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European Training Foundation

DECENTRALISING VOCATIONAL EDUCATION AND SETTING UP CENTRES OF VOCATIONAL EXCELLENCE AND INNOVATION

The case of Ukraine

THE EU AGENCY SUPPORTING COUNTRIES TO DEVELOP THROUGH LEARNING

Report drafted by ETF expert J. Manuel Galvin Arribas, international expert Aram Avagyan and national expert Laryssa Lisogor.

PREFACE

This report is another milestone of the European Training Foundation's (ETF) project 'Decentralising vocational education and training (VET) in Ukraine: Momentum for action', launched in 2016 in cooperation with the Ministry of Education and Science (MoES) of Ukraine. This project identified several priority areas for steering systemic reforms in the country's VET policies[1]:

- good multilevel governance (institutional, communication and financial aspects);
- optimisation and rationalisation of VET school networks;
- VET school autonomy and accountability;
- public–private partnerships (PPPs) for VET and skills development.

The exploration of a possible role and function for the regional VET councils in Ukraine was a further step towards tackling these issues from the logic of decentralisation of VET policies (ETF/Galvin Arribas et al., 2018). Following this exercise, the ETF and the MoES agreed to focus on improving the effectiveness of regional VET networks, working together to set up centres of vocational excellence and innovation (CoVEs) in Ukraine.

Such an initiative was launched in April 2018 with the main objective of conducting a feasibility analysis (based on collecting primary and secondary information) to propose key policy options and to support the implementation of the CoVE concept. Overall, the analysis presented in this report provides a number of policy options, while identifying some capacity gaps in the Ukrainian VET community that need to be filled.

The strategic goals have focused on making the policy actors in the country more aware of how the effective distribution of roles and functions across vertical and horizontal levels should be working in order to improve the overall effectiveness and efficiency of regional VET networks. VET's image, attractiveness and excellence are additional key issues and concepts that steer the exercise.

In this context, CoVEs are considered a key driver in tackling all these issues, as well as a way of supporting the new concept, role and vision of VET in the country. The ambition is that VET will help the socioeconomic and regional development of Ukraine.

The paper is the result of a combination of desk research, a wide consultation process, particularly through meetings and group discussions with the key stakeholders organised in five regions of the country and the city of Kyiv, and mapping of the Ukrainian regions. It proposes options for the establishment and operationalisation of CoVEs. It also identifies possible challenges and the measures that could be taken to overcome them.

Chapter 1 explains the methodology that supports this report. Chapter 2 covers the main national and regional socioeconomic indicators that inform the current structural conditions for the reform of VET networks. Chapter 3 introduces the main elements to be taken into consideration when setting up CoVEs, including a broad typology of possible forms that CoVEs can take in Ukraine (and perhaps elsewhere). Chapter 4 introduces the main conclusions and policy messages, and

[1] ETF Green Paper (2017)

the annexes present international practices relating to CoVEs that might inform decisions taken in Ukraine.

The ETF is thankful to the MoES and all the actors who participated in meetings, focus groups and workshops to validate and share the main contents of this report. The final draft was presented and validated at an international workshop held in Kyiv on 6 and 7 March 2019.

The ETF is also thankful to the authors, J. Manuel Galvin Arribas, Aram Avagyan and Laryssa Lisogor, and to ETF project officer Inna Dergunova. ETF experts Siria Taurelli and Anatolii Garmash peer reviewed the final report.

The report aims to inspire other ETF partner countries that might decide to set up CoVEs. The ETF is ready and willing to work together to make this possible.

CONTENTS

EXECUTIVE SUMMARY

In recent years, considerable reforms have been carried out in the VET sector in Ukraine. The achievements relate mainly to decentralisation, which is stimulating the modernisation of the legislative and regulatory framework and the revision of funding mechanisms, with the aim of improving the internal efficiency of the VET system at both national and regional levels.

The reforms mainly include pursuing improvement of VET governance and funding; matching skills needed in the labour market; development of VET digitalisation and innovation; improving teacher, training and methodological VET practices and contents; and strengthening dual education and the role of PPPs for VET and skills development. A new law in education (2017) introducing New Ukrainian School conceptual principles and further approval of a new VET law (work in progress) have been key milestones in recent years in Ukraine.

Nevertheless, the system still suffers from several unsolved problems relating to different aspects of VET. Analysis of national policy documents, reports produced by international bodies and at national level, and focus groups conducted as part of this project suggest that the main challenges for the Ukrainian VET system can be formulated as follows:

- inefficient network of VET institutions accompanied by outdated infrastructure in many VET institutions;
- low quality of VET provision, absence of a quality assurance system, mismatch with labour market requirements; provision of only low skills level of qualifications; insufficient provision of training facilities and materials, lack of practical training;
- need to improve VET governance and management at all levels, particularly as a result of better understanding of the benefits of the VET system for the country and for regional development; lack of sector coordination; lack of autonomy for VET institutions;
- growing lack of quality teaching staff (especially masters of practical training);
- insufficient financing of VET, inefficient funding schemes for VET institutions, lack of medium-term budget planning;
- steady decline of the student population (and enrolment) as a result of the lack of attractiveness of VET and demographic issues; ineffective organisation and outdated methods of vocational guidance; lack of sufficiently credible medium-term forecasts of labour market needs, at both national and regional levels;
- fragmentation of the VET system into ‘professional technical’ and ‘professional pre-tertiary’;
- still need to motivate partners to engage in VET processes, resulting in weak involvement of the social partners, especially employers, in all aspects of VET, including development of content, provision, evaluation, funding, governance and management;
- almost complete inaction of the regional VET councils;
- insufficient role of VET schools in adult/continuing training;
- need to introduce flexible curricula to ensure flexibility of VET provision.

However, in recent years many efforts have been made by public education authorities and the VET community, working with the ETF in the Ukrainian regions, to push forward decentralisation as a key driver for introducing sound reforms to modernise VET in the country. The ETF worked very closely with the European Commission and the EU Member States to mobilise necessary expertise.

All this included decentralising the VET system by transferring VET institutions and their funding from the national to the regional (community) level[2]; optimising the VET provider network and rationalising the qualifications offered, accompanied by increased relevance of the state and regional orders; and strengthening cooperation with employers and attracting private investment to VET, particularly through the creation of 'modern educational-practical centres' and the establishment of effective mechanisms for PPP.

According to key figures presented in this report[3], VET demography and networks have been in constant decline for over 20 years. This trend seems to be continuing, as migration and an ageing population are major issues, as are the employment prospects of the youngest cohorts. All this calls for smart and urgent restructuring of VET networks, using decentralisation to modernise the VET system, in order to contribute to the preparation of a highly competitive workforce that meets the current requirements of the labour market, and to ensure equal access to VET.

However, in the reform of VET networks it will be extremely important to balance regional and sectoral skills approaches for national socioeconomic development and providing the skills required in the labour market. The evidence gathered provides information on disparities among Ukrainian regions, increased migration, the phenomenon of over-education, and the lack of opportunities for employment growth.

The recently drafted concept paper 'Modern vocational education: Conceptual principles for reforming vocational education in Ukraine' on optimisation of the VET providers' network provides for the creation of multiprofile, multilevel institutions by establishing new institutions and reorganising (merging, transforming) existing ones to provide vocational education services, and creating a model of a multifunctional CoVE.

Some characteristics and functions of such centres are proposed in the concept paper, but in general, a vision still needs to be developed on the implementation of the CoVE concept in Ukraine. This should cover the way CoVEs are established and organised, what schemes of governance, management and funding are most suitable for the country, what the specific role of CoVEs should be within the national VET system, and CoVEs' goals, objectives, scope of functions and level of autonomy.

The notion of centres of excellence and, specifically, centres of vocational excellence (CoVEs), is widely used around the world, and in many countries several institutions enjoy this title. However, there is no official internationally accepted definition of, or set of criteria for, CoVEs that is acknowledged by all.

The term 'CoVE' usually refers to a network organisation comprising VET institutions linked together by a PPP arrangement, established in different regions of the country and reflecting national priorities in terms of industrial and economic development. Thus, CoVEs tend to have a strong orientation towards technological and innovative sectoral or multisectoral training.

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[2] The decentralisation of the funding system was effectively launched in 2016.

[3] Some figures of this report have changed during the publication process. However, it does not affect substantially to reported trends in the overall manuscript. To have some data updates the ETF recommends consulting the Torino Process 2018–20 Ukraine report and ETF assessment report: www.etf.europa.eu/en/publications-and-resources/publications/trp-assessment-reports/ukraine-2020

CoVEs should meet the skill needs of both companies and individuals; provide high-quality qualifications via initial VET (IVET) and continuing VET (CVET) programmes, and may be connected to tertiary education routes; and take a variety of different forms and go by a variety of different names, such as industrial training institutes, industrial training centres, industry skills centres or multifunctional centres. CoVEs can become strategic ambassadors for marketing VET policies and systems built on the pillars of excellence and innovation. They can also initiate (although sometimes they themselves require) the optimisation of VET provider networks. However, they require high levels of both human and financial capacities.

In this context, CoVEs could be briefly defined as 'partnership-based vocational education and training network organisations forming ecosystems of excellence and innovation to provide high-level skilled specialists required in national and international labour markets and for contributing on the development of national and regional economies' (Galvin Arribas, 2020).

Analysis of existing international practices shows that in many countries, CoVEs (or similar structures) not only ensure a high (or at least better than the national average) level of performance, but also contribute significantly to the improvement of the national VET systems, particularly through networking with other VET providers, experience sharing, methodological support and the introduction of innovations.

Models of CoVEs may vary from country to country, or even within a country, and are usually adapted to the regional or local contexts (social, economic, industrial, etc.). Multilevel (multi-stakeholder) governance is one of the key features of CoVEs; it ensures dialogue between different parties, relevance to regional and national development needs and priorities, and the matching of the VET offer to labour market demand. Partnership and cooperation are distinctive features of CoVEs, as well as governance, funding and quality of VET provision (European Commission, 2019).

The report introduces a definition of CoVEs and a taxonomy for facilitating policy thinking, dialogue and further learning on how to set them up. There are five possible policy options for setting up CoVEs, namely as:

- independent training providers;
- independent training institutions created from existing providers, which could deploy extended functions;
- part of other training institutions;
- network organisations for feeding excellence and innovation in VET communities;
- multiprofile/multisectoral providers.

This typology introduces broad categories, as CoVEs might not always fall under one single category, form or type. The taxonomy builds on a greater number of examples from around the world than those selected and presented in this paper. Some countries might have more than one implementation modality. In any case, the issue of distinguishing *status* versus *type* of institution might be crucial.

In general, the following CoVE models are possible:

- R-S – regional sectoral, i.e. specialised in one of the main economic sectors of the region and serving the skills/employment needs of this sector for the region;
- R-MP – regional multiprofile, i.e. specialised in several main economic sectors of the region and serving the skills/employment needs of the region;

- IR-S – interregional sectoral, i.e. specialised in one economic sector and serving the skill/employment needs of this sector for several regions or the entire country;
- IR-MP – interregional multiprofile, i.e. specialised in more than one economic sector and serving the skills/employment needs of those sectors for several regions or the entire country.

The recommended options attempt to answer the following questions in particular:

Why should CoVEs be established in Ukraine? CoVEs should be established:

- to ensure the preparation of highly qualified specialists to meet the requirements of the local, regional and national labour markets, based on the best international and national experience and practice;
- to promote the introduction of innovations and development in VET;
- to establish centres for methodological and professional experience exchange, teacher training, and accumulation and transfer of a wide range of educational resources to other institutions within the VET system;
- to ensure inclusiveness in education, particularly for adult learners;
- to ensure greater efficiency, targetedness, impact and visibility of the VET reforms through the centralisation of investments and the concentration of results.

Why should there be CoVEs in Ukraine?

A CoVE is a multifunctional educational institution with a solid material and technological, professional, managerial, teaching and methodological potential to provide high-quality initial and continuing, both formal and non-formal VET for all age groups, as well as contributing to, and disseminating, the VET reforms, thus playing a significant role in satisfying the skill needs of the labour market and also in promoting the harmonious social and economic development of the region(s) and the country in general.

What are the key characteristics of CoVEs in Ukraine?

- CoVEs are institutions with high-quality physical conditions (well-refurbished buildings and other facilities), with modern training equipment and furniture, thus ensuring not only a high level of teaching/learning environment but also attractiveness for learners and social partners, including those representing the business sector.
- CoVEs ensure the provision of advanced educational content and for this purpose are equipped with modern curricula and programmes that fully meet the requirements of the labour market and the training needs of partner companies' employees (e.g. for qualification upgrade or requalification), with teaching/learning technologies, methodologies, techniques and didactic resources.
- The teaching staff have strong proficiency and capacity to ensure effective teaching and learning processes in line with standards and with effective use of the available training equipment and other facilities. Administrative staff are capable of using up-to-date methods of effective and collaborative management.
- CoVEs have internal quality assurance mechanisms (and units) and are subject to systematic external quality evaluation.
- They have facilities (dormitories and/or transport) to host students from other municipalities and regions as well as invited teachers and other specialists.

- Financial means (from public and private sources) are available for the continuous development of the centres, for staff (both administration and teachers) training and exchange, for channels of communication, for the purchase of new resources, and for the implementation of other necessary activities, such as the organisation of events, promotion and awareness-raising campaigns, and the provision of surveys.
- At the same time, CoVEs are legally allowed to generate additional income through the provision of different types of services and activities and are fully capable of doing so.
- CoVEs liaise closely with other VET providers in the region (different forms and mechanisms of liaison are possible) and with each other (preferably with similar centres in other countries) and create a platform for information sharing, experience exchange and peer learning.

What should the legal status of CoVEs be? What type of management should they have? In Ukraine, two options are possible, namely:

1. an independent type of institution; in this case CoVEs can be established via:
    - reorganisation (transformation) of an existing VET institution into a CoVE; or
    - merger of two or more organisations, including at least one VET institution; or
    - acquisition of one or more organisations into, or by, a VET institution; or
    - foundation of a new organisation as a CoVE.
2. a status awarded to an institution/group of institutions; in this case (recommended by the ETF), the options are:
    - awarding CoVE status to an existing VET institution; or
    - awarding CoVE status to a group of institutions (including at least one VET institution), clustered (networked) within the framework of an agreement or another type of association; or
    - foundation of a new institution with CoVE status. This also refers, for example, to awarding status of CoVE to existing VET colleges in which VET cohabits with higher education pathways.

Further, a multilevel, multi-stakeholder CoVEs management model is proposed. The following managing bodies are envisaged: the founder(s), the governance board and the executive manager (director, principal, head, etc.). With the exception of the state (represented by, for instance, the MoES or the government), any natural and/or legal person(s) can be the founder(s) of the centre. The CoVE board will be its collegial governance body and will include representatives of different stakeholders: founders; social partners, nominated by employers and/or their unions and associations, and trade unions; regional and/or community authorities; territorial employment service; the centre's pedagogical workers; the centre's students and/or learners, etc.

How will the regions where CoVEs are to be established and the institutions that will be reorganised into CoVEs be selected? What will the selection criteria be?

It is proposed that institutions should apply to obtain CoVE status or to be reorganised into a CoVE. In this context, establishment (regardless of the formal procedure) of every centre will be considered as an independent project and every application as a project proposal. Therefore, selection of the best applicant institutions will be organised on a competitive basis and the bids evaluated according to the selection criteria established in advance.

This paper recommends 15 selection criteria grouped under the 3 main clusters:

1. socioeconomic profile of the region and selection of the sector(s) of specialisation;
2. institutional characteristics;
3. location, territorial coverage and cooperation.

In total, around 90 indicators with sources of verification and weightings are proposed for these criteria.

However, given that the concept of CoVEs is rather new for Ukraine, the ETF recommends a 'softer' way of introducing such centres in the country, namely the 'status' option presented above. Thus, 'centre of excellence' should be considered as a status awarded to an institution or a group of institutions if they meet a set of criteria established in advance, for example by the MoES or by the government

As a result of the proposed transition from centralised to networking governance, various stakeholders will have new roles. For example, governmental and regional bodies will be involved in the process of establishing and managing CoVEs; private sector representatives will participate in taking policy decisions and sharing social responsibility; and administrators of CoVEs will have a role in business planning, project design and project management, marketing, etc.

These new roles will require specific abilities on the part of the stakeholders, and for many of them capacity development and policy learning will be necessary. For this, a training needs assessment against the scope of required competences should be carried out, although it is already clear that a number of areas need to be addressed, including such topics as social partnership in education; communication, teamwork and negotiations; policy and strategy development, implementation, monitoring and evaluation; and intersectoral cooperation.

Finally, the paper proposes an overview of major regional patterns and key trends that have shaped the VET sector in Ukraine during recent years. Developing analytical approaches is a must for further guidance and decision making on how to set up CoVEs in the country.

In summary, the analytical framework of this report addresses a set of necessary indicators for understanding better how to set up CoVEs in 24 Ukrainian regions and for supporting policy dialogue. Such dialogue might take place at national, regional, sectoral and provider governance levels, while cooperating with EU and other international stakeholders (donors community) to look to the future.

1. METHODOLOGICAL REMARKS

This report is the result of an analytical and research process. Desk research was carried out during the inception phase. This was based on ETF sources, international and national documents and other analytical papers (see Bibliography). An inception report was the first outcome, and this moved the research and analytical schedules forward.

In addition, the ETF, in cooperation with the MoES, implemented regional group discussions. These took place in the second half of 2018 in six regions: Lviv, Rivne, Zaporizhzhya, Dnipropetrovsk and Kyiv oblasts, and the city of Kyiv[4]. Details of the locations of these discussions are presented in Table 1.1.

TABLE 1.1 REGIONAL GROUP DISCUSSIONS ON COVES

	Region	Location	Venue
1	Rivne Oblast	Kvasyliv	Kvasyliv Professional Lyceum
2	Lviv Oblast	Lviv	Education and Science Department of Lviv Oblast State Administration
3	City of Kyiv	Kyiv	Kyiv Professional College with Advanced Military and Physical Training
4	Kyiv Oblast	Vasylkiv	Vasylkiv Professional Lyceum
5	Zaporizhzhya Oblast	Zaporizhzhya	Zaporizhzhya Oblast VET Scientific-Methodological Centre
6	Dnipropetrovsk Oblast	Dnipropetrovsk	Dnipropetrovsk Oblast State Administration

The main objective of this qualitative exercise was to ensure a common understanding of the concept of CoVEs. This contributed to the further discussion of key options for reforming VET regional networks through the introduction of CoVEs. The outcomes were a shared vision of how to implement a national concept for CoVEs in Ukraine, and the identification of the challenges, risks and opportunities for establishing CoVEs in the country. The distribution of the stakeholders who participated in the regional discussion groups is shown in Table 1.2.

The group discussions were carried out using a mixture of different methods, namely presentations that included a general concept of CoVEs, some country cases, and the experts' findings and vision on the establishment of CoVEs in Ukraine; group discussions among participants on the main topics; and practical work. The MoES considered it more appropriate that decisions on the target sectors should be taken by the regional authorities.

[4] VET profiles (statistical fiches) of these regions are presented in Annex 2.

TABLE 1.2 STAKEHOLDERS IN COVES REGIONAL GROUP DISCUSSIONS

Type of stakeholder	Number of representatives						
	Rivne Oblast	Lviv Oblast	City of Kyiv	Kyiv Oblast	Zaporizhzhya Oblast	Dnipropetrovsk Oblast	Total
Ministry of Education and Science	–	–	1	1	–	1	**3**
Department of Education and Science of Oblast (city of Kyiv) State Administration	2	4	2	2	1	3	**14**
Economy or Finance Department of Oblast State Administration	2	1	–	–	–	–	**3**
VET Scientific and Methodical Centre	1	2	–	–	4	2	**9**
Oblast Employment Centre	1	2	–	–	1	1	**5**
VET institution	5	8	9	4	3	3	**32**
Employer	3	3	7	3	2	2	**20**
Non-governmental organisation and others	1	–	–	–	–	–	**1**
Total	**15**	**20**	**19**	**10**	**11**	**12**	**87**

For the mapping exercise, a list of dimensions was elaborated by the ETF and agreed with the MoES. The purpose of this framework was to bring key evidence to support decision making on how to select potential VET providers to become CoVEs. They were grouped around seven main clusters. The proposed analytical framework is presented in Box 1.1.

The mapping exercise is an essential step in assessing how the decisions taken on CoVEs should be informed. The purpose of analysing this set of indicators is to help MoES and other stakeholders to make justified decisions in selecting the institutions to be transformed into CoVEs. Ideally, establishing one CoVE per region would be an optimal way to roll out the process.

The main source of information was the official statistics published by the State Statistics Service of Ukraine and the Ptoukha Institute for Demography and Social Studies. However, a considerable amount of information was also collected from the MoES and directly from the regions.

BOX 1.1 FRAMEWORK OF INDICATORS TO SUPPORT ASSESSMENTS ON STRUCTURAL CONDITIONS FOR SETTING UP COVES

1. Short description of the region
   - 1.1. History
   - 1.2. Geography: territory, nature
   - 1.3. Resources
   - 1.4. Specificities: advantages, disadvantages
2. Demography of the region
   - 2.1. Population and its dynamics by:
     - age group
     - gender
     - urbanisation
   - 2.2. Migration dynamics
3. Social situation in the region
   - 3.1. Economic activity
   - 3.2. Employment rate and structure by educational attainment levels and age groups
   - 3.3. Unemployment rate and structure by educational attainment levels and age groups
   - 3.4. Economic inactivity rate and structure by educational attainment levels and age groups
   - 3.5. Long-term unemployment rate (registered unemployed with job search duration over 6 and/or 12 months)
   - 3.6. Share of those employed in non-formal economy
   - 3.7. Interregional employment mobility (share of those employed in other regions)
   - 3.8. Number and structure of vacancies by occupation (10 most demanded occupations by region), dynamics for last 3 years; share of low-wage vacancies
   - 3.9. Number and structure of the unemployed by occupation (10 most widespread occupations by region), dynamics for last 3 years
   - 3.10. Wages:
     - average wages
     - share of employees whose wages are credited above the minimum wage
     - wage arrears (share of unpaid wages in the wage fund)
   - 3.11. Poverty
4. Economic situation in the region
   - 4.1. Share of regional gross domestic product (GDP) vs national
   - 4.2. Gross regional product (GRP) per capita (factual prices)
   - 4.3. Gross value added in constant prices
   - 4.4. Business activity (number of active legal entities (enterprises) by sectors and share of these that are profitable)
   - 4.5. Production rates (volume of realised industrial production and agricultural production rates)
   - 4.6. Export–import flows, and export volume per capita

4.7. Capital investments:
- capital investment rates
- capital investment volume per capita (accumulated from beginning of year)
- direct foreign investment volume per capita (accumulated from beginning of year)

4.8. Innovations (industrial enterprises which introduced innovation as a share of the total number of enterprises)

4.9. Financial capacity of region:
- revenues of local (oblast) budgets (without transfers) per capita
- growth rate of local budget revenues (without transfers), as % compared to previous year

4.10. Transport infrastructure (length of hard-surfaced automobile roads)

5. Main economic clusters (sectors) of the region
   5.1. Sector's share of the region's GDP
   5.2. Industry production rates
   5.3. Share of the total number of industrial enterprises which introduced innovations
   5.4. List of the main enterprises by size

6. Regional development plan
   6.1. When it was adopted
   6.2. Reference to the main sector(s) of economy
   6.3. Reference to the VET system

7. Regional VET system
   7.1. Professions/qualifications offered
   7.2. Number of applicants by qualifications
   7.3. Number of students by qualifications
   7.4. Number of graduates by qualifications
   7.5. Graduation and dropout rates
   7.6. Graduate job placement rates
   7.7. Number of employees, including teachers and trainers
   7.8. Facilities and their conditions in VET establishments
   7.9. Regional VET council set-ups

2. DECENTRALISATION AND THE REFORM OF INSTITUTIONAL NETWORKS IN UKRAINE

Since 2014 Ukraine has been conducting a political decentralisation process that seeks to fundamentally restructure centre–periphery relations. This reform of local governance implies a devolution and delegation of power from the national to the municipal level (and, to a lesser degree, to the regional and upper sub regional levels).

Decentralisation is being affected not through federalisation, but through an amalgamation of small municipalities and a reallocation of political, administrative and financial competences to these merged and enlarged local communities (gromada). An essential feature of decentralisation in Ukraine to date is that it has taken place on a voluntary basis, thus contributing to the development of local democracy. The main achievement of decentralisation so far has been to start a territorial consolidation of municipalities and an accompanying empowerment of local self-government. Table 2.1 shows the structure of local public administrations.

In late 2014 and early 2015, fiscal decentralisation was introduced and the fusion of small local municipalities into bigger and more self-sustaining 'amalgamated territorial communities' (ATCs) began. These new entities have gained considerable tax-raising powers and now benefit from direct transfers from the central state budget (Romanova and Umland, 2019).

TABLE 2.1 STRUCTURE OF LOCAL PUBLIC ADMINISTRATIONS

<table>
<tr><th>Tier</th><th colspan="3">Administrative units</th></tr>
<tr><td>Third</td><td rowspan="3">Cities of Republican significance</td><td colspan="2">Oblasts, Autonomous Republic of Crimea</td></tr>
<tr><td>Second</td><td rowspan="2">Cities of oblast significance</td><td>Rayon's</td></tr>
<tr><td>First</td><td>Gromada</td></tr>
</table>

Source: ETF (2017a) based on OECD (2014)

In terms of public policies, the first major decentralisation initiative by the government focuses on the VET system. This has more special meaning for Ukraine than the pilot decentralisation of public administration. In this case, decentralisation is also the enabler of more general and far-reaching reform of the VET system in line with the needs of the economy and in synergy with many other initiatives involving the labour force, small and medium-sized enterprises (SMEs) and regional development.

On 28 December 2014, as part of decentralisation reform, the Ukrainian Parliament adopted the Law on Changes to the Budget Code (No 79-VIII). This law created a new system of local public finance that has radically altered the financing of oblasts (regions), cities, rayon's and the newly formed amalgamated gromada.

As a result of these changes, the system for recurrent financing of VET schools for the fiscal years 2016 and 2017 has created two distinct VET subsystems, one financed from city budgets and one from regional budgets. It will be extremely difficult to implement rational policies for professional technical education if this fragmentation persists.

Several national policy documents – such as the Strategy for Sustainable Development 'Ukraine 2020' (2015), the National Education Development Strategy 2012–21 (2013), and the Medium-Term Plan of

the Government's Priority Actions for the period to 2020 (2017) – suggest a large number of measures for improving the situation in VET.

The various elements of VET decentralisation (system governance and VET institution management; optimisation and modernisation of the network of VET institutions; implementation of PPP in education with investments from employers and from the state budget) are the main suggestions of key policy papers from the ETF, namely the Green Paper on decentralising VET in Ukraine (2017), the PRIME report (2016) and the Torino Process 2016–17 Ukraine report (2017). These documents propose the establishment of CoVEs and the formation of regional VET school networks around those centres as a practical solution to the above-mentioned key issues. This should lead to improvement of the image of the VET system, particularly through the establishment of a multi-stakeholder partnership.

The optimisation of the VET system and its decentralisation can also promote cooperation among regions on the development of specific sectors of the economy, spite possible barriers due to financial reasons. Expansion of the scope of VET institutions' activities, resulting in additional income generation; higher levels of performance; and collaboration between schools, enterprise and social partners based on PPPs.

In December 2018 the MoES delivered a draft paper: Reform Concept for the Vocational Education in Ukraine. Among other issues, this establishes as first objective the decentralisation of governance and funding based on the following principles:

- an effective management model for vocational education that implies the transfer of real powers to regions and employers and provides autonomy to vocational education institutions;
- a new structure and optimal network of vocational education institutions that can react rapidly to the needs of the labour market, takes into account individual needs and provides lifelong learning and professional qualifications;
- multichannel funding for vocational education institutions according to appropriately determined scope, fields and levels of professional qualification, and implementation of investment projects for the modernisation of vocational education.

This paper also emphasises the key role to be played by a regional approach in VET. In this respect, the regions will have to deal with the development of personnel capacities and ensure the compatibility of the available vocational education options with the real needs of the economy. Regions will have to mobilise their respective intellectual and material resources and to evaluate the condition and development prospects of the economy, considering the region's education capacities. Regional strategies should play here a role as per development of lifelong learning to support human capital development in Ukrainian regions.

Further, it is planned that Ukraine will have a new structure and optimal network of educational institutions. The vision in the country is that optimising the network of vocational education institutions will require the creation of universal, multilevel institutions by establishing new and reorganising (through merger, incorporation or conversion) existing ones. The most innovative concept is the creation of a model for new institutions, namely multifunctional professional excellence centres.

Regional governments, education departments and councils should play a key role in such processes, in cooperation with the social partners.

BOX 2.1 NEW MODEL FOR THE DISTRIBUTION OF POWERS IN THE UKRAINIAN VET SYSTEM

State level

- Policy making in VET
- Development and adoption of educational standards
- Development of a quality assurance system for VET
- Ensuring the provision of vocational training in areas of national interest
- Calculation of funding norms for vocational education
- Education of individuals with special educational needs

Oblast level

- Analysis of the labour market – determining the demand for qualified professionals and placing the order of the respective region for the training of specialists
- Management and funding of the operation and development of the vocational education system
- Organisation of the activities of RVETCs and supervisory boards of vocational education institutions
- Development of a network of vocational education institutions
- Licensing of vocational education institutions
- Development of social partnership
- Advanced training for teachers in the vocational education sector

VET institution level

- Preparation of a development-management- strategy
- Organisation and steps to ensure teaching and learning processes
- Preparation of education programmes
- Operation of the internal quality control system
- Establishment of effective cooperation with social partners
- Motivation for the professional development of teachers
- Creation of an inclusive learning environment
- Reporting to the supervisory board

Source: MoES

2.1 Devolving powers to the regions: Challenges in VET policies and system

Considerable reforms have been carried out in recent years in the VET sector in Ukraine. The achievements mainly concern decentralisation, which has stimulated the modernisation of the legislative and regulatory framework and the revision of funding mechanisms, and improvements in the internal efficiency of the VET system at both national and regional levels.

The reforms mainly include pursuing improvement of VET governance and funding; matching skills needed in the labour market; development of VET digitalisation and innovation; improving teacher, training and methodological VET practices and contents; strengthening dual educational and the role

of PPPs for VET and skills development. A new law in education (2017) introducing New Ukrainian School conceptual principles and further approval of a new VET law (work in progress) are key milestones in recent years in Ukraine (ETF, 2020).

Other core issues in the VET policy agenda include improving teacher performance, standardising VET content (development of national competence-based VET standards based on occupational standards elaborated by employers), implementing innovative educational technologies and methods, increasing the use of information and communication technologies (ICTs), and enhancing the flexibility of the VET system through the recognition of non-formal learning outcomes and introduction of modular curricula (ETF, 2017b).

Nevertheless, the system still suffers from a number of unsolved problems relating to various aspects of VET. These are[5]:

- inefficient network of VET institutions accompanied by outdated infrastructure in many VET institutions;
- low quality of VET provision, absence of a quality assurance system, mismatch with labour market requirements; provision of only low skills level of qualifications; insufficient provision of training facilities and materials, lack of practical training;
- need to improve VET governance and management at all levels, particularly as a result of better understanding of the benefits of the VET system for the country and for regional development; lack of sector coordination; lack of autonomy for VET institutions;
- growing lack of quality teaching staff (especially masters of practical training);
- insufficient financing of VET, inefficient funding schemes for VET institutions, lack of medium-term budget planning;
- steady decline of the student population (and enrolment) as a result of the lack of attractiveness of VET and demographic issues; ineffective organisation and outdated methods of vocational guidance; lack of sufficiently credible medium-term forecasts of labour market needs, at both national and regional levels;
- fragmentation of the VET system into 'professional technical' and 'professional pre-tertiary';
- need to motivate partners to engage in VET processes, resulting in weak involvement of the social partners, especially employers, in all aspects of VET, including development of content, provision, evaluation, funding, governance and management;
- almost complete inaction of the regional VET councils (RVETCs).
- not enough role for VET schools dealing with provision of adult/continuing training;
- need to introduce flexible curricula to ensure flexibility of VET provision.

However, during the last four years VET policies have attracted the attention of key stakeholders, which has resulted in a number of achievements driven by the decentralisation process, for instance:

- Despite difficult conditions and political changes, the association agreement has been implemented. This refers, for instance, to the development of a national qualifications framework.
- Many concepts have been developed and legislated, which need to be implemented. The Modern VET Concept offers, for instance, an integrated vision for VET.

[5] A list of issues was prepared in collaboration with participants in the regional discussion groups.

- The optimisation of the VET Network has become a priority, with important consequences as more emphasis put on attracting resources and working towards access to quality VET.
- On the legislative side, the draft VET Law is a very critical document for advancing the VET reform.

2.2 Demography, socioeconomic profiles and employment: Main patterns of the Ukrainian regions

This section[6] presents a short analysis of some of the demographic and socioeconomic patterns, trends and dynamics of the Ukrainian regions. The purpose is to have evidence to support policy discussions and further decisions on setting up CoVEs in the country.

2.2.1 Demographic trends and migration

Socioeconomic development in Ukraine is characterised by significant regional disparities as a result of the different demographic, economic, educational and social potentials of the regions. As regards the demographic situation, negative trends prevail. The reduction in the size of the population (from 51.6 million on 1 January 1990 to 42.4 million on 1 January 2017) is due to the annexation of the Autonomous Republic of Crimea and the anti-terrorist operation in Donbass region.

The ageing of the population (the 0–17 age group as a share of the total population reduced by 43.8% between 1989 and 2016), low fertility rates, low life expectancy and a poor health infrastructure have negatively affected the socioeconomic development of regions.

The size of the population showed a positive trend for the period 2014–18 only in Rivne Oblast (0.16%), Zakarpattya Oblast (0.10%), Kyiv Oblast (1.67%) and the city of Kyiv (2.29%), and for the period 2015–18 the trend remained positive only for the city of Kyiv (1.61%) and Kyiv oblast (1.45%). Table 2.2 presents population figures for the whole country.

The mobility of the population is characterised by significant interregional migration flows caused by the increasing number of internally displaced people (Table 2.3). Such regions as Kyiv, Dnipropetrovsk (neighbouring the temporarily occupied territories), Kharkiv, Odesa, Lviv oblasts and the city of Kyiv continue to attract internal migrants, while in 2017, 15 other oblasts had a negative balance of migration. Except Donetsk and Luhansk oblasts (which are not included in Table 2.3), the largest emigration was recorded from the Vinnytsya, Khmelnytsky, Kherson and Zaporizhzhya oblasts. Data for January–May 2018 shows similar trends[7].

[6] Figures at the time of writing (they may have changed by the publication date).
[7] More specific data in some regions can be found in Annex 2.

TABLE 2.2 POPULATION OF UKRAINE BY GENDER AND AGE GROUP, 1990 AND 2014–18 (AS OF 1 JANUARY) (1 000 PERSONS)

	1990	2014	2015*	2016*	2017*	2018*	Increase 2014–18* (%)	Increase 2015–18* (%)
Total	**51 556.5**	**45 245.9**	**42 759.7**	**42 590.9**	**42 414.9**	**42 216.8**	**-6.69**	**-1.27**
Male	23 826.2	20 918.3	19 787.8	19 717.9	19 644.6	19 558.2	-6.50	-1.16
Female	27 730.3	24 327.6	22 971.9	22 873.0	22 770.3	22 658.6	-6.86	-1.36
0–14	11 084.2	6 710.7	6 449.2	6 494.3	6 535.5	*6 530.5*	-2.69	1.26
0–15	11 814.3	7 120.1	6 816.0	6 856.3	6 887.0	*6 895.7*	-3.15	1.17
0–17	13 305.0	8 009.9	7 614.7	7 614.0	7 615.6	*7 609.3*	-5.00	-0.07
16–59	30 291.4	28 372.5	26 613.3	26 317.4	25 982.0	*25 641.3*	-9.63	-3.65
15–64	34 297.7	31 606.4	29 634.7	29 327.7	29 011.9	*28 719.0*	-9.14	-3.09
18+	38 251.5	37 236.0	35 145.0	34 976.9	34 799.3	*34 607.5*	-7.06	-1.53
60+	9 450.8	9 753.3	9 330.4	9 417.2	9 545.9	*9 679.7*	-0.75	3.74
65+	6 174.6	6 928.8	6 675.8	6 768.9	6 867.5	*6 967.3*	0.56	4.37

Note: *Data does not include the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and part of the anti-terrorist operation zone.
Source: Ptoukha Institute for Demography and Social Studies (own elaboration)

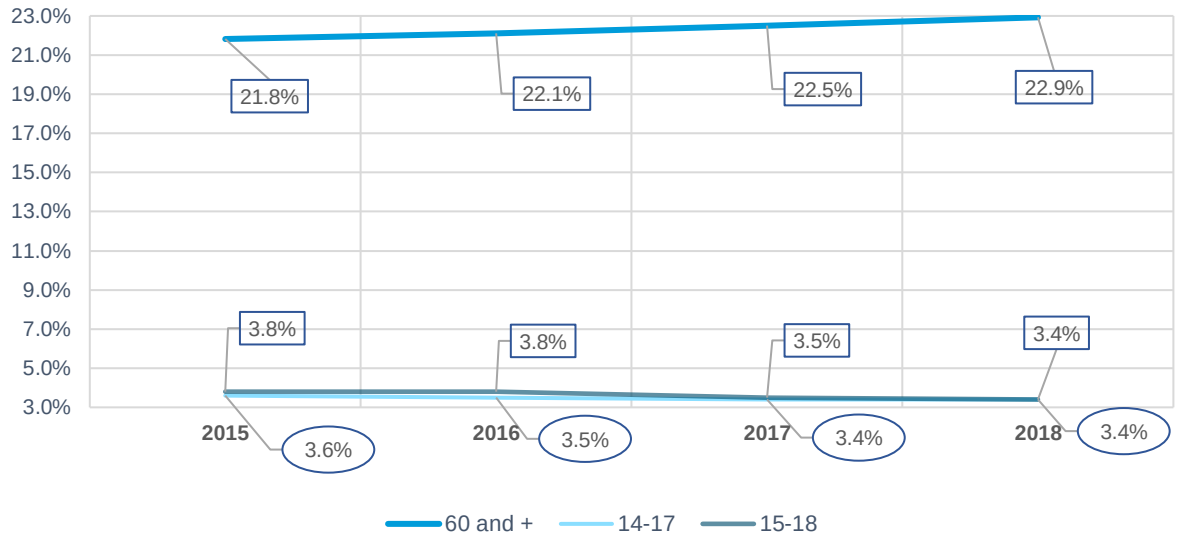
TABLE 2.3 MIGRATION IN UKRAINE, 2000 AND 2014–18

Regions	2000	2014	2015*	2016*	2017*	2018 (Jan–May)
Ukraine		**22 592**	**14 233**	**10 620**	**11 997**	**9 616**
Kyiv	726	11 120	11 225	11 402	30 677	9 011
Dnipropetrovsk	-2 248	431	-1 351	-2 346	24 131	1 795
Kharkiv	2 672	8 261	4 981	797	12 069	1 038
Odesa	2 653	4 639	986	3 380	4 725	2 655
City of Kyiv	21 345	14 443	13 462	13 288	4 211	2 301
Chernihiv	-800	-381	155	-834	-2 051	-81
Zaporizhzhya	-961	-847	-797	-1 689	-2 714	-463
Kherson	-2 767	-858	-301	-1 034	-2 747	-584
Khmelnytsky	-995	27	-174	-1 906	-2 782	-34
Vinnytsya	-2 309	331	686	-2 505	-4 625	-991

Note: *Data does not include the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and part of the anti-terrorist operation zone.
Source: Ptoukha Institute for Demography and Social Studies (own elaboration)

During the period 2015–17, the 14–17 and 15–18 age groups (the typical ages for enrolling in VET) also exhibited negative trends (falling from 3.6% of the total population in 2015 to 3.4% in 2018, and from 3.8% in 2015 to 3.4% in 2018, respectively), decreasing by 0.0–0.7 percentage points in the different regions. This was accompanied by an increase of 2.3 percentage points in the 60+ age group (Figure 2.1).

FIGURE 2.1 AGE GROUPS 14–17, 15–18 AND 60+ AS A SHARE OF THE POPULATION, 2015–18 (AS OF 1 JANUARY) (%)

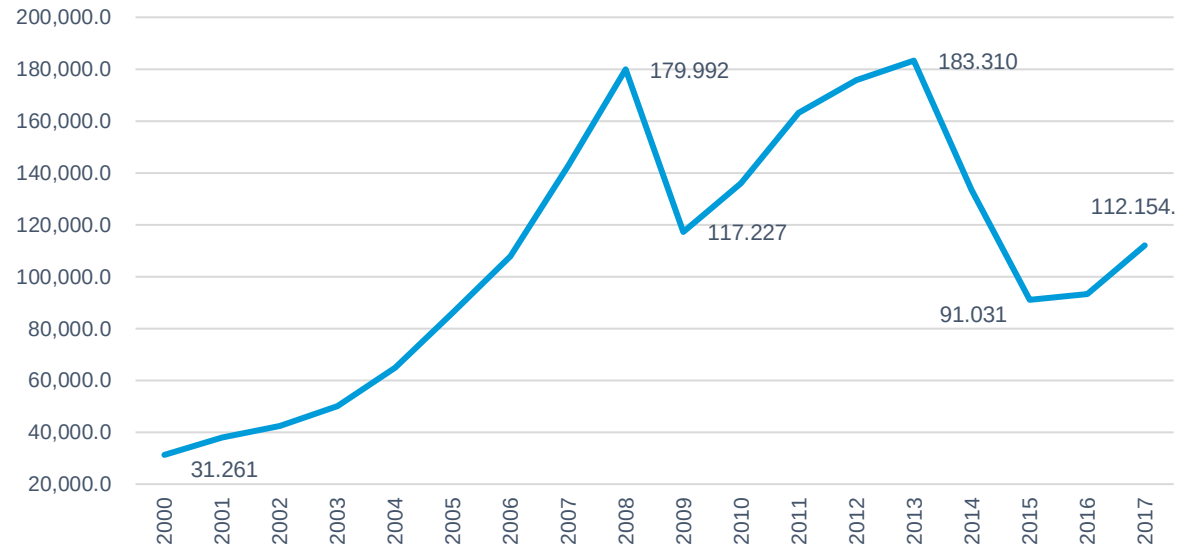


Source: Ptoukha Institute for Demography and Social Studies (own elaboration)

2.2.2 Economic developments

According to World Bank data, the country's GDP steadily increased from 2000 to 2008, peaking at around USD 180 billion, after which it declined by around 35% in 2009 (Figure 2.2).

FIGURE 2.2 GDP IN UKRAINE, 2000–17 (USD MILLION)

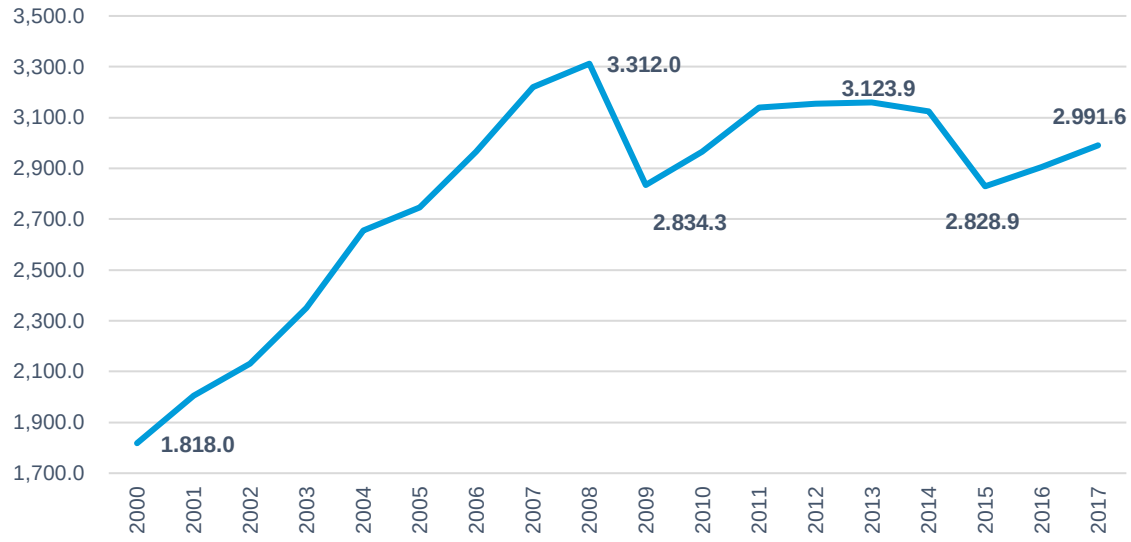


Source: World Bank (own elaboration): https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=UA

GDP per capita exhibits a similar though slightly smoother trend (Figure 2.3), especially between 2009 and 2015, probably as a result of demographic factors. It is notable that in hryvnia (Ukrainian currency,

UAH), both GDP and GDP per capita have been characterised by continuous growth (except in 2009) since the early 1990s[8].

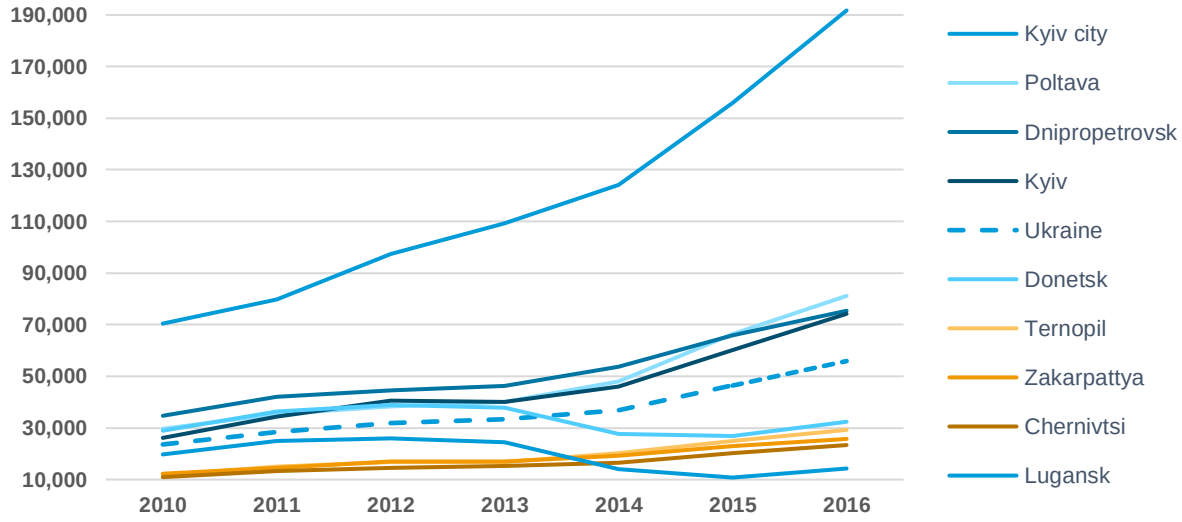
FIGURE 2.3 GDP PER CAPITA IN UKRAINE, 2000–17 (USD)



Source: World Bank (own elaboration): https://data.worldbank.org/indicator/NY.GDP.PCAP.KD?locations=UA

Analysis of the trends for GRP per capita indicates substantial variation in regions' economic potential (Figure 2.4). Thus, as an industrial, financial, scientific and urban centre, Kyiv has significant potential (over UAH 191 740 in 2016), while for several regions this indicator was up to 13 times lower.

FIGURE 2.4 GRP PER CAPITA IN UKRAINE, 2010–16 (UAH)



Source: UkrStat (own elaboration)

[8] https://data.worldbank.org/indicator/NY.GDP.PCAP.CN?locations=UA

The most significant reduction in gross value added was observed in 2014–15 as a result of the imbalance between the regions owing to the crisis caused by the conflict in the country (Figure 2.4). In 2016 the situation improved substantially, especially in such oblasts as Luhansk (following a dramatic fall during the previous two years), Volyn, Kirovograd and Vinnytsya (6% and more) but in eight oblasts the indicator was still decreasing, and in Dnipropetrovsk it remained unchanged.

It is interesting to analyse oblasts' specialisation based on the percentage of enterprises by sector. The results of our calculations are presented in Table 2.4, which shows in which two or three sectors the largest shares of companies are concentrated.

TABLE 2.4 PROPORTION OF COMPANIES IN THE LARGEST ECONOMIC SECTORS BY OBLAST (%)

Region	Sectors						NACE
Kirovograd	A	23.1	G	10.5			A – Agriculture, forestry and fishing B – Mining and quarrying C – Manufacturing D – Electricity, gas, steam and air conditioning supply E – Water supply; sewerage, waste management and remediation activities F – Construction G – Wholesale and retail trade; repair of motor vehicles and motorcycles L – Real estate activities M – Professional, scientific and technical activities
Mykolaiv	A	20.3	G	10.8			
Kherson	A	16.9	G	10.8			
Vinnytsya	A	13.4	G	10.5			
Odesa	A	12.7	G	12.2			
Poltava	A	12.5	G	11.5			
Cherkasy	A	11.9	G	10.8			
Khmelnytsky	A	9.7	G	8.8			
Luhansk	A	7.7	G	5.1			
Ternopil	A	8.4	G	6.5	B, C, D, E	5.9	
Chernivtsi	A	8.4	G	8.2			
Kyiv city	G	23.6	M	12.6	L	7.4	
Dnipropetrovsk	G	18.6	A	8.9	B, C, D, E	7.5	
Kharkiv	G	17.1	B, D, E	9.5	C	8.5	
Kyiv	G	15.4	B, C, D, E	8.5			
Zaporizhzhya	G	15.1	A	10.9			
Lviv	G	12.7	B, C, D, E	6.9			
Volyn	G	11.1	A	7.0			
Chernihiv	G	11.0	A	9.9			
Sumy	G	10.9	A	9.1			
Ivano-Frankivsk	G	10.6	F	5.6			
Donetsk	G	10.0	B, C, D, E	5.0	A	4.7	
Rivne	G	9.6	A	5.7			
Zhytomyr	G	8.7	B, C, D, E	8.6			
Zakarpattya	G	8.5	A	7.7			

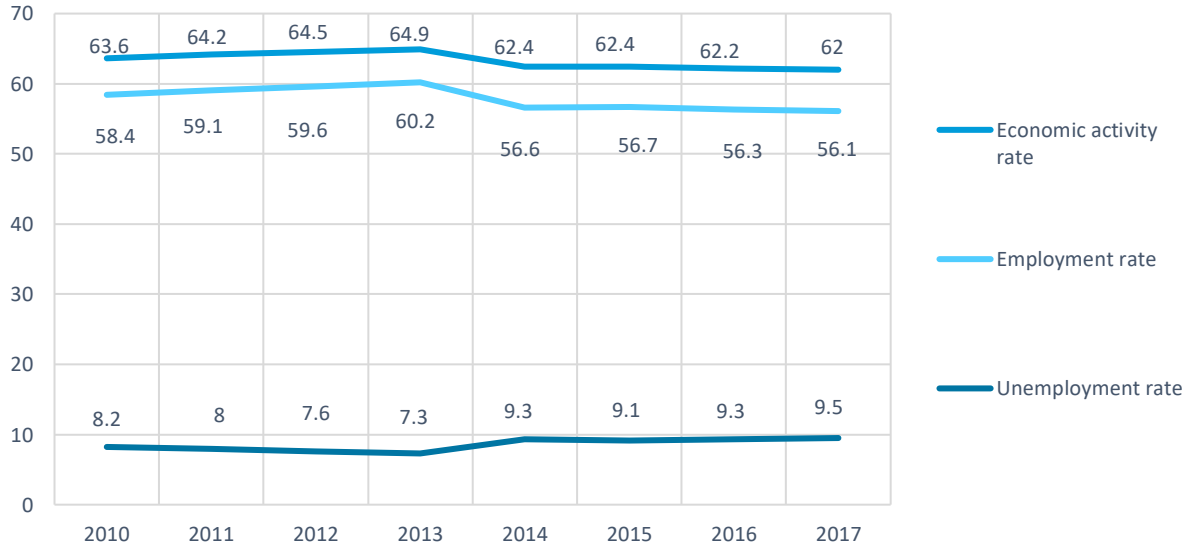
Notes: The following sectors were not taken into consideration: N – Administrative and support service activities; O – Public administration and defence, compulsory social security; P – Education; Q – Human health and social work activities; and S – Other service activities. The reason is that in these sectors the percentage of organisations is rather high in all regions, but they do not represent any economic specialisation.

Source: UkrStat (own elaboration)

2.2.3 Employment and social situation

Both the economic activity rate and employment rate (15–70-year-olds) in Ukraine increased from 2010 until 2013, peaking at 64.9% and 60.2%, respectively, and then dropping to 62.0% and 56.1%, respectively, in 2017. The unemployment rate (ILO methodology) demonstrated a similar behaviour, falling to 7.3% in 2013 and then reaching 9.5% in 2017 (Figure 2.5).

FIGURE 2.5 BASIC LABOUR MARKET INDICATORS, 2010–17 (%)



Source: ILO and UkrStat (own elaboration)

Significant regional disparities can also be observed: Donetsk and Luhansk oblasts lost many jobs, a situation which, in turn, led to a reduction in employment. The data on unemployment in the regions is presented in Table 2.5 (absolute numbers).

The female unemployment rate is lower than the country average; in 2017 it was 7.7%, 4 percentage points lower than in 2015. The highest rates of female unemployment in 2017, were registered in Luhansk (14.0%), Volyn (12.3%), Vinnytsya and Zhytomyr (both 11.0%) oblasts, closely followed by Zaporizhzhya, Ternopil, Kirovograd and Mykolaiv oblasts (10% and over). In Kharkiv, Odesa, Kyiv and Lviv oblasts and the city of Kyiv, female unemployment was comparatively low, ranging from 4.5% to 5.5%.

One of the biggest challenges associated with employment in Ukraine is the phenomenon of over-education for the jobs available owing to the mismatch between skills supply and demand. Duration of unemployment has also had a significant influence on labour market development.

TABLE 2.5 NUMBER OF UNEMPLOYED PEOPLE BY REGION, 2010 AND 2014–17 (AS OF 31 DECEMBER, 1 000 PEOPLE)

	2010	2014	2015*	2016*	2017*		2010	2014	2015*	2016*	2017*
Kharkiv	97.9	103.5	93.4	84.6	80.4	Zakarpattya	50.4	53.1	52.5	56.3	58.2
Kyiv	59.7	62.6	50.7	53.5	51.9	Vinnytsya	76.9	77.6	66.3	71.0	76.5
Kyiv city	85.9	98.7	102.6	97.3	101.1	Zaporizhzhya	66.9	71.3	80.4	81.4	86.2
Odesa	68.0	72.5	70.1	72.5	77.2	Zhytomyr	60.8	66.6	64.6	63.7	62.0
Lviv	93.3	97.2	92.7	87.9	85.8	Kherson	46.1	49.6	50.8	55.9	55.0
Chernivtsi	35.6	36.8	37.7	35.7	34.8	Chernihiv	56.1	55.3	51.6	53.9	53.5
Dnipropetrovsk	117.7	128.9	115.3	121.7	129.2	Rivne	60.8	56.7	53.7	56.3	60.1
Ivano-Frankivsk	47.5	48.1	51.2	53.5	51.9	Ternopil	50.8	53.1	54.1	52.8	53.9
Khmelnytsky	54.9	54.0	56.6	53.0	50.2	Poltava	69.2	78.3	80.7	82.6	78.3
Sumy	59.2	50.6	52.8	48.8	48.0	Kirovograd	42.3	49.2	49.8	53.1	52.6
Ukraine	**1 713.9**	**1 847.6**	**1 654.7**	**1 678.2**	**1 698.0**	Volyn	40.5	44.9	43.1	49.7	52.1
Cherkasy	62.4	59.8	56.7	59.8	59.2	Donetsk*	182.9	216.4	121.4	122.9	125.3
Mykolaiv	49.4	50.1	49.5	53.3	56.3	Luhansk*	78.7	112.7	56.4	57.0	58.3

Notes: Regions are sorted by ascending unemployment rates for 2017; *Data does not include the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and part of the anti-terrorist operation zone.

Source: UkrStat (own elaboration): www.ukrstat.gov.ua/druk/publicat/kat_u/2018/zb/07/zb_EAN_2017w.rar

In 2017 the long-term (more than one year) unemployment rate had increased slightly compared with 2016 (2.7% against 2.6% of total number of unemployed) but was considerably lower than in 2010 (6.4%). In 2016 the highest long-term unemployment rates were registered in Zhytomyr, Sumy, Chernihiv, Luhansk, Rivne, Chernivtsi (between 4.1% and 5.0%) and Kirovograd (7.6%) oblasts, while in 11 other oblasts they were below 2.0% (SES, 2017)[9].

The number of employed people and the employment rates are presented in Table 2.6. It is important to mention that out of the five most populated regions as of June 2018[10] (Donetsk Oblast (4.2 million), Dnipropetrovsk Oblast (3.2 million), Kyiv city (2.8 million), Kharkiv Oblast (2.7 million) and Lviv Oblast (2.5 million)), only three are at the top of the table. They do not appear in order of their population (as expected, Donetsk is near the bottom of the list).

[9] Source: State Employment Service of Ukraine data, 31 December 2017. Percentages are calculated as total number of unemployed people.

[10] www.ukrstat.gov.ua/operativ/operativ2018/ds/kn/xls/kn0518_u.xls

TABLE 2.6 NUMBER OF EMPLOYED PEOPLE AND EMPLOYMENT RATE BY REGION, 2010 AND 2014–17 (AS OF 31 DECEMBER)

Ukrainian oblasts	Number of employed people (1 000)					Employment rate (%)				
	2010	2014	2015*	2016*	2017*	2010	2014	2015*	2016*	2017*
City of Kyiv	1 387.8	1 368.1	1 357.8	1 364.3	1 356.8	63.6	62.6	62.0	62.3	61.8
Kharkiv	1 267.3	1 225.3	1 230.8	1 236.6	1 247.1	59.3	59.0	59.3	59.7	60.6
Dnipropetrovsk	1 541.9	1 472.8	1 479.6	1 425.4	1 390.9	60.3	60.2	60.9	59.1	58.0
Kyiv	757.9	724.3	739.9	736.3	741.1	58.6	56.9	58.1	57.8	58.0
Sumy	497.0	481.4	470.5	478.5	481.4	56.0	56.6	55.6	56.8	57.4
Mykolaiv	536.7	501.5	508.7	498.1	489.7	59.1	57.3	58.4	57.5	56.8
Cherkasy	564.9	524.5	523.5	517.5	518.4	58.4	56.3	56.5	56.2	56.7
Chernivtsi	382.4	370.6	367.2	376.1	379.3	57.4	55.5	54.9	56.2	56.6
Zhytomyr	560.3	514.8	506.6	507.6	510.6	59.5	56.1	55.5	55.9	56.4
Lviv	1 096.7	1 038.2	1 042.0	1 047.0	1 050.8	58.0	55.3	55.5	55.9	56.2
Kherson	488.8	450.2	445.8	441.0	442.2	58.9	56.4	56.1	55.8	56.2
Ukraine	**19 180.2**	**18 073.3**	**16 443.2**	**16 276.9**	**16 156.4**	**58.4**	**56.6**	**56.7**	**56.3**	**56.1**
Odesa	1 044.5	1 009.4	1 016.2	1 000.6	986.6	57.5	56.7	57.3	56.7	56.1
Chernihiv	480.1	439.5	432.3	424.8	426.1	59.2	56.8	56.2	55.6	56.1
Vinnytsya	694.3	661.6	674.9	658.8	640.9	57.5	56.3	57.7	56.6	55.3
Zaporizhzhya	825.7	773.5	745.1	734.9	719.7	59.5	58.2	56.4	56.0	55.2
Rivne	471.2	476.0	487.7	474.2	460.2	56.7	57.2	58.5	56.9	55.1
Ivano-Frankivsk	530.3	547.8	558.3	556.9	559.0	52.3	53.9	54.8	54.7	55.0
Khmelnytsky	580.6	521.9	500.5	510.1	516.0	59.1	54.7	52.6	53.9	54.7
Luhansk	1 015.4	877.6	306.3	298.5	292.1	57.1	52.0	54.6	55.6	54.7
Poltava	644.8	602.9	583.6	570.4	575.0	57.3	55.7	54.2	53.3	54.0
Zakarpattya	531.8	521.4	519.3	505.5	496.3	57.7	56.4	56.2	54.8	53.8
Kirovograd	431.2	391.1	386.8	375.7	376.8	56.9	54.2	54.0	52.9	53.3
Ternopil	431.3	416.0	406.2	407.6	399.1	54.2	52.9	51.6	52.0	51.0
Donetsk	1 983.7	1 752.4	756.3	748.4	734.3	58.3	54.2	50.3	50.0	49.4
Volyn	433.6	410.5	397.3	382.1	366.0	58.2	54.9	53.1	51.0	48.8

Notes: Regions are sorted by descending employment rate for 2017. *Data does not include the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and part of the anti-terrorist operation zone.
Source: UkrStat (own elaboration): www.ukrstat.gov.ua/druk/publicat/kat_u/2018/zb/07/zb_EAN_2017w.rar

Table 2.7 suggests that only individuals who have completed higher education have higher employment rates (70.5% to 73.8% for 2010–17) than those with VET (61.6% to 63.3% for 2014–2017[11]), although for both categories the situation is worsening.

[11] Data for 2010 are not available.

Opportunities for employment growth in Ukraine are quite limited owing to the lack of effective economic reforms, the slow pace of the restructuring process, and the deterioration of the economic situation, in particular as a result of the annexation of the territory of the Autonomous Republic of Crimea, the city of Sevastopol and part of the anti-terrorist operation zone.

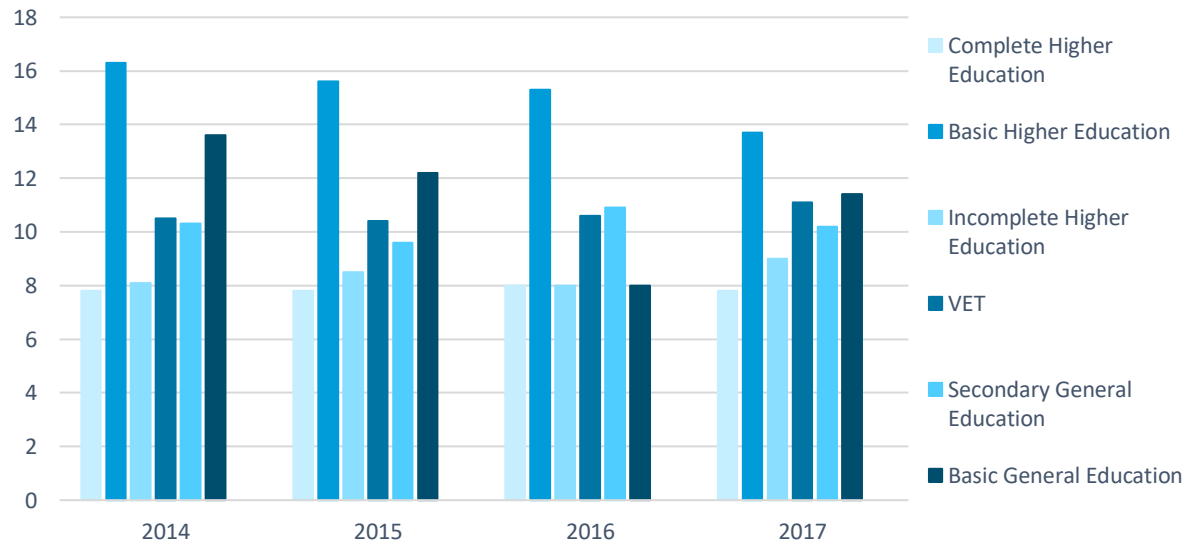
TABLE 2.7 EMPLOYMENT RATE BY EDUCATIONAL ATTAINMENT LEVEL, 2010 AND 2014–17 (%)

	Total	Complete higher education	Basic higher education	Incomplete higher education	VET	Secondary general education	Basic general education	Elementary general or no education
2010	58.4	73.8	47.2	66.5	**n.a.**	56.0	36.0	16.4
2014	56.6	72.1	43.8	62.4	**63.3**	42.6	18.3	6.1
2015	56.7	71.9	49.3	62.6	**63.3**	42.7	18.1	6.0
2016	56.3	70.8	46.2	62.2	**62.9**	42.1	18.3	4.9
2017	56.1	70.5	45.7	61.2	**61.6**	42.6	18.0	5.4

Note: n.a. – not available
Source: MoES

However, it is possible to observe that in the period 2014–17, the unemployment rates for VET graduates are also higher than those with incomplete higher education and with secondary general education (Figure 2.6).

FIGURE 2.6 UNEMPLOYMENT RATE BY EDUCATIONAL ATTAINMENT LEVEL, 2014–17 (%)



Source: UkrStat (own elaboration)

2.3 Chronic issues in the Ukrainian VET system: Institutional networks and funding

The motivation to set up CoVEs in Ukraine is the result of several factors that have affected the governance and funding of the VET network for a number of years. Lack of funding for specialisms that are in demand in the labour market, underinvestment in the infrastructure of VET institutions resulting in obsolete facilities, and lack of involvement of the private sector are just some of the factors that explain the declining access to VET. As a result, many institutions have been closed or merged with others. Such issues are further explained in the following sections.

2.3.1 Dynamics of students and VET institutions

The Ukrainian VET system includes many VET-providing institutions with different statuses and of different organisational types[12]. In January 2018, there were a total of 774 VET institutions with 268.298 students[13]. There were four institutions under other bodies – Ministry of Social Policy, Ministry of Energy and Coal Industry, and Kyiv Regional Council – one of which is a higher VET school, two are VET schools and one is a vocational lyceum.

In recent years there has been a steady decline in the student population (and yearly enrolments), mainly, as a result of demographic issues and the lack of attractiveness of VET. Table 2.8 presents the dynamics on the number of VET students, yearly enrolees and graduates, compared with other levels of education.

According to data (2017), 630 trainers are employed in these centres, delivering CVET courses relating to about 80 different qualifications to around 40 000 people annually. In addition, some 130 000 people undertook training in the 2 000 private VET providers that operate in the country (ETF, 2017b).

VET institutions have traditionally been concentrated in industrial centres with developed infrastructure, such as Dnipropetrovsk or Lviv oblasts. In 2017, out of total 756 institutions, 58 (7.7%) and 59 (7.8%) were located in these two regions, respectively. Figures 2.7 and 2.8 show the distribution of VET institutions by region and indicate that their numbers in 10 oblasts are higher than the average for the country (~30), while in Zakarpattya and Chernivtsi there are almost half the average number.

[12] Higher VET schools (163), VET centres (85), vocational lyceums (338), VET schools (76), colleges (3), VET institutions that are divisions of higher education institutions (21), training centres within penitentiary institutions, vocational schools for social rehabilitation and VET schools within penal colonies (69), and others (22).

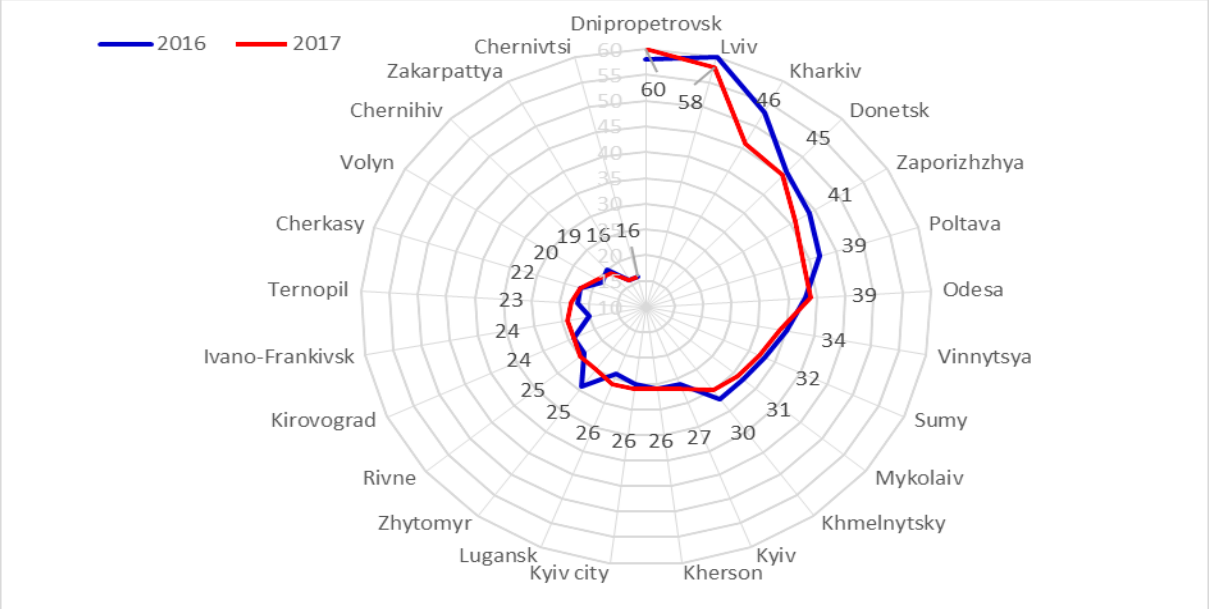
[13] Excluding the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and part of the anti-terrorist operation zone and including Makeevsky VET school of social rehabilitation (Kirovograd Oblast).

TABLE 2.8 NUMBER OF STUDENTS, YEARLY ENROLEES AND GRADUATES BY TYPE OF EDUCATIONAL INSTITUTION, 1990 AND 2014–17

Type of institution	1990	2014	2015*	2016*	2017*	Growth 1990–2016	Growth 1990–2017
Number of students							
Preschool institutions	2 428 000	1 295 000	1 291 000	1 300 000	n.a.	-1 128 000	n.a.
General schools	713 200	4 204 000	3 757 000	3 783 000	3 846 000	3 069 800	3 132 800
VET schools	643 400	315 600	304 100	285 800	268 298	-357 600	-375 102
HEIs 1st and 2nd levels	757 000	329 000	251 300	230 100	217 300	-526 900	-539 700
HEIs 3rd and 4th levels	881 300	1 723 700	143 800	1 375 200	1 369 400	493 900	488 100
Enrolment							
VET schools	380 500	178 000	176 600	157 900	131 012	-222 600	-249 488
HEIs 1st and 2nd levels	241 000	69 500	63 200	60 600	n.a.	-180 400	n.a.
HEIs 3rd and 4th levels	174 500	291 600	259 900	253 200	n.a.	78 700	n.a.
Graduates							
General schools 2nd level	696 000	411 000	339 000	336 000	329 000	-360 000	-367 000
General schools 3rd level	406 000	304 000	247 000	229 000	211 000	-177 000	-195 000
VET schools	376 700	182 000	165 000	152 800	124 787	-223 900	-251 913
HEIs 1st and 2nd levels	228 700	79 100	73 400	68 000	n.a.	-160 700	n.a.
HEIs 3rd and 4th levels	136 900	405 400	374 000	318 700	n.a.	181 800	n.a.

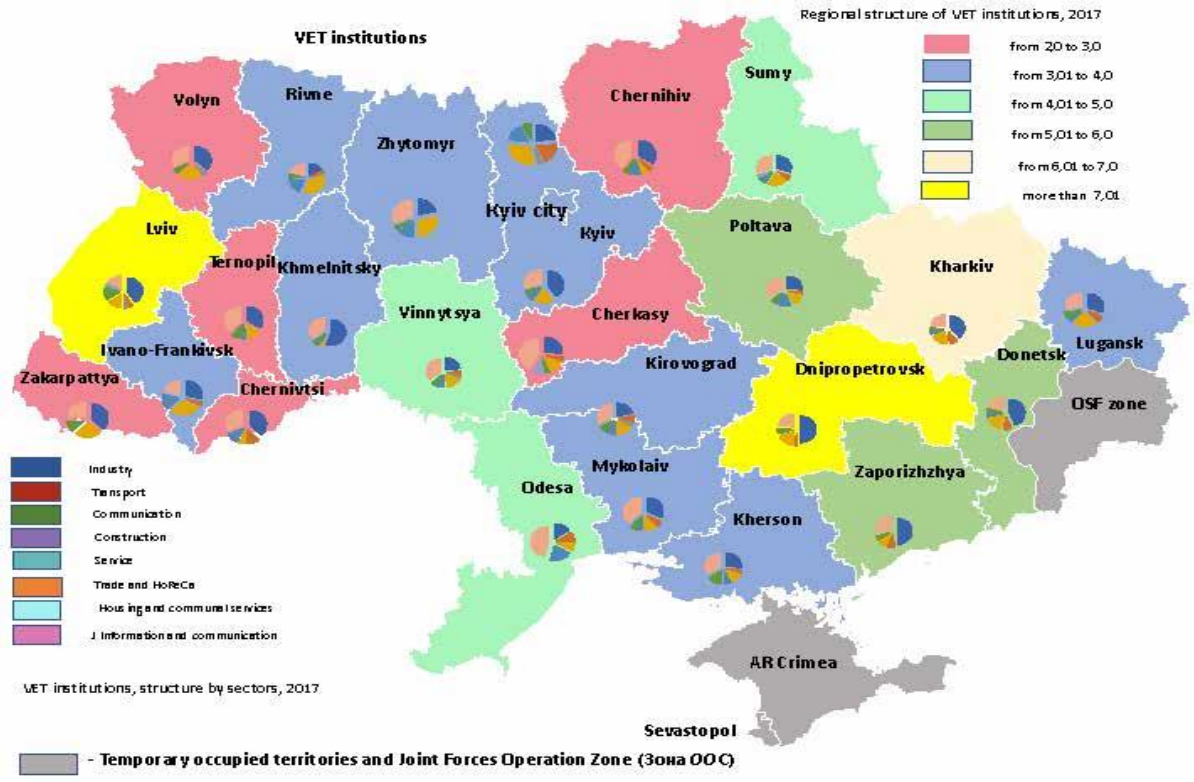
Note: *Data does not include the temporarily occupied territory of the Autonomous Republic of Crimea, the city of Sevastopol and part of the anti-terrorist operation zone. HEI – higher education institution; n.a. – not available.
Source: MoES

FIGURE 2.7 NUMBER OF VET INSTITUTIONS BY REGION, 2016 AND 2017



Source: MoES (own elaboration)

FIGURE 2.8 OVERVIEW OF THE VET INSTITUTIONAL NETWORK IN UKRAINE



Thus, in 2018 the total number of VET institutions was 736 and the student population around 255 000 people. It is worth adding that 11 State Employment Service vocational training centres (in Dnipropetrovsk, Donetsk, Ivano-Frankivsk, Luhansk, Lviv, Odesa, Poltava, Rivne, Sumy, Kharkiv and Kherson regions) act under the jurisdiction of the Minister of Social Policies.

To summarise the discussion, Table 2.9 shows comparative trends from 1990 to 2018 on the steady loss of students and decreased number of VET schools in the country.

TABLE 2.9 NUMBER OF VOCATIONAL SCHOOLS AND STUDENTS, 1990–2018

Year	Number of institutions	Number of students	Number of students as % of 1990 figure	Students per institution	Students per institution as % of 1990 figure
1990	1 246	643 400	100	516	100
2000	970	524 600	82	541	105
2010	976	433 500	67	444	86
2013	968	391 200	61	404	78
2017	756	269 400	42	356	69
2018	736	255 000	40	347	67

Source: UkrStat: www.ukrstat.gov.ua/operativ/operativ2005/osv_rik/osv_u/ptu_u.html

2.3.2 Key dynamics of VET funding

These issues can be better contextualised and interpreted by looking at the evolution of VET funding policies in Ukraine. In this respect, the modern VET funding system has been operating within the framework of the overall decentralisation process launched in 2014.

Significant changes with regard to financial decentralisation in the VET sector took place in 2016 along with the adoption of amendments to the Budget Code and the Law on the State Budget 2016. As a result, financing of VET institutions was transferred from central to local levels. Thus, VET schools located in cities of regional significance (including regional centre cities) were assigned to the budgets of those cities, while the others were to be financed from regional (oblast) budgets and the city of Kyiv budget (Budget Code of Ukraine, Articles 89 and 90).

However, the new mechanisms led to significant underfunding of the sector. In particular, there was a delay in wage and scholarship payments owing to the failure or unwillingness of local authorities (primarily those of the cities of regional significance) to perform delegated functions. To some extent this could be explained by the fact that nearly 70% of VET students come from outside the city, and city administrations were reluctant to spend their funds preparing a workforce that would then work in other places (ETF, 2017a). To solve this problem and close the gaps in the budget, in 2016 the government allocated stabilisation subsidies (UAH 600 million and UAH 1.4 billion) and modified the VET financing system along with the adoption of the State Budget for 2017.

In 2017 the budgets of the cities of regional significance were excluded from the funding chain. At the same time the government offered stable and guaranteed resources in the form of subventions. This included an educational subvention (UAH 2.0 billion in 2017 and UAH 2.1 billion planned for 2018) for delivering complete secondary education to students, and a subvention for VET modernisation (UAH 50 million), which envisages the opening of 25 VET practical centres every year[14]. The distribution of the modernisation subventions in 2016–2017, by region, is shown in Table 2.10.

[14] In 2016, according to the MoES, 63 such centres were open (modernised) in cooperation with businesses.

TABLE 2.10 SUBVENTION FROM THE STATE BUDGET TO LOCAL BUDGETS TO MODERNISE THE MATERIAL AND TECHNICAL BASE OF VOCATIONAL SCHOOLS BY REGION, 2016 AND 2017 (UAH 1 000)

Region	2016	2017	2016 + 2017
Ukraine	**40 266.0**	**50 000.0**	**90 266.0**
Kirovograd	628.5	19 860.0	20 488.5
Kharkiv	330.0	19 860.0	20 190.0
Kherson	17 009.1	330.0	17 339.1
Dnipropetrovsk	13 143.8	330.0	13 473.8
Zakarpattya	628.5	330.0	958.5
Ivano-Frankivsk	628.5	330.0	958.5
Luhansk	628.5	330.0	958.5
Odesa	628.5	330.0	958.5
Sumy	628.5	330.0	958.5
Ternopil	628.5	330.0	958.5
Cherkasy	628.5	330.0	958.5
Vinnytsya	330.0	599.0	929.0
Volyn	330.0	599.0	929.0
Zhytomyr	330.0	599.0	929.0
Zaporizhzhya	330.0	599.0	929.0
Khmelnytsky	330.0	599.0	929.0
Chernihiv	330.0	599.0	929.0
Rivne	329.9	599.0	928.9
Lviv	329.7	599.0	928.7
City of Kyiv	328.5	599.0	927.5
Chernivtsi	327.5	599.0	926.5
Donetsk	469.5	330.0	799.5
Kyiv	330.0	330.0	660.0
Mykolaiv	330.0	330.0	660.0
Poltava	330.0	330.0	660.0

Source: MoES

In some limited cases, the government provides funds for the development of the VET infrastructure from other sources, for example the State Fund for Regional Development (via the Ministry of Regional Development, Building and Housing and Communal Services) and the Fund for Regional Economic and Social Development (via the Ministry of Finance). However, in practice this multisource model of VET school funding, which was recommended by the National Education Development Strategy as a mixture of grants, loans and contributions from the recipients of skills development, appears to be inefficient as it does not guarantee sufficient funds to ensure a good quality of education and the necessary investments for VET school modernisation.

According to the information from VET institutions in the regions, such sources as regional programmes and special funds of VET schools (own financial resources) remain undeveloped and cover an average of 2–12% of the total funding. Grants from businesses, local administrations and other donors are provided rarely and selectively. The largest share comes from public funds (state and local budgets), which are almost entirely spent on current needs. According to the Ministry of Finance, during the three-year period 2015–17, capital expenditure in Ukraine's VET sector constituted only 1–2% of total public expenditure. Table 2.11 shows some trends on expenditures over these years per region.

TABLE 2.11 CAPITAL EXPENDITURE ON VET AS A SHARE OF CONSOLIDATED BUDGET, 2015–17 (%)

Region	2015	2016	2017	Average
Kirovograd	0.7	3.1	10.4	4.7
Vinnytsya	3.7	6.4	1.0	3.7
Kherson	0.4	9.1	0.1	3.2
Sumy	6.3	0.6	0.8	2.6
Kyiv city	1.5	2.9	3.1	2.5
Donetsk	3.8	2.7	0.7	2.4
Zakarpattya	3.8	1.9	0.6	2.1
Dnipropetrovsk	2.4	3.2	0.4	2.0
Zaporizhzhya	0.9	2.7	1.1	1.6
Lviv	3.9	0.7	0.1	1.6
Ukraine	**1.8**	**2.0**	**1.0**	**1.6**
Volyn	2.3	0.5	0.6	1.1
Chernivtsi	1.2	1.0	1.0	1.1
Luhansk	1.3	0.7	0.9	1.0
Mykolaiv	0.4	1.3	1.3	1.0
Khmelnytsky	0.9	1.2	0.9	1.0
Cherkasy	1.1	1.2	0.5	1.0
Odesa	0.7	0.8	0.8	0.8
Ternopil	0.9	0.8	0.7	0.8
Kharkiv	0.2	1.6	0.2	0.7
Poltava	0.6	0.5	0.7	0.6
Rivne	0.7	0.9	0.3	0.6
Ivano-Frankivsk	0.8	0.5	0.3	0.5
Kyiv	0.4	0.6	0.5	0.5
Chernihiv	0.3	0.5	0.3	0.4
Zhytomyr	0.3	0.3	0.1	0.2

Source: MoES

At the same time, expenditure on VET as a percentage of GDP and the total state budget expenditure has been continuously decreasing since 2010 (Figure 2.9) and as a percentage of state budget expenditures on education since 2005 (Figure 2.10).

FIGURE 2.9 SHARE OF EXPENDITURE ON VET AS % OF GDP AND TOTAL STATE BUDGET EXPENDITURE

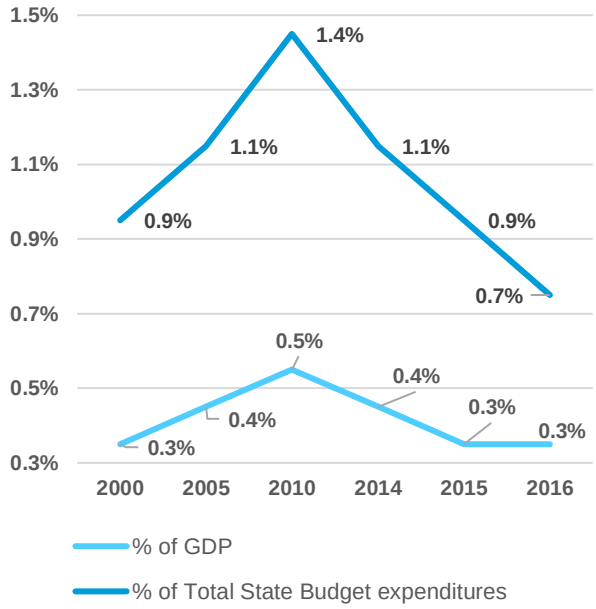
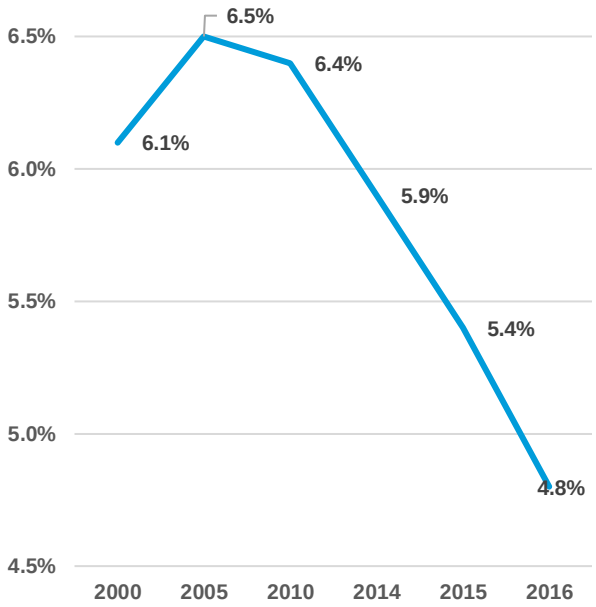


FIGURE 2.10 SHARE OF EXPENDITURE ON VET AS % OF STATE BUDGET EXPENDITURE ON EDUCATION



Source: MoES

3. SETTING UP CENTRES OF VOCATIONAL EXCELLENCE IN UKRAINE: KEY ISSUES AND POLICY OPTIONS

The national authorities have sole responsibility for choosing the model for CoVEs in Ukraine. However, the authorities should communicate and negotiate with the partners before taking any decision on this matter. This is important for a number of reasons, including the following:

- Cooperation and partnership with the private sector are crucial issues, in relation to their involvement in CoVEs governance and attracting their investments for its effective functioning. The condition of VET public funding calls for this option.
- Investments from development partners are expected in order to establish and operationalise the CoVEs. Donors must ascertain that, as a minimum, the relevance and sustainability of CoVEs are ensured through the selection of an appropriate model.
- Ownership and commitment on the part of the sub-national authorities that will have the CoVEs in their territory, in relation to their role on human capital development as integral part of regional and local development strategies.

In this chapter, the options for various aspects of CoVEs setting up are discussed. They relate to the following issues:

- what the CoVEs in Ukraine should be;
- key characteristics, objectives and functions of CoVEs;
- legal status, governance and management of CoVEs, including such issues as:
  - the founders of the centre and their roles;
  - composition and powers of the centre's management board; the extent of the executive manager's discretion;
  - CoVEs' level of autonomy and their relations with the authorities at different levels;
- selection of the regions and the institutions to be transformed into CoVEs, in particular:
  - how to organise and implement the selection (competition) process;
  - what procedures and selection criteria should be applied;
  - how to evaluate the results;
- stakeholders' capacities for establishing CoVEs in Ukraine and their training needs.

Accordingly, each of the following subsections begins with a set of issues for discussion relating to the above options. They will be presented for consideration by the technical workshop participants. However, the options that, in the experts' opinion, seem most appropriate for Ukraine are also highlighted.

3.1 Why establish CoVEs in Ukraine?

ISSUES FOR DISCUSSION

- What are CoVEs in Ukraine?
- What are the objectives of establishing CoVEs in Ukraine?
- What necessary amendments to the legislation for the effective operationalisation of CoVEs are currently possible?

The analysis took into consideration: (i) international best practices; (ii) the challenges for the VET system in Ukraine; and (iii) the results of the regional discussions provided by the experts. Based on the results, the following objectives for establishing CoVEs in the country have been formulated:

- to ensure the preparation of highly qualified specialists to meet the requirements of the local, regional and national labour markets, based on the best international and national experience and practice;
- to promote the introduction of innovation and development in VET;
- to establish centres for methodological and professional experience exchange, teacher training, and the accumulation and transfer of a wide range of educational resources to other institutions within the VET system;
- to ensure inclusiveness in education, particularly for adult learners;
- to ensure greater efficiency, targetedness, impact and visibility of the VET reforms through the centralisation of investments and the concentration of results;
- to support the development of consensus and effectiveness alongside the necessary process of optimisation and rationalisation of regional VET networks in the country.

In this context, CoVEs are seen by VET stakeholders as:

> A multifunctional educational institution with a solid material and technological, professional, managerial, teaching and methodological potential to provide high-quality initial and continuing, both formal and non-formal VET for all age groups, as well as contributing to, and disseminating, the VET reforms, thus playing a significant role in satisfying the skill needs of the labour market and also in promoting harmonious social and economic development of the region(s) and the country in general.

It should be clear that CoVEs, as a new category of national institution, cannot be effectively operationalised within the existing legal framework. In particular, the functions that are recommended for these institutions have a wider scope than the Law on Education, the draft Law on VET or Regulation of the VET Institution presently stipulate.

The group discussions with the regional stakeholders also suggested that in order to introduce CoVEs in the form described above, revision of national legislation will be necessary. Therefore, all the characteristics, goals, objectives and functions of the CoVEs, as well as the procedures for their establishment, should not be seen in the context of the existing regulatory framework, but rather, call for certain amendments to it.

Nevertheless, it is evident that not all amendments to the legislation that could seem necessary might be done swiftly. Moreover, account must be taken not only of the formal procedures, which are often lengthy and complicated, but also of the various parties' perceptions of the policy changes. Therefore, the selection of the CoVE model might also depend on amending legislation within a reasonably short period of time. This is a matter of policy dialogue and negotiation between the national executive and legislative authorities, which should, however, involve all the key stakeholders.

3.2 What are CoVEs? Characteristics, objectives and functions

ISSUES FOR DISCUSSION

- What are the key characteristics of CoVEs in Ukraine?
- What should be the coverage of CoVEs in Ukraine: regional/interregional, sectoral/multiprofile?
- What are the goals and objectives of the CoVEs?
- What will be the scope of the CoVEs' functions?

CoVEs are not isolated or self-sufficient structures, but networks, or at least hubs of VET providers' networks, with a high level of performance as the key feature. The main characteristics of the centres listed below should actually be ensured for any model of CoVEs.

- CoVEs are institutions with very high-quality physical conditions (well-refurbished buildings and other facilities), with modern training equipment and furniture, thus ensuring not only a high level of teaching/learning environment but also attractiveness for learners and social partners, including those representing the business sector.
- They ensure the provision of advanced educational content and for this purpose are equipped with modern curricula and programmes that fully meet the requirements of the labour market and the training needs of partner companies' employees (e.g. for qualification upgrade or requalification), with teaching/learning technologies, methodologies, techniques and didactic resources.
- The teaching staff have strong proficiency and capacity to ensure effective teaching and learning processes in line with standards and with effective use of the available training equipment and other facilities.
- The administrative staff are capable of using up-to-date methods of effective and collaborative management.
- CoVEs have internal quality assurance mechanisms (and units) and are subject to systematic external quality evaluation.
- They have facilities (dormitories and/or transport) to host students from other municipalities and regions as well as invited teachers and other specialists.
- Financial means (from public and private sources) are available for the continuous development of the centres, for staff (both administration and teachers) training and exchange, for channels of communication, for the purchase of new resources, and for the implementation of other necessary activities, such as the organisation of events, promotion and awareness-raising campaigns, and the provision of surveys.
- At the same time, CoVEs are legally allowed to generate additional income through the provision of different types of services and activities and are fully capable of doing so.

- CoVEs liaise closely with other VET providers in the region (different forms and mechanisms of liaison are possible) and with each other (preferably with similar centres in other countries) and create a platform for information sharing, experience exchange and peer learning.

Depending on their priorities, needs and capacities, CoVEs may have different spheres and scopes of specialisation, which will lead to slightly different types, structures and characteristics. These aspects are discussed below. Nevertheless, the main goal of CoVEs in Ukraine is proposed as follows:

> Providing education and training focused on the learner and based on modern training programmes, to equip young people and adults with knowledge, skills and competences in accordance with the needs of the democratic society and the labour market, and to meet the new challenges of the global scientific-technological environment.

Before defining the objectives of CoVEs and their functions, it is worth discussing their possible nature in terms of coverage. This refers to the choice between, or combination of, the regional and sectoral approaches. In general, the following CoVE models are possible:

- R-S – regional sectoral, i.e. specialised in one of the main economic sectors of the region and serving the skills/employment needs of this sector for the region;
- R-MP – regional multiprofile, i.e. specialised in several main economic sectors of the region and serving the skills/employment needs of the region;
- IR-S – interregional sectoral, i.e. specialised in one economic sector and serving the skills/employment needs of this sector for several regions or the entire country;
- IR-MP – interregional multiprofile, i.e. specialised in more than one economic sector and serving the skills/employment needs of those sectors for several regions or the entire country.

Thus, various models are possible in terms of the combination of territorial, sectoral and/or functional coverage on the one hand, and the level of autonomy and the legal status on the other. Usually, these are not alternatives or limitations, but rather opportunities provided by the flexibility of the models. For Ukraine, with its huge territory, large population and extensive number of regions with diverse economic sectors of specialisation, any of the proposed options (R-S, R-MP, IR-S or IR-MP) could be appropriate.

Moreover, we would recommend that all options should be provided for in the national legislation so that in each case, the feasibility of a specific model can be considered[15]. This will allow the regions and sectors to identify the options that best correspond to their needs, are more relevant to the organisational models, are acceptable to the key stakeholders and ensure better incentives for the private sector representatives.

Here it is worth referencing the concept of smart specialisation. In Europe, smart specialisation is an innovative approach that aims to boost growth and jobs in Europe, by enabling each region to identify and develop its own competitive advantages. Through partnerships and a bottom-up approach, smart specialisation brings together local authorities, academia, business spheres and civil society to work

[15] At the technical workshop on 7 November 2018, some local stakeholders expressed the opinion that the most effective option for Ukraine would be for CoVEs with a relatively narrow sector specialisation but interregional coverage (IR-S model). Other stakeholders expressed a preference for the regional multiprofile (R-MP) model. This topic has still to be discussed at the national level.

towards the implementation of long-term growth strategies supported by EU funds[16]. This principle seems relevant for Ukraine and this is completely in line with the idea of CoVEs in different regions targeting specific sectors of the economy.

The concept of smart specialisation is implemented by:

- identifying the region's own strengths and comparative assets (smart);
- prioritising research and innovation investment in competitive areas (specialised);
- defining a shared vision for regional innovation (strategic).

To date, over 120 smart specialisation strategies have been developed in the EU countries[17].

Nevertheless, given the innovative nature of the CoVE concept in Ukraine, in the initial stage the first centres could be established under the regional sectoral (R-S) model. This option would allow the appropriate piloting of CoVEs in the country, the better adaptation of the concept to the national (and in some case also to the regional and local) context and then a proper assessment of the result and the making of any necessary adjustments.

Another principal issue to be discussed here is the specific features that make CoVEs outstanding institutions that are distinct from other ('regular') VET providers. These features include:

- provision of a wider range of educational services and activities, including extra-curricular and non-educational activities;
- contribution to the development of the VET system within a specific sector or in general;
- provision of different types of support (e.g. in the development of curricular, didactic and methodological documents, training of staff, provision of technical (professional) aid, sharing premises, equipment, and also staff) to the other VET providers with which they are networked;
- multi-stakeholder management and governance based on the principles of social dialogue and implemented through PPP;
- academic, managerial and financial autonomy.

All the above-mentioned considerations can be translated into the following set of objectives:

1. providing IVET and CVET (both formal and non-formal) based on the best international and national experience, practice and approaches, with the purpose of ensuring the preparation of highly qualified specialists at the corresponding levels of the national qualifications framework, to meet the requirements of the local, regional and national labour markets;
2. developing key competences (basic skills, new basic skills, green skills)[18] for all learners, to enable them to develop into critical thinkers, and active and relevant participants in social life];
3. satisfying individuals' professional, cultural, moral, physical and other development needs during their studies;
4. continuously increasing the quality of the education and training provided, particularly through the improvement of infrastructure (including building facilities, equipment and teaching and supporting technologies) and capacities of human resources (including managers, teaching and support staff)

[16] Detailed information on smart specialisations can be found at: http://s3platform.jrc.ec.europa.eu/what-is-smart-specialisation-

[17] For more info, see for instance Smart Specialisation platform: https://s3platform.jrc.ec.europa.eu/

[18] To be understood in accord with Cedefop terminology definitions.

to ensure the appropriate learning environment as well as the inclusion of individuals with special educational needs;

5. ensuring the relevance of the education and training provided to the regional and national [Ukrainian] [society] development priorities and the needs of the labour markets, guided towards the expected learning outcomes and acceptance of multiculturalism, respect for diversity and democratic values, and active citizenship;
6. providing vocational guidance and career counselling [to the community members];
7. introducing, developing, disseminating and promoting innovations as well as adapted international best practices in VET;
8. serving as a regional and/or sectoral and/or interregional [VET information and communication space and] resource centre [опорний центр in Ukrainian] accumulating and sharing professional and methodological expertise and exchanging experience, contributing to development of professional, managerial, educational-methodological, scientific-pedagogical, cultural, material and technical potential of the networked VET providers;
9. ensuring inclusiveness in VET for both young and adult learners;
10. contributing to the promotion and further development and strengthening of social dialogue in VET [forming a mutual trust between customers, beneficiaries and providers of educational services];
11. contributing to an increase in the VET system's efficiency, taking over the role of the leader and disseminator of VET reforms;
12. promoting integration into global education systems.

The scope of the centre's functions will again depend on its type. However, given the above goals and objectives, we recommend a number of functions that were discussed and mainly agreed with the regional stakeholders during the group discussions and that are in line with those proposed by the draft concept 'Modern vocational education: Conceptual principles for reforming vocational education in Ukraine'. The possible role and functions of a CoVE are as follows[19]:

1. defines rules and selection criteria for admission of students and learners, organises and independently carries out their enrolment, formative and summative assessment;
2. provides formal vocational qualifications, and non-formal continuing VET courses for all categories of individuals, such as young people and adults, employed and unemployed people, throughout their life, in order to satisfy the labour force demand in the (corresponding) region(s), to promote self-employment, and to contribute to the civic, cultural, physical, moral and other aspects of individuals' development;
3. creates an appropriate learning environment in the centre, freely selecting the proper forms, types, methods, tools and schedules of teaching and learning, in order to ensure the effective achievement of the learning outcomes;
4. develops the centre's training plans (curricula), subject and modular educational programmes for vocational qualifications, including delivering modules for quickly reacting to business/employer's needs. Other teaching, learning and assessment materials and documents, and didactic resources such as methodological guides, handbooks and manuals;

[19] The possible role of CoVEs, as other insights provided in this report, is extracted from group discussions with selected regional stakeholders. This broad list of identified *functions* concentrates a lot of powers in these institutions, which underlines the high expectations of the Ukrainian VET community of CoVES role for system change.

5. participates in the revision (development) of occupational/professional and educational standards[20], framework (exemplary) curricula, training programmes and other similar documents relating to the sector(s) of its specialisation;
6. in order to ensure relevance of the courses offered, continuously carries out monitoring of the labour market[21] (independently and/or in collaboration with specialised expert centres) to identify the skills required by the employers in the sector(s) of its specialisation as well as the demand for various types of educational services to be provided to different groups in the population;
7. runs its own internal quality assurance system, and external quality assurance (perhaps, managing involvement of independent assessment) for other VET providers in the region and/or those related to the sector(s) of its specialisation;
8. implements validation of non-formal and informal learning (VNFIL) mechanisms and awards vocational qualifications;
9. accumulates and exchanges methodological and professional expertise, pedagogic (andragogic), didactic and other types of resources with the networked institution and other VET providers; identifies, adapts, pilots and disseminates corresponding best international VET practices with the purpose of contributing to an increase in the quality and relevance of the VET system in the region and in the country;
10. develops and implements innovative educational and other programmes to contribute to the improvement of the socioeconomic situation of the region, as an agent of change and driver of development;
11. implements managerial and financial autonomous practices regarding staffing policies linked to labour regulations and legislation in place in the country, by establishing its own system and internal regulations for staff members' appraisal and mechanisms for their possible replacements and rewards, including for financial incentives;
12. carries out activities targeted at the professional advancement of its own and the networked VET providers' administrative and pedagogical staff, as well as partner companies' instructors and mentors, and carries out their assessment (attestation) and certification;
13. establishes career units in the centre and provides vocational orientation and career guidance and career development[22] services to pupils, students, graduates and members of the community in general;

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[20] During the regional discussions, there was a slight resistance to this function on the grounds that the VET scientific-methodological centres develop standards and curricula. Here, however, we are referring to CoVEs participating in this process, but not taking full responsibility. In addition, a CoVE is a 'centre of excellence' in a specific sector of the economy, and if it is an advanced training institution, it should have even better capacity (capabilities, resources) than the scientific-methodological centres to design standards and curricula for the given sector.

[21] This point was originally formulated by the experts as 'carrying out labour market analysis to identify the skills required by employers […]' and it initiated considerable debate during the regional discussions. Some of the technical workshop participants also disputed this function. The main argument was that labour market analysis is the duty of the Ministry of Social Policy (and its regional employment centres) and the Ministry of Economy. At the same time, everyone accepted that these bodies do not implement this function properly, and labour market demand is never clearly formulated in the country. Therefore, we still think it is appropriate to attach this function to CoVEs, at least in the form of labour market monitoring (if not analysis).

[22] This includes support for job placement, which was mentioned during the regional discussions. Strictly speaking, 'career development' covers many aspects, including vocational orientation and career guidance, but here the latter are mentioned intentionally to provide a better understanding for the wider audience.

14. carries out graduates' tracer studies, independently and/or in collaboration with specialised expert centres, employers, etc.;
15. implements a credit accumulation and transfer system[23];
16. develops, proposes and, when appropriate, implements projects and programmes that promote the development of VET; provides recommendations for, consolidates opinions on, and participates in the development of strategic and programming documents targeted on the reforms of the VET and adult learning sectors;
17. implements measures to promote education and learning, contributing to the increase of attractiveness of VET ('marketing' of VET), to the development of multiculturalism, respect for diversity and democratic values, and inclusiveness;
18. implements activities targeted at strengthening social partnership of the centre and supporting the networked institutions to establish and expand cooperation with relevant social partners;
19. implements measures for self-development of the centre's students, learners and staff members, and wellness and preventive measures to protect their health and ensure sanitary and hygienic standards, including in respect of catering;
20. supports student participation in the management of the centre;
21. issues documents of its own design on non-formal VET;
22. defines its own organisational structure, and approves regulation of the structural units and divisions;
23. provides various types of services including studies, surveys, research, counselling and coaching, organisation of conferences, discussions, debates, contests, and other types of events and campaigns;
24. independently manages its own assets and implements financial and economic activities in accordance with the law and the statute of the centre;
25. takes any managerial decisions independently in accordance with the authorities attached by the regulation and the centre's statute to its management bodies;
26. implements other activities defined by the legislation.

For many of the above activities, cooperation with the private sector, particularly with the representatives of relevant companies, will be necessary. Thus, the latter should be involved not only in the development of training content and in training provision, but also in the assessment of students (trainees, learners) and graduates. In addition, companies will be expected to offer their facilities for organising students' practical training, within the different possible concepts to be applied in the CoVEs (e.g. work-based learning, dual education or apprenticeship).

[23] When introduced in the country.

3.3 Legal status, governance and management of CoVEs

ISSUES FOR DISCUSSION

- What should the legal status of a CoVE be: state, private or corporate?
- What should the CoVE establishment procedure be: reorganisation, merger, acquisition or foundation?
- Who should be the founders of a CoVE and what should their responsibilities be?
- Who are the CoVE board members and what are the powers of the board?
- What is the level of autonomy of the CoVE and its relations with the authorities?
- Who selects/appoints the executive managers and what is the scope of their discretion?

CoVEs are expected to be not-for-profit organisations established on PPP principles within the revised national legal framework. Even under the existing legislation, various forms[24] of educational institution are possible – state, communal, private or corporate[25] – depending on their founders.

There are different options for CoVEs' legal status and different models for their management. However, the ETF concept paper (ETF/Galvin Arribas, 2018) suggests that good multilevel governance and effective PPPs are some of the appropriate ways of introducing and increasing the quality and the innovation cultures and capacities of VET systems to which the concept of VET excellence strongly refers. In addition, the multilevel governance architecture is seen as a key precondition for initiating policy thinking and dialogue.

The ETF also reports that in many partner countries there is a strong need for working together to set up frameworks and cultures of quality assurance and management as key policy functions for good multilevel governance in VET. Moreover, it is stated that the 'multilevel governance approach could be a very effective way to address interactions among the public and private VET community to shape quality policy issues at both system and provider levels. In fact, CoVEs might be a unique learning platform for developing relevant quality assurance encompassing quality management, measurement and assessment for continuous quality improvement' (ETF/Galvin Arribas, 2018).

For Ukraine, two principal alternative options are possible. The CoVE can be an independent type of institution; or a status awarded to institution(s).

- If the first option is selected, the CoVEs will be established according to one of the following scenarios:
  - reorganisation (transformation (перетворення)) of an existing VET institution into a CoVE;
  - merger (злиття) of two or more organisations, including at least one VET institution;
  - acquisition of one or more organisations to (приєднання), or by (поглинання), a VET institution;
  - foundation of a new organisation as a CoVE.

[24] This should not be confused with the *type* of institution.
[25] Law on Education, Article 22, Clause 3

- For the second option, different scenarios are also possible:
  - awarding CoVE status to an existing VET institution;
  - awarding CoVE status to a group of institutions (including at least one VET institution) clustered (networked) in the framework of an agreement or another type of association;
  - foundation of a new institution with CoVE status[26].

Again, given that the concept of CoVEs is rather new for Ukraine, a 'softer' way of introducing such centres in the country, namely the second ('status') option presented above, is recommended. Thus, 'centre of excellence' should be considered as a status awarded to an institution or a group of institutions if they meet a set of criteria established in advance, for example by the MoES or by the government[27]. The procedure for assessing how well the organisation meets the above criteria should also be approved, preferably by the government. At the same time, for reasons of quality assurance, CoVE status cannot be awarded for an unlimited period, and any centre should be re-assessed against the criteria every three–five years.

The centres will have networked (related, attached, adjacent[28]) VET providers and other institutions, namely those acting in the region and/or related to the centre's sector(s) of specialisation, depending on the nature of the centre, as discussed in Section 3.2 above. The centres will be the hubs of these networks, and, again, the rules of establishing networks and the relations between network members are to be defined by the ministry or the government[29].

There is an important practical issue relating to the establishment of CoVEs, and specifically to the 'status' option. This status should not be awarded to an institution on the initiative of a superior body; instead, the institution itself should apply for the status, and must prove that it meets the criteria established for CoVEs. Specific procedures should be defined for this, and a competitive process organised. Moreover, before applying for CoVE status, an institution may be reorganised in order to better meet the requirements, especially those relating to the management structure. In this case, any of the first three scenarios assumed for the 'type' option are possible.

The centre should also enjoy academic, managerial and financial autonomy at the levels stipulated by the legislation. This autonomy will be executed through the functions attached to the institution by the regulation on CoVEs or by the individual statutes of each CoVE.

Thus, the foundation of a new institution with CoVE status could also refers, for example, to awarding status of CoVE to existing VET Colleges. The colleges may play stronger role in the VET system becoming CoVEs. They might be in the position to establishing networks (community) with the VET schools and other providers. They may act as the hubs of these networks providing better opportunities for students to progress between qualifications and expand the networks to higher education institutions to increase the attractiveness of VET (see Section 2.4, Table 3.1 – taxonomy for setting up CoVEs – modality C).

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[26] Foundation of a new institution was the least popular option among technical workshop participants.

[27] This position was fully supported by the participants of the technical workshop (7 November 2018). At the same time, they gave preference to the case of a single institution rather than a group of institutions. Nevertheless, the experts are convinced that the second option is also completely relevant to the country and should not be ignored.

[28] Selection of this term will depend on the appropriateness in the Ukrainian language.

[29] Regulating these relations by law does not seem appropriate, as a certain flexibility will be necessary.

As previously mentioned, CoVEs are based on the principle of equal partnership with the appropriate stakeholders (companies, employers' unions[30], professional associations, non-governmental organisations (NGOs), etc.; various forms and levels of representation are possible, depending on the model selected) and with consideration for the mutual benefit of the parties involved. This principle is usually fulfilled through co-founding (when an institution has more than one founder) and/or the establishment of collegial management bodies, such as management/governance boards with appropriate involvement (membership) of the partners. These boards have a two-fold purpose: to ensure the partners' full participation in the management and governance of the CoVEs (this can be formalised through, for example, a memorandum of cooperation or a partnership agreement to guarantee the parties' rights and responsibilities), and to balance the sole management of the institution by the executive manager (e.g. director).

According to this approach, a new type of managerial structure will be necessary for CoVEs. The following managing bodies are proposed:

- the founder(s) of the centre (hereinafter, founders);
- the centre's governance board (hereinafter, board);
- the centre's executive manager (director, principal, head, etc.) (hereinafter, executive).

The possible responsibilities of the different parties are presented below.

Founders

Apart from the state (represented by, for example, the MoES or the government), local self-government bodies as well as any natural and/or legal person(s) can be the founder(s) of the centres.

The proposed scope of the founders' responsibilities is presented below. Many of these are in line with the existing legislation of Ukraine (see, for example, the Law on Education), although others will be provided for through amendments to legislation. Specifically, the founders will:

1. define the objectives of the centre, as well as the type of activities it undertakes, on the basis of its regulation;
2. approve the centre's statute and the amendments thereof;
3. establish, reorganise or liquidate the centre;
4. define the property rights that belong to the ownership or use of the centre;
5. approve the regulation on the competitive process for selection of the executive;
6. appoint the executive in accordance with the results of the selection procedure implemented by the board;
7. ensure the centre's funding in accordance with the approved budget estimate and supervise the use of the funds provided.

[30] In certain cases, when CoVEs cooperate with more than one enterprise in the given sector, it could be more useful if an appropriate sectoral union of employers (or an association), rather than individual companies, is represented in the management structure of the centre. This provides an additional opportunity to engage more partners from the sector and/or to achieve wider dissemination of the piloting results in the future.

Board

The board of the centre will be its collegial governance body and will include representatives of different stakeholders:

- founders;
- social partners, nominated by employers and/or their unions and associations, and trade unions;
- local authorities of the state executive power;
- local authorities of local self-government;
- territorial employment service;
- centre's pedagogical workers, nominated by the centre's pedagogical board or another body authorised by the centre's pedagogical workers;
- students and/or learners, nominated by the centre's student council or another body authorised by the centre's students (learners);
- representatives of different public organisations of the relevant profile, professional unions and associations.

The board can consist of 11 to 21[31] members, who are approved by the founder(s) on the basis of nominations by the relevant stakeholders. The board's term of office can be three to five years.
The board:

1. discusses and submits the draft statute of the centre, and amendments to it, for the approval of the founder(s);
2. adopts its own charter (regulation) and work procedures, and elects the board chair (hereinafter – chair), deputy chair(s) and secretary from among its members; the chair cannot be a student, learner or employee of the centre;
3. prepares and submits recommendations to the founder(s) on rewarding or penalising the CoVE executive, and initiates recommendations on the early termination of the executive's duties[32];
4. submits proposals for the level of financing required by the centre for the approval of the founder(s);
5. defines the fees for different paid courses and other services;
6. defines bonuses and other means of remuneration of the staff members, including the executive and the teachers/trainers;
7. identifies new partners, liaises and establishes cooperation with them, and expands the centre's network and the scope of its beneficiaries and clients;
8. supports the attraction of new sources of funding (fundraising);
9. approves:
    - the centre's strategic development programmes (plans) and action plans;
    - annual budget estimates, financial reports and balance;
    - curricula and educational programmes;

[31] A smaller number of members might not allow the involvement of representatives of all key stakeholders, while a larger number might make the board unmanageable and ineffective.

[32] The original proposal of the experts was that the board should organise and conduct the competitive process for selecting the executive and submit the winning candidature for the approval of the founder(s) and for formal appointment. However, during the technical workshop the national stakeholders proposed the withdrawal of this authority from the board.

- reports of the executive;
- regulations for the centre's structural units;
- regulations on the provision of different types of activities (e.g. services) by the centre[33].

The ETF also suggests that CoVE boards may coordinate, with sector skill councils or committees, the provision of work-based learning or continuing training, the setting up of career guidance services, the development of standards and curricula, and the carrying out of sectoral skill needs analyses (ETF/Galvin Arribas, 2018). However, the relationship between the CoVE boards and sector skill councils or committees is a matter for more in-depth study, which will be carried out at the next stages.

Executive

The executive manages the current activities of the centre within the scope of his/her authority, in accordance with the law, the founder's and board's decisions, and the centre's statute. The executive:

1. without a power of attorney, acts on behalf of the centre, represents the centre's interests and concludes agreements;
2. ensures the development and implementation of the centre's strategic development programmes and business (action) plans;
3. manages the centre's property, including financial resources, in accordance with the law, the founder's and board's decisions, and the centre's statute;
4. appoints and dismisses the staff members of the centre and the managers of its representations and branches, confers reward measures and imposes disciplinary sanctions;
5. issues power of attorney on behalf of the centre, including power of attorney with the right of re-authorisation;
6. opens bank accounts;
7. performs distribution of labour among his/her deputies;
8. sets out the form and frequency of students' and learners' formative and summative assessments;
9. submits proposals on the rates of wages, bonuses and other remuneration of staff members, as well as on stipends, scholarships and other allowances for students and learners, for the board's approval;
10. establishes the necessary conditions for the professional advancement of the centre's staff;
11. supervises the educational content in the centre, the extent to which students and learners master the learning outcomes, their behaviour, and the organisation of other training activities;
12. ensures the establishment and effective functioning of the internal quality assurance system in the centre;
13. initiates external monitoring of the quality of education and/or educational activities and the institutional audit and/or public accreditation of the centre;
14. ensures that internal labour discipline rules, sanitary standards, and occupational safety and security practices are followed;

[33] The experts' original proposals on the board's authorities also provided for: taking decision on the centre's profit management directions and methods; approving major contracts for the disposal and purchase of assets; supervision of the executive's operations; setting up the requirements, job descriptions and selection criteria for the centre's staff, and approving the results of the selection process; defining (or organising the assessment of) the training needs of the centre's staff and of its own members; defining the amounts of stipends, scholarships and other allowances for the students and learners.

15. promotes and creates conditions for the activities of self-governing bodies of the centre;
16. reports to the founder(s) and the board;
17. within the limits of his/her authority, issues orders, directives and instructions that are mandatory for the centre and its subdivisions, and supervises their implementation;
18. exercises other powers reserved for the centre's jurisdiction by the legislation, which are not reserved for the founder(s), the board or other bodies of the centre.

The founding of CoVEs should be preceded by approval (by the government or the MoES) of a concept paper and/or an exemplary regulation on CoVE establishment and functioning. It is of paramount importance that these documents are developed with appropriate participation from, and are accepted by, all key stakeholders who could become partners or collaborators of CoVEs or direct participants in the multilevel governance of these institutions.

3.4 A broad taxonomy to support policy options for setting up CoVEs

Once a definition of CoVEs has been formulated, classifying them should be a relatively short exercise. However, it is, in fact, a complex task. Research and practice are not always aligned when policymakers need to start policy dialogue and advisory processes to consider models of CoVE for implementation. In this respect, for the purposes of discussing policy options for activating institutional set-ups and operationalising CoVEs based on modalities observed worldwide, it should be possible to formulate a broad taxonomy based on how institutional and logistical settings are constructed.

Experience shows that selecting key operational aspects to target key characteristics and institutional scopes is strategically useful as an accompaniment to policy dialogue and reform processes for CoVEs. These key aspects can help to identify, to a greater or lesser extent, the different types of CoVE that operate worldwide and can inform discussions on policy options for decision making regarding CoVE institutional set-ups:

- overall approach, at policy and system levels, to effective VET and skills multilevel governance (including evaluation and monitoring practices), financing and funding, including budgeting and VET costing practices;
- VET quality assurance;
- nature and type of PPPs;
- innovation and networking functions embedded into the excellence factor;
- balance between regional approaches and sectoral versus multisectoral remits of CoVEs;
- extent to which conditions in VET school networks are aligned to the vision and plans of national (and regional/local) governments for optimising/rationalising vocational education institutions;
- role of international donors in the strategic design and funding allocations for investment in VET centres or networks of excellence.

These issues should be carefully considered as key policy areas when setting up different types of CoVEs, which might have as a common feature, from an organic and managerial perspective, their multifunctionality.

Other important aspects for understanding the dynamics of CoVEs – such as teaching, training and learning, types and forms of curricula and qualifications, guidance, VNFIL practices, and the capacity to develop skills-anticipation strategies – will inform the institutional scope. Hence, these could all serve as specific thematic areas to help in the classification of CoVE types.

CoVE typology is vital for visualising and for understanding the importance of selecting an appropriate model (or models) for any country. The classification presented in Table 3.1 is not intended to fully cover or precisely distinguish all possible variations of the models, but it clearly explains the key features and characteristics of different CoVE categories and the roles they play within national VET systems.

Further, the typology introduces broad categories of CoVEs, which might not always fall under one single form or type. The taxonomy builds on an increasing number of examples worldwide (EU, ETF partner countries and international cases) of some of those selected and presented in this paper. Some countries might have more than one modality of implementation, as indicated in Table 3.1.

The five policy options presented in the table are all possibilities to be discussed for implementation in relation to the VET network conditions in Ukraine. Some of the international examples presented are further reported in Annex 1.

TABLE 3.1 TAXONOMY FOR SETTING UP COVES

Implementation modalities	Key features and characteristics	Institutional scope	International case studies	Other remarks*
Partnership-based organisations and/or networks forming ecosystems of excellence and innovation for providing high-level skilled specialists required in the national and international labour markets and for contributing to the development of national and regional economies				
A. CoVEs created as new and independent training providers	■ These centres might be set up *from scratch* in a new urban or even rural area that is isolated or just not connected to other existing institutions. This can take place in new or existing buildings by utilising suitable land space and renovated premises, which might also be geographically connected to an industrial area. ■ Involving industry to finance or co-finance from the beginning should be the way to set up these centres. Thus, intensive resource allocation is needed to kick-start the process. However, this is also a strength of this option, as early and quick involvement from industrial actors brings benefits in terms of effective public–private governance, as the new centre is aligned to both employers and government policy goals.	This type of institution might be linked to an industrial/sectoral body or cluster and have a sectoral-based organisational remit.	Morocco: industrial centres in automotive and aeronautic sectors **Bangladesh**: centres of excellence in different sectors (e.g. leather industry) Singapore: centre for innovative materials used in the construction sector	■ Land properties of some VET schools closer to industrial clusters might be suitable for launching this type of project. ■ Foundation of a new type of institution might be justification for having CoVE status. International partnerships, approaches and/or standards for accreditation of training/skills might be strong assets.
B. CoVEs as independent training institutions created from existing providers, which might deploy extended functions	■ These centres are not set up *from scratch*. They are existing institutions that become centres of excellence. This option should be seen as a natural way to set up centres by using resources within a network of existing institutions, including suitable land space for renovated establishments, which might also be geographically connected to an industrial area. ■ At the same time, this type of centre can become a hub for a kind of *conditional* network. This means that such institutions are drivers of excellence and innovation for VET networks by contributing to methodological developments, research and capacity building of other institutions and the overall VET community at national and (cross-)regional levels.	These type of status institutions might become recipients for the pooling of regional resources in VET and sectoral or multisectoral skill priorities.	Moldova has regulated and legislated CoVEs by merging institutions targeting 11 sectors. Armenia has regulated the status of regional state VET institutions. One in each of the ten regions and two in the capital, Yerevan, have been reorganised into regional state colleges. They are networked with VET colleges in the same region.	■ Strategic component can be balanced with regulatory or legal frameworks for redefining the role of VET in the country. ■ Combination of both soft (memoranda of understanding) and hard tools (framework regulations) might bring benefits of effective dialogue for enhancing the social partnership function to implement such modalities.

C. CoVEs as a part of other training institutions	■ This option might be another natural way of establishing centres, as providers' facilities should already be being improved. This can be done for tertiary institutions and VET providers that are high-level performers. ■ The *new* CoVE becomes a reference and good practice example of excellence and innovation, based on its high-level practice and performance, as it is benefiting from the social and educational reputation held by the previous institution (cost-effectiveness).	This type of institution can be granted such status after accreditation, assessment and/or quality assurance processes. Remits are mostly sectoral.	Belarus: International Innovation Environment Park on renewable energy Netherlands: Regional Education and Training Centres (ROCs) Canada: Oil and Gas Centre Vietnam: technology and machinery colleges Republic of South Korea: Asia Pacific School of Logistics at Inha University	■ Reputable colleges where VET and higher education pathways coexist might be a good testing ground for this option. ■ Industrial employer centres or other centres owned by ministries (e.g. Social/Labour Policies) might also be good places to implement this option. Functions of innovation, research and excellence would need to be enhanced and integrated alongside quality assurance processes to reach such status.
D. CoVEs as network organisations for feeding values of excellence and innovation into the VET community	■ These are leading institutions, organisations, institutes and agencies that coordinate networks of high-quality training providers to support them operating in cooperation for forging links with industry. ■ Such institutions might be both providers and reference leaders on methodological developments, innovative learning practices and/or the introduction of new equipment/technologies, etc. ■ Networking provides the opportunity to improve the sharing of experience and performance based on building partnerships with industrial actors for excellence and innovation. ■ Networks of excellence might be highly effective in achieving the rapid identification of the needs of industry for innovative solutions linked to national and/or regional governments' priorities. They can have an international dimension.	These status-based or just type of institutions have a leading role in creating a culture of excellence and innovation in the country, the regions and schools. They can offer a platform for sectoral or multisectoral training and teaching and for other innovative learning solutions, qualifications, etc.	Netherlands: Katapult Network; STC group (shipping, logistics, transport and process industries) Spain: Basque Country – Tknika Aragón – Centre for Innovation in VET Ukraine: i-HUB network of innovation and entrepreneurship France: Campus des métiers et des qualifications, bringing together VET and higher education institutions UK: National Skills Academy for Nuclear (NSAN) New Zealand: Vi Virtual Centre led by the Education Council	■ Selection procedures and technical specifications should be carefully considered for choosing leading institutions. ■ Networks might bring useful solutions when skill needs in sectors or related subsectors are different. ■ Communication and vision-building capacities are key for implementation and success in networking to link industry and public stakeholder views.

E. CoVEs as multiprofile/ sectoral provider institutions	■ Multisector education providers could offer high-level qualifications in occupations relating to two or more main or priority economic sectors, acting as regional development hub centres. ■ This type of VET provider should contribute, *inter alia*, to the diversification of the VET offer while avoiding overlapping provision for the same specialisms/profiles in different institutions, which can create inefficient competition on VET offers between VET establishments.	This type of institution ensures a wide range of institutional services, not only in terms of both the youngest students and adult learners but also in terms of access to difficult geographical areas.	Finland: Omnia, a multisector provider offering innovative learning environments and beneficial partnerships in both national and international education development projects Albania: multifunctional VET centres/colleges set up in flexible ways across regions	■ This option might be very suitable as the first step in rationalising large and cost-effective/efficient VET public networks. ■ Sectoral social partners and employers might be easily attracted to this way of reorganising the network based on the added value of intersectoral participation and cooperation logics.

Notes: The typology introduces broad categories, as CoVEs might not always fall into a single category, form or type. The taxonomy builds on an increasing number of examples worldwide of the categories selected and presented in this article. Some countries might have more than one modality of implementation. In any case, the issue of status versus type of institution is crucial, as is the challenge of feeding excellence and innovation dimensions to reform VET institutional networks. The most obvious way of clarifying the status versus type is when this is directly mentioned in national or regional legislation. However, in many of the cases presented in this taxonomy, this is not explicitly defined. Therefore, for some countries it might not be technically correct to state that CoVEs are conceived as a particular status or type. Specifications and other specificities informing the processes of implementing international donor projects worldwide should also help to clarify such dilemmas.

Some CoVEs assigned under type B above, such as those in Armenia (and even Moldova) could also be categorised as type E.

*Further remarks are provided which might be of particular interest, though in some cases they are relevant only to specific country policy contexts.

Source: Galvin Arribas (2020)

3.5 Estimating costs for the establishment of CoVEs

The investments necessary for establishing a CoVE will strongly depend on the individual situation of each VET institution that is to be reorganised. This will include factors such as the number and capacities of the buildings and their physical condition, the attached land area, the number of students and staff, the equipment and furniture requirements, and the location and approach road. The profile of the institution will also strongly affect the general cost owing to differences between the costs of training for different professions (qualifications), for example accountancy versus welding.

When designing the renovation and refurbishment works and undertaking appropriate installations, it is important to take into consideration the national standards for energy efficiency and accessibility for people with disabilities. With regard to training equipment, the list of necessary items to be purchased should be drawn up following the development of professional and educational standards for the chosen occupations or qualifications. The issue of rural areas is also key for estimating costs.

As mentioned above, estimation of necessary investments shall be done by the applicant institution (see indicator 6.10 of the selection criteria in Table 3.4). This should be submitted with the project proposal package. The cost will relate to the following main areas:

- improvement of facilities – renovation (construction) of buildings, improvement of the surrounding land area, and installation of equipment;
- human resource development – capacity building for administrative and teaching staff of the CoVEs, as well as for board members;
- development and purchase of didactic resources – curricula (modules, programmes), methodological documents, teaching and learning materials, textbooks, and modern teaching technologies including software for using IT in the learning processes;
- other expenditures for effective operationalisation of the CoVE – including establishment of a quality assurance system, organisation of events, promotional campaigns, staff missions, and study visits to identify and learn international practices.

In Table 3.2, estimations of necessary investments are presented for an indicative case of a hypothetical VET institution with four different workshops, a total surface area of 8 000 square meters and 1 000–1 200 students. For these calculations, we used data provided by the MoES and Department for Education and Science of the Vinnytsya Regional Administration.

TABLE 3.2 EXAMPLE OF COST ESTIMATIONS FOR SETTING UP A COVE

No	Item	Unit	Qty	Rate	Total (€)
1. Improvement of facilities					
	Major refurbishments of premises and training workshops, energy saving works (works and materials), including: ■ major refurbishment of the facade ■ major refurbishment and insulation of walls and roofs ■ installation of floor covering ■ replacement of window units for energy saving ■ replacement of doors ■ repair of heating, water supply, sewage systems ■ installation of air conditioning system	m^2	8 000	30	240 000
	Workshop 1. Manufacturing industry: Machine operator, electrician for repair and maintenance of electrical equipment (e.g. car repair)	piece	1	70 000	70 000
	Workshop 2. Construction: Mason, plasterer, tiler, electro-gas welder	piece	1	50 000	50 000
	Workshop 3. Dairy production industry: Producer of meat semi-finished products, baker, cheese maker, confectioner	piece	1	60 000	60 000
	Workshop 4. Light industry: Stitcher, tailor, cutter	piece	1	15 000	15 000
	Computers and other training equipment: 2 classrooms with 25 computers each. According to the national technical requirements, VET institutions should provide at least 5 computers for every 100 students.	piece	50	600	30 000
	Equipment for people with disabilities: Special exterior and interior lifts, toilets, wheelchair lifts, portable rails and other facilities				35 000
	Furniture and decoration				50 000
	Preparation of project documentation ■ technical inspection and certification of buildings ■ diagnostics of the equipment and the design of engineering solutions based on the technical specification ■ development of design and estimate documentation	% of the project value	1	10	51 000
	Installation of high-speed internet				5,000
2. HR development					
	Training of CoVE teaching staff	group	5	5 000	25 000
	Training of CoVE administrative staff	group	1	5 000	5 000
	Training of CoVE board members	group	1	5 000	5 000
3. Didactic materials					
	Development of curricula, modules, programmes, teaching, learning and assessment materials, etc.	package	5	5 000	25 000
	Purchase of methodical and professional literature				20 000
	Development of software for using IT in instruction and management processes				30 000
4. Other expenses					
	Establishing internal quality assurance mechanisms	piece	1	20 000	20 000
	Study tours for CoVE staff	person/ mission	10	2 000	20 000
	Organising events (conferences, debates, workshops), campaigns, promotional and other similar activities by the CoVE	event	10	5 000	50 000

Thus, it will be necessary to invest around EUR 800 000 to establish a CoVE in an existing building that has relatively acceptable physical conditions at the outset. However, this does not include the running costs of the institution, which are estimated to be around EUR 300 000–400 000 per year[34]. In addition, if a CoVE is authorised to implement a VNFIL mechanism, extra funding will be necessary for training assessors (EUR 10 000 per group of assessors for a specific qualification), developing assessment methodologies and instruments (EUR 15 000–20 000 per qualification), and assessing applicants (EUR 3 000 per applicant, on average).

There are at least two more issues that will require considerable financial resources: establishing an effective external quality assurance mechanism and monitoring the piloting of the CoVE, followed by an evaluation of the results. However, these should be carried out at the central level, for example by the MoES.

For a new building, around EUR 500–600 per square metre[35] should be taken as the construction cost. Thus, the expenditure necessary for establishing a CoVE in a completely new building with approximately the same parameters as presented above will be an additional EUR 4–4.5 million, resulting in a total cost of over EUR 5 million. However, it should be taken into account that new buildings can be designed and organised in a more effective way than existing old Soviet-era buildings (which had huge lobbies, many corridors and high ceilings) and can host the same number of students with much lower area and volume[36]. This might allow the construction cost of a building to be reduced by 30–40% or more.

Table 3.3 proposes an algorithm for roughly calculating costs, and this can be used for different cases: complete renovation of an existing building, construction of a new building, or partial renovation of a building if a CoVE is established as a part of an existing institution.

3.6 Competition among providers to become excellent

3.6.1 Competition structure and procedure

As previously discussed, institutions need to apply in order obtain CoVE status. In general, every such application should be considered and assessed as a separate case. However, at this initial stage, there is provision for a certain amount of financial resources to be allocated for establishing the first group of CoVEs, and the MoES intends to announce an open call for applications. As a result, the number of applications could be more than can initially be funded. Therefore, selection from among those applicant institutions is likely to be necessary, organised on a competitive basis.

In this context, and regardless of the formal procedure, the establishment of each centre should be considered as an independent project and each application as a project proposal. The total number of projects to be funded should be defined at the outset, with maximum of, for example, 12 projects.

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[34] If an institution has, for example, 50 administrative and pedagogical staff, the budget for salaries will be around EUR 240 000, assuming an average salary of EUR 400. Additional expenditures, such as students' stipends and utilities, will be necessary.

[35] This includes all necessary costs for ensuring energy efficiency, conditions for people with disabilities and other requirements.

[36] The standards for area per student, defined by national legislation, should be appreciated.

For this competitive process, a tender dossier will be developed, and an open tender announced by the government (or by an authorised body, e.g. MoES). A tender (evaluation, selection) committee should then be established. It is recommended that along with the representatives of the government (e.g. MoES, Ministry of Social Policy, Ministry of Finance, Ministry of Regional Development, Building and Housing and Communal Services), social partners (employers' organisations, trade unions) and the development partners should also be involved. Independent experts can also be invited to participate in evaluating the bids.

Evaluation of the bids should be carried out according to the selection criteria established in advance and agreed with all parties involved in the selection process (for a set of proposed selection criteria, see Section 3.6.2). In the project proposals, complete information relating to all selection criteria should be presented by the bidders. The minimum information (and analysis) to be provided within the project proposals is presented in Box 3.1.

TABLE 3.3 EXAMPLE OF COST ESTIMATIONS FOR REFURBISHING AN EXISTING VET PROVIDER TO BECOME A COVE

No	Item	Unit	Average unit cost (€)
1	Construction	m^2	500–600
2	Renovation	m^2	30
3	Renovation of approach road	1 km	350 000
4	Other construction works, e.g. improvement of land area, installation of fence	100 m^2	10 000
5	Establishment of workshops	piece	20 000–70 000
6	Furniture and decoration	1 000 m^2	10 000
7	Communication facilities (internet, phone, etc.)	one-off action	5 000
8	Human resource development	group of 5–7 people	5 000
9	Development of curricula, modules, programmes, teaching, learning and assessment materials, etc.	package per qualification	5 000
10	Purchase of methodical and professional literature, development of software	one-off action	50 000
11	Establishing internal quality assurance mechanism	one-off action	20 000
12	Other expenses (missions and study tours for staff, organisation of events, utilities, building service, etc.)	year	100 000
13	Preparation of project documentation	percentage of total project cost	10%

BOX 3.1 PROJECT PROPOSAL STRUCTURE

- Title of the proposed centre of excellence (hereinafter 'centre')
- Type of centre: regional sectoral, regional multiprofile, interregional sectoral, interregional multiprofile
- Institution(s) on the basis of which it is proposed the centre will be organised
- Sector(s) of specialisation
- Professions/qualifications to be offered
- Region(s) to be covered
- Institutions to be networked
- Other partner organisations and key stakeholders
- Justification for the project (*ex-ante* evaluation):
  a. Relevance: e.g. selection of the centre type, the sector(s) and qualifications to be offered, region(s) to be covered, networking institutions, partners, beneficiaries, clients, etc.
  b. Efficiency: e.g. any possible cost–benefit analysis, investments per graduate for the coming 3–5 years, diversified services, projected profit, taxable capacity; comparison with regular VET providers
  c. Effectiveness: e.g. estimated number of yearly enrolees by different types of courses and learners (formal and non-formal, initial and continuing VET, young people and adults) as a percentage of the total population of the relevant age groups, estimated job placement rate, etc.; comparison with regular VET providers
  d. Impact: e.g. intended impact on the socioeconomic situation in the region(s) and in the country, reduction of unemployment and poverty rates, migration, economic productivity, etc.; comparison with regular VET providers
  e. Sustainability: e.g. potential for development, possible future sources and volumes of funding, income generation, continuous attractiveness of the centre (for both learners and employees)
- Detailed costed action plan for establishment of the centre
- Risk analysis
- Package of required data and documents (according to the requirements of the terms of reference or the tender dossier)

3.6.2 Selection criteria

As mentioned above, a set of criteria to be met by institution(s) for obtaining CoVE status will be established. The same criteria should be used for selection in the competitive process to identify CoVE establishment projects. The criteria will relate to the following main aspects:

- socioeconomic profile of the region and selection of the sector(s) of specialisation;
- institutional characteristics;
- location, territorial coverage and cooperation[37].

[37] Participants in the technical workshop prioritised these aspects and the specific criteria (see Table 3.4) differently. Therefore, the criteria should be considered simply as options from which the most appropriate and relevant ones for the country can be selected.

A weighting and a set of measurable indicators should be defined for each criterion. Table 3.4 presents an indicative list of criteria with sources of verification and proposed weightings.

TABLE 3.4 EXAMPLE OF CRITERIA FOR EVALUATING COVE PROJECTS

Criteria/indicators	Source of verification	Weighting
Socioeconomic profile of the region and selection of the sector(s) of specialisation		**20**
1. Does the region have positive demographic trends, particularly in terms of VET-aged population as potential VET students (indicators for the past 5 years)?		5
1.1 Population dynamics by age group	Official statistics with reference to publication Any survey, research, other reports	40%
1.2 Migration dynamics and structure by age groups		40%
1.3 Urbanisation (share of urban and rural population)		20%
2. Does the region demonstrate positive economic trends? (indicators for the past 5 years)		5
2.1 Share of regional GDP vs national GDP		2%
2.2 GRP per capita (factual prices)		13%
2.3 Gross value added in constant prices		10%
2.4 Business activity (number of active legal entities (enterprises) by sector, and the proportion of these that are profitable)		10%
2.5 Production rates (volume of industrial production and agricultural production rates achieved)		10%
2.6 Export–import flows, and export volume per capita		10%
2.7 Capital investments: - Capital investment rates - Direct foreign investment (joint stock capital) rates - Capital investment volume per capita (accumulated from beginning of year) - Direct foreign investment volume per capita (accumulated from beginning of year)		10%
2.8 Innovations (industrial enterprises that have introduced innovation as a share of total enterprises)		10%
2.9 Financial capacity of region: - Revenues of local (oblast) budgets (without transfers), per capita - Growth rate of local budget revenues (without transfers), as a percentage of the previous year		10%
2.10 Transport infrastructure (length of automobile roads with asphalt surface)		5%
3. Does the region demonstrate positive employment trends (indicators for the past 5 years)?		5
3.1 Economic activity rate and structure by educational attainment level and age group		15%
3.2 Employment rate and structure by educational attainment level and age group		15%

3.3 Unemployment rate and structure by educational attainment level and age group		15%
3.4 Economic non-activity rate and structure by educational attainment level and age group		10%
3.5 Share of those employed in the non-formal economy		5%
3.6 Long-term unemployment rate (registered unemployed with job search duration over 6 and/or 12 months)		5%
3.7 Interregional employment mobility (share of those employed in other regions)		5%
3.8 Partial employment (those employed in involuntary part-time employment as a share of the total number of full-time employees)		5%
3.9 Number of vacancies, including for those with VET		15%
3.10Wages: - Average wages, including of those with VET - Share of employees whose wages are credited above the minimum wage - Wage arrears (the share of unpaid wages in the wage fund)		10%
4. Is (are) the selected target sector(s) of the economy (for the centre's specialisation) relevant (indicators for the past 5 years, for every selected sector)?		5
4.1 Sector as a share of the region's GDP		10%
4.2 Production rates		10%
4.3 Sector as a share of the total capital investments in the region (structure of direct foreign investment; structure of capital investments)		10%
4.4 Number of employed in the sector and their share of total employed in the region, including those with VET		10%
4.5 Unemployment rate among those in the target sector(s)		10%
4.6 Long-term unemployment among those in the target sector(s)		5%
4.7 Unemployed in the target sector(s) as a share of total unemployed		10%
4.8 Number of vacancies and their share of the total number of vacancies in the region, including for those with VET		10%
4.9 Average wages, including for those with VET		10%
4.10 Existence of regional development plan (RDP) and reference to the target sector(s)	Relevant official document of RDP approval, with RDP attached	10%
4.11 Rate of RDP implementation in general and for the sector(s) in particular, for the latest available period	Official report on the RDP implementation	5%
Institutional characteristics		**65**
5. Is the profile of the institution relevant to the target sector(s)?		10
5.1 Professions (qualifications) for provision of which the institution has (had) a licence	Official documents on licensing	30%

5.2 Professions (qualifications) currently being taught in the institution	Relevant official documents on introducing the professions	70%
6. Does the institution have proper facilities?		15
6.1 Land and its use	Institution's report with attached documents, i.e. plan, design, maps, etc., according to the template attached	5%
6.2 Training buildings (number, area, how rationally they are organised) and their use (how effectively and efficiently they are used)		10%
6.3 Effectiveness of the building(s) – useful area, running cost (utilities)	Institution's report with attached documents, i.e. plan, design, financial documents, etc.	10%
6.4 Auxiliary facilities, e.g. canteen, sports ground (field), sports hall, garage, medical station, etc.	Institution's report with attached documents, i.e. plan, design, maps, etc.✧	10%
6.5 Existence of dormitory, guest house, other similar facilities		10%
6.6 Physical conditions of the buildings	Institution's report with attached documents, i.e. valuation, certificates, etc.	10%
6.7 Training workshops, laboratories and equipment relating to the sector	List of institution's equipment, certificates, acts, etc.	5%
6.8 IT and its use in management and training processes (e-library, e-learning, etc.)	Institution's report with attached relevant documents	5%
6.9 Availability of high-quality internet in the institution, or, if none, availability of high-quality internet in the locality	Institution's report with attached relevant documents	5%
6.10 Estimation of necessary investments	Budget estimate carried out by a certified company or own calculations with supporting documents	30%
7. Is the management of the institution effective?		10
1.1 Existence and functioning of the supervisory board	Decision on the board establishment Minutes of the board meetings	10%
1.2 Existence of strategic development (business) plan (SDP)	Officially approved SDP with costed action plan	30%
1.3 Rate of SDP implementation	Reports on SDP implementation	20%
1.4 Capacities of managers	Evidence of managers' participation in relevant training Certificates and other documents proving managers' capacities	20%
1.5 Economic (financial) efficiency of the institution	Institution's financial-economic reports for the past 5 years	20%
8. Does the institution have the necessary pedagogic staff (teachers and master-trainers), specifically those related to the sector (quantity and quality)?		5
8.1 Composition of the pedagogic staff and relevance to the qualifications to be taught	List of teaching staff✧	20%

8.2 Competences of the pedagogic staff: Years of experience - Participation in training, specifically in enterprises - Attestation passed - ICT skills, etc.	Evidence of teachers' (trainers') participation in relevant training certificates and other documents proving the teachers' (trainers') competences (attestation)	50%
8.3 Existence and effective functioning of the (pedagogic) staff appraisal system	Decision (order) on staff appraisal system establishment Records on appraisal, reports, etc.	30%
9. Does the institution demonstrate positive dynamics (or at least stable numbers) of applicants, students, graduates and their job placement and does it provide career development services?		10
9.1 Dynamics of applicants and students	Institution's reports	10%
9.2 Dropout and graduation rates		10%
9.3 Job placement rates of graduates, specifically those related to the target sector(s)		30%
9.4 Existence of graduate tracing mechanism		25%
9.5 Existence and effective functioning of the students' and graduates' career development service	Order on establishment Regulation on the unit Methodology Trained specialists Working methods and materials Records, reports, other documents	25%
10. Is the institution equipped with the necessary methodological and didactic materials?		2[a]
10.1 Existence of modern curricula and programmes (modules) developed with the participation of employers	Curricula validated by employers	50%
10.2 Existence of necessary methodological and didactic materials	List of methodological and didactic documents	50%
11. Is there a quality assurance system for the institution?		8
11.1 Existence and effective functioning of an internal quality assurance system	Relevant official document on establishment of internal quality assurance system Procedures and methodologies for functioning of internal quality assurance system Relevant reports	80%
11.2 Results of the institution's external quality assessment (attestation)	Relevant reports	20%
12. What is the institution's funding history?		5
12.1 Dynamics of funding during the past 5 years (state budget, regional budget, city budget)	Financial reports from the institution and the MoES	30%
12.2 Own income generation – mechanisms, sources and amounts	Institution's financial and other reports	70%
Location, territorial coverage and cooperation		**15**
13. What is the role and place of the institution in the regional and national VET system?		2
13.1 Cooperation (links) by the institution with other VET providers in the region (with whom and how)[b]	Institution's report, agreements, memoranda, etc.	20%

13.2 Cooperation (links) by the institution with VET providers in other regions that have a similar profile (with whom and how)		30%
13.3 Physical availability of the institution for potential partner VET providers' staff and students (distance, quality of roads and/or means of transport)	Institution's report	50%
14. How does the institution cooperate with the sector(s)?		3
14.1 Cooperation (links) by the institution with companies in the sector, both in the region and beyond (with whom and how)	Institution's report, agreements, memoranda, etc.	40%
14.2 Participation of the sector's companies in defining the '(regional) order' and in different aspects of the institution's educational activities, such as designing educational content, teaching process, formative and summative assessment of students and graduates, and teacher training	Institution's report	20%
14.3 Effectiveness of the practical training in companies for the institution's students	Institution's analytical report	30%
14.4 Physical availability of the potential partner companies for the institution's staff and students (distance, quality of roads and/or means of transport)	Institution's report	20%
15. Who are the stakeholders who could cooperate with the institution?		10
15.1 Main regional/sectoral stakeholders, including those who have expressed a willingness to cooperate, and the possible forms of cooperation	Institution's report with confirmation letters and/or other documents from the stakeholders	10%
15.2 Of these stakeholders, the companies that have clearly expressed their demand for the specialists prepared by the institution		15%
15.3 Motivation and capability of the above companies to invest in the development of the institution	Institution's analytical report	15%
15.4 Effectiveness of the RVETC	Minutes of RVETC meetings Institution's analytical report Other analytical reports	10%
15.5 Effectiveness of the VET scientific-methodological centre of the region	Institution's analytical report MoES assessment	15%
15.6 Readiness of the regional (VET) administration to share the institution's management authority with the social partners	Confirmation letters from the regional (VET) administration	15%
15.7 Institution's relations with the RVETC	Institution's analytical report Letters from the RVETC chair	5%
15.8 Cooperation (links) with other (non-VET) educational institutions, NGOs, non-commercial, international, cultural, scientific and other organisations in the region	Institution's report, agreements, memoranda, etc.	10%
15.9 International links and cooperation		5%

Notes: *If available; ✧Sources of verification to be presented according to the template proposed in Section 3.6.1; [a]This criterion is not given a large weight as the newly established CoVE will, in any case, need to develop new curricula and other materials; [b]Information relating to this and the following indicator should also include data on the number of VET institutions (providers) in the oblast, and depending on the nature of the proposed CoVE, also the number of those VET providers all over the country (in the neighbouring regions) that specialise in the target sector(s).

The general image of the institution can also be used as a selection criterion. This may include its past achievements and its reputation among the region (locality) population, particularly young people, and among partners, especially employers in the region and/or the locality. Awards, certificates of appreciation, and feedback from the population and the partners/employers expressing satisfaction in the institution (which could be obtained through independent surveys) will be sources of verification.

It is not only the formal existence of the required data and accompanying documents in the project proposal package that will be important. The quality of the materials presented, and the analysis and reports carried out will also be closely evaluated because if established, the CoVE will need to organise fundraising, for example applying for different types of grants, and project proposal designing capabilities will therefore be vital.

All the information relating to the selection criteria proposed above will be presented by the applicant institution as part of the project proposal package. The results of a mapping exercise implemented by the experts are presented in Chapter 4. The purpose is to equip those implementing the selection with the necessary statistical data, analysed in a way that is useful for making informed and evidence-based decisions. Examples from six regions are also provided as an illustration of such analysis methodology.

However, following the ETF analysis presented in this report, the Ministry of Education and Science (October 2019) selected seven regions (Lviv, Vinnytsya, Zaporizhzhya, Mykolaiv, Poltava, Rivne and Chernivtsi) where CoVEs will be established, including under EU4Skills project[38] support.

The regulation on the Procedure and Criteria for awarding the status of CoVEs has been drafted and published for public consultation[39]. It is planned to be approved by the government in 2020[40]. The selection of institutions to become CoVEs and their establishment is foreseen in 2020–21.

3.7 Other issues and options

The establishment and operationalisation of CoVEs involves different measures, from policy dialogue and the development and approval of a concept paper and/or regulation on CoVEs, to procuring construction works, equipment supply and services to ensure appropriate physical conditions, human resources and methodological bases for these centres. Almost all the activities relating to those measures could face challenges of varying degrees.

In the initial stage of the project, the experts put forward a hypothesis on the challenges, and this was verified during the group discussions: almost all the suggested challenges and risks were confirmed by the regional stakeholders. The following list, which is presented according to the main areas of activity and with proposals on possible responses, relates to the streamlined general key challenges that could arise, regardless of the model or other option selected.

[38] https://mon.gov.ua/ua/news/ganna-novosad-viznacheno-7-oblastej-sho-zmagatimutsya-za-mozhlivist-pobuduvati-suchasnij-centr-profesijnoyi-doskonalosti-v-mezhah-proyektu-eu4skills

[39] https://mon.gov.ua/ua/news/mon-proponuye-dlya-gromadskogo-obgovorennya-proyekt-postanovi-kabinetu-ministriv-ukrayini-pro-zatverdzhennya-poryadku-ta-kriteriyiv-nadannya-zakladu-profesijnoyi-profesijno-tehnichnoyi-osviti-statusu-centru-profesijnoyi-doskonalosti

[40] https://zakon.rada.gov.ua/laws/show/508-2020-%D1%80#Text

3.7.1 Partnership and cooperation

Identification and involvement of private (and other) partners in cooperation seems to be the most challenging issue. It will require considerable efforts not only to organise meetings, discussions and negotiations, as well as awareness-raising and promotional activities, but also, first, to create the necessary level of trust. However, this will need to be achieved over time.

Options

At the initial stage, before the CoVEs are fully able to demonstrate high-level performance, certainty should be provided for the potential partners. This can be done, for example, through:

- adopting a meaningful concept on CoVEs with clearly formulated advantages and explicitly defined (potential) benefits for the partners;
- legislatively and/or regulatory-based defined roles for the partners and their rights in the decision-making processes, for example through the approval of the regulation for the CoVEs;
- political messages from high-level officials (e.g. from the government, ministries, regional authorities) that appeal specifically to the private sector;
- evidence of international (donor) organisations' willingness to cooperate, which could also motivate the national players.

The scope and quality of communications will remain crucial for achieving tangible results in establishing effective cooperation with a wide range of partners. In this respect, inter-ministerial cooperation should be a key precondition for moving agendas forward. This should also be done at regional level among regional departments in charge of different public policies (education, social, financing, etc.). RVETCs could play an effective role in overcoming such partnership challenges.

These stakeholders might also bring added value by involving employers and other sectoral and private actors through representation within operational RVETCs. Employers' federations, chambers, sectoral organisations and other private employers participating in the system are crucial actors to engage from the beginning. An employers' conference for dialogue on skills development in the country (national, regional and sectoral remits) could serve as an example of how to ensure that such crucial processes feed into the institutional development of centres.

3.7.2 Funding

It seems unlikely that in the initial stage, the state budget will be able to allocate the necessary funds to ensure the required level of improvements (physical, human, methodological, etc.), and extra financial resources will be needed. Thus, additional sources of funding (co-funding) should be identified and pursued. It is also likely that private partners will need a certain period of time before making a decision on, or finding money for, significant investments in CoVEs. At the same time, partial investments might be available immediately motivated by the skills shortages.

Options

National funding strategy might be complemented by bilateral and multilateral donors to foresee, ate lest, sustainability in the medium-to-long term. Taking into account their own planning procedures, which are sometimes rather time consuming, efforts to identify donors and invite them to collaborate should be made as soon as possible, though not immediately after the establishment of a CoVE.

For instance, dialogue on VET financing between oblast and rayon levels might produce positive solutions, as both governance levels could benefit from the socioeconomic outcomes of

established centres. This type of dialogue for identifying different ways of distributing taxes among local players might allow the targeting of the most suitable multichannel financing solutions for the context.

Fiscal incentives for pooling alliances for investing on skills in the country, which might be better coordinated at regional and local levels, could potentially support the funding of the new centres. This type of solution should be still high on the VET policy agendas for discussion among public stakeholders (e.g. MoES, Ministry of Finance and Ministry of Regional Development, Building and Housing and Communal Services). Indeed, this mix of synergies could allow the new centres to become an important player in the ecosystems or innovation clusters that might be better shaped following principles of smart specialisation.

3.7.3 Management and governance

Effective (multilevel and multi-stakeholder) governance based on the principles of (social) partnership and implemented through dialogue is seen as one the main preconditions for the development of CoVEs that are worthy of the name. Together with the type of governance, (competences for decision-making options and way to shape partnerships) a properly designed and organised management structure (capacities for implementing objectives within selected governance framework) will be crucial. Overall, PPPs could become a model for governing CoVEs.

Options

Capacity building for the individuals involved in management, such as CoVE executives (director, deputies, heads of internal units/departments), and governance bodies, such the members of CoVE boards and relevant representatives of central and regional authorities, will be required in the very initial stage of (or even before) the operationalisation of the CoVEs (see Section 3.5).

Selection (election/appointment) of these administrators and board members should be carried out extremely carefully, in a completely transparent way and according to previously established procedures. The latter should provide clear mechanisms for nomination, selection criteria, and transparent and accountable decision-making processes.

The private investors of centres and/or the social partners who will be represented on the boards should also be part of the selection procedure, and, in practical terms, should help to shape the mission and vision of the centres (PPP approach). This is, of course, linked to the different implementation modalities (types of centre) proposed in this report.

The selection of VET institutions in regions with a good reputation might prompt consideration of strategic actions for transferring the experience of directors and other high-level staff to other actors. Identifying the success factors of good practices that can be learned by governing boards of centres will be a beneficial outcome of the process. Learning capacities relating to the principles of autonomy and accountability of VET institutions will also be crucial from an early stage for the strategic operational implementation of CoVEs.

3.7.4 Improvement of CoVE capacities

This relates to institutions' physical conditions (buildings, equipment), human resources, and educational and methodological resources (textbooks, teaching and learning materials, information resources, etc.). Obviously, this is directly affected by the availability of the necessary funds but should also be properly organised and implemented in order to avoid any misuse or dissipation of resources.

Options

Competitive processes should be organised to select new, more qualified staff (especially teachers and trainers), and tenders used to procure works (construction, renovation), services (e.g. development of different materials) and supplies (equipment, furniture). In this context, the quality of terms of reference, tender dossiers, technical specifications, job profiles and other similar instruments will be crucial from the perspective of the effective use of resources. Therefore, it is strongly recommended that the documents mentioned are developed by highly proficient experts, and that all competitions and tenders are implemented by, or under the control of, multi-stakeholder committees (commissions).

The identification and improvement of CoVE capacities should also be linked to the rapid involvement of the private sector from the beginning in addressing endogenous and exogenous factors that are relevant for development of the centres. For instance, pooling resources and merging processes among different VET institutions is an obvious way of improving initial conditions.

3.7.5 Strategic planning, monitoring and evaluation

This should actually be considered as a part of the management system, but because of its importance, it is worth mentioning specifically. Development of credible strategies and action plans is always a challenge and requires strong expertise in this field. Poor design of strategic plans and poor implementation of even a well-designed strategy will both lead to failure.

Options

In Ukraine, solid expertise in institutional strategic planning is available and should be mobilised when required. Properly established monitoring and evaluation schemes should be in place from the very early stages of CoVE establishment.

Peer learning and the sharing of experience among network institutions is a practice that is widely used in other countries for monitoring implementation, and it might also help in the promotion of 'learning by doing'.

3.7.6 Quality assurance

This is an issue of particular importance, as it is quality that will define these as centres of 'excellence'.

Options

The recommendation is to introduce the EQAVET[41] Framework as far as possible, and also to follow the Cedefop recommendations on quality assurance in VET[42]. Extensive literature is available for both, although considerable investment in expertise will be required to support the establishment and operationalisation of effective quality assurance frameworks in the CoVEs.

This might call for a discussion of how national and regional levels could coordinate reference points for quality assurance that might become technical hubs for promoting such principles within the VET community in the country.

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[41] European Quality Assurance in Vocational Education and Training, www.eqavet.eu

[42] www.cedefop.europa.eu/en/events-and-projects/projects/quality-assurance

3.7.7 Specific challenges

There are also specific challenges that could arise depending on the options selected for CoVE establishment. The most significant and likely ones are discussed below.

The CoVE is established through mergers and/or closure of some institutions. Here, the challenges relate to the building as well as to staff redundancies.

Options

The analysis carried out in the ETF Green Paper (see Section 3.1) suggests that three main options are possible in terms of use of the released buildings: assignment of buildings to other educational institutions; assignment of buildings to other state functions; sale of facilities to private companies. All these options can be appropriate and effective in different regions, according to local needs, but will require considerable administrative work and also legal amendments. Therefore, each case should be thoroughly examined and justified. Moreover, guarantees should be provided that the buildings will be properly preserved during the period of transfer to another owner, that corruption schemes will be avoided and that funds received from sales will benefit the development of the VET system.

In the case of merger or closure of institutions, a considerable number of staff could be redundant. This is also a potential challenge in the case of reorganisation (transformation) of a single institution into a CoVE (without any merger or closure). The reason is that many of the 'old' staff members might not be able to satisfy the high professional requirements that are key for a CoVE, even after appropriate capacity building. Social guarantees should be provided to those redundant employees. As well as financial benefits or similar passive measures, support to find a new job should be provided. One of the effective measures widely used in international practice is the training of redundant employees with the aim of reskilling or to provide entrepreneurial competences for self-employment.

However, from an evidence-based perspective, it would be advisable to carry out a feasibility analysis on the performance and effectiveness of VET providers in each region. This exercise should provide objective and transparent criteria for supporting decision making on merging and/or closing VET institutions, while addressing the optimisation and rationalisation of networks towards setting up CoVEs in Ukraine.

A cooperative form of CoVE is selected. The main challenge here is the readiness and willingness of the public bodies (at central, regional and municipal level) to share authority with the partners, especially those representing the private sector.

Options

The share of powers and responsibilities should be defined by law. If arrangements are based on good will alone, cooperation can be endangered, especially if no strong traditions of PPP are yet in place. The scope of each party's authority and responsibility should be discussed and agreed between the partners beforehand, and should be acceptable to them, in line with their interests and mutually beneficial. In addition to any legal provision, memoranda or agreements with clear divisions of responsibilities should be signed between the parties.

The selected model requires considerable changes in the legislation.

Options

The draft Law on VET is currently under consideration. This is a very favourable moment to amend it with the provisions necessary for the establishment and effective operation of CoVEs, before the draft is submitted for parliamentary adoption. Nevertheless, given the possible complications that may arise if the required changes to the legislation are too radical, it is recommended that selection of the CoVE model for Ukraine should include analysis of the extent to which the changes in the law are realistic at the current stage.

The 'status' option is selected. As mentioned above (Section 3.3), CoVE status is awarded to an institution for a specific period of time and will be confirmed following periodic evaluation. Nevertheless, if the institution cannot maintain its CoVE status and loses it, the effectiveness of the investments made in developing this institution will be questioned.

Options

In theory, there can be no guarantee that a CoVE will constantly perform at the required level and ensure the proper quality of activities if no special measures are taken. To mitigate this risk, permanent monitoring of CoVEs' performance should be implemented to provide an 'early warning' in the case of any underperformance. This will allow necessary corrective measures to be initiated and prevent any irremediable failure. A properly established reporting system based on performance indicators is another tool for identifying possible problems at an early stage.

Last but not least, there is another general issue that will be extremely challenging, and considerable time and effort will be needed to address it. This is the creation of a new culture of innovation and excellence in education and training (and in the provision of other services). Only the combined efforts of the government, social partners and civil society, accompanied by the strong motivation and commitment of the CoVEs, supported by an environment that promotes and acknowledges excellence, can ensure tangible and sustainable achievements in this sphere.

Thus, excellence and innovation require vision building. The regional VET strategies might be a sound basis for incorporating a vision of what and how the centres' role will become a catalyst for fostering innovation and excellence in the country and the regions.

4. CONCLUSIONS AND KEY POLICY MESSAGES

Despite the considerable reforms implemented during recent years in the VET sector of Ukraine, including decentralisation and modernisation of the regulatory framework, several serious challenges still exist in the VET system. They relate to various aspects of VET, such as governance and management, funding and infrastructure, social partnership, quality assurance, quantity and quality of teachers and master-trainers, the attractiveness of VET for young people, and career guidance mechanisms. However, optimising the VET providers' network and ensuring its alignment with regional and national labour market requirements remains one of the most urgent issues.

4.1 Optimising and rationalising the VET network and shaping the vision to set up CoVEs in Ukraine

The demographic and socioeconomic figures presented in the report call for an urgent decision on the optimisation and/or rationalisation of the network of VET schools. The continuous steady decline of the VET student population, exacerbated by migration, suggests the need for a reduced network of VET institutions. This, in turn, is calling for a limited number of VET providers with extended scope and/or functions. Merging, closing and starting up CoVEs might be a clear logic to follow. This can be done on a pilot basis by selecting regions that have largest network of VET institutions, balanced by others with regional development needs. This could be decided at the political level in cooperation and agreement with the VET community.

However, there are many questions to be resolved. The issue of school property is one of most chronic and challenging problems facing the Ukrainian VET sector. Legally, VET school property – buildings and land – belongs to the Ukrainian state. However, VET schools are administered by the regions. This issue needs to be resolved urgently, as it will influence any decision regarding the optimisation and rationalisation of Ukrainian VET school networks.

School optimisation, rationalisation or restructuring at upper secondary VET level could be piloted, in line with the relevant criteria. This could be done for all regions, or just for some pilot regions or large cities/municipalities. Large education providers might offer both academic and vocational pathways for students (after 9th grade), while formerly independent providers could be merged to form larger ones. Further options regarding what to do with closed schools should be discussed in the country.

The non-utilised schools – which might include, for example, vocational lyceums and colleges – would be further subject to merger or closure, and decisions on what to do with these properties would be required. However, these criteria could be further elaborated in a common framework in which the 'rules of the game' are clearly delineated in a comprehensive, transparent and accountable manner.

In the current context, a possible example of how to steer a process to optimise and rationalise VET networks in Ukraine might focus on the following steps:

- smart political lobbying (MoEs in the lead) to follow up the transferring of VET schools' land property;
- agreeing on a battery of indicators to inform overall decision making and support working process management;
- conducting an evaluation of the VET sector and/or strategic plans;

- delivering a set of guidelines to restructure VET school networks; this should contribute to shaping a joint vision, consensus and criteria for optimisation/rationalisation process steering;
- agreeing on a methodology to assess performance, effectiveness and quality of VET networks as evidence-based tool to inform final decision-making process;
- deploying a good communication strategy with the VET community throughout the process to ensure transparency and ownership. This might also minimize the political impact of decisions.

Thus, the role of CoVEs could be crucial in network optimisation and rationalisation. They might lead a new generation of VET networks in the country. This paper demonstrates that both the Ukrainian authorities and the donor community appreciate the need for optimisation through the establishment of network institutions of this kind.

The results of the research implemented within this project, through policy analysis, consultations with stakeholders and mapping of the regions, show that the current VET policy in Ukraine and the vision for the development of the country's VET system provide an appropriate background for establishing CoVEs and are expected to:

- ensure the preparation of highly qualified specialists to meet the requirements of the local, regional and national labour markets, based on the best international and national experience and practice;
- promote the introduction of innovation and development in VET;
- establish centres for methodological and professional experience exchange, teacher training, and accumulation and transfer of a wide range of educational resources to other institutions within the VET system;
- ensure inclusiveness in education, particularly for adult learners;
- ensure greater efficiency, targetedness, impact and visibility of the VET reforms through the centralisation of investments and the concentration of results;
- support the development of consensus and effectiveness alongside the necessary process of optimisation and rationalisation of regional VET networks in the country.

Analysis of international practices (see the taxonomy and Annex 1) reveals that CoVEs – or similar structures – have been established in many countries, not only to ensure high (or at least better than the national average) levels of performance, but also to contribute significantly to the improvement of the national VET systems. This has been achieved through networking and cooperation with other VET providers, experience sharing, methodological support and the introduction of innovations. Models of CoVEs may vary from country to country, or even within a country, and are usually adapted to the regional or local contexts (e.g. social, economic, sectoral and industrial).

The taxonomy presented is useful for Ukraine and, perhaps, for other countries. It identifies five types of CoVE to activate institutional set-ups based on international examples:

1. new and independent training providers (Morocco, Bangladesh, Singapore);
2. independent training institutions created from existing providers, which might deploy extended functions (Moldova, Armenia);
3. part of other training institutions (Belarus, Netherlands, Canada, Vietnam, Korea);
4. network organisations for feeding excellence and innovation values into the VET community (Netherlands, Spain (Basque Country and Aragón), Ukraine, France, UK, New Zealand);
5. multiprofile/sectoral provider institutions (Finland, Albania).

However, this typology introduces broad categories only, as CoVEs might not always fall into one single category, form or type. The issue of balancing regional and sectoral approaches will shape different possible models of CoVEs.

In this respect, for Ukraine too it is recommended that CoVEs need not necessarily be uniform throughout the country. Instead, the regions and sectors should identify the options that will best meet their needs, are more relevant to the organisational models, are acceptable for key stakeholders and ensure appropriate incentives for the private sector representatives. Moreover, CoVEs should contribute to the smart specialisation of the regions, in line with an innovative European approach that aims to boost growth and jobs, by enabling each region to identify and develop its own competitive advantages.

Although the national authorities have sole responsibility for choosing the model for CoVEs, this paper recommends several options relating in particular to the following aspects of establishing CoVEs in the country:

- CoVE model. The five options introduced in this report are all possible for Ukraine. However, in the first stage, it seems most feasible to establish CoVEs based on selected (or merged) educational institutions, which will be modernised and refurbished. Another option is the organisation of cluster centres, that is, a grouping of, for example, three or four institutions under the umbrella of a leading one, but without administrative subordination or merger. Such clusters can have even wider coverage (as 'regional educational clusters') and include enterprises, the oblast scientific-methodological centre, various public and private training providers, general and higher educational institutions, etc.). CoVEs can be single-sector-oriented or multiprofile. However, their multifunctionality should be a key characteristic.
- Scope of CoVE functions. In addition to the functions implemented by regular VET institutions, CoVEs will be responsible at least for the provision of a wider scope of educational services and activities (e.g. adult learning, CVET). This includes provision of extra-curricular and non-educational activities; contributing to the development of the VET system within a specific sector or in general; provision of different types of support (e.g. in the development of curricular, didactic and methodological documents, training of staff, provision of technical (professional) aid, sharing premises, equipment, and also staff) to the other VET providers with which they are networked. Depending on local needs and the CoVEs' capacities, additional functions can also be attached.
- CoVEs' legal status and management. CoVEs are expected to be not-for-profit organisations, established on the principles of PPP on VET and skills. In general, a corporate form of CoVE (which is provided for by existing legislation) is recommended in which, with the exception of the state (represented by, for instance, the MoES or the government), any natural and/or legal person(s) can be the founder(s) of the centre. Multi-stakeholder governance and multilevel management, which will include the founders, the centre's governance board and the centre's executive, seem most appropriate. The centre will also enjoy academic, managerial and financial autonomy, the level of which will be stipulated by the legislation.
  In conclusion, the presented analysis calls for main option of awarding status of VET institutions to become CoVEs. The role of colleges becoming CoVES could play a good role for driving the process. VET colleges may have a stronger role in the VET system as CoVEs by establishing networks (community) with the VET schools and other providers. They may act as the hubs of these networks providing better opportunities for students to progress between qualifications and expand the networks to higher education institutions to increase the attractiveness of VET.

The awarding of a status of CoVE is foreseen to be legislated in the new VET law. It aims to deal with professional pre-tertiary education as well (фахова передвища освіта) thus allowing professional colleges to be awarded the status of CoVEs.

- Selection of institutions. It is recommended that the establishment of each centre should be considered an independent project, and the MoES intends to announce an open call for applications. Therefore, in view of the limited financial resources that can be allocated for this action, selection from among the applicant institutions should be conducted on a competitive basis, according to the selection criteria defined in advance.

Further, the following aspects should be analysed when activating institutional set-ups:

- socioeconomic profile of the region and selection of the sector(s) of specialisation;
- institutional characteristics;
- location, sectoral and territorial coverage, and cooperation.

A proper selection process implemented by a multi-stakeholder committee in accordance with the above criteria is expected to ensure the appropriateness of the decisions taken on the regions where the CoVEs will be established and the VET institutions that will be transformed into CoVEs (unless another procedure for CoVE establishment is selected). At the same time, a solid database will be necessary for assessing compliance with these criteria.

Before publishing this ETF analysis, the Ministry of Education and Science (October 2019) selected seven regions (Lviv, Vinnytsya, Zaporizhzhya, Mykolaiv, Poltava, Rivne and Chernivtsi) where CoVEs will be established, including under EU4Skills project[43] support

The regulation on the Procedure and Criteria for awarding the status of CoVEs has been drafted and published for public consultation[44]. It is planned to be approved by the government in 2020[45]. The selection of institutions to become CoVEs and their establishment is foreseen for 2020–21.

4.2 Capacity development to support the setting up of CoVEs

This is a key aspect of this analysis, as it is paramount for the success of the policy process. The areas considered should include the following:

- Partnership and cooperation, including:
  - adopting a meaningful concept of CoVEs with clearly formulated advantages and explicitly defined (potential) benefits for the partners;
  - legislatively defined roles for the partners and their rights in the decision-making processes;
  - political messages from high-level officials (e.g. government, ministries, regional authorities) that appeal specifically to the private sector;
  - evidence of international (donor) organisations' willingness to cooperate, which could also motivate the national players.

[43] https://mon.gov.ua/ua/news/ganna-novosad-viznacheno-7-oblastej-sho-zmagatimutsya-za-mozhlivist-pobuduvati-suchasnij-centr-profesijnoyi-doskonalosti-v-mezhah-proyektu-eu4skills

[44] https://mon.gov.ua/ua/news/mon-proponuye-dlya-gromadskogo-obgovorennya-proyekt-postanovi-kabinetu-ministriv-ukrayini-pro-zatverdzhennya-poryadku-ta-kriteriyiv-nadannya-zakladu-profesijnoyi-profesijno-tehnichnoyi-osviti-statusu-centru-profesijnoyi-doskonalosti

[45] https://zakon.rada.gov.ua/laws/show/508-2020-%D1%80#Text

However, the scope and the quality of communications will remain crucial for achieving tangible results in establishing effective cooperation with a wide range of partners.

- CoVE funding. Additional sources of funding (co-funding) should be identified and pursued. National funding strategy plus bilateral and multilateral donors will be needed.
- Management and governance. Effective (multilevel and multi-stakeholder) management and governance based on the principles of (social) partnership and implemented through dialogue is seen as one the main preconditions for the development of CoVEs. A PPP approach might be a good driver.
- Improvement of overall CoVE capacities. This relates to the institutions' physical conditions (buildings, equipment), human resources, and educational and methodological resources (textbooks, teaching and learning materials, information resources, etc.). This is directly affected by the availability of funds but should also be properly organised and implemented. Competitive processes should be organised to select new, more qualified staff (especially teachers and trainers.
- Strategic planning, monitoring and evaluation. This should be considered as being part of the management system, but because of its importance, it is worth mentioning specifically.
- Quality assurance. This is an issue of outstanding importance, as it is quality that will define these centres as centres of 'excellence'.

Another issue will be extremely challenging, and will require considerable time and effort to address it: the creation of a new culture of innovation and excellence in education and training (and in the provision of other services). Only the combined efforts of the government, social partners and civil society, accompanied by the strong motivation and commitment of the CoVEs, supported by an environment that promotes and acknowledges excellence, can ensure tangible and sustainable achievements in this sphere.

However, these new roles will require specific abilities on the part of stakeholders, and for many of them capacity building will be necessary. For this, a training needs assessment against the scope of required competences should be conducted within the VET community. Such thematic issues might relate to learning practices on social partnership in education; communication, teamwork and negotiations; policy and strategy development, implementation, monitoring and evaluation; intersectoral cooperation; and strategic thinking.

4.3 VET decentralisation and CoVEs governance: Supporting the reforms

Overall, this report underlines that VET decentralisation is a catalyst for reform in Ukraine, despite the many challenges that lie ahead for developing an effective and efficient VET system managed by regions in cooperation with VET networks. However, the country now receives external support, and this represents a chance to build system capacities (EU Member States, donors). Thus, there is a great opportunity to support systemic change and steer the system from the perspective of good multilevel governance as a key precondition for implementing sound reforms in the years to come.

From this logic, leadership at national level in setting a legislative and regulatory framework and monitoring and evaluating the system, combined with the ability and readiness of regional powers (education departments, RVETCs) to implement high-quality VET matching labour market needs, in close cooperation with VET institutions, should bring much-needed improvement to the performance of the whole system.

In this context, CoVEs in Ukraine should be considered a key driver for ongoing and future VET reforms. A new VET concept, role and vision is envisaged around such institutional set-ups. This report demonstrates that this option for reforming the VET system is, overall, acknowledged by the VET community as an instrument to support the country's socioeconomic and regional development.

The goal following the decentralisation logic is, perhaps, to have more autonomous VET institutions (e.g. in terms of managerial, financial and pedagogic aspects) that can interact as a network. This should support Ukraine's ambition to form learning ecosystems that work hand in hand with industrial actors (networking governance facilitating PPPs for skills development) in which CoVEs will play a key role. CoVEs should play a coordinating role while transferring knowledge and good practices to benefit other VET establishments, regions and national system, to contribute to the image, attractiveness, excellence and performance of the VET policies and system in the country.

For all these reasons, it will be necessary to plan and support sound policy learning to set up and sustain CoVEs in order to build and mobilise the skills required for the best performance of the VET community in Ukraine.

ANNEXES

Annex 1. Examples of international practice in CoVEs

Moldova

In Moldova, the establishment of CoVEs was one of the expected results of the Vocational Education and Training Development Strategy for 2013–2020 (approved by the government in February 2013), under the specific objective 'Restructure VET into two levels – secondary and post-secondary – and reconfigure the network of institutions by 2017'.

In 2015–16, 11 CoVEs were established through reorganisation and/or merger of existing VET institutions, in the following sectors of the economy:

- agriculture and veterinary,
- construction,
- culture,
- electro-energy,
- finance and banking,
- ICT,
- light industry,
- medicine and pharmacy,
- public catering,
- transport,
- winegrowing and winemaking.

The objective of establishing CoVEs was formulated as follows: 'To form and develop the abilities, competences and professional skills of qualified workers for the national economy'.

The reorganisation of VET colleges into CoVEs was carried out within the framework of the comprehensive VET Restructuring Action Plan 2015–2020, developed on the basis of a network mapping exercise of VET institutions. Four objectives were established for the action plan, and creation of CoVEs should contribute substantially to these being met:

1. restructure VET institutions in line with the new structure of the VET system;
2. build the capacities of VET institutions;
3. optimise the use of financial allocations in the training of a skilled and competitive labour force;
4. increase the relevance and attractiveness of VET institutions.

The creation of CoVEs was implemented in a number of steps defined (as measures) in the VET Restructuring Plan:

- approving/updating the regulations for the operation of CoVEs;
- tendering and contracting for the rehabilitation/renovation of CoVEs;
- establishing CoVEs in priority areas of the national economy;
- developing plans for the strategic development of CoVEs;
- setting up the structure of CoVEs (organigram, partnerships with companies and social partners, etc.).

Along with the restructuring plan, a public procurement plan for CoVEs for the purchase of furniture, ICT equipment and special training equipment (relating to the field of specialisation) was approved by the government. The total amount of this procurement plan was just over EUR 6.2 million. In addition, around EUR 13 million was allocated from the state budget for renovation (including design work) of CoVEs, as well as about EUR 377 000 for the renovation of dormitories attached to them, and EUR 136 000 for training the CoVEs' teachers to implement the newly developed standards and curricula.

In order to strengthen the legal basis for CoVEs, the MoES approved a Framework Regulation on Organisation and Functioning of the Centres of Excellence, which defined the mission, functions and competences of the centres, their management structure, categories of staff, and financial-economic activities. This regulation gives this new type of institution additional functions to those accorded other VET establishments. In particular, CoVEs will:

- contribute to the development of the VET system within their specific sector;
- develop methodological and didactic materials for the other VET institutions within the sector;
- coordinate and manage their activities;
- retrain managers and teaching staff from other VET institutions, etc.

With the support of an EU Technical Assistance project, a template for Strategic Development Plans for Centres of Excellence was created, and CoVE managers were trained to develop those plans. The required structure of the plans is as follows:

1. general data,
2. field of excellence,
3. school vision,
4. school mission statement,
5. corporate values,
6. school objectives,
7. strengths, weaknesses, opportunities and threats (SWOT),
8. key strategies,
9. major goals,
10. strategic action programmes,
11. monitoring and evaluation.

At present, all CoVEs have strategic development plans and produce annual reports on their implementation.

Albania

Albania's VET system has faced many challenges (Rama and Sulstarova, 2014), including:

- the lack of relevance of VET provision to labour market needs, the absence of labour market analysis for identifying the demand for qualifications, the absence of tracer studies, the very limited links with private businesses and the weak cooperation with them in organising practical training for students;
- school workshops with obsolete facilities, often located in premises with very poor conditions, complicated by the lack of budgetary funds to invest in the improvement of those facilities;

- high average age of technical teachers, their unsuitable educational background and low level of qualification in terms of knowledge and competence;
- uncoordinated nature of the VET providers' network.

Multifunctional VET colleges (MFCs), which are analogous to CoVEs, are recognised as a possible tool for driving improvements in the situation. In this context, the establishment of MFCs should contribute, *inter alia* to the following:

- Diversifying the VET offer, in terms of both occupational profiles and levels of qualifications, thus better addressing labour market needs and filling the current gap between secondary VET and university education. MFCs could offer long and short courses for young people and adults at different levels of competence, sharing premises, teaching staff and equipment. Opening branches of the new MFCs in areas where VET is not yet available but there is labour market demand for specific vocational skills (e.g. some peripheral urban areas that have a high concentration of migrants from rural areas) will also improve VET availability and accessibility.
- Introducing new management approaches that will increase the MFCs' autonomy, thus enabling them to develop greater initiative and to collaborate more effectively with regional and local partners, including employment services and employers. In particular, this is expected to result in the optimisation of management resources and a move towards the decentralisation of management responsibilities for VET to the regional level.
- Improving VET content. MFCs specialising in different fields or sectors of the economy should develop qualifications, curricula and teaching and learning materials.
- Optimising the existing pool of technical teachers and instructors, creating a fiscal space for increasing teachers' and instructors' salaries, and providing enough flexibility to hire the best trainers for specific courses, with the help of additional payments. The MFCs would take responsibility for training teachers and other staff from different VET institutions. Participation of teachers in the provision of different training courses, including those for adults, would help to improve teaching content and encourage the use of more active and innovative learning methodologies.
- Optimising the VET providers network. Overlapping profiles and overlapping investments in workshops and equipment for similar profiles in different locations could easily be identified and avoided. This would help to address VET efficiency issues by concentrating investments in the modernisation of the system, thus also improving the effectiveness of the VET network and its reforms. Under these conditions, the scarce state funding might be better used and donors could support the more efficient equipping and operationalising of MFCs. This would ensure the sustainability of investments and assistance in general.
- Expanding and improving the links with businesses, particularly in relation to practical training for students. The creation of MFCs in specific economic sectors would incentivise employers to make strategic investments in VET.
- Providing a wider scope of services and activities (e.g. extra-curricular and non-educational activities). This would open up new sources of income that could be channelled to the MFCs' development, including improving facilities, procuring new equipment, rewarding competent teachers, and other forms of human resource development. Counselling services at provider level, a tracer system for VET students and trainees, internal quality assurance mechanisms, and cooperation with similar institutions in other countries might also be within the scope of MFCs' functions.

Some specific types of service (in addition to traditional educational activities) to be provided by the MFCs are:

- part-time, short-term or longer VET courses for adults, regardless of their level of education;
- 'non-vocational' courses or programmes, such as training in core skills, e.g. basic reading, writing and mathematical competences, digital competence (ICT) and entrepreneurship;
- a wide range of training programmes and services for the community within which they operate, for employment services and for employers;
- in cooperation with businesses, training for employed people and short internships in companies for teachers and students;
- specific advisory or on-site coaching services to businesses (e.g. to solve their problems and help them develop and grow) within the clusters of the MFCs' specialisation;
- training services for rural or mountainous areas (where setting up new VET centres is not cost-efficient or feasible) provided by mobile teams of trainers and coaches from individual MFCs.

It is recognised that the establishment of MFCs in Albania requires a flexible approach and that the models of these structures may differ between regions and among institutions. This will vary according to the economic development context of the region (and the RDPs) and the existing situation of VET providers in terms of their status, quality of infrastructure, profiles offered, workshops and quality of human resources. Four options are proposed for the country.

1. All VET schools in the region, together with the regional vocational training centre and dormitories, are integrated under one MFC and management structure. In this case the MFC provides services to the entire region and to a defined number of students/adults from other regions based on an application process.
2. Selected VET schools in the region that have similar profiles, either with or without the regional vocational training centre and dormitories, are integrated under one MFC and management structure. In this case the region may have more than one MFC and/or other individual public VET providers.
3. One VET school in the region is converted into an MFC. In this case the region would have one MFC and other individual public VET providers.
4. One or two lead VET providers per region are converted into an MFC with satellite campuses in its neighbourhood. The creation of regional VET networks will be based on consultations at regional and institutional levels with all relevant stakeholders and will lead to a National VET Providers' Development Plan, including investment plans, for each region and VET network (GIZ and ETF, 2014).

Armenia

In 2011, 12 public VET institutions, one for each of the 10 regions of Armenia and 2 in the capital, Yerevan, were reorganised into regional state colleges (RSCs) with the main aim of becoming autonomous educational institutions, more business oriented within a national and regional context, and with great potential for development as a result of improvements in quality and teaching conditions (ETF, 2013). These institutions were selected according to criteria developed by the

Ministry of Education, Science, Culture and Sport and approved by the National Council of VET Development[46].

The following main goal (or vision) for the RSCs is defined[47]: 'Through the introduction of advanced educational concepts and technologies, to become a fully-fledged Institution of Excellence and Regional Resource Centre with a great potential for the development of the educational system of the Republic of Armenia, assuming the role of the leader and distributor of reforms'. Compared with other VET colleges, RSCs have a wider scope of activities and responsibilities. More importantly, they have additional objectives, particularly:

- contribution to the formation of the professional, managerial, educational-methodological, scientific-pedagogical, cultural, material and technical potential necessary to meet the development needs of the region, the community and the country and targeted towards the development of the VET system, as well as supporting the development of the related (surrounding) VET institutions;
- introduction, development and dissemination of innovations as well as adapted international practices in the area of VET;
- integration with global education systems.

During the past five–six years, most of the resources allocated to VET system improvement, including those provided by the main donor organisations, have been directed towards the 12 RSCs, as a result of which these institutions have been substantially improved in terms of both physical conditions (buildings and training equipment) and human and methodological resources. This has addressed the need to ensure the efficiency of VET reforms through centralisation of investments and concentration of results as well as the need to make such investments more targeted and visible.

Regional networks have been organised around the RSCs, based on the memoranda of understanding signed by the groups of VET institutions of corresponding regions. This has resulted in better cooperation between the partner colleges, for example in coordinating their own labour market research at the regional level and establishing links with the private sector. The issues relating to the management and operation of the regional networks are also included in the business plans of the 12 regional VET centres (RSCs).

RSC management (similarly to the management of all public VET institutions in the country) is based on the principles of social partnership and is an illustration of multilevel governance. Every college has a collegial management body, a college governance board comprising representatives of the founder (ministry) and/or of the regional government or Yerevan City Hall (10%); social partners (25%); students (25%); teachers (20%); local employment service (10%); and specialists representing public institutions and/or different sectors of science, culture and the economy (10%) (usually 20 members in total). Each board is responsible for such issues as the election of the college director, approval of college development (business) plan and budget, discussion and approval of the institution's internal regulations, as well as curricula, programmes, etc. The boards' meetings are held at least quarterly.

[46] This is a tripartite body established for implementing social partnership in VET at the national level. It consists of an equal number of representatives from the government, employers' unions and trade unions (21 members in total).

[47] Government Decision No 1686, 24 November 2011

The main principles for the functioning of the boards are established in the national Concept of Social Partnership in VET.

Morocco

There are several industrial training centres in Morocco. The Training Institute for the Trades of the Automobile Industry (IFMIA) of Casablanca is presented here as an example.

In 2003 the Moroccan national car manufacturer Somaca (Société marocaine de constructions automobiles, founded in 1959) was privatised and transferred to the ownership of Renault. In 2005 production of 'Logan' started up and in 2007 its first exports were launched. A number of multinational corporations subsequently joined Renault. These developments provided an impetus for industry growth in the country, and in February 2009 the National Pact for Industrial Emergence was adopted. It set the following general objectives to be met through the implementation of 111 concrete measures:

- to create sustainable industrial jobs and reduce urban unemployment;
- to increase the share of industry in GDP;
- to reduce the trade deficit;
- to promote both domestic and foreign investments in industry;
- to contribute to regional planning policy.

Among these measures, the state was committed to establishing four educational institutions for automobile professions, in four localities – Melloussa, Casablanca, Tangier and Kenitra – and to entrust their management to private companies and the professional unions. These plans were realised in 2013.

The management of Casablanca and Tangier IFMIAs was entrusted to the company IFMIA SA, created by the Moroccan Association for Automotive Industry and Trade, within the framework of an agreement signed with the state. Under this agreement, the state granted the equipment, management and maintenance of the IFMIA to the above-mentioned company.

The overall objective of the management is to strengthen PPP in the field of vocational training, while the specific objectives are:

- to support the advancement of sectoral economic strategies by setting up a new generation of specialised training institutes within the PPP framework;
- to ensure a targeted and complementary training offer for the public and private sector that will attract competitive investments, particularly in sectors with high added value;
- to strengthen the links between the world of education and the world of work, thus ensuring a better match between skills supply and the needs of companies.

The setting up of Delegated Management Institutes (DMIs) by the state was based on a specific process that included a number of steps:

- analysis of sectoral strategies of the national economy;
- planning and programming the realisation of DMIs;
- studying the needs and opportunities for DMI creation;
- signing contracts with professionals for establishing and implementing DMIs;

- realisation of DMI programmes:
  - launching the execution of investments and monitoring DMI implementation;
  - deployment of training structures, recruitment of administrative and pedagogical staff, launch of training for students;
  - development of regulations relating to the creation of DMIs;
- monitoring, structuring and evaluation of the DMI system.

IFMIA offers both formal education and non-formal training for a wide range of purposes, including training before employment; qualifying training for employment; continuing education and advanced training courses for companies in the automotive industry sector; and training for automotive industry employees, such as operators, technicians and middle management staff. The institute also provides laboratory tests.

In 2016 IFMIA had 13 administrative staff, 25 trainers, around 300 students in formal training and more than 400 in continuing education courses. Sixty companies were involved in providing alternance training. Interactive modules covering almost the entire curriculum of the car maintenance technician course are available online, and more than 200 people have benefited from this learning tool.

The Casablanca IFMIA is located on a plot of 2.5 ha in the industrial area of the city. It is equipped with workshops with an area of 3 820 m^2; training rooms with a total area of 1 960 m^2; administrative and auxiliary premises of 2 180 m^2; a canteen and dormitory of 1 560 m^2; and two sports fields. The cost of setting up the IFMIA (construction and equipment) was around EUR 9.3 million.

Another example of PPP in Morocco is the Institute of Aeronautic Trades (Institut des métiers de l'aéronautique – IMA)[48]. It, too, was established under the National Pact for Industrial Emergence, when the Group of Moroccan Industrialists of Aeronautics and Space and the Industrial Union of Metallurgies (France) signed a technical and financial partnership agreement. The latter includes employment, national education and VET, industry and new technologies, and finance (Galvin Arribas, 2017).

The Netherlands

The network of regional education and training centres (ROCs) was established in the Netherlands in the second half of the 1990s to ensure the supply of skills required by the labour market, particularly by formalising the role of employers to give them (and trade unions) greater influence on the content of VET and skills certification. The ROCs were organised as decentralised training providers, mainly at regional level. There are currently more than 40 ROCs in the country, each providing an average of more than 150 VET courses to over 10 000 VET students and around 2 500 adult learners. The largest ROC, in Amsterdam, has around 35 000 students (Rama and Sulstarova, 2014).

ROCs have complete freedom in selecting the forms and methods of training provision and in hiring their teaching and training staff. However, there is a rule that students should spend 60–80% of their time at the workplace for practical training with employers that are accredited by the ROC's knowledge centre (a quality check on the company's ability to offer training). To better meet the needs of local labour markets, the ROCs are allowed to adapt up to 20% of the national curriculum.

[48] For more information about IMA, see: www.imacasablanca.com/index-2.html

These centres are also offering CVET courses, mainly for adults. However, they cannot always successfully compete with private training providers.

ROCs set their own examinations through both school- and work-based assessments, but for at least 51% of the training programmes, external independent examination centres are involved to ensure the quality of the examination process. The National Inspectorate of Education systematically monitors the ROCs' activities.

The main source of financing for ROCs is the government, and the overall year spending on these centres is EUR 250 million. The funding mechanism is based on the per capita principle, but also includes a tangible component (10%) for infrastructure development. The centres enjoy significant investments from the private sector, for which an effective system of financial incentives has been established in the country.

Finland

Omnia[49] (Omnia Education Ltd.) is a multidisciplinary, multisector education provider and regional development centre in the greater Helsinki metropolitan area of Finland. It was founded in 1982 and licensed by the Ministry of Education and Culture. It is a non-profit organisation owned by three metropolitan municipalities of the Espoo region, the cities of Espoo, Kauniainen and Kirkkonummi. Together, Omnia and another organisation, Omnia Education Partnerships Ltd., which promotes Finnish education expertise and Finnish VET worldwide, form the Omnia Education Group.

Omnia offers formal qualifications equivalent to the European Qualifications Framework levels 3 to 6, as well as a wide range of non-formal education courses:

- upper secondary vocational education (8 300 students);
- general upper secondary education for adults (1 900);
- continuing education (1 200);
- basic education (150);
- liberal adult education (49 000);
- youth workshops (230);
- preparatory vocational education (360).

It also offers other services, including:

- apprenticeship training;
- work-based learning in Finland and abroad;
- corporate training and professional courses;
- individual theme study paths;
- teacher training;
- guidance services for applicants and students.

All qualification programmes are accredited by the Finnish National Agency for Education. Omnia has 870 members of staff and approximately 600 full-time teachers. Its annual turnover is around EUR 85 million.

[49] www.omnia.fi

Omnia has strong links with the labour market and responds to the constantly changing skill needs. Apart from training and anticipation, Omnia participates in regional- and national-level dialogue in many training sectors, and organises think-tanks and innovation work at regional and national levels. Its partners are cities, chambers of commerce, companies, entrepreneurs, and trade unions within education and training.

Omnia's performance has been nationally recognised by several quality awards from the Finnish Ministry of Education and Culture. It has been recognised internationally for innovation and entrepreneurship by OECD and the ETF. Omnia has also been featured as a best practice case in the WISE book *Learning a living: Radical innovation in education for work* and the WISE Research Series 'Entrepreneurship education – A global consideration from practice to policy around the world'.

Omnia has a number of characteristics that not only contribute to its excellent performance but also make it an attractive institution for many people. These are:

- greater flexibility in studying: no time limits for courses, individual progression pace for every learner, specialisations within the qualifications, more optional studies;
- flexible admissions: continuous application process throughout the year, joint application process for those who completed comprehensive school in the spring and those who have no upper secondary qualification, lifelong learning opportunities for people of all ages and in various life situations;
- individual study paths and more learning in the workplace: students' personal competence development plans, including guidance and support services, support to students in gaining employment and finding their own career paths, studies in the workplace, in the educational institution and increasingly also in virtual environments;
- strong involvement of companies in the education and assessment processes: employers and teachers assess competence-based qualifications together, vocational competences are demonstrated in practical work tasks, mainly in workplaces, educational content is developed in cooperation with enterprises and students' views are also taken into account, on-the-job learning is focused on creating new competences, and teachers actively cooperate with companies so that they are constantly aware of their needs.

Nevertheless, it should be remembered that Omnia is functioning in the context of a country where VET has high status and a good reputation; where close cooperation between VET institutions and enterprises is the usual practice; where equal opportunities, social inclusion and social responsibility are widely appreciated; where VET teachers have a very high status; and where public expenditure on VET as a percentage of GDP is 2.2 times the EU average[50].

United Kingdom

Discussions about the creation and functioning of centres of excellence in the UK commenced in the early 2000s, and considerable experience in implementing this concept has since been accumulated. There are currently 400 colleges of further education or other institutions offering educational and training services that have CoVE status. This is considered an indicator of the quality of the vocational training provision. To be awarded this status, the educational institution should provide high-quality training services and offer a variety of courses for a wide range of learning pathways (starting with the third level of the Regulated Qualifications Framework). Up until 2010, CoVE status was awarded by

[50] Cedefop, www.cedefop.europa.eu/en/publications-and-resources/country-reports/statistical-overviews-vet-finland

the Learning and Skills Council, while in April 2017 the Education and Skills Funding Agency took over the functions and responsibilities of the Education Funding Agency and the Skills Funding Agency (formerly the Education and Training Council) and is now responsible for funding education and skills for children, young people and adults. The activities of the Education and Skills Funding Agency are financed by the UK Department for Education[51].

Vocational excellence is also a topic of scientific research in the UK. The Centre on Skills, Knowledge and Organisational Performance (SKOPE)[52], founded in October 1998 and currently based at the Department of Education at the University of Oxford, examines in particular the links between the acquisition and use of skills and knowledge. SKOPE has a Vocational Excellence Research Team[53], and its reports on the following studies could be useful for those interested in CoVEs:

- modelling the characteristics of vocational excellence[54];
- learning environments to develop vocational excellence[55];
- benefits of developing vocational excellence[56].

Basque Country, Spain

The current VET system in the Basque Country is the outcome of extensive reforms accompanied by major organisational and economic efforts that have made VET a central element within the framework of a changing society. The Basque Vocational Training Plan 2004–2007 was conceived as a strategic measure to adapt the structures and activities already in place to changes in technology, markets, competitors and values, as well as an attempt to penetrate other emerging fields by using new instruments and tools.

VET is of strategic importance in the Basque Country. In recent years the Basque Government has forged strong cooperation with European institutions, leading to the Basque Country being considered a European reference in VET, as well as for meeting the future needs of the European labour market.

The comprehensive institutional settings demonstrate the importance placed on the VET system and policies for the socioeconomic development of the region:

- Basque Council on Vocational Training, created in 1994;
- Basque Foundation for Continuous Training (Hobetuz) arising from an interprofessional tripartite agreement made in September 1995, and created in 1996;
- Basque Vocational Training System Observatory, created in 1998;
- Basque Institute of Vocational Training and Qualifications, created in 1998;
- Network of Integrated Vocational Training Centres, created in 1998;
- Quality and Vocational Training Evaluation Agency, created in 2000;
- Vice-Ministry for Vocational Training and Lifelong Learning, created in 2001.

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[51] Професійні навчальні заклади в країнах Європейського Союзу: Практичний посібник [Vocational schools in the countries of the European Union: A practical guide], 2017, p. 219, http://lib.iitta.gov.ua/711447/3/Final-друк.pdf

[52] www.skope.ox.ac.uk/

[53] http://vocationalexcellence.education.ox.ac.uk

[54] http://vocationalexcellence.education.ox.ac.uk/our-research/project-1

[55] http://vocationalexcellence.education.ox.ac.uk/our-research/project-2

[56] http://vocationalexcellence.education.ox.ac.uk/our-research/project-3

In 2015 the institutional settings were reviewed. They were framed by three regional government decrees:

- Creation of the Basque Institute of Knowledge and Vocational Training (IVAC, based on the restructuring of the Basque Institute of Vocational Training and Qualifications);
- Creation of the Basque Institute for Applied Creativity in VET (IDEATK);
- Creation of the Centre for Innovation for Technological and Vocational Education and Training (Tknika).

VET in the Basque Country has approximately 5 700 students (2018). This means that almost 7.44% of all non-university students the Basque Country are currently receiving some kind of vocational training. The Basque Autonomous Community has 155 publicly-run and grant-aided training schools covering a full range of specialist areas.

Basque experts developed the ETHAZI methodology as a pilot in the 2013/14 academic year in five both semi-public and public vocational training centres. Some 100 students and 25 teachers from 5 different cycles participated. The ETHAZI methodology is the basis for high-performance courses and prepares participants with the necessary skills to acquire new competences required by future challenges. ETHAZI requires a deep reinterpretation of learning mechanics. The key elements of the model are[57]:

- inter-modularity,
- self-management and team building for teachers,
- evaluate skills transformations,
- adapting learning spaces,
- digital skills.

The Basque Country's vocational training centres work as a network, tackling issues such as connectivity and digitalisation, which are essential in the Fourth Industrial Revolution (Industry 4.0). Within the context of smart systems, an important new concept has emerged, and it is one that Basque VET always bears in mind. That concept is sustainable human development, which also means moving towards Industry 4.0 and digitalisation.

In 2007 IkerBasque, the Basque Foundation for Science[58], was founded to contribute to the development of scientific research in the Basque Country by attracting outstanding, experienced researchers and boosting research. IkerBasque is promoted by the Basque Government. It aims to offer a stable and motivating platform from which scientists and Basque research institutions can continue to ask new questions and contribute to the challenge of generating new knowledge.

In 2014 the Basque Country allocated EUR 40 million to the Basque Excellence Research Centres (BERC) programme, which will be a further boost to the excellence-based developments taking place in the Basque Country.

Vocational training is aligned with Basque Government policies and with the priorities established within the framework of smart specialisation.

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[57] More information: www.tknika.eus/en/cont/proyectos/ethazi-3/#

[58] www.ikerbasque.net/

Tknika[59] was established in 2015 by the Vice-Ministry of Education of the Basque Government to promote innovation, creativity and entrepreneurship in the VET centres of the Basque Country. VET is fundamentally important in the Basque Country, and this is recognised in different spheres (by companies, government, European institutions, etc.). Through Tknika, the Basque Country's VET system participates in initiatives oriented towards formulating and implementing innovative policies. Tknika applies these when prioritising the projects to be worked on.

Tknika is modelled on some of the world's most advanced technical colleges. It develops innovative projects in the areas of technology, teacher training, ICT and management through networking and direct involvement from VET teaching staff. It is committed to shortening the gap between a new technology or innovation being developed within a university, a company or a research centre and its arrival in technical colleges.

Tknika has adopted a strategy of collaboration in networks at two levels: national and international. Its mission is to make research and applied innovation core fundamental elements of VET in the Basque Country, to make progress with new learning settings and processes, and to reduce the gap between the emergence of an idea or technology and when society can take advantage of it.

Tknika coordinates vocational training colleges in innovation projects and also maintains a strategic monitoring service for universities, companies and technology centres. At an international level, membership of international networks of vocational training colleges, technology centres and associations such as the European Forum of Vocational Education and Training (EFVET), Transatlantic Alliance (TA3) and the World Federation of Colleges and Polytechnics (WFCP) allows it to share tools and knowledge on the steps being taken in different countries in the field of innovation.

The purposes of Tknika are:

- to research vocational training and applied innovation, encouraging centres that provide vocational training to enter into relationships with companies, technology centres and different university and non-university research departments;
- to train professors who can provide vocational training on different technologies that arise in different production sectors;
- to make progress in new settings that improve different learning processes, driving the internationalisation and permanent improvement of vocational training;
- to promote entrepreneurial activity among students through centres providing vocational training.

Tknika's Department of Applied Innovation in VET focuses on reducing the gap between the introduction of new technology and its availability for use by Basque society. The department develops research on technologies to identify new market niches to support the economy.

Tknika designed the Euskadi Vocational Training Technological Innovation System, which aims to support society, and especially SMEs, in competing for high value-added business. This system is based on priorities set out in the Basque Government's smart specialisation policies. It has been rolled out under the Basque VET Plan and implemented by Tknika and the VET centres.

[59] www.tknika.eus/en/#

The procedure to address priorities takes place at Tknika and begins with an initiative surveillance, prioritisation and selection process. The selected initiatives are then implemented through different programmes, to transfer them to rest of the vocational training centres and SMEs.

In addition to the initiatives included in the Euskadi Vocational Training Technological Innovation System, Tknika also works with ELKARNET, whose clients are VET centres. ELKARNET updates, maintains and optimises centres' systems, connectivity and IT infrastructures, so that they can fully optimise and use the possibilities that they offer.

Tknika is also a bank of VET resources and equipment for the benefit of VET centres and teachers, and it has other facilities that can be used by outside staff.

Asian countries

Vietnam

In 2010 the German International Cooperation Agency (GIZ) launched a project to establish two centres of excellence for vocational education in Vietnam, with the purpose of improving labour force training and adapting it to the needs of a green and sustainable economy[60]. The two vocational institutions that are supported by the project are the International Technology College (LILAMA 2) and the Vocational College of Machinery and Irrigation (VCMI). Activities are targeted on ensuring the provision of needs-based and practically oriented vocational training courses, and on fulfilling other tasks in the technical and vocational education and training system as centres of excellence.

The economic sectors to be covered by the centres of excellence in Vietnam are selected in accordance with the declared intention to become an industrialised country by 2020, and to promote improvement of the environmental situation. The centres of excellence have been created to ensure the relevance of the TVET system to the needs of the economy and society, given that around one million people enter the labour market every year.

With support from GIZ and the participation of companies and industry associations, LILAMA 2 is adapting training courses based on German standards to the local context. The focus is on qualifications for economic sectors with high growth potential, such as construction mechanics, metalworking, mechatronics and industrial electronics. Extensive training is provided for the institutions' managers and teachers. In the future, centres of excellence will be expected to offer advance training courses for the other vocational training institutions.

The Vocational College of Machinery and Irrigation receives support for its transformation into a centre of excellence for green vocational training. Advice is provided on developing and testing basic courses on environmental protection, energy efficiency and resource efficiency, for the needs of a green economy. This institution is also developing capacity to offer training courses for teachers and managers of other vocational training institutions, and to act as a regional centre for green vocational training for Cambodia, Laos, Myanmar and Vietnam.

[60] www.giz.de/en/worldwide/18758.html

Bangladesh

A number of centres of excellence have been established by industry with support from ILO and EU funding[61]. This has been carried out within the framework of the TVET Reform Project, with the purpose of developing a quality labour force for the country. The economic sectors that these CoVEs cover are the leather industry, agro-foods and tourism/hospitality.

Management of the centres is carried out by governing bodies involving representatives from industry skills councils, governmental institutions and workers' associations. At the initial stage, multichannel funding is secured through PPP supported by donors. However, it is expected that CoVEs will subsequently generate their own income through the provision of different services to government, employers and workers' associations.

The centres can provide a wide range of services, such as:

- industry-oriented training on productivity and quality control, and advanced training at the national level;
- research and provision of statistical data and services;
- accreditation and certification procedures, development and review of sectoral policies and procedures;
- support for the development of PPPs, liaison between stakeholders and attracting new ones for cooperation, both nationally and internationally;
- assistance in the creation of nationally recognised training programmes, adoption of competence-based training and assessment methodologies;
- assistance in organising and implementing validation of non-formal and informal learning.

In addition, the centres monitor industry skill development practices and promote best practice workplace models in a particular industry sector. One of the centres' success indicators is an increase in the number of students in the economic sectors mentioned above, from 152 in 2012 to 2 500 in 2013.

[61] www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-dhaka/documents/publication/wcms_226504.pdf

Annex 2. VET profiles in six regions

Dnipropetrovsk Oblast

This is one of the most economically developed regions, with a diversified economy, advanced agro-industry, scientific potential, and well-structured transit capacities. Its major competitive advantages include its significant industrial, export, science and innovative potential; plentiful resource (mineral) base; developed infrastructure (financial, transport, social); and highly skilled labour potential.

Demographic potential

As of 1 January 2018, the share of the population aged 0–14 was 15.6% (compared with 16.3% in Ukraine as a whole) which is largely due to the decrease in the total fertility rate in the region (1.412 children per woman in 2016 compared to 1.565 in 2014). Average life expectancy at birth was 70.19 years in 2016 (compared to 71.7 in Ukraine as a whole). At the same time, the coefficient of migration growth/reduction per capita in 2016 was -17.2 %, an indicator of the intensification of migration outflows. The total rural population outflow rate constituted 114.3‰ (compared with 99‰ in Ukraine). Young age groups as a share of the total population increased, becoming a reserve as potential students of vocational institutions.

Economic potential

The region has well-structured sectors of specialisation (industrial, agriculture, service). The share of regional gross value added is distributed by type of economic activity as follows: industry (46.7%), wholesale and retail trade (10.9%), agriculture (8.5%), transport (6.4%) and real estate (6.3%). The index of industrial output had a positive dynamic – 100.1% in 2017 – as did the index of agricultural products – 100%. In 2016 the largest share of capital investment was in industry (50.6% of the total), followed by agriculture (10.9%). The share of enterprises engaged in innovative activity has increased (reaching 11.0% in 2016), testifying to the potential for innovative development of the regional industrial sector. Export potential remains significant (exports of goods per capita in 2017 amounted to USD 2 183, compared with USD 1 018.4 in the country as a whole).

The sectoral structure of enterprises in the region (excluding banks and financial institutions) is as follows: 31.4% of enterprises operate in wholesale and retail trade (75.0% of them profitable), almost 15.0% have an agricultural specialisation (86.0% profitable), and 12.6% operate in industry (73.2% profitable). With regard to the sectoral structure of employment, the share of employed persons in wholesale and retail trade was 24.5%, industry 24.5% and agriculture 7.7%. The sectoral division of vacancies declared to the State Employment Service (as of end of 2017) was as follows: 39.4% in industry, 11.8% in wholesale trade and 6.9% in transport.

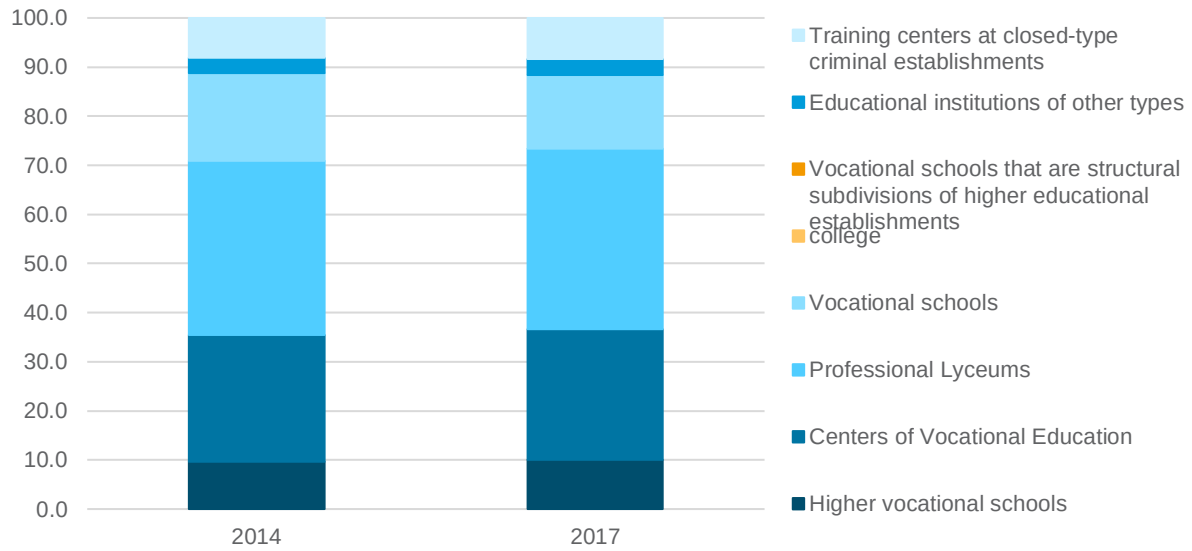
According to the Strategy for the Development of Dnipropetrovsk Oblast up to 2020, agriculture and the food-processing industry, precision mechanical engineering, industrial and scientific parks, transport infrastructure, metallurgy and chemical industry, the textile industry in monoprofile cities, construction, tourism and energy saving are the priorities for development of the region[62].

[62] Strategy for the Development of Dnipropetrovsk Oblast. Order of Dnipropetrovsk Oblast Rada and Dnipropetrovsk Oblast State Administration:

Educational potential

With regard to the structure of vocational educational institutions in Dnipropetrovsk Oblast by type, vocational lyceums (36.7%) predominate (Figure A2.1).

FIGURE A2.1 STRUCTURE OF VET INSTITUTIONS OF DNIPROPETROVSK OBLAST BY TYPE (%)



Note: In 2016 the number of pupils (students) per educational institution had reached 362 persons (compared with 336 persons for Ukraine as a whole). As of 1 September 2017, 92.5% of all students were employed after graduation, and the student (listeners) contingent's losses had constituted 9.9%.

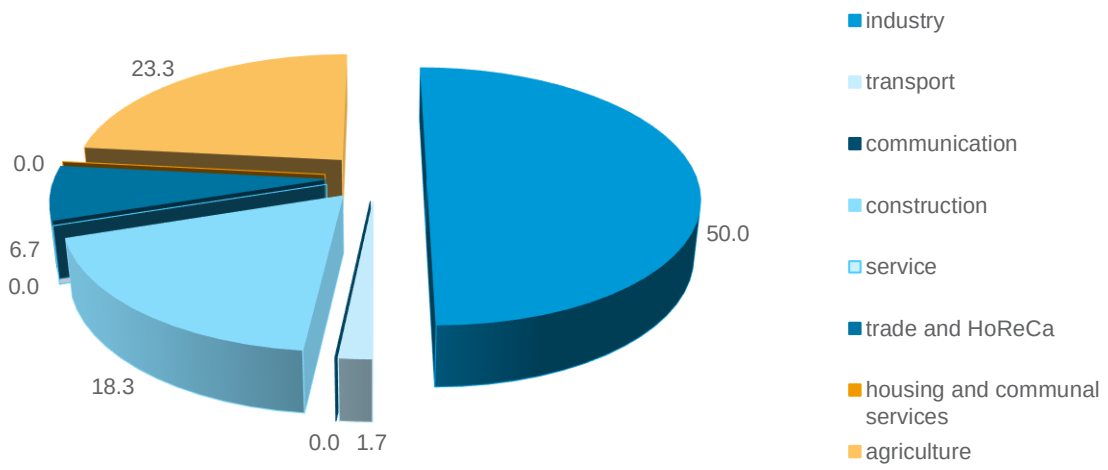
In the structure of VET institutions by sector, institutions with industrial specialisation predominate (Figure A2.2).

Main enterprises

- Agriculture: Joint Stock Company 'Agro-Union', Agrofirma ROSTOK
- Mining: Evraz Sukha Balka, Central, Northern and Southern Mining and Processing Plants, Ingulets Mining and Processing Plant, Kryvyi Rih Iron Ore Plant, Evraz DMZ Petrovsky, Vilnogyrskyy Mining and Metallurgical Plant
- Manufacturing: Dnipropetrovsk Tube Plant, Nikopol Ferroalloy Plant, ArcelorMittal Kryvyi Rih, JSC 'Interpipe Novomoskovsk Pipe Plant', JSC 'Interpipe Nyzhniodniprovsk Piping', JSC Evraz – Dnipropetrovsk Metallurgical Plant
- Machine-building: Petrovsky Yuzhmash, Construction Bureau 'Yuzhnoye', Pavlogradsky Mechanical and Chemical Plant
- Transportation: Pridniprovsk Railway

http://dfrr.minregion.gov.ua/foto/projt_reg_info_norm/2015/06/Strategiya-rozvitku-Dnipropetrovskoyi-oblasti-na-period-do-2020-roku.doc

FIGURE A2.2 STRUCTURE OF VET INSTITUTIONS OF DNIPROPETROVSK OBLAST BY SECTOR, 2017 (%)



Note: As of 1 September 2017, the number of teachers as a share of the total pedagogical staff was 32.3% (13.8% of them teachers of the vocational subject cycle) and the number of masters was 45.6%. The infrastructure of VET institutions can be estimated based on the following indicators: 26.2 classrooms per institution; 4.9 laboratories per institution; and 9.2 training and production workshops per institution.

Zaporizhzhya Oblast

This region has a favourable geographical location, developed transport links, well-structured transit, and resource, tourism and recreational potential. Advanced agro-industrial potential, the availability of a diversified resource base for energy, and high-quality human resources remain its most important competitive advantages.

Demographic potential

As of 1 January 2018, the share of the population aged 0–14 was 14.7% (compared to 16.3% in Ukraine as a whole). This lower share might be the result of a significant reduction of the total fertility rate in the region (1.344 children per woman in 2016 compared to 1.512 in 2014). Average life expectancy at birth has remained practically unchanged in recent years (71.2 years). The coefficient of migration growth/reduction per capita in 2016 was negative (−9.7%), an indicator of significant migration outflows. The total rural population outflow rate decreased from 131.4‰ in 2014 to 74.0‰ in 2016 (compared with 99‰ in Ukraine as a whole). Young age groups as a share of the total population have increased, becoming a reserve as potential students of vocational institutions.

Economic potential

The region has an industrial specialisation. The share of regional gross added value is distributed by type of economic activity as follows: industry (41.4%), agriculture (13.9%), wholesale and retail trade (10.4%) and real estate (6.0%). The index of industrial output has a positive dynamic – 106.2% in 2017 – while the index of agricultural products was 96.8%. In 2016 the largest share of capital investment was in industry (55.6% of the total), followed by agriculture (23.7%). The share of enterprises engaged in innovative activity had increased (reaching 19.1% in 2016), testifying to the potential for innovative development of the regional industrial sector. Export potential remained significant (exports of goods per capita in 2017 amounted to USD 1 721.8, compared with USD 1 018.4 in the country as a whole).

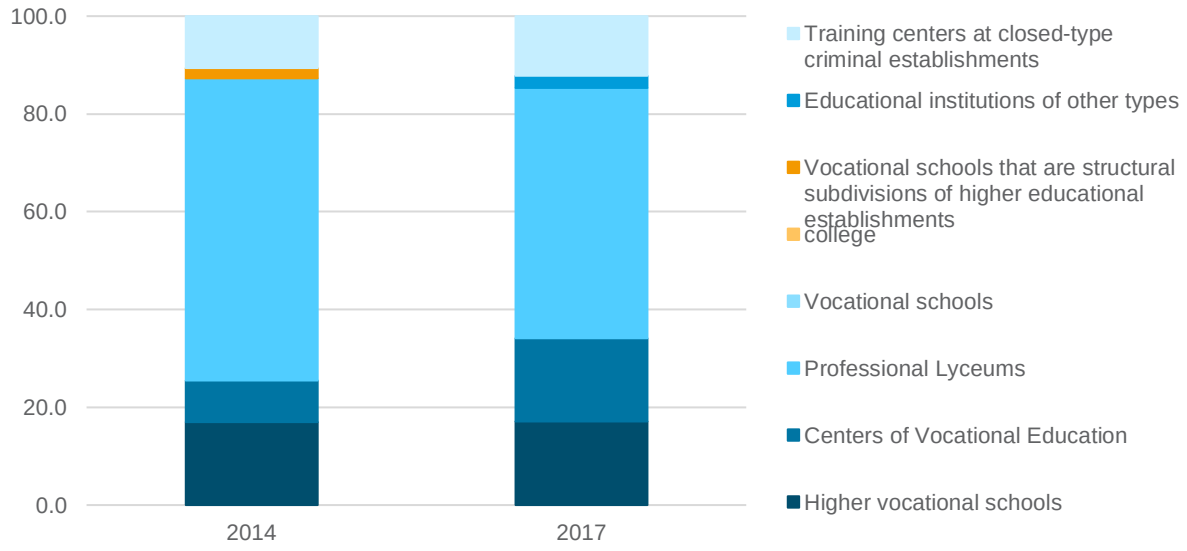
The sectoral structure of enterprises in the region (excluding banks and financial institutions) is as follows: 27.2% of enterprises operate in the wholesale and retail trade (79.9% of them profitable), almost 19.8% of enterprises have an agricultural specialisation (90.2% profitable), 13.6% operate in industry (77.0% profitable) and 10.4% in real estate (65.5% profitable). With regard to the sectoral structure of employment, the share of employed persons in industry was 22.3%, wholesale and retail trade 21.0% and agriculture 16.4%. The sectoral division of vacancies declared to the State Employment Service (as of end of 2017) was as follows: 44.9% in industry, 14.6% in wholesale trade and 4.6% in transport.

According to the Strategy for the Development of Zaporizhzhya Oblast up to 2020, manufacturing (machine-building), energy generation (alternative sources of energy), logistic infrastructure, agriculture and agro-processing, and tourism business are the priorities for development of economic activities in the region. The strategy promotes the preservation of the region's orientation towards the industrial development sector (with a gradual increase in the share of value added in manufacturing)[63].

Educational potential

With regard to the structure of vocational educational institutions in Zaporizhzhya Oblast by type, professional lyceums (51.2%) predominate (Figure A2.3).

FIGURE A2.3. STRUCTURE OF VET INSTITUTIONS OF ZAPORIZHZHYA REGION BY TYPE (%)

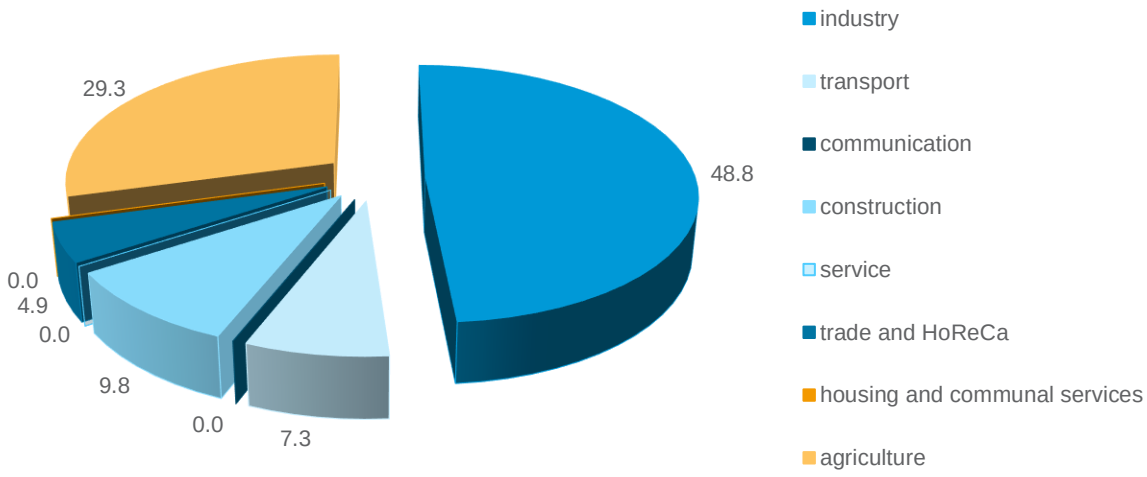


Note: In 2017 the number of pupils (students) per educational institution had reached 341 persons (compared with 336 persons for Ukraine as a whole). As of 1 September 2017, 84.6% of all students were employed after graduation, and the student's quota losses had constituted 18.8%.

In the structure of VET institutions of Zaporizhzhya Oblast by sector, industry predominates (Figure A2.4).

[63] Strategy for the Development of Zaporizhzhya Oblast up to 2020. Order No 1 from 25 February 2016: www.zoda.gov.ua/images/article/original/000055/55043/strategia2020.pdf

FIGURE A2.4 STRUCTURE OF VET INSTITUTIONS OF ZAPORIZHZHYA OBLAST BY SECTOR, 2017 (%)



Note: As of 1 September 2017, the number of teachers as a share of the total number of pedagogical staff was 37.1% (17.9% of them teachers of the vocational subject cycle) and the number of masters was 43.1%. The infrastructure of VET institutions can be estimated based on the following indicators: 24.5 classrooms per institution; 6.4 laboratories per institution; and 7.7 training and production workshops per institution.

Main enterprises

Pologyvsky (B, C)

- Manufacturing: Joint Stock Company 'Zaporizhzhya Titanium-Magnesium Combine' (ВАТ 'Запорізький титано-магнієвий комбінат')
- Metallurgy: Joint Stock Company 'Zaporizh-steel' (ВАТ 'Запоріжсталь'), Joint Stock Company 'Dniprospecial-steel' ('Дніпроспецсталь')
- Machine-building: Joint Stock Company 'Motor Sich' (ВАТ 'Мотор Січ'), Joint Stock Company 'Zaporizhzhya transformation factory' (ВАТ 'Запорізький трансформаторний завод'), LLC 'Zaporizhzhya automobile-building factory' (ЗАТ 'Запорізький автомобілебудівний завод'), Joint Stock Company 'Zaporizhzhya abrasive plant' (ВАТ 'Запорізький абразивний комбінат'), Joint Stock Company 'Ukrainian graphite' (ТОВ 'Український графіт')
- Food industry: Olive Extracts Factory (Пологівський олійноекстракційний завод), Berdyansk meat-processing factory (Бердянський м'ясопереробний завод)
- Energy generation: Zaporizhzhya Nuclear Power Plant ('Запорізька АЕС'), State-owned enterprise 'Energo-Atom' (ДП НАЕК 'Енергоатом'), Company 'Tokmak Solar Energy' (ТОВ 'Токмак Солар Енерджи'), Company 'Wind Power' (ТОВ 'Вінд Пауер'), 'Euro Cape New Energy'

Kyiv Oblast

This region has a favourable geographical location, developed transport links, well-structured transit, and resource, tourism and recreational potential. Advanced agro-industrial potential, the availability of a diversified resource base for energy, and high-quality human resources remain the most important competitive advantages of the region.

Demographic potential

As of 1 January 2018, the share of the population aged 0–14 was 16.8% (compared to 16.3% in Ukraine as a whole). It was a decrease in the total fertility rate in the region (1.576 children per woman in 2016 compared to 1.688 in 2014). Average life expectancy at birth was 70.23 years in 2016 (compared to 71.7 in Ukraine as a whole). The coefficient of migration growth/reduction per capita in 2016 demonstrated significant growth (65.8%) as a result of the intensification of migration flows to the capital area. The total rural population outflow rate was 153.4‰ (compared with 99‰ in Ukraine as a whole). Young age groups as a share of the total population increased from 15.8% in 2014 to 16.8% in 2017 and becoming a reserve as potential students of vocational institutions.

Economic potential

The region has an industrial and agriculture specialisation. The share of regional gross added value is distributed by type of economic activity as follows: industry (22.2%), agriculture (16.0%), wholesale and retail trade (15.4%) and transport (10.3%). The index of industrial output has a positive dynamic – 110.3% in 2017 – while the index of agricultural products was 93.5%. In 2016 the largest share of capital investment was in industry (42.0% of the total), followed by construction (21.4%). The share of enterprises engaged in innovative activity remained practically unchanged (decreasing from 13.3% in 2015 to 11.0% in 2016), significantly limiting the potential for the innovative development of the regional industrial sector. Export potential remained significant (exports of goods per capita in 2017 amounted to USD 1 002.3, compared with USE 1 018.4 in the country as a whole).

The sectoral structure of enterprises in the region (excluding banks and financial institutions) is as follows: 27.8% of enterprises operate in the wholesale and retail trade (79.1% of them profitable), 15.2% operate in industry (72.8% profitable), almost 12.9% of enterprises have an agricultural specialisation (81.2% profitable) and 10.7% are in construction (75.6%). With regard to the sectoral structure of employment, the share of employed persons in the wholesale and retail trade was 21.6%, industry 17.0%, transport 8.6% and agriculture 6.6%. The sectoral division of vacancies declared to the State Employment Service (as of end of 2017) was as follows: 27.4% in industry, 17.2% in agriculture and 15.6% in wholesale trade.

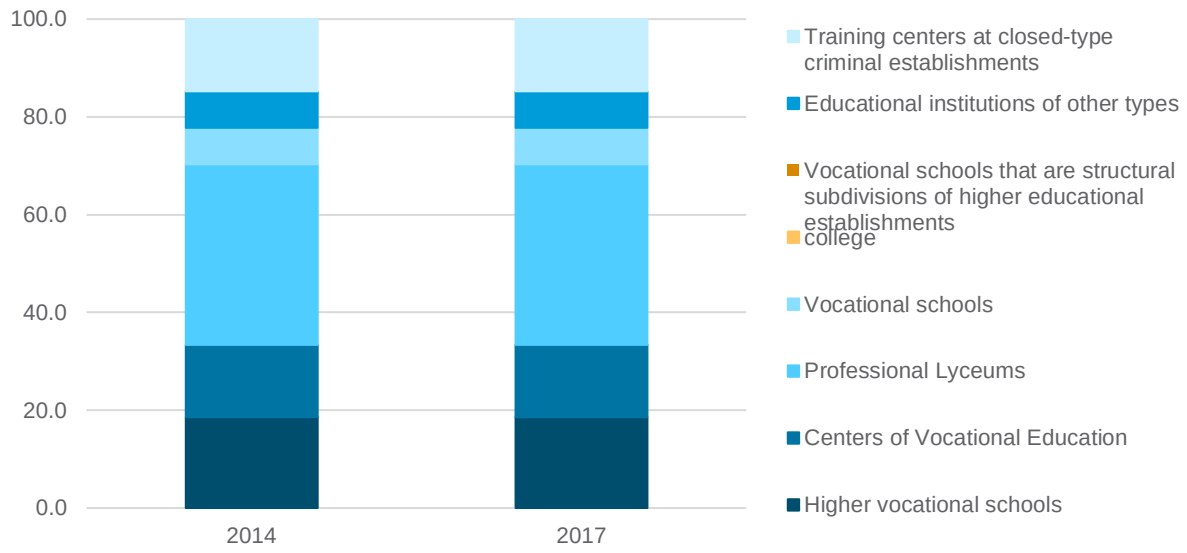
According to the Strategy for the Development of Kyiv Oblast up to 2020, manufacturing (food industry, agro-processing), services, logistic infrastructure and tourism are the priorities for development of economic activities in the region. The strategy promotes the preservation of the region's orientation towards the industrial and agro-service development sector (with a gradual increase in the share of value added)[64].

Educational potential

With regard to the structure of vocational educational institutions in Kyiv Oblast by type, professional lyceums (37.0%) predominate (Figure A2.5).

[64] Strategy for the Development of Kyiv Oblast up to 2020. Order No 856-44-VI from 4 December 2014: www.kyiv-oblosvita.gov.ua/normativno-pravova-baza/kijivska-oblasna-rada

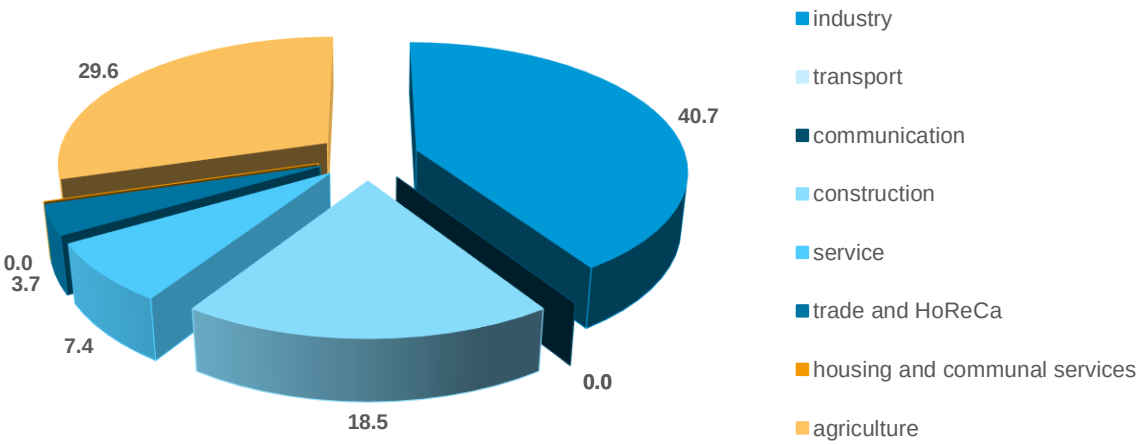
FIGURE A2.5. STRUCTURE OF VET INSTITUTIONS OF KYIV OBLAST BY TYPE (%)



Note: In 2017 the number of pupils (students) per educational institution had reached 294 persons (compared with 336 persons for Ukraine as a whole). As of 1 September 2017, 89.5% of all students were employed after graduation, and the student quota losses had constituted 4.9%.

In the structure of VET institutions of Kyiv Oblast by sector, industry predominates (Figure A2.6).

FIGURE A2.6. STRUCTURE OF VET INSTITUTIONS OF KYIV OBLAST BY SECTOR, 2017 (%)



Note: As of 1 September 2017, the number of teachers as a share of the total number of pedagogical staff was 35.6% (14.9% of them teachers of the vocational subject cycle) and the number of masters was 42.1%. The infrastructure of VET institutions can be estimated based on the following indicators: 20.5 classrooms per institution; 6.3 laboratories per institution; and 6.9 training and production workshops per institution.

Main enterprises

- Manufacturing: Myronivsky Hliboproduct (Миронівський хлібопродукт), Joint Stock Company 'Kovalskyy' (ПАТ 'Ковальська'), Joint Stock Company 'Rosava' (ПРАТ Росава), Rzhishivskiy zavod prodtovariv (Ржищівський завод продтоварів), Kyiv Cardboard and Paper Mill (ПАТ 'Обухівський картонно-паперовий комбінат'); Білоцерківхлібопродукт, Joint Stock Company 'Boguslav cloth factory' (ПАТ 'Богуславська суконна фабрика'), LLC 'Obuhivsmiskvtorresursy' ('Обухівсміськвторресурси')

Lviv Oblast

This region has a favourable geographical location, developed transport links, well-structured transit, and resource, tourism and recreational potential. Advanced agro-industrial potential, the availability of a diversified resource base for energy, and high-quality human resources remain the most important competitive advantages of the region.

Demographic potential

As of 1 January 2018, the share of the population aged 0–14 was 16.5% (compared to 16.3% in Ukraine as a whole). It was a decrease in the total fertility rate in the region (1.492 children per women in 2016 compared to 1.614 in 2014). Average life expectancy at birth was 73.55 years in 2016 (compared to 71.7 in Ukraine as a whole). The coefficient of migration growth/reduction per capita in 2016 was positive (19.6%), an indicator of the intensification of migration outflows. The total rural population outflow rate was 86.2‰ (compared with 99‰ in Ukraine as a whole). Young age groups as a share of the total population increased, confirming and becoming a reserve as potential students of vocational institutions.

Economic potential

The region has an industrial, agricultural and service specialisation. The share of regional gross added value is distributed by type of economic activity as follows: industry (22.7%), wholesale and retail trade (12.6%), agriculture (10.2%), transport (10.0%) and real estate (9.1%). The index of industrial output has a positive dynamic – 106.0% in 2017 – while the index of agricultural products increased to 105.7%. In 2016 the largest share of capital investment was in industry (34.2% of the total), followed by construction (18.3%), public administration (8.4%), real estate (7.5%), and transport and agriculture (6.2%). The share of enterprises engaged in innovative activity decreased from 19.3% in 2015 to 15.2% in 2016 and is not sufficient for the innovative development of the regional industrial sector (machine-building). Export potential is not very significant (exports of goods per capita in 2017 remained low, amounting to USD 626.2, compared with USD 1 018.4 in the country as a whole).

The sectoral structure of enterprises in the region (excluding banks and financial institutions) is as follows: almost 26.7% of enterprises are concentrated in wholesale and retail trade (76.4% of them profitable), 14.6% of enterprises operate in industry (70.6% profitable), 12.6% in real estate (63.8% profitable) and 9.4% in construction (71.6% profitable). With regard to the sectoral structure of employment, the share of employed persons in wholesale and retail trade was 18.3%, industry 15.1%, agriculture 18.2% and transport 6.0%. The sectoral division of vacancies declared to the State Employment Service (as of end of 2017) was as follows: 37.7% in industry, 14.6% in wholesale trade and 14.7% in transport.

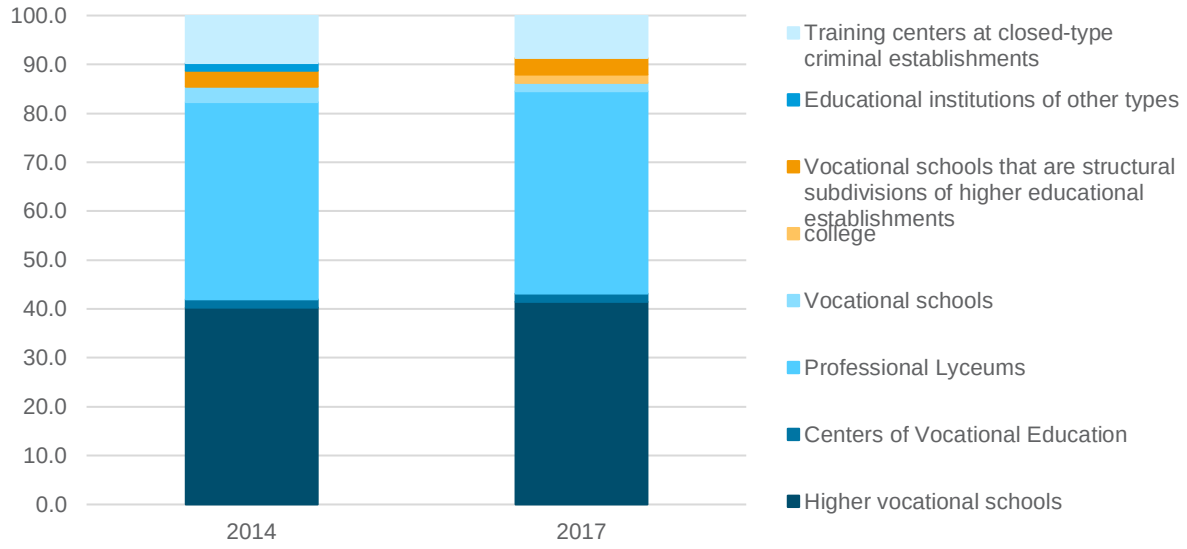
According to the Strategy for the Development of Lviv Oblast up to 2020 (innovative scenario), manufacturing (machine-building, food and textile industries), construction, logistic infrastructure, agriculture and agro-processing, tourism, services and energy saving are the priorities for

development of economic activities in the region. The strategy promotes the preservation of the region's orientation towards industrial development sector (with a gradual increase in the share of value added)[65].

Educational potential

With regard to the structure of vocational educational institutions in Lviv Oblast by type, higher vocational schools and professional lyceums have practically equal shares (41.4%) (Figure A2.7).

FIGURE A2.7 STRUCTURE OF VET INSTITUTIONS OF LVIV OBLAST BY TYPE (%)

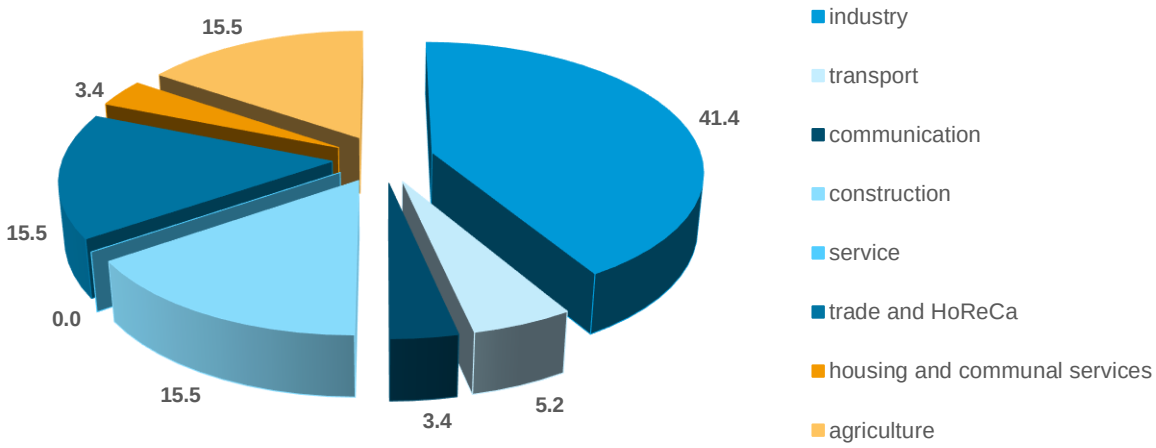


Note: In 2017 the number of pupils (students) per educational institution had reached 414 persons (compared with 336 persons for Ukraine as a whole). As of 1 September 2017, 80.6% of all students were employed after graduation, and the student quota losses had constituted 5.2%.

In the structure of VET institutions of Lviv Oblast by sector, industry predominates (Figure A2.8).

[65] Strategy for the Development of Luhansk Oblast up to 2020. Order No 39/0/5-16 from 26 January 2016: http://loda.gov.ua/upload/doc/2016/02/Roz_39_1455524615.doc

FIGURE A2.8 STRUCTURE OF VET INSTITUTIONS LVIV OBLAST BY SECTOR, 2017 (%)



Note: As of 1 September 2017, the number of teachers as a share of the total number of pedagogical staff was 37.7% (15.5% of them teachers of the vocational subject), and the number of masters was 42.7%.
The infrastructure of VET institutions can be estimated based on the following indicators: 23.9 classrooms per institution; 4.2 laboratories per institution; and 10.8 training and production workshops per institution.

Main enterprises

Manufacturing

- Machine-building: Private Joint Stock Company 'Electron' (ПрАТ 'Електрон'), State-owned enterprise 'Lviv Armored Plant' ('Львівський бронетанковий завод'), State-owned enterprise 'LORTA' (ДП Львівський державний завод 'ЛОРТА'), LLC 'LEONI' (ТОВ 'Леоні'), Private Joint Stock Company 'Lviv locomotive repair factory' (ПрАТ 'Львівський локомотиворемонтний завод')
- Food industry: 'Svitoch' (NESTLE group), food factory 'GALKA'

Rivne Oblast

This region has a favourable geographical location, developed transport links, well-structured transit, and resource, tourism and recreational potential. Advanced agro-industrial potential, the availability of a diversified resource base for energy, and high-quality human resources remain the most important competitive advantages of the region.

Demographic potential

As of 1 January 2018, the share of the population aged 0–14 was 20.6% (compared to 16.3% in Ukraine as a whole), because the region had a higher level of fertility in a previous period of time. However, during the period 2014–2016 the total fertility rate in the region decreased from 1.985 children per woman to 1.863. Average life expectancy at birth was 71.56 years in 2016 (compared to 71.7 in Ukraine as a whole). The coefficient of migration growth/reduction per capita in 2016 was −2.2% as well as in other western regions. The total rural population outflow rate was 116.1‰ (compared with 99‰ in Ukraine as a whole). Improvement of demographic basis allows having potential students of vocational institutions.

Economic potential

The region has an industrial, agricultural and service specialisation. The share of regional gross added value is distributed by type of economic activity as follows: industry (26.1%), wholesale and retail trade

(13.7%), agriculture (20.6%), transport (5.1%) and real estate (7.7%). The index of industrial output has a positive dynamic – from 98.1% in 2016 to 109.3% in 2017. The index of agricultural products has remained positive during recent years – 104.9–104.2%. In 2016 the largest share of capital investment was in industry (29.7% of the total), followed by construction (27.0%), public administration (14.3%) and agriculture (13.0%). The share of enterprises engaged in innovative activity decreased from 10.6% in 2015 to 5.9% in 2016. This is a critical challenge for the innovative development of the regional industrial sector. Export potential is not very significant (exports of goods per capita in 2017 remained low, amounting to USD 329.9, compared with USD 1 018.4 in the country as a whole).

The sectoral structure of enterprises in the region (excluding banks and financial institutions) is as follows: almost 24.4% of enterprises were concentrated in the wholesale and retail trade (73.4% of them profitable), 16.9% operate in industry (65.2% profitable), 14.0% in agriculture (79.8% profitable), 10.8% in real estate (64.9%) and 9.5% in construction (68.1% profitable). With regard to the sectoral structure of employment, the share of persons employed in wholesale and retail trade is 25.5%, industry 13.5%, agriculture 17.6% and transport 5.6%. The sectoral division of vacancies declared to the State Employment Service (as of end of 2017) was as follows: 28.4% in industry, 20.8% in wholesale trade and 11.7% in transport.

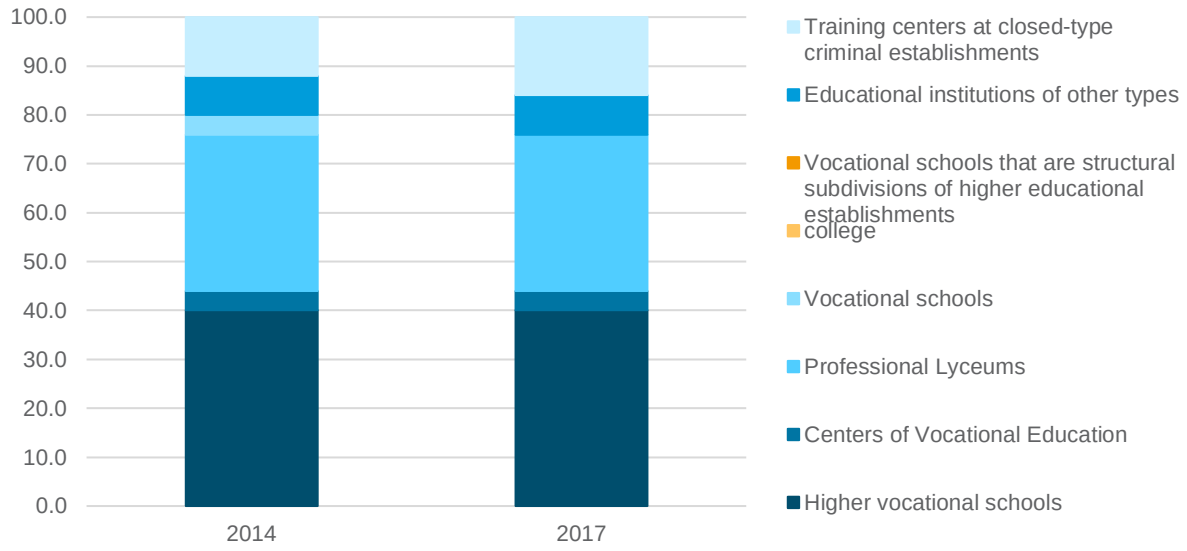
According to the Strategy for the Development of Rivne Oblast up to 2020, manufacturing (chemistry, food industry, machine-building), agriculture and agro-processing, energy saving and tourism are the priorities for the development of economic activities in the region. The strategy promotes the preservation of the region's orientation towards the agro-industrial development sector (with a gradual increase in the share of value added)[66].

Educational potential

With regard to the structure of vocational educational institutions in Rivne Oblast by type, higher vocational schools (40.0%) predominate (Figure A2.9).

[66] Strategy for the Development of Rivne Oblast up to 2020. Order No 1374 from 18 December 2014: http://oblrada.rv.ua/documents/rishennya/6_sklikannya.php?SECTION_ID=38&ELEMENT_ID=9620

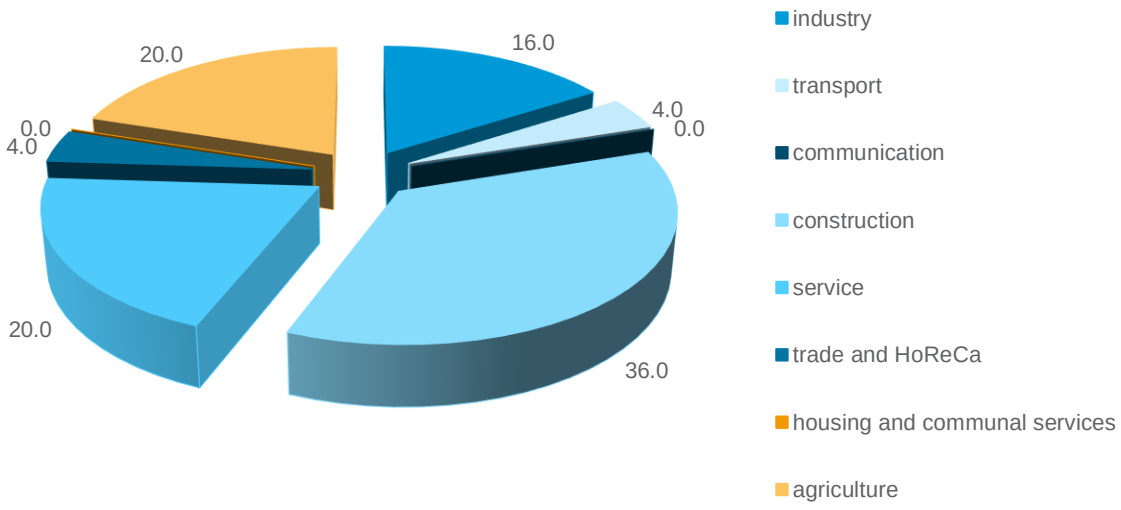
FIGURE A2.9 STRUCTURE OF VET INSTITUTIONS OF RIVNE OBLAST BY TYPE (%)



Note: In 2017 the number of pupils (students) per educational institution had reached 440 persons (compared with 336 persons for Ukraine as a whole). As of 1 September 2017, 82.2% of all students were employed after graduation, and the students quota losses had constituted 4.6%.

In the structure of VET institutions of Rivne Oblast by sector, construction predominates (36.0%) (Figure A2.10).

FIGURE A2.10. STRUCTURE OF VET INSTITUTIONS RIVNE OBLAST BY SECTOR, 2017 (%)



Note: As of 1 September 2017, the number of teachers as a share of the total number of pedagogical staff was 36.2% (16.6% of them teachers of the vocational subject cycle) and the number of masters was 42.3%. The infrastructure of VET institutions can be estimated based on the following indicators: 20.0 classrooms per institution; 5.5 laboratories per institution; and 8.0 training and production workshops per institution.

Main enterprises

- Manufacturing: Public Joint Stock Company ('Rivneazot' ПАТ 'Рівнеазот'), Public Joint Stock Company 'Volyn-Cement' (ПАТ 'Волинь – Цемент'), LLC 'OEDEK Ukraine' (ТОВ 'ОДЕК Україна'), Joint Stock Company 'Dubnomoloko' (ПАТ 'Дубномолоко'), LLC 'Samgaz' (ТОВ 'Самгаз')

Kyiv City

The city has a favourable geographical location, developed transport links, well-structured transit, and resource, tourism and recreational potential. Advanced agro-industrial potential, the availability of a diversified resource base for energy, and high-quality human resources remain its most important competitive advantages.

Demographic potential

As of 1 January 2018, the share of the population aged 0–14 was 16.4% (compared to 16.3% in Ukraine as a whole). During the period 2014–2016 the total fertility rate in Kyiv city increased from 1.445 children per woman to 1.569. Average life expectancy at birth was 74.2 years in 2016 (compared to 71.7 in Ukraine as a whole). The coefficient of migration growth/reduction per capita in 2016 was 45.6%, an indicator of the increase of migration flows to Kyiv as an attractive place to live and work. It testified the existence of potential students for vocational institutions.

Economic potential

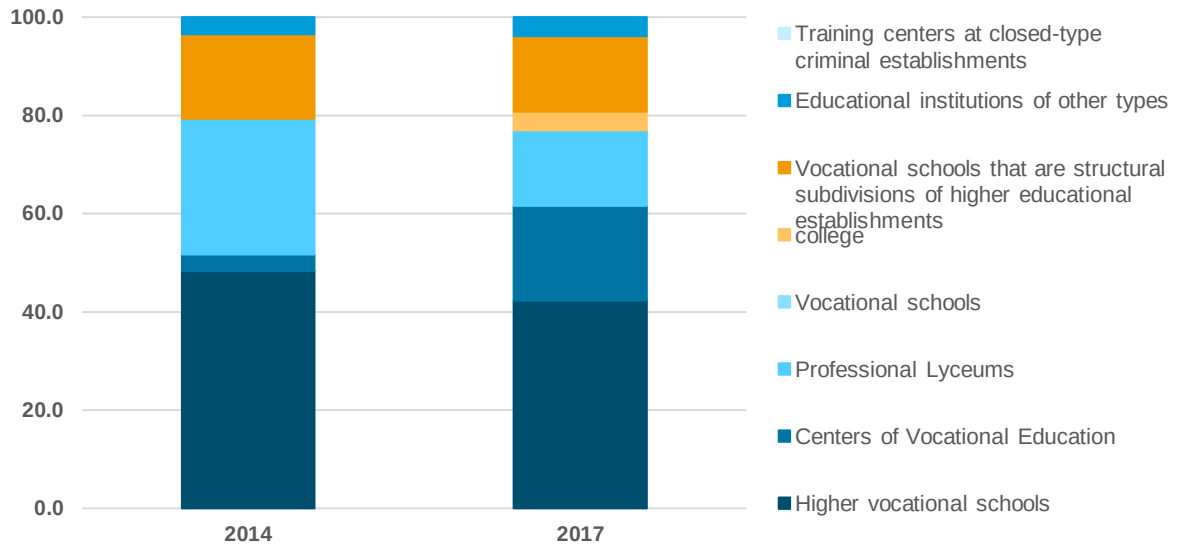
The city has an industrial, agricultural and service specialisation. The share of regional gross added value is distributed by type of economic activity as follows: wholesale and retail trade (30.7%), information and communication (10.7), industry (9.9%), professional, scientific and technical activities (9.7%) and transport (7.0%). The index of industrial output demonstrates a negative dynamic – from 104.4% in 2016 to 95.8% in 2017. In 2016 the largest share of capital investment was in industry (27.1% of the total), followed by construction (12.1%), wholesale and retail trade (11.6%), transport (13.3%), information (12.0%), real estate (6.0%) and finance (5.3%). The share of enterprises engaged in innovative activity increased from 17.3% in 2015 to 20.7% in 2016, testifying to the potential for innovative development of the city's economy. Export potential has remained high (exports of goods per capita increased from USD 2 938.3 in 2016 to USD 3 323.6 in 2017, compared with USD 1 018.4 in the country as a whole).

The sectoral structure of enterprises in the region (excluding banks and financial institutions) is as follows: almost 31.4% of enterprises were concentrated in the wholesale and retail trade (70.6% of them profitable), 14.1% in professional, scientific activities (66.2% profitable), 9.5% in real estate (54.6% profitable), 9.1% in industry (71.3% profitable) and 9.0% in construction (65.1% profitable). With regard to the sectoral structure of employment, the largest share was employed in wholesale and retail trade (27.5%), followed by professional activity (9.3%), industry (7.4%), information (6.6%) and finance (5.3%). The sectoral division of vacancies declared to the State Employment Service (as of end of 2017) was as follows: 16.9% in industry, 14.3% in wholesale trade, 12.6% in transport and 13.0% in public administration.

Educational potential

With regard to the structure of vocational educational institutions in Kyiv city by type, higher vocational schools (42.3%) predominate (Figure A2.11).

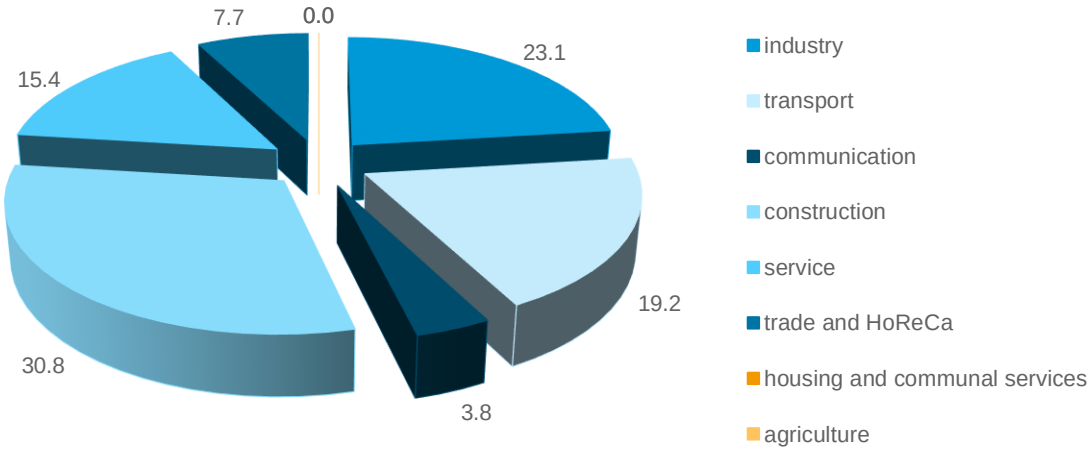
FIGURE A2.11. STRUCTURE OF VET INSTITUTIONS OF KYIV CITY BY TYPE (%)



Note: In 2017 the number of pupils (students) per educational institution had reached 490 persons (compared with 336 persons in Ukraine as a whole). As of 1 September 2017, 92.2% of all students were employed after graduation, and the student quota losses had constituted 8.6%.

In the structure of VET institutions of Kyiv city by sector, construction predominates (30.8%) (Figure A2.12).

FIGURE A2.12 STRUCTURE OF VET INSTITUTIONS OF KYIV CITY BY SECTOR, 2017 (%)



Note: As of 1 September 2017, the number of teachers as a share of the total number of pedagogical staff was 34.9% (14.9% of them teachers of the vocational subject cycle) and the number of masters was 40.6%. The infrastructure of VET institutions can be estimated based on the following indicators: 18.5 classrooms per institution; 2.9 laboratories per institution; and 6.6 training and production workshops per institution.

LIST OF ACRONYMS

CoVE	Centre of vocational excellence
CVET	Continuing vocational education and training
DMI	Delegated Management Institute – Morocco
ETF	European Training Foundation
EU	European Union
EUR	Euro (currency)
GDP	Gross domestic product
GRP	Gross regional product
ICTs	Information and communication technologies
IFMIA	Institut de formation aux métiers de l'industrie automobile (Training Institute for the Trades of the Automobile Industry) – Morocco
ILO	International Labour Organisation
IT	Information technology
IVET	Initial vocational education and training
MFC	Multifunctional VET college
MoES	Ministry of Education and Science
NGOs	Non-governmental organisations
PPP	Public–private partnership
RDP	Regional development plan
ROCs	Regional Education and Training Centres – the Netherlands
RSC	Regional state college
RVETC	Regional VET council
UAH	Ukrainian hryvnia (currency)
USD	United States dollar (currency)
VET	Vocational education and training
VNFIL	Validation of non-formal and informal learning

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