnerable population groups are the least competitive on the labour market (persons with disabilities, internally displaced persons, war veterans), whose number increases as a result of hostilities.

4.1.1. Persons with disabilities

According to the State Statistics Service and the Ministry of Veterans Affairs, 2.7 million civilians and almost 500 thousand combat veterans in Ukraine have a disability.[1] Moreover, the number of people with disabilities as a result of the full-scale aggression of the russian federation against Ukraine will gradually increase due to an increase in the level of disability of the population. According to Article 19 of the Law of Ukraine "On the Basic Principles of Social Protection of Persons with Disabilities in Ukraine", there is a quota for the employment of such persons, namely, 4% of the average number of registered employees in a year. However, the risks of providing employment to persons with disabilities are increasing under current conditions, since the total number of vacancies has significantly decreased. Recently, funding opportunities for creating jobs for people with disabilities have been limited, as these jobs require taking into account the special needs of this category of the population. Employment of this population group varies significantly depending on the sectors and regions. The results of the employers survey indicate a significant differentiation of employment of persons with disabilities by types of economic activity (fig. 30).

Fig. 30. Share of persons with disabilities in the total number of employees by type of economic activity, %

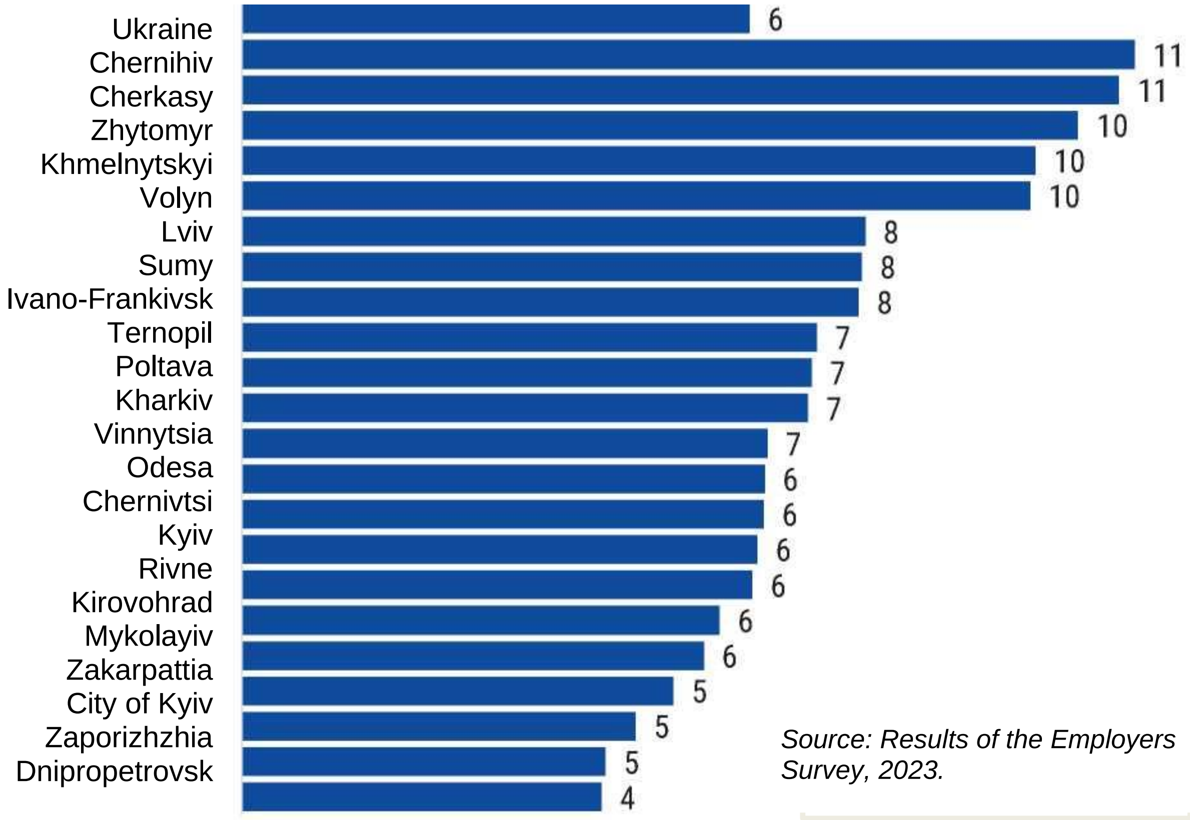


[1] Abdullina M. Adaptation of Workplaces for Persons with Disabilities // Economichna Pravda, March 6, 2023 URL: https://www.epravda.com.ua/columns/2023/03/6/697696/

According to the survey results, the share of employed persons with disabilities in healthcare (9.5%), and in hotels and restaurants (9%) remains the most significant. This may result from the availability of jobs suitable for employment of this group. The share of employed persons with disabilities in science, finance, and extractive industry remains the lowest (in the range of 2.5–4%).

The results of the survey show that in the regional context, the most significant are the shares of persons with disabilities in the total number of employees in companies in Chernihiv, Cherkasy, Zhytomyr regions (in the range of 10-11%, respectively) (fig. 31).

Fig. 31. Share of persons with disabilities in the total number of employees by region, %



Source: Results of the Employers Survey, 2023.

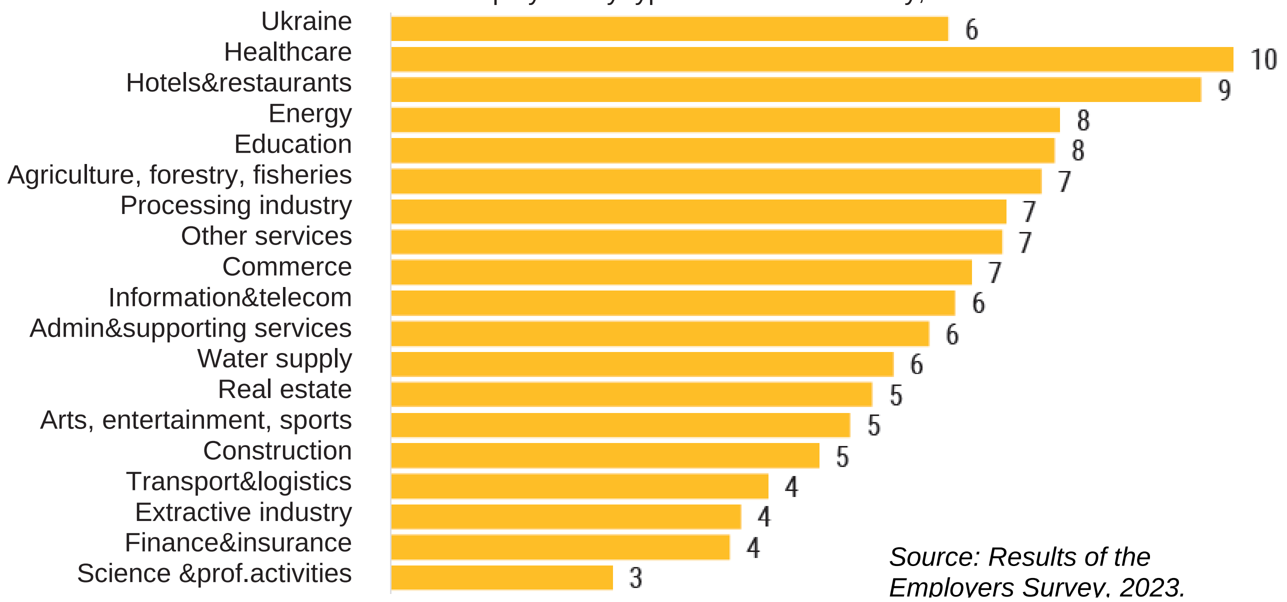
The share of persons with disabilities in the total number of the employed remains the lowest in Dnipropetrovsk, Zaporizhzhia regions and the city of Kyiv. This accordingly indicates a reduction in employment opportunities and weak motivation for employment of this population group in these regions.

4.1.2. Internally displaced persons

An equally serious problem is the employment of internally displaced persons (*further* - IDPs), who had to change their place of residence due to the current war. According to a survey conducted by the International Organization for Migration, as of January 23, 2023, the number of IDPs in Ukraine was 5.4 million.[34] At the same time, the distribution of IDPs by type of economic activity is uneven. In particular, the results of the employers survey indicate a significant differentiation of IDP employment by type of economic activity (fig. 32). The share of IDPs in the total number of employees remains the highest in the extractive industry (8.8%), hotel and restaurant sector (5.4%), finance (5%), and the lowest in real estate (0.9%), other services (1.3%), as well as in the transport sector (1.4% of the total number of employees).

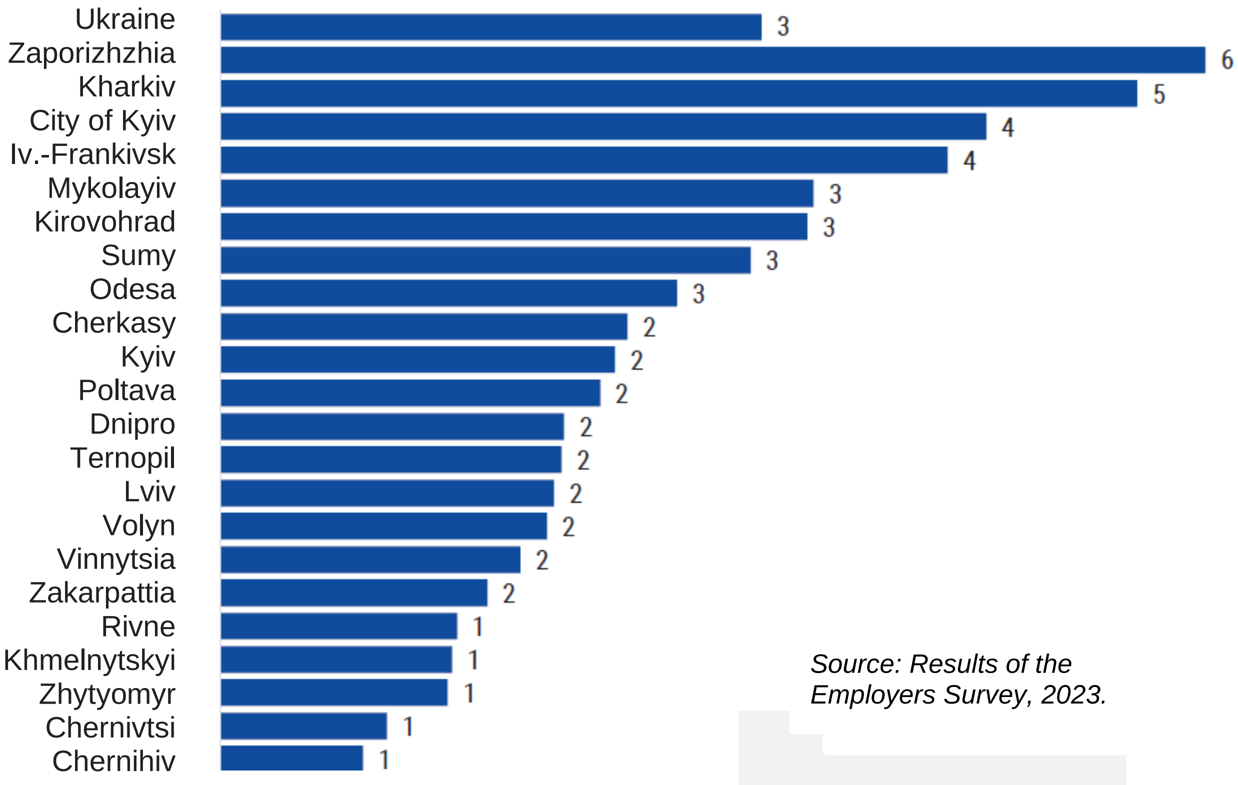
[34] Report on Internal Displacement in Ukraine (January 2023) // International Organization for Migration. URL: https://dtm.iom.int/sites/g/ files/tmzbdl1461/files/reports/IOM_Gen%20Pop%20Report_R12_IDP_FINAL_UKR.pdf

Fig. 32. Share of IDPs in the total number of employees by type of economic activity, %



The regional distribution of working IDPs in general also remains significantly differentiated among all employees of companies who participated in the survey (fig. 33). According to the employers survey, the largest shares of IDPs in the total number of employees remain in Zaporizhzhia, Kharkiv, Ivano-Frankivsk regions and the city of Kyiv (respectively, in the range from 4.2 to 5.7% of the total number of employees).

Fig. 33. Share of IDPs in total number of employees by region, %



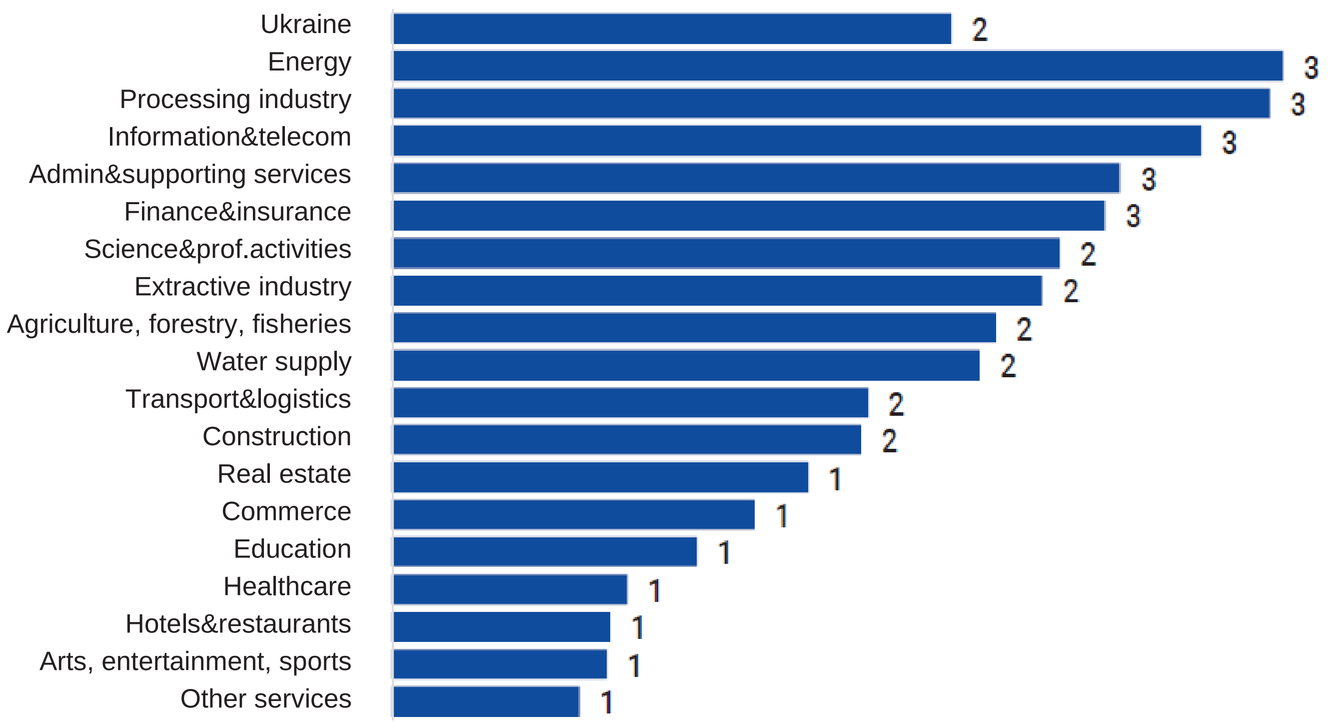
The share of IDPs in the total number of employees working in Kirovohrad, Mykolaiv, Cherkasy, Chernivtsi, and Chernihiv regions remains the lowest. This may be the result not only of an insufficiently significant concentration of IDPs in these regions, but also of a low motivation of some IDPs to work in companies in these regions.

4.1.3. War veterans

Employment of war veterans (*further* - veterans) is also an important task of adapting the Ukrainian labour market to current and future challenges. In particular, according to the second anonymous online survey among veterans and active military personnel "Portrait of a veteran. Block "Veterans Needs" of February 6-12, 2023, veterans and participants of the hostilities are aiming at getting a job. In particular, almost 64% of the surveyed veterans said that they wanted to have their own business, 6% already have their own business, 15% want to be employees, while 15% of the respondents did not express an interest in starting their own business.[35].

According to the results of the employers survey, employment of veterans by type of economic activity characterized by the distribution as shown in fig. 34.

Fig. 34. Share of veterans in the total number of employees by type of economic activity



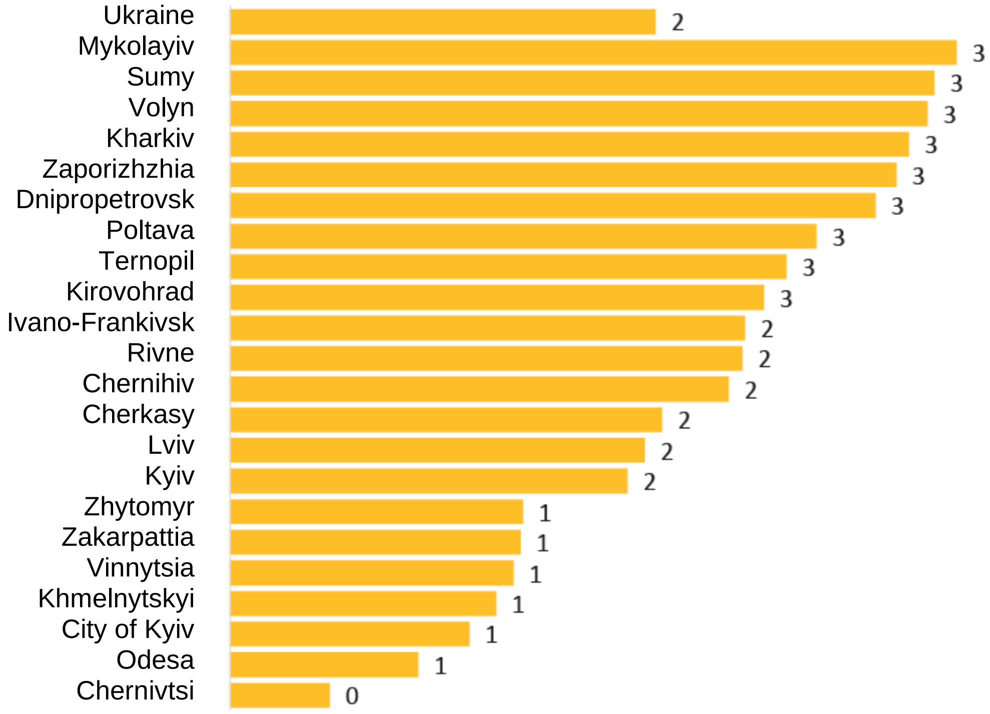
Source: Results of the Employers Survey, 2023

The most significant is the share of veterans in the total number of employees in the energy sector (3.2%), processing industry (3%), information and telecommunications (2.9%). But the share of employed veterans in the sphere of other services, culture and arts, hotels and restaurants, healthcare remains the least significant (up to 1% of the total number of employees).

The regional distribution of working veterans in the total number of employees is also quite differentiated (fig. 35).

[35] The Second Anonymous Online Survey among Veterans and Active Military Personnel '"Portrait of a Veteran. Block "Veterans Needs"(February 6-12, 2023) // Ministry of Veterans Affairs of Ukraine, Ukrainian Veteran Fund. URL: https://veteranfund.com.ua/doc/6-12-02-23.pdf

Fig. 35. Share of veterans in the total number of employees by type of region, %



Source: Results of the Employers Survey, 2023

The results of the employers survey show that the largest shares of employed veterans in the general number of employees of companies that took part in the survey was recorded in Mykolaiv (3.5%), Sumy and Volyn (3.3% each), as well as Kharkiv and Zaporizhzhia regions (within 3.2% of the total number of employees). The smallest are the shares of veterans in the total number of employees who work in Chernivtsi, Odessa regions and the city of Kyiv (up to 1.1%). This indicates quite serious risks that representatives of this vulnerable population group may face when looking for a job in the future.

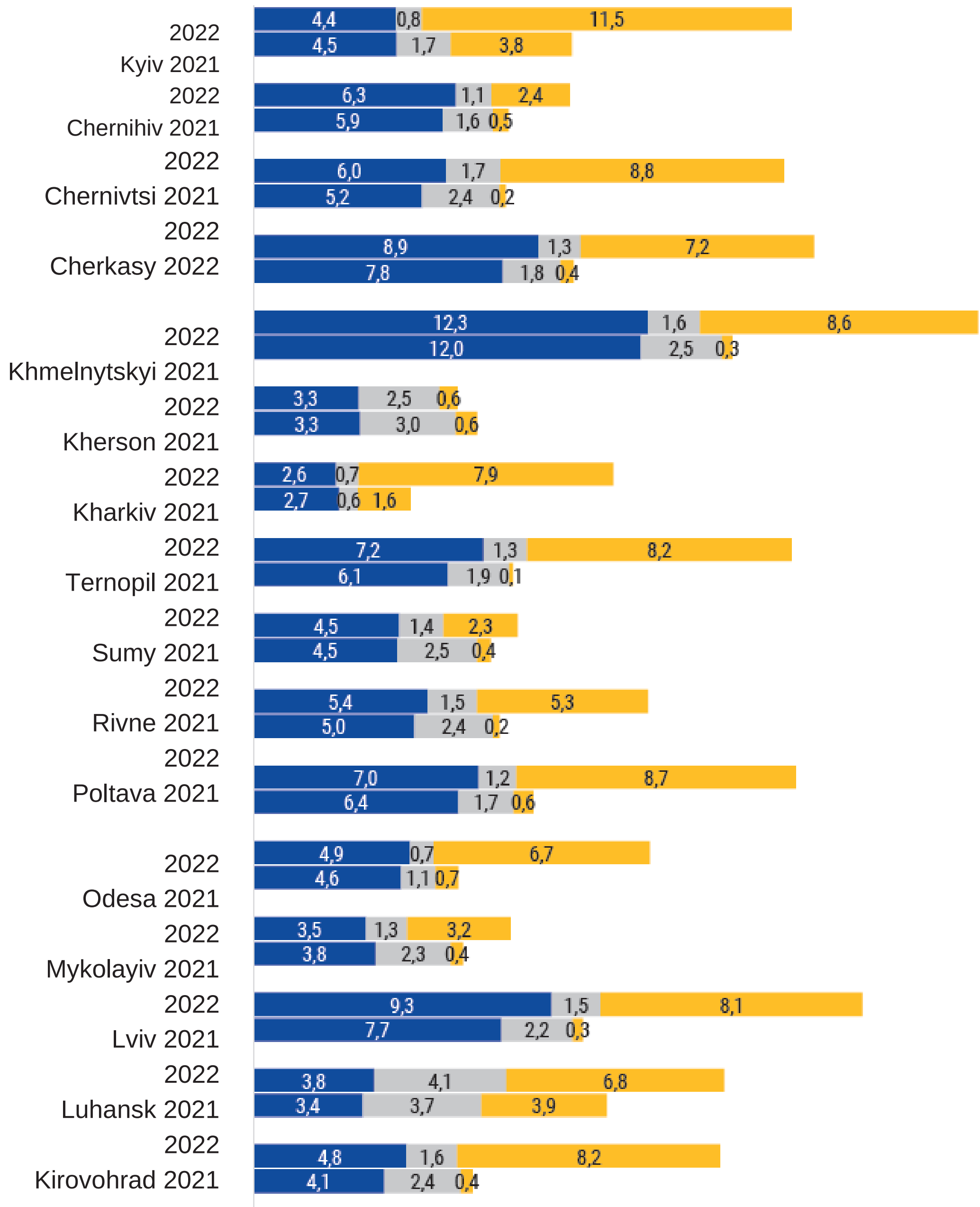
4.2. Recruitment of vulnerable population groups

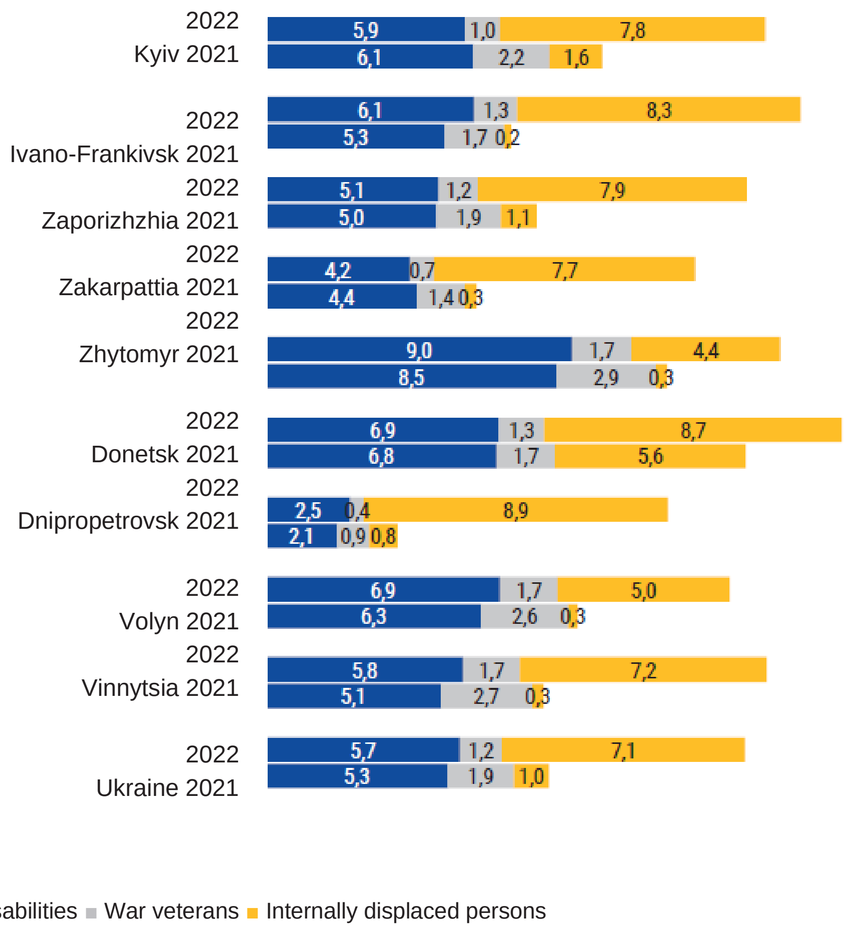
An important aspect of the study of the situation of vulnerable population groups on the labour market of Ukraine is determining the trends of their employment and the problems that accompany this process. At the same time, representatives of vulnerable population groups quite often enter the labour market as a result of the transition from unemployment. And the number of representatives of vulnerable population groups in the structure of the registered unemployed has changed significantly since the beginning of the full-scale aggression of the russian federation against Ukraine. In particular, the number of IDPs registered with the State Employment Service increased most significantly (from 12.3 thousand people in 2021 to 61.9 thousand people in 2022, or almost 5 times). Reducing the number of registered unemployed IDPs objectively happened in the Donetsk and Luhansk regions due to the intensification of hostilities in these areas. But the most rapid increase in the number of unemployed was observed in the western regions, geographically remote from hostilities.

However, the regional distribution of unemployed IDPs registered in employment centers indicates significant changes in the share of this vulnerable population group in the total number of registered unemployed in a year (fig.

36).

Fig. 36. Dynamics of changes in the registered unemployed (vulnerable population groups) by region, % of the total number of the registered unemployed





Source: Data of the State Employment Center

In almost all regions (except for the temporarily occupied territories of Kherson and Luhansk regions), there was an increase in the number of registered unemployed IDPs (from 12.3 thousand people in 2021 to 18.5 thousand people in 2022). This is the result of a significant increase in this population group after the full-scale aggression of the russian federation against Ukraine. Accordingly, the shares of this vulnerable population group in the total number of the registered unemployed also significantly vary by region. In 2022, the largest shares of unemployed IDPs were in Dnipropetrovsk, Poltava regions and the city of Kyiv (with the highest absolute numbers), as well as in Donetsk, Lviv, Chernivtsi, Khmelnitskyi, Zakarpattia and Zaporizhzhia regions. However, the smallest shares of registered unemployed IDPs were recorded in Kherson, Luhansk, Sumy, Mykolaiv, and Chernihiv regions.

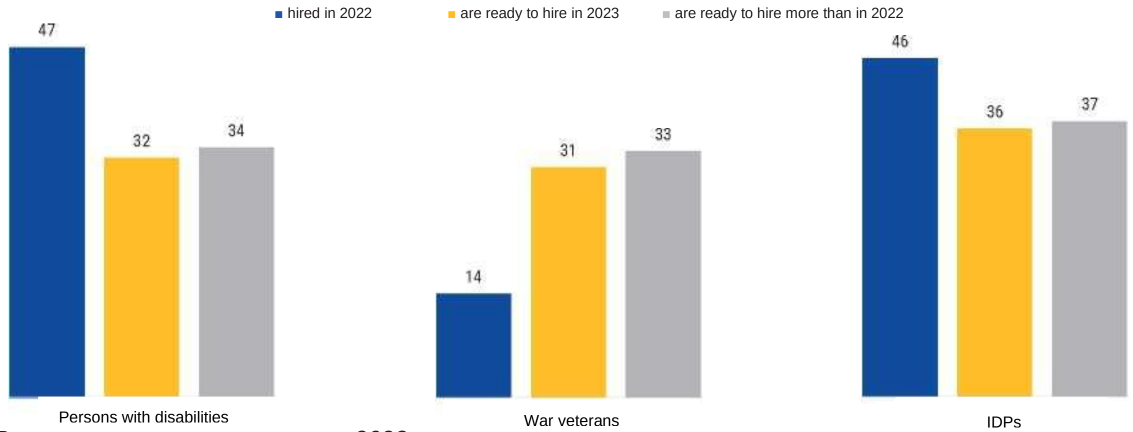
The total number of persons with disabilities registered with the State Employment Service during this period decreased from 63.6 to 49.5 thousand people, or by 22%. At the same time, the regional distribution of registered unemployed persons with disabilities indicates a significant differentiation. In particular, the largest shares of registered unemployed persons with disabilities in the total number of unemployed persons in 2022 were recorded in Khmelnitskyi, Lviv, Zhytomyr and Cherkasy regions, and the smallest – in Kharkiv, Dnipropetrovsk and Mykolaiv regions. However, in absolute terms, the largest reduction in the number of registered unemployed persons with disabilities was observed in Lviv and Donetsk regions. Overall, the decline in the total number of registered unemployed persons with disabilities, which has been taking place since the beginning of the full-scale invasion of the russian federation in Ukraine, may be gradually change in the direction of their rapid growth in the post-war period.

During 2021-2022, there was a decrease in the number of registered unemployed veterans from 23.2 to 10.7 thousand people. In the regional context, the most significant reduction in their number was recorded in Lviv, Vinnytsia, Luhansk and Zaporizhzhia regions. In 2022, the largest shares of registered unemployed veterans were registered in Luhansk, Zhytomyr, and Vinnytsia regions, while the smallest shares were registered in Dnipropetrovsk, Zakarpattia, Odesa, and Kharkiv regions. In general, veterans registered with the State Employment Service can be sufficiently motivated to find a job.

Employment opportunities for vulnerable groups depend primarily on the willingness of companies to hire employees belonging to these groups. According to the second online survey among veterans and active military personnel "Portrait of a Veteran. Block "Needs of Veterans", conducted by the Ministry of Veterans Affairs and the Ukrainian Veteran fund in February 2022,[36] among veterans who do not currently serve, almost 28% of respondents have the status of unemployed, 6.7% are employed in the IT Sector, 6% in industrial professions, 5.8% in law enforcement, 5.3% found work in the public sector, 5.3% in civil service, 4.4% in the system of security and safety. At the same time, 5.3% of the respondents were self–employed and registered as individual entrepreneurs, which indicates an insufficiently high level of their motivation for entrepreneurial activity.

It should be noted that employment opportunities for vulnerable population groups depend on the economic activity of companies and their willingness to create jobs and hire employees. The results of the employers survey indicate a differentiation in the recruitment strategies of companies and their willingness to hire representatives of vulnerable population groups (fig. 37).

Fig. 37. Share of companies that have hired and are ready to hire representatives of vulnerable population groups, % of the total number of companies



Source: Results of the Employers Survey, 2023

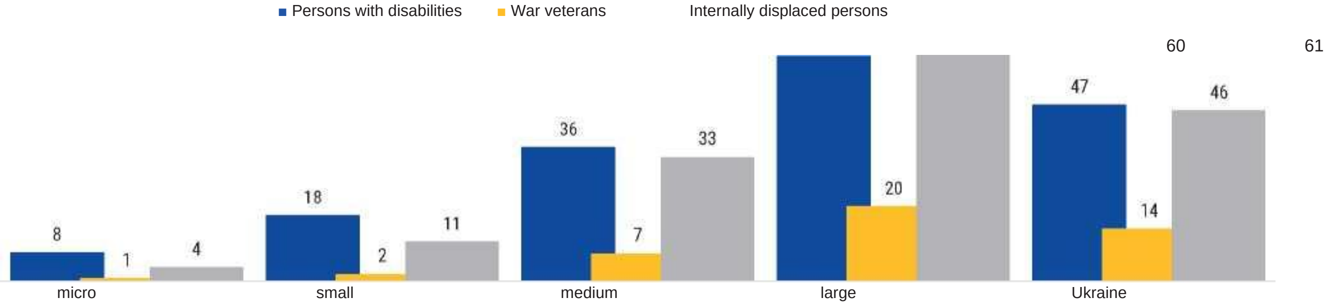
In particular, in 2022, almost 47% of enterprises hired people with disabilities, 46% hired IDPs, while only 14% hired veterans. This means that veterans remain focused on continuing military service, or search (even those with disability) for appropriate employment. However, employers' answers about their readiness to hire veterans in 2023, indicate an understanding of the prospects for increasing the number of representatives of this vulnerable population group following termination of active hostilities. According to the survey, 31% of employers positively assessed this prospect. At the same time, there is a decrease in the share of companies ready to hire people with disabilities (up to 32%) and IDPs (up to 36%).

Answering the question about their willingness to hire more in 2023 than in 2022, employers note it is possible in terms of all the above-mentioned categories of vulnerable population groups. In particular, almost 34% of employers noted an increasing trend towards hiring persons with disabilities, 33% – veterans and 37% – IDPs. Accordingly, employers point out their readiness and possibilities of hiring representatives of vulnerable population groups.

Answers to questions about the willingness to hire representatives of vulnerable population groups vary significantly depending on company size (fig. 38).

[36] The Second Anonymous Online Survey among Veterans and Active Military Personnel "'Portrait of a Veteran. Block "Veterans Needs"(February 6-12, 2023) // Ministry of Veterans Affairs of Ukraine, Ukrainian Veteran Fund. URL: https://veteranfund.com.ua/doc/6-12-02-23.pdf

Fig. 38. Share of companies that hired representatives of vulnerable population groups, by company size, % of the total number of companies

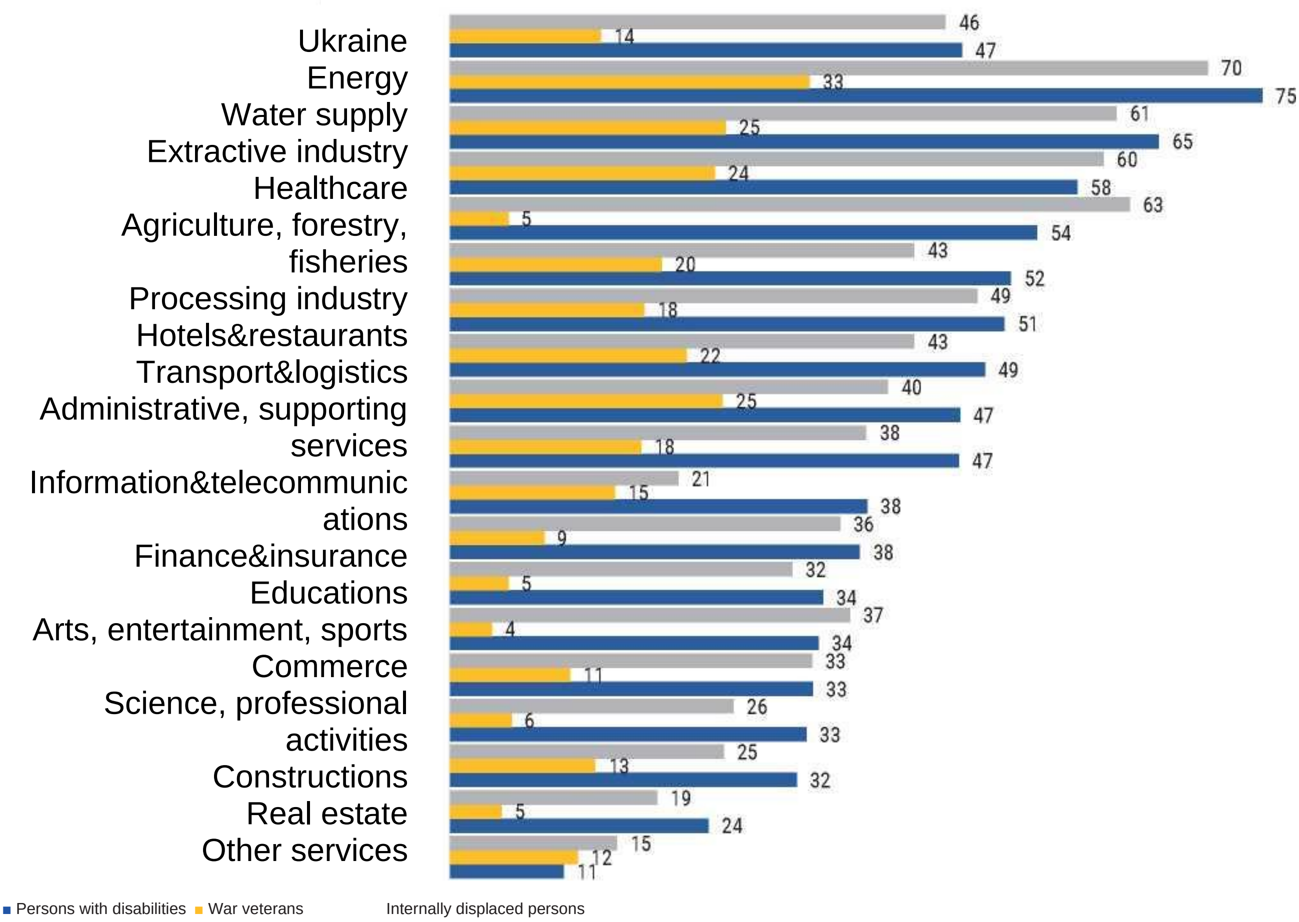


Source: Results of the Employers Survey, 2023

Large enterprises are leading when it comes to hiring representatives of vulnerable population groups. In particular, persons with disabilities were employed mainly by large companies (60% of the total number of surveyed companies), 36% – medium size, 18% – small and 8% – microenterprises. IDP were also hired mainly by large companies (61% of the total number of companies), 33% – medium size, 11% – small and 4% – microenterprises. At the same time, the scale of hiring veterans is still much smaller. Only 20% of large companies surveyed said they hired veterans, 7% of medium size, 2% of small and 1% of microenterprises.

When it comes to different industries, there is also a significant differentiation between companies in terms of hiring representatives of vulnerable population groups (fig. 39).

Fig. 39. Share of companies that hired representatives of vulnerable population groups, by type of economic activity, % of the total number of companies



Source: Results of the Employers Survey, 2023

According to the survey results, the largest remained the shares of companies that hired IDPs. These are companies mainly in energy (70% of the surveyed companies), healthcare (63%), water supply (61%), mining (60%), processing industry (49%) and hotels and restaurants (43%). The lowest share of companies that hired representatives of this group remains in the sector of other services (15%) and real estate (19%).

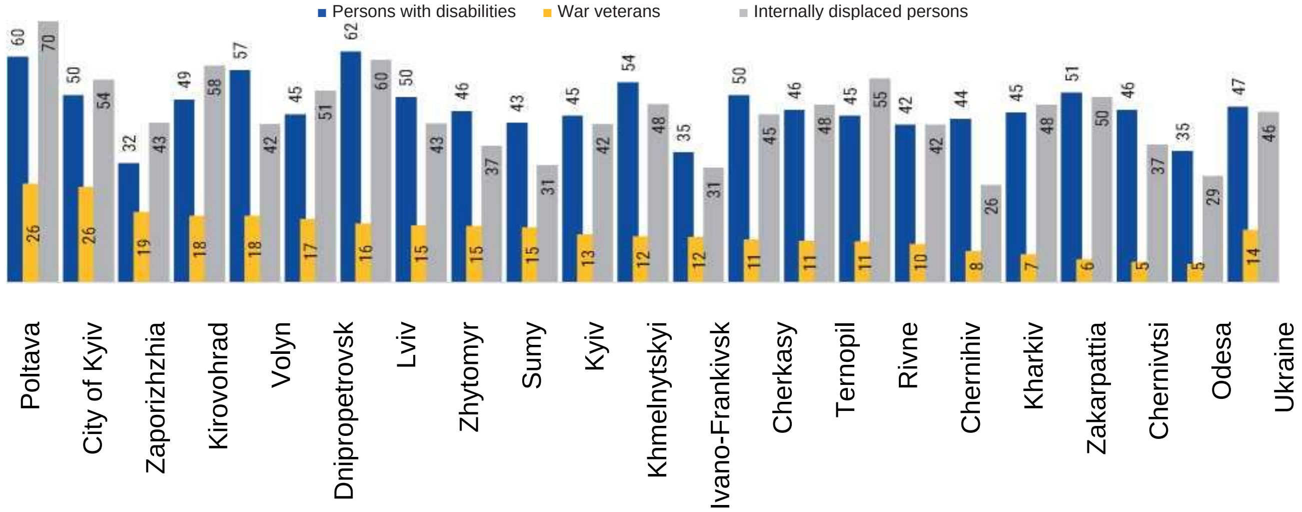
At the same time, 75% of energy sector enterprises noted that they often hired people with disabilities, 65% of water supply enterprises, 58% of mining enterprises, and 54% of healthcare enterprises. The lowest share of companies that hired people with disabilities is in the sector of other services (11%) and real estate (24%).

Also, veterans were hired by 33% of energy companies, 25% of water supply companies, 25% – transport, 24% – mining industry. The lowest share of companies that declared the recruitment of veterans is in arts (4%), as well as real estate (5%) and education (5%).

In general, this indicates an insufficiently high activity of companies in most sectors of the economy of the country when it comes to hiring representatives of vulnerable groups resulting from limited opportunities to create new jobs.

In the regional context, there is also a significant differentiation between companies in terms of hiring representatives of vulnerable population groups (fig. 40).

Fig. 40. Share of companies that hired representatives of vulnerable population groups, by company size, % of the total number of companies



Source: Results of the Employers Survey, 2023

The largest shares of companies that stated hiring persons with disabilities are in Lviv (62%), Poltava (60%), Volyn (57%) and Khmelnitskyi (54%) regions. The smallest shares of companies that hired representatives of this population group remained in Zaporizhzhia (32%) and Ivano-Frankivsk (35%) regions.

Limited recruitment of persons with disabilities depends primarily on job creation opportunities. Since the beginning of the full-scale aggression of the russian federation against Ukraine, the number of vacancies has rapidly decreased, which has limited the ability to provide employment for this population group. In particular, the number of vacancies of which employers notified the State Employment Service, [37] decreased from 705.8 thousand people in 2021 to 396.3 thousand people in 2022, or by 44%. According to the Pension Fund of Ukraine, the State Employment Center and the Institute of Professional Qualifications, the number of vacancies for persons with disabilities decreased from 4.1 thousand people (as of 01.01.2022) to 2.5 thousand people (as of 01.01.2023). At the same time, the number of vacancies decreased to the greatest extent in the regions with previously the largest number of vacancies. In particular, in Kharkiv region (by almost 84%), the city of Kyiv (by 52%), and Dnipropetrovsk region (by 51%). This points to serious problems associated with the creation of jobs (with proper working conditions) for people with disabilities, whose number may significantly increase in the future.

In the regional context, the largest shares of companies that hired IDPs remained in Poltava (70%), Lviv (60%), Kirovohrad (58%) and Rivne (55%) regions. The smallest shares of companies that hired representatives of this vulnerable population group were recorded in Chernihiv (29%), Odesa (29%) and Ivano-Frankivsk (31%) regions.

Most of the companies that confirmed the hiring of veterans were concentrated in the following areas: southern

[37] Data of the State Employment Center URL: https://www.dcz.gov.ua/sites/default/files/infofiles/1_prof00_01.01.2023_0.xlsx

and western regions (in particular, Poltava, Kyiv, Zaporizhzhia, Kirovohrad and Volyn regions), while there is the smallest number of such companies in Odessa and Chernivtsi regions.

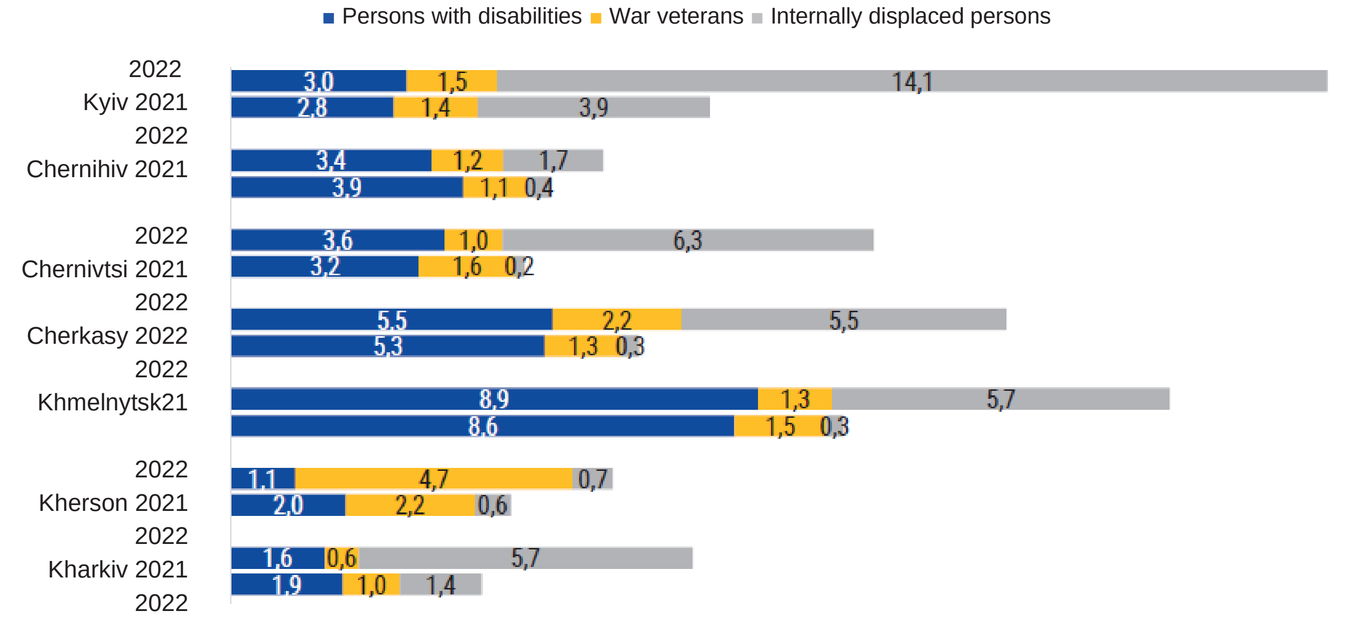
Thus, problems with ensuring the employment of vulnerable population groups have worsened due to the complication of the process of creating new jobs in war conditions and remaining low motivation of employers to hire representatives of this population group (due to the need to ensure that jobs are adapted to their needs).

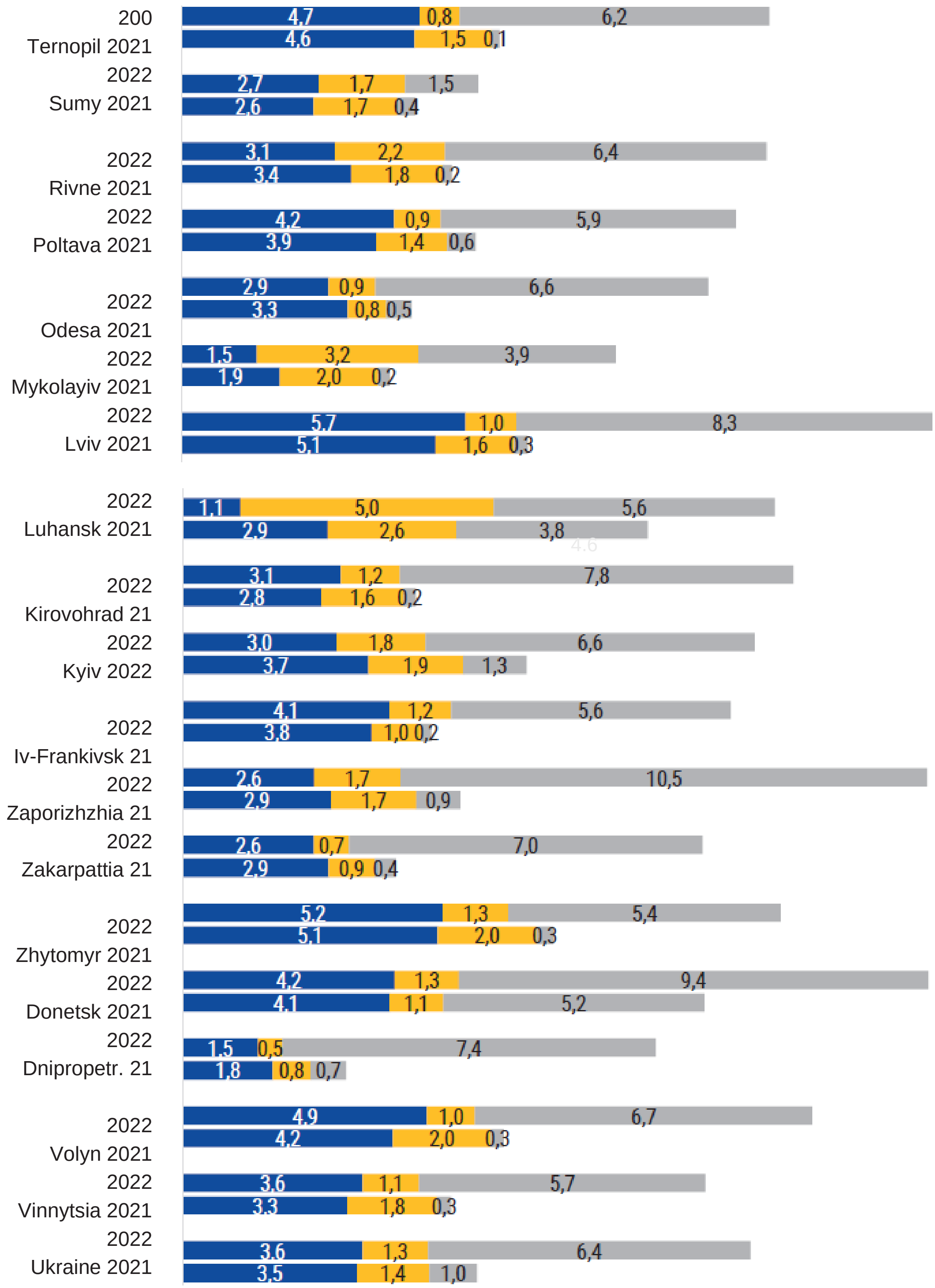
The provision of services to ensure the employment of vulnerable population groups is an important objective of the State Employment Service. With the beginning of the full-scale aggression of the russian federation against Ukraine, under conditions of a significant reduction in the number of vacant jobs, the number of people employed with the assistance of the State Employment Service went down. According to the State Employment Center, the number of the registered unemployed who got a job went down from 404.8 thousand people in 2021 to 248.8 thousand people in 2022. At the same time, the number of the employed who have additional guarantees facilitating employment decreased from 54.7 thousand people in 2021 to 31.2 thousand people in 2022.[6]

Distribution of certain categories of vulnerable population groups is significantly differentiated. In particular, during 2021-2022, the number of employed IDPs (employed with the assistance of the State Employment Service) increased almost 4 times (from 3.8 to 15.9 thousand people). This was happening against the backdrop of an increase in the number of the registered unemployed belonging to this population group since the beginning of the full-scale aggression of the russian federation against Ukraine (from 12.3 thousand people in 2021 to 61.9 thousand people in 2022). During the same period, the number of employed persons with disabilities (employed with the assistance of the State Employment Service) decreased from 14.0 to 8.9 thousand people. The number of veterans who got a job also decreased – from 5.9 to 3.3 thousand people.

The dynamics of changes in the employment levels of representatives of vulnerable population groups of by region is shown on Fig. 41.

Fig. 41. Dynamics of changes in the employment of the registered unemployed (vulnerable population groups), % of the total number of the registered unemployed by region





Source: Data of the State Employment Center

End of fig. 36

[6] Data of the State Employment Center. [URL: https://www.dcz.gov.ua/sites/default/files/infofiles/1_prof00_01.01.2023_0.xlsx](https://www.dcz.gov.ua/sites/default/files/infofiles/1_prof00_01.01.2023_0.xlsx)

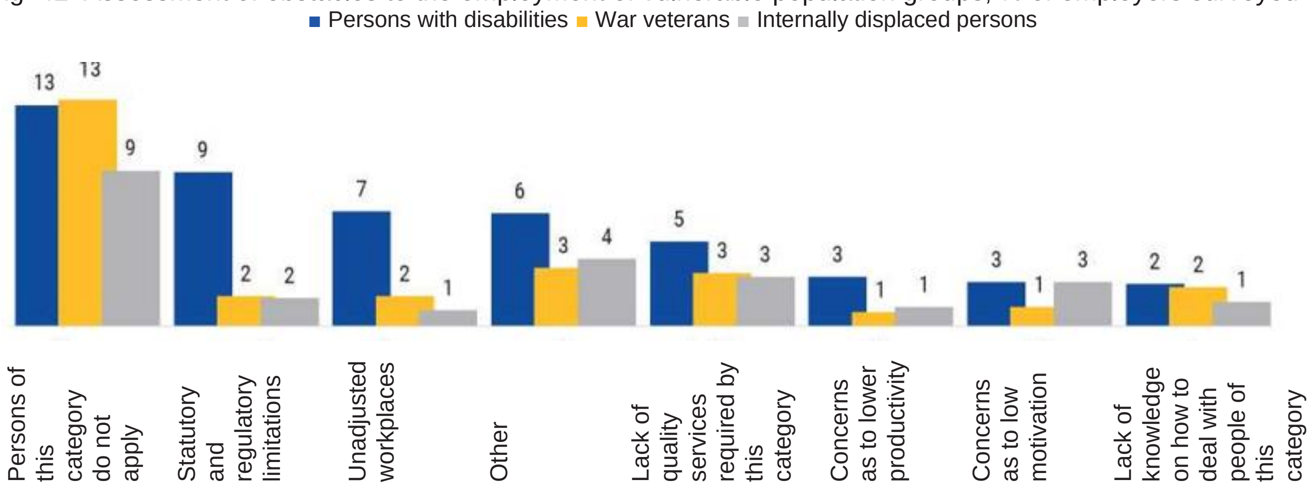
In the regional context, in 2021-2022, the number of employed persons with disabilities is most significantly decreased in the regions that were in the area of active hostilities for quite a long time (Donetsk, Zaporizhzhia, Luhansk and Kharkiv regions). The most favourable situation was instead observed in Chernivtsi region (even a small increase, despite the general downward trends), Zakarpattia and Dnipropetrovsk regions. At the same time, the number of IDPs who got a job during the same period increased to the greatest extent in Dnipropetrovsk, Lviv, Poltava and Kyiv regions. The number of employed representatives of this vulnerable population group in Donetsk and Luhansk regions has significantly decreased, which is quite objective.

The number of veterans who were employed with the assistance of the State Employment Service in 2021-2022, decreased the most in Zaporizhzhia, Kharkiv, and Lviv regions. Positive values of the indicator of employed veterans are observed in Cherkasy region. The number of employed representatives of this group decreased the least in Rivne, Ivano-Frankivsk and Odesa regions. In general, the effectiveness of measures taken by the State Employment Service to promote the employment of vulnerable groups depends primarily on the existence of opportunities to create new jobs.

4.3. Obstacles to ensuring the employment of vulnerable groups

Employment of representatives of vulnerable population groups is complicated due to the risks and obstacles significantly affecting the efficiency of this process. The results of the companies survey confirm that the majority of employers note the absence of obstacles to employ representatives of vulnerable population groups. In particular, 64% of employers pointed out that there were no obstacles to obtaining a job for persons with disabilities, for IDPs 80% of employers, and 76% for veterans. In general, employers assess obstacles to the employment of representatives of vulnerable groups as shown on Fig. 42.

Fig. 42. Assessment of obstacles to the employment of vulnerable population groups, % of employers surveyed



Source: Results of the Employers Survey, 2023

In particular, 12.5% of employers noted that persons with disabilities do not apply for work, while 8.7% identified statutory and regulatory restrictions as an obstacle to employment, 6.5% – inadequate workplaces, 4.8% – lack of quality services or infrastructure that this group of the population needs (medical care, psychological support, available transport, housing, childcare). At the same time, 2.8% of employers pointed out there were concerns as to productivity of this group, 2.5% – concerns as to low motivation of this group to work, and 2.4% of employers noted a lack of knowledge on how to deal with people with disabilities.

Almost 9% of the surveyed employers noted the reluctance of IDPs to apply for work, 2.8% highlighted a lack of quality services or infrastructure necessary for their employment, 2.5% – concerns as to low motivation of IDPs to work, 1.6% – statutory and regulatory restrictions. A small proportion of employers note a lack of knowledge about how to deal with people belonging to this group, concerns as to lower productivity of IDPs, as well as inadequate workplaces.

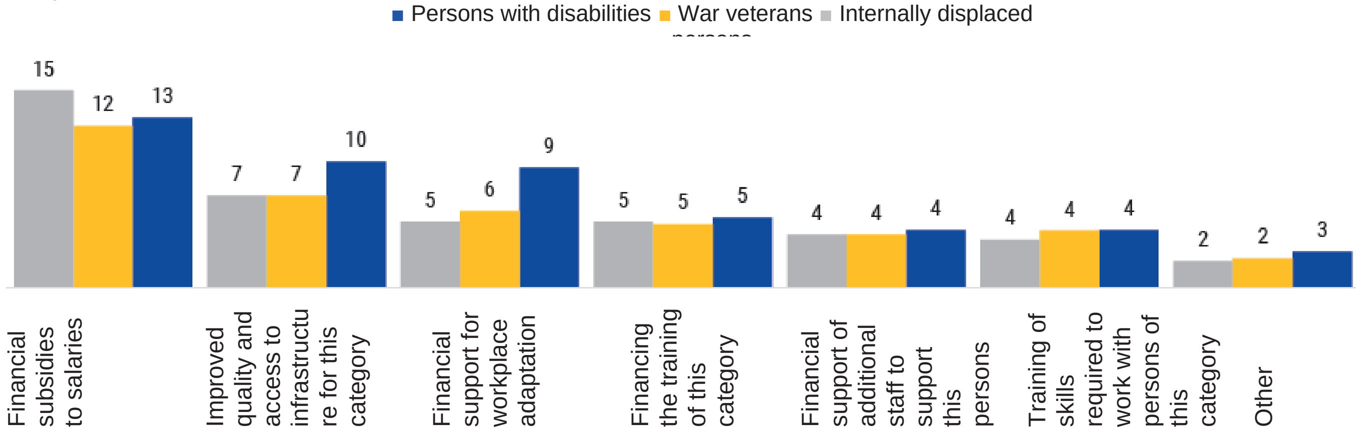
In the course of the survey, 12.8% of employers noted that veterans did not show much activity when it comes to looking for a job. Almost 3% of employers noted a lack of quality services and infrastructure as an obstacle to employment. Among other obstacles that, in the opinion of employers, insignificantly affect the employment of this vulnerable population group, there is lack of knowledge as to the specifics of treating veterans, inadequacy of workplaces, statutory and regulatory restrictions, the lack of knowledge about the specifics of treating veterans, and concerns as to their low motivation to work and the likelihood of lower productivity.

In general, employers' assessment of obstacles to the employment of vulnerable population groups indicates a lack of awareness of the serious character of these problems that will accompany the future employment and organization of work of these population groups. This requires identifying ways to support and encourage employment of vulnerable groups.

4.4. Ways to promoting employment of vulnerable groups

The employers survey with regard to identifying ways of employment promotion for vulnerable groups confirms that the majority of employers still do not pay attention to these issues. In particular, when asked about the importance of providing additional support for the employment of vulnerable population groups, 72% of the respondents noted that there was no need for such support in finding a job for veterans, 70% for IDPs, 68% for persons with disabilities. Estimates of the ways of employment promotion by those employers who consider it necessary to support companies in the employment of vulnerable population groups are distributed as shown on Fig. 43.

Fig. 43. Assessment of the ways of employment promotion for vulnerable population groups, % of employers surveyed



Source: Results of the Employers Survey, 2023

Employers have identified financial subsidies to wages as a priority area for stimulating the employment of vulnerable population groups. In particular, 15% of the surveyed employers emphasized the payment of subsidies as one of the most effective ways to encourage the employment of IDPs, 13% – persons with disabilities, 12.3% – veterans. Improving the quality and availability of services or infrastructure were identified by 10% of employers as an important way to promote employment of persons with disabilities, 7% for IDPs, and 7% for veterans. The same applies to improving medical services for all representatives of vulnerable population groups, providing psychological support, accessible transport, comfortable housing, as well as developing childcare infrastructure. Provision of the financial support to adapt workplaces to the needs of persons with disabilities was emphasized by 9.1% of employers. 5.8% of employers noted the importance of this measure to promote the employment of veterans, and 5% - of IDPs.

The need to finance the training of persons with disabilities was noted by 5.3% of the surveyed employers, 5% for IDPs, and 4.8% for veterans. Financial support for additional staff supporting people with disabilities was identified as an important area of stimulating the employment of this group of the population by almost 4.4% of employers, while the need to finance additional staff for the employment of IDPs – 4%, for supporting veterans – 4%. The organization of training with regard to working with persons with disabilities was noted as a priority area for stimulating their employment by 4.4% of employers, with IDPs – 4.3%, with veterans – 3.6%.

The results of focus groups indicate that experts are aware of the importance of employment of veterans, in particular, veterans with disabilities. In the general context of assessing the employment prospects of vulnerable groups, it is important to take into account mass demobilization and the return of a significant number of previously mobilized employees. At the same time, many veterans will require a more careful attitude, as well as physical and psychological rehabilitation following injuries and psychological trauma.

However, experts unanimously note that the minimum obligation of all employers is to hire all previously mobilized employees, regardless of their physical or mental ability to perform respective work. It is also important to make all necessary efforts aimed at professional, social and psychological rehabilitation of veterans, in particular, veterans with disabilities. If a person is unable to perform the respective work due to objective health restrictions, it is necessary to ensure a transfer to a suitable position, with the same salary level maintained.

In the context of providing a legislative framework for this approach, the state should provide support to employers who will ensure labour rehabilitation and promote professional self-realization of veterans with disabilities. Individual state support programs for veterans/veterans with disabilities should be separately considered. The most effective ways to encourage the preservation of employment of veterans/veterans with disabilities could be:

- refund of/exemption from taxes for the respective employee;
- payment of the salary difference (if it is necessary to transfer an employee to a position with the lowest level of remuneration);
- compensation of employee's salary for a period of 3 to 12 months for employment of a veteran/veteran with disability in the period of up to 6 months from the date of dismissal from the ranks of the Armed Forces of Ukraine;
- compensation from 50 to 100% of the cost of retraining a veteran/veteran with disability (on a one-time basis within a certain period of time);
- compensation of expenses (accruals or salaries) for the work of corporate specialists who will provide psychological/social/medical assistance to veterans/veterans with disabilities.

According to experts, the following programs of individual state support for veterans/veterans with disabilities (*financial aspect*) could be effective:

- one-time payment/housing purchase certificate upon dismissal from the ranks of the Armed Forces of Ukraine in the amount of 80 times the average cost of one square meter of housing in Ukraine;
- one-time payment/certificate for obtaining a new profession/qualification;
- one-time payment/certificate for social and psychological support;
- simplification of the procedure for receiving disability pension;
- full compensation of medical rehabilitation, prosthetics, etc.

Experts also note that at the moment, employers "...are mostly willing to find a suitable workplace for a person, but not to adjust the workplace to the person...». The main requirement of employers to employees remains the ability to perform professional functions. In particular, agriculture experts note that since in the agricultural sector there are many jobs involving physical strain, opportunities for people with physical disabilities to work there may be limited. Therefore, the most effective measure to promote the employment of veterans/veterans with disabilities can be the organization of their training to master high-tech/digital skills.

The following measures will contribute to improving the efficiency of the state employment promotion policy for veterans/veterans with disabilities (*information and educational aspect*):

- informational seminars for employers as to the specifics of organizing workplaces for veterans with disabilities;
- advisory support to employers on the employment of veterans/veterans with disabilities;
- information campaigns to spread positive experience of effective corporate social responsibility programs with regard to the employment of veterans/veterans with disabilities.

Taking into account the circumstances of an extraordinary increase of vulnerable groups in the structure of employed persons, it is advisable to consider the implementation of measures to stimulate their employment as a priority task of the state social policy.

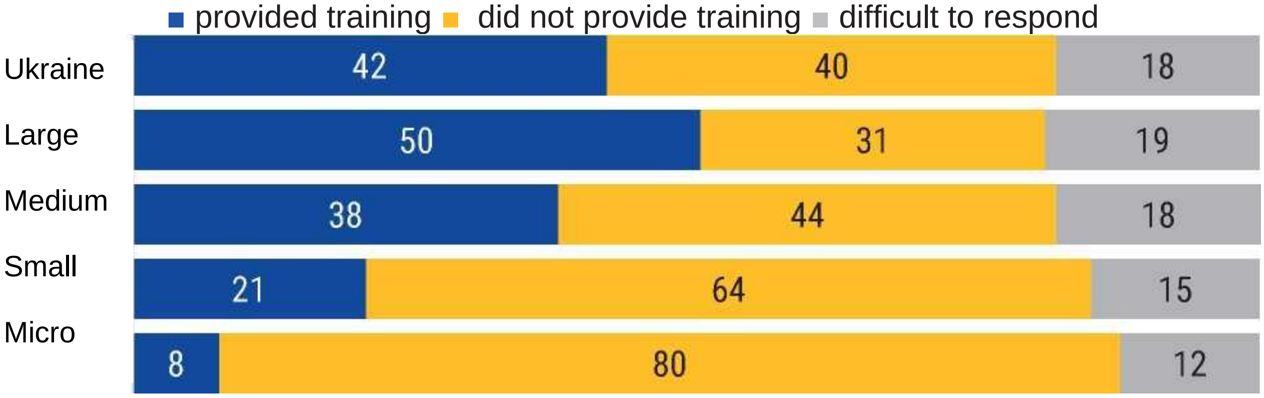
V.

EMPLOYEE TRAINING NEEDS

5.1. Extent of corporate employee training

In 2022, many employers suspended employee training. A significant share (42%) of companies reduced employee training expenses and noted that they did not provide any form of training. Most companies that suspended employee training are in the sector of small and microenterprises, with 64 and 80%, respectively. The share of companies where employee training was suspended is significantly lower among large and medium-size enterprises, amounting to 31 and 44%, respectively (fig. 44).

Fig. 44. Share of companies that provided training for employees, by company size, %



Source: Results of the Employers Survey, 2023

Throughout the country, 42% of companies indicated that in 2022 they continued to train personnel. The largest share (50%) is among large enterprises and slightly smaller among medium-size enterprises (38%).

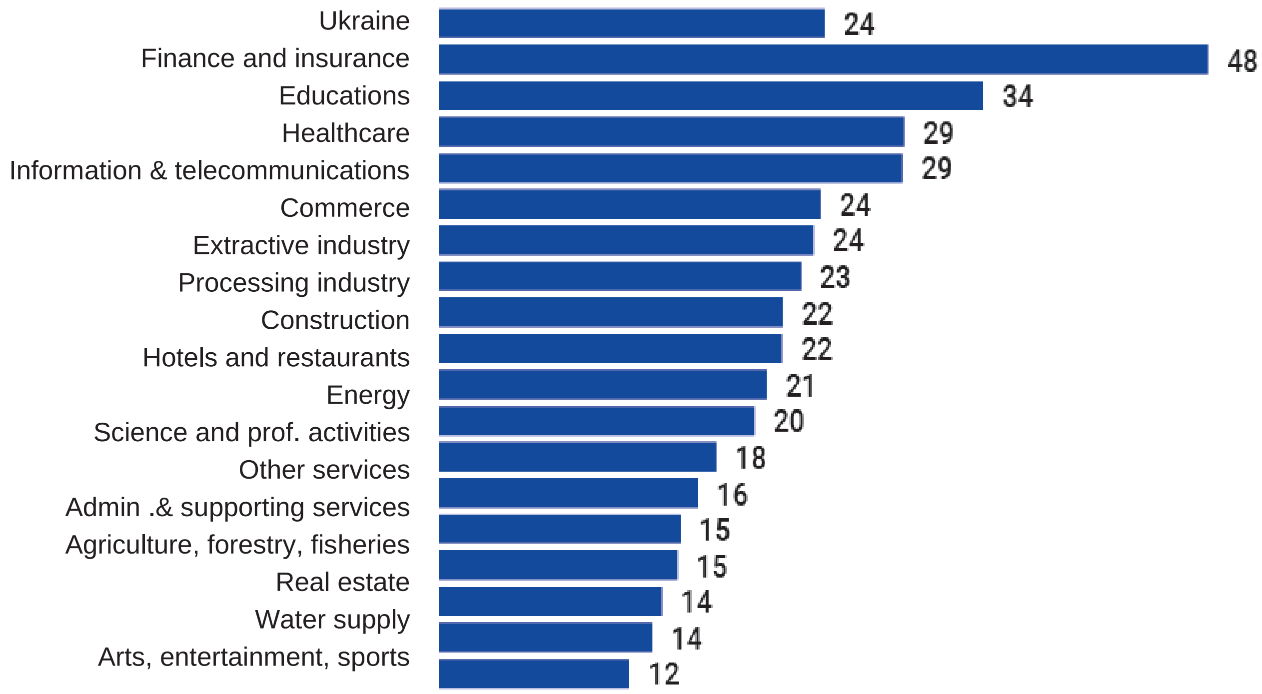
It should be noted that quite many companies could not provide an estimate of employee training. This is due to certain aspects of data collection. In particular, for large and medium-size enterprises, many estimates could not be provided due to the fact that usually there are special departments in charge of employee training. This makes it difficult to get generalized information. For small and microenterprises, besides executives, the respondents comprised accountants who do not always have relevant information.

The largest share of enterprises that provided employee training during 2022, is noted in the extractive industry (58%), healthcare (55%), energy (53%) and education (53%). The smallest share is in the sectors of other services (5%), real estate (19%), arts (20%), commerce (23%) and construction (24%). The distribution of enterprises is presented in Appendix 27.

By region, the largest share of enterprises that provided employee training during 2022 was in Zakarpattia (60%) and Poltava (60%) regions, and the smallest in Zaporizhzhia (12%), Odesa (28%) and Chernivtsi (28%) (appendix 28).

According to the survey results, among companies that provided training in 2022, the share of employees who took part in the trainings was, on average in Ukraine, 24%. That is, every fourth employee. The largest share of trained personnel is found in the finance and insurance sectors. It averages 48.1% in the sector, which can be explained by the presence of a significant number of changes in the functioning of the financial system during martial law. Also, a significant share of employees who participated in the training were in the sectors of education (34.1%) and healthcare (29.2%). In these sectors, training/professional development of employees is mandatory and required by the legislation. A relatively high proportion of employees who participated in training was in the information and telecommunications (29.1%). The lowest average share of trained employees is found in the arts, water supply, and real estate, with averages below 15% (fig. 45).

Fig. 45. Average share of personnel trained in 2022 by type of economic activity, %



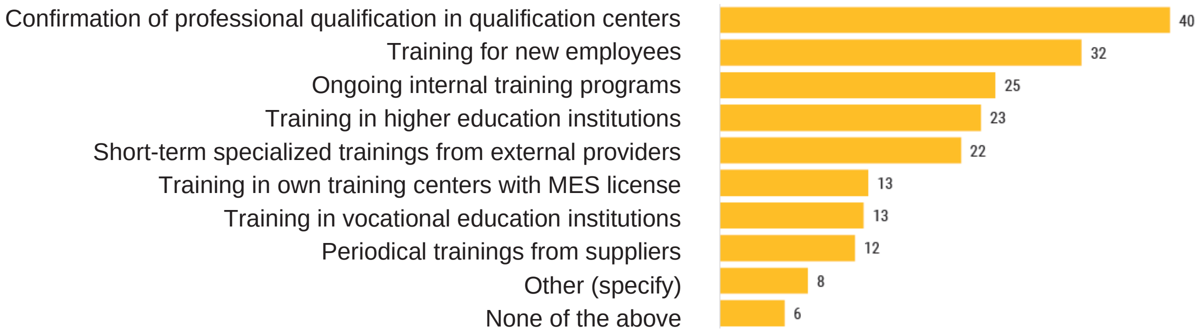
Source: Results of the Employers Survey, 2023

It can be stated that in 2022 the extent of employee training was significantly lower compared to previous years. A significant proportion of companies did not conduct any training at all, and those companies that continued to train their personnel significantly optimized this process. Industry experts noted that employee training budgets had been reduced by an average of 60-70%.

5.2. Main forms of corporate training

Businesses use a variety of forms of training. Most employers use two or more forms of employee training. According to the survey results, the most common form of employee training in 2022 was "confirmation of a full or partial professional qualification in qualification centers". 40% of enterprises indicated that they used it. Almost a third of employers apply mandatory training for new employees (32%), and 24% indicate that they have permanent internal training programs (fig. 46).

Fig. 46. The main forms of employee training used in 2022, %



Source: Results of the Employers Survey, 2023

It should be noted that companies rather recur to higher education institutions than institutions of vocational and technical education. Thus, 24% of companies cooperated with higher education institutions to train employees, and only 13% worked with institutions of vocational and technical education. At the same time, 13% of companies noted that they carried out training in their own training centers. Approximately every fifth company (22%) uses a short-term specialized trainings from external providers (table. 3).

The role of qualification centers should be highlighted among the most popular forms of training. They started operating before the full-scale invasion, but during the war they became widely used. Industry experts note that the introduction of qualification centers has greatly contributed to meeting personnel needs in sectors with a high shortage of personnel. In particular, in the extractive industry, municipal and state-owned enterprises in terms of meeting the needs of housing and communal services.

Table 3. Share of companies that have used a particular form of training

1. Confirmation of qualification in qualification centers	**2. Training for new employees**
1 Extractive industry (52%) 2 Administrative and supporting services (51%) 3 Real estate transactions (50%) 4 Water supply (49%) 5 Healthcare (44%)	1 Finances and insurance (86%) 2 Commerce (60%) 3 Processing industry (58%) 4 Hotels and restaurants (49%) 5 Energy (40%)
3. Permanent internal training programs	**4. Training of employees in higher education institutions**
1 Information and telecommunications (57%) 2 Finances and insurance (51%) 3 Processing industry (48%) 4 Hotels and restaurants (46%) 5 Professional and scientific activities (38%)	1 Healthcare (49%) 2 Education (40%) 3 Professional, scientific and technical activities (23%) 4 Hotels and restaurants (16%) 5 Extractive industry (16%)

[1] Based on the results of monitoring the compliance of the obtained data, it was established that a significant part of respondents (representatives of small and microenterprises) interpreted "own training centers" as training employees directly at the company itself.

End of table 3

5. Short-term specialized trainings from external providers	**6. Employee training in their own training centers, in particular, under licenses of the Ministry of Education and Science[1]**
Finances and insurance (54%) 2 Information and telecommunications (40%) 3 Construction (36%) 4 Hotels and restaurants (32%) 5 Other services (25%)	1 Hotels and restaurants (56%) 2 Transport (21%)) 3 Extractive industry (19%) 4 Construction (19%) 5 Education (15%)
4. Training of employees in vocational and technical institutions	**8. Periodic training sessions from suppliers**
1 Hotels and restaurants (56%) 2 Agriculture (21%) 3 Extractive industry (19%) 4 Energy (19%) 5 Transport (15%)	1 Other services (38%) 2 Hotels and restaurants (35%) 3 Commerce (33%) 4 Finances and insurance (16%) 5 Processing industry (16%)

Source: Results of the Employers Survey, 2023

Training for new employees is widespread. This form of training is most common among financial and insurance institutions, with many mandatory internal standards and guidelines compared to other sectors.

It can be separately emphasized that the demand for employee training services in institutions of higher education is formed mainly by the needs of educational and healthcare institutions. They are quite numerous in the overall employment structure. At the same time, the demand for services of the vocational education is mainly noted in the hotel and restaurant business, agriculture, mining, energy, and transport.

A different perspective of the two-dimensional distribution of forms of training and types of economic activity allows to assess the priority of certain forms of training (table. 4)[2].

Table 4. The most used forms of training for main types of economic activity

Agriculture, forestry and fishery	1. Training of employees in vocational and technical institutions 2. Periodic trainings from suppliers of products or equipment 3. Confirmation of professional qualifications in qualification centers
Extractive industry	1. Training of employees in their own training centers, in particular under licenses of the Ministry of Education and Science 2. Training of employees in vocational and technical institutions 3. Confirmation of professional qualifications in qualification centers
Processing industry	1. Training for new employees 2. Permanent internal training programs 3. Periodic trainings from suppliers of products or equipment
Energy	1. Training of employees in their own training centers, in particular under licenses of the Ministry of Education and Science 2. Training of employees in vocational and technical institutions 3. Training for new employees
Water supply	1. Confirmation of professional qualifications in qualification centers 2. Permanent internal training programs 3. Training of employees in vocational and technical institutions
Construction	1. Training of employees in their own training centers, in particular under licenses of the Ministry of Education and Science 2. Short-term specialized trainings from external providers 3. Periodic trainings from suppliers of products or equipment
Commerce	1. Periodic trainings from suppliers of products or equipment 2. Permanent internal training programs 3. Training for new employees
Transport and logistics	1. Training of employees in their own training centers, in particular under licenses of the Ministry of Education and Science 2. Training of employees in vocational and technical institutions 3. Training for new employees

[2] The table does not show data for sectors with low response rates.

Hotels and restaurants	1. Training of employees in vocational and technical institutions 2. Training of employees in their own training centers, in particular under licenses of the Ministry of Education and Science[38] 3. Periodic trainings from suppliers of products or equipment
Information and telecommunications	1. Permanent internal training programs 2. Short-term specialized trainings from external providers 3. Periodic trainings from suppliers of products or equipment
Finance and insurance	1. Training for new employees 2. Short-term specialized trainings from external providers 3. Permanent internal training programs
Real estate	1. Confirmation of professional qualifications in qualification centers 2. Training of employees in their own training centers, in particular under licenses of the Ministry of Education and Science 3. Training for new employees
Science and vocational and technical activities	1. Permanent internal training programs 2. Training of employees in their own training centers, in particular under licenses of the Ministry of Education and Science 3. Periodic trainings from suppliers of products or equipment
Administrative and supporting services	1. Confirmation of professional qualifications in qualification centers 2. Training for new employees 3. Short-term specialized trainings from external providers
Education	1. Training of employees in higher education institutions 2. Training of employees in their own training centers, in particular under licenses of the Ministry of Education and Science 3. Confirmation of professional qualifications in qualification centers
Healthcare	1. Training of employees in higher education institutions 2. Short-term specialized trainings from external providers 3. Confirmation of professional qualifications in qualification centers

Source: Results of the Employers Survey, 2023

Summarizing the presented data and the estimates of industry experts, it can be stated that the private sector (large, medium, and small private enterprises) mostly solves the problems of training employees by their own efforts: through the organization of training centers, mentoring systems etc. Secondary needs are met through the involvement of service providers and/or external suppliers. The establishment of qualification centers has significantly simplified the possibilities for hiring employees of related professions or simply experienced employees who are able to perform certain types of qualified work. Institutions of higher and vocational education are a part, albeit an insignificant one, of the structure of employee training in the private sector. At the same time, it is very important for the state and some other sectors. In particular, institutions of higher education play an important role in the sphere of education and healthcare, and establishments of vocational (vocational and technical) education are vital for the housing and communal sectors.[3]

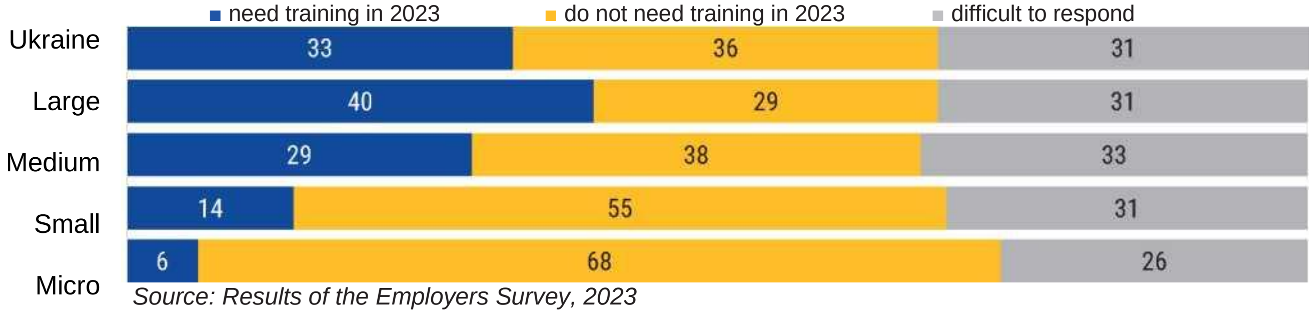
5.3. Prospective needs for personnel training

Assessments of prospective training needs indicate a high degree of uncertainty about the ability and feasibility of conducting training in 2023. In general, only a third of enterprises (33%) state that they will need employee training in 2023. At the same time, almost a third (31%) could not provide answers with regard to

[38] Based on the results of monitoring the compliance of the obtained data, it was established that a significant part of respondents (representatives of small and microenterprises) interpreted "own training centers" as training employees directly at the company itself.

their training plans. Just over a third, but the majority (36%), say they will not need employee training in 2023 (fig. 47).

Fig. 47. Training needs in 2023 by company size, %



Source: Results of the Employers Survey, 2023

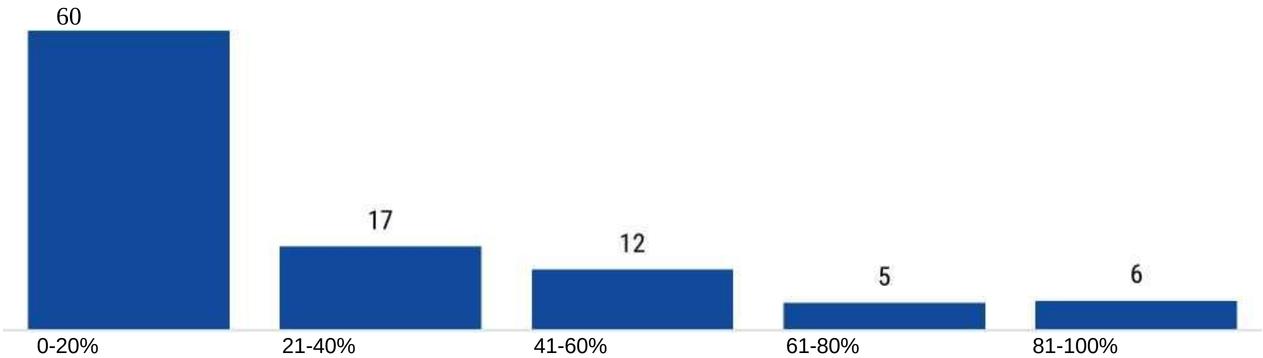
Large businesses are more confident in their employee training needs in 2023. Only in the segment of large enterprises, most of the surveyed companies (40%) indicate that they will need training in 2023. Most medium, small, and micro enterprises do not plan any employee training.

The largest share of companies that will need and provide employee training, is found in the sectors of healthcare (49%), extractive industry (42%), energy (42%) and education (36%). The distribution of prospective training needs by type of economic activity is presented in Appendix 29.

Companies in some of the western and central regions are more confident in the prospects of employee training in 2023. In particular, the largest share of companies planning to train employees in 2023 is found in Zakarpattia region (52%). A significant proportion of companies also plan to train employees in Lviv (44%), Volyn (42%) and Poltava regions (42%). The most difficult situation is observed in the southern Odesa, Mykolaiv and Zaporizhzhia regions (appendix 30).

Estimates of possible training volumes indicate that in most companies (60%), it is planned to train up to 20% of employees. At the same time, the existing segment of companies plans to train a larger share of employees. In particular, it can be noted that 6% of companies plan to train from 81 to 100% of employees in 2023. Such companies exist in all sectors, but their share is particularly high in the information and telecommunications, as well as in finance and insurance (fig. 48).

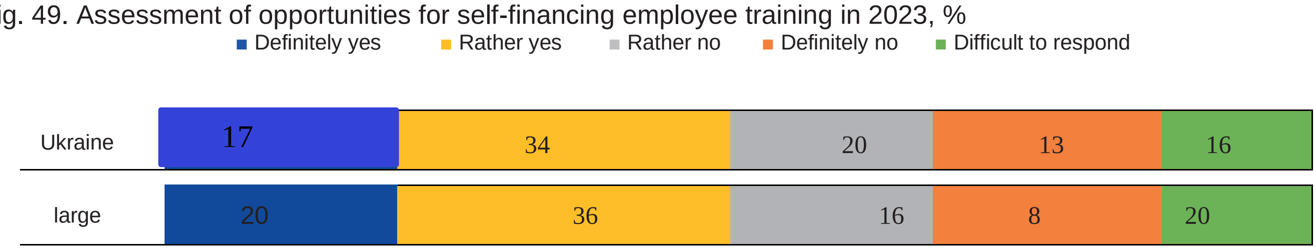
Fig. 48. Planned range of employee training, % of the total number of employees

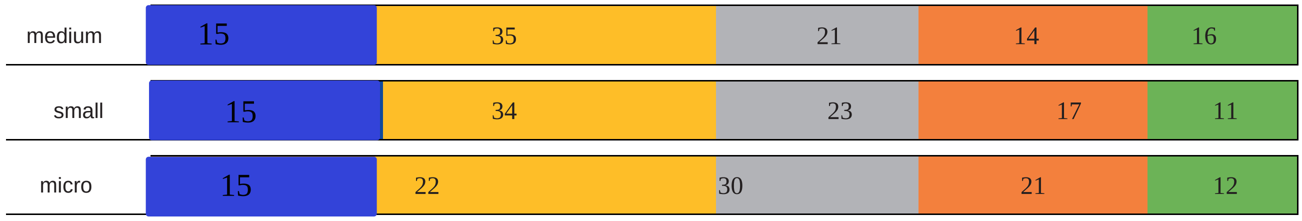


Source: Results of the Employers Survey, 2023

Most companies that will need employee training (51%) in 2023 note that they will be able to independently finance such training. A significant part of them (34%) admits the possibility of problems with the training financing. Same as in the assessments of overall training needs, large companies are in a relatively better situation. Among them, the share of companies that note the possibility for independent training financing is relatively higher than among medium, small and microenterprises (fig. 49).

Fig. 49. Assessment of opportunities for self-financing employee training in 2023, %





Source: Results of the Employers Survey, 2023

At the same time, 23% of companies indicate that they will not be able to finance training, although it is required. And 13% believe that companies do not have any possibilities for self-financing of the necessary training. In the small and microenterprise segments, the share of such enterprises exceeds 50%. The most problematic ones, from the point of view of training financing capabilities, are the sectors of other services, hotels and restaurants, arts and healthcare.

In the regional aspect, possible financing difficulties are mainly indicated by companies of Cherkasy, Ternopil and Volyn regions. The distribution of estimates as to self-financing opportunities by type of economic activity and region is presented in appendices 31 and 32.

In general, it can be stated that, despite the existing training needs, the economic situation of companies significantly limits the ability to train employees. Many companies, especially in the segment of small and microenterprises, have no possibilities to finance training at all. Estimates indicating that there are no training needs for employees are to a large extent caused by the lack of necessary resources. Industry experts estimate that employee training financing is considered an optional expense. Thus, many companies have stopped financing this area in crisis conditions. This situation as a whole will be an additional factor contributing to the retainment of a large-scale shortage of qualified employees on the labour market in 2023 and subsequent years.

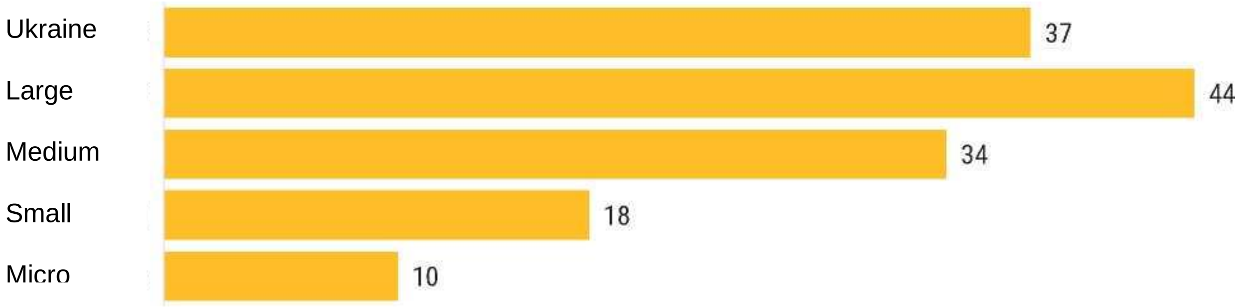
5.4. Cooperation with vocational education institutions

Estimates of the existing cooperation between companies and vocational education institutions show that most companies do not work together with these educational institutions. It is mainly large and medium-size enterprises in sectors with a significant share of vocational professions cooperate with such educational institutions. In general, this situation is traditional for Ukraine.

Numerous studies[39] indicate that in recent years there has been a tendency for the situation to improve and the range of companies cooperating with institutions of vocational (vocational and technical) education to expand. According to the survey results, 37% of companies reported cooperation with such educational institutions. At the same time, the share of companies cooperating with educational institutions in the segments of large and medium-size enterprises is 44 and 35%, respectively (fig. 50).

[39] Companies survey-2022. URL: https://fru.ua/images/doc/2022/EU4Skills_Sectoral_survey.pdf
Labour market of Dnipropetrovsk region in 2021// Dnipropetrovsk Regional Employment Service. URL: https://solidarityfund.org.ua/wp-content/uploads/2022/09/final_dnipro_eu4skills.pdf
Evidence Based Vocational and Technical Education Management // Volyn Resource Center. URL: https://vrc.rv.ua/case_study/vet-based-on-data/

Fig. 50. Cooperation with vocational education institutions by company size, %

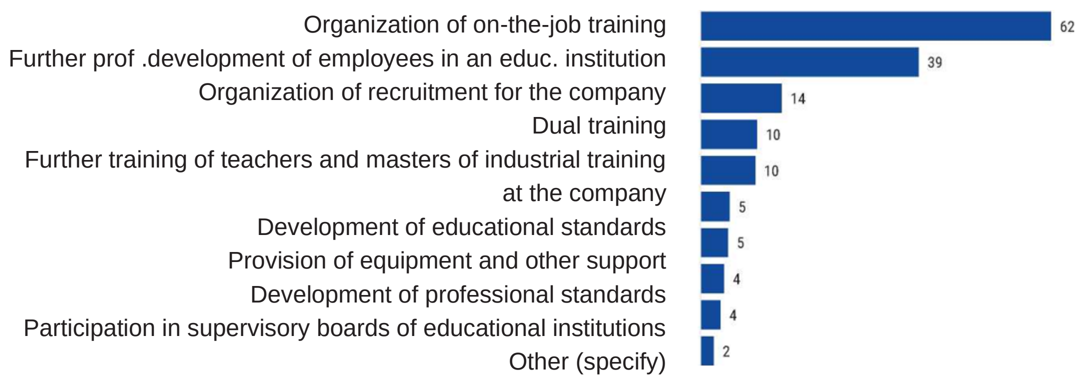


Source: Results of the Employers Survey, 2023

The largest shares of companies' cooperation with educational institutions are in sectors of agriculture, mining and processing industry, energy, and hotels and restaurants. In these sectors, the share of companies cooperating with institutions ranges from 45 to 53%. By region, the largest share of such companies is observed in the Poltava and Volyn regions. Quite many companies cooperate with educational institutions in the Lviv, Rivne and Chernihiv regions (appendices 33 and 34).

The most common form of cooperation between companies and educational institutions is the organization of on-the-job training. It was pointed out by 62% of enterprises cooperating with educational institutions. Also, a significant proportion of companies (39%) indicate that they cooperate in terms of the professional development of employees (fig. 51).

Fig. 51. Main forms of cooperation with vocational education institutions, %

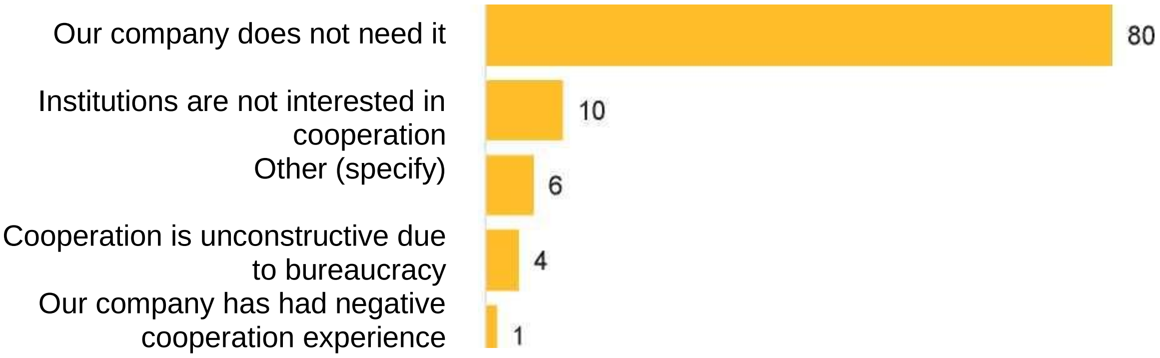


Source: Results of the Employers Survey, 2023

It is worth noting that many companies participate in dual education. According to the received results, 10% of employers are involved in this form of cooperation, which, of course, should be considered a positive trend. There is also an increase in the participation of employers in other forms of cooperation. In particular, this applies to the preparation of educational and professional standards, participation in the work of supervisory boards of education establishments.

The main reason for the lack of cooperation with educational institutions is that most companies (80%) indicate absence of such a need. This situation is mainly due to objective circumstances in certain sectors where the share of vocational professions is very small or there are many small and micro enterprises (fig. 52).

Fig. 52. Main reasons for the lack of cooperation with educational institutions, %



Source: Results of the Employers Survey, 2023

It should be noted that a significant share of companies (10%) indicates that the lack of cooperation is due to the position of educational institutions. According to company representatives, educational institutions are not interested in cooperation. Industry experts explain this situation by the difference in employers' expectations from cooperation and the real capacities of educational institutions and the specifics of legislation. It is in this context that the negative consequences of bureaucratic procedures of cooperation and examples of negative experiences of cooperation between companies and educational institutions are explained.

VI.

STATE AND RECOVERY PROSPECTS OF MAIN SECTORS OF THE ECONOMY

6.1. Agriculture

General information

During 2022, the agricultural sector of Ukraine suffered unprecedented losses, primarily due to the unprovoked military aggression of the russian federation against Ukraine. Agricultural producers on the Azov Sea suffered from direct losses more, together with those in the east of Ukraine[40] temporarily occupied by the russian troops.[41] According to experts, direct losses of enterprises in these territories amount to tens of billions of hryvnias. This is due to illegal seizure and export of grain stocks, in particular seeds; theft and/or destruction of agricultural livestock, equipment and spare parts, fuel, and fertilizer reserves. In most of these territories, the sowing campaign was not carried out due to active hostilities. There is no available information as to the state of companies in the occupied territories. Large agricultural companies, wherever possible, facilitated the evacuation of workers to safer regions of Ukraine.

Significant losses, albeit smaller in scale, were incurred by agricultural companies and farms in the northern regions of Ukraine, in particular Chernihiv, Sumy and Kyiv, as well as the south of Mykolaiv region. Despite the hostilities and temporary state of occupation, companies managed to sow crops. According to expert estimates, from 10 to 30% of the cultivated areas of the previous year remained unsown. Some lands could not be cultivated due to mining both as a result of the invasion of the russian federation and as a result of the arrangement of border lines. Livestock enterprises facing significant difficulties in providing feed, which led to a certain reduction in the number of livestock, faced an even more dire situation.

Undoubtedly, enterprises in all regions were negatively affected by the military aggression. Main factors causing significant difficulties for agricultural companies in 2022:

- the blocking of seaports and significant complication of product sales logistics;
- inflation and problems with getting loans;
- fuel crisis and significant rise in the price of fuel and lubricants;
- rising fertilizer prices;
- energy crisis and problems of crop processing and storage.

These factors generally reduced the profitability of agricultural production and negatively impacted the financial situation of companies and farms. However, the agricultural sector turned out to be the most successful one of the Ukrainian economy. Most of agricultural companies and farms continued their activities without reducing their permanent staff, as well as hired seasonal workers. In the western regions of Ukraine, it is worth noting the segment of companies (10-15%) that were able to increase production volumes compared to 2021. Large agricultural holdings ended 2022 with insignificant volume losses, but this did not actually affect the implementation of investment development plans. According to expert estimates, there was a slowdown in the pace of renewal of the fleet of agricultural machinery, however, at the end of the year, its imports decreased by approximately 30-35%. Given that at the beginning of 2022, 75-80% of companies were already equipped with modern equipment, such figures do not seem critical.

Personnel needs of companies

The general trend in the development of agriculture typical for the recent years is a decrease in the number of employees, which followed an increase in the productivity of machinery and organizational changes in production. At the same time, currently experts do not see any prospects for reducing the number of full-time employees in companies and sometimes emphasize the prospects for the expansion of companies. The issue of selecting qualified personnel is of great importance for agricultures. During 2022, most agricultural enterprises faced problems recruitment. It was caused mainly by mass emigration and mobilization. In 2022, most companies were forced to find

[40] Luhansk region, as well as the north and the east of Kharkiv region.
[41] Kherson region, the south of Donetsk and Zaporizhzhia regions.

a replacement for mobilized employees.

It is noted that large enterprises, in response to the need for prompt replacement of mobilized employees and the inability to fill relevant vacancies quickly, opened internal training/retraining programs for women in certain professions. Examples of training drivers and loader drivers are among the successful cases of companies cite.

In general, the list of current professions remains traditional: tractor drivers, machine operators, repair locksmiths, welders. There has been a shortage of all of them for years. There are also difficulties in selecting employees in professions requiring higher education, in particular, there is a shortage of agronomists and engineers. In animal farming, there is a shortage of veterinarians, animal technicians, and operators of artificial insemination of animals and poultry.

Modern agricultural production poses new requirements for vocational professions, mainly related to the knowledge of new equipment and technologies. The problem of the lack of qualified employees to repair equipment is partially solved by service from suppliers. However, for service companies, the lack of qualified employees is also a very difficult problem, despite the wages that are several times higher than in agriculture.

In general, the specifics of requirements for employees depending on company size were emphasized. Thus, small businesses need a universal specialist with an extensive knowledge of the main areas of agricultural works and skills of working with mini-equipment.

In medium-size enterprises, employees are required to specialize more and have a deeper knowledge of a particular area of work. For example, sprayers require knowledge of automatic control systems (sectional/or nozzle-based), of the technological process of sprayers management and its peculiarities (what kind of wind, what kind of nozzles, what speed, how to maintain sprayer pressure during ascent or descent, etc.).

"...Today a tractor driver must understand the agronomic aspect of performing technological operations, and do it independently, without a supervisor. They must be able to critically evaluate the tasks of an agronomist and explain to an agronomist in a professional way what is wrong or why something cannot be done...».

Large enterprises need specialists in precision farming, autopilots, and navigation systems.

Experts note that the latest agricultural technologies are rapidly spreading in Ukraine and create a demand for workers capable of their implementation and application. In particular, this related to specialists in land surveying, agricultural monitoring (drone and satellite), precision farming, GPS and auto-control systems, drip irrigation, etc.

It is emphasized that the share of young people in companies is insignificant, however, some companies relying on youth have up to 30% of young specialists among their staff. In general, experts point out that the lack of young people in certain ways holds back the spread of the latest highly efficient technologies in small farms, as experienced workers find it difficult to adapt to new computerized technologies.

All enterprises provide personnel training on their own. Medium and large companies have relevant training departments.

The main problem that causes the generally low quality of training of graduates and their inability to comply with the employers' demands is the outdated facilities of educational institutions. "...We have to train graduates, just like anyone from the street...". Experts emphasize the lack of practical training of graduates. Masters of industrial training also lack relevant modern knowledge. In order to solve this problem, experts suggest expanding cooperation of educational institutions with sellers of equipment and, possibly, using the latest training technologies, simulators, etc. It is worth noting the increase in the number of companies participating in dual education. At the same time, educational institutions should actively study the needs of employers and the labour market supply. For their part, employers are ready to promote the introduction of dual education, provide their own training facilities for practice and provide a larger extent of internships.

There is also a need to open short-term courses for training or further training with regard to using mini-equipment (currently, training programs last for 6-8 months). Educational institutions should meet the different needs of small and large farms. For example, the specialization "farmer" should provide complex training, from tillage to harvesting and selling crops. It is advisable to study the technologies of precision farming, navigation, auto-control and specialized spray equipment. In the course of training, it is necessary to provide an understanding of the content of actions and their connection with technology and results. Employers are also not satisfied with the mechanism for ensuring student internships. First of all, this applies to tax norms and indirect costs companies have to incure to provide internship possibilities.

Sector development scenarios

Negative scenario: the war will continue for the next few years. Despite support from the Western countries, the economic situation in the country is deteriorating. Experts are unanimous in their opinion that the only factor capable of slowing down the development of agriculture in Ukraine is the loss of territories. In all other cases, despite difficulties and instability, agricultural companies and farms will continue to operate. This opinion is based on the experience gained in 2022, taking into account the global demand for agricultural products from Ukraine. A possible slight reduction in production volumes will be offset by a corresponding increase in the price of manufactured products. Potentially, the maintaining situation of instability can encourage optimization of the production structure and technologies. Obviously, under the negative scenario, the agricultural sector will retain its role as the main lever for ensuring strategic stability, as well as preserving the production and export potential of Ukraine.

A negative factor of the continuation of the military aggression of the russian federation is the deterioration of the environmental situation in the country, which will negatively affect the production of organic products, which has significant prospects for expanding sales markets in European countries.

"It is difficult to imagine a situation where Ukraine would not be able feed itself..."

Positive scenario: Ukraine wins the war, receives significant economic support and becomes a member of the European Union in a few years. According to experts, the positive scenario will lead to a significant increase in production volumes due to the return of millions of hectares of fertile land, stabilization of the financial situation in the country, in particular fuel and fertilizer prices. At the same time, manufacturers are counting on solving traditional problems and needs of the sector, in particular through:

- cheaper loans;
- measures to ensure the protection and support of small producers in general, and in particular those producing milk;
- implementation of measures to prevent the strengthening of regional and food monopolies, ensuring control of purchase prices;
- tax and market support for animal husbandry and poultry farming;
- promotion of primary and secondary processing of agricultural products;
- stimulating the production of organic products, creating appropriate infrastructure.

Further European integration will have a significant positive impact on agricultural production. First of all, manufacturers expect cross-border logistics to be simplified and cheapened, markets expanded and investment simplified and protected. At the same time, experts point out certain risks, in particular regarding the possible outflow of qualified workers and the need to solve environmental aftermath of the war.

6.2. Extractive industry

General information

In 2022, mining companies continued to operate under difficult conditions, although gradually reducing production volumes. Export-oriented mining and processing complexes lost a significant share of their exports due to the blockade of seaports. Decrease in the internal demand and suspension of the construction of roads and buildings negatively affected the volume of extraction and production of rock, as well as the production of construction materials. Gas production companies were relatively stable, however, at the end of the year, the volume of production was 6% less than previous year. Some companies were able to partially restore production volumes at the end of the year, but this did not change the overall situation by year end. According to expert estimates, production volumes decreased from 50 to 80% in 2022. Mining and processing subsector suffered most, retaining 15-20% of production.

Companies of Donetsk region, which mostly stopped working due to the military aggression of the russian federation, were in a difficult situation. Mining enterprises in the regions adjacent to the zone of active hostilities, in particular Zaporizhzhia and Dnipropetrovsk, faced significant difficulties. Companies suffered a lot of damage as a result of the energy crisis in Ukraine, that resulted from russia's terrorist attacks on Ukraine's energy infrastructure.

However, experts point out that there were no massive staff cuts at mining enterprises during the year. Many enterprises did not look for a replacement for employees who had left due to mobilization. Large metallurgical holdings, owning large enterprises in the extractive industry, optimized their staff and, according to expert estimates, lost up to 20% of personnel, mainly at the administrative level. During short periods of downtime, enterprises continued to pay wages and did not lay off employees.

Personnel needs of companies

As in other sectors, mining companies were forced to search for and select employees, whose numbers decreased due to mobilization and migration. Many enterprises note that a significant part of employees voluntarily joined the Armed Forces of Ukraine in the first weeks of the war. Experts unanimously point out the shortage of main professions in the extractive industry, which has persisted in recent years. In particular, the following professions are concerned: driver, mining master, underground miner, stope miner, sinker, driller, driller's assistant, oil and gas extraction operator, well repairman, electrical equipment electrician and repairman, crane operator, excavator driver, bulldozer driver, diesel locomotive driver, bunkering operator, electrical mechanic (locksmith), locksmith for the repair of technological installations, electric and gas welder, as well as a number of related professions or their varieties.

Companies in the eastern and central regions faced particular difficulties in finding personnel due to the mass departure of people to safer regions. In the western regions, there is a positive impact of migration, which helped to partially meet the demand for employees. Experts note that educational institutions training employees of the required professions are not available in all regions, therefore some enterprises do not have any connections with educational institutions. Large holdings usually have their own training centers and programs for attracting employees to the company and emphasize the low efficiency of vocational education institutions. At the same time, the business promotes development and actively cooperates with educational institutions. In particular, this related to organization of internships, participation in dual education programs, training and internships for teachers and foremen. The business helps with the renewal of educational equipment, training facilities, and the provision of materials etc.

In general, experts note a lack of young people and low motivation to work in difficult conditions, despite relatively high salaries offered in the sector.

Sector development scenarios

Negative scenario: the war will continue for the next few years. Despite support from the Western countries, the economic situation in the country is deteriorating. Experts say that "...in a negative scenario, mining enterprises will continue to operate in survival mode...". There will be a gradual outflow of personnel, both due to continued mobilization, and due to the inability to pay proper wages during downtime. Experts also believe that the domestic construction market will be gradually restored, which will allow some enterprises to improve their situation. Further blockade of seaports, which basically stopped the export of metal and enriched ore (pellets), may lead to a suspension of operations of large mining and processing plants.

Positive scenario: Ukraine wins the war, receives significant economic support, and becomes a member of the European Union in a few years. In the positive scenario, enterprises expect a quick restoration and a significant increase in demand for products. Large companies usually have investment programs for technological development that have been suspended since the beginning of 2022, and they are likely to be implemented in peacetime. Reconstruction will require a significant amount of construction materials and mixtures, metal, therefore companies will actively attract investment to expand production volumes.

At the same time, experts note that reconstruction and economic recovery will increase the shortage of personnel that may hinder development. Experts see a possible solution in further technologization and automation of production, which will require significant investment. Technologization and automation of the mining industry will significantly increase the demand for digital skills and specialists of the new generation. According to experts, such technologies should be introduced in educational institutions for the sake of successful development.

6.3. Food industry

General information

Most companies in food industry continued to operate during 2022, despite difficult conditions. The food industry in Ukraine is very developed and is represented by big companies producing food products of a wide range. The sector includes, in particular, the following categories: sugar, flour, cereal, pasta, meat, fish, canning, dairy, butter, bakery, confectionery, alcohol, wine and brewery. Tobacco production is considered to be part of the food industry too. All these sectors are represented by dozens, and sometimes hundreds, of companies located throughout Ukraine.

Experts note that most companies have cut production volumes, with a reduction of up to 30% by the end of the year. The situation is more difficult in companies of the regions in the territories that were temporarily occupied in the first weeks of the war, namely, the northern Kyiv, Chernihiv, Sumy and Kharkiv regions, as well as part of Mykolaiv region.[42] In companies of these regions, the reduction in volumes could reach 50-60%, and in some cases 80-90%. However, most companies have fully resumed their activities and continue to operate.

In addition to the direct consequences of russia's military invasion of Ukraine, the decline in production volumes is due to a significant reduction in sales markets, a decrease in the household purchasing power, an increase in production costs due to inflation and logistics complications. Enterprises experienced significant difficulties as a result of prolonged power outages due to russian missile attacks on Ukraine's energy infrastructure.

At the same time, experts note that there is a segment in the sector that increased production volumes during 2022. Those were state-owned bread production companies. There are also some cases of new production lines being launched and production expanded following investment projects from previous years. Most companies note that they did not reduce staff: "... most companies carried out maximum optimization during the 2020 crisis caused by covid-19 pandemic, so in 2022 there was actually no more staff left to cut". If there was a decrease in the number of employees, then only at the expense of volunteers or mobilized persons, who were not replaced by hiring new employees. However, most companies continued to search for and hire employees for vacant positions.

Personnel needs of companies

The problems of personnel recruitment in the food industry have been persistent for several years already. The following professions are constantly in demand: process engineers, technologists, locksmiths, electricians and wiremen, production line operators, production line adjusters, sorters, equipment operators, chemical and bacteriological laboratory assistants, dough makers, butter makers, cheese makers, cooks, bakers, confectioners, biscuits, caramelists, boners, etc. A more difficult situation with personnel selection is observed in the eastern regions and in regions close to the war zone, where, in addition to mobilization, the situation on the labour market is negatively affected by population outflow. Some companies in the sector are of strategic importance and can respectively book employees from mobilization. However, experts note that the booking mechanism is rather imperfect, and does not regulate the issue of voluntary entry into the Armed Forces of Ukraine (a significant proportion of employees of the sector became volunteers in the first months of the war).

The solution to these problems is provided through constant training of personnel. All companies have respective departments. Most companies have established ties with educational institutions, but the level of graduates training does not meet the existing needs neither from quantitative nor qualitative point of view. Young specialists who have completed internships, internships and come to work for a company tend to leave quite quickly. Some companies regard turnover and lack of personnel as an additional incentive to upgrade equipment, introduce more efficient and automated technologies. This orientation in a certain way mitigates the problem of lack of less qualified personnel but requires a smaller number of highly qualified employees. Usually, the training of such employees is provided by - equipment providers.

In general, it is noted that in the training of employees in educational institutions for the food industry there are still gaps in the standards of safety, sanitation, and hygiene, as well as labour protection. It is also important for educational institutions to pay attention to computer literacy and blind typing skills. According to industry experts, it is

[42] There are no estimates of the situation in Kherson region.

advisable for educational institutions to pay more attention to the development of individual talents of students and provide opportunities for the development of personal strengths. This approach will contribute to the education of motivated employees, professional ones and dedicated to their work. Educational institutions should, at the beginning of the studies, provide students with an opportunity to gain practical skills in the profession they entered, during on-the-job training, as well as an opportunity to change their profession after completing an internship or try another profession.

Sector development scenarios

Negative scenario: the war will continue for the next few years. Despite support from the Western countries, the economic situation in the country is deteriorating. According to experts, in the negative scenario, food processing companies will keep operating. It is believed that shock first months of the war proved that companies are able to adapt to difficult conditions and have a sufficient resilience potential. The gradual recovery occurring in the second half of 2022 may indicate that even in the face of a power outage, companies are finding opportunities for production. They are also trying to look for new suppliers, new sales markets, etc.

There is no doubt that for some companies, conditions of the negative scenario will become factors of a gradual production cuts, however, according to experts, this process may take several years. Despite the possible slowdown in the pace of development, this will not lead to a mass release of employees, and the shortage of basic professions in the sector will continue.

Positive: Ukraine wins the war, receives significant economic support and in a few years becomes a member of the European Union. The food industry in Ukraine has an extraordinary production and export potential. Thus, in the positive scenario, experts predict a rapid recovery, restoration and acceleration of development rates. Ukraine's accession to the European Union will significantly expand export opportunities of companies and increase investment in the sector. Strategic link of the food industry and advanced agriculture, together with the global demand for food, makes the sector one of the most attractive for investment and development, with opportunities for both large and small businesses. Significant prospects are associated with the development of organic and ecological products.

At the same time, a victorious end of the war and the opening of borders can lead to a resumption of labour outflow that took place before the war began. Personnel shortage will obviously be number one problem, requiring more and more resources to solve.

6.4. Chemical industry

The chemical industry is a sector of the economy that has suffered heavy losses as a result of russia's unprovoked military aggression against Ukraine. The main types of chemical industry in Ukraine are the extraction of natural chemical raw materials (potassium salts, rock salt, sulfur), production of acids, mineral fertilizers and soda, plastics, and synthetic fibers. Donbas was the region with the largest number of chemical enterprises and the biggest ones. Lysychansk, Sievierodonetsk, Soledar, Bakhmut, Avdiyivka, Horlivka, Makiyivka, Donetsk, and Luhansk are cities that were completely destroyed and/or captured by Russia and had dozens of powerful chemical production facilities. It is currently impossible to estimate losses in financial terms, however, it is about hundreds of billions of hryvnias.

Less affected regions with a developed chemical industry are Sumy, Zaporizhzhia, Dnipropetrovsk and Odesa. There are chemical production facilities in the central and western regions. Most companies in these regions continued to operate during 2022. However, the companies' production volumes and overall financial performance have significantly deteriorated. Compared to 2021, production volumes decreased from 30% to 60%. It was caused by disruption in logistics, a sharp curtailment of the domestic consumption market, a general reduction in production, suspended operations of construction companies and a reduction in total construction volumes in most regions of Ukraine. Fertilizer production has also declined. This was due to a number of factors, but experts consider the main ones to be a decrease in the farmers' purchasing power and a reduction in cultivated lands. According to expert estimates, the fertilizer market in Ukraine lost 40-50% in 2022. Companies experienced significant problems due to power outages.

Nevertheless, examples of successful works of companies should be noted too. It can be argued that 2022 was more successful for export-oriented enterprises with foreign investments in the western regions of Ukraine.

In general, the difficult situation in the chemical industry companies has not led to a massive personnel reduction. In most companies, staff were reduced due to the natural turnover and mobilization. As a rule, no new employees were hired to replace retired or mobilized employees. Therefore, overall reduction in the number of employees in the sector (excluding enterprises of Donetsk and Luhansk regions) amounts, according to expert estimates, to 5-7%.

Personnel needs of companies

Main professions of the sector have been in short supply on the labour market for several years. According to experts, significant reduction of the demand for workers for companies in the sector and the general increase in unemployment did not change this situation.

The most common specialized professions of the sector are equipment operators, operators, machinists, laboratory assistants. In particular, these are the following professions: equipment operator, equipment operator for the preparation of raw materials and release of semi-finished products, mixing equipment operator, pilot production equipment operator, operator of the equipment for preparation of chemical solutions, synthesis equipment operator, pyrolysis equipment operator, operator of the equipment for preparation of perfume compositions and liquids, fermentation equipment operator, operator of remote control in chemical production, operator of obtaining polyvinyl chloride compositions, machinist of packaging machines, machinist of compressor units, machinist of pumping units, laboratory assistant of chemical analysis.

Chemical companies need engineers and technologists. Qualified vocational professions are common too, in particular electric and gas welders, repairmen, control and measuring equipment locksmiths, drivers and forklift drivers.

Employers note that companies have their own training centers, and the need to expand the professional competencies of existing employees is solved through their own efforts. Moreover, if necessary, they conduct training for related professions with a view to a certain interchangeability of workers. Companies cooperating with foreign partners have a constant exchange of experience. Some employers at companies have their own qualification commission, evaluating the level of knowledge and sending employees to trainings.

In general, enterprises do not cooperate much with educational institutions and have a meager percentage of graduates among their staff. At the same time, experts believe that the level of training of young people is minimally sufficient, and if a profession has certain specifics, then the company contributes to additional training, internship etc. However, young people are not ready to work in an enhanced mode on a schedule (or in shifts). There is an acute problem of high responsibility, as one of the requirements for working in all professions, which young and even experienced employees do not always agree to.

Almost all companies invest in the additional training of employees. This applies to both young and already experienced workers, therefore attention is paid to all professions: from workers to managers. As for arrangements with educational institutions, most employers have them, but for the most part they are formal in nature. Cooperation is more active with universities than with vocational education institutions.

Sector development scenarios

Negative scenario: the war will continue for the next few years. Despite support from the Western countries, the economic situation in the country is deteriorating. The negative scenario can lead to a gradual decline of a significant number of companies in the sector. However, this process will not be fast and, according to experts, is unlikely. At the same time, it is noted that the experience of 2022 has shown that the companies of the chemical industry have a sufficient margin of resilience. The gradual recovery of the market, starting from the second half of the year, makes experts believe that 2023 will be better than the previous year. Few companies note that they will try to fully resume operations and production volumes in 2023.

In such circumstances, a gradual decline in employment in the sector can be expected.

Positive scenario: Ukraine wins the war, receives significant economic support, and becomes a member of the European Union in a few years. In the positive scenario, the recovery process will begin and last several years, requiring significant investment. First of all, it concerns the restoration of the ruined economy and chemical industry of Donetsk and Luhansk regions. The deposits of chemical raw materials available in these areas will definitely be in demand, and, respectively, the need to restore chemical production in this region raises no doubts.

For other regions, the recovery process will be much faster. Experts say that the chemical industry can grow to the level of 2021 in 1-2 years and, under favorable conditions, grow by 4-6% per year. Increased demand for construction, expansion of cultivated areas will be additional growth factors. Obviously, there will be a shortage of personnel, but at the moment it is not possible to assess its impact on the companies' operations.

According to experts, the European integration, in addition to its undoubted advantages, also carries certain risks. First of all, it concerns personnel and Ukraine's entry into the European environment of competition for qualified staff. Also, European environmental standards and procedures that will have to be met and followed can become a challenge. For some businesses, this may cause certain problems. At the same time, compliance with EU environmental requirements can create a qualitatively new chemical production facility in the east of Ukraine.

6.5. Metallurgy

General information

The metallurgy sector suffered significant losses during 2022. As a result of an unprovoked attack by russia, the metallurgical complex in Mariupol with two powerful enterprises of a full metallurgical cycle, was completely destroyed. They provided the production of millions of tons of cast iron, steel and rolled metal. Those enterprises were among the largest Ukraine's exporters. Direct losses following the destruction of these companies amount to hundreds of billions of hryvnias. The fate of thousands of employees who remained in the temporarily occupied territory remains unknown.

Despite losses in 2022, enterprises in the metallurgical sector continued to operate. According to industry experts, at the end of 2022, production fell to 60-70%, which was due to exports suspension, which accounted for up to 85% of total production. This situation is caused by two main factors. The first is direct losses of production capacities mentioned above. Experts note that despite these losses, the existing production potential could be enough to replace the lost volumes. However, companies in the sector suffered bigger losses due to the second factor, namely, disruption of marine logistics. As it turned out, the lion's share of metallurgical exports was carried out through the ports of Azov and the Black Sea, which became impossible in the context of russia's military aggression. Transportation by rail increases the product costs several times and makes it uncompetitive on international markets. As a result, at the end of 2022, Ukraine reached only 15-20% of last year's production of metallurgical products. Despite this situation, the companies continued to help the Armed Forces of Ukraine all the time and provided the military with important elements of ammunition on an industrial scale.

The circumstances outlined above have had a negative impact on employment in the sector. During 2022, staff optimization was taking place (mainly at the expense of administrative staff). By year end, the number of employees in metallurgical companies decreased by approximately 20%, or by 50 thousand employees. As noted above, the status of thousands of employees of metallurgical companies in Mariupol remains uncertain.

Personnel needs of companies

Staffing is a key issue for companies in the metallurgical sector, especially with regard to industrial workers. Most qualified vocational professions are always in demand at the enterprises of the sector. These are machine operators, service engineers, welders, electricians, wiremen, machinists, fitters, locksmiths, stamp operators of all types. There is a constant need for specialized metallurgical professions: control post operator (steel making and rolling), operator of the equipment for production of molded coke, metal filler, presser of refractory products, roller of cold rolling, sinter, steel melter, steel melter's assistant.

Despite the difficult situation, companies in the sector continued to search, train and hire employees. This was caused by the mobilization and mass departure of workers from dangerous regions. The greatest difficulties with recruiting employees were experienced by companies located in Donetsk, Zaporizhzhia and Dnipropetrovsk regions. This is where most of the powerful enterprises of the sector are located, in direct vicinity of the zone of the most active hostilities.

Since ensuring personnel needs has been the main problem for enterprises in the sector over the past few years, they have had a wide range of programs to attract employees, in particular young people. In 2022, the training of employees continued. Large metallurgical holdings have their own training centers, where they train employees according to all production requirements. Experts note that, despite the insufficient efficiency of training in the vocational education institutions , metallurgical holdings continue to cooperate with them in the most important areas. In particular, this concerns on-the-job training, dual education programs, training and internships for teachers and foremen. Companies contribute to the updating of training equipment, training facilities and the provision of training materials. It is noted that provided the training of young employees in vocational education institutions is sufficiently efficient, the business can become their client and financial partner.

Sector development scenarios

Negative scenario: the war will continue for the next few years. Despite support from the Western countries, the economic situation in the country is deteriorating. Experts point out that the question of whether the metallurgical complex will exist in Ukraine is currently being decided. During 2022, enterprises will mostly worked at a loss, using available reserves, so in the negative scenario and provided that the naval blockade of Ukraine by russia continues, most metallurgical enterprises may stop their operations. Currently, it is known that a partial dismissal of employees has been planned. During 2023, we can expect a reduction of up to 20% in the number of employees.

At the same time, the cessation of exports of Ukrainian metal led to the replacement of Ukrainian exporters on global markets. Domestic demand cannot provide sales volumes sufficient to ensure the profitability of production. Ukraine has already lost its position in the top ten metal exporting countries. In fact, with each week of the naval blockade, Ukraine loses another opportunity to return to the world metal market. If production is suspended for an indefinite period, it is not clear whether it will be possible to resume it for economic and technological reasons.

Positive scenario: Ukraine wins the war, receives significant economic support, and becomes a member of the European Union in a few years. According to experts, the positive scenario will begin with the quickest possible end to the naval blockade and the resumption of metal exports. Currently, enterprises are capable of attracting investment, restoring production capacity and modernizing their production facilities. At the same time, experts note that it will not be possible to meet the demand of large companies for employees solely at the expense of the domestic market in the future. Therefore, the companies will be actively look for opportunities to attract employees on foreign markets. Possible markets are Central Asia, India, etc. In this context, there are also certain important circumstances, in particular, inadmissibility of hiring employees in countries loyal to russia. Therefore, it is extremely important to create all possible incentives for people to return to Ukraine and effectively use and develop the human capital.

Experts note that the stability of antitrust, tariff, tax and customs regulation will contribute to the sector's development. Integration into the European space will undoubtedly contribute to the development and investment attractiveness of the sector. Restoration of the destroyed infrastructure will help increase domestic demand for metallurgical products. Probably, in such a situation, the state will be able to protect its own interests and support the Ukrainian manufacturer.

6.6. Energy

General information

The energy sector of Ukraine is represented by powerful enterprises of nuclear, thermal, hydro and renewable energy, as well as a network of companies providing electricity transmission and many companies of industrial and civil electrical installations. The country has both promising young enterprises (alternative energy, civil electrical installation) and powerful enterprises with a long history.

As a result of the military invasion of the russian federation on the territory of Ukraine and constant terrorist rocket attacks on the energy infrastructure by the russian federation, in 2022 the sector experienced unprecedented losses. More than 100 power engineers in different regions were killed while performing their work due to rocket attacks. Direct losses of companies are measured in hundreds of billions of hryvnias. The russian military have seized and use the largest in Europe Zaporizhzhia nuclear power plant for nuclear blackmail, together with the entire satellite city Enerhodar being held hostage.

However, despite all the difficulties, power engineers of Ukraine continue to work under extreme conditions. The energy system has survived and continues to provide electricity to industries and the population of Ukraine. Throughout the year, power generating and distribution companies managed to quickly eliminate losses caused by shelling. Emergency crews work 24/7.

At the same time, experts note that the financial performance of the energy sector has significantly worsened. It was caused by the cessation of electricity exports, low solvency of industry, business and the population, political decisions on freezing electricity tariffs. The segment of small business suffered quite significantly due to a substantial reduction in the volume of private construction, a decrease in the economic activity of businesses and the household purchasing power.

Emergency and planned power outages throughout Ukraine caused a large increase in demand for low-power power generation facilities from renewable sources. Since the beginning of autumn 2022, the demand for solar panels and their installation, according to expert estimates, has increased several times.

In general, energy companies have modern equipment installed and systematically update it. It causes higher requirements for the competence of employees. At the same time introduction of new technologies in general does not lead to personnel reduction. Experts note that certain equipment is being produced for the energy sector in Ukraine, in particular transformer factories continue operating. However, their products cannot meet the needs of the sector. Prompt elimination of the aftermath of enemy's attacks on energy infrastructure facilities is sometimes impossible due to the lack of such equipment, and its production by demand requires some time.

Personnel needs of companies

Enterprises have a constant need for personnel in most energy and electrical engineering professions. Other vocational professions are also in demand. In general, the share of senior employees is growing. Young people are mostly focused on getting their first experience and mainly plan to go abroad later. Working in the energy sector requires high responsibility and qualifications, therefore employee training takes up to one year. During 2022, most energy companies faced problems with recruitment. The main reason for this was mobilization. In 2022, most companies were forced to find a replacement for mobilized employees. Experts note that it was very difficult to replace the mobilized employees. Nuclear power companies that are of strategic importance could book employees from mobilization. In addition, due to the seizure of the Zaporizhzhia NPP by the russian troops, some of its employees were employed at other nuclear power plants in Ukraine, which generally resolved the problem of finding new employees.

Basic energy and electrical engineering professions are the same throughout all industries, but there is also some specifics.

Below are listed the main professions and those related to them.

1. *Service electrician:*
   - electrician and in charge of small-scale electrical management;

- electrician, welder of low-volume metal structures;
- electrician for maintenance of lighting systems;
- electrician-locksmith, electrician.

2. *Electrician-wireman:*
   - electrician of general (civil) construction;
   - electrician of industrial facilities;
   - vessel electrical and radio engineer;
   - electrician for maintenance of protected equipment.
3. *Cable electrician:*
   - maintenance and repair of cables;
   - maintenance of overhead power lines;
   - cable installer at power transmission companies.
4. *Power equipment electrician:*
   - TP repair and maintenance, equipment distribution foreman;
   - locksmith-assembler of electrical panel equipment;
   - electrical technician;
   - maintenance of electrical equipment of conveyor lines.
5. *Expert examination (ETL, metering and registration devices, sensors):*
   - installer of protection systems (grounding, lightning protection, safety);
   - electrical laboratory operator;
   - installer of metering devices and registration of electrical processes.
6. *Installation and maintenance of solar electrical installations:*
7. *Low-voltage current signalman, installer of security systems:*
   - installer of telemechanics and information transmission systems;
   - installer of information networks and communications;
   - installer of security systems and equipment.
8. *Ventilation, air conditioning and heating systems:*
   - installer of indoor ventilation and air conditioning systems;
   - installer of ventilation, aspiration and smoke extraction systems;
   - repair and maintenance of air conditioning systems;
   - installer of heating systems.

In general, enterprises have a long experience of cooperation with vocational education institutions in the field of training specialists and workers. Some educational institutions used to be a part of enterprises. Therefore, most enterprises provide practical training for students and, in some cases, for masters of industrial training. However, there is an insufficient level of training of young people. Grades assigned in an educational institution does not always correspond to the actual level of training.

Experts note that, regardless of the level of training of a particular graduate, companies always provide additional training, internships, or mentoring. At large enterprises, there are training centers that are successfully functioning.

Experts consider electrical engineering to be in a more critical condition. It is noted that a significant proportion of graduates come mainly from a "clean slate". In the same graduation year there can be both graduates with a zero level of training and those who are already practically experts. Apparently, educational institutions are able to provide an appropriate level of training for those who really want to study. Experts unanimously point out that the main problem of training is the motivation of young people to get a v vocational profession, to study and work. In general, graduates lack practical training, but at the same time they need a better theoretical background. In particular, in terms of the theory of electrical engineering, reading diagrams and technical documentation, safety and on-the-job safety.

Sector development scenarios

Negative scenario: the war will continue for the next few years. Despite support from the Western countries, the economic situation in the country is deteriorating. Experts agree that the 2022 tests proved a high margin of resilience of the Ukrainian energy system. Businesses have learned to respond quickly to extreme challenges. At the same time, the strategic importance of the energy sector, government and international support will contribute to a stable operation of enterprises in wartime. Experts are convinced that Ukraine will be able to ensure safe operation of nuclear power plants and will gradually restore temporarily lost power generating capacities. The decisions taken to diversify distribution and supply networks will also contribute to the stable operation of the energy system in the face of continued missile attacks.

The continuing unstable situation will encourage an increase in the number of (individual) low-power solar and wind stations.

Positive scenario: Ukraine wins the war, receives significant economic support, and becomes a member of the European Union in a few years. According to experts, the positive scenario, will lead to a rapid recovery of the sector, a significant increase in electricity production and the resumption of its exports. The rapid development of renewable energy in the last year will obviously continue, so in general, an increase in the share of green energy in the overall structure of the energy industry can be expected.

Undoubtedly, the restoration of destroyed power generation facilities and energy infrastructure will require significant capital investments. However, the restoration will allow for a significant technological upgrade and general enhancement of energy efficiency.

Further European integration will have a positive impact on the energy sector. Experts note that the integration of the Ukrainian and European energy systems has already taken place, therefore Ukraine's potential membership in the EU will help increase the profits of companies in the sector together with investment in the development of the sector. However, experts also point out certain risks, in particular regarding the possible outflow of qualified employees.

6.7. Furniture production

General information

In Ukraine, furniture production is one of the sectors that was rapidly developing and had significant export and investment potential. This is primarily due to substantial timber resources in Ukraine, a developed woodworking sector providing relatively cheap, high-quality, and eco-friendly material. This enables production of goods in demand that can compete on the European market. The sector is represented by numerous small businesses, as well as a number of medium and large export-oriented companies. The overall structure of the sector has four main segments.

1. *Production of plywood, sanded and laminated particle boards.* This segment is represented mainly by large exporting companies producing basic materials for manufacturers of serially produced cabinet furniture.
2. *Mass production of upholstered and cabinet furniture (in particular, furniture and equipment for the food industry and retail, bathrooms, etc.).* This segment is represented by both large and small enterprises mainly producing upholstered, cabinet, and special furniture and equipment. Large companies in this subsector are mainly focused on exporting their products to EU countries. Medium and small companies work mainly for the domestic market.
3. *Individual design projects of furniture and related decorative elements (stairs, railings, fences).* This segment is mainly represented by small companies developing and/or producing individual orders: from individual interior elements to complex equipment for premium hotels and restaurants. This subsector comprises individual producers of tailor-made furniture, manufacturers of certain elements, and their suppliers.
4. *Production of other wood products and related furniture products furniture (doors, windows, metal accessories and decorative elements, mirrors, lighting devices, etc.).* This segment comprises manufacturers of products used in the production of furniture and other wood products. In Ukraine, this segment is mainly represented by small and micro companies that perform works for the manufacturing and installation of the products mentioned above.

During 2022, the domestic market and small producers oriented at local consumers suffered the greatest losses. According to experts, due to a significant decline in purchasing power, they lost 40-60% of production volumes compared to 2021. In the regions more affected by the war, there is an increase in demand for the work of window makers and glaziers. At the same time, many companies manufacturing goods for export, despite all the difficulties, power outages, etc., continued to operate and successfully export products. Thus, according to expert estimates, the volume of furniture exports in 2022 decreased by 30% but was 10% more than in the pandemic 2020. Experts explain this situation by a complete cut-off of trade with russia and Belarus, with a total share in exports before the war of 2.0–2.5%. Due to complicated logistics, exports to Kazakhstan and the Middle East have significantly decreased.

Despite all the difficult circumstances, companies did not cut personnel. In the first weeks of the war, the mass departure of people abroad greatly aggravated the personnel problem. However, within 3 months, most of the employees who had left returned to work at their companies.

Personnel needs of companies

In general, staffing is one of the main problems for the woodworking and furniture manufacturing sectors. The most numerous professions in the sector are the following: woodworking machine operator, auxiliary worker, seamstress, furniture assembler, packer, furniture upholstery maker, parts and products assembler, wood products assembler, wood polisher, software-controlled machine operator.

During 2022, difficulties with personnel recruitment were caused by the mass departure of people abroad and mobilization. Enterprises could not book employees, so quite a lot of qualified specialists were subject to the mobilization. In response to the lack of personnel, companies often retrained women in typically male professions. There are successful cases in the professions of machine operators, furniture assemblers, and sorters.

There has been a shortage of employees in the sector for more than one year. This is especially true for professions involving work with modern computerized equipment. It is worth noting that enterprises of different production segments have both common and somewhat different personnel needs.

Common to all enterprises of the sector is the need for machine operators of woodworking machines and the main vocational professions (locksmith-repairman, locksmith-adjuster, electrical equipment electrician and repairman, electric and gas welder).

Let us have a look at specific professions for different production segments.

1. *Production of plywood, sanded and laminated particle boards.*
   - drying machine operator;
   - lumber stacker;
   - saw sharpener;
   - sawmill operator;
   - slinger;
   - forklift driver.
2. *Mass production of upholstered and cabinet furniture (in particular, furniture and equipment for the food industry and retail, bathrooms, etc.):*
   - furniture designer;
   - technologist;
   - project manager-cost estimator;
   - furniture upholsterer;
   - seamstress.
3. *Individual design projects of furniture and related decorative elements (stairs, railings, fences):*
   - furniture designer;
   - technologist;
   - project manager-cost estimator;
   - carpenter.
4. *Production of other wood products and related furniture products furniture (doors, windows, metal accessories and decorative elements, mirrors, lighting devices, etc.):*
   - furniture designer;
   - glazer;
   - electrician;
   - blacksmith.

In general, experts note that the system of vocational and technical education can only partially meet the needs of employers. First of all, this is due to the existing technological gap. Educational institutions are not equipped with equipment used in modern manufacturing. Individual educational institutions of Rivne region are an exception, where the latest equipment was purchased following implementation of an international project.

Most of all, graduates lack practical training and skills to work with modern equipment and tools. There is also a lack of skills in working with technical documentation, technological maps, diagrams, as well as skills of reading drawings. Most graduates coming to the production companies do not have an understanding of modern technological, production and organizational processes. According to experts, development of the education system does not meet the requirements of business and the speed of change. It was noted that quite often it was necessary to continue training graduates at production facilities for the next 4-5 months, because they lack not only professional knowledge, but also motivation to work. There are cases of irresponsible attitude to work too. Graduates, after completing their internship, mostly do not stay at the production facility.

Experts provided quite critical assessments with regard to the qualifications of teachers and masters of industrial training. Companies accepting students for industrial practice noted that the masters visit production facilities and get acquainted with production processes and equipment. However, there is no systematic professional development of teachers and masters of industrial training.

The expert assessment shows that the education system does not meet the needs of business either in quantitative or qualitative aspects. Most graduates lack the necessary level of knowledge, skills, understanding of the professional sphere and motivation. Accordingly, it is necessary to continue training of new employees of any age at production facilities. Employees are instructed, trained, and so on. Companies can hire people without special education, because sometimes it is necessary to provide the same training for everyone.

Additional training and professional development are usually provided by equipment and tools suppliers. This is since most often the need for additional training arises when purchasing new equipment. In most cases, training is provided in the company, but sometimes it is conducted at the supplier's facilities, in particular, abroad.

In the expert community, there is an understanding of the need for cooperation of business with educational institutions. At the same time, in practice, even though there are individual instances of interaction between employers and educational institutions, such cooperation is not systematic. In most cases, cooperation between companies and educational institutions is based on informal ties between the company executives and heads of these institutions. This applies to both vocational and technical and higher education. The main form of interaction is the organization and completion of practical training in companies. However, the share of companies accepting students for on-the-job training is very small: for the most part, educational institutions cooperate with 5-6 enterprises. This are usually companies located in the vicinity of an educational institution.

In recent years, the Ministry of Education and Science has recommended that educational institutions actively engage employers in the management of these institutions and the formation of curricula. Despite some positive examples, such cooperation is mostly formal in nature. In most cases, the cooperation does not bring anything to employers except additional costs and risks. In the course of discussion, it was found out that most employers refuse to accept students for on-the-job training due to significant legal restrictions.

According to experts, there are several key problems for establishing cooperation between businesses and educational institutions. First, the facilities of educational institutions are extremely outdated. Second, there are no programs for training employees of the required specializations. Third, students are not sufficiently trained for the purposes of large companies. Experts also identify bureaucratization of educational institutions in terms of changes in the educational process and imperfect legislation with regard to organizing internships as a significant problem.

Sector development scenarios

Negative scenario: the war will continue for the next few years. Despite support from the Western countries, the economic situation in the country is deteriorating. Experts are unanimous in their opinion that the results achieved in 2022 prove that the furniture manufacturing sector will continue to develop actively. Gradual recovery of the domestic market and the expansion of the list of exporting manufacturers will allow at least to maintain the results for 2022. Certain negative phenomena may take place, such as the slowing down of the pace of equipment upgrades or smaller investment projects. However, they will not have a significant impact on the overall level of production. Experts believe that under such circumstances, there will also be a shortage of employees, primarily due to mobilization.

Positive scenario: Ukraine wins the war, receives significant economic support, and becomes a member of the European Union in a few years. The positive scenario will give an impetus to the sector's rapid development. According to the expert estimates, the sector as a whole has significant potential for development. In the pre-war years, the sector grew by up to 11% per year. In the context of economic recovery and reconstruction of Ukraine, as well as construction boom, the domestic market should significantly grow. All this will contribute to further technological development, automation and informatization of the main production processes. At the same time, experts emphasize further increasing importance of creative professions. In the long run, this will significantly exacerbate the existing skills imbalance on the labour market.

Expanding export opportunities will contribute to the growth of companies' profits, which will allow them to pay salaries competitive in the EU, and this will allow to retain personnel in Ukraine.

6.8. Construction

General information

Production volumes in the construction sector decreased significantly in 2022. Since the beginning of the unprovoked russian attack, virtually all construction companies in Ukraine have suspended their work. Experts note that the period of complete shutdown of construction lasted (depending on the region) from 1 to 5 months. At the very beginning of a full-scale invasion, most of the construction companies reoriented towards supporting the Armed Forces of Ukraine, built fortifications, provided tons of crushed stone and sand, concrete blocks, and metal floors. Anti-tank hedgehogs were being produced en masse. Many employees voluntarily joined the ranks of the Armed Forces of Ukraine or were mobilized.

Approximately from mid-summer 2022, the sector started resuming its work. At the same time, for most eastern, central, northern and southern regions, the share of sites where work was suspended amounted from 50 to 80%. Following the liberation of the northern regions, the construction sector gradually intensified its activities. In the western region, the situation was much better and there was an increase in demand for construction work. Inflation and a significant increase in the price of construction materials had a very negative impact on operations in the sector. The losses of large producers of building mixes in Donetsk region and the complication of logistics for some time forced companies to find suppliers from other countries.

According to experts, at the end of the year, construction volumes in Ukraine decreased by 60-70%. Experts also note that during the first months of the war, most companies continued to pay salaries to employees, despite the downtime. Since the beginning of the summer, companies that did not resume operations sent employees on unpaid leave, which caused them to quit. However, most companies tried to optimize work on the sites and transferred employees from suspended ones to those in operation, thereby preserving personnel. However, experts note a reduction in employment in the sector at the level of 15-20%. Probably, a tendency of personnel outflowing from large companies in the eastern and central regions to small enterprises in the west of Ukraine can be pointed out. Many employees of construction companies were mobilized.

Personnel needs of companies

For several years, there has been a significant shortage of personnel in the construction sector. Despite the shutdown of many companies, search of personnel remained a pressing issue for the operating ones. The main reasons were mass migration and mobilization. A significant part of employees who did not work in their places of residence were forced to return to their families and often moved to safer regions. Employees of construction professions were in high demand in the Armed Forces of Ukraine. Thus, since the beginning of the summer, companies have been actively looking for replacement of mobilized employees.

The most numerous professions in the sector are the following: drivers, auxiliary workers, contractors, road workers, electric and gas welders, masons, concrete workers, steel and reinforced concrete structures installers, engineers and painters.

Experts note that most new employees are trained in the process of work. Another common practice is conducting trainings and master classes from manufacturers and suppliers of materials. It is noted that there is no well-established systematic cooperation with vocational education and higher education institutions. In the past, some companies tried to organize internships for students at their facilities but were forced to stop this process due to the complexity of ensuring labour safety and liability in case of injuries. Following successful projects with interns, very few of them come back to the workplace.

In general, experts note that there should be a link between educational institutions and employers. First of all, this will help students gain practical skills, as during their studies they cannot get acquainted with most of the materials and equipment due to a lack of funding in educational establishments.

Experts note that to improve the quality of training, it is advisable to provide students with an understanding of technological process of construction work, the importance of observing the rules of safety and labour protection, as well as to provide basic knowledge of materials science and the use of measuring instruments.

Sector development scenarios

Negative scenario: the war will continue for the next few years. Despite support from the Western countries, the economic situation in the country is deteriorating. Reduced investment will become the most obvious consequence of the continuation of the war for the construction sector. Probably, in the coming years, companies will look for opportunities to complete the projects they started. At the same time, the demand for construction services for the restoration of damaged housing and civil infrastructure will increase. In general, the sector may annually lose 10-15% of its current volumes.

According to experts, in the negative scenario, the share of large companies and large construction projects in the sector will decrease, as opposed to an increase in small businesses and projects.

Positive: Ukraine is winning the war, receiving significant economic support, and in a few years becoming a member of the European Union. In the positive scenario, the construction sector will become the main one for investment. At this time, it is clear that given the scale of destruction, reconstruction will require billions of dollars of investment. However, for this process to be effective, first of all, it is necessary to ensure transparency in the formation of recovery programs.

Additional incentives for the development of the construction sector should be an adequate mechanism and size of compensation for damaged or destroyed housing, as well as the development of mortgage lending. It would be understandable and appropriate to introduce certificates for the construction of housing for the military and the veterans.

Further European integration may complicate the work of construction companies in a certain way because they will have to implement modern European standards of environmental friendliness and safety of construction. This is what will probably change the face of Ukrainian cities over time. Experts note the problem of construction waste as a very important one. Now it is difficult to estimate its volumes in completely destroyed cities and towns. It is obvious that this problem requires a balanced approach and some standardization.

Experts agree that realization of the positive scenario will significantly increase the demand for construction workers and will increase the shortage of personnel on the labour market. Expected demobilization can only partially contribute to the solution of this problem. In addition, the opening of borders with the EU will resume the departure of workers abroad. In such circumstances, experts consider it necessary to introduce substantial incentives for companies with regard to possibilities of bringing the level of wages in construction to the average European level. Another important factor is the simplification of recruitment procedures for citizens of other countries.

6.9. Commerce

General information

Commerce is one of the strongest sectors of the economy in Ukraine, providing employment for more than 20% of citizens. During 2022, retail facilities faced significant difficulties, however, it can be stated that at the end of the year, the sector was one of the most stable and successful ones. Companies in the regions most affected by the russian aggression experienced particular difficulties. Direct financial losses from the destruction of retail facilities, destruction and theft of product stock, transport, household appliances, tools, etc. amount to tens of billions of hryvnias.

Significant increase in the price of fuel and the suspension of sea traffic became huge problems for companies in the spring of 2022. This led to a rather long period of adaptation for companies to new conditions, which, according to experts, lasted up to three months. During this period of uncertainty, a small part of companies suspended their operations. However, most companies were actively establishing new logistics chains, looking for new suppliers, and reviewing purchase volumes. Apparently, the sector of commerce was most negatively affected by the general decline in economic activity of companies, as well as the mass departure of citizens abroad and a significant decrease in the household purchasing power. At the same time, in safer regions, to which people from the territories of active hostilities went en masse, there was a significant increase in demand and, accordingly, sales of a wide range of goods. Certain economic losses in the first months of the war were suffered by producers and sellers of alcohol due to the introduction of a ban on its sales.

In general, since the beginning of summer 2022, the sector of commerce has started to work steadily in most controlled territories. It is noted that the overall drop in demand for certain groups of goods ranged from 20 to 90%. For example, the market of new cars decreased by 61%, for some brands – up to 87%. At the same time, sales of generators and inverters, batteries, and solar panels increased several times.

Retail facilities experienced significant difficulties due to the energy crisis and power outages. Prompt provision of companies with alternative power sources required both investment and additional financial costs from them. Thus, according to retailers' estimates, having a supermarket switch to generator power increases electricity costs by 6 times. Some retail chains even opened new retail facilities and stores.

In general, it is noted that despite the difficult situation at the beginning of the war, companies did not dismiss employees and paid salaries even during periods of downtime. Large retails companies helped evacuate workers to safe regions and provided them with jobs and housing. However, due to the temporarily occupied territories, the sector lost 10-15% of employment.

It is worth emphasizing the support of the Armed Forces of Ukraine provided by companies in the sector. They provided a full range of general and special goods that the military needs in the rear and on the front line. A significant part of the sector's employees joined the ranks of the Armed Forces of Ukraine.

Personnel needs of companies

During 2022, retail businesses continued to hire employees. In general, experts note that the sector is characterized by high staff turnover. However, in 2022, recruitment was quite difficult, especially for the eastern regions and regions close to the active combat zone. This is due to the general decline in the population in view of the mass departure of people. Moreover, companies had to search for employees due to mobilization. In this regard, companies had difficulties with finding drivers, loader drivers and loaders.

The most numerous professions in the sector are the following: seller of food products, seller-consultant, seller of non-food products, operator of gas stations, cashier of sales room, driver of motor vehicles, sales manager, storekeeper. Experts note that the process of finding employees in these professions is quite complicated, so some companies cooperate with educational institutions. However, most companies consider this such cooperation impractical.

Most companies train their employees according to certain work standards, and the general level of qualification from employees of mass professions is not particularly required. For companies selling some particular products, employees (sales managers) are usually recruited from higher education institutions of the appropriate profile (agronomists for the sale of fertilizers, doctors for the sale of medicines). However, for such companies, employee training is mandatory.

Sector development scenarios

Negative scenario: the war will continue for the next few years. Despite support from the Western countries, the economic situation in the country is deteriorating. Experts are unanimous in their opinion that commerce will continue working even if the economic situation worsens. The experience of 2022 shows that companies can quickly adapt to new conditions and find opportunities for growth in very difficult conditions. There is no doubt that the most negative factor for commerce is the decline in household incomes and, accordingly, purchasing power. However, even a prolonged continuation of the war will not lead to a rapid decline in commerce in Ukraine. According to experts, provided no territories are lost, retails companies will be able to continue working in the 2022 mode.

The sector's personnel problems will also remain traditional. At the same time, further development of e-commerce and implementation of self-service systems, etc. can be expected.

Positive scenario: Ukraine wins the war, receives significant economic support, and becomes a member of the European Union in a few years. In the positive scenario, the commerce sector will develop rapidly. Recovery of the economy as such, restoration of the liberated territories, return of the population, the opening of sea trade routes and significant investment in Ukraine are the factors that will stimulate the development of commerce in Ukraine.

The process of European integration will also contribute to the development of commerce through the simplification of customs procedures and logistics. At the same time, the sector's personnel problems will also remain traditional. As in the negative scenario, further development of e-commerce and the introduction of self-service systems, etc. can be expected.

6.10. Transport

General information

As for the entire Ukrainian economy, 2022 turned out to be a year of shocks and trials for the transport sector. However, despite all the losses and difficulties, most companies in the sector were able to adapt to new conditions and continued to work, sometimes with risks to the lives of employees and passengers. Railway transport, as befits a strategic industry, continued to operate smoothly carrying out passenger and cargo transportation.

The biggest losses of the sector were: the full stop of air transport and significant damage to aviation infrastructure, virtually complete termination of sea traffic, significant destruction of railway infrastructure, significant losses of rolling stock in public transport (for example, the theft of a trolleybus fleet by the russians in Kherson), looted transports companies in the temporarily occupied territories, etc. According to the estimates provided, "...the amount of documented damage caused to the transport infrastructure of Ukraine in 2022 is 40-45 billion. ...over 20 thousand km of roads and more than 300 bridges were damaged or destroyed...". Significant increase in fuel prices, interruptions in its supply, power outages and instability, and overloaded border checkpoints had a negative impact on the activities of companies.

Experts point out that at the end of the year, the volume of air traffic decreased by 90-95%, sea – by 80-90%, railway – by 40-50%, and automobile – from 15 to 25%. However, according to experts, there were no massive cuts personnel reductions in the sector.[43]

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[43] The estimate does not take into account aviation companies the data for which could not be obtained.

Since the beginning of the war, transport companies have provided different support to the Armed Forces of Ukraine. In particular, thousands of pieces of equipment, fuel and lubricants, spare parts, etc. were repaired and provided to the Armed Forces of Ukraine. Many employees voluntarily joined the ranks of the Armed Forces of Ukraine or were mobilized.

Personnel needs of companies

Statistically, the most numerous professions in the sector are drivers, together with the main railway and post office professions. They are, in particular, postman, postal operator, track fitter, engineer, communications department head, locksmith for the repair of rolling stock.

All major professions in the sector are in high demand from companies and are in short supply on the labour market. In addition to the above, such professions as locksmith, machine operator, turner, and milling machine operator remain problematic. Among railway professions, there is a shortage of locomotive and electric locomotive drivers, railway transport mechanics, track fitters. It is impossible to train staff in some of the listed professions, and such specialists are trained only in a few institutions throughout the country. It is in these professions that the share of people of pre-retirement age is the largest.

During 2022, companies hired employees mainly due to the need to replace the mobilized ones. In the public transport sector, it was noted that the closure of borders and the possibility of booking employees from mobilization contributed to filling traditionally problematic vacancies: locksmiths, welders, electricians, category D drivers.

It is noted that in the field of logistics, logistics specialist is a profession in demand. Promising professions in the business environment are SMM and content manager, online marketer. The profession of "cross-logistics operator" is noted separately, involving the selection of an optimal method of cargo delivery and transportation of people by various modes of transport.

Experts note that graduates of educational institutions have to be additionally trained. They lack practical skills. It is advisable to revise the distribution of theoretical and practical training in educational institutions in favour of the latter.

The following is important for training in all professions in transport and logistics:

- understanding of the organizational logic of the production process, its relationship with the level of remuneration;
- basic knowledge of business organization, performance indicators;
- basic computer literacy;
- increased level of motivation and responsibility;
- time management skills;
- language proficiency;
- knowledge of transport legislation, permits and supporting documentation;
- conflict-free (conflict management skills).

It is advisable for educational institutions to contact employers more often to update their curricula in accordance with the current needs of employers. But the most acute problem is low motivation of graduates: "...it's not that educational institutions do not teach anything, because those who want it, will get a sufficient level of knowledge, but the problem is that most do not want to study at all...". Experts note that young employees mostly do not stay in companies: "...they run from company to another, and having gained some background and experience, they look for a better life abroad."

Sector development scenarios

Negative scenario: the war will continue for the next few years. Despite support from the Western countries, the economic situation in the country is deteriorating. According to experts, the transport sector will not stop operating, but will develop despite possible difficulties. For the past 2022 transport companies were able to adapt to the new conditions and increase traffic volumes. During the year, new logistics chains were formed, that will continue to operate. Experts are convinced that it is simply impossible to imagine a deeper drop in traffic volumes than the country had at the beginning of 2022. Thus, even if the war continues, the sector will gradually grow.

The personnel needs of companies will probably increase due to a gradual growth in transportation volumes and further mobilization, and personnel shortage will continue to augment on the labour market.

Positive scenario: Ukraine wins the war, receives significant economic support, and becomes a member of the European Union in a few years. In the positive scenario, the transport sector will quickly reach its pre-war level and begin to develop rapidly. Overall economic recovery, renewal of sea and air traffic, restoration of transport infrastructure altogether will undoubtedly contribute to the sector's development.

The experts found the prospect of re-equipping the railway to meet the European rail standard controversial. It is noted that such re-equipment is far from being implemented, but in general is possible. The following will be important areas of updating the transport sector: rapid spread of transport automation (in particular, metro and trams) and further digitalization of the sector.

There are risks of growing personnel shortage due to the opening of borders and the return of many employees who work abroad. In this case, it will be, of course, necessary to provide possible incentives for salary increase in the country.

6.11. Hotels and restaurants

General information

Overall, the hotel and restaurant service were one of the most dynamic in Ukraine in terms of the intensity of development and investment level. Many establishments were opened, and there was a rapid technological development. The sector experienced significant difficulties during the COVID-19 pandemic, however, experts noted that the 2020 crisis has made companies in the sector more adaptive. In response to the challenges caused by the pandemic, the companies in the sector have developed methods of optimizing their work and continued to actively expand remote ordering and delivery systems, introduce European sanitary standards, and so on.

In 2022, companies in the sector also experienced many difficulties related to the overall decline in consumer demand. However, in most regions, companies continued to operate. There are also direct asset losses as a result of russia's aggression against Ukraine. First of all, losses of companies are noted in Donetsk, Luhansk, Kherson, Kharkiv, Chernihiv, Sumy regions and in the south of Zaporizhzhia region. The complete suspension of activity of the sector in these regions in the first months of the war was offset by a migration increase in the number of people in all western regions and a certain increase in demand. Some companies in the West were able to complete a number of investment projects to open establishments or new facilities.

It is noted that companies in the sector actively help the military and refugees, providing free meals and temporary accommodation for those who need it.

Overall employment trends in the sector are very difficult to estimate. Operating companies indicate that they have not actually reduced the number of employees. At the same time, there are companies in all regions that have suspended their activities. Work of most companies in the eastern, northern, and southern regions that were under temporary occupation, in fact, completely stopped. Given these circumstances, experts are inclined to estimate that during 2022, the sector as a whole lost 20-25% of jobs.

Personnel needs of companies

Traditionally, the sector is characterized by high staff turnover. Businesses are mostly staffed by young people, predominantly students who usually don't stay at a company for a long time. Thus, waiters, bartenders, cooks, and pastry chefs are always in demand on the labour market. Most often, companies in the sector face problems with finding experienced and highly qualified employees. "...There are a lot of chefs, but it is very challenging to find a qualified one... and it is difficult to provide an appropriate salary." This is usually due to the demand for employees with unique work experience and specific skills. Educational institutions do not train specialists, for example, of Oriental or molecular cuisine. "...And in the traditional segment of 'borscht', you may fail to find a client.". Similar situation is noted by experts with regard to confectioners. Another no less urgent problem companies face is finding electricians, locksmiths, turners, welders. However, these problems are not critical. All employers note that they train employees on their own, even without basic education. Employers are also continuously working on personnel development, organizing master classes for them, and attendance of exhibitions. Most businesses provide training for employees according to the standards of the establishment.

Experts also noted that a certain share of staff was subject to mobilization. Experts also note difficulties with resuming work by those who were demobilized.

A common problem noted by experts is the low motivation of young people to work. Another common problem is an irresponsible attitude of young employees to their work, and sometimes obvious violations of labour discipline (alcohol abuse, mistakes in client bills, embezzlement of funds, etc.). Apparently, working in the hotel and restaurant business is perceived by young people as a low-prestige, temporary form of additional earnings. Experts also note the fact that most companies do not even consider employing older people, without taking into account that the generally accepted standard of the industry, especially in European countries, is the rule: "the more prestigious an establishment, the older the waiter."

Experts mainly believed that the quality of training of young professionals mostly does not meet employers needs, however, there is positive dynamics in the level of training. Graduates of educational institutions obviously lack practical training. Very often, educational institutions do not know the requirements put forward by employers for professional training or point out that it is impossible to comply with them. Experts noted that for most employers, the mechanism of providing internship in the company is unacceptable (especially when it comes to minors). Given that "zero employment contracts" are common in the hotel and restaurant business, and sometimes there are informal labour relations, companies do not cooperate with educational institutions in this regard. It is noted that educational institutions are also not active in attracting employers to the process of vocational training.

Sector development scenarios

Negative scenario: the war will continue for the next few years. Despite support from the Western countries, the economic situation in the country is deteriorating. In the negative scenario, companies in the sector will continue to operate. At the same time, a gradual reduction in their number is likely to be expected in response to a possible further reduction in demand. However, this process will be very gradual. A gradual resumption of activity of companies in the sector in the liberated territories can also be expected. A slow decline in companies profits is likely, therefore accompanied by the possibility of less competitive salaries. This can lead to even higher turnover and complicated recruitment of qualified employees, which is especially true for chefs and confectioners.

The increase in utility tariffs and abolition of tax breaks, which were in force since the beginning of the war, may also have a negative impact.

Positive scenario: Ukraine wins the war, receives significant economic support, and becomes a member of the European Union in a few years. Experts are unanimous in their opinion that in the positive scenario, the sector will recover very quickly and continue to develop intensively. This applies to all segments of the sector and all regions of Ukraine without exception.

The growth of investment in Ukraine and its restoration will also contribute to the development of the sector, as the hotel and restaurant business is one of the most attractive sectors for investment in Ukraine. The return of a significant number of people to the country, including those quite wealthy, together with the growth of tourist attractiveness of Ukraine for the whole world, will encourage business expansion.

There is no doubt that the processes of European integration will affect the internal development of the sector in the context of adopting higher standards of customer service. At the same time, this situation will probably significantly increase the demand for employees, because main professions in the sector are even now in short supply on the labour market. An increase in the shortage of employees will be an additional factor in high competition between companies in the sector.

There will be an increased demand for employees with knowledge of languages and skills of working with modern equipment, digital skills, in particular e-commerce and marketing, knowledge of European standards and norms of sanitary and service support.

6.12. Information and telecommunications

General information

It is worth noting that the sector comprises companies that differ significantly in the profile of their activities, as well as factors influencing their success, professional structure, and specifics in terms of personnel. At least three segments can be distinguished in the sector.

The first segment is represented by mass media and information content production. This segment has undergone significant changes due to an extreme decline in the advertising market, as well as the introduction of certain restrictions in the information space in the interest of state security. These steps have led to the closing up of many domestic broadcasters and their transition to the internet (YouTube and social networks). There have also been staff cuts that cannot be accurately estimated. According to expert estimates, companies were forced to optimize their staff from 5 to 25%. However, most companies were able to adapt and continued broadcasting and producing informational content.

The second segment is companies in telecommunications. It covers a wide range of internet service providers, corporate network operators, and cybersecurity companies. Experts note that these companies have suffered certain losses due to mass migration and the respective market decrease. Companies that provided services to legal entities experienced difficulties due to the overall reduction of the number of operating companies, and, accordingly, felt a significant decrease in the number of customers. Many companies were forced to additionally invest in ensuring the possibility of autonomous operation of the equipment. According to experts, the greatest losses were incurred by companies operating in the most affected regions. In particular, in Donetsk, Luhansk, Kherson, Kharkiv, Kyiv, Chernihiv and Sumy regions. Some companies in these regions suspended their activities partially, and some completely stopped working. Long-term power outages have caused significant difficulties for companies. At the same time, operating companies note that they did not cut personnel.

The third segment is software developers. According to expert estimates, this market segment continued to grow throughout 2022. This is due to the fact that most companies in this segment have foreign customers or are branches of foreign companies. However, during 2022, companies had difficulties organizing the relocation of offices and employees from dangerous areas. A significant part of companies moved them abroad. There were no actual reductions in the number of staff, however, experts provide examples of closing internship programs and terminating contracts with temporary employees.

Personnel needs of companies

In general, the most popular professions in the sector are the following: programmer (databases), journalist, teleoperator, telecommunications engineer, radio and television equipment engineer, electrician of linear telecommunication and wired broadcasting structures, technician, offset flat printing printer, administrator. Despite the difficulties in 2022, most businesses hired employees. It is noted that this was not so much due to the need to replace employees who joined the Armed Forces of Ukraine voluntarily or were mobilized and were also forced to leave their jobs.

Experts point out that there was no shortage of employees in the media, which is due to the general situation mentioned above. At the same time, it is noted that such situation as a whole is not typical for the sector. The greatest difficulties with finding employees were pointed out by internet service providers. At the same time, they emphasize that there is a shortage of engineering and electrical installation specialists. In the segment of software manufacturers, there are also difficulties with personnel recruitment, despite the rather high popularity of the profession of programmer among young people and graduates of educational institutions. Experts believe that educational institutions mostly cannot ensure an adequate quality of training, so companies train young people themselves, engaging them starting from the 2nd-3rd year of study in higher education institutions.

Companies in this sector do not cooperate with educational institutions. Cases of cooperation are rather isolated. This is due to the fact that the sector needs a higher level of qualification than the one that can be provided by institutions of vocational and technical education. Most professions in the sector require higher education. At the same time, it can be stated that most companies do not have established cooperation with institutions of higher education.

Sector development scenarios

Negative scenario: the war will continue for the next few years. Despite support from the Western countries, the economic situation in the country is deteriorating. Experts note that in the negative scenario, companies of the sector will continue to operate in the same mode as in 2022. Probably, under such circumstances, it is difficult to count on development, however, some growth is possible in the segment of software development. Demand for personnel will also continue to be influenced by common factors of turnover, mobilization, and migration. In general, the sector will remain attractive for young professionals, and subjects of study – mainly for students. At the same time, there will be a shortage of technical and engineering professions and specialties.

Positive scenario: Ukraine wins the war, receives significant economic support, and becomes a member of the European Union in a few years. In the positive scenario, the sector will develop quite actively, quickly regain lost positions, and grow rapidly. At the same time, personnel issues may become more complicated. The growing needs of companies inr qualified employees will lead to the formation of a significant personnel shortage. Previous experience shows that companies in the sector are normally able to provide highly competitive remuneration, in particular for the purpose of attracting specialists from other countries.

The need for digital skills will undoubtedly increase, especially in the areas of machine learning, artificial intelligence, e-commerce, and marketing.

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Швейцарська Конфедерація

List of appendices

Appendix 2

Distribution of employees by age and type of economic activity, September 2022, persons

Types of economic activity	up to 35 years old	36-45	46-60	60+	Total
Agriculture	1.9	2.2	2.3	1.6	2.1
Extractive industry	0.6	0.6	0.5	0.3	0.5
Processing industry	18.1	20.8	20.4	14.0	19.2
Electricity and gas supplies	2.5	3.7	4.3	3.7	3.5
Water supply	0.7	1.0	1.5	1.9	1.2
Construction	3.0	3.9	3.4	3.4	3.4
Wholesale and retail trade	24.4	20.3	14.3	9.0	18.6
Transport, warehouse management, post	7.3	7.5	8.3	6.1	7.6
Temporary accommodation and catering services	3.2	1.3	1.2	0.9	1.8
Information and telecommunications	2.8	1.9	1.3	1.0	1.9
Finance and insurance	3.4	2.9	1.5	0.8	2.4
Real estate transactions	1.0	1.4	1.6	2.5	1.4
Professional and scientific and technical activities	3.7	3.4	2.6	4.0	3.3
Administrative services	2.5	2.9	4.0	5.8	3.4
Public administration and defense	9.9	12.2	14.7	16.6	12.7
Education	5.4	5.8	7.2	13.9	6.9
Healthcare and social assistance	7.8	6.9	9.2	12.1	8.4
Art, sports	1.1	0.8	1.0	1.7	1.0
Provision of other types of services	0.7	0.6	0.5	0.6	0.6

Source: data of the Pension Fund of Ukraine

Appendix 3

Regional distribution of certain categories of registered unemployed persons as of the end of the period, 2020-2022, persons

Region	Total			including											
				Young people under the age of 35			Women			Persons with disabilities			Internally displaced persons		
	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022
Total	459,198	294,968	186,508	140,865	78 328	43 317	257,787	170,058	127,667	22,741	18,277	10,865	4,436	2,585	15,693
Vinnytsia	23,295	16,889	7,682	6,849	4,168	1,954	11,628	9,132	5,710	1,114	966	492	84	51	763
Volyn	12,466	7,213	4,358	4,074	2,166	1,132	7,895	4,742	3,142	730	495	381	39	15	269
Dnipropetrovsk	34,780	23,328	14,446	10,460	6,276	3,227	19,832	13,757	10,043	607	492	500	264	183	1,584
Donetsk	14,898	9,515	7,039	4,612	2,534	1,262	8,859	5,792	4,388	1,021	829	395	784	521	798
Zhytomyr	17,929	12,032	7,987	5,676	3,307	2,074	10,331	7,446	5,690	1,447	1,205	692	69	3O	388
Zakarpattia	7,758	4,525	3,917	2,442	1,187	934	5,307	3,239	2,798	358	263	146	34	5	245
Zaporizhzhia	21,416	14,329	13,840	6,165	3,808	3,127	12,087	7,941	7,828	1,126	832	549	223	136	889
Ivano-Frankivsk	13,045	8,378	4,934	4,554	2,623	1,327	8,347	5,508	3,608	633	518	385	31	15	499
Kyiv	17,709	11,090	9,121	5,701	3,224	2,421	10,453	6,318	6,428	1,044	830	679	273	153	935
Kirovohrad	21,134	12,191	6,594	6,448	3,172	1,657	11,047	7,036	4,887	778	533	320	83	33	682
Luhansk	9,323	6,747	2,962	2,572	1,667	768	4,186	3,020	1,573	299	255	119	383	259	237
Lviv	28,234	12,779	5,147	10,236	4,028	1,329	17,119	7,939	3,857	2,004	1,279	569	93	42	545
Mykolayiv	19,229	12,814	9,970	5,887	3,560	2,556	10,368	7,419	6,738	684	504	346	64	40	412
Odesa	19,390	12,609	8,073	5,339	2,952	1,824	10,675	7,066	5,777	776	627	476	137	77	671
Poltava	28,044	17,943	8,391	8,224	4,560	1,876	13,985	9,094	6,016	1,590	1,311	613	172	98	984
Rivne	14,078	10,624	6,045	4,747	2,985	1,621	8,705	6,733	4,293	684	676	385	28	18	349
Sumy	17,259	11,166	11,252	4,781	2,615	2,250	9,960	6,558	7,998	780	602	560	90	34	357
Ternopil	12,354	8,525	3 558	4,051	2,312	856	6,654	4,778	2,590	613	619	307	8	8	409
Kharkiv	30,290	19,130	14,774	8,769	4,791	2,987	16,650	10,745	9,716	685	534	301	496	297	1,800
Kherson	14,052	9,558	6,794	4,077	2,377	1,332	7,620	5,234	3,623	450	354	121	89	48	25
Khmelnytskyi	16,700	12,036	5,574	5,129	3,203	1,348	8,653	6,334	3,792	1,812	1,645	718	46	28	655
Cherkasy	22,339	15,614	7,850	6,443	3,784	1,891	11,614	8,718	5,632	1,439	1,364	694	80	61	813
Chernivtsi	8,300	5,651	2,338	2,722	1,457	523	4,638	3,224	1,769	388	335	160	21	11	248

Chernihiv	12,960	10,102	7,455	3,464	2,375	1,510	7,454	6,148	5,386	746	664	556	67	47	272
City of Kyiv	22,216	10,180	6,407	7,443	3,197	1,531	13,720	6,137	4,385	933	545	401	778	375	864

Source: data of the state Employment Service of Ukraine, 2020-2022

Appendix 4

Distribution of registered unemployed by age and profession as of the end of the period, persons

Main professional groups	Total		15-24		25-34		35-44		45-55		over 55 years old	
	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022
Total	294,968	186,508	14,723	9,003	63 605	34 314	85 625	54 489	82 424	53166	48 591	35 536
Executives, managers	43 504	20 240	1 100	458	9 056	3 702	14 249	6 632	12 076	5 664	7 023	3,784
Professionals	33,903	16,296	2 328	1 258	9 687	3 936	10 556	5 039	7110	3 666	4 222	2 397
Specialists	31 641	19 445	2 630	1 515	8 676	4 700	9318	5 962	6 984	4 573	4 033	2 695
Technical specialists	17 430	14 034	1 228	919	4 404	3310	4 533	3 937	4 431	3 590	2 834	2 278
Retail and service workers	44,146	38,303	2 935	2 261	9 734	7 332	12168	10 867	11 744	10 873	7,565	6,970
Skilled agricultural workers	13,029	7,354	318	153	2,124	1,097	3,874	2,211	4,313	2,482	2,400	1,411
Skilled tool workers	22,240	18,289	1,082	833	4,176	2,723	6,546	5,404	6,497	5,682	3,939	3,647
Workers for maintenance of technological equipment, assembly of machines	51,700	23,789	1,881	668	9,925	3,473	14,294	6,657	17,720	7,774	7,880	5,217
Simplest professions	36,242	27,662	900	638	5,391	3,638	9,866	7,557	11,465	8,753	8,620	7,076
Persons without a profession	1,133	1,096	321	300	432	403	221	223	84	109	75	61

Appendix 5

Distribution of registered unemployed women by age and profession at the end of the period, persons

Main professional groups	Total		15-24		25-34		35-44		45-55		over 55 years old	
	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022
Total	170,058	127,667	8,650	6,436	35,861	24 776	49 706	37 872	46152	35 722	29 689	22 861
Executives, managers	24 624	13 606	527	334	4819	2 727	7,826	4,405	7 001	3 673	4 451	2 467
Professionals	23 786	12 871	1 705	1 058	6 395	3 204	7 282	3 926	5 245	2 853	3159	1 830
Specialists	23 635	15 861	1 869	1 212	6 052	3 871	7 011	4 860	5 422	3 739	3 281	2179
Technical specialists	15,614	13 005	1,012	821	3 873	3 061	4 076	3 677	4 063	3 344	2,590	2102
Retail and service workers	34 414	31 972	2182	1 902	7 329	6 223	9 656	9 250	9 271	9 024	5 976	5 573
Skilled agricultural workers	8 414	5 470	132	80	1 175	769	2,590	1,709	2,885	1,900	1,632	1,012
Skilled tool workers	7,651	7,763	334	297	1,351	1,220	2,377	2,356	2,214	2,496	1 375	1 394
Workers for maintenance of technological equipment, assembly of machines	7 694	7 294	271	198	1 394	1 079	2 278	2 247	2 435	2 447	1 316	1 323
Simplest professions	23 338	18 946	391	308	3 098	2 279	6 427	5 244	7,565	6178	5 857	4 937
Persons without a profession	888	879	227	226	375	343	183	198	51	68	52	44

Appendix 6

Dynamics of changes in the number of vacancies and registered unemployed (by profession), as of the end of the period

Main professional groups	Number of unemployed, persons		Number of vacancies, units	
	2021	2022	2021	2022
Total	294,968	186,508	41,042	21,241
Executives, managers	43 504	20 240	2 387	1 175
Professionals	33,903	16,296	6 031	3 837
Specialists	31 641	19 445	4 689	2 300
Technical specialists	17 430	14 034	1 620	683
Retail and service workers	44,146	38,303	5 522	2191
Skilled agricultural workers	13,029	7,354	353	183
Skilled tool workers	22,240	18,289	8 813	4 985
Workers for maintenance of technological equipment, assembly of machines	51,700	23,789	6 836	3 666
Simplest professions	36,242	27,662	4,791	2 221
Persons without a profession	1,133	1,096	0	0

Appendix 7

Distribution of registered unemployed persons by age and type of economic activity at the end of the period, persons

Type of economic activity	Total 2021	2022	15 -24		25 -34		35 -44		45 -55		more than 55 years old	
			2021	2022	2021	2022	2021	2022	2021	2022	2021	2022
Total	294,968	186,508	14,723	9,003	63 605	34 314	85 625	54489	82 424	53 166	48 591	35 536
Number of unemployed who previously worked and received the status of unemployed for up to 1 year after being dismissed from their last job	271,045	163 820	10 514	5 779	57 605	29 457	79 228	48 284	78 352	48 326	45 346	31 974
Agriculture	59 995	21 052	1 656	430	10 666	3 071	16 537	5 821	21 158	7122	9 978	4 608
Extractive industry	2 645	2 206	75	61	539	359	994	739	760	709	277	338
Processing industry	32 427	27 596	1 067	703	6 504	4 350	10 110	8 481	9 284	8 652	5 462	5 410
Electricity and gas supplies	4 371	2816	105	39	741	356	1 270	791	1 336	981	919	649
Water supply	2 715	2 003	61	34	388	240	719	540	923	654	624	535
Construction	7 902	5 599	341	163	1 629	819	2410	1 707	2198	1 539	1 324	1 371
Wholesale and retail trade	40 337	35 901	2163	1 871	10 168	7 799	12 793	11 220	9 590	9 394	5 623	5 617
Transport, warehouse management, post	13 629	10 579	416	258	2 690	1 503	3,784	2 768	4187	3 539	2 552	2 511
Temporary accommodation and catering services	5 225	4 548	369	267	1 152	822	1 436	1 290	1 378	1 318	890	851
Information and telecommunications	2 895	2 008	144	119	791	477	851	584	698	490	411	338
Finance and insurance	6 508	4810	455	291	2154	1 488	2 207	1 641	1 141	942	551	448
Real estate transactions	1 940	1 648	38	3O	339	229	573	434	575	499	415	456
Professional and scientific and technical activities	5 002	3 752	190	140	1 269	742	1 556	1 163	1 223	1 000	764	707
Administrative services	5 523	4 649	213	166	1 139	805	1 519	1 228	1,457	1 389	1 195	1 061
Public administration and defence	53 265	18 194	2 296	606	12 364	3 658	15 247	5 518	14 345	4 969	9013	3 443
Education	8 393	5 760	339	228	1 751	984	2 346	1 515	2 331	1 702	1 626	1 331
Healthcare and social assistance	14 452	8 215	412	269	2 479	1 334	3 749	2 096	4 773	2 752	3 039	1 764
Art, sports	1 772	1 057	88	53	351	188	486	279	502	297	345	240
Provision of other types of services	2 011	1 410	85	51	484	227	634	463	480	374	328	295

Appendix 8

Distribution of registered unemployed women by age and types of economic activity at the end of the period, persons

Type of economic activity	Total 2021	2022	15-24 2021	2022	25-34 2021	2022	35-44 2021	2022	45-55 2021	2022	more than 55 years old 2021	2022
Total	170,058	193,333	8,650	10,272	35,861	40,356	49 706	57154	46 152	53 215	29 689	32 336
Number of unemployed who previously worked and received the status of unemployed for up to 1 year after being dismissed from their last job	152 826	172108	5 602	7 501	31 169	34 627	45 051	51 436	43 449	49 049	27 555	29 495
Agriculture	19 021	13 899	355	264	2 808	2139	5 500	4 065	6 495	4510	3 863	2 921
Extractive industry	804	934	11	11	125	161	287	268	255	329	126	165
Processing industry	17 032	22 849	528	628	3 206	3 804	5 380	7416	4 936	6 974	2 982	4 027
Electricity and gas supplies	2217	4814	43	51	350	420	724	1 071	624	1 928	476	1 344
Water supply	1 265	1 228	20	19	197	180	351	351	412	392	285	286
Construction	1 788	2 784	39	64	300	487	580	867	463	774	406	592
Wholesale and retail trade	29 365	45 486	1 652	2 608	7 400	10 379	9159	14 526	6 978	11 819	4,176	6 154
Transport, warehouse management, post	7 705	9 706	168	295	1 392	1 635	2 053	2 579	2 508	3 196	1,584	2 001
Temporary accommodation and catering services	4 400	7 907	295	462	927	1 408	1 235	2 325	1 173	2 351	770	1 361
Information and telecommunications	1,800	2 770	118	188	520	868	556	792	376	598	230	324
Finance and insurance	5 116	5 804	367	547	1 689	1 946	1 730	1 918	894	965	436	428
Real estate transactions	1 147	1 688	26	37	230	293	329	504	325	496	237	358
Professional and scientific and technical activities	3 253	4 850	142	259	846	1 267	1 018	1 514	755	1 116	492	694
Administrative services services	2,952	4142	136	237	658	974	827	1 183	705	1 042	626	706
Public administration and defence	33 141	21 405	922	805	6 231	4 526	9318	6 147	9 951	5 842	6 719	4 085
Education	6 534	6 959	279	437	1 451	1 468	1 896	1 929	1 746	1 923	1 162	1 202
Healthcare and social assistance	12519	11 781	370	417	2 201	1 960	3 294	3 063	4138	4 001	2516	2 340
Art, sports	1 206	1 261	57	73	247	299	330	322	346	337	226	230
Provision of other types of services	1 529	1 804	73	97	384	396	478	591	361	449	233	271

Appendix 9

Dynamics of changes in the number of vacancies and registered unemployed by type of economic activity in 2021-2022, as of the end of the period

Types of economic activity	Number of unemployed, persons 2021	2022	Number of vacancies, units 2021	2022
Total	294,968	186,508	41,042	21,241
Number of unemployed who previously worked and received the status of unemployed for up to 1 year after being dismissed from their last job	271 007	163 820	1 391	958
Agriculture	59 995	21 052	1 045	658
Extractive industry	2 645	2 206	8 337	4 249
Processing industry	32 427	27 596	1 202	719
Electricity and gas supplies	4 371	2816	1 029	603
Water supply	2715	2 003	1 717	463
Construction	7 902	5 599	6172	3 323
Wholesale and retail trade	40 337	35 901	4,388	1 986
Transport, warehouse management, post	13 629	10 579	1 115	438
Temporary accommodation and catering services	5 225	4 548	300	124
Information and telecommunications	2 895	2 008	352	68
Finance and insurance	6 508	4810	358	175
Real estate transactions	1 940	1 648	1 059	434
Professional and scientific activities	5 002	3 752	1 636	1 170
Administrative services	5 523	4 649	3 024	1 177
Public administration and defence	53 265	18194	4 005	2 267
Education	8 393	5 760	3143	2 026
Healthcare and social assistance	14 452	8215	438	235
Art, sports	1 772	1 057	331	168
Provision of other types of services	2011	1 410	331	168

Appendix 10

Number of employees in companies by company size (by region) in 2020

Number of employees in companies by company size by region in 2020

Regions	Total, thsd. persons	Including							
		large enterprises		*medium-size enterprises*		*small enterprises*		*of which microenterprises*	
		thsd. persons	*percent (%) of the total number of employees of the respective region*	*Thsd persons*	*percent (%) of the total number of employees of the respective region*	thsd. persons	*percent (%) of the total number of employees of the respective region*	thsd. persons	*percent (%) of the total number of employees of the respective region*
Ukraine	6288,4	1574.6	25.0	308 6 9	49.1	1626.9	25.9	650.9	10.4
Vinnytsia	170,4	26,8	15,7	94, 0	55,2	49,6	29,1	17,1	10,0
Volyn	112,8	16,4	14,5	67, 7	60,0	28,7	25,5	10,7	9,4
Dnipropetrovsk	660,0	253,5	38,4	71, 8	41,2	134,7	20.4	55,4	8.4
Donetsk	266,2	87,8	33,0	37, 0	51,5	41,4	15,5	15,9	6,0
Zhytomyr	133,9	8,9	6,6	89, 2	66,7	35,8	26,7	12,8	9,6
Zakarpattia	88,8	к/с	к/с	к/с	к/с	24,5	27.5	9.0	10,1
Zaporizhzhia	264,7	70,9	26,8	28, 8	48,7	65,0	24,5	26,8	10,1
Ivano-Frankivsk	110,7	10,1	9,1	67, 5	61,0	33,1	29,9	13,8	12,5
Kyiv	326,4	75,3	23,1	55, 5	47,6	95,5	29,3	35,8	11,0
Kirovohrad	108,1	7.8	7.3	65, 0	60,1	35,3	32,6	14.3	13,2
Luhansk	74,1	к/с	к/с	к/с	к/с	15,5	20,9	5,9	8,0
Lviv	349,7	47,8	13,7	01, 0	57,5	100,9	28,8	38,3	10,9
Mykolayiv	127,8	23,5	18,4	63/	49,6	40,9	32,0	17,6	13,8
Odesa	297,9	33.8	11,4	56, 5	52,5	107,6	36,1	44,0	14,8
Poltava	206,8	28,1	13,6	28, 3	62,0	50,4	24.4	20.8	10,0
Rivne	102,0	6,3	6,2	66, 7	65,3	29,0	28,5	10,9	10,7
Sumy	121,2	10,8	8,9	81, 0	66,8	29,4	24,3	10,6	8,8

Ternopil	91,4	11,2	12,3	54,0	59,0	26,2	28,7	9.2	10,1
Kharkiv	391,1	37,1	9,5	-38,2	60,9	115,8	29,6	45,8	11,7

Number of employees in companies by company size by region in 2020

Regions	Total, thsd. persons	Including							
		large enterprises		*medium-size enterprises*		*small enterprises*		of which *microenterprises*	
		thsd. persons	*percent (%) of the total number of employees of the respective region*	thsd. persons	*percent (%) of the total number of employees of the respective region*	thsd. persons	*percent (%) of the total number of employees of the respective region*	thsd. persons	*percent (%) of the total number of employees of the respective region*
Kherson	90.0	к/с	к/с	к/с	к/с	33,0	36,6	13,0	14,5
Khmelnytskyi	124,4	11,4	9,1	76,8	61,8	36,2	29,1	13,1	10,5
Cherkasy	142,8	16,2	11,4	85,2	59,6	41,4	29,0	16,1	11,3
Chernivtsi	59,3	к/с	к/с	к/с	к/с	19.2	32,4	6.9	11,7
Chernihiv	112,1	7.2	6,4	74,5	66,4	30,4	27,2	11,4	10,2
the city of Kyiv	1755,8	766,6	43,7	581,8	33,1	407,4	23,2	175,7	10,0

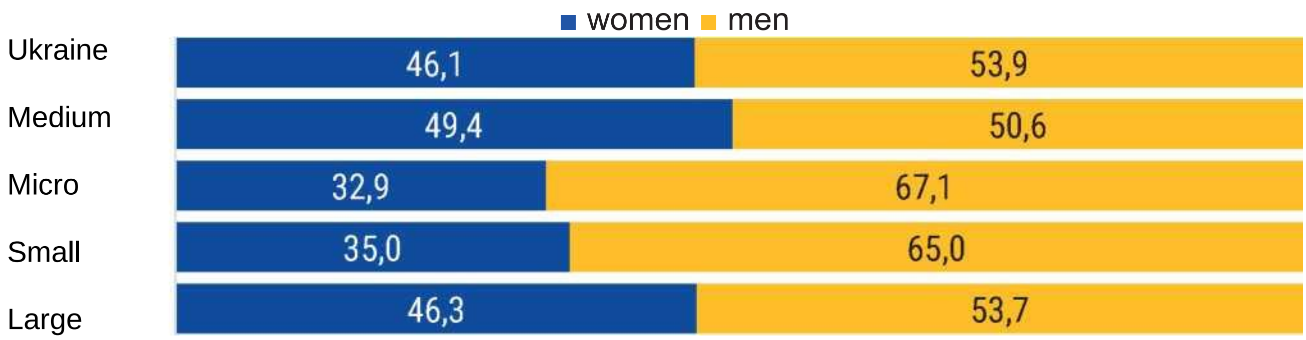
Notes.

1. The data are provided without taking into account the results of operations of banks, budgetary institutions, the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and a part of temporarily occupied territories in
Donetsk and Luhansk regions.

2. Data are not made public in order to ensure compliance with the requirements of the Law of Ukraine "On Public Statistics" regarding the confidentiality of statistical information (primary and secondary blocking of vulnerable values).

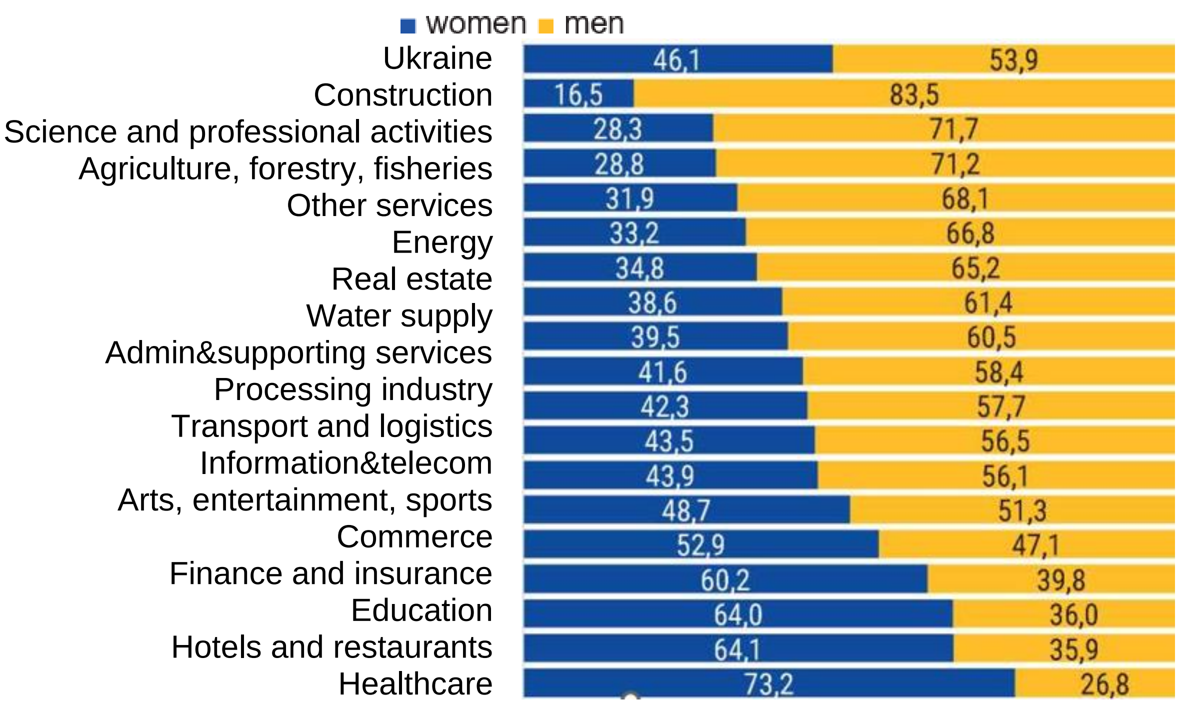
Appendix 11

Gender distribution of employees of the surveyed companies by company size, %



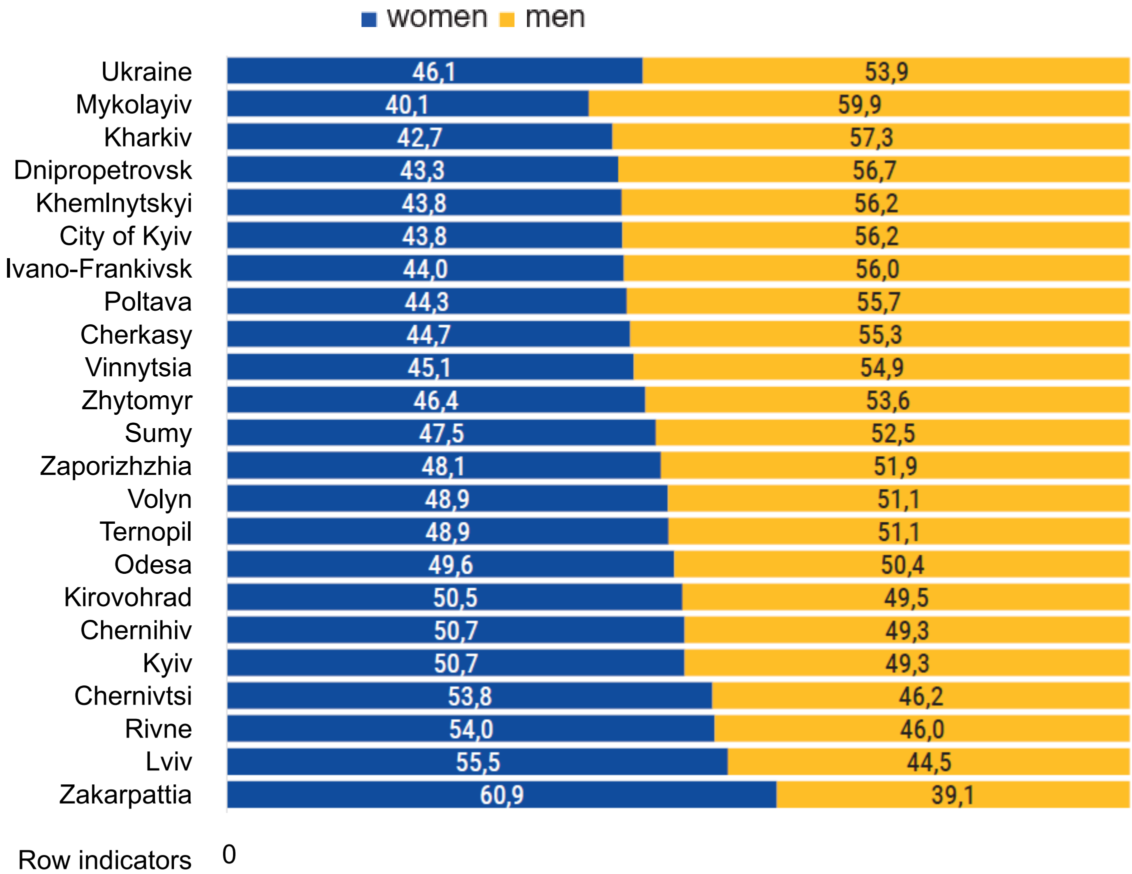
Appendix 12

Gender distribution of employees of the surveyed companies by type of economic activity, %



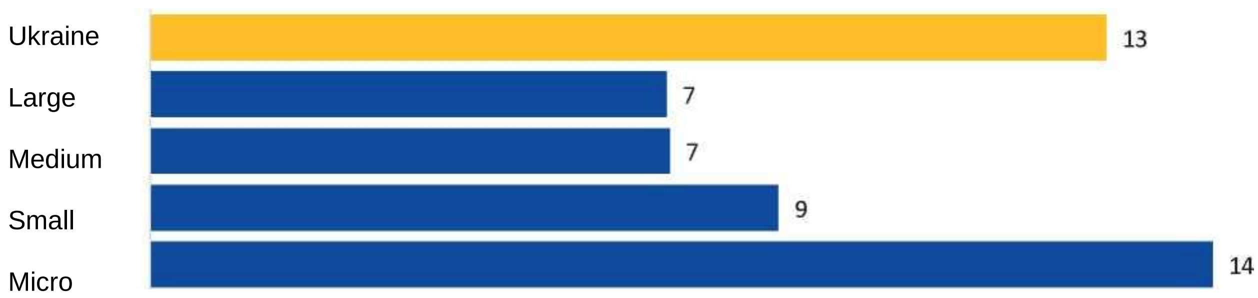
Appendix 13

Gender distribution of employees of the surveyed companies by region, %



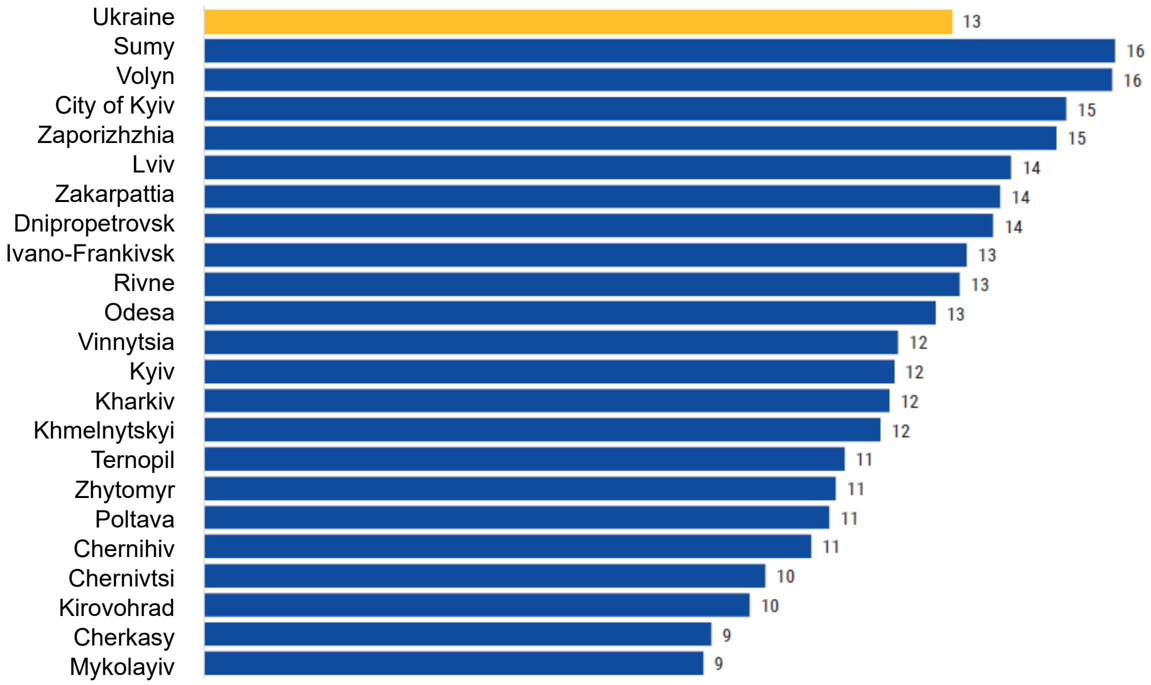
Appendix 14

Share of young people under the age of 25 in companies by company size, %



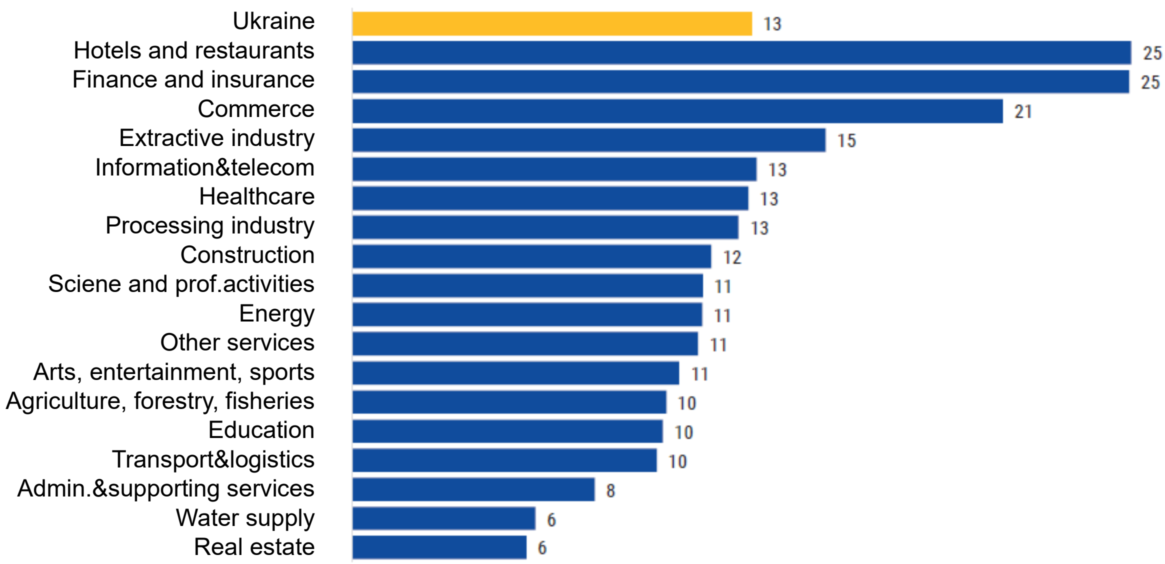
Appendix 15

Share of young people under the age of 25 in companies by region, %



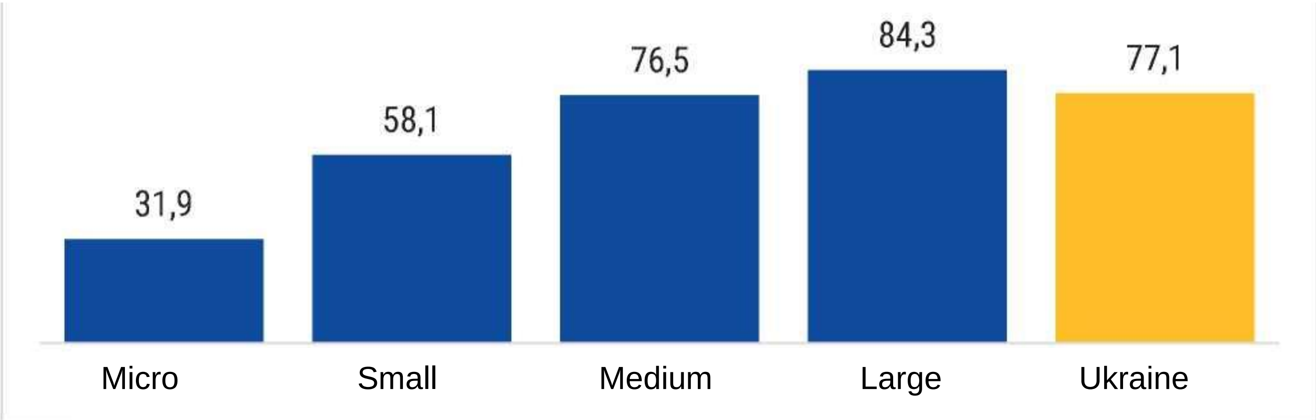
Appendix 16

Share of young people under the age of 25 in companies by type of economic activity, %



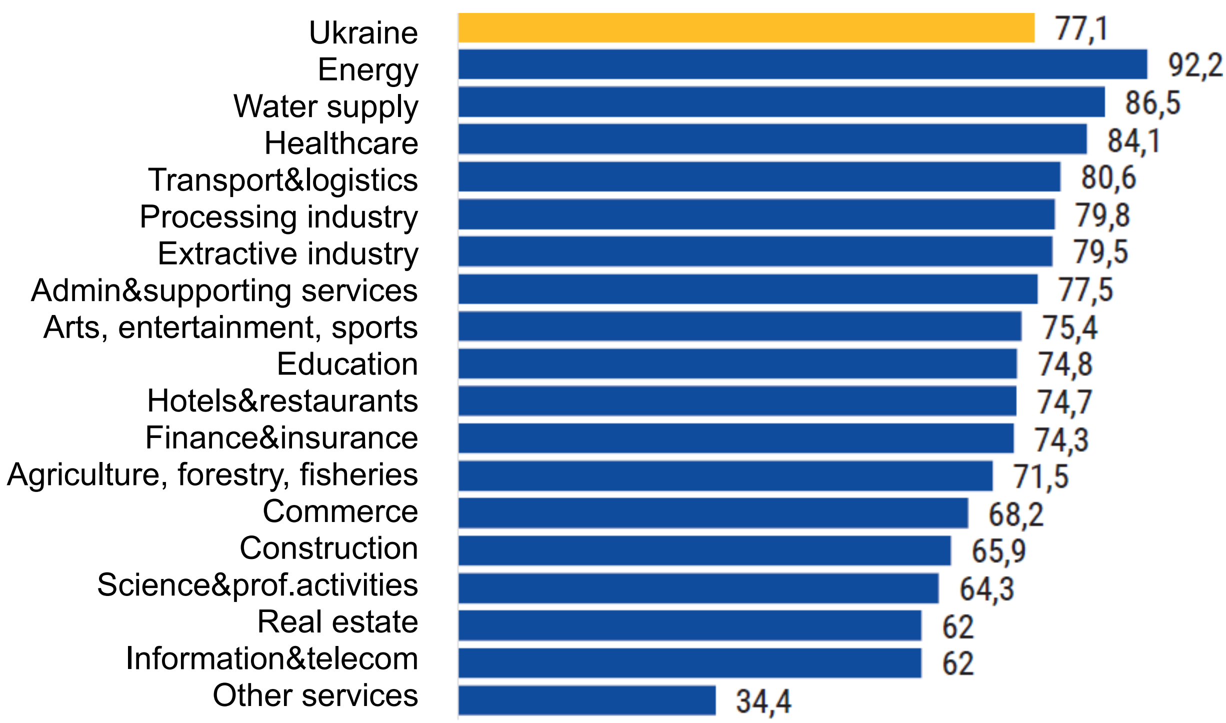
Appendix 17

Share of companies that hired employees during 2022, by company size, %



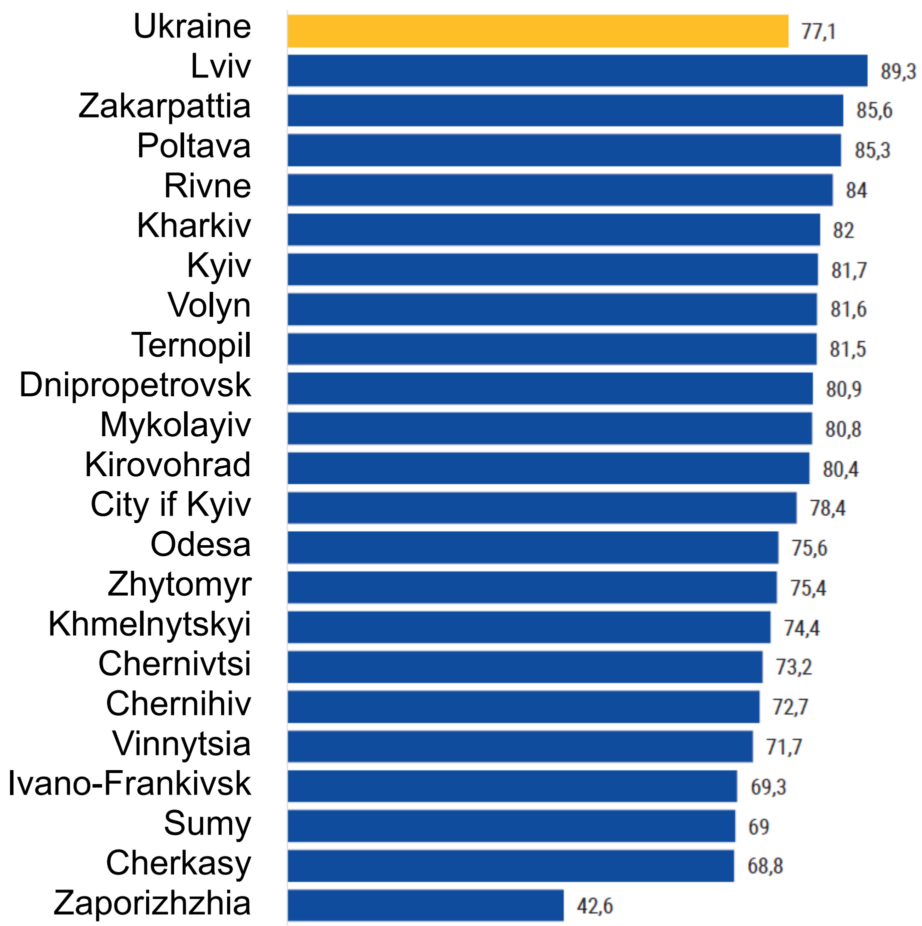
Appendix 18

Share of companies that hired employees in 2022, by type of economic activity, %



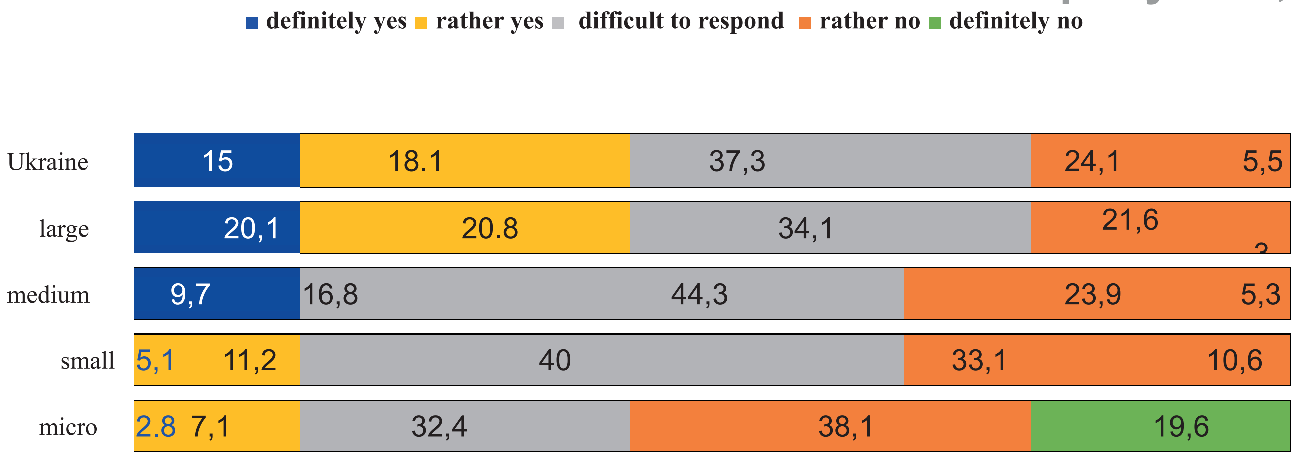
Appendix 19

Share of companies that hired employees in 2022, by region, %



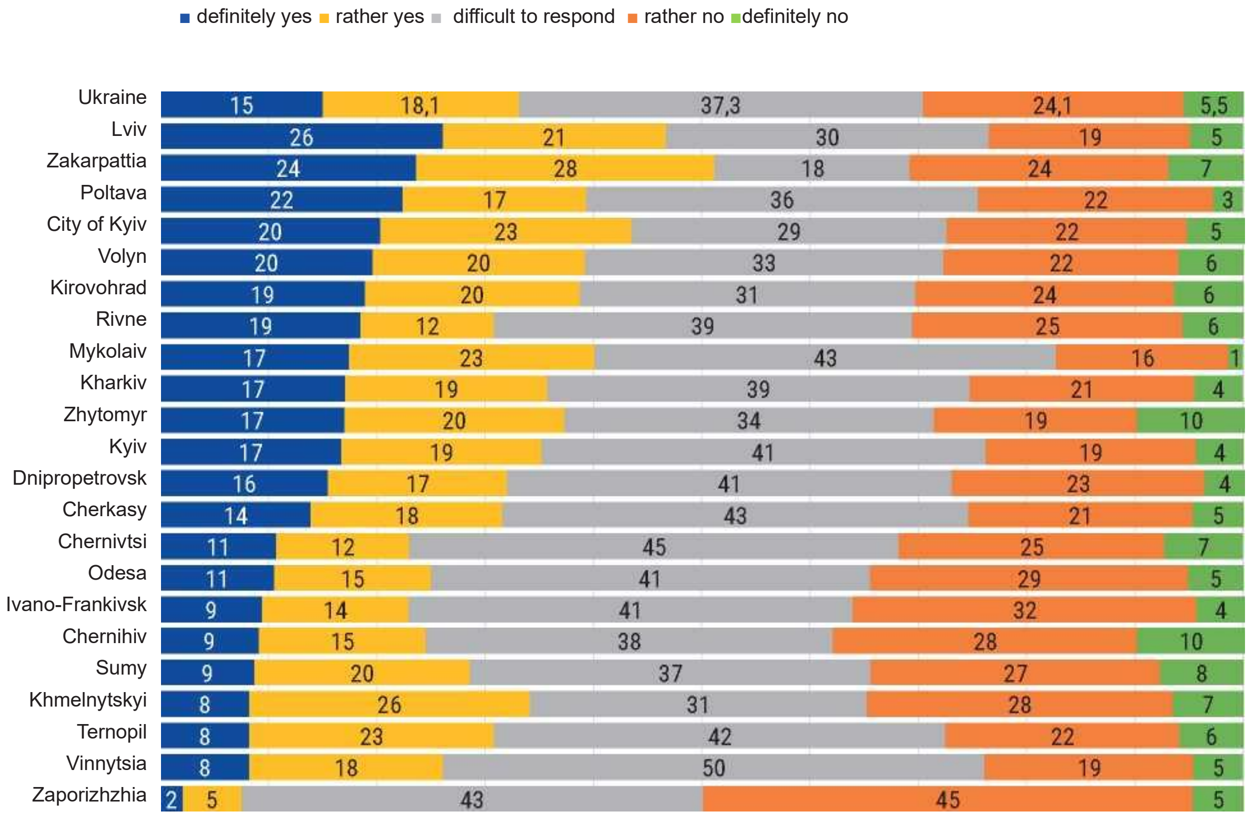
Appendix 20

Estimate of additional recruitment in the next 6 months by company size, %



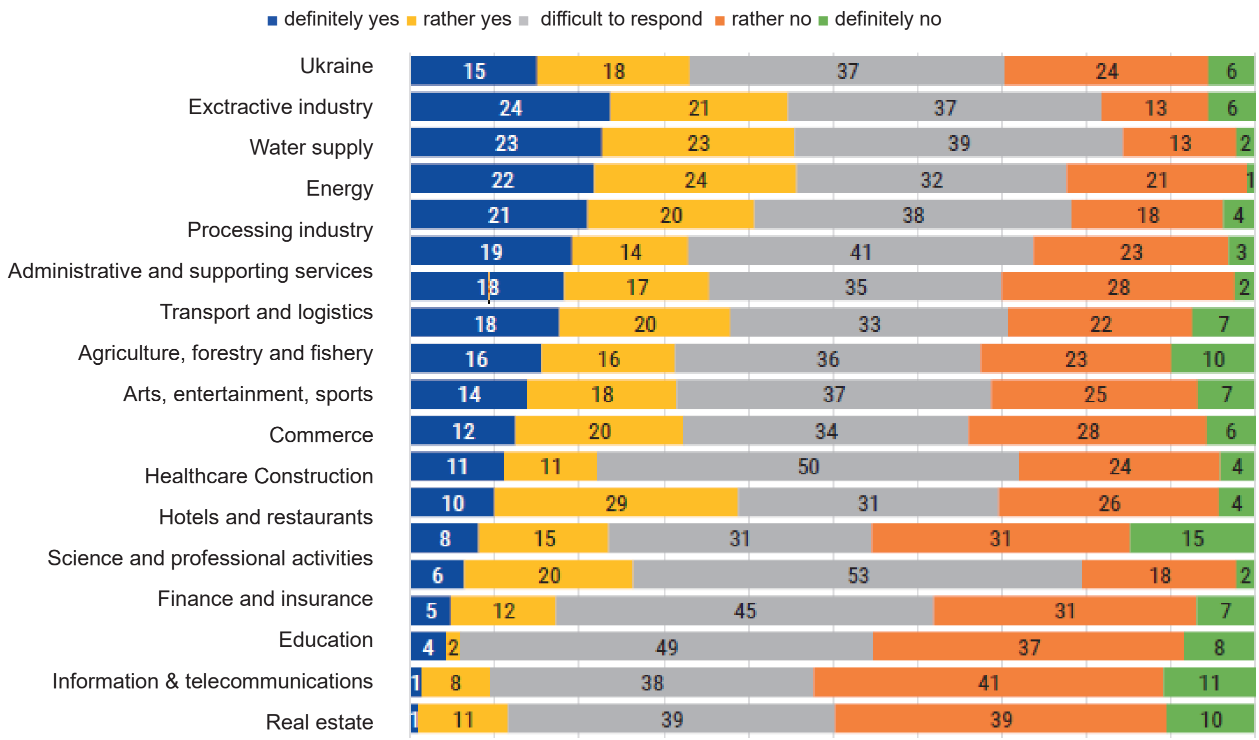
Appendix 21

Estimate of the additional recruitment in the next 6 months by region, %



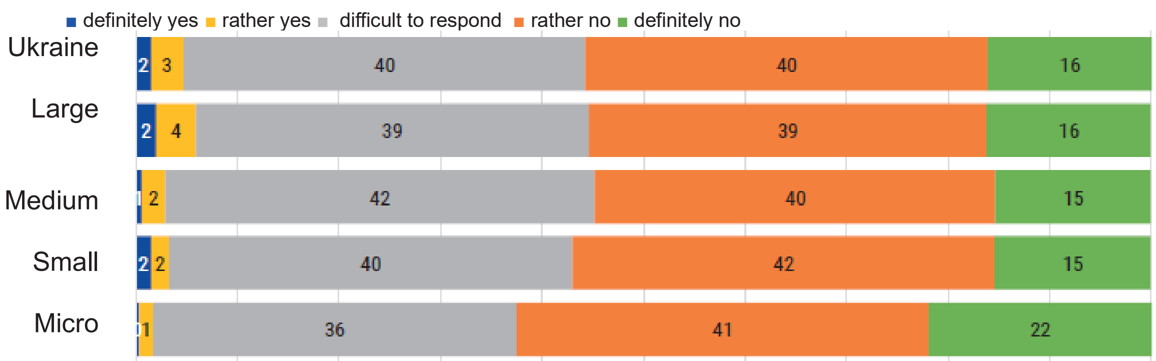
Appendix 22

Estimate of additional recruitment in the next 6 months by type of economic activity, %



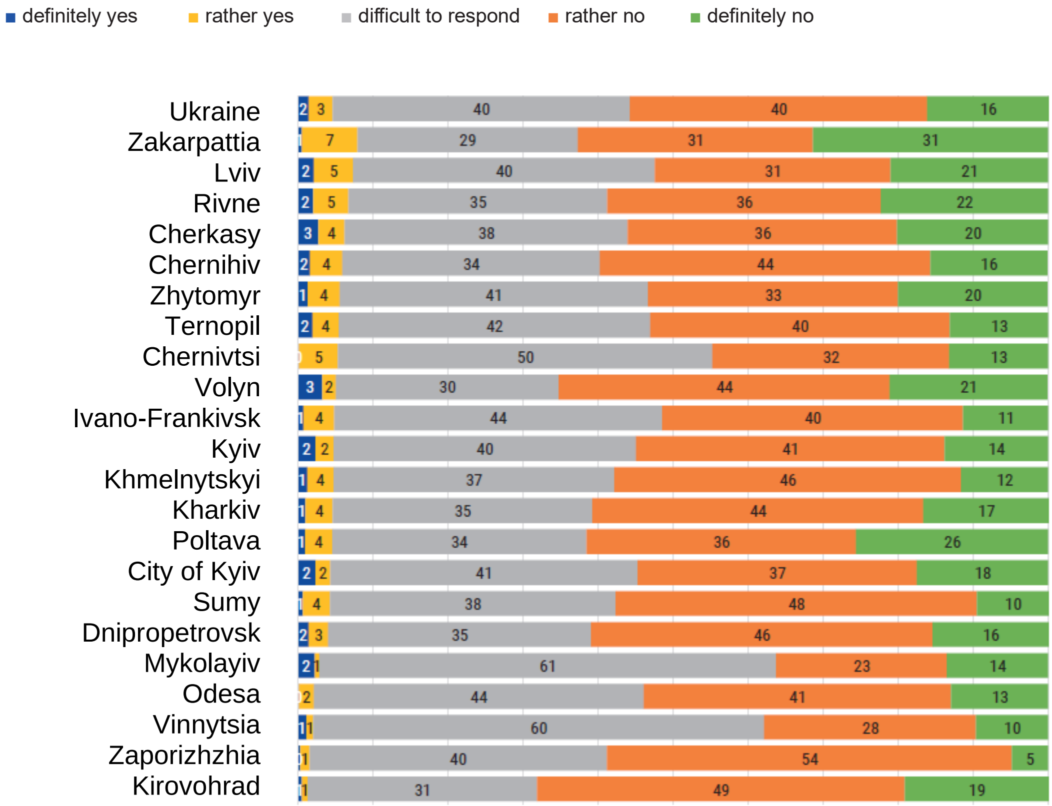
Appendix 23

Estimate of personnel cuts in the next 6 months by company size, %



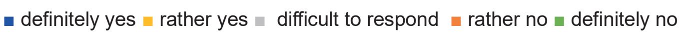
Appendix 24

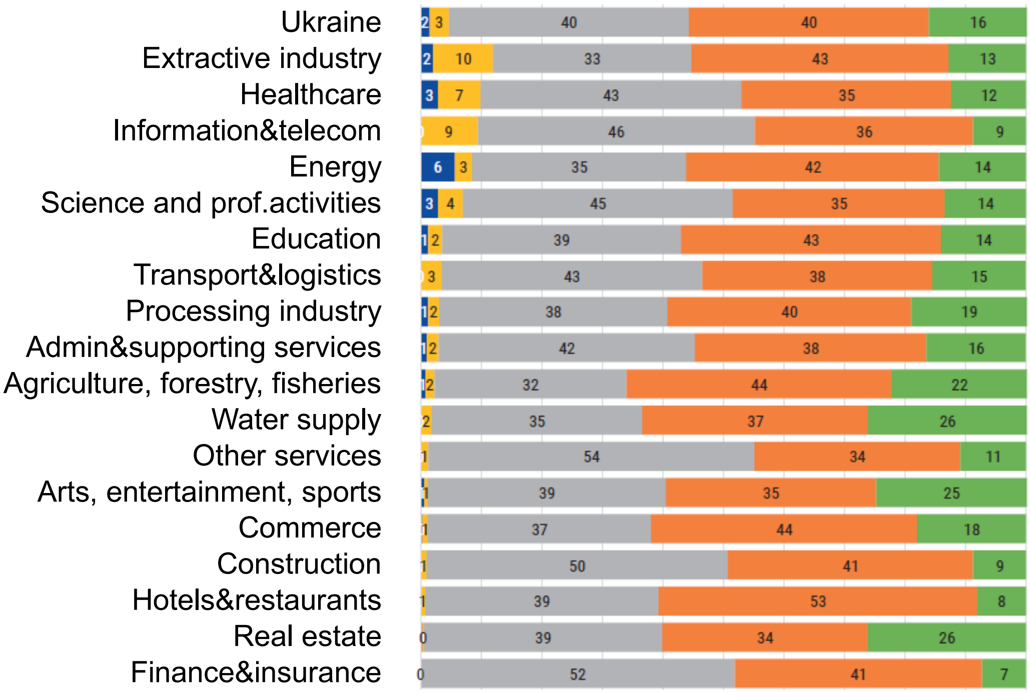
Estimate of personnel cuts in the next 6 months by region, %



Appendix 25

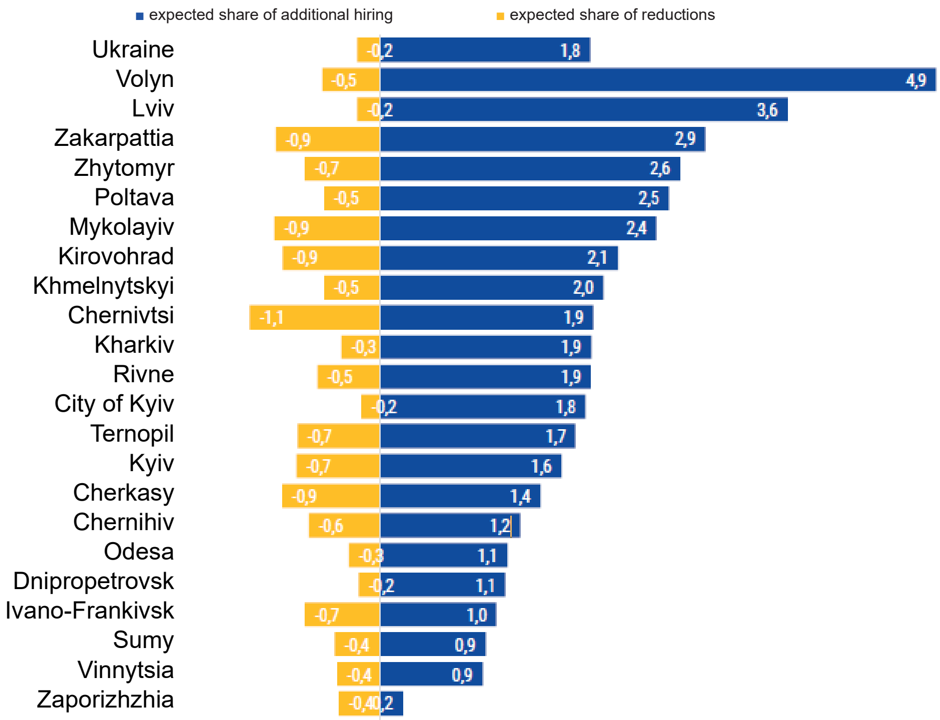
Estimate of personnel cuts in the next 6 months by type of economic activity, %





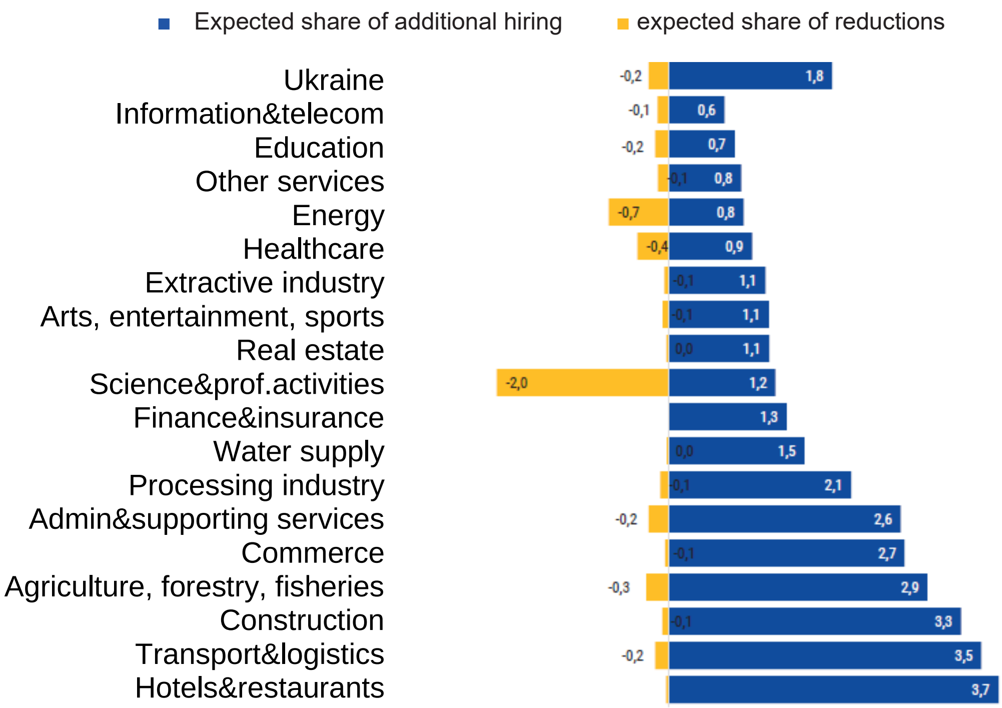
Appendix 26

Share of expected additional recruitment and reduction of the current number of employees by region, %



Appendix 27

Share of expected additional recruitment and reduction of the current number of employees by type of economic activity, %



Appendix 28

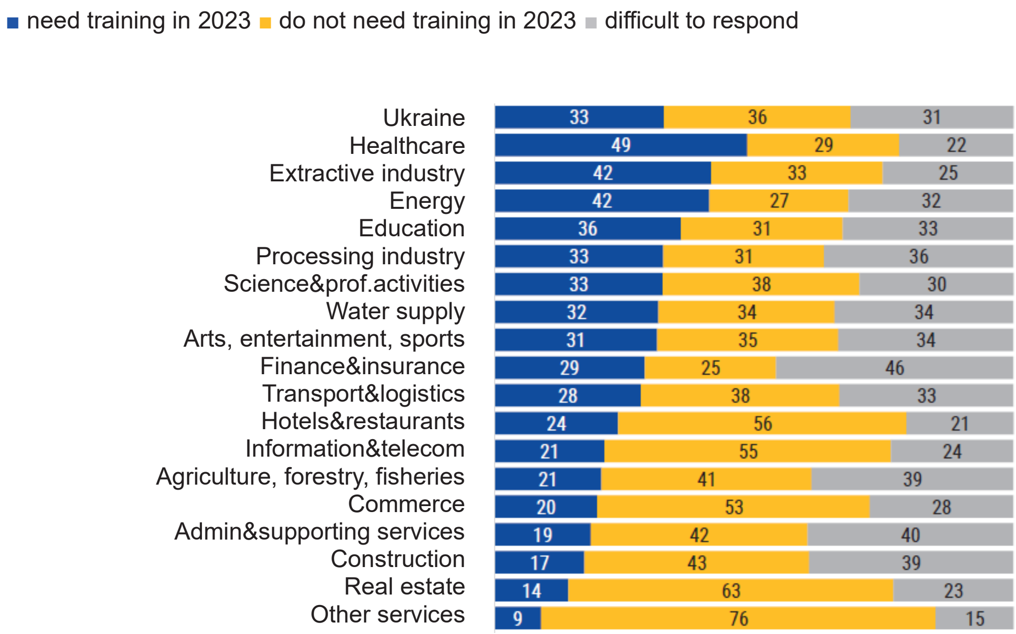
Share of companies that provided training for employees, by type of economic activity, %

Appendix 29

Share of companies that provided training for employees, by region, %

Appendix 30

Training needs in 2023 by type of economic activity, %

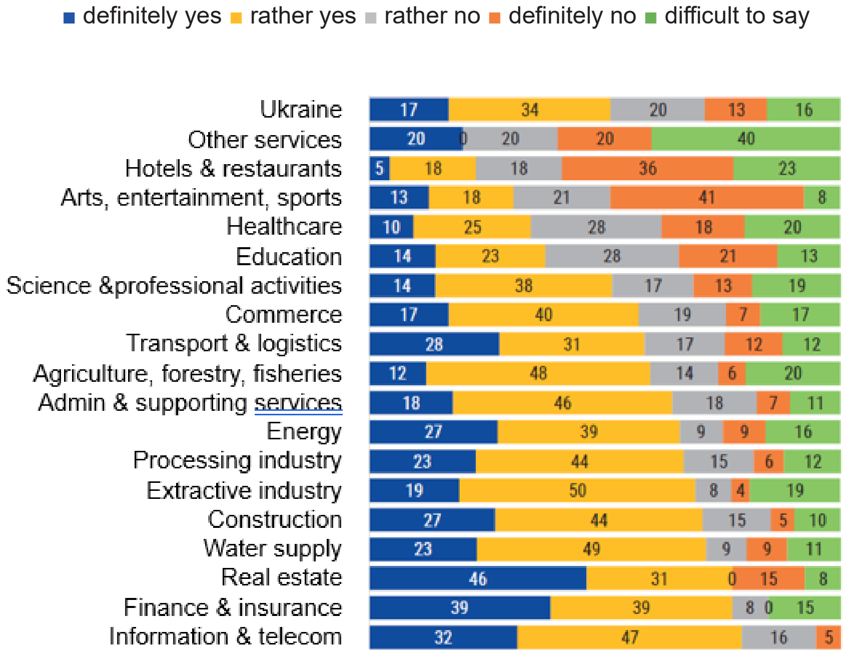


Appendix 31

Training needs in 2023 by region, %

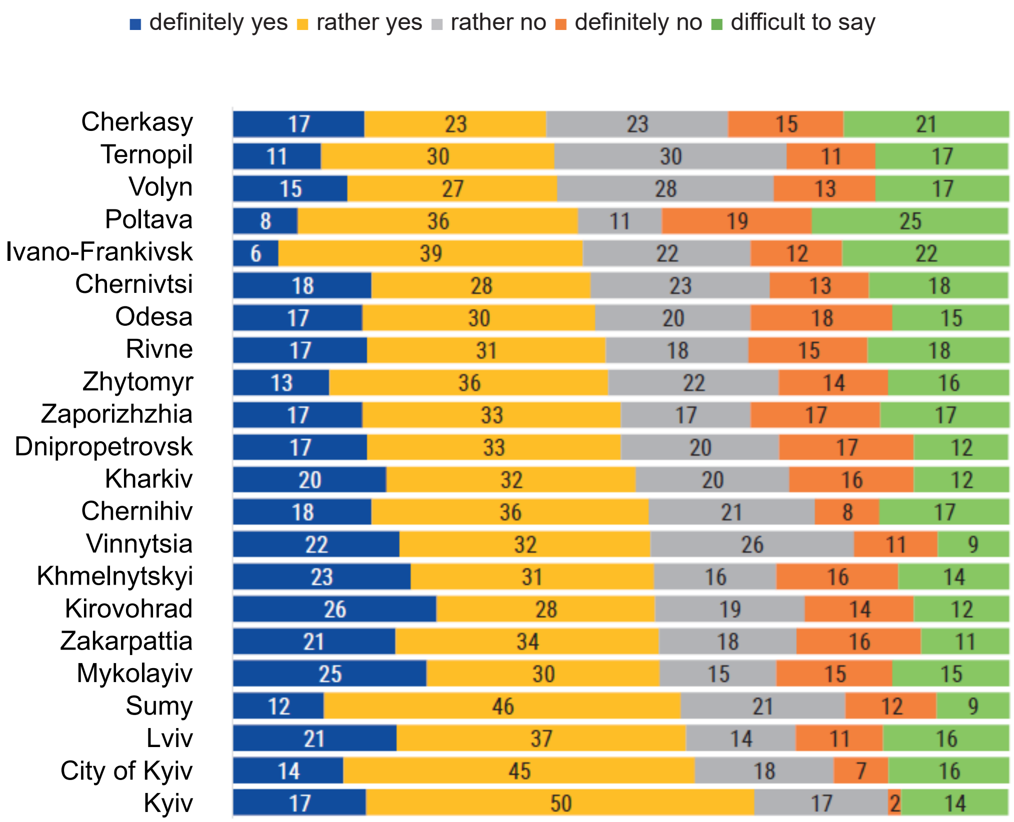
Appendix 32

Assessment of possibilities for self-financing employee training in 2023 by type of economic activity, %



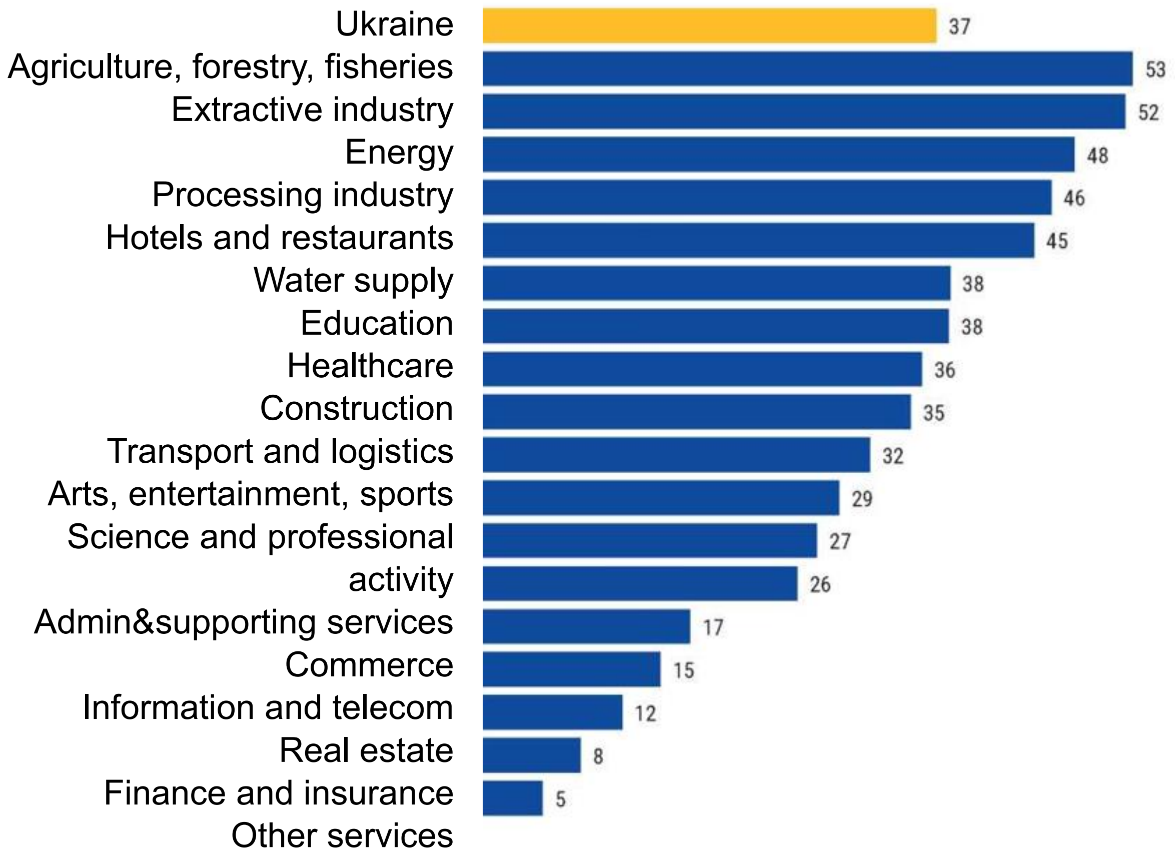
Appendix 33

Assessment of possibilities for self-financing employee training in 2023 by region, %



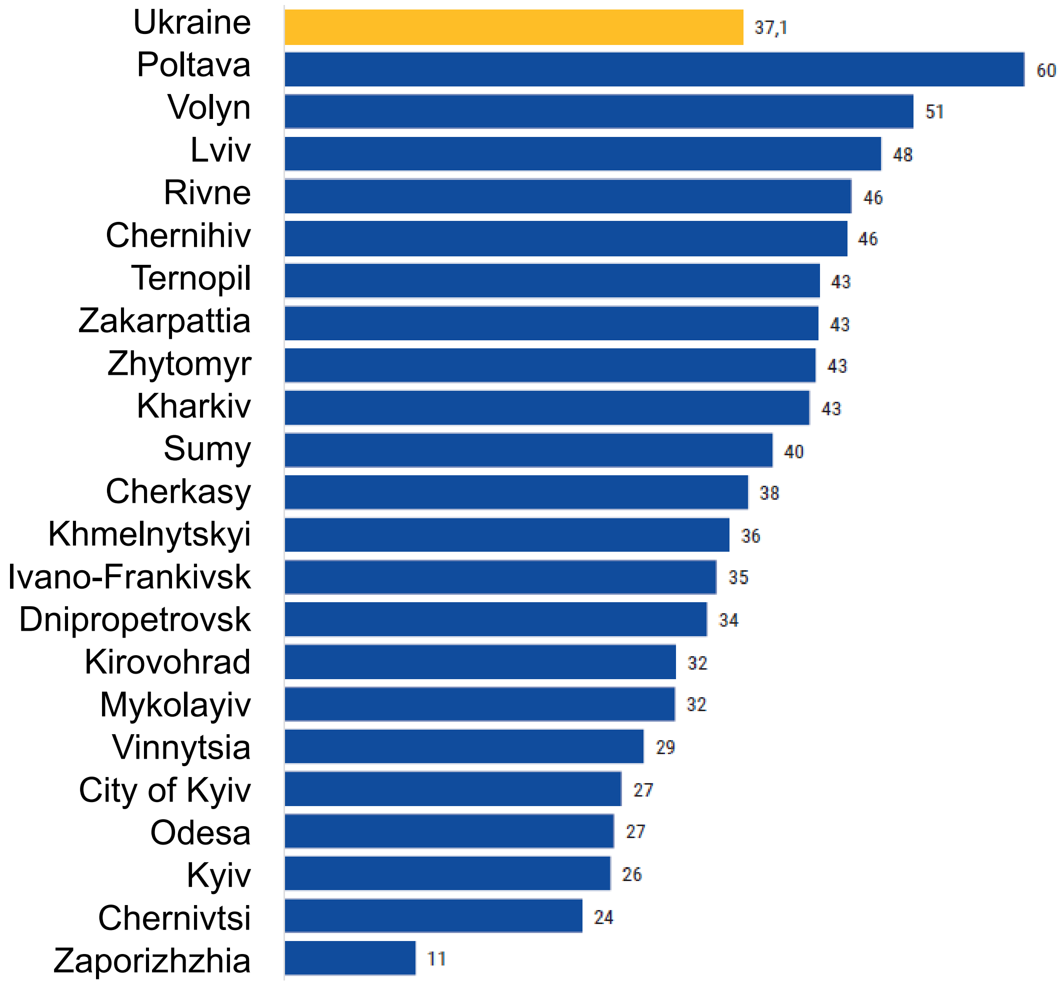
Appendix 34

Cooperation with vocational education institutions by types of economic activity, %



Appendix 35

Cooperation with vocational education institutions by region, %



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