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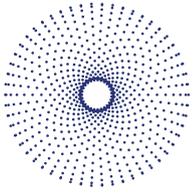KONRAD
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War in Ukraine:
RESHAPING
THE HIGHER EDUCATION SECTOR

EKOHOMIKO-

War in Ukraine: Reshaping the Higher Education Sector

Analytical Report

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The analytical report highlights the range of problems and challenges faced by the higher education system of Ukraine due to the outcomes of the pandemic and the war, assessing the lessons learned and decisions of public authorities and university administrations as a reaction to these challenges, informs on the current state of the higher education system in Ukraine, its priorities and perspective needs.

In loving memory of Viktor Ohneviuk

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LIST OF ACRONYMS

AFU	Armed Forces of Ukraine
COVID-19	coronavirus disease caused by SARS-CoV-2
EDEBO	Unified State Electronic Database on Education
EIT	External Independent Testing
EU	European Union
EUA	European University Association
HEI	higher education institution
LMS	Learning Management System
MoES	Ministry of Education and Science of Ukraine
NMT	National Multidisciplinary Test
PPHE	professional pre-higher education
PPHEI	professional pre-higher education institution
Strategy	Strategy for the Development of Higher Education in Ukraine for 2022-2032
TEC	Temporary Examination Center
UCEQA	Ukrainian Center for Education Quality Assessment
USCIE	State Enterprise "Ukrainian State Center for International Education"
USQE	Unified State Qualification Exam
TOT	temporarily occupied territory

INTRODUCTION

The higher education system of Ukraine, like every other sphere of the country's life, has suffered major losses and destruction caused by the new stage of the war initiated by Russia against Ukraine on 24 February 2022. For two years before the full-scale invasion, the educational sector of our country had operated under pandemic restrictions related to the rapid spread of COVID-19. Before the commencement of these events, the agenda of the higher education system contained such matters as implementation of the provisions of the Law of Ukraine *On Higher Education* in its new edition adopted in 2014, the establishment of a system of internal and external higher education quality assurance to be aligned with the standards effective in the European Higher Education Area, etc.[1] However, creating a safe learning environment and introducing a remote (online) learning format became a top priority during the pandemic.

Upon the offset of a full-scale armed invasion, the situation in the higher education of Ukraine became even more complicated. The education process was suspended; the facilities of Ukrainian education institutions have been constantly damaged by shelling; students and teachers have found themselves in different surroundings, often outside Ukraine or in the Ukrainian regions which were as far from the active hostilities zone as possible; some remain at the temporarily occupied territories. As in 2014 after the annexation of Crimea and the commencement of hostilities in the Donbas, the Ukrainian higher education system faced the need to relocate the education institutions to the territory controlled by Ukraine. All this caused adaptations of the education process to the new circumstances.

Our analytical report has two goals.

First, there is the need to define the range of issues and challenges faced by the higher education system of Ukraine due to the outcomes of the pandemic and the war, and assess the experience and decisions made by the government and universities on how to react to these challenges. We outline the key early decisions, the future tasks, and measures in development by various groups of experts and stakeholders, as these will form the basis of steps aimed to restore the Ukrainian higher education system and set it on a qualitatively new level in the post-war period.

Second, we would like to provide our readers, European and international partners, with up-to-date information on the state of the Ukrainian higher education system in wartime, its primary and perspective needs, to enable the much-needed efficient response to them from our partners and expand cooperation between Ukrainian and foreign HEIs.

Our desk study is largely based on the analysis of open information sources such as analytical and academic publications, regulatory acts currently in force, draft legislation, statistical data, and publications on official websites of the governmental authorities designing and implementing the public education policy (Ministry of Education and Science of Ukraine, Committee of the Verkhovna Rada of Ukraine for Education, Science, and Innovations etc).

In particular, outside of this project, our team regularly prepares and publishes the monitoring of regulatory acts of Ukraine in education, adopted by central legislative and executive authorities. The overview and analysis of the public policy decisions in higher education made after the full-scale invasion of the Russian army are based on the information generalized within the said monitoring.

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1   Higher Education in Ukraine: Agenda for Reforms / Ye. Nikolaiev, N. Arnold, V. Satsyk et al. K.: Konrad Adenauer Stiftung, 2017, 62 p. URL: **https://www.skeptic.in.ua/wp-content/uploads/KAS-PP-28-Higher-Education-in-Ukraine.pdf**.

The main array of statistical information (on the number of higher education institutions, students etc.) has been obtained from the Unified State Electronic Database on Education (EDEBO). Individual statistical data not available in EDEBO were obtained from the publications of the State Statistics Service of Ukraine.

In this text, the phrase "EDEBO data" means the data obtained from EDEBO by two means. Part of the data from the database is available from the "Open Data" section on the official EDEBO website[2]. We obtained the other part of the information as responses to our inquiries for public information prepared by Inforesurs State Enterprise acting as the EDEBO technical administrator. Please note that EDEBO does not record information on military education students (cadets, adjuncts) and students of non-military subject areas studying on a public-funded basis at education institutions with specific training conditions (in practice, these are the education institutions managed by law enforcement ministries and agencies). Accordingly, all the EDEBO-referenced statistical data provided in the text do not include the two student categories mentioned above.

The English academic sources analysed for the report have been accessed through DeepDyve.

In the course of our research, we carried out a series of semi-structured interviews with Ukrainian experts and government representatives who work in the education sector. The interviews covered evaluation of efficiency of the public policy decisions made after 24 February 2022, the needs and support of relocated education institutions, optimization of the higher education institutions network, ties between the systems of higher, professional pre-higher, and vocational (VET) education of Ukraine, potential quality losses in the higher education system caused by the pandemic and the war, international aspects of the higher education system's operation etc. The references to the interviews are laid out in the text footnotes as follows: "Our interview [with (*name of expert*)] of (*date of interview*)". All possible inaccuracies in the interpretation of information obtained from the experts are exclusively ours.

One of the components of our project was recording two English-language podcast episodes dedicated to the challenges for Ukrainian students, teaching staff, and universities in wartime: *Ukrainian Universities During the War: A Struggle for Survival?*[3] and *Ukrainian Students and Professors Going Abroad: Is It Good or Bad?*[4] These podcasts were recorded in partnership with the project Ukraine World / Explaining Ukraine hosted by Internews-Ukraine.

This analytical report is published in Ukrainian and English. Both language versions are available at: **https://osvitanalityka.kubg.edu.ua/HigherEd**

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2   URL: **https://registry.edbo.gov.ua/opendata/**.
3   URL: **https://ukraineworld.org/podcasts/ep-157**.
4   URL: **https://ukraineworld.org/podcasts/ep-160**.

ACKNOWLEDGEMENTS

EXECUTIVE SUMMARY

This report explores a range of issues and challenges faced by the Ukrainian higher education system caused by the pandemic and the full-scale war that started in February 2022. The authors aim to assess the lessons learned and decisions made by public authorities and universities in reaction to these challenges. Moreover, the analytical report provides the readers, European and international partners of Ukraine, with up-to-date information on the condition of the Ukrainian higher education system during the war, its primary and perspective needs, to enable the much-needed efficient response to them from our partners.

Starting from 2020, the education sector in Ukraine, like in most countries around the world, operated under pandemic restrictions related to the rapid spread of COVID-19. During that period, the urgent issues concerned the establishment of a safe environment and the introduction of remote (online) learning.

Two years later, as Russia initiated full-scale armed aggression against Ukraine on 24 February 2022, the situation got even more difficult. In the first days of the full-scale war, the education process at Ukrainian universities was suspended. Many teachers and students were forced to flee urgently to safer regions both in Ukraine and abroad; some of them remain in temporarily occupied territories. The buildings of many Ukrainian education institutions have been damaged by the shellings. As in 2014 after the annexation of Crimea and commencement of military activities in the Donbas, Ukraine once again faced the need to relocate university operations to the territory controlled by the Ukrainian authorities. All of the above forced the educational process to adapt to the new conditions.

First decisions by public authorities in support of the higher education system's operation

Upon commencement of the full-scale military activities, the focus of the public policy in education was shifted to minimization of harmful consequences of the military invasion. On 25 February, all education institutions were recommended to suspend their education process and announce a two-week holiday. In early March, the Ministry of Education and Science of Ukraine (MoES) obliged HEI administrations to take all the necessary measures to ensure safety of their staff and students.

On 15 March, the Verkhovna Rada of Ukraine[5] expanded guarantees for students and employees of educational and academic institutions under martial law. Among other things, guarantees were enshrined for the organization of the education process in its safest possible form, preservation of jobs and average wages, payment of scholarships and other allowances, as well as provision of accommodation and meals, if necessary.

MoES, in turn, provided relevant clarifications on the application for leaves, especially for those staying abroad, the possibility of introducing remote work, and labour payment during the downtime in studies. Besides, MoES urged universities located in the Ukrainian territories far away from the war zone to assist in exercising the rights to academic mobility for the students from HEIs located in the war zone.

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5   The official name of the Parliament of Ukraine.

The state budget funding for the higher education sector was cut after the commencement of the full-scale war. In 2022, the funding of public HEIs managed by MoES and the Ministry of Health Care of Ukraine went down by 10%. In 2022 and 2023, MoES does not apply the performance-based funding of HEIs to distribute funds between individual HEIs, a policy instrument introduced in Ukraine in 2019.

In 2022, Ukraine denounced all agreements with the Russian Federation and Belarus concluded in education and science.

New HEI admittance procedure in 2022

Before 2022, students entered bachelor's programmes of Ukrainian HEIs mostly based on the results of External Independent Testing (EIT). EIT-based testing was arranged by an institution independent from secondary schools and had to be taken in paper form. University applicants had to pass EIT in three or four subjects, each test being held on a separate day.

In 2022, bachelor's degree programme applicants took the National Multidisciplinary Test (NMT). It is a test similar to EIT in the content of tasks; however, it includes questions across three subjects at once and is taken digitally in one day. For the first time in Ukraine, this test was held not only in the territory of Ukraine but also in over 20 other countries to enable citizens of Ukraine who had escaped the war and stayed abroad to be admitted to Ukrainian universities.

Likewise, paper-based tests to enter a master's programme in 2022 were replaced with digital testing.

Another feature of the admission campaign in 2022 was the possibility to enrol in several subject areas without having to pass EIT or NMT. A decision was made to give everyone a chance to obtain higher education in individual subject areas, practically without assessing their training level.

Reducing democratization in individual universities' management

To facilitate the democratization of management at Ukrainian universities, starting in 2014, specific standards have been enshrined in legislation saying that an HEI rector[6] is elected by the staff through ballot for a five-year term[7] and that the same person "cannot be a rector of the respective higher education institution for more than two terms."[8]

Some of the decisions made by the public authorities during martial law enable circumvention of these norms. One of the ways to circumvent the restricted number of HEI presidency terms is to reorganize the respective HEI resulting in the formation of a "new" university with a slightly altered name, which is a different legal entity by formal criteria. The rector of the "preceding" HEI will be able to head the "new" university for another two terms, five years each. In 2021–2022, this algorithm was implemented in three universities.

Furthermore, discretionary decisions by MoES in practice allow extension of the current rectors' tenure in any HEI. For instance, between 24 February and 1 December 2022, MoES approved resolutions regarding the election of rectors at 23 HEIs. At 16 of them, the elections must take place within three months after termination of martial law, although the law presumably does not authorize MoES to postpone the election date in the said manner.

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6   A common title for the head of a university in Ukraine.
7   Law of Ukraine *On Higher Education*, No. 1556-VII of 01 July 2014, Article 42, part three.
8   Law of Ukraine *On Higher Education*, Article 42, part one.

War-related losses in higher education system

According to experts, the Russian army caused almost US$136 billion worth of damages to the infrastructure of Ukraine, of which US$8.2 billion (or 6%) are the damages caused to the Ukrainian educational infrastructure. As of the 300th day of the full-scale war in Ukraine, 361 education institutions have been destroyed and another 2,556 suffered damages. Zaporizhzhia and Donetsk Oblasts had the largest number of destroyed HEIs and PPHEIs, while Kharkiv Oblast had the largest number of damaged HEIs.

Over 6 million people were forced to leave Ukraine due to military actions. As of late September 2022, 4.18 million people applied for temporary protection or similar national schemes in European countries. Over 8 million people have been internally displaced. A large part of the population remained in the temporarily occupied territories. Based on the data available, 665 thousand HEI and school students (16% of the total number) and 25 thousand educators (6% of the total number) have left Ukraine.

According to an online survey of students, teachers, and staff of Ukrainian HEIs who remained in Ukraine, 97.8% of respondents noted deterioration of their psycho-emotional state, suffering from depression (84.3%), burnout (86.7%), loneliness (51.8%), anxiety (84.4%), and anger (76.9%). The survey shows that students reported burnout, the feeling of loneliness, anxiety, and anger more often than staff, while women noted depression, burnout, loneliness, and anxiety[9] more often than men.

For the respondents staying outside Ukraine, the common problems were the language barrier and lack of money. The main problems noted most often by the students staying abroad include financial difficulties, language barrier, employment issues, unstable mobile and Internet connection, access to medical services, difficulties in finding housing and payment for it, and psychological issues[10].

HEI students, teachers, and personnel who stayed in the temporarily occupied territory have found themselves in a dramatically different situation. They are subjected to all the negative psycho-emotional factors affecting their colleagues who stay in the Ukrainian territory. Furthermore, the occupation administration representatives put additional pressure upon such educators, forcing them to transfer to the newly formed education pseudo-institutions and introduce teaching in Russian. Those who tried to continue working at Ukrainian HEIs remotely were unable to work full-time due to mobile and Internet connection issues. Sometimes Russian security officials purposefully searched for such individuals to make their further activities at Ukrainian HEIs impossible or persuade them to work for Russia. Russians created conditions for such individuals and their family members which made it much harder for them to leave the occupied territory, forcing them to pass numerous inspections. Such a state of affairs threatened not only their mental condition but also their safety.

Another aspect of quality losses in the higher education of Ukraine is limited access to studies. Certain differences should be noted between the end of the academic year 2021/2022 and the new year 2022/2023. While in spring the largest challenge was to create safe conditions, in autumn blackouts, disruptions in heating supply and stable Internet access aggravated the crisis of remote learning in Ukraine. In the new academic semester, students, teachers, and personnel of Ukrainian universities had to be supermotivated and efficient at certain periods when they had electricity and Internet access at their homes or offices.

9   Anton Kurapov, Valentyna Pavlenko, Alexander Drozdov, Valentyna Bezliudna, Alexander Reznik & Richard Isralowitz (2022). Toward an Understanding of the Russian-Ukrainian War Impact on University Students and Personnel. https://doi.org/10.1080/15325024.2022.2084838.

10 Ibid.

Reaction of international community to full-scale Russian invasion of Ukraine

Following political statements from their governments, national education authorities and universities from many countries condemned the Russian aggression against Ukraine and voiced their readiness to provide comprehensive support to the Ukrainian education community. Further introduction of several packages of sanctions, a ban on flights to Russia issued to European airlines, and banking settlement restrictions caused severance of ties with Russia in the education sector as well.

Individual universities and public organizations reacted upon the breakout of a full-scale war on the European continent by arranging solidarity rallies, publishing statements condemning the aggression, and cutting ties with the Russian university community. The Ministries of Foreign Affairs of Germany, Lithuania, Latvia, and Estonia recommended their universities freeze academic cooperation with the Russian state and business institutions on an individual level to ensure that research funds no longer benefit Russia, no joint events take place, and no new projects involving Russians are initiated. European rectors' conferences in Germany, the Czech Republic, and Spain were the first to condemn the Russian Federation's actions and expressed their readiness to provide support to Ukrainian students and researchers. Student demonstrations in support of Ukraine were held across campuses at Harvard, Stanford, the University of Michigan, the University of Illinois, the University of New Mexico, while many other institutions lit up their buildings in the yellow and blue of the Ukrainian flag to demonstrate solidarity with the Ukrainian people.

A number of EU decisions concerned banning Russia from participation in all educational and academic organizations and projects. As part of the fifth package of sanctions approved in early April 2022 against Russia and Belarus, the European Commission suspended all payments under Erasmus+, Horizon 2020, Horizon Europe, and Euratom programmes, and stated no new contracts or agreements would be concluded. However, there is still an open option for Russian students, researchers, and academics to apply for individual EU scholarships.

Support for Ukrainian students and scholars through EU grant programmes

The European Commission reallocated available funding from the European Regional Development Fund, European Social Fund (ESF), and the Fund for European Aid to the Most Deprived (FEAD) to finance a wide range of measures to support people fleeing from Ukraine. Notably, the funds planned for Russian researchers under European education programmes were reallocated to meet the needs of Ukrainian students and teachers.

Special Recommendations have been developed for the national agencies under student mobility grant programmes, international staff mobility, mobility of youth and volunteers to ensure they get top-priority support. Various forms of student support were offered to enable them to continue online studies in Ukraine, and for teachers to continue teaching in Ukrainian institutions, as well as various support forms to help them adapt to the new countries. A special programme, Horizon4Ukraine, was initiated for researchers under the all-European Horizon Europe programme. The European Commission published recommendations for recognition of academic and professional qualifications enabling the national authorities to run this process for the Ukrainian refugees in a timely, fair, and flexible manner.

Foreign students in Ukraine

As of 25 October 2022, 68,712 foreign students were studying at Ukrainian HEIs. Generally, Ukraine has become a hot spot for getting higher education among citizens of over 150 countries around the world, with the largest share of students coming from India, Morocco, Turkmenistan, Azerbaijan, and Nigeria. They mostly pursue medical education. Among the top 10 Ukrainian institutions with the largest number of foreign students, nine positions are taken by medical universities.

With the breakout of the full-scale war, most foreign students were forced to leave Ukraine, many of them continuing their studies remotely. These students do not necessarily return to their home countries. Many have grabbed the opportunity to obtain rights equal to those of the EU citizens as refugees from Ukraine, including rights to education, thus moving to the adjoining countries. Notably, most student refugees from Ukraine in Hungary are not Ukrainians but citizens of a third country. Individual Ukrainian universities have arranged the option of continuing studies under the Ukrainian curriculum for foreign students in other countries (Georgia, among others).

Forced relocation of universities

In 2014, Ukraine acquired the first experience of relocating higher education institutions in the times of the Russo-Ukrainian war. Back then, as the Autonomous Republic of Crimea and parts of Donetsk and Luhansk Oblasts were temporarily and illegally occupied by Russia, around 20 HEIs had to be urgently evacuated from these areas to the Ukraine-controlled territory. One of the important specifics of HEI relocation in 2014 was the understanding that this relocation was to be long-term. Therefore, university administrations, most teachers and students chose to leave dangerous territories.

In 2022, universities were similarly forced to evacuate from the territories engulfed by hostilities. During relocation in 2022, 131 professional pre-higher and higher education instituions moved to other regions, with a total number of 91 thousand students (6.7% of the total number of students in Ukraine) and over 11 thousand teachers.

The relocation of education institutions in 2022 was different from the one that had taken place eight years earlier. While in 2014 most teaching staff and students of each relocated HEI moved to a new city and new premises, in 2022 this "full-scale" relocation model was implemented by only two or three universities. Other institutions used a "minimal" or "semi-virtual" relocation model: they moved the administration, the accounting department, and several key employees of other departments to a new city, usually to be accommodated by another education institution. These departments are mostly hosted in just a few rooms of their partner education institution. Meanwhile, teachers and students continue to work and study remotely, regardless of their physical location.

After the de-occupation of territories captured by Russia, different relocated HEIs will find themselves in widely varying conditions. Most will return to their home cities and premises. Some others will, unfortunately, have nowhere to return due to destroyed facilities that will require rebuilding. There is also the third group of HEIs, those relocated in 2014. Their challenge is that their home facilities were used by the occupants to set up their own "universities" where citizens of Ukraine who reside in these occupied territories have been working and studying for several years. Further participation of these individuals in the learning process within the Ukrainian legal framework will be a very complicated issue.

Professional pre-higher education development

In the Ukrainian education system, professional pre-higher education occupies the intermediary step between secondary and "full" higher education at the bachelor's and master's levels. There are over 600 professional pre-higher education institutions (PPHEIs) in Ukraine, providing training for about 369 thousand students as of 2022. One of the important issues of this education level is that, in a number of cases, it trains students to continue their studies at university programmes rather than prepares them to enter the labour market. Another challenge is the lack of systemic vision among the key stakeholders regarding the place of professional pre-higher education in the education system of Ukraine and the feasible pathways of its further development.

Areas of recovery for the Ukrainian higher education system

Experts believe that in the nearest future the education sector of Ukraine will have to "(1) overcome the challenges of war damage; (2) rethink and develop a new vision of the system as a whole to ensure its comprehensive development; (3) create positive conditions for the transformation of the network of educational institutions to meet the social and economic needs of the country; (4) improve the quality of education; (5) ensure an innovative learning and researching environment; and (6) partner with stakeholders of different levels and scope of interventions to ensure inclusion of and positive outcomes for all students and stakeholders."[11]

Also, the experts suggest concentrating on the implementation of effective measures for a conscious and informed choice of higher education, building a system of effective control over the quality of learning, providing more financial autonomy to universities, improving the administration system. It is also necessary to create mechanisms to make up for the learning losses caused by the COVID-19 pandemic and the Russian military aggression against Ukraine and optimize the university network. These and other measures have been enshrined in a number of official strategic documents, such as the Strategy for the Development of Higher Education in Ukraine for 2022-2032 and the draft Ukraine Recovery Plan for Education and Science.

11 Rebuilding Ukraine: Principles and Policies. Paris Report 1. Edited by Yu. Gorodnichenko, I. Sologub, B. W. di Mauro. CEPR Press, 2022. P. 358. URL:
https://cepr.org/system/files/publication-files/178114-paris_report_1_rebuilding_ukraine_principles_and_policies.pdf.

CHAPTER 1.
General Overview
of Higher Education System in Ukraine

There are three types of formal tertiary (post-secondary) education in Ukraine: vocational (VET), professional pre-higher, and higher education. VET and professional pre-higher education institutions admit students both with basic (Grade 9) or complete (Grade 11) secondary education. Those enrolling after Grade 9 will also master a somewhat shorter curriculum of Grades 10 and 11 along with a profession or specialization and receive a complete general secondary education certificate.

Higher education institutions admit students with complete general secondary education. Bachelor's degree programmes usually take four years[12], followed by master's programmes for a year and a half or two years. The exceptions from the "4+1.5 years" or "4+2 years" plans are veterinary and main medical specializations where there is no bachelor's degree, and the secondary school graduate enrols in a five- to six-year-long master's programme. Moreover, there are two-year short-cycle higher education programmes that have been recently introduced in Ukraine, training junior bachelors. These programmes are currently not highly popular (for more details, please see Chapter 6).

Similar to most European countries, PhD programmes in Ukraine take four years to complete. Based on the data of the State Statistics Service of Ukraine, as of the end of 2021, there were 26.4 thousand PhD candidates, including 24 thousand pursuing their degree at higher education institutions and 2.4 thousand in research institutes[13].

The second research degree, Doctor of Science, is similar to *Doctor habilitatus* existing in some countries; however, recent adjustments in legislation transferred the Doctor of Science degree from higher education to research area.

There are four types of higher education institutions offering higher education programmes: universities, academies, institutes, and colleges. The first three types have no particular differences: universities, academies, and institutes offer bachelor's, master's, and doctorate programmes. Colleges may provide higher education only under bachelor's and junior bachelor's programmes; they may also offer professional pre-higher education programmes. A small number of future bachelors also study at professional pre-higher education institutions — professional colleges ("college" and "professional college" are two different types of education institutions; please see Chapter 6 on the latter).

Individual HEIs may have branches and professional colleges in their structure. Branches are located in a different city than the main HEI and offer higher education programmes. Professional colleges run by HEIs provide professional pre-higher education. They may be located both in the same city as their HEI and elsewhere.

As of 01 January 2022, based on EDEBO data, there are around 320 independent universities, institutes, and academies in Ukraine, as well as 45 independent colleges. Of these, 220 HEIs are state-owned, 32 are municipal, and 113 are private. HEIs also have 450 branches and professional colleges in their structure.

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12 Except for the Law Enforcement subject area where bachelors are trained for three years.
13 PhD education in Ukraine in 2021. Statistical information / State Statistics of Ukraine, 2022. [In Ukrainian]
   URL: **https://www.ukrstat.gov.ua/operativ/operativ2022/osv/aspirantura/aspirantura_2021.xls**.

Public policy in higher education is shaped and implemented by the Ministry of Education and Science of Ukraine (MoES). MoES manages 157 state-owned HEIs. Other state-owned HEIs are managed by other ministries and departments.

As of early 2022, 984.1 thousand students pursued junior bachelor's, bachelor's and master's degrees in Ukraine[14]. Most of them (861.7 thousand) studied at state-owned HEIs, a smaller number (96.5 thousand) at private HEIs, and the smallest share of students (19.5 thousand) studied at municipal HEIs. 6.4 thousand students pursued higher education of the above-mentioned levels at professional colleges of various ownership types. The data on the number of post-secondary education seekers in Ukraine are shown in Figure 1.1.

Doctorate — 26,4
Master — 268,3
Bachelor — 712,2
Junior Bachelor — 3,6
Junior Specialist — 134,5
Professional Junior Bachelor — 235,2
Vocational Education and Training — 250,3
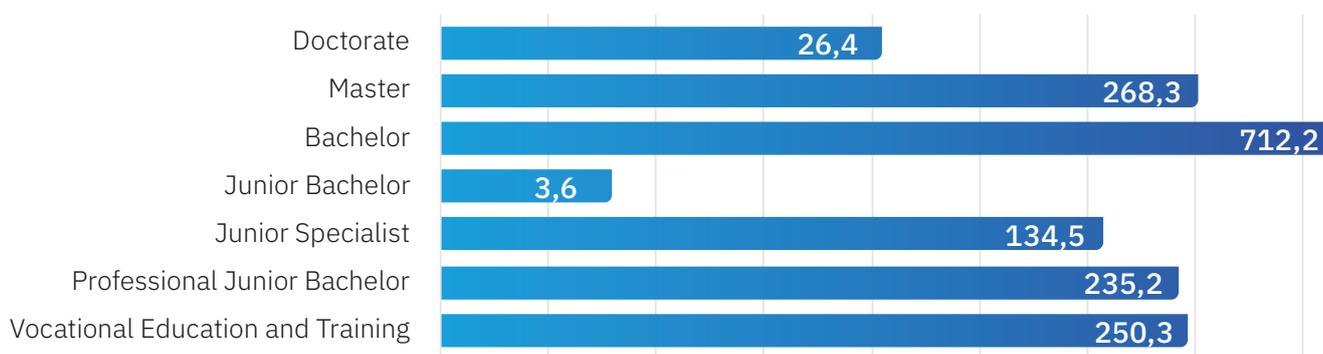
Figure 1.1. Post-secondary education seekers in Ukraine, by education degree, *thousand persons, lines not to scale*

Getting higher education in Ukraine is funded in two (in theory, three) ways.

1. Training is funded by the state or local budgets, and then the student does not pay any tuition. The formal title of this funding type is "public/regional-funded education", while commonly it is called "budget-funded education". Some students may also receive a small scholarship.

2. Tuition fees are paid by the student to the institution of their choice. The formal title of this funding type is "training funded by individuals and legal entities", while commonly it is known as "contractual training".

3. Theoretically, a student can study on a tuition-paid basis covered by a concessional government loan, but the number of individuals receiving such loans does not exceed 100 per year.

No co-funding options (when the cost of training is partially covered by the state or local budget and the rest is paid by the student) exist in Ukraine.

It should be noted the employment options for bachelors are somewhat limited in Ukraine as some sectors of the labour market only reluctantly recognize this level as complete higher education. Therefore, the master's programmes in Ukraine are highly popular in comparison to many other European countries. For instance, based on EDEBO data, in 2021 189.5 thousand individuals obtained their bachelor's degrees but only 83 thousand decided to pursue a master's degree in the same year (43.8% of the number of bachelor's programme graduates).

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14 Data on higher military education seekers and the share of HEI students with specific learning conditions are not included (the information on these students is not on EDEBO).

In 2022, the admission rules for all higher education levels were significantly simplified (see Chapter 2), and 174.7 thousand students obtained their bachelor's degrees, with 150.6 thousand (including bachelor's graduates of the previous years) enrolling in master's programmes in the same year.

All activities in higher education require mandatory licensing. Since 2019, the accreditation of educational programmes in higher education has been introduced under the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG 2015). There are state higher education standards operating in Ukraine, defining the main compliance parameters for educational programmes in every subject area. The key parameter of a higher education standard is the definition of the list of key learning outcomes each educational programme graduate must demonstrate.

Ukraine is a member of the European Higher Education Area and its respective international treaties, actively reforming the higher education sector to align with the European Qualifications Framework .

15 Comparison report of the European Qualifications Framework and the Ukrainian National Qualifications Framework. European Commission, 2023. P. 65-77.
URL: **https://europa.eu/europass/system/files/2023-02/Comparison%20report%20EN.pdf**.

CHAPTER 2.
Public Policy in Higher Education
after 24 February 2022

Top priority decisions by public authorities aimed at supporting higher education system in new conditions

The full-scale Russian invasion of Ukraine on 24 February 2022 rapidly changed the course of all the administrative processes in Ukraine. The higher education sector was no exception. The public policy in this area was primarily aimed at minimization of the harmful effects of armed invasion. On 24 February, MoES posted a concise advisory note on the official website of the Government regarding the operation of education institutions under martial law[16]. On 25 February, all education institutions were recommended to suspend the learning process and announce a two-week vacation[16]. Shortly after the full-scale invasion, the Government commissioned an early attestation and graduation of cadets who were getting higher military education[17].

> *First, there was a Ministry recommendation to suspend the learning process for some time. This enabled the Ministry to draft several documents and universities to adapt to the situation.*
>
> *Volodymyr Bakhrushyn[19]*

On 2 March, MoES asked the administrations of HEIs and PPHEIs to provide daily updates on their current situation and the ways they would organize the learning process at their institutions after the end of extraordinary vacations[20].

In early March, MoES ordered HEI administrations to take all the necessary measures to ensure protection for the learning process participants[21]. The administrations of universities which are outside the territories affected by the armed invasion had to provide information on their capacities and measures they have already taken to assist other universities and their representatives who had been forced to relocate to their region due to the war.

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16 Explanation of the operation of education institutions under martial law. [In Ukrainian] URL: **https://www.kmu.gov.ua/ news/rozyasnennya-mon-shchodo-roboti-zakladiv-osviti-u-mezhah-pravovogo-rezhimu-voyennogo-stanu**.

17 [In Ukrainian] URL: **https://mon.gov.ua/ua/news/sergij-shkarlet-vsim-zakladam-osviti-rekomendovano-pripiniti-osvitnij-proces-ta-ogolositi-kanikuli-na-dva-tizhni**.

18 On early graduation of final year cadets (students) of higher military education institutions in 2022...: Order No. 190-p of the Cabinet of Ministers of Ukraine of 28 February 2022. [In Ukrainian] URL: https://zakon.rada.gov.ua/laws/show/190-2022-%D1%80; On early graduation of final year cadets...: Order No. 207-p of the Cabinet of Ministers of Ukraine of 09 March 2022. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/207-2022-%D1%80#Text**.

19 Our interview of 10 November 2022.

20 On operation of the education sector during martial law: MoES letter No. 1/3319-22 of 02 March 2022. [In Ukrainian] URL: **https://mon.gov.ua/storage/app/uploads/public/622/617/088/622617088b661133060373.pdf**.

21 On several organizational matters of higher and professional pre-higher education institutions' operation under martial law: MoES Order No. 735 of 07 March 2022. [In Ukrainian] URL: **https://zakon.rada.gov.ua/rada/show/v0235729-22#Text**.

Moreover, MoES pointed out the need to provide special training conditions for the students who enlisted in the Armed Forces of Ukraine or territorial defence, or took up volunteering activities.

> *Every effort was aimed at providing the students with the opportunity to continue and complete their education, first of all for those in their final year of bachelor's programmes. Furthermore, many decisions were aimed at using the opportunities provided by legislation: [change of] individual training plans or postponing individual curriculum components to a new academic year.*
>
> *Volodymyr Bakhrushyn[22]*

On 15 March, the Verkhovna Rada of Ukraine expanded guarantees for students and staff of educational and research institutions operating under martial law[23]. The Government enshrined guarantees in legislation for the organization of the learning process in the safest possible form for its participants, job security, payment of scholarships and other allowances, as well as provision of accommodation and meals, if necessary.

Furthermore, the Verkhovna Rada authorized MoES to provide regulatory and legal support in the operation of the education and science system under martial law and issue orders on matters not regulated by the law[24]. This step facilitated the expansion of possibilities for a prompt response to the challenges in the educational sector and also simplified the mechanism of making the necessary administrative decisions.

In late March, the Government denounced the agreements with the Russian Federation in education and research. Among other things, this meant termination of cooperation agreements in the said areas, in particular on mutual recognition of education certificates and academic degrees[25].

Important decisions were made on individual matters of operation of the higher education system.

For instance, MoES stressed the need to facilitate exercising the right to **academic mobility** of students from the universities located in the war zone and provided guidance on executing academic mobility agreements and the implementation of individual guarantees for the academic mobility participants, particularly regarding reservation of their place at universities and payment of scholarships[26].

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22 Our interview of 10 November 2022.

23 Law of Ukraine *On Amendments to Several Laws of Ukraine on State Guarantees Under Martial Law, Emergency, or State of Emergency*, No. 2126-IX of 15 March 2022. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/2126-20#Text**.

24 Ibid.

25 On denunciation of Agreements with the Russian Federation in education and research: Resolution No. 355 of the Cabinet of Ministers of Ukraine of 24 March 2022. [In Ukrainian]
URL: **https://zakon.rada.gov.ua/laws/show/355-2022-%D0%BF#Text**.

26 On internal academic mobility of educational process participants: MoES letter No. 1/3507-22 of 18 March 2022. [In Ukrainian] URL: **http://osvita.adm-km.gov.ua/?p=2762**.

Moreover, HEIs were provided with recommendations on individual matters of ending the academic year 2021/2022 at HEIs and PPHEIs[27]. MoES specifically explained the matters referring to the resumption of the learning process and the duration of the academic year, attestation of students, procedures of their transfer and issuing of education certificates.

Simplified or suspended individual procedures in higher education

In light of the Russian aggression against Ukraine, the procedure of professional pre-higher and higher education programmes accreditation was significantly simplified. On 16 March, the Government prolonged the valid programme accreditation certificates till 1 July of the year following the year of termination or cancellation of martial law in Ukraine, allowing accreditations to be passed remotely, and allowing for approval of conditional programme accreditation without the actual accreditation expertise and payment of accreditation fees[28]. In April, the National Agency for Higher Education Quality Assurance approved a temporary programme accreditation procedure[29] detailing the provisions of the specified governmental decision.

In Ukraine, the National Agency for Higher Education Quality Assurance provides programme accreditation in higher education. Based on the accreditation expertise results, one of the four decisions may be made:

a) to accredit the programme for five years;

b) to accredit the programme for five years and mark it as exemplary;

c) to conditionally accredit the programme for one year;

d) to deny programme accreditation.

As of the end of 2022, the cost of the accreditation expertise for one programme is about €1700.

> *If we reduce any requirements to education quality now, we will negate the sacrifices made by millions of Ukrainian families who, at best, haven't seen their beloved ones for months, and at worst will never see them again. And it is utterly irresponsible to do so…"*
>
> *Inna Sovsun[30]*

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27 On recommendations concerning ending the academic year 2021/2022 at higher and professional pre-higher education institutions: MoES letter No. 1/4334-22 of 21 April 2022. [In Ukrainian] URL: **https://mon.gov.ua/ua/npa/pro-rekomendaciyi-stosovno-okremih-pitan-zavershennya-20212022-navchalnogo-roku-u-zakladah-vishoyi-fahovoyi-peredvishoyi-osviti**.

28 On specific accreditation terms for educational programmes followed by higher education students under martial law: Resolution No. 295 of the Cabinet of Ministers of Ukraine of 16 March 2022. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/295-2022-%D0%BF#Text**.

29 Temporary accreditation procedure for educational programmes used for training higher education students under martial law: Decision of the National Agency for Higher Education Quality Assurance of 14 April 2022, Protocol No. 6. [In Ukrainian] URL: **https://naqa.gov.ua/wp-content/uploads/2022/10/4_%D0%94%D0%BE%D0%B4%D0%B0%D1%82%D0%BE%D0%BA-%D0%B4%D0%BE-%D0%BF%D1%80%D0%BE%D1%82%D0%BE%D0%BA%D0%BE%D0%BB-%E2%84%9619-%D0%B2%D1%96%D0%B4-25.10.2022-%D0%A2%D0%B8%D0%BC%D1%87%D0%B0%D1%81%D0%BE%D0%B2%D0%B8%D0%B9-1.pdf**.

30 Our interview of 02 November 2022.

In March-April, most universities resumed remote learning. To make the process easier, the MoES recommended[31] moving the part of learning components impossible to fulfil in remote (online) or mixed format to the next academic period for the non-final year students, or approving an early closure of the academic year if there is an urgent need to do so.

New HEI entry procedure in 2022

After the introduction of martial law, the key stakeholders in education policy recognized that the admittance campaign in its usual mode would be impossible in 2022 due to the complexity of operational processes, the need to ensure the safety of independent test takers, and other reasons. As early as 24 March 2022, the Verkhovna Rada of Ukraine adopted a law which enabled a special procedure for the organization of admittance in higher education institutions[32].

Entry into higher education institutions in Ukraine before 2022

Starting from 2008, most secondary school graduates have been admitted to higher education institutions in Ukraine based on their External Independent Testing (EIT) results. The acronym denotes both the actual tests and also a certain testing technology. The organization and testing are managed by the Ukrainian Center for Education Quality Assessment (UCEQA). Before 2021 (inclusive), school graduates took their EIT tests on paper only. Testing took place at an education institution other than the one where the student studied. Each test for a different subject was scheduled on a separate day.

Before 2021, each student had to pass EIT in three or four subjects: Ukrainian Language was the first and mandatory for all, while other subjects could be chosen by the student from the list of the main school curriculum subjects. EIT results in three subjects (Ukrainian Language is mandatory for all, while the other two subjects are determined by MoES and/or HEIs) were considered for HEI admittance.

EIT tests are evaluated on a scale from 100 to 200 points. The "passed/failed" threshold of the test was determined by using an expert method, considering the statistical analysis of test results after the actual test. The purpose was to establish a threshold that would not filter out too many examinees (usually no more than 10% of those taking the test). To pass the specified threshold, a student had to answer correctly 10–30% of test questions.

Starting in 2017, tests based on EIT technology have become mandatory for bachelor's graduates to pursue master's degrees in most subject areas.

Certain categories of university entrants are exempt from having to take External Independent Testing when entering a higher education institution. The said individuals take entry tests instead or have an interview at the institution of their choice.

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31 On the closure of academic year: MoES letter No. 1/3417-22 of 10 March 2022. [In Ukrainian]
    URL: **https://osvita.ua/legislation/Vishya_osvita/85933/**.
32 Law of Ukraine *On Amendments to Several Laws of Ukraine in Education*, No. 2157-IX of 24 March 2022. [In Ukrainian]
    URL: **https://zakon.rada.gov.ua/laws/show/2157-20#Text**.

The new Higher Education Institutions Entry Procedure in 2022 was approved in late April[33]. The key innovation of the Procedure is the replacement of the traditional External Independent Testing (EIT) with the National Multidisciplinary Test (NMT) for the enrolment in bachelor's programmes.

The NMT in 2022 consisted of three academic disciplines — Ukrainian Language, History of Ukraine, and Mathematics. It was envisaged as an online computer test. Various NMT participants took their tests on different days but had to take all three subjects in one attempt.

The Procedure expanded entry opportunities for individuals from the settlements located near territories with active hostilities. The benefits previously established for individuals from the temporarily occupied territories of Crimea, Sevastopol, and individual regions of Donetsk and Luhansk Oblasts are now applicable to these entrants. Among other things, such individuals received the right to take their entry tests in the form of an oral individual interview at the institution of their choice instead of taking the NMT.

In the spring of 2022, the war caused several millions of Ukrainians to flee to other countries. To provide the school graduates who were forced to evacuate abroad with a chance to enter a Ukrainian HEI, the testing was organized in other countries for the first time. Temporary examination centers were established in 46 cities of 23 countries (21 EU member countries, the UK, and Moldova) to host the primary NMT session, and also in 35 cities of 26 countries (19 EU member countries, the UK, Georgia, Canada, Moldova, the USA, Turkey, and Switzerland) for an additional session[34]. In total, the NMT abroad was taken by 20,204 students during the primary session and another 2,894 students in an additional session[35].

Most experts are generally inclined to believe that it was a priori impossible to host a full EIT in paper form in the conditions of war, which is why the NMT seems an optimal solution to the problem in the said conditions.

> *The NMT was designed as a universal test. We selected the set of disciplines among which Ukrainian Language and Mathematics have the highest predictive validity [to assess the ability to master a university curriculum], so these two subjects are essentially enough. However, this test would place humanities students in an unequal position. After many discussions, History of Ukraine was chosen as the third NMT component.*
>
> *Tetiana Vakulenko[36]*

At the same time, several standards envisaged by the HEI Entry Procedure in 2022 drew a lot of criticism. One such issue is the approved list of NMT subjects — Ukrainian Language, History of Ukraine, and Mathematics. The said criticism was aimed, among other things, at the impossibility to choose subjects for the test, unfounded choice of Mathematics for those who planned to pursue degrees in the humanities, and vice versa, unfounded choice of History of Ukraine for those to train in technical and engineering subject areas.

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33 On approval of the Higher Education Institutions Entry Procedure in 2022: MoES Order No. 392 of 27 April 2022. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/z0487-22#Text**.

34 Report on the National Multidisciplinary Test Results in 2022. P. 39–40. [In Ukrainian] URL: **https://testportal.gov.ua/wp-content/uploads/2022/10/Zvit_NMT_2022.pdf**.

35 Ibid. P.42.

36 Our interview of 25 October 2022.

Simplification of university entry requirements vs. previous year

An important change in the Entry Procedure is a considerable easing of the requirements for entrants in 2022 compared to the previous year. Besides a smaller number of test tasks within the three NMT components, the procedure of setting pass scores during the NMT was cancelled. Lack of pass scores in 2022 meant a possibility of entering an HEI if the student had at least one correct answer in each subject or took the test by blindly guessing the answers.

Such simplification of requirements to entrants was justified by the need to fulfil an important social mission — to give as many Ukrainian applicants as possible a chance to enter Ukrainian HEIs and thus maintain contact with them even when it might potentially affect the higher education quality. Another reason for lowering the requirements is the lobbying of interests of individual HEIs related to the losses of such institutions caused by the war.

Despite having certain flaws, the NMT has generally fulfilled its main task — to ensure fair and equal enrolment in higher education institutions in conditions when hosting a full EIT is impossible. As the NMT was simpler than the traditional EIT, and the entry conditions were simplified in 2022 due to the war, this enabled a considerably larger number of individuals to enter HEIs[37]. Yet, there is a negative outcome of this policy as well — entrants choose HEIs over VET and professional pre-higher education institutions (Figure 6.2). In 2021, 89.4 thousand students entered these institutions with a complete general secondary education, while in 2022 the number decreased by over 20% to 71.2 thousand entrants.

Limiting management democratization at individual universities

Starting in 2014, to facilitate management democratization at Ukrainian universities, certain standards have been enshrined in legislation stating that an HEI rector is elected by the staff through secret voting for five years[38] and that the same individual "cannot be a rector of the respective higher education institution for more than two terms."[39] The need to introduce these standards was driven by the practice of the same individual being the head of large Ukrainian universities for two or more decades. This practice is an element of the "closed-doors" management system in higher education in Ukraine which is commonly known as "rector feudalism". The latter promotes conservatism inside HEIs, making internal processes dependent on one-person decisions, reducing space for constructive criticism of such decisions, and also making it harder for other staff members to get promotions by professional achievements (one would not hope to take leading administrative positions at an institution if there is practically no rotation of the people occupying these positions for years). The practice also increases corruption risks.

Individual decisions of the authorities during the war enable some circumvention of the said standards. For instance, one of the means to circumvent the restriction for taking the position of a respective HEI rector for no more than two terms is a reorganization of the HEI which results in the formation of a "new" university with a somewhat altered name, which is a different legal entity by formal characteristics. The rector of the "previous" university will be able to head the "new" university for another two terms, five years each.

In 2022, three such legal entities were reorganized.

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37 Based on EDEBO data, in 2021, 160.3 thousand students entered HEIs with a complete general secondary education, pursuing bachelor's and master's degrees, while in 2022 the number grew to 181.4 thousand (a 13% increase).

38 Law of Ukraine *On Higher Education*, No. 1556-VII of 01 July 2014, Article 42, part three.

39 Law of Ukraine *On Higher Education*, Article 42, part one.

Kyiv National University of Trade and Economics was reorganized into two new institutions: State University of Trade and Economics and Odesa Professional College of Trade and Economics[40]. The person who had been the head of Kyiv National University of Trade and Economics since 1991 won the elections for the rector at the newly-established university in 2022 and was appointed for a new five-year term in May[41].

National Pedagogical Dragomanov University was reorganized into Mykhailo Dragomanov Ukrainian State University[42]. The acting rector of the "new" university is the same person who had headed the "previous" HEI since 2003.

Zaporizhzhia State Medical University and State Institution "Zaporizhzhia Medical Academy of Post-graduate Education of the Ministry of Health of Ukraine" were reorganized into Zaporizhzhia State Medical and Pharmaceutical University[43]. The acting rector of the "new" university is the individual who had headed the first of the "previous" HEIs since 2003.

In turn, the Law of Ukraine *On Higher Education* requires the university founders to announce a new contest for the HEI rector position "at least two months before the expiration of the contract of the person occupying that position" and host the said contest within about three months[44].

The discretionary MoES decisions in practice allow "extensions" of the current tenure of HEI rectors. For instance, between 24 February and 1 December 2022, MoES made decisions on the elections of rectors at 23 HEIs. Five of these institutions had such elections scheduled within the term established by the law[45]. At 16 other HEIs, the elections must take place within three months after termination of martial law, as decided by MoES[46], although the law most likely does not authorize MoES to make such decisions. The postponement of elections at these HEIs cannot be explained by security reasons alone:

12 of 16 HEIs are in the regions of Ukraine which are far from the war zone. In two other cases, MoES initially appointed the rector elections for the period upon termination of martial law; however, later the election was moved to an earlier date[47].

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40 On reorganization of Kyiv National University of Trade and Economics: Order No. 1298-p of the Cabinet of Ministers of Ukraine of 06 October 2021. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/1298-2021-%D1%80#Text**.

41 [In Ukrainian] URL: **https://knute.edu.ua/blog/read/?pid=44087&uk**.

42 Several matters of establishment and reorganization of a higher education institution: Order No. 758-p of the Cabinet of Ministers of Ukraine of 27 August 2022. [In Ukrainian]
URL: **https://zakon.rada.gov.ua/laws/show/758-2022-%D1%80#Text**.

43 On establishment of Zaporizhzhia State Medical and Pharmaceutical University: Order No. 952-p of the Cabinet of Ministers of Ukraine of 28 October 2022. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/952-2022-%D1%80#Text**.

44 Law of Ukraine *On Higher Education*, No. 1556-VII of 01 July 2014, Article 42, part three.

45 MoES Orders No. 47-k of 28 February 2022, No. 114-k of 27 May 2022, No. 123-k of 06 June 2022, No. 237-k of 20 September 2022, and No. 312-k of 01 December 2022 are available on the MoES website: [In Ukrainian] **https://mon.gov.ua/ua/npa**.

46 MoES Orders No. 52-k of 10 March 2022, No. 79-k of 26 April 2022, No. 93-k of 04 May 2022, No. 114-k of 27 May 2022, No. 203-k of 31 August 2022, No. 213-k of 07 September 2022, No. 244-k of 27 September 2022, No. 246-k of 29 September 2022, No. 251-k and 252-k of 05 October 2022, No. 277-k of 28 October 2022, No. 305-k of 18 November 2022 are available on the MoES website: [In Ukrainian] **https://mon.gov.ua/ua/npa**.

47 MoES Orders No. 52-k of 10 March 2022, No. 111-k and No. 114-k of 27 May 2022, No. 245-k of 27 September 2022 are available on the MoES website: [In Ukrainian] **https://mon.gov.ua/ua/npa**.

HEIs funding challenges in wartime

State budget funding for the higher education sector was sequestrated shortly after the beginning of the full-scale armed aggression. The funding under individual budget programmes managed by the Ministry of Education and Science was cut by 10%.

In early March 2022, the Government suspended the acts introducing indicative cost price of the training of students who study on a tuition-paid basis (i.e. paid by individuals and legal entities), and the Formula of state budget expenditure distribution among the higher education institutions[48].

The indicative cost price[49] is the amount annually calculated by an authorized government agency for each state-owned HEI. State-owned HEIs have no right to set the tuition rates to be paid by their tuition-paying entrants at a level lower than this amount. This policy has been introduced to limit dumping at HEIs and to combat their practice of providing educational services to tuition-paying students at an obviously understated price which is considerably lower than the amount the same HEI receives from the State Budget to cover the training of one student studying at the public-funded basis in the given subject area. Due to the cancellation of the said regulation in 2022, HEIs were able to freely determine their tuition rates for the current year's entrants.

The formula-based funding was introduced in 2019[50]; it stipulates the calculation of the performance-based funding for each higher education institution, particularly the number of students, regional support, research performance indices, international recognition, and their graduates' employment rate.

Experts point out that the suspension of the formula-based funding in 2022 was most likely caused by the general funding deficit in this sector, as well as the influence of Ukrainian universities' rectors on this decision. After all, the Formula is used for the distribution of a small share of the general state budget funding among universities. The formula-based funding principle is that this year each HEI is guaranteed, say, 95% (or another share to be determined by MoES) of the previous year's funding amount. The remaining 5% will be collected from all HEIs and distributed so that the institutions demonstrating the best performance results will get, for instance, another 15% of the previous year's amount in addition to their guaranteed 95%. Which means the total will be 110% of the previous year's funding. Meanwhile, HEIs with worse performance results will receive only 95% of the previous year's budget. After the State Budget sequestration, this "surplus" that could be redistributed among HEIs disappeared. Therefore, the formula application was suspended. In 2022 and at least 2023, the state provides funding for HEIs generally in proportion to their number of students.

48 On termination of several decrees of the Cabinet of Ministers of Ukraine in 2022: Resolution No. 251 of the Cabinet of Ministers of Ukraine of 11 March 2022. [In Ukrainian] URL: **https://www.kmu.gov.ua/npas/pro-zupinennya-v-2022-roci-diyi-deyakih-postanov-kabinetu-ministriv-ukrayini-251**.

49 Several matters of introduction of indicative cost price: Resolution No. 131 of the Cabinet of Ministers of Ukraine of 03 March 2020. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/191-2020-%D0%BF#Text**.

50 On distribution of state budget funds between higher education institutions based on their educational, research, and academic performance indicators: Resolution No. 1146 of the Cabinet of Ministers of Ukraine of 24 December 2019. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/1146-2019-%D0%BF#Text**.

The Formula was cancelled in 2022 under the influence of the Rectors Association and correlates with the severe budget sequestration. The budget approved for 2023 is not the time for the Formula as there is nothing to be distributed with the help of that Formula. The time of the Formula will come. The main goal right now is not to defame the achievements and the Formula itself because we will truly need it in the future. And should the formula-based funding become these days an element of speculation that someone received more than others, when the money is less than survival level, this would not benefit the idea and the higher education itself.

Oleh Sharov[51]

Another challenge for the Ukrainian HEIs was the fact that a large part of students studying on a tuition-paid basis lost the possibility to pay for their education because of the war. In spring 2022, the most typical decisions of HEI administrations regarding such students were to postpone their tuition fee payment and send them on mandatory academic leave. Later, in October 2022, the Government decided that the students whose tuition was paid by individuals and legal entities and who lived in the regions of active hostilities could be transferred to a state-funded training programme[52]. In late 2022, about 13,000 students were transferred to state-funded training based on that decision[53].

To sum it up, one could state with confidence that the Ukrainian policymakers in the higher education sector have mostly succeeded in addressing the wartime challenges despite the difficult conditions. The decisions made after 24 February were optimal for the higher education system and were aimed at maximal protection of the system against possible major losses. Some decisions could obviously have been better; however, considering the resources and capacities available within the given time restrictions, these decisions are now perceived as the most weighted and necessary. Through the coordinated and motivated work of Ukrainian universities and educators, the damaging impact of the cruel Russian invasion on higher education has been greatly reduced.

51 Our interview of 01 November 2022.

52 Procedure of transfer of individual categories of higher and professional pre-higher education students who entered higher and professional pre-higher education institutions before 2021 inclusive and were studying on a tuition-paid basis to state-funded training programmes, as approved by Resolution No. 1224 of the Cabinet of Ministers of Ukraine of 28 October 2022. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/1224-2022-%D0%BF**.

53 [In Ukrainian] URL: **http://osvita.ua/vnz/87994/**.

CHAPTER 3.
War-Induced Losses
of Ukrainian Higher Education System

Destruction of HEI infrastructure, losses of human resources, and renewal of the education process during martial law have become the key challenges of war for the higher education system of Ukraine. Nevertheless, the ability of the Ukrainian HEIs to adapt their education process to the quarantine restrictions has provided them with the useful experience to resume studies even in these extremely difficult conditions.

Based on the experts' assessments, the damages caused by the Russian military to the infrastructure of Ukraine amount to almost US$136 billion, of which US$8.2 billion, or 6%, are damages inflicted upon the education infrastructure alone[54]. As of the 300th day of the full-scale war in Ukraine, 361 education institutions have been destroyed and 2,556 others have been damaged.

It is important to note that the destruction and damage of the education infrastructure occur regardless of the zone of active hostilities. In the early days of the invasion (March 2022), in their attempts to capture Ukrainian cities, Russians destroyed the building of the faculty of economics of V.N. Karazin Kharkiv National University[55] in a missile attack. In mid-summer, over a dozen missiles hit the building of the V.O. Sukhomlynskyi National University and the National University of Shipbuilding in Mykolaiv. The strikes caused significant destruction of the façade, walls, roof, and classrooms[56]. In autumn, when the shelling of the power infrastructure of Kyiv intensified, the missiles that hit the crossroad of Volodymyrska Street and Taras Shevchenko Boulevard, as well as the Shevchenko Park, damaged the main building of Taras Shevchenko National University of Kyiv and the building of the Ministry of Education and Science of Ukraine[57]. On 31 December 2022, the buildings of the Exhibition Campus of Taras Shevchenko National University of Kyiv also suffered heavy damages caused by another missile strike[58].

Over 6 million people were forced to leave the territory of Ukraine due to the hostilities. As of the end of September 2022, 4.18 million people were registered in various European countries, applying for temporary protection or similar national plans[59]. Over 8 million people have been internally displaced. Many others remained in the temporarily occupied territories. In general, the war resulted in a massive migration of the population, which undeniably affected the Ukrainian higher education system and particularly the provision of educational services.

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54 As of November 2022, the total damage caused to the infrastructure of Ukraine amounts to almost US$136 billion. [In Ukrainian] URL: **https://kse.ua/ua/about-the-school/news/na-listopad-2022-roku-zagalna-suma-zbitkiv-zavdana-infrastrukturi-ukrayini-skladaye-mayzhe-136-mlrd/**.

55 This is what the university in Kharkiv destroyed during the war looks like. [In Ukrainian] URL: **https://kharkov.comments.ua/ua/news/war/2022/10819-yak-viglyadae-zruynovaniy-pid-chas-viyni-universitet-u-harkovi-foto.html**.

56 Destroyed buildings of universities in Mykolaiv. What we know. [In Ukrainian]
URL: **https://suspilne.media/260977-zrujnovani-budivli-mikolaivskih-universitetiv-so-vidomo/**.

57 The largest HEI of the country was damaged in a missile attack. How Taras Shevchenko National University of Kyiv bounces back. [In Ukrainian] URL: **https://zn.ua/ukr/UKRAINE/najbilshij-vish-krajini-postrazhdav-vid-raketnoho-obstrilu-jak-ohovtujetsja-knu-imeni-tarasa-shevchenka.html**.

58 Shevchenko University needs help. [In Ukrainian] URL: **https://knu.ua/news/12574**.

59 Ukrainian refugee support programmes in EU countries and the UK: what has changed since February. [In Ukrainian] URL: **https://thepage.ua/ua/politics/programi-ta-dopomoga-dlya-bizhenciv-z-ukrayini-u-yevropi-na-kinec-2022-2023-rik**.

Based on the data available, 665 thousand university and school students (16% of the total number) and 25 thousand educators (6% of the total number) have left the territory of Ukraine[60].

The war directly affected the three categories of the higher education system representatives: students, teachers, and HEI staff. The impact differs depending on their place of stay and circumstances, whether they remained in Ukraine, went abroad, or stayed in the temporarily occupied territories.

Based on an online survey of students and faculty of Ukrainian HEIs who remained in Ukraine, 97.8% of respondents reported deterioration of their psycho-emotional condition, complaining of depression (84.3%), burnout (86.7%), loneliness (51.8%), anxiety (84.4%), and anger (76.9%). Students reported burnout, loneliness, anxiety, and anger more often than the staff, while women noted depression, burnout, loneliness, and anxiety[61] more than men. The survey authors point out that the respondents complaining of a decline in their psycho-emotional condition have higher levels of fear, burnout, loneliness, and lower resilience level[62].

Another survey covering teachers and staff of the faculty of linguistics of Igor Sikorsky Kyiv Polytechnic Institute confirms the results specified above. Over 50% of respondents reported depression and other psychological issues as the factors impairing their professional activities the most. Among the suggested top priorities in the first months of the war, 53% of teachers and staff chose the option "survive, stay safe", 29% "to support students, colleagues, others", and 10% "mental health"[63].

The survey held by our team in late spring of 2022 among students and teachers of several Ukrainian HEIs showed that teachers tended to assess their health condition more optimistically than students. Nevertheless, the living conditions of at least half of the respondents were not comfortable and/or safe. Access to the Internet was unstable for most students and teachers, which meant a highly complicated organization of the learning process with the use of remote communication technologies[64].

The respondents who stayed abroad reported the language barrier and lack of money as the most typical problems. Two teachers reported problems with access to medical services, and another one noted difficulty in finding accommodation[65].

The students who stay abroad most often report the following main issues: financial difficulties; language barrier; problems with finding a job; unstable mobile and Internet connection; access to medical services; problems with finding accommodation and paying for it; psychological issues[66].

60 Education: Impact of the War in Ukraine. URL: **https://reliefweb.int/attachments/049e4189-c707-43dc-be5e-f1c95094885b/education_-_impact_of_the_war_in_ukraine.pdf**.

61 Anton Kurapov, Valentyna Pavlenko, Alexander Drozdov, Valentyna Bezliudna, Alexander Reznik & Richard Isralowitz (2022). Toward an Understanding of the Russian-Ukrainian War Impact on University Students and Personnel. **https://doi.org/10.1080/15325024.2022.2084838**.

62 Ibid.

63 Yuliana Lavrysh, Iryna Lytovchenko,Valentyna Lukianenko, Tetiana Golub (2022). Teaching during the wartime: Experience from Ukraine. **https://doi.org/10.1080/00131857.2022.2098714**.

64 Organizing the education process at Kherson State University in the times of war: problems and suggestions based on the faculty survey. [In Ukrainian] URL: **https://tinyurl.com/4u6f3sfj**. P. 3–5.

65 Organizing the education process at Kherson State University in the times of war: problems and suggestions based on the faculty survey. [In Ukrainian] URL: **https://tinyurl.com/4u6f3sfj**. P. 3–5.

66 Ibid.

78% of respondents in the poll held among the Ukrainian refugees who fled to the adjoining countries reported they had had to leave behind their closest family members. They mentioned finding accommodation and employment[67] as their main problems. Only 11% of respondents noted they worked in education, so the specified issues reflect the general trend rather than the specifics and needs of Ukrainian educators abroad. We should also mention the poor mobility of Ukrainians before the war, the need to adapt to the new country, and learn its language and culture, which creates additional psychological pressure. However, one thing is certain: these people are impacted by absolutely different factors than their colleagues who stayed in Ukraine.

Students and HEI faculty who stayed in the temporarily occupied territory have found themselves in a dramatically different situation. They are affected by all the same negative psycho-emotional factors that affect their colleagues in the Ukrainian-controlled territory. Moreover, the occupation administration representatives exerted additional pressure on such educators, forcing them to transfer to the newly established educational pseudo-institutions and introduce teaching in Russian. Those attempting to continue their work at Ukrainian HEIs remotely were not able to do it properly due to communication issues. Sometimes Russian law enforcement deliberately sought out such individuals to make their further activities at Ukrainian HEIs impossible or force them to work for Russia. These individuals and their family members have found it extremely difficult to leave the temporarily occupied territory as they were forced to pass numerous inspections. Such a situation not only threatened their mental condition but also compromised their safety. There is evidence of abduction of HEI administration members. For instance, the vice rector of Kherson State University Maksym Vinnyk[68] was abducted and held hostage for over a week.

The learning process at Ukrainian HEIs started to spring back in mid-March, in a remote (online) or mixed format. The war directly affected all the Ukrainian HEIs regardless of their location.

> *Main efforts were aimed at the organization of the learning process under martial law, creation of a safe environment, preservation of the academic culture and quality of education, as well as reaction to the hostilities-related events. It means relocation of people and institutions, organization of reception of internally displaced persons, provision of humanitarian aid, and volunteering.*
>
> *Oleh Sharov[69]*

One could identify several problems related to the organization of the learning process at Ukrainian HEIs. The first is the end of the academic year 2021/2022. Beyond doubt, the key achievement is the continuity of the learning process that has been established despite the extremely difficult conditions and a pause of several weeks. It should also be noted that different institutions experienced this pause differently. It was especially long for the relocated and destroyed universities.

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67 Displacement patterns, protection risks and needs of refugees from Ukraine. Regional protection analysis. URL: **https://tinyurl.com/5c4nhp2e**. P. 3, 5, 16.

68 Assistant rector of Kherson State University freed from Russian captivity. [In Ukrainian] URL: **https://www.unian.ua/society/prorektora-hersonskogo-derzhavnogo-universitetu-zvilnili-z-rosiyskogo-polonu-novini-ukrajini-11876229.html**.

69 Our interview of 01 November 2022.

Accordingly, the ending of the academic year had to be intensified, which exerted additional pressure upon students, teachers, and administration of HEIs, especially graduate students who had to also pass qualification exams and defend their thesis before the end of the academic year.

Second, it is the motivation to train and learn in constant uncertainty, unstable psycho-emotional condition, and often air raid alerts; for some of the educational process participants who remained in the active hostilities zone, it was also aggravated by shelling. Most of the Ukrainian HEI students who participated in the survey in June and July reported it was harder for them to concentrate on their studies than before the beginning of the full-scale war. At the same time, most respondents did not agree with the statement that they lost interest in studies after the beginning of the full-scale war[70]. For teachers and staff of Ukrainian HEIs, the main motivation factors have become students (40%), the feeling of duty and responsibility (24%), and faith in Ukraine's victory (18%)[71].

Third, the potential learning losses. As emphasized above, not all HEIs had succeeded in introducing high-quality remote (online) learning during quarantine restrictions[72]. 47% of the polled students noted the quality of education under their educational programme hadn't changed, while 38% reported slight deterioration[73]. So the losses that accumulated during the pandemic have grown upon the commencement of the full-scale war.

Another aspect of learning losses in Ukraine is the uninterrupted access to education. Here we can state a certain difference between the ending of the academic year 2021/2022 and the new 2022/2023 year. While in spring the greatest challenge was to create safe conditions, in autumn power outages, and disruptions in the Internet connection and heating supply led to an even heavier crisis of remote learning in Ukraine. During the new academic semester, students and faculty of the Ukrainian universities had to be strongly motivated and efficient in certain periods when there were electricity and Internet connection at their homes or university buildings.

Another thing to add is that most Ukrainian HEIs, like during the pandemic, adapted their educational process to the e-learning format only partially. The lesson format, the schedule and many more aspects have not been changed[74]. Although the students report the teachers' interest in teaching, they nevertheless state that most of them have not changed the assessment criteria or the learning format with consideration of the new situation, nor have they sufficiently adapted the contents of their courses[75].

The war and the pandemic have also deepened the differentiation among the Ukrainian HEIs depending on their capacities and commitment to changes. This differentiation is noted not only in the level of process digitalization and availability of equipment but also in the internationalization activities. The differentiation also exists within the institutions — among structural divisions and departments[76]. This is a negative trend as it deepens the gap between the nominally "strong" adapted institutions and "weak" ones with fewer resources.

70   Higher education during war through students' eyes. [In Ukrainian] URL: **https://bit.ly/3L4LraE**. P. 11, 13.

71   Yuliana Lavrysh, Iryna Lytovchenko, Valentyna Lukianenko, Tetiana Golub (2022). Teaching during the wartime: Experience from Ukraine. **https://doi.org/10.1080/00131857.2022.2098714**.

72   Our interview with Mykyta Andreiev of 04 November 2022.

73   Higher education during war through students' eyes. [In Ukrainian]. P.19.

74   Our interview with Volodymyr Bakhrushyn of 10 November 2022.

75   Higher education during war through students' eyes. [In Ukrainian] P. 20–21.

76   Our interview with Volodymyr Bakhrushyn of 10 November 2022.

It is important to note that the Ukrainian HEIs have managed to end the academic year 2021/2022, host the admission campaign in the summer and start a new academic year. However, one should not ignore the problems in this sector that have arisen back in the times of quarantine restrictions, which have only been enhanced by the war. First of all, it is the need for a full organization of synchronous and asynchronous e-learning modes, adaptation of the teaching courses, the assessment system, and the teaching methods.

To sum it up, we could say that, despite the hazardous trends (destruction of infrastructure, losses among students and personnel, problems in the educational process organization), the Ukrainian HEIs continue operating and providing educational services. Like in the times of the pandemic, the higher education system of Ukraine has a great opportunity to emerge from this crisis much stronger, adapted to the new conditions and, eventually, reformed.

CHAPTER 4.
Higher Education of Ukraine in Times of War: The International Dimension

Global community reaction to commencement of full-scale Russian invasion of Ukraine

The full-scale invasion of the Russian forces into Ukraine on the morning of February 24, 2022, not only directly affected the higher education system of Ukraine but also provoked massive upheavals in the EU national systems and the rest of the civilized world. Since the very first days of the full-scale war, Ukrainian universities have been bombed by the Russian army. As of mid-summer 2022, based on the Kyiv School of Economics calculations, Russians have destroyed four higher education institutions (HEIs) and damaged almost 50 others. At the first glance, these numbers may not seem huge compared to the destruction of Ukrainian schools and kindergartens; however, in percentage, it looks ways more serious as almost 20% of HEIs and professional pre-higher education institutions have been destroyed or damaged[77]. Based on the data of the State Statistics Service of Ukraine, in 2021 Ukraine had 281 universities, institutes, and academies, as well as 234 state colleges. The number of HEI students amounted to 964.5 thousand, mostly training to acquire bachelor's and master's degrees. Another 25.6 thousand studied to obtain a PhD degree. The Ukrainian HEIs faculty comprised 135.2 thousand employees[78]. Based on the United Nations calculations, in the eight months of the full-scale war (as of October 2022), 7.6 million Ukrainians found shelter in other European countries, of which 4.2 million registered to receive temporary shelter or applied for aid under national aid plans for Ukrainians[79]. In general, the invasion of the Russian Federation into Ukraine on February 24, 2022, incited one of the most massive population displacements in history — almost 14 million people were forced to abandon their homes due to hostilities.

Following political statements from their governments, the national education authorities and universities condemned the Russian aggression against Ukraine and voiced their readiness to provide comprehensive support to the Ukrainian education community. Further introduction of several sanctions packages, a ban on flights to Russia issued to European airlines, and banking settlement restrictions caused severance of ties with Russia in the education sector as well.

Individual universities and public organizations reacted by arranging solidarity rallies, publishing statements condemning the aggression, and cutting ties with the Russian university community. The Ministry of Foreign Affairs of Germany[80] as well as the Ministers of Education of Poland, Lithuania, Latvia, and Estonia[81] recommended their universities freeze academic cooperation with the Russian state and business institutions on an individual level to ensure that research funds no longer benefit Russia, no joint events take place, and no new projects involving Russians are initiated. European rectors' conferences in Germany, the Czech Republic, and Spain were the first to condemn the Russian Federation's actions and expressed their readiness to provide support to Ukrainian students and researchers. (Table 4.1).

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77 [In Ukrainian] URL: **https://voxukraine.org/operatyvna-otsinka-vtrat-aktyviv-sektoru-osvity-ukrayiny-u-zv-yazku-z-vijnoyu-stanom-na-lypen-2022/**.

78 Higher and Professional Pre-Higher Education in Ukraine 2021. Statistical Data [In Ukrainian]
URL: **https://ukrstat.gov.ua/operativ/operativ2021/osv/vush_osv/vfpo_Ukr_2021.xls**.

79 URL: **https://data.unhcr.org/en/documents/details/96447**.

80 URL: **https://www.dfg.de/download/pdf/dfg_im_profil/allianz/220225_statement_allianz_ukraine_en.pdf**.

81 URL: **https://www.timeshighereducation.com/news/more-russian-ties-cut-europe-offers-help-ukraine-colleagues**.

Student demonstrations in support of Ukraine were held across campuses at Harvard, Stanford, the University of Michigan, the University of Illinois, the University of New Mexico, while many other institutions lit up their buildings in the yellow and blue of the Ukrainian flag to demonstrate solidarity with the Ukrainian people[82].

Table 4.1.   **Reaction of foreign national non-government higher education institutions and universities upon full-scale Russian invasion of Ukraine**

Institution	Date	Statement / Decision
Statement of German Rectors' Conference President[83]	February 24, 2022	Condemnation of invasion, freezing ties with Russia, provision of support to Ukraine
Statement of Alliance of Science Organisations in Germany[84]	February 25, 2022	Condemnation of aggression, readiness to enhance cooperation with Ukraine
Statement of the Czech Rectors' Conference[85]	February 24, 2022	Condemnation of Russian actions, readiness to assist Ukrainian students
Statement of Conference of Rectors of Spanish Universities[86]	February 25, 2022	Condemnation of Russian actions, support for Ukraine
Statement of Netherlands Association of Universities of Applied Sciences[87]	February 25, 2022	Concerns, solidarity, and support for students and academics
Statement of the Organization of Universities in the Netherlands[88]	February 25, 2022	Concerns, solidarity, and support for students and academics
Statement of Erasmus University Rotterdam[89]	February 24, 2022	Solidarity and support for Ukrainian students and academics
Statement of Australian National University[90]	March 03, 2022	Cut all ties with Russians
Statement of Massachusetts Institute of Technology[91]	March 03, 2022	Cut all ties with Russians

The European University Association (EUA), the largest HEIs association on the continent, published its reaction on March 2. To support Ukraine, the Association called on its members (over 850 institutions and rectors' associations across 48 countries of Europe) to support university communities affected by the war, provide support to Ukrainian universities by continuing cooperation with them, and terminate cooperation with the Russian Federation or any other country supporting the invasion of Ukraine[92].

The Association's statement, however, shows signs of certain contradictions that appeared while drafting the joint statement and generally refers to the discussion around the severance of all university and academic contacts between European countries and Russia. Among other things, the Association suggested addressing their members in the Russian Federation and other countries supporting it, to remind them about the basic European values of the Association which they had pledged to follow as its members, and the Magna Charta Universitatum.

82 URL: **https://universitybusiness.com/war-in-ukraine-prompts-dire-warnings-and-backlash-on-college-campuses/**.

83 URL: **https://www.universityworldnews.com/post.php?story=20220224173605184**.

84 URL: **https://www.dfg.de/download/pdf/dfg_im_profil/allianz/220225_statement_allianz_ukraine_en.pdf**.

85 URL: **https://www.crc.muni.cz/media/3387732/crc-statement-on-the-war-in-ukraine-2422022_signed.pdf**.

86 URL: **https://www.crue.org/en/2022/02/communique-condemning-the-invasion-of-ukraine-by-the-russian-state/**.

87 URL: **https://www.erasmusmagazine.nl/en/2022/02/25/war-in-ukraine-shocks-higher-education/**.

88 Ibid.

89 URL: **https://www.eur.nl/en/news/erasmus-university-rotterdam-condemns-russian-invasion-ukraine**.

90 URL: **https://www.timeshighereducation.com/news/australian-university-cuts-ties-russia**.

91 Ibid.

92 URL: **https://www.eua.eu/news/835:european-university-association-statement-on-ukraine.html**.

The Association recommended its members to wisely approach the issue of freezing cooperation with Russians as many Russian researchers have publicly criticized the actions of their country's leaders[93]. Besides, members of the European university communities continued to believe that maintaining individual contacts with Russian academics is important as it may become the base for future reconciliation and peace[94].

Eventually, these hopes dissipated. The Russian Union of Rectors (RUR) stated support of the Russian invasion of Ukraine, causing the EUA administration to suspend the membership of 12 Russian universities that signed the statement (later that number grew to 14, while the total number of Russian members in the Association is 16)[95].

At the European Union level, the matter of blocking Russian membership in international research organizations was debated, among other things, as early as February 24, 2022, during discussions to adopt another package of sanctions against Russia. In her statement of March 3, 2022, EU Commissioner Mariya Gabriel spoke of support for the Ukrainian students under the Erasmus+ programme, as well as of increasing flexibility to implement projects involving Ukrainians (meaning a possibility for the beneficiaries to close, postpone, or plan more activities in their current programmes at their sole discretion); she also announced more support to the Ukrainian students who were staying abroad at the time[96]. On March 4, a specific EU Directive[97] was adopted to temporarily grant the Ukrainian refugees the same rights as EU citizens, which guaranteed them free access to employment and education services. The European Commission released a statement on the suspension of payments under existing contracts and review of ongoing projects, also noting that no new contracts and agreements with the Russian organizations would be concluded under the Horizon Europe Programme[98]. As part of the fifth package of sanctions approved in early April against Russia and Belarus, the European Commission suspended all payments under Erasmus+, Horizon 2020, Horizon Europe, and Euratom programmes, and stated no new contracts or agreements would be concluded[99]. However, there is still an open option for Russian students, researchers, and academics to apply for individual EU scholarships[100].

Therefore, a certain evolution can be clearly seen in the reaction of the international higher education community upon the full-scale Russian invasion of Ukraine on 24 February 2022: from statements, pledges of support for Ukraine, hopes for the fast end of the war, and return to diplomatic ways to resolve the armed conflict — to termination or freezing ties with the Russian scientific and university communities that supported the aggression. The reaction in the higher education sector at the EU level was synchronized with the approval of sanctions packages restricting the participation of Russian entities in the European Commission-funded programmes. It should be noted, though, that not all EU member countries implemented the EU Temporary Protection Directive that temporarily provides Ukrainian citizens with equal status as the EU citizens, as they can guarantee aid to the Ukrainian refugees under their national legislation[101].

93 Ibid.

94 URL: **https://www.timeshighereducation.com/news/dutch-universities-freeze-russia-relations-over-ukraine-war**.

95 URL: **https://www.eua.eu/resources/news/842-eua-suspends-membership-of-12-russian-universities-following-statement-by-university-leaders.html**.

96 URL: **https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT_22_1529**.

97 URL: **https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022D0382&from=EN**.

98 URL: **https://ec.europa.eu/commission/presscorner/detail/en/ip_22_1544**.

99 [In Ukrainian] URL: **https://erasmusplus.org.ua/news/sankcziyi-yes-proty-rosiyi-ta-bilorusi-pislya-vtorgnennya-v-ukrayinu/, https://ec.europa.eu/commission/presscorner/detail/en/ip_22_2332**.

100 URL:**https://eua.eu/downloads/publications/briefing_impact%20of%20the%20russian%20federations%20invasion%20of%20ukraine%20on%20the%20ukrainian%20higher%20education%20sector.pdf**. P. 7.

101 URL: **https://eua.eu/downloads/publications/briefing_impact%20of%20the%20russian%20federations%20invasion%20of%20ukraine%20on%20the%20ukrainian%20higher%20education%20sector.pdf**. P. 5.

> *None of the national agencies with membership in this programme or a European HEI remained indifferent regarding the matter of support to Ukraine. Each national agency created a separate web page dedicated to supporting Ukrainian students and researchers. Each European university published information on its web resources for students and researchers from Ukraine to enable applications for mobility grants or membership in other programmes.*
>
> *Svitlana Shytikova[102]*

EURAXESS,[103] another European Commission website, also created an information page, ERA4Ukraine, containing resources to provide support to the Ukrainian higher education community. A special programme, Horizon4Ukraine, was initiated under Horizon Europe which covers the whole of Europe.

European Training Foundation created an information page[104] to support the recognition of academic and qualification credentials of specialists from Ukraine. This greatly simplifies the nostrification process for Ukrainian education system paperwork and degrees and their "translation" into a form understandable for international audiences.

Aid to Ukrainian students and researchers through EU grant programmes

Flexibility in academic mobility and grant programmes announced by EU Commissioner Mariya Gabriel was first introduced under general EU Directives on Cohesion's Action for Refugees in Europe (CARE)[105]; this allowed for speeding up the reallocation of available funding from the European Regional Development Fund, European Social Fund, and the Fund for European Aid to the Most Deprived (FEAD) to finance a wide range of measures to support people fleeing from Ukraine. Notably, the funds planned for Russian researchers under European education programmes were reallocated to meet the needs of Ukrainian students and teachers. Moreover, the European Commission noted that the Erasmus+ national agencies may apply force majeure clauses to international mobility measures to close, postpone, or reschedule planned activities[106].

Special Recommendations[107] have been developed for the national agencies under student mobility grant programmes (KA131 Staff/Student Mobility in HE), international staff mobility (KA107 Staff/Learners Mobility in HE — International), mobility of youth (KA153 Mobility of Youth Workers, KA152 Mobility of Young People (Youth Exchanges), KA154 Youth Participation Activities), and volunteers (ESC51 Volunteering Activities) to ensure they get top priority support[108].

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102 Our interview of 25 October 2022.

103 URL: **https://euraxess.ec.europa.eu/ukraine**.

104 URL: **https://www.etf.europa.eu/en/education-and-work-information-ukrainians-and-eu-countries/education-and-work-eu-support-ukraine**.

105 URL: **https://ec.europa.eu/commission/presscorner/detail/en/ip_22_1607**.

106 URL: **https://www.europarl.europa.eu/RegData/etudes/ATAG/2022/729318/EPRS_ATA(2022)729318_EN.pdf**.

107 URL: **https://monprojet.erasmusplus.fr/docs/documents/20220804_annex_ukraine_guidance_for_implementation_153.pdf**.

108 Our interview of 25 October 2022.

Various forms of student support were offered to enable them to continue online studies in Ukraine, and for teachers to continue teaching in Ukrainian institutions, as well as various support forms to help them adapt to new countries[109]. On 5 April 2022, the European Commission published recommendations[110] to facilitate recognition of academic and professional qualifications that would enable national authorities to run this process for the Ukrainian refugees in a timely, fair, and flexible manner[111].

It must be noted that in previous years Ukraine received 40% of grant funds allocated for the Eastern European regional partnership under Erasmus+. As of 2019, 78 thousand Ukrainian students studied in various EU HEIs (mostly in Poland, Germany, the Czech Republic, and Slovakia). Between 2015 and 2019, 9,000 Ukrainian students and teachers took part in over 1,300 Erasmus projects. So the decision to reallocate the funds and add flexibility in resolving individual issues looked quite logical when the number of Erasmus grantees from Ukraine grew during the previous grant periods, as their number in the EU countries could have been larger by the time Russia began its full-scale invasion of Ukraine.

The European Commission's decisions mentioned above enabled international grant project participants from Ukraine to make changes in their ongoing projects. First of all, it concerned the announced flexibility in project implementation rather than the additional funding. They were allowed to plan additional activities and change the work format and the budget to procure necessary equipment under the said projects. The possibility to extend participation in the already endorsed grant projects was also discussed, as the project team meetings mostly occurred online considering the lengthy work organization and the pandemic, while the war restricted and prevented personal meetings even further.

Since the beginning of the full-scale invasion, only five projects under the programme have been suspended. Instead, the European Commission allowed the hosting of an additional tender for Ukrainian representatives under the Jean Monnet Action project. Instead of funding Russian projects, the reallocated budget was used to fund 38 Ukrainian projects while another 93 were recommended for approval. In 2014-2020, a comparable number of projects (121) were implemented.

Svitlana Shytikova[112]

64 Ukrainians received scholarships through the Erasmus Mundus Joint Masters programme, while the number of students receiving the same support in 2021 had been only 36[113]. This confirms that the participation of Ukrainians in the EU programmes for higher education has grown.

109 URL: https://monprojet.erasmusplus.fr/docs/documents/20220804_annex_ukraine_guidance_for_implementation_153.pdf.
110 URL: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022H0554&from=EN.
111 URL: https://eua.eu/downloads/publications/briefing_impact%20of%20the%20russian%20federations%20invasion%20of%20ukraine%20on%20the%20ukrainian%20higher%20education%20sector.pdf. P. 6.
112 Our interview of 25 October 2022.
113 URL: https://www.eaie.org/blog/erasmus-ukraine-academic-year.html.

In early July 2022, EUA held a poll among 24 national rectors' conferences regarding support for Ukrainian students, researchers, and universities[114]. Based on the poll results, representatives of 21 countries said they had accommodated students and researchers from Ukraine and provided them with the necessary support[115], namely compensating or covering their expenses on additional studies, granting research scholarships at universities, lifting tuition payments, providing places at language courses, or compensating accommodation and meals costs in their countries[116]. The number of students received by the respondents ranges between 10,000 in Romania and only four in Slovenia[117]. Among others, the University of Ljubljana registered as many as 100 applicants from Ukraine for the academic year 2022/2023[118]. The situation with the number of Ukrainian scientists in other respondent countries is similar: three persons in Slovenia and 417 in Poland[119]. Also, since the beginning of the full-scale invasion, new partnerships have been established and existing ones have been expanded between European and Ukrainian universities; over half of the respondents have noted the same in the poll[120].

Therefore, Ukrainian students, researchers, and faculty employees who fled to the EU received aid and support on two levels. Firstly, aid was provided on the all-European level when Ukrainian refugees were temporarily granted rights equal to those of EU citizens that allowed them access to education services in the countries of their stay. Flexibility in the resolution of issues regarding Ukrainian participation in the EU grant programmes was introduced and support was enhanced. The European Commission programme for the year 2023 provides for EUR 100 million of target-oriented aid for Ukraine to rebuild Ukrainian schools, funding for student and academic mobility is increased, and a separate project, Marie Skłodowska-Curie Actions for Ukraine, was created for Ukrainian researchers as part of Horizon Europe[121], which started accepting applications in early October 2022[122]. The national higher education systems of most EU member countries accommodated Ukrainian students and researchers and provided support to them, as well as carried on with their policies to establish new or expand existing partnerships with Ukrainian universities. These activities should be further expanded due to the potential growth of the number of Ukrainian students and researchers in the EU in the academic year 2022/2023[123].

Another serious problem for Ukrainians is the difficulties they face when crossing the state border, as due to the enforcement of the mobilization law only listed categories of citizens are allowed to leave the country, which makes it impossible for Ukrainian male students and researchers aged between 18 and 60 to fully participate in the EU grant programmes, especially those concerning student and academic mobility.

114 URL: **https://eua.eu/downloads/publications/presentation_support%20to%20ukrainian%20he_vers20-09-2022.pdf**. P. 4.
115 Ibid, p. 6.
116 Ibid, p. 7.
117 Ibid, p. 9.
118 Ibid, p. 10.
119 Ibid, p. 11.
120 Ibid, p. 13.
121 Our interview with Svitlana Shytikova of 25 October 2022.
122 URL: **https://sareurope.eu/msca4ukraine/**.
123 URL: **https://eua.eu/downloads/publications/presentation_support%20to%20ukrainian%20he_vers20-09-2022.pdf**. P. 15.

Brain drain or brain circulation?

Despite the condemnation of the aggressor country's actions, imposed sanctions, and provision of support to Ukrainian students, researchers, and institutions, the problems and threats for Ukrainian higher education remain.

Faculty outflow from the Ukrainian HEIs due to the forced migration of students and teachers has become one of the primary challenges. As of the beginning of the full-scale Russian invasion, the so-called brain drain issue was believed to possibly have negative consequences from both short-term and long-term perspectives. In early April, Ukrainian HEI representatives who participated in the webcast by the European Association for International Education[124] expressed concerns that Ukrainian higher education would face the long-term brain drain issue due to aggression, significant destruction, and forced migration. At that time, the problem of fleeing from Ukraine really looked threatening as more and more Ukrainians crossed the Ukrainian border to find shelter in the EU. The situation stabilized only in mid-summer when the number of returning individuals started exceeding those fleeing. As a result, the system has fallen back in control, and many teachers and students returned to their working/studying places, at least as much as safety conditions permitted. Ukrainian universities managed to work out effective communication mechanisms to keep in touch with their students who remain abroad but still study in Ukraine; teachers were also enabled to work with their students online.

However, it is obvious that the ongoing military operations, constant air raids, and shellings causing damage to the Ukrainian power grids would likely facilitate a new wave of migration rather than a fast return. As of the end of autumn 2022, the governments of countries bordering Ukraine are getting ready to receive Ukrainian refugees. Besides, Ukrainian researchers, being well aware of the problems in Ukrainian higher education that existed even before the war (extreme paperwork load, low salaries, poor social security schemes, etc.), are unlikely to return. To be sure, some part of Ukrainian students and teachers would sooner or later have to choose whether to fully assimilate, which would mean the loss of a certain part of the existing or future workforce for the Ukrainian higher education and economy[125].

The trends specified above are partially confirmed by the results of a poll held by the United Nations High Commissioner for Refugees (UNHCR) between May and September 2022 in the countries adjoining Ukraine. It is interesting to note that 75% of respondents (the total number of respondents was over 34 thousand) have post-secondary (tertiary) education (46% have university diplomas, and 29% have professional and technical qualifications). Most respondents worked in various economic sectors before their forced migration; 11% specifically noted the education sector[126]. Despite the general desire of most respondents (87%) to return to Ukraine, only 13% are planning to do so in the nearest future, and only 3% consider education as the main reason to return to Ukraine. On the contrary, 63% are remaining in the countries of their stay, while 70% cannot say for sure when they can return[127].

The students who studied or continued studies at Ukrainian HEIs as of June-July 2022 and who took part in a poll commissioned by the NaUKMA School for Policy Analysis are quite optimistic about the brain drain issue. The poll lays out the opinions of students who stayed in Ukraine; another 16.52% of respondents were outside the country[128], and 2.61% of respondents were members of an international mobility programme[129].

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124 URL: **https://www.eaie.org/our-resources/ukraine.html**.

125 URL: **https://www.insidehighered.com/views/2022/08/12/ukraine-faces-academic-crisis-opinion**.

126 Displacement patterns, protection risks and needs of refugees from Ukraine regional protection analysis #1. P. 11.

127 Ibid, p. 18–19.

128 [In Ukrainian] URL: **https://spa.ukma.edu.ua/wp-content/uploads/2022/09/pres_090922.pdf**. P. 6.

129 Ibid, p. 26.

Based on their answers, most respondents believe that their friends who are currently abroad plan to return to Ukraine (51.3% of respondents mostly or completely agree with this statement). A slightly smaller share of the respondents agrees with the statement that most Ukrainian refugees will return after the war ends. Almost the same number disagrees with the statement that more young people will move to other countries after the Ukrainian victory[130]. Over 50% of polled students disagree that they started thinking of leaving Ukraine for good after February 24[131], while slightly over 30% said they'd return to Ukraine if they had a chance to study abroad or become a member of an international mobility programme[132].

> *The brain drain issue may be viewed from a historical perspective, while the forced mass migration of Ukrainians could be viewed as a process of historical integration and wider engagement of our citizens in the globalization process. This becomes especially clear if we look at the enormous Ukrainian workforce potential which is usually most underrated in our country. With its help, our state will be able to adequately counter the challenges of large-scale migration.*
>
> *Svitlana Blahodeteleva-Vovk[133]*

Undoubtedly, there still might be issues regarding the process of refugees returning after the war, but their newly acquired experience of staying in a different cultural environment and their engagement in the education systems of other countries will be much more beneficial in the future to each specific individual and the country in general.

Another important fact is that the Ukrainian students and teachers abroad act somewhat like a "communication bridge" (ambassadors) of their Ukrainian HEIs at the hosting university, which has a positive effect on both parties. Even if such ambassadors do not return to Ukraine and continue working or studying in a foreign institution, they will probably keep on with their Ukraine-related research, which undoubtedly facilitates the spreading of academic knowledge about our country and promotes Ukrainian studies and Ukrainian researchers. Also, after successful future integration into the national societies of other countries, they will be able to act as a unifying core for the Ukrainian diaspora which has mostly consisted of labour migrants in the previous years. As demonstrated by the Russo-Ukrainian war and previous waves of migration from Ukraine, the presence of a strong Ukrainian diaspora in the country allows for stronger political pressure upon its government to make decisions in favour of Ukraine.

The concept of support for the Ukrainian refugees and enabling them to continue their education in the Ukrainian system has been endorsed by the representatives of the Ukrainian Center for Education Quality Assessment (UCEQA) and the Ministry of Education and Science of Ukraine, which created temporary examination centers (TEC) and arranged for the students to pass the National Multidisciplinary Test (NMT) abroad. First of all, the options for passing it were maximized: it was first meant to cover only the countries with the largest number of Ukrainian refugees, however, during the preparation process the geography of such centers expanded to cover Canada, the USA, Finland, Sweden, Portugal, and other countries.

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130 Ibid, p. 33.

131 Ibid, p. 32.

132 Ibid, p. 27.

133 Our interview of 08 November 2022.

In general, TECs for the NMT have been established in 46 cities in 32 countries[134]. Their operation was supported by the Embassies of Ukraine in the said countries with the involvement of representatives of non-governmental education organizations and the Ukrainian diaspora[135]. Some issues did occur during the test in terms of organization of TECs' operation (premises, technical facilities, compliance with the testing requirements), personnel involved (TECs abroad were usually staffed by people without any pedagogical training, they were simply able and willing to work at those centers), and consistency in the arrangement of all processes. Overall, the organizers and test participants were lucky to have an opportunity to pass the NMT abroad.

The important part here is the reaction of the Ukrainian HEIs and their capacity/readiness to cooperate with the European HEIs. It specifically involves the design of joint master's degree programmes. In 2021, Taras Shevchenko National University of Kyiv acted as a full-featured partner of the Erasmus Mundus Joint Master's Degree in *ChEMoinformaticsplus — Artificial Intelligence in Chemistry*[136]. In 2022, NaUKMA and National Aviation University were selected to support the development of joint master's degree programmes: *Resource and Energy Efficiency and Circular Economy*[137] and *International Master's Degree Programme Design: Sustainable Transport Engineering*. Yet, these efforts are clearly insufficient.

134 [In Ukrainian] URL: **https://testportal.gov.ua//wp-content/uploads/2022/10/Zvit_NMT_2022.pdf**. P. 5.

135 Ibid, p. 24.

136 URL: **https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/org-details/999999999/project/101050809/program/43353764/details**.

137 Ibid.

Fedir Shandor, a professor of Uzhhorod National University, gives an online lecture from the trench

Photo courtesy of Viktor Schadey,
https://www.facebook.com/Uzhhorod/posts/545407520282326

Hryhorii Skovoroda Kharkiv National Pedagogical University main building
before and after the July 6, 2022 shellings.

Photos courtesy of Hryhorii Skovoroda Kharkiv National Pedagogical University Press Centre.
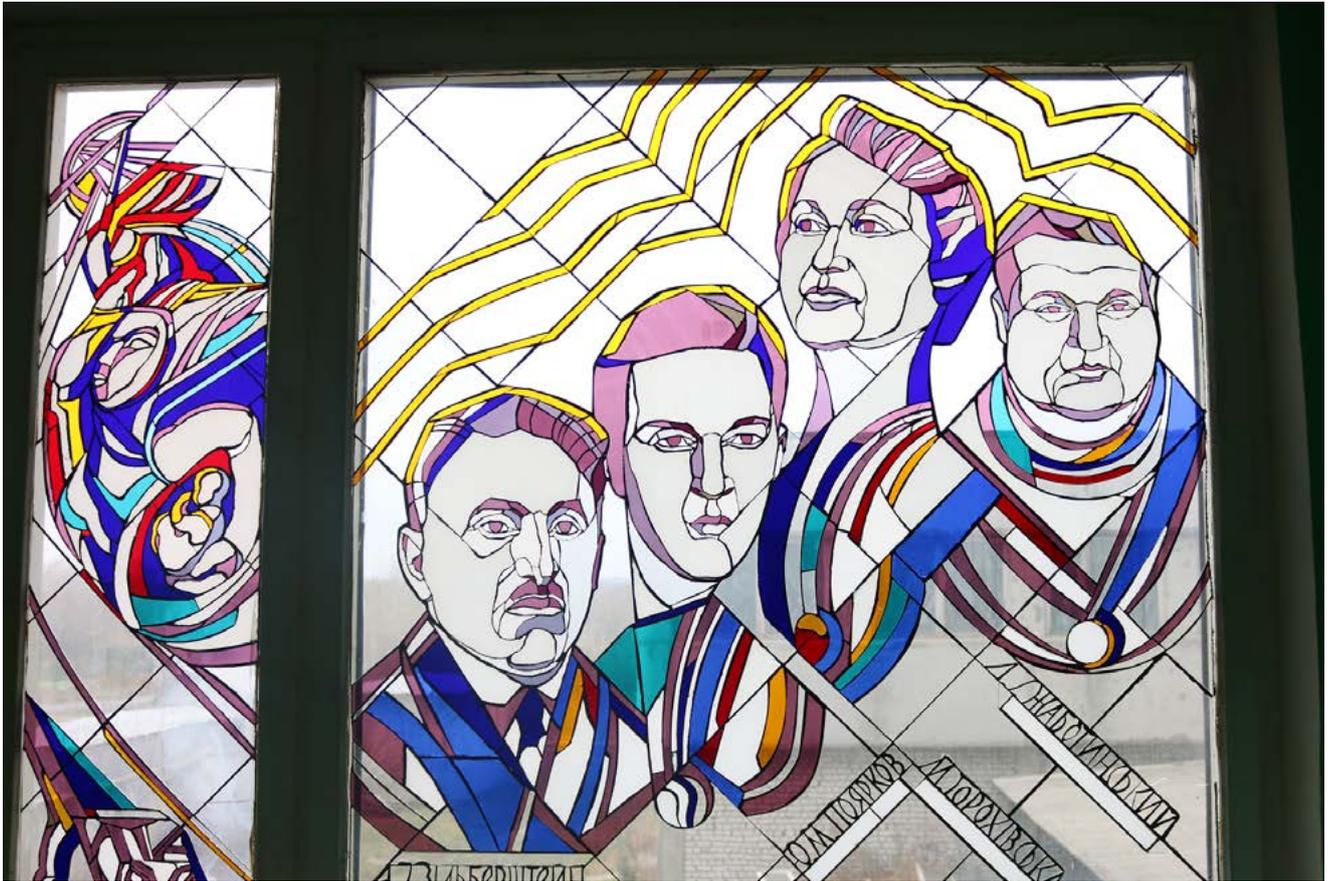
Stained glass of Hryhorii Skovoroda Kharkiv National Pedagogical University
before and after the July 6, 2022 shellings.

Photos courtesy of Hryhorii Skovoroda Kharkiv National Pedagogical University Press Centre.

Taras Shevchenko National University of Kyiv buildings
damaged by the July 10 and December 31, 2022 shellings.

Photos courtesy of Taras Shevchenko National University of Kyiv PR Centre.
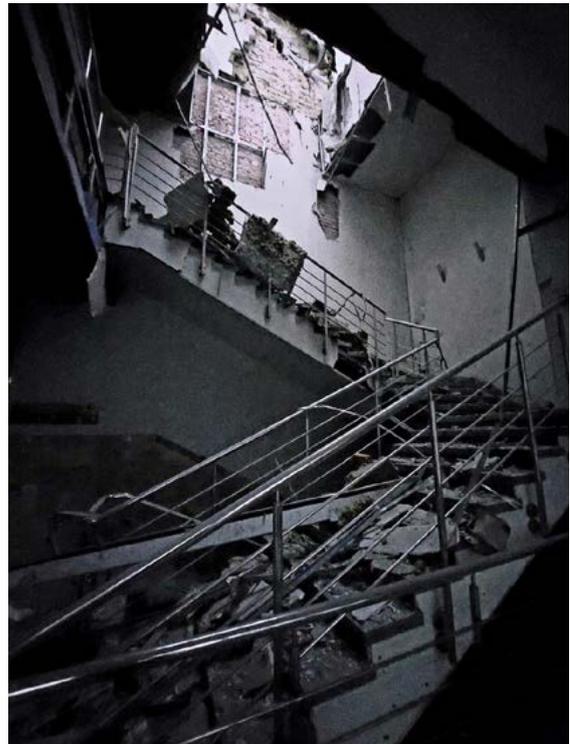
During the first days of full-scale Russian invasion, the buildings of
State Tax University (Irpin) got under fire and were partially destroyed.

Photos courtesy of State Tax University.

V.N. Karazin Kharkiv National University.

Photo courtesy of Viktoriia Yakymenko.

V.N. Karazin Kharkiv National University.

Photos courtesy of Viktoriia Yakymenko.

Bombing explosion waves damaged the façade and broke the windows of Kherson State University. After Kherson was deoccupied, the windows were temporarily "glazed" with OSB panels.

Photos courtesy of Kherson State University.

Foreign students in Ukraine

Based on the data from the Ukrainian State Center of International Education (USCIE), the number of foreign students in the Ukrainian higher education system kept growing each year starting from 2016/2017, except for the academic year 2020/2021 when the whole world suffered from restrictions due to the rapid spread of COVID-19. As of October 25, 2022, 68,712 foreign students study in Ukraine; in 2022, despite the full-scale war, additional 4,041 foreigners were admitted to the Ukrainian HEIs[138] (Figure 4.1).
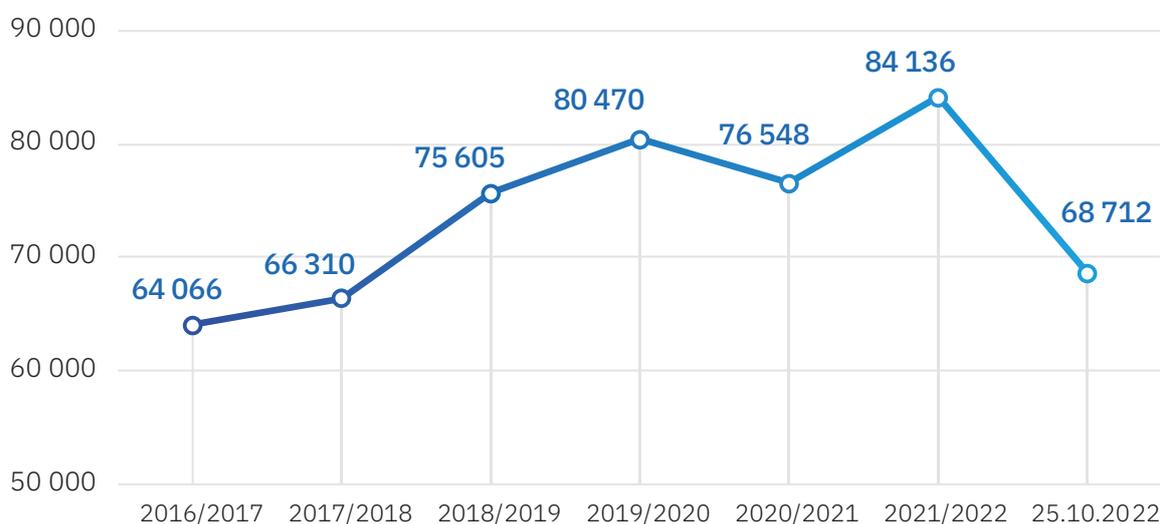
Figure 4.1. Number of foreign students in Ukraine in 2016-2022, *individuals*

Overall, Ukraine has foreign students from over 150 countries of the world; the largest number comes from India, Morocco, Turkmenistan, Azerbaijan, and Nigeria. The most popular major among them is health care (Medicine, Dentistry, Pharmacy, Industrial Pharmacy)[139]. Out of the top 10 HEIs with the largest numbers of foreign students, nine are medical universities[140].

With the commencement of the Russian hostilities in the Ukrainian territory, the situation with foreigners has changed fundamentally. Before February 24, embassies of foreign states advised their citizens to leave the territory of Ukraine. Not everyone followed the advice, which created quite a challenge when masses of foreign students gathered at the Ukrainian railroad stations and later at the border crossing points. For those who failed to leave cities and towns which were quickly swarmed by the Russian military, the situation got even more complicated. Around 800 foreign medical students (mostly citizens of India and African countries) found themselves unable to leave Sumy in the early days of the war[141]. On March 1, an Indian student was reportedly killed in Kharkiv during the Russian shelling[142].

The Russian propaganda attempted to turn foreign students into a convenient tool in the informational war against Ukraine. First and foremost, it was done as part of a wider campaign to create a negative image of Ukrainians and foreign partners of our country and enhance Russian influence across the national communities of Africa and Asia. Russian propaganda channels reported cases of racism which allegedly occurred as foreign students were forced to leave Ukraine. Incidentally, there were reports of thousands of African students who got stranded in Ukraine due to military activities and allegedly faced selective discrimination at Ukrainian

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138 Data provided by the Ukrainian State Center for International Education.

139 Ibid.

140 Ibid.

141 URL: **https://www.insidehighered.com/quicktakes/2022/03/04/hundreds-medical-students-trapped-ukraine**.

142 [In Ukrainian] URL: **https://www.unn.com.ua/uk/news/1966018-mzs-ukrayini-pidtverdilo-vbivstvo-indiyskogo-studenta-u-kharkovi-rosiyskimi-viyskami**.

railroad stations (when crowds attempted to board evacuation trains) and at the Ukrainian-Polish border[143]. A fake campaign regarding Sri Lanka students was publicized even wider when medical college students in Kupiansk were captured as war prisoners by Russians in March as they tried to evacuate. The students were held in Vovchyansk and, as it later became known, were submitted to torture[144]. They were finally liberated in the successful counteroffensive of the Ukrainian Armed Forces in Kharkiv oblast in September 2022; however, Russians immediately spread fake information through their propaganda channels, reporting the foreign students had been allegedly detained by the Ukrainian army, and the Ministry of Foreign Affairs of Sri-Lanka demanded Ukraine to provide data of the captives. Needless to say, the original report issued by the authorities of both countries said nothing about the detainment[145]. Thus, foreign students have become hostages of the Russian military and a tool of Russian propaganda against Ukraine.

Another important problem for foreign students in Ukraine is that our higher education system has practically lost some of them due to the war. Before the full-scale invasion, Ukrainian HEIs were perceived as a relatively cheap and accessible place to acquire education for developing countries' citizens. The national education systems of those countries are either not as comprehensive and developed as the Ukrainian system, or education is much more expensive and less accessible. For instance, because of the full-scale Russian invasion of Ukraine, many Indian students who studied medical majors returned home, which led to a shortage of seats at Indian medical schools. For many years this country relied upon the Ukrainian higher education system as a place where low-income students could get their education[146]. Some of the foreign students, being refugees from Ukraine, used the opportunity to obtain equal rights as the EU member countries' citizens, including the right to obtain an education; therefore, they moved to the adjacent countries. For instance, most student refugees from Ukraine in Hungary are not Ukrainians but citizens of other countries[147]. Ukrainian universities (especially those that had medical departments) will soon face serious problems with filling their budgets as the foreigners were mostly tuition-paying students.

The war caused some of the foreign students to go study under the academic mobility programmes. These are special programmes organized jointly with the universities of Georgia that agreed to train foreign students under Ukrainian curricula in Georgia, returning to the Ukrainian universities some of the funds paid by the students. Ukrainian university teachers monitor the training provided in Georgia. Accordingly, in the future Ukrainian universities will recognize academic credits awarded in Georgia, and these students will remain the students of Ukrainian universities.

Olena Shapovalova[148]

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143 URL: **https://www.insidehighered.com/quicktakes/2022/03/01/african-students-stranded-ukraine-face-racism**.

144 [In Ukrainian] **https://www.slovoidilo.ua/2022/09/19/novyna/suspilstvo/zlochyny-armiyi-rf-zyavylysya-podrobyczi-pro-tortury-studentiv-shri-lanky**.

145 [In Ukrainian] URL: **https://www.stopfake.org/uk/fejk-u-harkivskij-oblasti-zsu-zatrimali-simoh-studentiv-zi-shri-lanki/**.

146 URL: **https://www.insidehighered.com/news/2022/03/24/war-ukraine-creates-crisis-medical-education-india**.

147 URL: **https://eua.eu/downloads/publications/presentation_support%20to%20ukrainian%20he_vers20-09-2022.pdf**. P. 7.

148 Our interview of 25 November 2020.

For the period from 24 February to 1 December 2022, despite full-scale military activities in the territory of Ukraine, the Ukrainian State Center for International Education registered 9,552 invitations to study, a number that significantly decreased compared to the previous years. The geography of foreign citizens who wished to receive an invitation and initiate the admission procedure to enter Ukrainian HEIs has not changed much. The countries leading by the number of registered invitations are India, Nepal, and China. The priorities in choosing universities and majors shifted more prominently. Now foreign students prefer private institutions, management, or medical professions. Over 3,000 foreigners registered to attend language courses[149]. It should be noted that an invitation is not a guarantee of admission of the applicant to a Ukrainian HEI.

> *After the end of hostilities in our territory, there may be higher demand among foreign citizens for getting higher education in Ukraine. And it is not only due to certain popularity of Ukrainian studies among students and researchers but also because our economy will require more highly qualified workers. Foreigners will be able to combine volunteering with finding additional opportunities for themselves.*
>
> *Volodymyr Bakhrushyn[150]*

The Ukrainian HEI admission campaign for foreigners has become possible due to the change in application format: this year all paperwork could be filed online. A new procedure for admission and acquisition of higher education in 2022 was developed and approved, containing relevant and up-to-date rules and admission conditions, including those for foreign students. The application deadlines were changed, namely, foreigners may now apply to enter junior bachelor's, bachelor's, and master's programmes three times a year[151].

Given the above-mentioned issues, it is important to note the Ukrainian higher education system has not been largely integrated on the international level. In Ukraine, the international integration index (i.e. the share of foreign students of the total university student body) should be 10% and higher to consider our higher education system internationally integrated. However, it was much lower even before the war. Moreover, in previous years the engagement of foreign students in Ukrainian higher education was not guided by business model principles. This means the current loss of foreign students by Ukrainian HEIs is a chance to reform and create an efficient public policy to increase their number in the future. Great potential lies in the ability of Ukraine to operate as a reliable education services provider for the densely populated countries of Africa, Latin America, and Asia[152].

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149 Data provided by the Ukrainian State Center for International Education.
150 Our interview with Volodymyr Bakhrushyn of 10 November 2022.
151 Data provided by the Ukrainian State Center for International Education.
152 Our interview with Svitlana Blahodeteleva-Vovk of 08 November 2022.

CHAPTER 5.
Lessons Learned, Challenges, and Areas of Support for Relocated Education Institutions

2014: First relocation experience for universities

In 2014, Ukraine acquired the first experience of relocating higher education institutions in the times of the Russo-Ukrainian war. Back then, as the Autonomous Republic of Crimea and parts of Donetsk and Luhansk Oblasts were temporarily and illegally occupied by Russia, around 20 HEIs[153] had to be urgently evacuated from these areas to the Ukrainian-controlled territory. 30 HEIs were relocated to the areas of Donetsk and Luhansk Oblasts still controlled by Ukraine, while the remaining universities moved to other regions of the country (cities of Kyiv, Vinnytsia, Kryvyi Rih, Kropyvnytskyi). Several relocated HEIs[154] later merged with larger universities and lost their status as independent education institutions. As of the end of 2022, there were around 24 thousand students studying and 3 thousand teachers working in the HEIs relocated in 2014 to the Ukrainian-controlled territory[155].

One of the important specifics of HEI relocation in 2014 was the immediate understanding that this relocation was long-term. Therefore, university administrations, most teachers and students chose to leave dangerous territories. Faculty members who were unable to evacuate were dismissed, while students who remained in the occupied territories did not continue their studies in the Ukrainian higher education system. As far as is known, occupation administrations opened their own higher education institutions[156] in the occupied territories, engaging some of the teachers and students who failed to evacuate. However, education certificates issued by such institutions are recognized neither in Ukraine nor in many other countries around the world.

The administration of relocated universities, joining forces with central and local authorities, searched for new premises and dormitories for the HEIs; these institutions had to start building their facilities at their new locations practically from scratch. In many cases, relocated universities were accommodated in other education institutions. Yet, that wasn't always the case; for instance, to host Vasyl' Stus Donetsk National University, one of the Krystal factory buildings was refurbished as an educational and administrative facility[157].

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153 List of state higher education institutions relocated from the anti-terrorist operation zone, as approved by Resolution No. 935 of the Cabinet of Ministers of Ukraine of 13 October 2015. [In Ukrainian] **https://uk.wikipedia.org/wiki/Переміщені_заклади_вищої_освіти_України**.

154 Luhansk National Agrarian University, Donetsk State University of Management, Donbas State Technical University, Luhansk State University of Internal Affairs named after E.O. Didorenko, Sergei Prokofiev Donetsk State Music Academy.

155 EDEBO data.

156 For instance, the following universities operate outside the Ukrainian legal field: so-called Donetsk National University (**http://donnu.ru/history**), Luhansk State Pedagogical University (**https://lgpu.org/**), St. Lucas Luhansk State Medical University (**https://lgmu.ru/**), V.I. Vernadsky Federal University of Crimea (**https://cfuv.ru/**) etc.

157 Why is Donetsk National University relocated to nowhere else but Vinnytsia? [In Ukrainian] URL: **https://vinbazar.com/news/nshe/chomu-donetskii-natsalnii-universitet-pereyizhaye-same-u-vinnitsyu**.

International partners provided aid to HEIs relocated after 2014 in the form of non-refundable grants. In this regard, we should recall the aid provided to relocated universities by the Czech Government in 2015-2021[158], as well as the EU Support to Displaced Higher Education Institutions in the East of Ukraine which provided EUR 10 million in 2020[159].

We failed to find public information to prove that the expenses of universities relocated in 2014 were, fully or partially, funded by the state budget to restore their full operation at the new place, develop their facilities and equipment, and carry out repairs in the buildings provided to them. These expenses were probably covered by charity donations, grants and — less likely — local budget resources.

Governmental measures to support the current operation of universities relocated in 2014 (apart from looking for accommodation space for them) were generally rudimentary. For instance, the universities relocated within Donetsk and Luhansk Oblasts are allowed to provide public-funded training for a stable number of students[160], which in practice means relatively stable and guaranteed state-budget funding for these HEIs' operations. Besides, for the HEIs relocated in 2014, the need to carry out accreditation of their education programs was postponed for several years[161].

Heroic efforts and commitment of HEI staff and students, as well as private aid provided to HEIs, cannot fully compensate lack of individual programmes of additional state support to relocated universities. The HEIs relocated in 2014 have partially lost their leading positions in the education system of Ukraine. In most cases, the spots such HEIs held in the unofficial rating *Top 200 Universities of Ukraine* dropped significantly compared to the year before the war. Notably, some institutions failed to even make it to the said rating (Table 5.1).

158 [In Ukrainian] URL: **https://cutt.ly/X3S7L5R**, **https://cutt.ly/33S7VUF**.

159 EU Support to Displaced Higher Education Institutions in the East of Ukraine. Ref. EuropeAid/161559/DD/ACT/UA. URL: **https://cutt.ly/z3S4D1c**.

160 Paragraph four of clause 41 of Final and Transitional Provisions of the Law of Ukraine *On Higher Education*.

161 Paragraph one of clause 41 of Final and Transitional Provisions of the Law of Ukraine *On Higher Education*.

Table 5.1
        Places taken by HEIs relocated in 2014 in the Top-200 Universities of Ukraine rating for the years 2013 and 2021[162]

Name of higher education institution	Place of HEI in the Top 200 rating		Shift in the rating, *places*
	2013	2021	
Vasyl' Stus Donetsk National University	17	26	−9
Donetsk National Technical University	18	39	−21
Luhansk Taras Shevchenko National University	21	69	−48
Donetsk National Medical University	23	88	−65
Volodymyr Dahl East Ukrainian National University	30	74	−44
V.I. Vernadsky Taurida National University	32	77	−45
Donetsk National University of Economics and Trade named after Mykhailo Tugan-Baranovsky	57	166	−109
Luhansk State Medical University	60	147	−87
Donetsk State University of Management	64	108	−44
Luhansk National Agrarian University	90	N/A	−
Donbas State Technical University	116	N/A	−
Donbas National Academy of Civil Engineering and Architecture	164	155	+9
Luhansk State University of Internal Affairs named after E.O. Didorenko	N/A	198	+
Horlivka Institute for Foreign Languages of the State Higher Education Institution "Donbas State Pedagogical University"	N/A	N/A	
Donetsk Regional Institute of Postgraduate Teacher Training	N/A	N/A	
Donetsk State University of Internal Affairs	N/A	N/A	
Lugansk State Academy of Culture and Arts	N/A	N/A	
Luhansk Regional Institute of Postgraduate Teacher Training	N/A	N/A	
Industrial and Pedagogical College in Pervomaysk	N/A	N/A	

Moreover, out of 138 HEIs included in the university graduates' official employment rating prepared by MoES based on the data as of 2021[163], nine institutions were relocated in 2014. Only two of them made it to the top half of the rating list, while the remaining seven are in the bottom half (Table 5.2).

162 Based on: [In Ukrainian] **https://zn.ua/static/file/top200_table_ukr.pdf and https://osvita.ua/vnz/rating/82821/**.

163 Summary of the first HEIs and PPHEIs graduates' employment monitoring. [In Ukrainian]
URL: **https://mon.gov.ua/ua/news/pidvedeno-pidsumki-pershogo-monitoringu-pracevlashtuvannya-vipusknikiv-zakladiv-vishoyi-ta-fahovoyi-peredvishoyi-osviti**.

Table 5.2   Places of individual HEIs relocated in 2014 in the graduates' employment rating[164]

Rating position among 138 institutions	Name of HEI
24	V.I. Vernadsky Taurida National University
53	Donetsk National Technical University
70	Donbas National Academy of Civil Engineering and Architecture
81	Luhansk National Agrarian University[165]
83	Donetsk National University of Economics and Trade named after Mykhailo Tugan-Baranovsky
84	Vasyl' Stus Donetsk National University
125	Horlivka Institute for Foreign Languages of the State Higher Education Institution "Donbas State Pedagogical University"
126	Luhansk Taras Shevchenko National University
134	Volodymyr Dahl East Ukrainian National University

Based on these data and considering the issues of a new relocation of PPHEIs and HEIs in 2022, MoES professionals come to a sad but honest and fair conclusion that "currently, as we lack systemic financial and material state, regional, international and other partnership support, the majority of Ukrainian universities relocated after 24 February 2022 may soon find themselves in this [grim] situation."[166] We shall get to this issue in more detail below, but first, we would like to point out some public policy measures designed to simplify access to higher education for individual affected categories of the Ukrainian population post-2014.

Access to higher education for youth from temporarily occupied territories

Viewing occupation administrations and education certificates issued in temporarily occupied territories as illegal, the Ukrainian state took measures to enable young people from temporarily occupied territories to acquire education in Ukraine. For this purpose, starting in 2016, the Ministry of Education, partnered with the Governmental Contact Center and Open Policy Foundation, created the Ukrainian HEI admission algorithm for individuals who graduated from school in the occupied territories[167]. To implement the algorithm, several Ukrainian education institutions hosted newly formed education centers "Donbas-Ukraine" and "Crimea-Ukraine". By applying to one of those centers, a school graduate from temporarily occupied territories will have an opportunity to be admitted to a Ukrainian school for external learning, pass the annual evaluation and final state examination, and then receive a Ukrainian certificate of secondary education.

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164 Based on: [In Ukrainian] **https://mon.gov.ua/storage/app/media/news/2022/02/03/01/Tablytsi-1-4.do.zvitu.z.monitorynhu.pratsevlashtuvannya-2022-02-01.xlsx**.

165 As specified above, as this document was being prepared, the said university's status as an independent education institution was terminated.

166 Education of Ukraine under martial law. Informational and analytical digest. Kyiv, Institute of Educational Analytics, 2022. p. 178. [In Ukrainian] URL: **https://iea.gov.ua/wp-content/uploads/2022/08/education-of-ukraine_2022.pdf**.

167 See Orders of MoES No. 560 of 24 May 2016, No. 697 of 21 June 2016 and No. 271 of 01 March 2021. [In Ukrainian]

With this document, the individual may be admitted to a Ukrainian HEI through a simplified procedure. In 2016–2019, a short list was made of Ukrainian HEIs that admitted students through the said algorithm. Starting in 2020, the list was extended to include practically all Ukrainian HEIs.

Between 2016 and 2021, around 10.2 thousand students were admitted to the Ukrainian HEIs through the procedure described above[168]. Upon admission, these individuals have priority (albeit not a guarantee) to apply for public-funded training and may also be assigned social scholarships. Based on the data available[169], assessments may be made that in 2018–2021 around 2% of young people who graduated from secondary schools in the Autonomous Republic of Crimea and about 20% of graduates from schools located in the temporarily occupied territory of Donetsk and Luhansk Oblasts were admitted to Ukrainian HEIs.

In Ukraine, HEI students studying on public-funded and regional-funded basis may receive academic or social scholarships. Academic scholarships are assigned for about 40% of public-funded students with the highest rating, as based on the admission campaign or semester examination results. Social scholarships are paid to individual categories of students entitled to additional public support.
As of the end of 2022, the academic scholarship for HEI students was UAH 2,000 (about €60) per month, while the social scholarship was between UAH 1,770 and UAH 5,891 per month depending on the basis for scholarship assignment. Students with the status of an orphan child may receive both the academic and social scholarships simultaneously, while all other student categories are entitled to only one scholarship type.

In 2022, the described Ukrainian HEI admission algorithm worked the same as in previous years. However, the hostilities covered a much larger territory of Ukraine, affecting millions of people. Therefore, school graduates who resided in especially dangerous territories in 2022 were allowed to be admitted to universities without having to pass External Independent Testing or National Multidisciplinary Test (for more details on NMT, please see Chapter 2 of this report).

Individuals acquiring higher education in the institutions located in the occupied territories of Ukraine may, through a special procedure[170], pass certification, recognition of acquired qualification and, should these qualifications meet the Ukrainian higher education standard requirements, complete their education, and receive a certificate of a Ukrainian HEI.

For internally displaced persons in Ukraine, the procedure of admission to HEIs to study on a public-funded basis is less demanding, they are entitled to receive social scholarships

168 Calculations based on: [In Ukrainian] **https://cutt.ly/w2ckfmR**, **https://cutt.ly/X2ckhEB**, **https://cutt.ly/y2ckQGV**.

169 URL: **https://cutt.ly/Z2cz4fy**, **https://cutt.ly/12cxylg**, **https://cutt.ly/z2cxjtz** (links do not work for Ukraine-based Internet users but should open through VPN services).

170 Procedure of certification for recognition of acquired qualifications, learning credits and training periods in the higher education system, acquired in the temporarily occupied territory of Ukraine after 20 February 2014, approved by MoES Order No. 537 of 19 May 2016. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/z0793-16**.

Relocation of universities in 2022: larger scale, less certainty

The full-scale Russian invasion in early 2022 made it impossible for education institutions to operate in the Ukrainian legal field in the newly occupied territories and zones of active hostilities. Therefore, the Ukrainian Government made a tough decision that those PPHEIs and HEIs wishing to continue their operation must relocate from the regions under heavy fire and occupation to the Ukrainian-controlled territory. Until the moment of their relocation, all banking and treasury services for these education institutions were suspended (meaning they could not perform any financial operations or make payments) and their access to EDEBO was closed (meaning they could not change information on their employees and students in this database and, among other things, could not produce and issue diplomas to their graduates). To restore access to EDEBO and treasury services, the HEIs had to relocate to unoccupied regions of Ukraine, which they did in February-May 2022. There was no most popular region for relocation: the institutions moved to various regions of Ukraine.

In general, in 2022 relocation was performed by 131 PPHEIs and HEIs having a total of 91 thousand students (6.7% of the total number of all students in Ukraine) and 11 thousand teachers (see Table 5.3). These figures include independent universities, professional colleges, and branches of several education institutions.

Table 5.3 — Individual indicators of professional pre-higher and higher education institutons relocation in 2022[171]

Indicator	Higher education institutions	Professional pre-higher education institutions
Number of relocated institutions	44	87
including:		
a) by form of ownership:		
- Public	27	63
- Municipal	0	19
- Private	17	5
b) by independence level:		
- Independent institutions	25	40
- Branches of other institutions	19	47
Total number of teachers working in relocated education institutions, *individuals*	6,9 thousand	4,4 thousand
Total number of students studying in relocated education institutions, *individuals*	54,1 thousand	37 thousand
Cities that accepted the largest number of relocated education institutions	Zaporizhzhia — 7 HEIs Dnipro — 6 HEIs Kyiv — 6 HEIs	Dnipro — 15 PPHEIs Zaporizhzhia — 15 PPHEIs Poltava — 11 PPHEIs

171 Based on EDEBO data, information of MoES on the relocation of education institutions, and other public sources.

In our previous publication, we analysed the main challenges faced by relocated universities both at the level of individual institutions and among their students and teaching staff[172]. This material shifts the angle of our analysis to the generalization of these challenges in terms of actions and decisions of the public authorities, international partners, and other stakeholders, necessary to support the operation of relocated universities and professional colleges in a short-term and strategic perspective.

The relocation of education institutions in 2022 was different from the one that had taken place eight years earlier. While in 2014 most teaching staff and students of each relocated HEI moved to a new city and new premises, in 2022 this "full-scale" relocation model was implemented by only two or three universities. Public authorities and education institutions act on the assumption that these relocations of 2022 are temporary, and after Ukraine's victory and de-occupation of its territories, these institutions will return home. Therefore, most universities and professional colleges use a "minimal" or "semi-virtual" relocation model: they move the administration, the accounting department, and several key employees of other departments to a new city, usually to be accommodated by another education institution. These departments are mostly hosted in just a few rooms of their partner education institution. Meanwhile, teachers and students continue to work and study remotely, regardless of their physical location.

This circumstance entails other features of the new relocations. In early 2022 people evacuated from temporarily occupied territories to various regions of Ukraine and other countries. Therefore the relocated universities in the near future will likely be unable to gather teachers and students in the same city where the institutions were relocated in order to organize offline learning. These institutions are in practice transformed into moderators or "back offices" that organize higher education in a remote (online) format.

The "semi-virtual" relocation of these institutions is enabled by their experience of organizing online learning during COVID-19, which tactically made it easier for them to restore the education process upon the offset of the full-scale war. However, strategically, the availability of this mode of operation discourages from taking all possible measures to return students to physical classrooms (the alternative between online and offline work stimulates changes much less than the one between working remotely and not working at all). The latter means the long-term risks of further learning losses.

Growing learning losses are also caused by the fact that the students who evacuated to safer regions often need to earn their living. Many of them have to work, which distracts them from their studies. It should be noted here that a certain number of students of each Ukrainian education institution changed residence due to the war; however, in relocated universities and professional colleges, the percentage of such students is obviously the largest, as the share of the population that fled from temporarily occupied and especially dangerous territories was the largest as well.

Quite a few Ukrainian and European universities offered students who fled from especially dangerous regions of Ukraine to attend certain courses for free at their current places of residence, which is a form of academic mobility. Although, as per a poll we held earlier, only a small number of students use this opportunity, some of them may potentially decide to transfer to a new university that provides conditions to acquire possibly higher-quality education offline. For relocated education institutions, this circumstance is a risk of losing some of the students.

172 Nikolaiev Ye., Riy G., Shemelynets I. Within alien walls: how displaced universities deal with problems. Vox Ukraine, 12 July 2022. [In Ukrainian] URL: **https://voxukraine.org/u-chuzhyh-stinah-yak-dolayut-problemy-peremishheni-universytety/**.

The effective organization of remote learning depends on electronic resources (such as Learning Management System — e-learning system, electronic logs, electronic document management system, library resources etc.) that operate on server equipment of education institutions. Due to various reasons (high costs, technological difficulties in deployment), Ukrainian education institutions usually have not backed up important information on mirror servers physically located in another region of the country or abroad. Therefore, relocated universities greatly risked losing access to important information stored in electronic form. As representatives of individual relocated universities said in our interviews, some universities managed to efficiently transfer important information to other services using Internet channels; employees of some other institutions (with great safety risks) successfully moved some computer and server equipment to unoccupied territories. The relocated education institutions' need for additional computer and server equipment remains quite high, and this should be specifically pointed out.

Another complicated issue is the participation in the learning process of those students and teachers who remained in the temporarily occupied territories. These individuals are challenged by not only unstable Internet connection, or total lack thereof, but also safety risks if the occupation administration finds out a person remotely continues education activities in a Ukrainian institution. The relocated education institutions administrations also face the problem of reacting to cases of collaboration with the occupants. As we have written earlier, "the matter of staff decisions remains open regarding HEI employees who openly sided with the occupants and take part in the operation of illegally established education institutions under Russian flags. If relocated administrations become aware of such individuals, their employment contracts are suspended."[173] The education institutions acting in the Ukrainian legal field have no other tools to react to such information, which often lacks proper evidence.

Ten public-funded HEIs[174] have already relocated twice: within a relatively short period, they are forced to change their location for the second time. As the data based on the 2014 relocation results show that even a one-time relocation has a long-lasting negative effect on the institution's operation, the situation for those who relocated twice is even more difficult, and they will require special support.

Based on EDEBO data, during the admission campaign in 2022 about 20 relocated education institutions failed to admit even one applicant. These 20 institutions include both small branches of other education institutions and several independent professional colleges. These relocated institutions will probably evolve towards merging with larger and more powerful universities, which would have to be considered in the education policy.

After the de-occupation of territories captured by Russia, different relocated HEIs will find themselves in widely varying conditions. Most will return to their home cities and premises. Some others will, unfortunately, have nowhere to return due to destroyed facilities that will require rebuilding. There is also the third group of HEIs, those relocated in 2014. Their challenge is that their home facilities were used by the occupants to set up their own "universities" where citizens of Ukraine who reside in these occupied territories have been working and studying for several years. The Ukrainian universities that will be returning to their home facilities will have to develop and implement some very complicated solutions regarding further participation of these individuals in the learning process within the Ukrainian legal framework.

173 Inside alien walls…
174 12 HEIs, including reorganized universities.

Upon returning to their home cities after Ukraine's victory, temporarily relocated education institutions as bearers of Ukrainian values will have to play an important role in the reintegration of temporarily occupied territories back into the Ukrainian educational and cultural sector. Socialization of youth, capacity building and retraining of teachers who had been forced to work under Russian education programs since 2014, promotion of knowledge of the history of Ukraine, restoration of operation of the Ukrainian language as the state language in the de-occupied territories, implementation of local humanitarian projects etc. are important areas of future work for these education institutions. The Council of Europe Action Plan for Ukraine lays out the related task as follows: "build capacities of education professionals for establishing democratic, diverse, and inclusive history curricula and pedagogy that incorporate the teaching and learning of the complex history of democracy, in line with the Council of Europe standards, and for the creation of safe learning environment that promotes dialogue, inclusiveness and social cohesion, and addresses potentially sensitive and controversial issues."[175] However, this task for other types of universities and education institutions is currently not directly mentioned in the official documents regarding the reintegration of de-occupied territories[176] and the post-war recovery of Ukraine. Designing the respective policy and looking for financial, staffing, and intellectual resources for its implementation is something that should already be started today.

Everything laid out in this section means that the "one size fits all" approach (i.e. policies that establish the same rules for everyone without taking into consideration anyone's individual needs), which the Ukrainian government is so fond of, will not be effective in helping relocated education institutions. The draft Education and Science Sector Recovery Plan defines the broadest possible task of regulating, on the legislative level, the activities and providing for the operation of HEIs and PPHEIs in the de-occupied territories. This "provision for operation" will need to be filled with the institution-specific content determined on a case-by-case basis: rebuilding of destroyed buildings, learning facilities and student dormitories for some; target support to develop educational curricula in Ukrainian language, literature, history, and culture for others; joining larger and more powerful institutions for still others; or return to offline learning etc. Any of these focus areas requires, inter alia, public resources, and if none are found (as we see in cases of HEIs relocated in 2014), the institutions relocated in 2022 will likely be unable to fully restore their operation.

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175 Council of Europe Action Plan for Ukraine "Resilience, Recovery and Reconstruction" 2023–2026. Adopted by the Committee of Ministers on 14 December 2022 at the 1452nd meeting of the Ministers' Deputies.
URL: **https://cutt.ly/z2TTayy**.

176 Action Plan to implement the Strategy of de-occupation and reintegration of temporarily occupied territory of the Autonomous Republic of Crimea and City of Sevastopol, as approved by Order No. 1171-p of the Cabinet of Ministers of Ukraine of 29 September 2021. [In Ukrainian]
URL: **https://zakon.rada.gov.ua/laws/show/1171-2021-%D1%80#Text**.
Action Plan of executive authorities to restore de-occupied territories of territorial communities, as approved by Order No. 1219-p of the Cabinet of Ministers of Ukraine of 30 December 2022. [In Ukrainian]
URL: **https://zakon.rada.gov.ua/laws/show/1219-2022-%D1%80#Text**.

CHAPTER 6.
Professional Pre-Higher Education Sector Development under Strategic Uncertainty

Our study is focused on the higher education sector. However, attention should be also paid to another education level, professional pre-higher education (PPHE). Historically, before 2019 professional pre-higher education was officially a part of higher education in Ukraine. Close ties between the two remain. Many PPHE institutions are university branches. Specialist training in higher and professional pre-higher education in Ukraine is based on the same programme subject areas. The methodology to design education standards and programmes and the organization of the learning process are similar on these two education levels. Likewise, the key state regulatory procedures (such as licensing, accreditation, professional requirements for teachers, etc.) are similar in these two sectors. Professional pre-higher and higher education institutions face similar challenges caused by the war, namely the deteriorating availability of financial, human, and material resources.

The intermediate step between secondary education and "comprehensive" bachelor's and master's degrees in the Ukrainian education system is taken by vocational education and training (VET), professional pre-higher education, and short-cycle higher education programmes which form the base for acquiring the Junior Bachelor's degree. Besides, many specialists were trained or are currently completing their training in Junior Specialist programmes although new students are no longer enrolled in them. VET is the most understandable education level for the labour market, as upon acquiring it an individual masters a certain profession, familiar to employers.

VET is qualified as Levels 3 and 4 of the National and European Qualifications Framework, while professional pre-higher education and short-cycle higher education programmes are listed under Level 5 of the same Framework.

The above-mentioned variety of qualifications is somewhat confusing, so let us look at their history and formation logic.

- Junior Specialist is a higher education level that arose in Ukraine in the early 1990s when many institutions that used to provide secondary specialized education in the Soviet times were included in the higher education sector, and a considerable part of technical schools became so-called *HEIs with first-/second-tier accreditation*. Universities and institutes have since become *HEIs with third-/fourth-tier accreditation*. The technical schools specified earlier, i.e. *HEIs with first-/second-tier accreditation*, trained **junior specialists** now, and one could enrol in those programmes with both basic (Grade 9) and complete (Grade 11) general secondary education.

- However, HEIs with first-/second-tier accreditation are not too close to universities, so they did not fit quite comfortably inside the higher education system. They lacked staff potential as they could only have teaching staff in non-research positions (meaning the teachers' wages at these institutions are lower); moreover, the organizational differences between practice-oriented education programmes of these institutions and more academic university programmes were quite obvious. Therefore, the new wording of the Law "On Higher Education" adopted in 2014 repealed the notion of *HEI accreditation tiers* whilst changing the status of the HEIs with first-/second-tier accreditation (which became a thing of the past) in the education system. A small number of such institutions had sufficient staff and administration potential allowing them to train in bachelor's programmes.

They eventually became **colleges** and remained in the education system. The institutions with fewer resources or those more oriented at practical training were offered to become a part of the VET system. However, the said institutions did not accept this proposition for various reasons, and their status remained in limbo for several years.

- Eventually, a decision was made to establish a new education level in Ukraine — professional pre-higher education. This decision was implemented by the adoption of the respective Law[177] in 2019, giving former HEIs with first-/second-tier accreditation the status of professional pre-higher education institutions (**PPHEIs**). As Junior Specialist is a level of higher education, and PPHEIs are not higher education institutions anymore, as of 2022, the Junior Specialist training programmes (as a higher education degree) are being completed by those enrolled earlier. Meanwhile, new students are enrolled by PPHEIs in **Professional Junior Bachelor** programmes. The qualification with this title, as stated in the Law, is a professional education level of professional pre-higher education.

- Professional Junior Bachelor should not be confused with "simply" **Junior Bachelor**. The Junior Bachelor qualification is acquired on a short-cycle higher education level introduced in Ukraine due to the adaptation of the national education system to the requirements of the European Qualifications Framework.

- All three education levels — Junior Specialist, Junior Bachelor, and Professional Junior Bachelor — are acquired on Level 5 of the National and European Qualifications Frameworks (Table 6.1).

Table 6.1				Education degrees on Level 5 of the National and European Qualifications Frameworks

Education degree	Pre-admission qualification requirements	Duration of training	Education level required to pursue the degree	Institutions that may provide the degree
Junior Specialist	No enrolment is available. Previously, students were enrolled after Grades 9 and 11	Grade 9 — up to 4 years.	Higher education	Professional pre-higher education institutions; previously — higher education institutions
Professional Junior Bachelor	Grades 9 and 11	Grade 11 — up to 3 years.	Professional pre-higher education	VET institutions, professional pre-higher education institutions
Junior Bachelor	Grade 11 only	Two years	Higher education	Professional pre-higher and higher education institutions

The number of education institution entrants to acquire VET, professional pre-higher and higher education is comparative (Figure 6.1). Nonetheless, if post-Grade 9 entrants are not considered, professional pre-higher and VET education levels are significantly inferior to higher education in terms of attractiveness for secondary school graduates (Figure 6.2).

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177 Law of Ukraine *On Professional Pre-Higher Education*, No. 2745-VIII of 06 June 2022. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/2745-19#Text**.
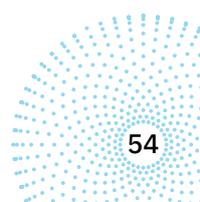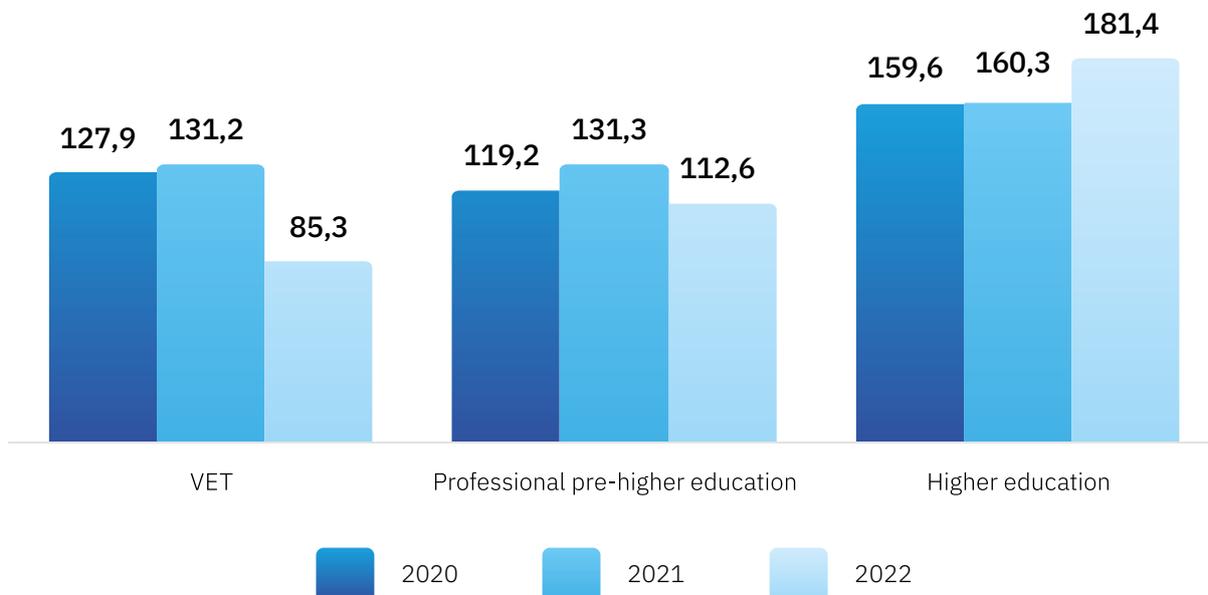
Figure 6.1. Enrolment of students with basic and complete general secondary education, *thousand students[178]*
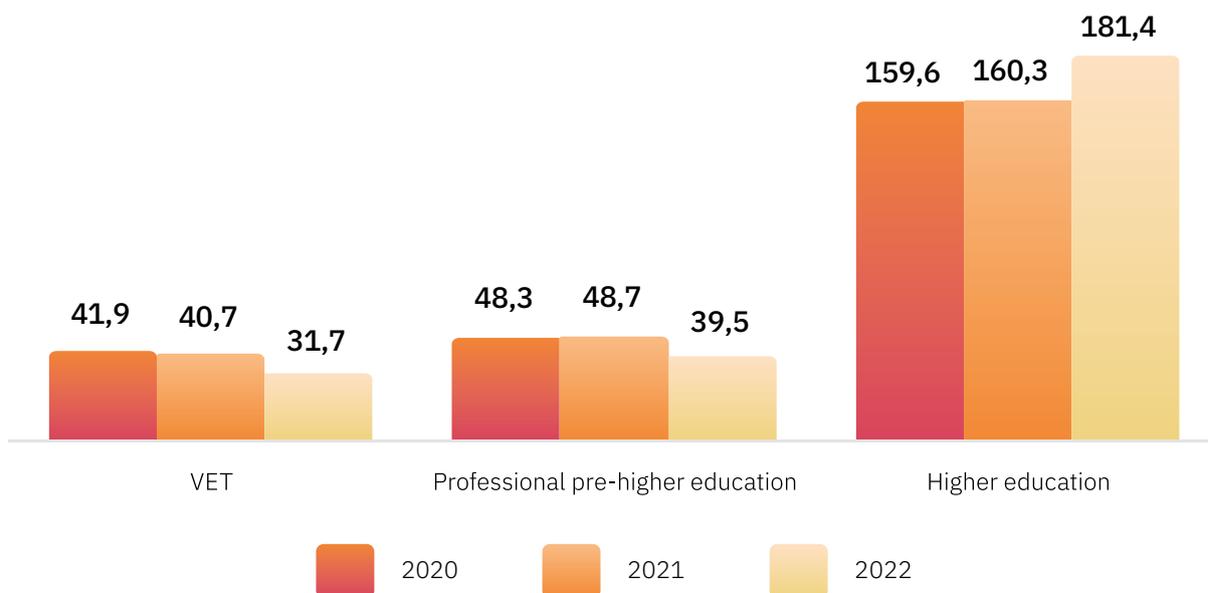
Figure 6.2. Enrolment of students with full general secondary education, *thousand students[179]*

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178 Source: Vocational Education and Training in 2020 and 2021 — State Statistics Service of Ukraine: Vocational Education and Training in 2022 — Ministry of Education and Science of Ukraine estimate; professional pre-higher and higher education — EDEBO. The data on the figure do not include entrants in Junior Bachelor training programmes. Enrolment to pursue higher education based on Junior Specialist, Junior Bachelor, and Professional Junior Bachelor degrees is also not included.

179 Data source: ibid. The data on the figure do not include entrants in Junior Bachelor training programmes. Enrolment to pursue higher education based on Junior Specialist, Junior Bachelor, and Professional Junior Bachelor degrees is also not included.

A word on Junior Bachelors

The importance of the development of short-cycle higher education programmes in compliance with the decisions made within the European higher education space is a subject well-known to a narrow professional circle of experts in Ukraine. For the wider circle of universities, students, and employers it is a subject that's either brand new or hard to understand. Today, Junior Bachelors form precisely one per cent of all students training for Level 5 of the National Qualification Framework in Ukraine (Figure 6.3); within four years, since the introduction of this education level, 5.6 thousand individuals have enrolled in the respective education programmes (Figure 6.4).

Based on EDEBO data, in 2022, 854 students were admitted to 135 Junior Bachelor programmes across 39 education institutions to train in 44 programme subject areas. The largest number of entrants — 40 individuals — were admitted to Bukovinian State Medical University for the subject area "Pharmacy, Industrial Pharmacy". The smallest number of entrants, one student each, were admitted to 18 education programmes across 13 education institutions. Across all Ukrainian universities in general, the most popular subject areas were "Management" (81 future Junior Bachelors), "Pharmacy, Industrial Pharmacy" (65 entrants), and "Accounting and Taxation" (64 entrants). The least attractive subject areas are "Sea and Inland Waterway Transport", "Geosciences", and "Transport Technologies", with one entrant per each. It should be noted most Junior Bachelor subject areas are unpopular, and no enrolment has been carried out in them.

Figure 6.3. Number of students on Level 5 of National and European Qualifications Frameworks as of 01 January 2022, EDEBO data, *thousand students*
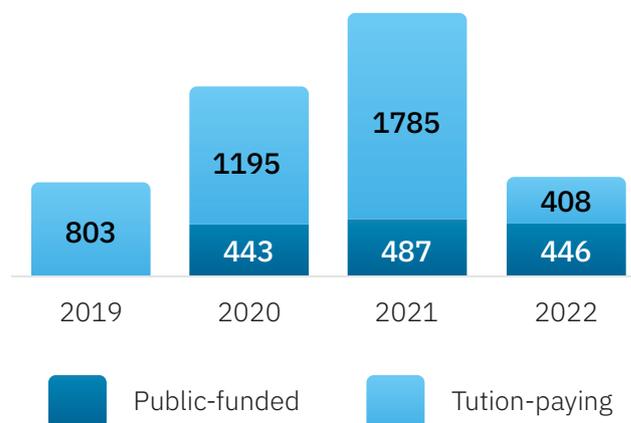

Figure 6.4. Enrolment in Junior Bachelor Programmes, *by number of students, EDEBO data*

A small number of public-funded Junior Bachelor's degree applicants were relatively equally distributed among most programme subject areas[180]. This results in 10 to 20 individuals per subject area who usually enter Junior Bachelor programmes to study on a public-funded basis.

As this text is being written, no higher education standards for the Junior Bachelor level are under development.

As opposed to Junior Specialist and Professional Junior Bachelor, a Junior Bachelor may be employed in individual civil service positions[181].

Thereby, although the training of Junior Bachelors was initiated in Ukraine in 2019, no systemic vision of the place this education level takes in the system of professional training has been developed. The model which implies only about a dozen students training in most programmes of this higher education level is unlikely to be viable. Perhaps one should consider Junior Bachelor programmes as two-year programmes designed to train a student for employment in junior positions. However, in this case, the Junior Bachelor's degree must find its own unique positioning against the already existing and popular degree of Professional Junior Bachelor (Junior Specialist), the latter also being more understandable for the labour market. Restricting the training of Professional Junior Bachelors to professional colleges and Junior Bachelors to universities will not be enough to establish a clear positioning.

Professional pre-higher education institutions network

Professional pre-higher education in Ukraine can be provided by professional pre-higher education institutions (professional colleges), as well as VET and higher education institutions (see Table 6.2). Based on EDEBO data, over 600 professional pre-higher education institutions operate in Ukraine[182]. EDEBO contains limited information on non-commissioned officers colleges and professional colleges with specific training conditions. The data provided below on the number of PPHEIs and the student body are useful in demonstrating the correlations between various types of institutions; regrettably, they also contain a certain error due to imperfect educational statistics in Ukraine.

Individual PPHEIs also provide bachelor-level education. Based on EDEBO data, as of 01 January 2022, 5.9 thousand students pursued a bachelor's degree in 55 professional colleges.

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180 For instance, see Resolution No. 769 of the Cabinet of Ministers of Ukraine No. 769 of 07 July 2022 "On Public-Funded Training of Specialists, Researchers, Teaching Professionals, and Qualified Workers, Advanced Training, and Retraining of Staff in 2022". [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/769-2022-%D0%BF#Text**.

181 Law of Ukraine *On Civil Service*, No. 889-VIII of 10 December 2015. Article 19, part 1, clause 2. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/889-19#Text**.

182 Higher and professional pre-higher education in Ukraine in 2021. Statistical data. [In Ukrainian] URL: **https://ukrstat.gov.ua/operativ/operativ2021/osv/vush_osv/vfpo_Ukr_2021.xls**.

Table 6.2   **Number of students in Professional Junior Bachelor and Junior Specialist programmes in 2022,** *EDEBO data*

Type of education institution	Education degree		Total
	Professional Junior Bachelor	Junior Specialist	
As of 1 January 2022			
Professional college — independent legal entity	88,744 students 289 institutions	54,924 students 291 institutions	143,668 students 291 institutions
Professional college — separate HEI structural unit	112,126 students 327 institutions	63,060 students 342 institutions	175,186 students 342 institutions
Professional college branch	906 students 10 institutions	408 students 10 institutions	1,314 students 10 institutions
VET institution	7,909 students 101 institutions	965 students 101 institutions	8,874 students 101 institutions
College	16,364 students 68 institutions	10,428 students 68 institutions	26,792 students 68 institutions
Higher education institution (except colleges)	9,187 students 40 institutions	4,735 students 40 institutions	13,922 students 40 institutions
Total	**235,236 students 835 institutions**	**134,520 students 852 institutions**	**369,756 students 852 institutions**
As of 1 October 2022			
Total	**315,394 students 819 institutions**	**54,262 students 692 institutions**	**369,656 students 835 institutions**

The specifics of the PPHEI network are that some of the professional colleges act as independent institutions and legal entities (291 institutions with 143.7 thousand students in total), while others are separate structural units (or branches) of HEIs (342 professional colleges with total of 175.5 thousand students are subordinate to 132 HEIs) or other professional pre-higher education institutions (10 professional colleges, 1.3 thousand students). Separate structural units are not individual legal entities; they may be in the same city as the main institution, as well as in any other city. HEIs with the largest number of students training in their subordinate professional colleges are specified in Table 6.3.

Table 6.3   **HEIs with the largest network of subordinate professional colleges as of 01 January 2022,** *based on EDEBO data*[183]

Higher education institution	Number of subordinate PPHEIs, units	Number of students in subordinate PPHEIs
Lviv Polytechnic National University	10	7 816
National University of Food Technologies	11	7 760
National University of Life and Environmental Sciences of Ukraine	9	7 622
National Aviation University	6	5 874
State University of Trade and Economics	7	5 165
Lviv National Agrarian University	8	4 591
Kryvyi Rih National University	6	4 482
National Transport University	4	4 295
Vinnytsia National Agrarian University	5	3 658
Sumy National Agrarian University	6	3 454
Poltava State Agrarian University	7	3 342
Bila Tserkva National Agrarian University	8	3 272
Open International University of Human Development "Ukraine"	15	3 256
Dmytro Motornyi Tavria State Agrotechnological University	6	3 243
Higher Education Institution "Podillia State University"	7	3 182
Odessa Polytechnic National University	3	3 148
Odesa National University of Technology	4	3 115
Zaporizhzhia National University	4	2 988
Kyiv National University of Construction and Architecture	4	2 922
National University of Water and Environmental Engineering	5	2 912
Uman National University of Horticulture	7	2 889
Total	**142**	**88 986**

A complex scheme has been established to manage the property of individual professional colleges: 143 state-owned PPHEIs are managed by the MoES; however, their activities are financed by local budgets[184]. Individual powers to manage the property of these state institutions[185] have been delegated to local authorities.

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183 The table contains HEIs whose networks cover over 50% of all students of PPHEIs which are branches of other institutions.

184 Law of Ukraine *On the State Budget of Ukraine for 2018*, No. 2246-VII of 07 December 2017. Article 24 and Annex 10. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/2246-19#n189**.

185 Matters of administration of individual categories of state-owned education institutions managed by the MoES: Order No. 1412-p of the Cabinet of Ministers of Ukraine of 11 December 2019. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/1412-2019-%D1%80#Text**.

Municipal and state professional colleges funded by local budgets are recipients of an educational subvention[186], i.e. funds allocated by the state budget to local budgets to pay for complete general secondary education and teachers' salaries. Educational subventions cover a part of professional colleges' costs to train students admitted after Grade 9, who simultaneously pursue complete general secondary education along with professional pre-higher education. In this matter, the policy discriminates against private professional colleges and professional colleges which are separate structural units of state-owned HEIs: such education institutions do not receive any educational subvention although they are eligible for it under clause 2 of Part 1 of Article 66 of the Law of Ukraine *On Professional Pre-Higher Education*. As Volodymyr Zelenyi says[187], no access to educational subvention means a complete financial drain for individual PPHEIs.

As of the end of 2022, the largest number of professional colleges was located in Dnipropetrovsk Oblast (Figure 6.5). One reason for this is that this is the region that accepted 20 PPHEIs from Luhansk and Donetsk Oblasts upon the offset of full-scale Russian invasion.
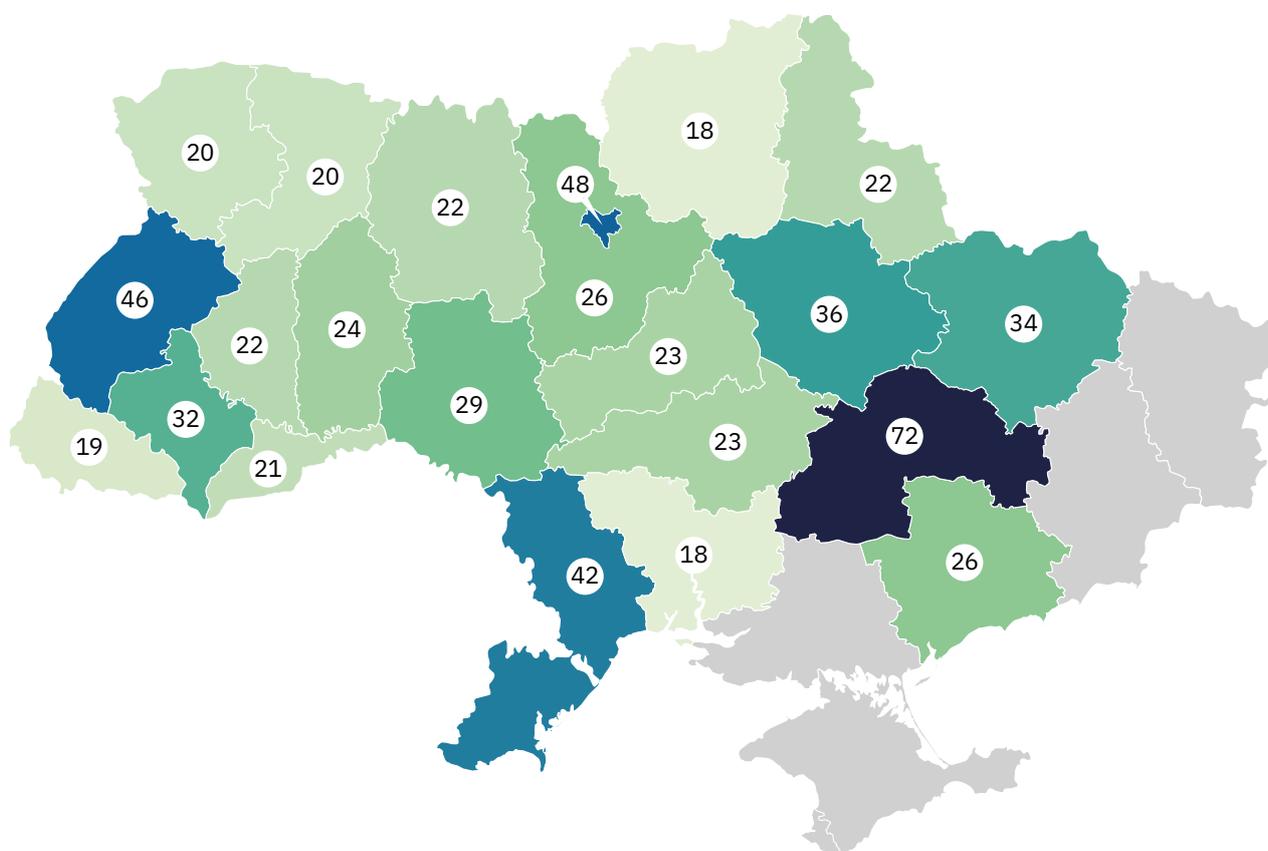
**Figure 6.5. Geographical location of professional colleges
as of November 2022,** *EDEBO data[188]*

186 Subclause 6 of clause 3 of Procedure and Terms of Granting Educational Subventions from the State Budget to Local Budgets, approved by Resolution No. 6 of the Cabinet of Ministers of Ukraine of 14 January 2015. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/6-2015-%D0%BF#Text**.

187 Interview with Volodymyr Zelenyi of 03 October 2022.

188 The image is created via datawrapper.de.

Students in professional pre-higher education

As of 01 January 2022, 369.7 thousand students pursue Junior Specialist and Professional Junior Bachelor's degrees in Ukraine. Of those, 318.8 thousand study in professional colleges, 40.7 thousand — in HEIs, 8.9 thousand — in VET institutions, and 1.3 thousand — in branches of professional colleges. 71.7% of them enrolled after Grade 9 (with basic general secondary education) and 28.3% after Grade 11 (with complete general secondary education). 66.0% of students study on a public-funded and local budget-funded basis, while 34.0% study on a tuition-paid basis covered by individuals and legal entities (Figure 6.6).

Figure 6.6. Number of students pursuing Professional Junior Bachelor, Junior Specialist, and Junior Bachelor degrees in all types of education institutions, by admittance basis and tuition payment source, *EDEBO data as of 01 January 2022, thousand students*
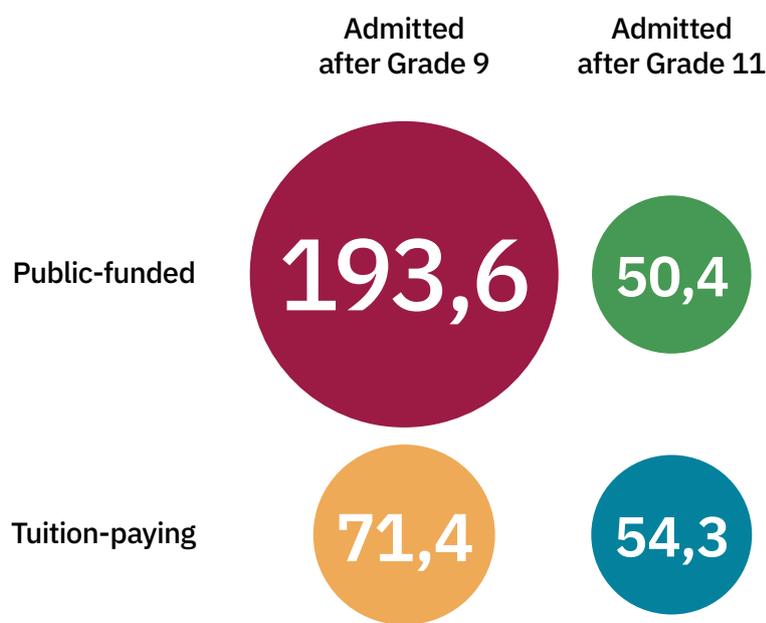
As seen from the data above, the PPHEIs (professional colleges) train 86.2% of the total number of students pursuing Level 5 education based on the National Qualification Framework. The distribution of students between professional colleges of different ownership types is shown in Figure 6.7.

Students pursuing professional pre-higher education are trained in the same subject areas[189] as those pursuing higher education[190]. The decision to train Professional Junior Bachelors without correlation with a specific profession (as is the case in VET) is somewhat conflicted. On the one hand, without focusing on one specific profession or specialist position, professional colleges have wider autonomy in shaping the contents and logic of their curriculums and their positioning in the education market. The general guidelines for this are provided by the state standards of professional pre-higher education of Ukraine: as of December 2022, they were adopted for 68 subject areas[191].

189 On approval of the list of fields of expertise and subject areas in which higher education students are trained: Resolution No. 266 of the Cabinet of Ministers of Ukraine of 29 April 2015. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/266-2015-%D0%BF#Text**.

190 Law of Ukraine *On Professional Pre-Higher Education*, Article 7, part four

191 [In Ukrainian] URL: **https://mon.gov.ua/ua/osvita/fahova-peredvisha-osvita/sektor-fahovoyi-peredvishoyi-osviti/zatverdzheni-standarti**.

On the other hand, this vagueness is the reason the education level of a Professional Junior Bachelor is, in many cases, not very clear for employers in terms of their qualifications. One could say the positioning of Professional Junior Bachelors in the labour market is fully clear in two subject areas — health care and pedagogy. For instance, graduates with a degree in Nursing may work as nurses, obstetricians, or paramedics[192]. Similarly, Professional Junior Bachelors with a degree in Pharmacy may work in respective positions at apothecaries[193]. As a rule, individuals with a Professional Junior Bachelor's degree in Pedagogy may work in teaching positions, on condition they also acquire higher education as they work in their profession[194].

Private, autonomous

25 institutions
10,3 thousand students

On average 412 students per institution

Private, branches

57 institutions
16,0 thousand students

On average 280 students per institution

Municipal, autonomous

158 institutions
65,5 thousand students

On average 414 students per institution

Municipal, branches

10 institutions
3,9 thousand students

On average 390 students per institution

State-owned, autonomous

108 institutions
68,0 thousand students

On average 630 students per institution

State-owned, branches of other institutions

275 institutions
155,6 thousand students

On average 566 students per institution

Figure 6.7. Number of students pursuing Professional Junior Bachelor, Junior Specialist, and Junior Bachelor degrees in professional colleges, by ownership type and autonomy level of professional colleges, as of 01 January 2022, *EDEBO data*

192 Guide on Qualification Characteristics of Workers' Professions. Issue 78. Health Care. Approved by Order No. 117 of the Ministry of Health Care (as amended) of 29 March 2002. [In Ukrainian] URL: **https://zakon.rada.gov.ua/rada/show/va117282-02#Text**.

193 Ibid.

194 See professional standards for respective positions of teaching staff on the Ministry of Economy website: [In Ukrainian] **https://www.me.gov.ua/Documents/Detail?id=22469103-4e36-4d41-b1bf-288338b3c7fa**.

Therefore, nursing and teaching professions are logically included in the five most popular fields of study selected by professional college entrants (Figure 6.8). The remaining three fields of study out of the five most popular in 2022 (Economics and Management, Information Technologies, and Law) were chosen by 34.2 thousand students admitted for studies, or over 30% of the total number of entrants in the Professional Junior Bachelor programmes (112.6 thousand). The problem is that these three fields of study fail to provide enough employment opportunities for professional college graduates, so most of them apply to continue their studies for a bachelor's degree as soon as they complete their Professional Junior Bachelor (previously Junior Specialist) programme (Figure 6.9).
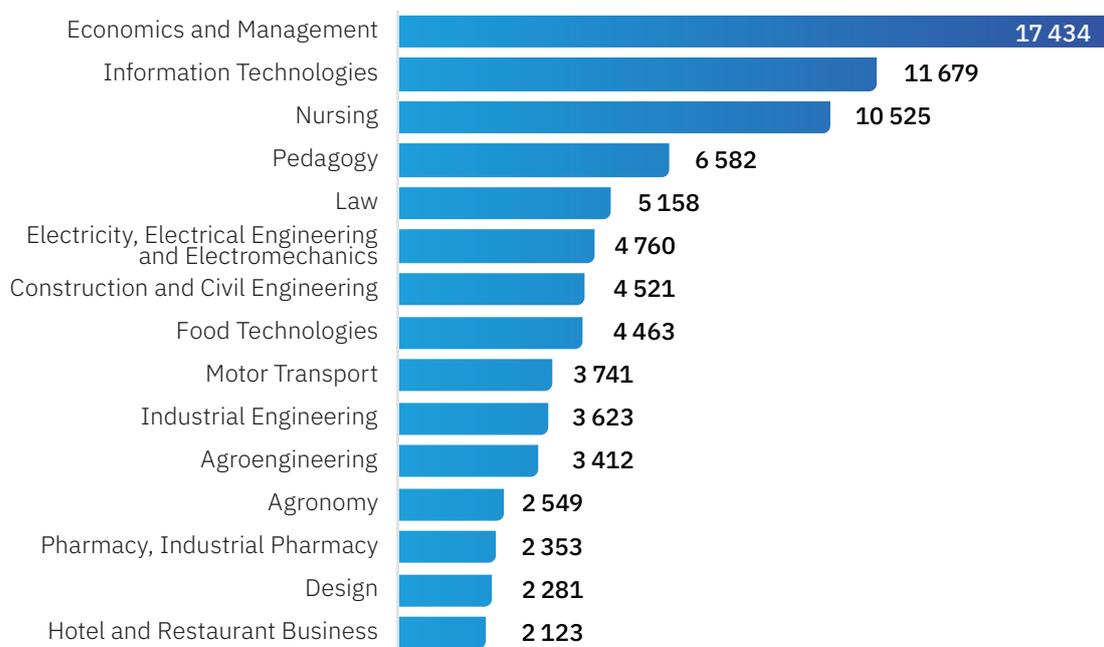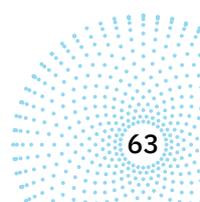

Economics and Management	17 434
Information Technologies	11 679
Nursing	10 525
Pedagogy	6 582
Law	5 158
Electricity, Electrical Engineering and Electromechanics	4 760
Construction and Civil Engineering	4 521
Food Technologies	4 463
Motor Transport	3 741
Industrial Engineering	3 623
Agroengineering	3 412
Agronomy	2 549
Pharmacy, Industrial Pharmacy	2 353
Design	2 281
Hotel and Restaurant Business	2 123

Figure 6.8. Most popular subject areas and fields of study among entrants in Professional Junior Bachelor programmes in 2022, *EDEBO data, students*[195]

In theory, continuing studies after graduation from a professional college is not a problem. "Although ISCED level 5 programmes are usually designed to prepare for employment, they may give credit for transfer into ISCED level 6 or 7 programmes. Upon completion of these ISCED level 5 programmes, individuals may in some education systems continue their education at ISCED level 6 (Bachelor's or equivalent level) or long first-degree ISCED level 7 programmes (Master's or equivalent level)".[196]

195 The figure shows the choice of subject areas of over 75% of entrants in 2022.
196 International Standard Classification of Education ISCED 2011, paragraph 209. UNESCO-UIS, 2012.

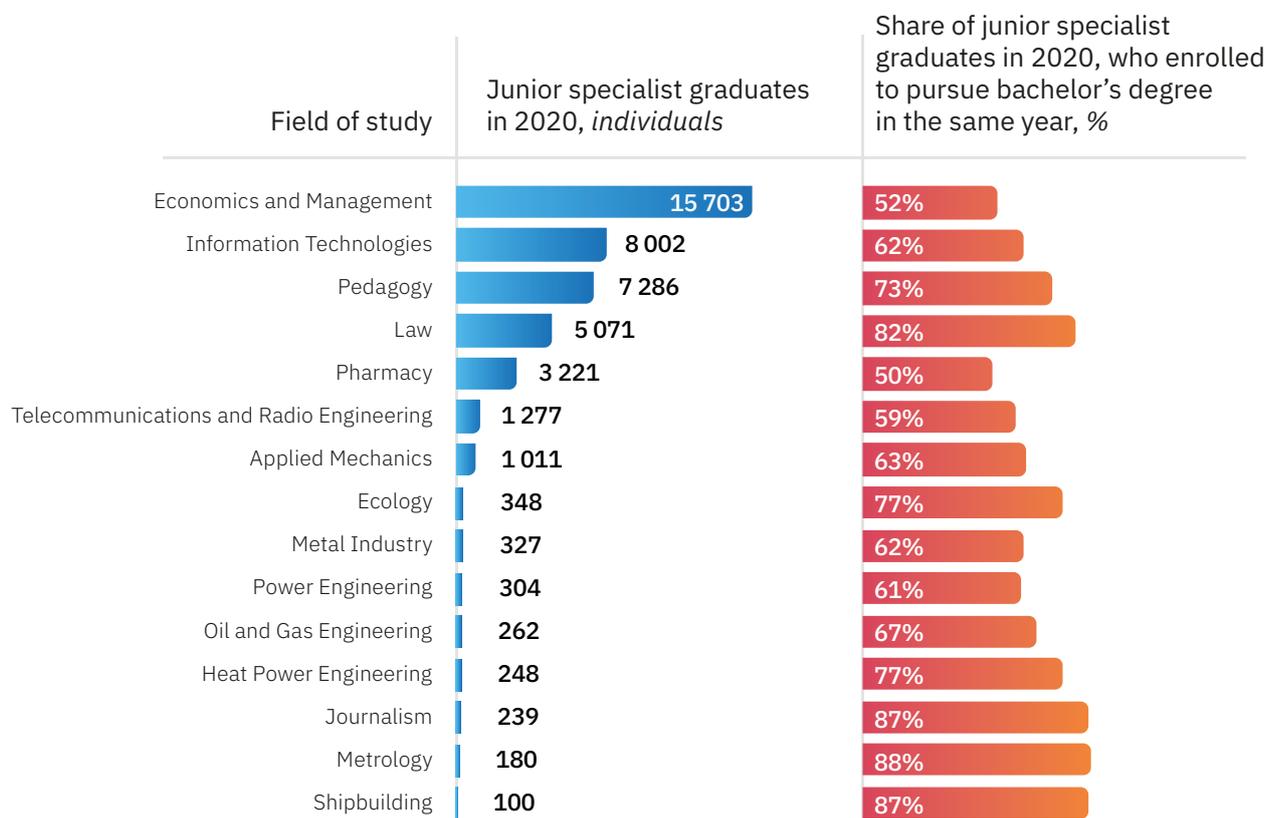| Field of study	Junior specialist graduates in 2020, *individuals*	Share of junior specialist graduates in 2020, who enrolled to pursue bachelor's degree in the same year, *%*
Economics and Management	15 703	52%
Information Technologies	8 002	62%
Pedagogy	7 286	73%
Law	5 071	82%
Pharmacy	3 221	50%
Telecommunications and Radio Engineering	1 277	59%
Applied Mechanics	1 011	63%
Ecology	348	77%
Metal Industry	327	62%
Power Engineering	304	61%
Oil and Gas Engineering	262	67%
Heat Power Engineering	248	77%
Journalism	239	87%
Metrology	180	88%
Shipbuilding	100	87%

Figure 6.9. Individual fields of study where the vast majority of PPHEI graduates continue to study to obtain a Bachelor's degree immediately after graduation[197]

Not all the professions available on the labour market are popular among young people today. This is why we are already engaging adults in training thanks to the recent changes in legislation, creating possibilities for them to change their profession and find their place on the labour market.

Iryna Shumik[198]

In practice, considering the limited financial resources in the Ukrainian education system, the matter of *de facto* inadequate threshold of readiness for employment[199] demonstrated by a significant number of PPHEI graduates requires some complex attention. As shown in Figure 6.9, this problem is inherent in individual popular fields of study, as well as several subject areas counting only a few hundred students across the whole of Ukraine. Apparently, to approach the labour market, each field of study where Professional Junior Bachelors are prepared requires a respective solution: in some cases, changes need to be made in the current regulatory framework to make Professional Junior Bachelors eligible for employment in certain positions based on their qualification; in other cases, it would be expedient to opt out of training for Professional

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197 The data in the Figure ignore cross-entry — continued training in a field of study other than the one where the previous education level was acquired. The diagram is built upon statistical data with the assumption students continued studying for BA degrees in the same major as their Junior Specialist degree.

198 Shumik I. Condition and problems of operation of vocational education and training under martial law. *Report at the round table of the Verkhovna Rada Committee for Education, Science, and Innovations*, 13 December 2022. [In Ukrainian] URL: **https://www.facebook.com/100075605060652/videos/569103281721811**.

199 Zekenyi, V. Working materials of Sectoral Working Group "Education and Science" for Ukraine Recovery Plan, 2022.

Junior Bachelor's degree in certain fields of study and send secondary school graduates, who are interested in respective professions, straight to universities. This scenario is relevant for fields of study counting a small number of students where most graduates immediately enrol to pursue bachelor's degrees; besides, there's been a discussion in the professional sphere regarding the inexpediency of training lawyers at the professional pre-higher education level. A third solution would be to extend the pedagogical workers training approach to other fields of study: obtaining the Professional Junior Bachelor's degree, the graduates would simultaneously be employed in junior positions in their profession and continue studies for a bachelor's degree. The fourth scenario is to adapt the list of professions, in which students pursuing professional pre-higher education are trained, to the specifics of qualifications of Level 5 of the National Framework. Among other things, it is important for individual engineering and technical professions where synergy and convergence of professional pre-higher and VET types of education are possible.

Future developments in professional pre-higher education

The above-mentioned challenges are only a part of the problem of key stakeholders lacking a systemic vision of the place for professional pre-higher education in the Ukrainian education system, as well as the primary directions for its further development. In particular, the draft Ukraine's Recovery Plan (Education and Science)[200] contains sections highlighting the tasks in pre-school, general secondary, extracurricular, VET, higher, and adult education. The document contains no separate section on professional pre-higher education. Instead, professional pre-higher education is mentioned in the section "Vocational Education" of the draft Recovery Plan, laid out as the objective "Uniform Vocational Education System. Merging VET and Professional Pre-Higher Education"[201], and in the section "Higher Education" which does not say anything on the merging of these education levels, but instead offers several measures to support the current activities of PPHEIs.

The idea to merge the professional pre-higher education system with vocational education was voiced once again in 2020 when draft law No. 4207-1[202] was registered at the Verkhovna Rada of Ukraine. However, as seen from the expert interviews we conducted, the key stakeholders did not actively promote this proposition during 2022. It may be explained by PPHEIs' unwillingness to view themselves as a part of the vocational education system, as well as by "path dependence": the law on professional pre-higher education as a separate education level has been adopted relatively recently, in 2019; implementation works are currently underway, so it is more convenient to walk this path than try to radically change it. Moreover, the key stakeholders have no clear understanding as to what exactly could drastically improve, should such a solution be adopted and implemented.

> *There is a subcommittee for VET and professional pre-higher education at the Verkhovna Rada Committee for Education, Science, and Innovations. As I see by its activities, it only deals with VET education... As a result, all regulatory acts concerning professional pre-higher education are extremely slow to appear.*
>
> *Volodymyr Zelenyi[203]*

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200 Ukraine's Recovery Plan. Education and Science. Draft as of 03 August 2022. URL: **https://mon.gov.ua/ua/ministerstvo/diyalnist/mizhnarodna-dilnist/pidtrimka-osviti-i-nauki-ukrayini-pid-chas-vijni/plan-vidnovlennya-ukrayini-2012**.

201 Ibid. page 10.

202 Draft Law *On Professional Education*, No. 4207-1 of 26 October 2020. [In Ukrainian] URL: **https://itd.rada.gov.ua/billInfo/Bills/Card/4414**.

203 Our interview of 03 November 2022.

We consider the human and institutional potential of MoES, involved in the work on the regulatory frameworks in the professional pre-higher education sector, to be insufficient. The MoES lacks a separate department aiming to work specifically with this education level. These functions have been placed upon the MoES Directorate for Professional Pre-Higher and Higher Education, where only two or three specialists are permanently assigned to deal with the issues in that sector. The MoES Operating Plan for 2022[204], outlining objectives, measures, and topics of legislative acts to be developed by MoES, lacks a section on professional pre-higher education — in contrast to other education levels for which respective tasks and performance indicators are provided. In December 2022, MoES presented the education sector transformation programme "Education 4.0: Ukrainian Sunrise" which will be implemented as a part of the post-war recovery of Ukraine. In this presentation, the slide titled "Professional Pre-Higher and Higher Education and Research" actually contains no goal or task for professional pre-higher education[205].

As part of the implementation of the Law of Ukraine *On Professional Pre-Higher Education*, the Cabinet of Ministers of Ukraine and the Ministry of Education and Science of Ukraine adopted 37 by-law regulations[206] between 2019 and October 2022. These documents regulate the current activities of professional pre-higher education institutions. However, unlike secondary[207], VET[208], and higher[209] education, for which development strategies are approved by resolutions of the Government of Ukraine, as of December 2022 there was no official document to determine strategic parameters for the development of the professional pre-higher education system in Ukraine.

These are the signs that, after formal separation from higher education (although a number of PPHEIs still act as university branches), professional pre-higher education as a system is in a certain "transitive" state. To understand the direction it might take, complex measures must be developed and implemented that define the place of Professional Junior Bachelors in most subject areas in the labour market, and whether training specialists in specific subject areas on this education level is expedient; besides, such measures should support constructive dialogue among representatives of professional pre-higher, vocational, and higher education.

204 Approved by Order No. 29 of MoES of 17 January 2022. [In Ukrainian]
URL: **https://mon.gov.ua/storage/app/media/rizne/Plany.roboty/2022/01/Operativn.plan.MON.2022.pdf**.

205 Great Transformation Program "Education 4.0: Ukrainian Sunrise" during the war and after victory, slide 17. [In Ukrainian]
URL: **https://mon.gov.ua/storage/app/media/news/2022/12/10/Osvita-4.0.ukrayinskyy.svitanok.pdf**.

206 Sharov, O. The specifics of managing professional pre-higher education institutions in the times of war, slides 12–20. [In Ukrainian] URL: **https://nmc-vfpo.com/wp-content/uploads/2022/10/sharov-pro-osoblyvosti-upravlinnya-zvo-v-umovah-voyennogo-stanu-2022-10-19.pdf**.

207 Implementation concept for the state policy in the sector of general secondary education reform "New Ukrainian School" for the period till 2029, approved by Order No. 988-p of the Cabinet of Ministers of Ukraine of 14 December 2016. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/988-2016-%D1%80#Text**.

208 Implementation concept for the state policy in the sector of vocational (vocational-technical) education "Modern Vocational Education and Training" for the period till 2027, approved by Order No. 419-p of the Cabinet of Ministers of Ukraine of 12 June 2019. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/419-2019-%D1%80#Text**.

209 Development strategy for higher education in Ukraine for 2022-2032, approved by Order No. 286-p of the Cabinet of Ministers of Ukraine of 23 February 2022. [In Ukrainian]
URL: **https://zakon.rada.gov.ua/laws/show/286-2022-%D1%80#Text**.

CHAPTER 7.
Areas of Recovery and Transformation of Ukrainian Higher Education System

The Ukrainian higher education system remains standing, albeit having suffered significant damages due to the military invasion. The authorities have partially managed to design effective solutions to stabilize the higher education system in these difficult conditions. The solidarity of the Ukrainian education community, the motivation to continue teaching and studying, and the effective enough internal policies of Ukrainian higher education institutions have played an important role in this process. The international community has also provided invaluable assistance and support to educators from Ukraine.

Ukraine needs to work out the content and conceptual vision of recovery and further transformation of the higher education system, considering the consequences of war. Those education institutions that suffered significant material, staffing, and organizational losses caused by the Russian military invasion should be the first targets of the recovery process. However, the whole higher education system must change. Today, we have just the conditions for making these important and sometimes complicated decisions.

Ukraine is attempting to develop a substantiated list of measures, necessary to be implemented to recover and further transform the higher education system. For this purpose, much work is being done to detect and record the damages caused to HEIs and educators, with analytical and expert documentation being prepared.

For instance, a solid analysis titled "Rebuilding Ukraine: Principles and Policies"[210], prepared by a group of experts in various sectors, including the education sector, has been published. The section "Education Reforms During and After the War" of this report quite clearly and openly describes the condition of the education system and the reformation measures that were attempted to be introduced in Ukraine before the full-scale military invasion, as well as the effect of the pandemic and, obviously, the war.

The experts believe in the nearest future the education sector of Ukraine will have to "(1) overcome the challenges of war damage; (2) rethink and develop a new vision of the system as a whole to ensure its comprehensive development; (3) create positive conditions for the transformation of the network of education institutions to meet the social and economic needs of the country; (4) improve the quality of education; (5) ensure an innovative learning and researching environment; and (6) partner with stakeholders of different levels and scope of interventions to ensure inclusion of and positive outcomes for all students and stakeholders."[211]

Also, the experts provide quite an extensive list of the necessary steps the government must make to reconstruct the higher education system. They believe the basis of such reconstruction should particularly be the philosophy of reorienting from quantity to quality, from rapid half-steps to consistent policies, and from the subordination of HEIs to different government agencies to one unified higher education system[212].

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210 Rebuilding Ukraine: Principles and Policies. Paris Report 1. Edited by Yu. Gorodnichenko, I. Sologub, B. W. di Mauro. CEPR Press, 2022. 444 p. URL: **https://cepr.org/system/files/publication-files/178114-paris_report_1_rebuilding_ukraine_principles_and_policies.pdf**.

211 Rebuilding Ukraine: Principles and Policies. Paris Report 1. Edited by Yu. Gorodnichenko, I. Sologub, B. W. di Mauro. CEPR Press, 2022. P. 358. URL: **https://cepr.org/system/files/publication-files/178114-paris_report_1_rebuilding_ukraine_principles_and_policies.pdf**.

212 Ibid, p.350

Therefore, the government should concentrate on the implementation of effective measures for a conscious and informed choice of higher education, build a system of effective control over the quality of learning, provide more financial autonomy to universities, and improve the administration system, as well as create mechanisms to make up for the losses in learning caused by the COVID-19 pandemic and the Russian military aggression against Ukraine. The experts also point out the need to introduce complex measures to optimize the university network.

"Modernise the network of public HEIs through short-term (1–2 years) merging instruments that provide technical assistance, transition management and additional funding. Diversify merging targets — whereas in some fields the number of institutions offering programmes should be cut 3–5 times (e.g. social sciences, business, law), in other fields (e.g. natural sciences and mathematics) mergers should be less widespread. Decrease the number of public HEIs from 5.4 to at most 3 per million population."[213]

Some experts stress the importance of fulfilling the obligations defined by the European integration aspirations of Ukraine and international documents, particularly the EU-Ukraine Association Agreement, in the process of reconstruction and transformation of the higher education system.

This process involves a number of key infrastructural solutions. One of them is the modernization of the university network. Network modernization means good governance and, naturally, financial savings, which is as pressing as ever today. The second is to do what is related to Ukraine's status as an EU member candidate. To adhere to the Association Agreement in a strict and clear manner and carry out the transformations harmonized with the EU directives. The third concerns the establishment of a system of open access to acquiring higher education.

Oleh Sharov[214]

Let us recall that the EU-Ukraine Association Agreement sets out the need to activate cooperation between Ukraine and the EU in the higher education sector, notably to reform and modernize the higher education system, facilitate higher education alignment within the Bologna process, improve on the quality and significance, simplify access to higher education; deepen the cooperation between HEIs, and stepping up the mobility of students and teachers[215].

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213 Ibid, p.385

214 Our interview of 01 November 2022.

215 European Union-Ukraine Association Agreement between Ukraine, of the one part, and the European Union, the European Atomic Energy Community, and their member states, of the other part. [In Ukrainian]
URL: **https://zakon.rada.gov.ua/laws/show/984_011#n2591**.
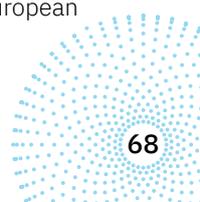
On 14 December 2022, the Council of Europe Committee of Ministers adopted the Action Plan for Ukraine "Resilience, Recovery and Reconstruction" 2023–2026, stipulating support and facilitation, namely to "strengthen the capacity of education authorities at national, local, and institutional levels to ensure a participatory and inclusive system of education governance that guarantees equal access to quality education for all"[216], as well as to "support higher education institutions in strengthening an open and inclusive higher education system capable to foster the development of cohesive and democratic societies at the local level, including also support to student projects and initiatives which promote leadership and democratic participation in public administration."[217]

Ukraine is seemingly trying to shape a relevant agenda for consistent recovery and transformation of the higher education system. Part of the work in this sector has already been completed.

Strategic goals of higher education system development in Ukraine

The most complete outline of the focus areas and purposes of the general transformation of the higher education system is presented in the Development Strategy for Higher Education of Ukraine 2022–2023[218] (hereinafter referred to as the "Strategy"), approved by a resolution of the Cabinet of Ministers of Ukraine one day before the full-scale Russian invasion, on 23 February 2022. This Strategy took over a year to develop, with the wide involvement of field experts and think tanks; it should become a guideline in the system design and a determinant of public policy focus areas in higher education for the nearest decade.

The Strategy envisions the achievement of five strategic goals and 25 smaller operation goals, also containing their achievement indicators. For instance, Strategic Goal 1 "Management Efficiency in the Socially Responsible Higher Education System" is planned to be achieved through smaller operation goals: securing targeted budget financing that enables competitive access to high-quality higher education; improving the efficiency of the higher education system and fulfilment of the State's obligations; training specialists in demand to meet the needs of the economy in terms of qualified workforce; facilitating social responsibility of HEIs to resolve social and environmental problems; autonomy of HEIs (ensuring equal rights and broad institutional autonomy, including but not limited to financial autonomy)[219]. One of the outcomes of this strategic goal shall be "the establishment of an effective management system while combining HEIs' autonomy and responsible public education policy"[220].

Generally, this goal is about the development of a new higher education system, with capable universities that have — and use to their fullest extent — academic and financial autonomy. The key task for this goal is **to modernize the higher education institutions network**.

Modernization of the university network is not a new problem. This issue appeared due to the new universities being chaotically opened in Ukraine through the 1990s and early 2000s. In that period, first, many new private HEIs were established; second, many VET schools succeeded in upgrading their status to HEIs to become more attractive to prospective students.

216 Council of Europe Action Plan for Ukraine "Resilience, Recovery and Reconstruction" 2023–2026. Adopted by the Committee of Ministers on 14 December 2022 at the 1452nd meeting of the Ministers' Deputies.
URL: **https://search.coe.int/cm/Pages/result_details.aspx?ObjectId=0900001680a96440**.

217 Ibid.

218 On approval of strategy for the development of higher education in Ukraine for 2022-2032: Order No. 286-p of the Cabinet of Ministers of Ukraine of 23 February 2022. [In Ukrainian]
URL: **https://zakon.rada.gov.ua/laws/show/286-2022-%D1%80**.

219 Ibid.

220 Ibid.

This resulted in a doubling of the number of HEIs in Ukraine. Henceforth, many HEIs located in the same mid-sized cities offer similar education programmes, each capable of hosting a very small number of students, which does not improve either the quality of education or the effective usage of intellectual and financial resources.

Quite a few preceding strategic documents stress the need to pay attention to this problem. For instance, the National Strategy for Education Development in Ukraine till 2021 stated the need to "align the network of higher education institutions and the higher education management system with the requirements of the national economy and labour market"[221]. One of the tasks of the Human Development Strategy (2021) states the following: "optimization of the higher education institutions network, establishment of enlarged regional and global universities"[222].

The optimization of the public HEI network is already happening. In 2016–2022, the Government took around 30 decisions concerning the reorganization of higher education institutions. These reorganizations took place in various ways, which implies a lack of uniform criteria and approaches towards meeting them. Such ways include the following:

- accession of a smaller university to a larger one (for instance, in 2020 Lviv Institute of Economics and Tourism was merged with Ivan Franko National University of Lviv[223]);

- creation of two education institutions by splitting one university (for instance, in 2021 reorganization of Kyiv National University of Trade and Economics led to the creation of two new education institutions — State University of Trade and Economics and Odesa professional college of trade and economics[224]);

- renaming (for instance, in 2019 Institute of Foreign Intelligence Service of Ukraine became the Foreign Intelligence Academy of Ukraine[225]);

- creation of a new university by merging several education institutions[226].

Considering the effects of war on the higher education system, the issue of modernizing the higher education institutions network (which would also involve professional pre-higher education institutions) will require an urgent solution.

221 On National Strategy of Education Development in Ukraine till 2021: Decree No. 344/2013 of the President of Ukraine of 25 June 2013. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/344/2013#Text**.

222 On decision of the National Security and Defense Council of Ukraine of 14 May 2014 "On Human Development Strategy": Decree No. 225/2021 of the President of Ukraine of 02 June 2021. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/225/2021#n11**.

223 On reorganization of Lviv Institute of Economics and Tourism: Order No. 764-p of the Cabinet of Ministers of Ukraine of 25 June 2020. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/764-2020-%D1%80#Text**.

224 On reorganization of Kyiv National University of Trade and Economics: Order No. 1298-p of the Cabinet of Ministers of Ukraine of 06 October 2021. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/1298-2021-%D1%80#Text**.

225 On reorganization of the Institute of Foreign Intelligence Service of Ukraine: Order No. 373-p of the Cabinet of Ministers of Ukraine of 15 May 2019. [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/373-2019-%D1%80#Text**.

226 For instance, the **State University of Economics and Technology** is formed by reorganization of six education institutions: (1) Kryvyi Rih Economic Institute of State Higher Educational Institution Kyiv National Economic University named after Vadym Hetman, (2) Kryvyi Rih Professional College of Economics and Management of State Higher Educational Institution Kyiv National Economic University named after Vadym Hetman, (3) Kryvyi Rig Metallurgical Institute of the National Metallurgical Academy of Ukraine, (4) Kryvyi Rih College National Metallurgical Academy of Ukraine, (5) The Kryvyi Rih Technical College of the National Metallurgical Academy of Ukraine, and (6) Ukrainian Polytechnic College (Order No. 199-p of the Cabinet of Ministers of Ukraine of 19 February 2020 "Several Reorganization Matters Concerning Education Institutions" (as amended), [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/199-2020-%D1%80#Text)**. **State Biotechnological University** was formed by merging four Kharkiv universities: Kharkiv Petro Vasylenko National Technical University of Agriculture, Kharkiv State Zooveterinary Academy, Kharkiv National Agrarian University named after V. V. Dokuchayev, and Kharkiv State University of Food Technology and Trade (Order No. 431-p of the Cabinet of Ministers of Ukraine of 12 May 2021 "On the Establishment of State Biotechnological University", [In Ukrainian] URL: **https://zakon.rada.gov.ua/laws/show/431-2021-%D1%80#Text)**.

> *The most desirable scenario for the development of higher education ... may be a legislative regulation of the reorganization process for higher education institutions, as well as the support of competitive university centers, concentrating the best academic and faculty staff in them, setting up modern scientific laboratories, and upgrading their infrastructure and facilities. Such an approach will enable setting up of the new education development parameters, expand the options for training foreign students, as well as training and requalification of adults.*
>
> *Viktor Ohneviuk[227]*

Considering the relocation of many education institutions, destruction of infrastructure, and an all-out funding deficit, approaches and criteria must be developed to enable such modernization of the education institutions network and make it efficient. The operating plan to implement the Strategy approved along with it implied that a medium-term plan for higher education institutions network modernization shall be developed in 2022, based on the average number of students in such institutions. This task is postponed for at least a year.

Meanwhile, there is a number of studies justifying possible modernization ways for the HEI network. Henceforth, a solid analytical review of the public HEI network competitiveness was published in the spring of 2022[228], stating that the national HEI network is dominated by low-capacity institutions unable to provide the necessary education quality, often offering overlapping training courses in one city, or training specialists in subject areas that do not match the institution profile, and thus consuming excessive resources. Another study provides a detailed analysis of the experience of HEI network optimization in other countries, particularly in Belgium, Denmark, Estonia, Finland, France, Ireland, Norway, Sweden, and the UK[229]. This experience is worth being considered when developing approaches towards the modernization of the Ukrainian HEIs and PPHEIs network.

Other strategic goals of the Strategy refer to the improvement of quality and internationalization of higher education, the attractiveness of HEIs for training and academic career, as well as building trust of the population, the government, and businesses in the educational, scientific, and innovative activities of HEIs.

Without doubt, some of the Strategy tasks will have to be revised considering the war and its consequences. This revision might occur along with the finalization of the Recovery Plan for Ukraine and its approval on the governmental or presidential level.

227 Ohneviuk, V.O. Education in Terms of Modern Demographics / Pedagogy and Psychology in Ukraine. Volume 1. Theory and History of Pedagogy. Kyiv: Naukova Dumka. P. 150.

228 Kremen, V.H., Luhovyi, I.V., Saukh, P. Yu, Talanova, Zh.V. (2022). Network of State Higher Education Institutions of Ukraine: Analytical Review of Competitiveness. *Herald of the National Academy of Educational Sciences of Ukraine, 4*(1). [In Ukrainian] URL: **https://doi.org/10.37472/v.naes.2022.4122**.

229 Kalashnikova S., Orzhel O. Optimization of the Network of State Higher Education Institutions: Theoretical Aspects and Practical Recommendations. URL: **https://doi.org/10.31874/2520-6702-2022-13-89-129**.

Higher Education Recovery Plan to Eliminate Consequences of War

In April 2022, the President of Ukraine created the National Council for the Recovery of Ukraine from the War. The main objectives of this Council are to develop an action plan for the post-war recovery and development of Ukraine, including social infrastructure, and to prepare strategic initiatives for top-priority reforms which need to be adopted and implemented during the war and post-war periods[230].

May and June saw the active groundwork and development of Ukraine's Recovery Plan that was to be presented in the summer of the same year. As a result, Draft Ukraine's Recovery Plan (Education and Science)[231] (hereinafter — "Draft Recovery Plan") was prepared, containing seven main goals and a series of objectives and measures to achieve them in the "Higher Education" section.

The Draft Recovery Plan largely correlates with the Higher Education Development Strategy for 2022–2032. At the very least, a large part of the objectives is overlapping or similar. Particularly, the modernization of the HEIs and PPHEIs network is defined as one of the main issues in the Plan.

The same stands for other goals and objectives. The Draft Recovery Plan stipulates the need "to expand budget loans and co-financing for the acquisition of higher education, broader financial autonomy of HEIs and supervisory council authorities" etc.

Goal 7 "Rebuilding the potential of professional pre-higher and higher education; ensuring rights and freedoms of internally displaced persons and residents of temporarily occupied territories in the sector of education, restarting operation of professional pre-higher and higher education institutions in de-occupied territories" stands out as one of the most important goals in the Draft Recovery Plan. To achieve this goal, four tasks need to be completed, including an awareness-raising campaign aimed at returning education process participants after the end of military actions and setting up a legislative framework to restore the operation of PPHEIs and HEIs in the de-occupied territories. This task is currently being fulfilled. In late December, the Government approved the Action Plan for the legislative authorities to rebuild de-occupied territories of territorial communities[232].

Although the Draft Plan has not been approved yet as of December 2022, nor has it received the status of an official document, it is still a guideline for the authorities acting as rule-makers and designing efficient solutions in higher education.

230 On the National Council for the Recovery of Ukraine from the War: Decree No. 266/2022 of the President of Ukraine of 21 April 2022. [In Ukrainian] URL: **https://www.president.gov.ua/documents/2662022-42225**.

231 Ukraine's Recovery Plan. Education and Science. Draft as of 03 August 2022. URL: **https://mon.gov.ua/ua/ministerstvo/ diyalnist/mizhnarodna-dilnist/pidtrimka-osviti-i-nauki-ukrayini-pid-chas-vijni/plan-vidnovlennya-ukrayini-2012**.

232 On approval of Action Plan for Executive Authorities to Rebuild De-Occupied Territories of Territorial Communities: Order No. 1219-p of the Cabinet of Ministers of Ukraine of 30 December 2022. [In Ukrainian] URL: **https://www.kmu.gov.ua/npas/pro-zatverdzhennia-planu-dii-orhaniv-vykonavchoi-a1219r**.

Education 4.0: Ukrainian Sunrise

At the end of 2022, the program "Education 4.0: Ukrainian Sunrise", designed by the Ministry of Education and Science of Ukraine[233], was presented at the Government session. The program, as claimed by its developers, is based on the main provisions of the Recovery Plan and aimed at building an education system within ten years that envisages harmonization of Ukrainian and European educational areas and meets the human resource demands in Industry 4.0.

The program outlines several goals, tasks, and performance indicators for the sector of professional pre-higher and higher education and science. These include focusing on post-war recovery, growing trust in the educational, scientific, and expert activities of universities, and the formation of a modern network and innovative infrastructure of higher education. The latter goal is expected to be achieved, as in the previous strategic documents, by optimization of the university network through their merging and enlargement, as well as by the creation of new laboratories and continued reconstruction of student dormitories. The performance indicators for this goal are the creation of 2,000 new laboratories, and reconstruction of 200 student dormitories, which will be possible by engaging funds from public and private partnerships, private business capital, and international financial aid.

Another important goal is the adequate level of financing for the higher education and research system to ensure its efficient operation. Increasing funds from various sources, including businesses, to carry out scientific studies is set as a separate task. Businesses are expected to co-finance the creation of seven innovation parks.

Moreover, the level of financial income of academics and education professionals is expected to grow. The achievement indicator is the minimum teachers' wage at the average level in Baltic countries and academic staff salary of at least EUR 1,000. Unfortunately, the program does not specify the sources to make this happen as the current level of public funding is insufficient, dropping to critically low levels due to the full-scale military invasion.

It should be noted that the Government has been suspending the effect of Resolution No. 822[234] on the increase of education professionals' wages for four years due to the lack of funds to implement it. This resolution was adopted to fulfil the respective provision of Article 61 of the Law of Ukraine *On Education*[235], which establishes the official wage of a teaching professional of the lowest qualification category at the level of three minimum wages, while the teaching staff in research positions shall receive at least 25% more. The law imposed an obligation on the Government to ensure a phased implementation of this Article by 2023 while providing for an annual salary increase for a teaching professional of the lowest qualification category to four minimal living wages for employable persons in proportion to the increase of the State Budget of Ukraine's revenues compared to the previous year.

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233 Great Transformation Program "Education 4.0: Ukrainian Sunrise" [In Ukrainian]
URL: **https://mon.gov.ua/storage/app/media/news/2022/12/10/Osvita-4.0.ukrayinskyy.svitanok.pdf**.

234 On Wages of Faculty and Research Staff of Education and Science Institutions: Resolution No. 822 of the Cabinet of Ministers of Ukraine of 10 July 2019. [In Ukrainian]
URL: **https://zakon.rada.gov.ua/laws/show/822-2019-%D0%BF#Text**.

235 Law of Ukraine *On Education,* No. 2145-VIII of 05 September 2017. [In Ukrainian]
URL: **https://zakon.rada.gov.ua/laws/show/2145-19#Text**.

The Education 4.0 Program defines several tasks in the area of integration in the European Education and Research Area, including "harmonization of the educational and research legislation and the public policy of Ukraine with those of the EU". The internal higher education quality assurance systems are expected to be further aligned with ESG requirements, along with the creation of a national portal for international scientific and technical cooperation and an international consortium of infrastructure and research. Fulfilment of these and other tasks would secure a spot in the top 1,000 universities of the world for at least 20 Ukrainian universities.

The Program also contains tasks important for the government in terms of further development of the universities' autonomy in conformity with European standards, as well as fostering academic integrity culture.

To sum up, the implementation of Education 4.0: Ukrainian Sunrise will have a significant impact on the economy, including through the preservation and augmentation of intellectual potential. The main goal of this process is a triple increase in the GDP knowledge intensity.

The review of strategic documents and draft laws above concerning the recovery and transformation of the higher education system shows the attempts of the Ukrainian government to find the most optimal solutions in the current circumstances. Some of the problems in need of solutions have lasting causes, and they had to be addressed regardless of full-scale aggression and war. Yet, the Russian military invasion sped up the need to make certain decisions. On the other hand, a whole series of tasks is formed based on the consequences and losses caused to the higher education system by the war.

Therefore, we believe that, in terms of content and time, the recovery and transformation of the higher education system in these difficult conditions should be concentrated in three focus areas. First, it is support for the education professionals and rebuilding of the higher education institutions damaged by the war. In this context, it is important to constantly analyse the current needs and problems faced by such persons or education institutions. Second, to set the base for a thorough transformation of the higher education system through modernization of the higher education institutions network, effective fulfilment of European obligations by Ukraine, and the development of the higher education quality assurance systems at universities. Third, we need to build a system of well-balanced access to higher education that would guarantee the persons affected by the military actions an education and simultaneously tighten the requirements for the applicants' training level. And the last but not the least, the intensification of interaction between the higher education sector, the labour market, and employers. Along with direct partnerships between universities and businesses, the instruments of institutional support of this kind of connection, such as dual education, consideration of employers' requirements in the higher education standards, alignment of the contents of educational and professional standards etc., require further development.

Ukraine is attempting to shape the vision of recovery and transformation of the higher education system in wartime and for the post-war period. Full consolidation of the Ukrainian education community and the international partners will be especially important for the introduction of innovative approaches and principles in this process.

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