

# Labor Market Information in Ukraine

## Analysis of Available Dissemination Platforms and Proposal for a New Web Portal

World Bank

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*February 27, 2018*

### **Summary**

The purpose of this note is to make a proposal for a new labor market information dissemination platform in Ukraine, using as a starting point an analysis of available dissemination platforms in the country and examples from other countries. The note can be used as a guide to develop a new platform or improve the existing ones, considering the tools and sections recommended for each type of audience: students and jobseekers, policymakers and institutions, employers, and academics. In addition to this, the graphs and tables presented throughout the text can be used as good examples of ways to present the information in each section in an illustrative and easy-to-understand way.

The primary intended audience of this note are policymakers and specialists in charge of developing the new labor market dissemination platform in Ukraine. However, the recommendations for the structure and information to be displayed can be useful for other countries as well.

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The author benefited from guidance from Katerina Petrina and Abba Safir. The report also benefited from a first review of Ukrainian dissemination portals conducted by Olga Kupets.

## 1. Introduction

The objective of the new Labor Market Information Web Portal is the following:

- Provide jobseekers and students with key labor market information and occupation information to assist their decision-making.
- Provide policy makers and educational institutions with statistics showing the importance of skills in labor market outcomes, the lack of adequacy of the labor force to firm's demand and problems with education system and employers, among others, to help guide policy discussion and motivate changes in curricula and labor market programs to promote investment in training by employers.
- Provide employers information about the labor force and references of wages paid in the market.
- Provide academics access to updated data bases related to labor market information.

In this note, I first make a diagnostic of current web portals in Ukraine, to account for its weaknesses and areas of improvement. Then, I present a proposal for a dissemination portal, considering web portals from other countries and presenting examples from them. I also use examples from two publications that use actual data from Ukraine in order to illustrate the type of graphs that could be useful. These two publications are: "Skills for a Modern Ukraine"<sup>1</sup> and "Skills gaps and the path to successful skills development"<sup>2</sup>.

## 2. Analysis of Available Dissemination Platforms in Ukraine

During the present study, I revised 12 dissemination platforms and 5 data sources in Ukraine (the links to web-source of each of them can be found in Appendix 1) in order to analyze weaknesses and areas of improvement.<sup>3</sup>

The general conclusion is that there is no single platform where you can find all the information relevant for jobseekers, students, policy makers and educational institutions in a user-friendly way, and including updated data in graphs and tables. In addition to this, some portals do not provide the option of choosing English as the language to view the information, or do not translate all the information, limiting its reach to Ukrainian and Russian speaking users.

Where more data is shown, as in State Statistics Service of Ukraine (SSSU), it is not user-friendly, no graphs are provided, and there is no guided information to help the audience know where to focus. For example, if a high-

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<sup>1</sup> Del Carpio, X., O. Kupets, N. Muller, and A. Olefir. 2017. *Skills for a Modern Ukraine*. Washington, DC: World Bank.

<sup>2</sup> World Bank. Social Protection and Labor Practice. Europe and Central Asia Region. 2015. *Skills Gaps and the Path to Successful Skills Development. Emerging Findings from Skills Measurement Surveys in Armenia, Georgia, FYR Macedonia, and Ukraine*. DC: World Bank. Report No: ACS14318.

<sup>3</sup> These dissemination platforms and data sources were also revised by Olga Kupets, who speaks Ukrainian.

school student wants help on what to study, he/she would be lost on where to look, or what to pay attention to.

More user-friendly portals do not include data or, if data is provided, it is not updated. Those that give tips on what to consider when choosing a career, are presented as text, with no data or graphs shown.

Table 1 presents each of the Ukrainian dissemination platforms revised, its apparent audience, whether they are user-friendly and comments about the information they provide and what information is missing.

**Table 1. Ukrainian Dissemination Platforms Assessed in this Revision and Comments to Them**

<b>Dissemination platform</b>	<b>Audience</b>	<b>User-friendly?</b>	<b>Comments</b>
State Statistics Service of Ukraine (SSSU)	Policymakers, researchers/analysts, students who analyze the data for term papers, thesis, etc.	No	<p>A lot of information provided in large tables. Not useful for non-specialist audiences. Lack of graphs, or guided information to help the audience know where to focus (which information is useful to look at in case he/she wants to analyze what to study, for example). It is not thought as a web site to help students or job seekers make decisions about occupations and careers, but just providing information in a raw way.</p> <p>Missing information:</p> <ol style="list-style-type: none"> <li>1) Employment rate by sector (I only found employment population by sector).</li> <li>2) Graphs showing information in an informative way.</li> <li>3) Processed information, as provided in other job portals, for example showing employability of different occupations after 1 year of employment</li> </ol>
State Employment Service of Ukraine (SES) / Statistical information	Policymakers, researchers/analysts (those who know about this source)	No	<p>Web page with statistics not shown when you choose English as language.</p> <p>Services for the population include “professional orientation” with articles covering different topics (such as “Professional orientation in the SES” or</p>

			“How to choose a profession”). These, however, are only texts without tables or figures with information.
Career guidance platform and professional orientation testing (supported by UNDP and other organizations)	Schoolchildren and their parents, students of colleges and universities (those who know about this source)	Yes	<p>It takes you to <a href="http://www.education.ua/ua/professions/">http://www.education.ua/ua/professions/</a>, where there is detailed information about each occupation, describing duties, work place, personal qualities, and education needed. However, they do not explain where they take the personal qualities needed, and this is not available for all occupations. For example, for teachers and biophysics, they only explain general characteristics, job responsibilities and qualifications.</p> <p>It also gives "tips" of what to consider when choosing a career. A free 3 hours test is available to help discover inclinations and abilities (you need to register first)</p> <p>Missing information: No data provided (tables nor graphs).</p>
Institute of professional qualifications (supported by the Federation of Employers)	Difficult to say (may be employers and TVET institutions)	50-50 (user-friendly for interested people)	They provide a list of occupational standards and state education standards for a limited number of blue-collar professions. It also includes news, information about their projects, and laws and regulations. However, it is not conceived as a labor market dissemination platform that could help students or job seekers in their decision making process, nor it provides any data related to the labor market in graphs or tables.
Analysis of labor market situation and surveys by Head Hunter job portal (maintained by a private	Job seekers and employers	Yes	Possibility to choose English, but not all graphs in the articles are translated. Data about wages and satisfaction with it are taken from a survey in Head

employment agency (HeadHunter)			Hunter portal. Good articles with tips about interviews, updating cv, etc.  No regular update of the information.
Animated videos "Job search", 24 series (supported by SES)	Difficult to say (intended audience is schoolchildren, students and adult job seekers)	Yes	They seem to be very friendly videos, but they are not in English. Using google translate, I can see the short description of each of them. They seem to be a useful guide for someone looking for a job.
News about education, rankings of educational institutions, and several articles on career guidance	Schoolchildren and their parents, students of colleges and universities (those who know about this source)	No	Portal in Ukrainian. Using google translate, I was able to read it. Useful rank of universities, with information about its tuition fee. However, rankings are not shown by career and Universities are often listed according to their financial contribution to "osvita.ua" but not in accordance with their performance indicators or alphabet.  Platform with a lot of advertising;
Analysis of labor demand (current and in the next 5 years), project of Liga.net in 2015 (maintained by a news agency LigaBusinessInform)	Difficult to say (readers of liga.net)	50-50	Only in Ukrainian. Possibility of translating it with Google Chrome, but tables and graphs are not translated.  Infographics are useful but text is not well-structured
List and a short description of occupations (professions) in highest demand, with job requirements, average wage and prospects (maintained by a private employment agency RabotaPlus)	Students of colleges and universities, adult job seekers (those who know about this source)	Yes	Only in Ukrainian (translated with google chrome). Information of occupations: general information, pros and cons, work, personal qualities, salary and prospects for the profession (all provided in text. No graph shown).

List of training centers by region and occupation (maintained by a private employment agency RabotaPlus)	Students of colleges and universities, adult job seekers (those who know about this source)	Yes	Only in Unkrainian (translated with google chrome). Useful information about courses, with duration, cost, dedication (part-time or full-time), number of participants.
List and a short description of selected occupations (professions) with basic job requirements (maintained by a private education portal education.ua, link from <a href="http://mycareer.org.ua/job-choice">http://mycareer.org.ua/job-choice</a> )	Schoolchildren and their parents, students of colleges and universities, adult job seekers (those who know about this source)	Yes	Only in Unkrainian or Russian (translated with Google Chrome). Detailed information about each occupation, describing duties, work place, personal qualities, and education needed. However, I don't know where they take personal qualities needed, and this is not available for all occupations. For example, for teachers and biophysics, they only explain general characteristics, job responsibilities and qualifications.  Information missing: No data provided (tables nor graphs).
List of training centers by region and occupation (maintained by a private education portal education.ua)	Schoolchildren and their parents, students of colleges and universities, adult job seekers (those who know about this source)	No	Only in Ukrainian or Russian (translated with google chrome). Detailed information about available courses in different training institutions, with details about cost, course description, duration and time frequency (even possible hours to take the course).  A lot of advertising; Universities are often listed according to their financial contribution to "osvita.ua" but not in accordance with their performance indicators or alphabet

### 3. Proposal for a New Web Portal

**The new portal should be comprehensive, concentrating all the information in one place for specialists and non-specialists.** It will be created thinking of it as a tool to help students and jobseekers decide what to

study, which occupation to choose. As such, information will be displayed in an illustrative way, using graphs and tables easy to understand by non-specialists, providing all the information in one portal, but guiding the user on what information to look at and the relevance of it for his/her decision. Information will also be given for policymakers, institutions and employers, but displayed differently and focusing in other aspects of the labor market.

**The information should be available in English, in addition to Ukrainian and Russian.** This feature will allow non-Ukrainian nor Russian speakers to be able to use the platform, increasing its reach.

### 3.1 Main Ideas for Improvement

In this section, I summarize the main areas of improvement proposed in this note, which are missing in available portals in Ukraine:

- 1) *Employment rate by sector* (currently, only population employed by sector is shown).
- 2) *Graphs showing information in an informative and easy way for non-specialists.*
- 3) *Processed information*, for example showing employability and wages of different occupations after 1 year of employment.
- 4) *Updated information*, showing evolution or changes over time. It is not enough to see the picture at one moment in the past. Graphs and labor market information should be updated regularly to show the latest numbers, trends and changes.
- 5) *Growth of job vacancies, to understand its dynamic and evolution over time.* If only the number in the present year (or month) is shown, it could be the case that there is a high demand for an occupation due to a short term shock not likely to be sustained (or that there is a seasonal demand). Therefore, it is also useful to see vacancies compared to previous years.
- 6) *Projected employment level in 5 years*, by industry, occupations and skills level.
- 7) *Occupations and sectors with the largest number of firms hiring (good hiring prospects).* It is easier to find a job when many firms, rather than few firms, are hiring. Large firms could hire at certain times of the year, or even not every year; instead, if there are many firms in the market hiring, even if small, it is more likely to have vacancies all year round and in different locations.<sup>4</sup>

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<sup>4</sup> Georgia's infographic.

- 8) Table showing for each occupation, employability 1 year after graduation, average earnings 4 years after graduation, annual tuition fee.
- 9) *Labor mobility*: map showing labor migration of recent graduates within the country, and the wage they are receiving.
- 10) *Why continue studying?* Show that in some occupations, those that continued studying receive XX more than those that didn't. However, choosing the right occupation for each person, depending on each one's skills, and considering those occupations with good outlook, is key to receiving the payoffs of education.
- 11) *Occupation simulator*, with occupation's outlook, occupation's education and skills or competencies requirements, wages, key facts about the occupation<sup>5</sup>, list of programs available in the market to prepare for the occupation (information of the institutions, duration of the program, tuition cost, institutional accreditation).
- 12) *Importance of skills in labor market outcomes*.
- 13) *Lack of adequacy of labor force to firm's demand*.
- 14) *Problems with education sector and employers*.

#### 4. Ideas for Students and Jobseekers

Students and jobseekers can begin their search considering general information of the labor market or using the occupations' simulator. In the former, tables are presented for all occupations, giving students and jobseekers the possibility of ordering information in terms of a preferred concept (for example, wage, vacancies, etc.). In the latter, the information concentrates around one occupation, which has been chosen by the user, or which was the result of the simulator considering the user's main skills.

##### 4.1 Labor Market Information

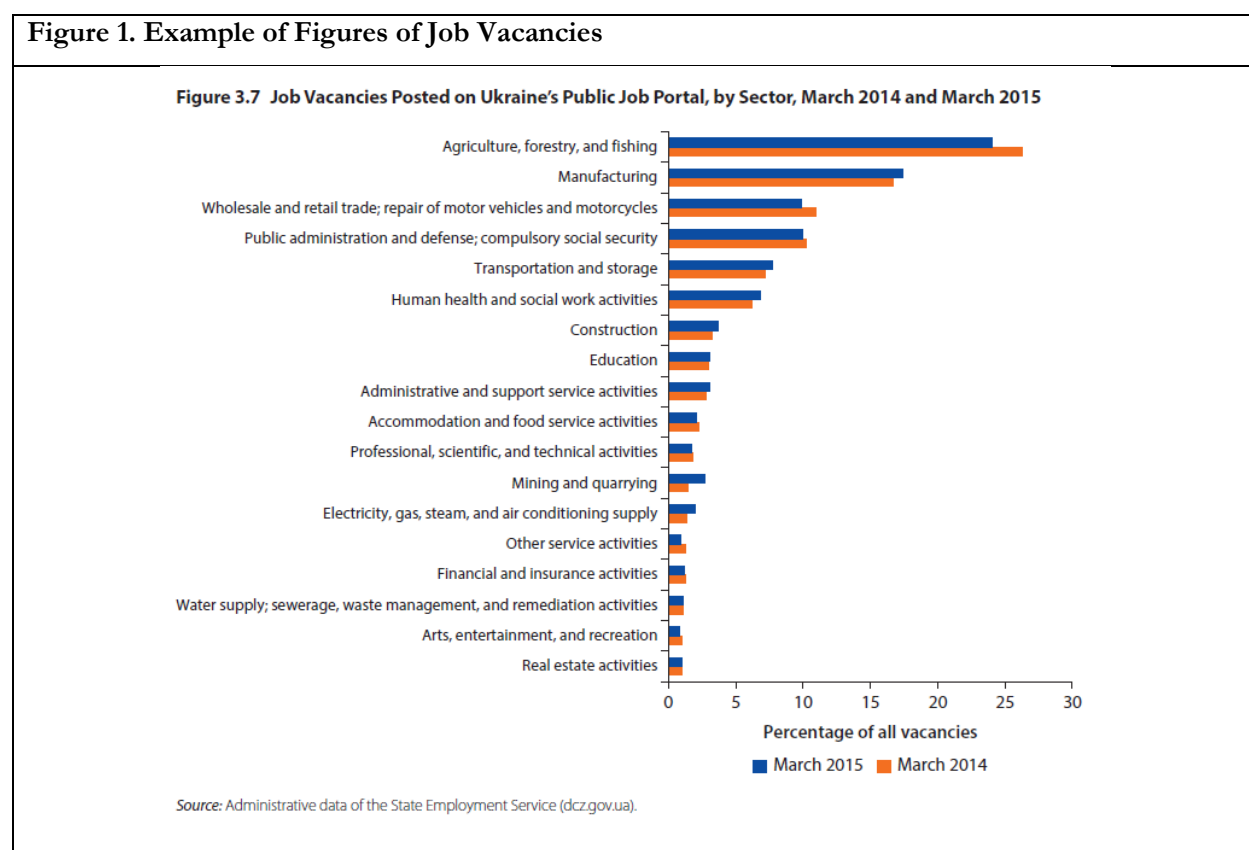
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<sup>5</sup> Number of people that work in that occupation, distribution across sectors, % that work all year and % that work only part of the year, compares to all occupations' share, age groups of those who work in these occupations, gender distribution, educational attainment.

This option provides general information of the labor market. The idea is to show tables with general information, where the student or jobseeker can order by a certain criterion, and basic graphs. This section would include:

1) *Labor market outlook*

a. Job vacancies number and growth with respect to base level. Graphs showing sectors (or occupations) with the largest vacancies (best job availability as defined in Georgia’s infographic)<sup>6</sup> and the average number of applicants and suitable applicants per vacancy. Example: figure 1 below, which shows graphs from “Skills for a Modern Ukraine”<sup>7</sup> and from Australia’s Labour Market Research Occupational Report for Accountants.<sup>8</sup>

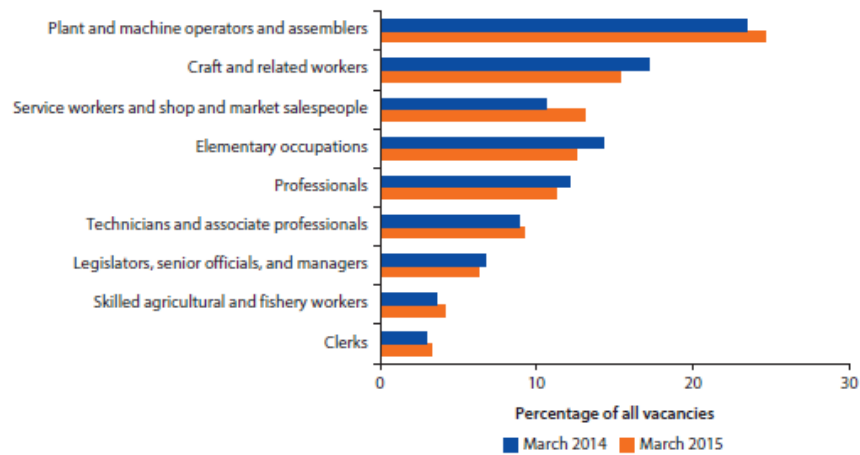


<sup>6</sup> Jobs availability: Occupations are said to have good jobs availability when there is a large number of job openings at a time. However, having a large number of vacancies does not imply good job prospects, as occupations with high number of job openings can also have large number of layoffs (temporary jobs as in construction).

<sup>7</sup> Del Carpio, X., O. Kupets, N. Muller, and A. Olefir. 2017. *Skills for a Modern Ukraine*. Washington, DC: World Bank.

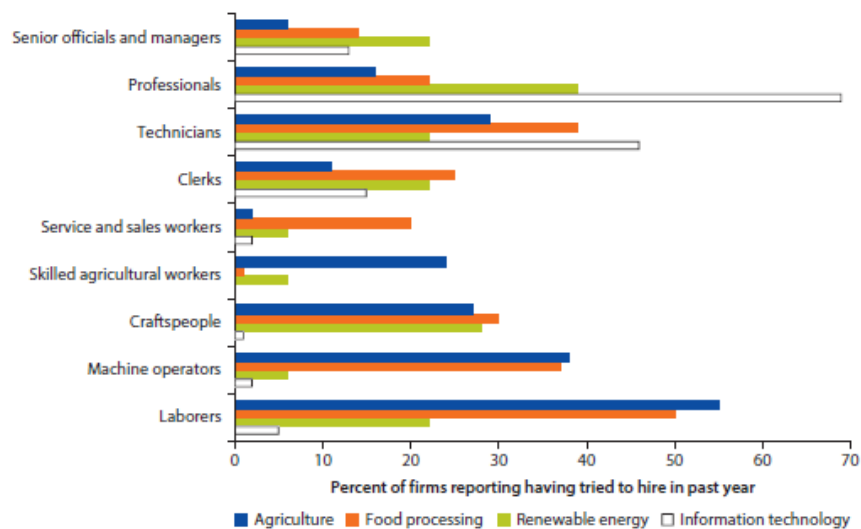
<sup>8</sup> Australian Government. Department of Employment. 2017. Labour Market Research – Accountants. June quarter 2017. Australia.

**Figure 3.8 Job Vacancies Posted on Ukraine's Public Job Portal, by Occupation, March 2014 and March 2015**



Source: Administrative data of the State Employment Service (dcz.gov.ua).

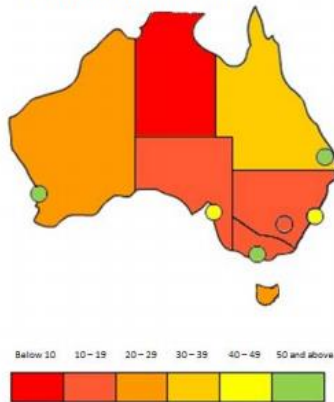
**Figure 3.9 Occupations in Greatest Demand in Four Key Sectors in Ukraine**



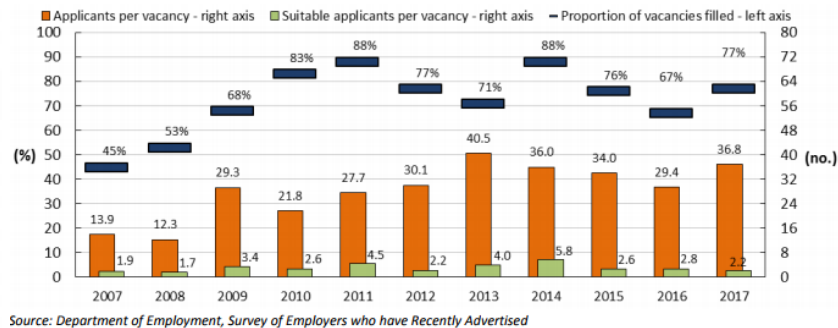
Source: Ukraine STEP Employer Survey 2014.

Source: Skills for a Modern Ukraine.

**Figure 1. Average Applicant Numbers by Location**



**Figure 3: Proportion of vacancies filled (%), average number of applicants and suitable applicants per vacancy (no.), Accountants, 2007 to 2017**



Source: Department of Employment, Survey of Employers who have Recently Advertised

Source: Australia's Labour Market Research – Accountants. June quarter 2017.

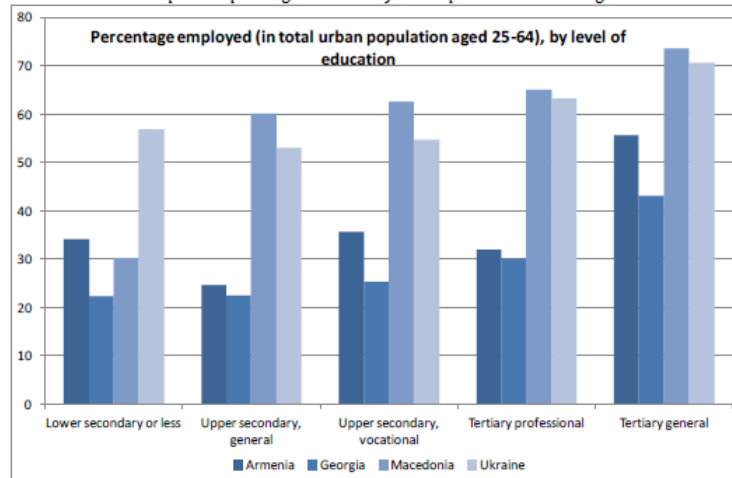
- b. Occupations and sectors with the largest number of firms hiring.
- c. Bar graph showing the number of graduates per occupation vs the number of firms hiring. Another possibility is to show the top 10 occupations with respect to the number of graduates, vs. the vacancies of those occupations.
- d. Jobs prospects, measured by increases in employment (in levels and in percentage growth). Unemployment rate by type of education, to show that more education not necessarily guarantees a job. Hence, the importance of making an informed decision. Example: figure 2 below, which shows graphs from “Skills gaps and the path to successful skills development”.<sup>9</sup>

**Figure 2. Example of Figures to Show that More Education not Necessarily Guarantees a Job**

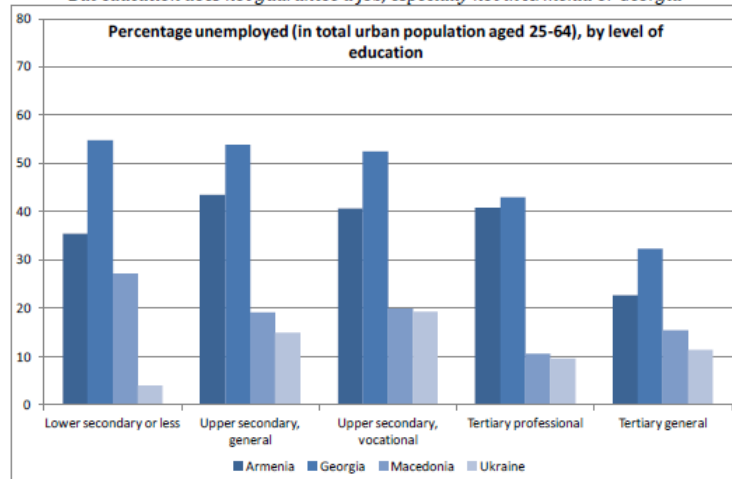
<sup>9</sup> World Bank. Social Protection and Labor Practice. Europe and Central Asia Region. 2015. *Skills Gaps and the Path to Successful Skills Development. Emerging Findings from Skills Measurement Surveys in Armenia, Georgia, FYR Macedonia, and Ukraine*. DC: World Bank. Report No: ACS14318.

**Figure 3.3: Insufficient education or the wrong kind of education?**

*Education helps in improving access to a job compared to not having education*



*But education does not guarantee a job, especially not in Armenia or Georgia*



*Source: Authors, based on STEP household surveys. Note: STEP surveys' unemployment rates differ from those registered in the LFS. For Armenia, Georgia and Ukraine, they are significantly higher than in the LFS, while for Macedonia, they are significantly lower.*

*Source: Skills gaps and the path to successful skills development.*

e. Table showing for each occupation, employability 1 and 5 years after graduation, average earnings 4 years after graduation, annual tuition fee. Example: Occupation finder in Chile's web portal "Futuro laboral", [www.mifuturo.cl](http://www.mifuturo.cl), shown in figure 3.

**Figure 3. Example of Table with Labor Market Outlook**

## Buscador de Empleabilidad e Ingresos

Estás buscando:

Tipo: Todos

Institución: Todos

Carrera: Todos



Cambia criterios de búsqueda

Resultados de búsqueda:

Institución	Acreditación de la institución	Carrera	% alumnos de Establecimientos Subvencionados	Retención de 1er año	Duración real (semestres)	Empleabilidad al 1er año	Ingreso promedio al 4º año	Arancel Anual 2016
Pontificia Universidad Católica de Chile	7 años	Actuación	41,8%	89,8%	s/i	33,3%	De \$600 mil a \$700 mil	\$3.672.000
IP DUOC UC	7 años	Actuación	85,7%	71,7%	10,7	39,9%	De \$600 mil a \$700 mil	\$2.395.000
IP Instituto Internacional de Artes Culinarias y Servicios	No	Administración de Artes Culinarias y Servicios	36,0%	69,0%	10,8	61,8%	s/i	\$3.742.663
Universidad Gabriela Mistral	2 años	Administración de Empresas	59,6%	s/i	s/i	85,8%	s/i	\$2.317.500
Universidad Austral de Chile	6 años	Administración de Empresas de Turismo	93,9%	75,6%	s/i	76,3%	De \$800 mil a \$900 mil	\$2.200.000
IP INACAP	6 años	Administración de Hoteles y Restaurantes	81,9%	70,3%	11,2	58,4%	De \$600 mil a \$700 mil	\$1.738.200
Universidad de Valparaíso	5 años	Administración de Negocios Internacionales	90,1%	s/i	15,5	84,1%	De \$1 millón a \$1 millón 100 mil	\$2.664.000
IP Los Leones	2 años	Administración de Negocios y Ventas	s/i	s/i	s/i	59,6%	De \$700 mil a \$800 mil	\$979.688

Source: Chile's web portal "Futuro laboral", [www.mifuturo.cl](http://www.mifuturo.cl).

f. Employment level projections in 5 years, by industry, occupations and skill level. For example, the Australian Labour Market Information Portal offers this information in downloadable tables. The projections have been derived from best practice time series models that summarize the information that is in a time series and convert it into a forecast. The projections are made by combining forecasts from autoregressive integrated moving average (ARIMA) and exponential smoothing with damped trend (ESWDT) models, with some adjustments made to take account of research undertaken by the Department of Employment and known future industry, occupational and regional developments.

g. Wages across fields (sectors and occupations), by personal and geographic characteristics.

- i. Monthly wages offered on job postings by education level required. Example: table 3.7 "Skills for a Modern Ukraine" shown in figure 4.

**Figure 4. Example of Table with Monthly Wages by Education Level**

**Table 3.7 Monthly Wages Offered on Job Postings on Ukraine's Public Job Portal, by Required Education Level, March 2015**

<i>Education level required</i>	<i>Number of postings</i>	<i>Monthly wages (UAH)</i>			<i>Standard deviation</i>
		<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	
General secondary or lower	6,583	122	25,000	2,036	2,183
Vocational secondary	9,410	137	20,000	2,094	933
Tertiary, short cycle	980	221	20,000	1,858	1,103
Tertiary, long cycle	6,321	328	452,680	2,807	10,872
Not specified	162	406	10,800	1,758	1,054
<b>Total</b>	<b>23,456</b>	<b>122</b>	<b>452,680</b>	<b>2,258</b>	<b>5,806</b>

*Source:* Data set of online job vacancies of the State Employment Service (trud.gov.ua), March 2015.

*Source:* "Skills for a Modern Ukraine".

- ii. Hourly wages among people working in different occupations.
- iii. Five programs or occupations with the highest earnings and employment rates upon graduation.

## 2) Job requirements

Tables showing, by occupation, experience, education and skills required (key skills in people active in the labor market in that occupation).

- a. Common competencies by occupation. Example: tables 4.1 and 4.2 "Skills for a Modern Ukraine" presented in figure 5.

**Figure 5. Example of Table with Common Competencies by Occupation**

**Table 4.1 Common Competencies of Engineers (High-Skilled Occupations)**

<b>Advanced cognitive skills</b>	Understanding of physics, strong communication and analytical skills, judgment and decision making, and complex problem solving	
<b>Socioemotional skills</b>	Active listening, active learning, customer and personal service, undertaking education and training of others	
<b>Technical skills</b>	<b>Design</b>	Knowledge of design techniques, tools and principles involved in production of precision technical plans, blueprints, drawings, and models
	<b>Production and processing</b>	Knowledge of raw materials, production processes, quality control, costs and other techniques for maximizing the manufacture and distribution of goods
	<b>Monitoring</b>	Keeping track of how well people and/or groups are doing in order to make improvements

Source: myskillsmyfuture.com.

Note: Based on U.S. occupation standards. Engineers include mechanical engineering technicians, agricultural technicians, and electrical engineer technicians, among others.

**Table 4.2 Common Competencies of Manual Workers (Low- and Medium-Skilled Occupations)**

<b>Socioemotional skills</b>	<b>Coordination</b>	Changing what is done based on other people's actions
<b>Technical skills</b>	<b>Operation and control</b>	Using equipment or systems
	<b>Operation monitoring</b>	Watching gauges, dials, or display screens to make sure a machine is working
	<b>Dexterity</b>	Ability to perform general manual tasks
	<b>Equipment knowledge</b>	Knowledge of machines and tools, including their designs, uses, repair, and maintenance

Source: myskillsmyfuture.com.

Note: Based on U.S. occupation standards. Manual workers include tractor drivers, manufacturing laborers, extraction workers, machine operators, and construction equipment operators, among others.

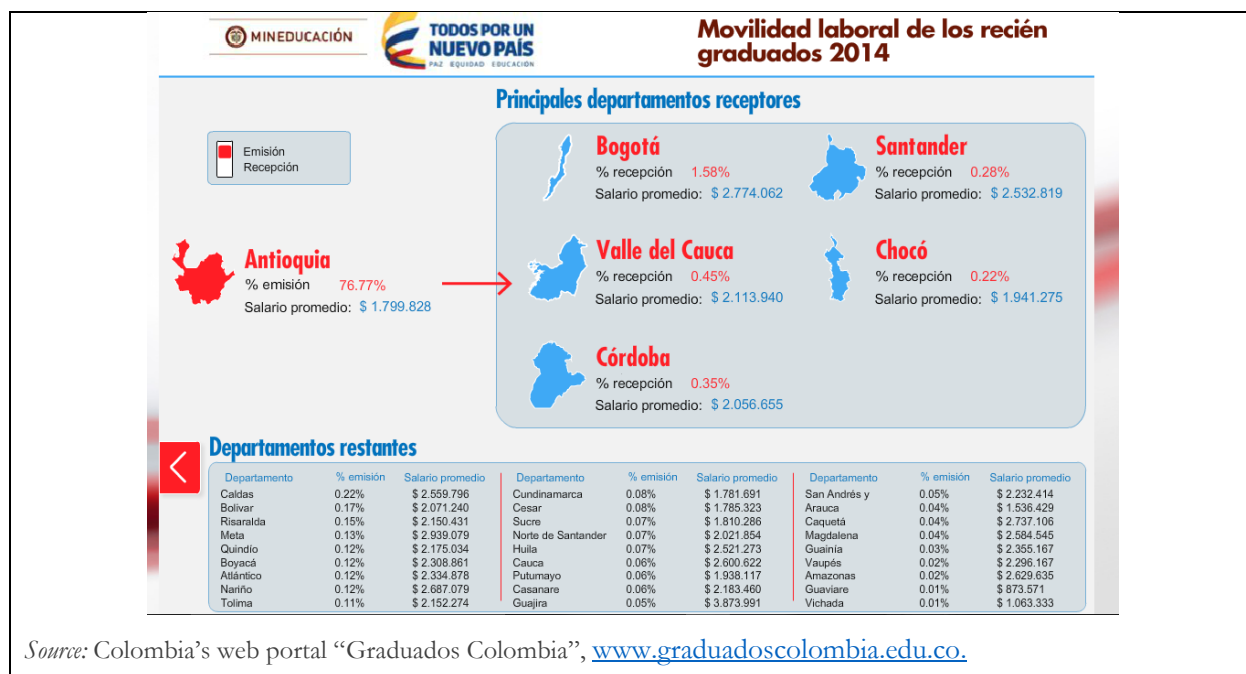
Source: "Skills for a Modern Ukraine".

- b. Separating cognitive, socio-emotional and technical skills.

### 3) *Labor Mobility*

Map showing labor migration of recent graduates within the country. In Colombia's portal, "Graduados Colombia" [www.graduadoscolombia.edu.co](http://www.graduadoscolombia.edu.co), you can choose between the options "emission" or "reception". The former shows the percentage of graduates in the department that migrate to other parts of the country, and the wage they are receiving. The latter shows the percentage of the graduates in the department that comes from other parts of the country, and the average wage they are receiving. See figure 6.

**Figure 6. Example of Map with Labor Mobility Information**



#### 4) Why continue studying?

Show that in some occupations, those that continued studying receive XX more than those that didn't. However, choosing the right occupation for each person, depending on each ones' skills, and considering those occupations with good outlook, is key to receiving the payoffs of education. Example: in Chile's web portal "Futuro laboral", [www.mifuturo.cl](http://www.mifuturo.cl), they include a very descriptive illustration about the payoffs of education:

**Figure 7. Example of Illustration with Information about Why Continue Studying**



## 4.2 Occupation Simulator

This option provides customized information of the labor market. The student can choose from a list of skills and personal characteristics, those that he thinks he has (up to a maximum of 15, for example). Based on these, the simulator lists occupations where these skills or characteristics are more valued and that are more present

among people working in those occupations. See figure 8 for an example of the checklist provided in Canada’s web portal (the list of possible skills and knowledge is larger. It includes ten skills categories and nine knowledge categories).

**Figure 8. Example of Skills and Knowledge Checklist for the Occupation’s Simulator**

**Skills and Knowledge Checklist**

Use this checklist to explore jobs or career options that match your skills and knowledge. For optimal results, select **15 to a maximum of 25 items**.

[Skills and Knowledge Glossary](#) [Clear selections](#)

SKILLS	KNOWLEDGE
<b>Handling Goods and Materials</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Sorting</li> <li><input type="checkbox"/> Loading and Unloading</li> </ul>	<b>Manufacturing and Production</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Processing and Production</li> <li><input type="checkbox"/> Food Production and Agriculture</li> </ul>
<b>Building</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Constructing</li> <li><input type="checkbox"/> Installing Building Interior Infrastructure</li> <li><input type="checkbox"/> Finishing Building Interior/Exterior</li> <li><input type="checkbox"/> Restoring and Repairing</li> </ul>	<b>Communications and Transportation</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Communications and Media</li> <li><input type="checkbox"/> Telecommunications</li> <li><input type="checkbox"/> Transportation</li> </ul>
<b>Operating and Repairing Equipment, Machinery and Vehicles</b>	<b>Law and Public Safety</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Law, Government, and Jurisprudence</li> <li><input type="checkbox"/> Public Safety and Security</li> </ul>

Source: Canada’s web portal “Working in Canada”, [https://www.jobbank.gc.ca/report\\_skillknowledge-eng.do?action=search\\_form](https://www.jobbank.gc.ca/report_skillknowledge-eng.do?action=search_form)

In addition to these skills and knowledge items, the portal presents 9 essential skills that apply to most of the jobs: reading, writing, document use, numeracy, oral communication, thinking, digital technology, working with others and continuous learning. The job seeker or student can explore how these essential skills are used in different occupation’s profiles.<sup>10</sup>

Another option is that the student chooses directly those occupations he/she is interested in. In both cases, then he can access the following information:

<sup>10</sup> If the essential skill is in fact not needed in a certain occupation, it says so. For example, for “cleaners”, under “digital technology”, it says: “This occupation does not use computers”. Otherwise, it gives details of tasks performed by a person with that occupation, that requires the essential skill.

## 1) *Occupation's outlook*

Based on job vacancies, jobs prospects (employment change and growth), hiring prospects and jobs availability (as defined in Georgia's infographic)<sup>11</sup>, we can show for the occupations that match his/her skills or the occupation chosen in the filter, the occupation outlook as “good” (★★★), “fair” (★★☆) or “limited” (★☆☆). Example: “Working in Canada”, [www.workingincanada.gc.ca](http://www.workingincanada.gc.ca).

**Figure 9. Example of Occupation's outlook from Occupation's Simulator**



## 2) *Occupation's education and skills or competencies requirements*

In the list of skills required, those that the student identified as having are identified with a ✓, and those missing are identified with a !. Skills and competencies requirements come from what employers consider important in each occupation. Example: “Working in Canada”, [www.workingincanada.gc.ca](http://www.workingincanada.gc.ca), shown in figure 10.

**Figure 10. Example of Occupation's Skills Requirements**

<sup>11</sup> Jobs prospects: Occupations are said to have good prospects if they are highly demanded by employers, measured by increases in employment (in levels and in percentage growth),  
Hiring prospects: Occupations are said to have good hiring prospects when a large number of firms is hiring.

<b>SELECT AN OCCUPATION</b> The set of skills and knowledge for each occupation is not meant to be exhaustive. Job-specific skills and knowledge are developed through training and/or experience. Management positions usually require occupational experience and may also require formal education.			✓ Required elements that you selected. ! Additional elements required by the occupation.
Occupation	Required Skills	Required Knowledge	
<a href="#">Economists and Economic Policy Researchers and Analysts</a>	✓ Advising and Consulting ✓ Analyzing Information ✓ Professional Communicating ✓ Projecting Outcomes ✓ Researching and Investigating ✓ Strategic Planning ✓ Writing ! Examining and Diagnosing ! Managing Information	✓ Economics ✓ Finance ✓ Mathematics ✓ Statistics	
<a href="#">Mathematicians, Statisticians and Actuaries</a>	✓ Advising and Consulting ✓ Analyzing Information ✓ Professional Communicating ✓ Projecting Outcomes ✓ Researching and Investigating ! Managing Information	✓ Economics ✓ Finance ✓ Mathematics ✓ Statistics ! Computer and Information Systems	
	✓ Advising and Consulting ✓ Analyzing Information ✓ Professional Communicating	✓ Economics	

Source: Canada's web portal "Working in Canada", [www.workingincanada.gc.ca](http://www.workingincanada.gc.ca).

### 3) *Occupation's wages*

Table showing minimum, median, and highest wages per hour. If possible, we could show this information by region. If we can have information for different years of experience, we could show evolution of wages at different points after graduation, to show the growth curve. Example: In Chile (web portal "Furuto laboral", [www.mifuturo.cl](http://www.mifuturo.cl)), they show average gross monthly wages from the 1st and 5th year after graduation, of the highest 10%, highest 25%, 50th percentile, lowest 25% and lowest 10%. In Canada's portal, they show a table with low, median and high wage (\$/hr) by occupation and city (see figure 11).

**Figure 11. Example of Tables and Graphs Showing Occupation's Wages**

*Panel a. Example of graphs from Chile's web portal*

## Estadísticas por Carrera



## Estadísticas por Carrera



Source: Chile's web portal "Futuro laboral", [www.mifuturo.cl](http://www.mifuturo.cl).

Panel b. Example of table from Canada's web portal

ECONOMISTS AND ECONOMIC POLICY RESEARCHERS AND ANALYSTS

(NOC 4162)

Description
Titles
Duties
Related Occupations

Included Cities in Region | Service Canada Offices

Jobs

3 jobs

Wages

38.46 \$/hr

Outlook

★ ★ ★

Education & Job Requirements

Wages depend on job requirements and work conditions. They also vary between regions, for reasons such as location, labour agreements, and the availability of workers. The wages below are estimated before taxes.

Capitale-Nationale Region

Québec

Canada

Wage Estimates

Location	Wage (\$/hr)			Note
	Low	Median	High	
Capitale-Nationale Region	22.95	38.46	51.79	<a href="#">Note</a>

[ Source:

Labour Market Information - ESDC

|

Wage Methodology

]

Source: Canada's web portal "Working in Canada", [www.workingincanada.gc.ca](http://www.workingincanada.gc.ca).

### 4) Some key facts about the occupation

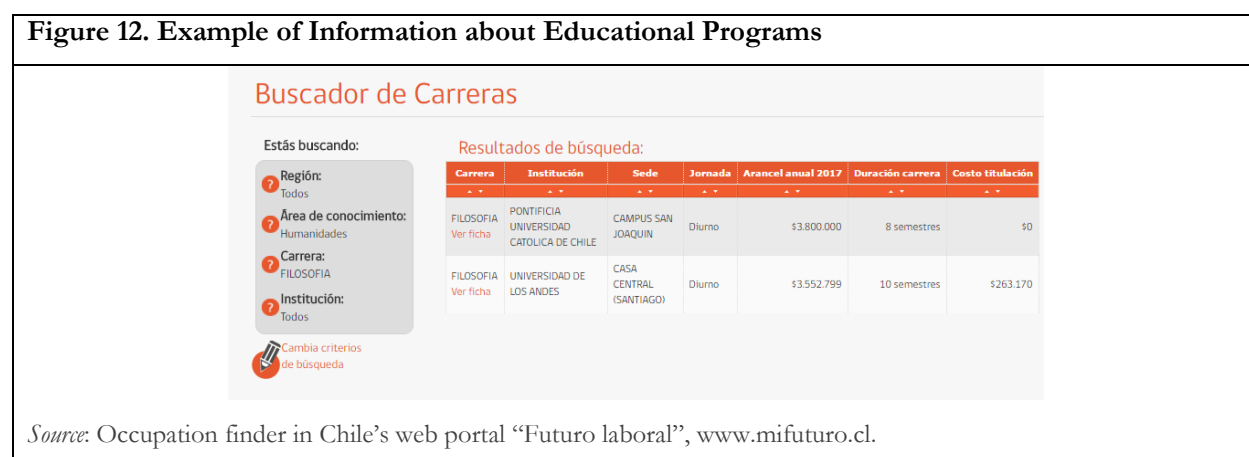
- Number of people that work in that occupation.
- Distribution across sectors for people that work in that occupation.
- Percentage of people who work all year and percentage that work only part of the year, compared to all occupations' shares.

- d. Age groups of those who work in this occupation.
- e. Gender distribution.
- f. Educational attainment.

For an example, see figure 9.

#### 5) *List of programs available in the market to prepare for the occupation*

Information of the institutions, duration of the program, tuition cost, institutional accreditation. Example: occupation's finder in Chile's web portal "Futuro laboral", [www.mifuturo.cl](http://www.mifuturo.cl) (figure 12).



#### 6) *Job vacancies that better suit the user*

If we could link this portal with the public and private sector job portal, we could show also those job postings that better suit the student or jobseeker, or for the occupation chosen. In Canada, for example, the student or jobseeker can sign up and can receive job postings according to his/her skills.

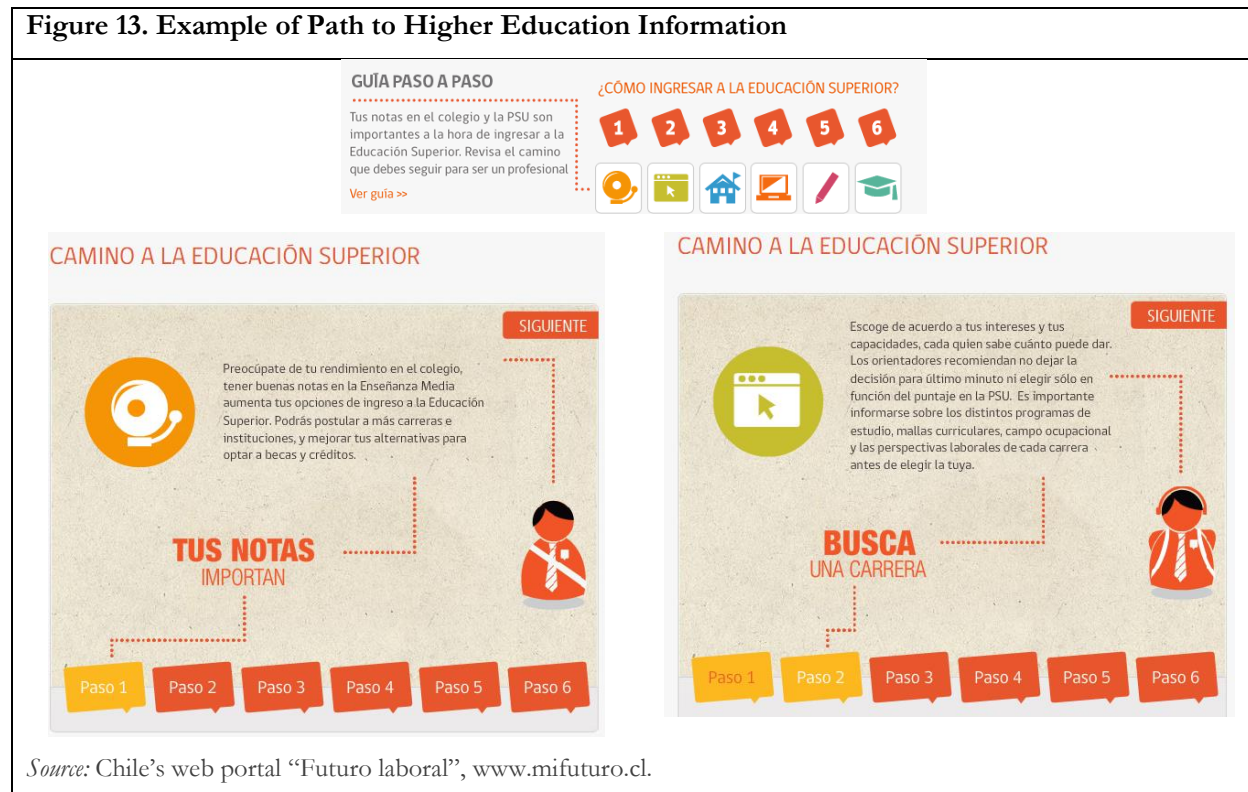
## 4.3 Guides

Finally, the section for jobseekers and students will include a set of guides. First, it will include a guide to help the high school student know what he/she has to do if he/she wants to pursue a higher education program (general steps). In addition to this, another guide will explain why it is important to stand out and how to do so to obtain a job. Finally, VET and college students will find guides explaining how to prepare for a job.

1) *Path to higher education*

A guide step by step to start a higher education program. Example: Chile's web portal "Futuro laboral", [www.mifuturo.cl](http://www.mifuturo.cl), shown in figure 13.

**Figure 13. Example of Path to Higher Education Information**



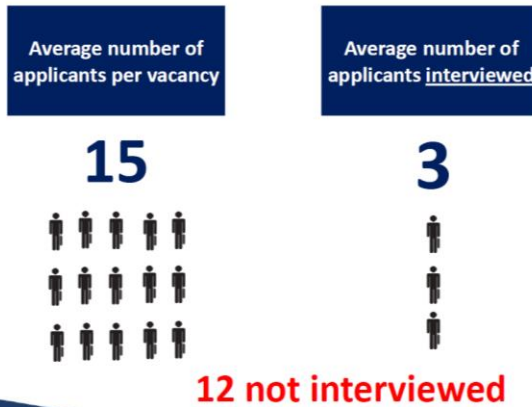
2) *Preparing for a job and improving your odds in the job market*

Presentations offering a guide on how to improve the chances of being chosen for a position and how to prepare for a job, in the case of graduate students and VET students. For example, the Australian portal offers three very illustrative presentations, mentioning why the need to stand out and how to do so. Figure 14 shows two of the slides from one the presentations. Presentations for VET and graduate students offer similar information but providing figures and tips for the specific audience.

**Figure 14. Example of Slides About Improving Your Odds in the Job Market**

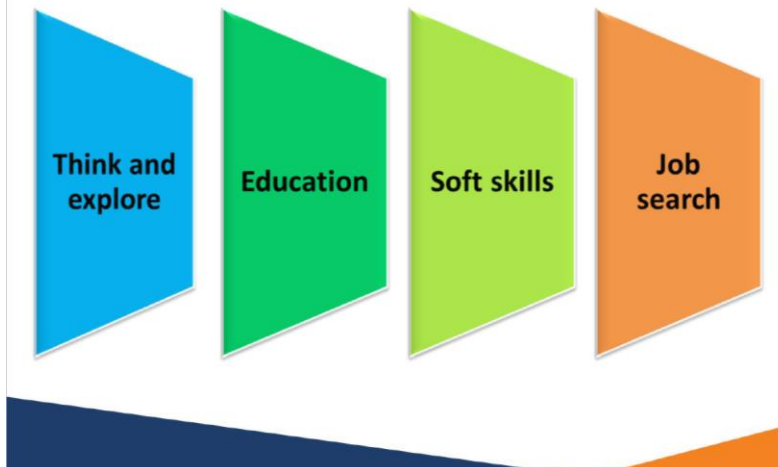
## You need to stand out when applying for a job

Vacancies advertised on the internet or in a newspaper, Australia



Source: Department of Employment, Survey of Employers' Recruitment Experiences, All regions surveyed and Metro, 12 months to December 2015

## Tips for improving your odds



Source:

Australia's

Labour

Market

Information

Portal.

<http://lmip.gov.au/default.aspx?LMIP/GainInsights/EmployersRecruitmentInsights>

## 5. Ideas for Policymakers and Institutions

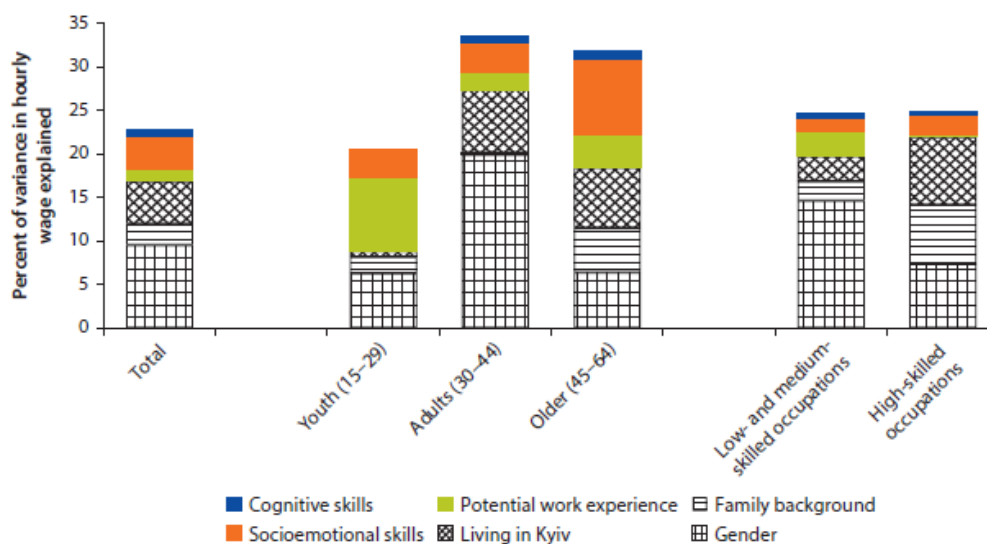
### 1) Importance of skills in labor market outcomes

a. Bar graph showing the contribution of different factors to hourly wages, including socioemotional and cognitive skills, by age groups. Example: figure O.4 “Skills for a Modern Ukraine” or figure 5.1 “Skills gaps and the path to successful skills development” (shown below).<sup>12</sup>

**Figure 15. Example of Graphs Showing the Factors Explaining Wages**

*Panel a. Example of Bar Graph Showing Factors Associated with Variations in Hourly Wages*

**Figure O.4 Factors Associated with Variation in Hourly Wages in Urban Ukraine, by Age Group and Occupation, 2012**



Source: ULMS-STEP Household Survey 2012.

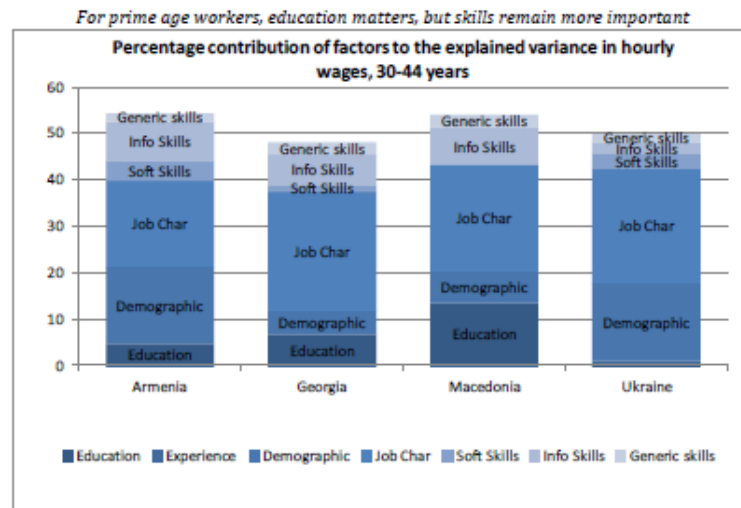
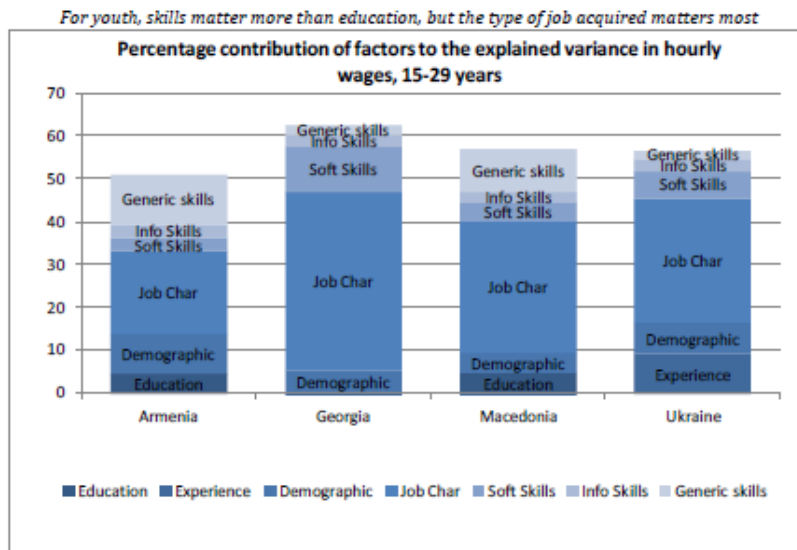
Note: Results obtained using a Fields regression-based decomposition of the log of hourly wages (Fields 2003). The height of each bar represents the total variation in wages explained by the data used for that regression (coefficient of determination =  $R^2$ ). The subcomponents of each bar show the contribution of each factor to total wage variation. Cognitive skills refer to reading proficiency. Socioemotional skills include openness to experience, conscientiousness, extroversion, agreeableness, emotional stability, grit, hostile attribution bias, and decision making. Potential work experience is the difference between the person's age and the approximate age at the end of his or her studies (it also includes a squared term). Family background refers to mother's education and main language spoken at home (Ukrainian, Russian, both, or neither).

Source: “Skills for a Modern Ukraine”,

*Panel b. Example of Graphs Showing the Importance of Skills for Wages*

<sup>12</sup> World Bank Group. 2015. *Skills Gaps and the Path to Successful Skills Development. Emerging Findings from Skills Measurement Surveys in Armenia, Georgia, FYR Macedonia, and Ukraine*, by Social Protection and Labor Global Practice.

**Figure 5.1: Skills matter for wages—to some extent**



Source: Authors, based on STEP household surveys.

Note: Results obtained using regression-based decomposition according to the Field's approach (Fields, 2004) where the dependent variable is the log of hourly wages. The height of each bar represents the total R-squared for that regression. The sub-components of each bar show the contribution of each factor (or set of regressors) to the R-squared. Education = Years of education, Demographic = Demographic Characteristics, Job Char = Job characteristics, Info skills = Use of information-processing skills at work, Generic skills = Generic skills at work

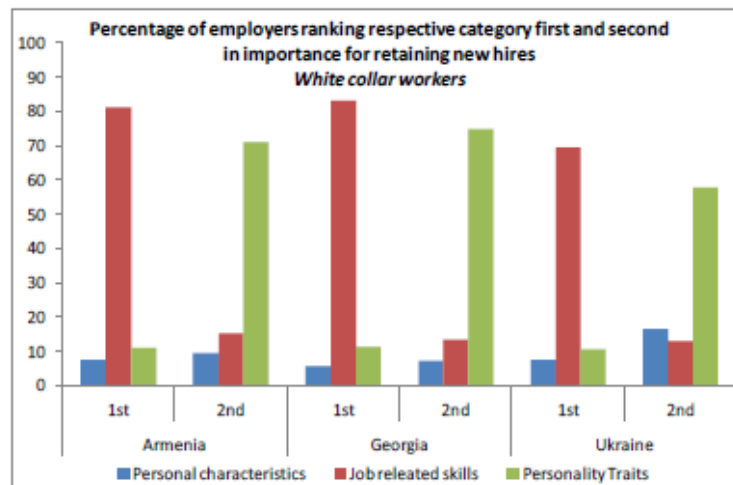
Source: "Skills gaps and the path to successful skills development",

- b. Show how employers ranked skills, personal characteristics and personal traits in importance for retaining new hires. Example: figure 4.1 "Skills gaps and the path to successful skills development".

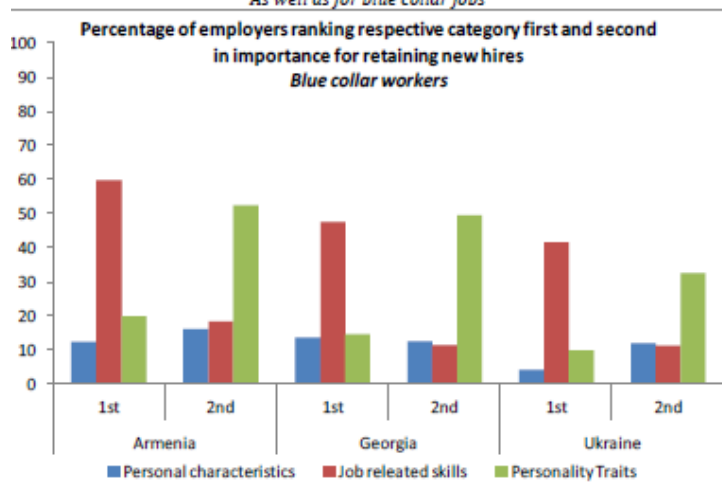
**Figure 16. Example of Graphs to Show Importance of Skills, Personal Characteristics and Personal Traits for Employers**

**Figure 4.1: What employers say matters for hiring (job related skills, personality traits, and personal characteristics).**

*Job related skills, followed by personality traits, is most important for retaining hires in white collar jobs*



*As well as for blue collar jobs*



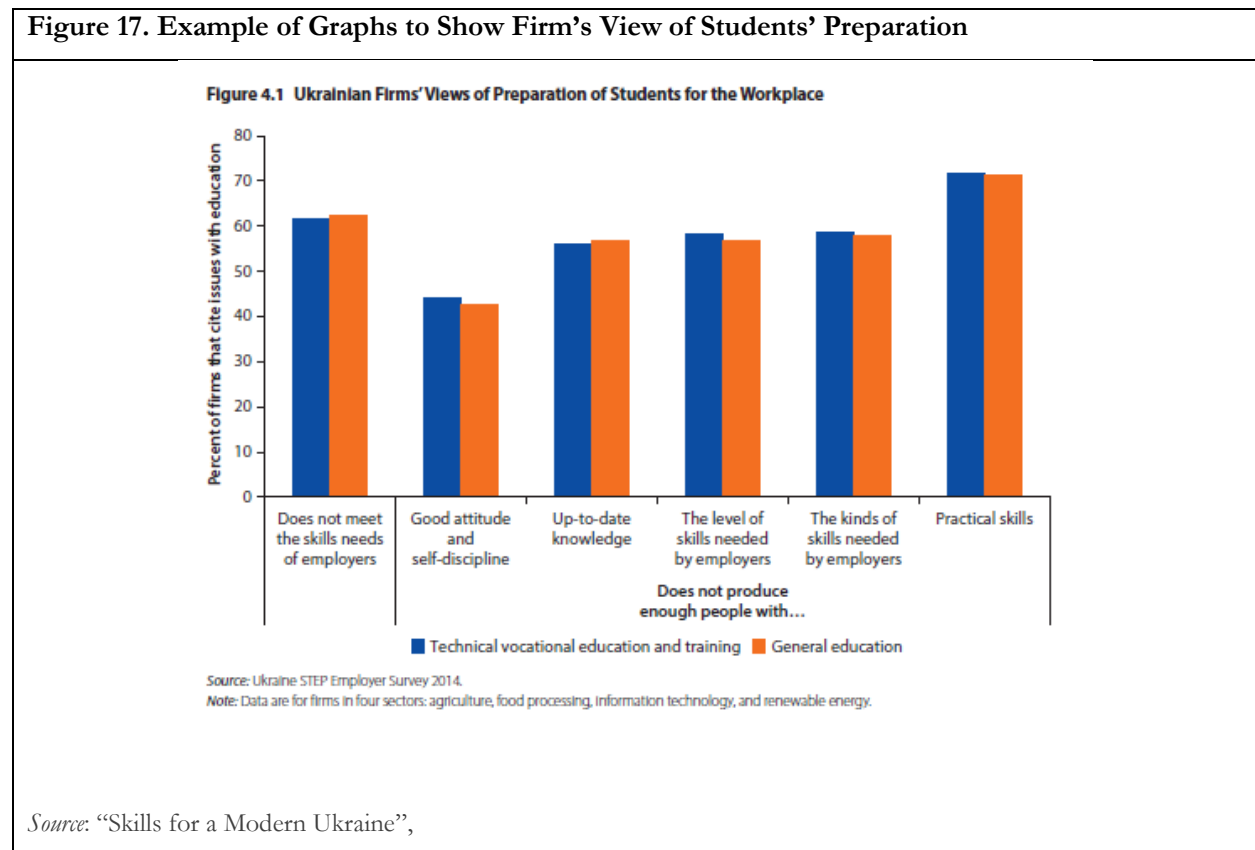
*Source: Authors, based on STEP employer surveys.*

*Source: “Skills gaps and the path to successful skills development”,*

c. Show the decreasing signaling power of diplomas in Ukraine. The share of employers requiring university degree is larger than in other countries due to credential inflation and negative grade drift (“Skills gaps and the path to successful skills development”). In addition to this, for youth and prime age workers, the use of skills is more important than education for earnings. Example: figure 5.1 “Skills gaps and the path to successful skills development” (shown in Figure 15, panel b in this note).

2) *Lack of adequacy of labor force to firm's demand*

a. Firm's view of students' preparation. Example: figure 4.1 "Skills for a Modern Ukraine".



b. List of occupations with the largest skill gaps.

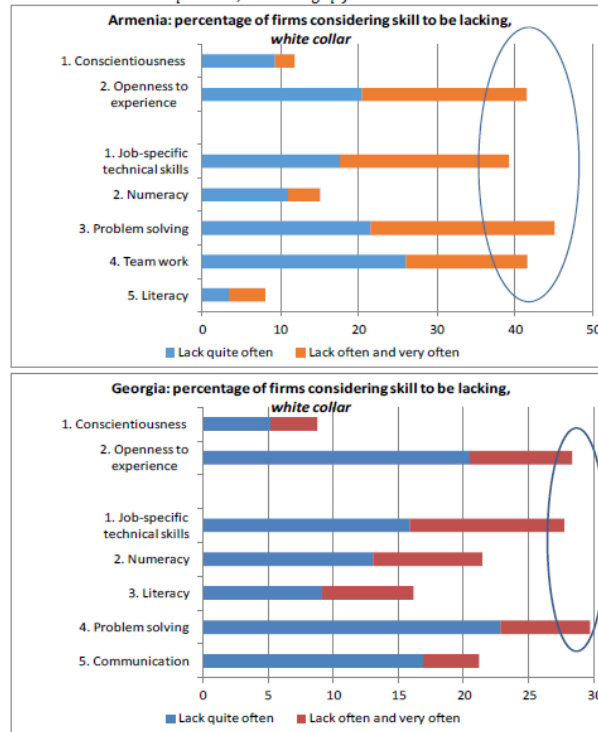
c. Shortage of workers with certain level of education in the private sector (they are more likely to be in the public sector).

d. Show that highly appreciated skills are also in short supply. Example: figures 4.4 and 4.5 "Skills gaps and the path to successful skills development" (Figure 18 shows figure 4.4. Figure 4.5 is a similar graph, but for blue collar workers).

**Figure 18. Example of Graphs to Show That Highly Appreciated Skills are Also in Short Supply**

**Figure 4.4: Where do the most significant skills gaps arise for white collar workers?**

*In Armenia and Georgia, job-specific skills and problem solving together with a lack of openness to experience, are skills gap for white collars*



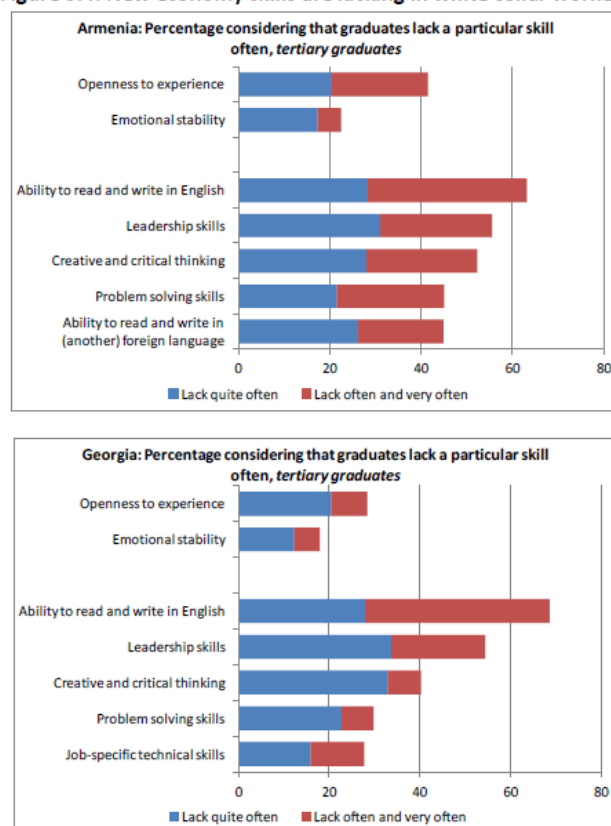
Source: Authors, based on STEP employer surveys. Methodology based on Rutkowski (2013a,b)

Source: “Skills gaps and the path to successful skills development”,

e. New economy skills are lacking even in young generation. Example: figure 5.4 and 5.5 “Skills gaps and the path to successful skills development” (Figure 19 shows figure 5.4. Figure 5.5 is a similar graph, but for blue collar workers).

**Figure 19. Example of Lack of New Economy Skills**

**Figure 5.4: New economy skills are lacking in white collar workers**



*Source: Authors, based on STEP employer surveys. Note: Skills that are mostly lacking (five most lacking), and personality traits that are mostly lacking (two most lacking).*

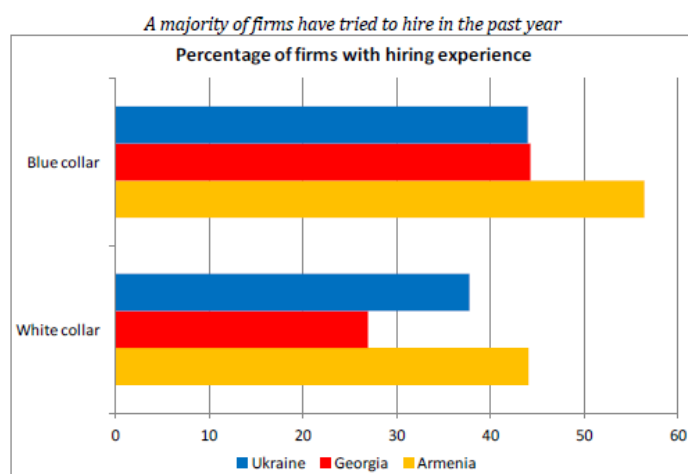
*Source: "Skills gaps and the path to successful skills development",*

f. Skills gap from:

- i. Employer side: Show the number of firms that reported problems when hiring, and the % of firms reporting skills as the main obstacle when hiring. Example: figures 3.1 and 3.2 "Skills gaps and the path to successful skills development".

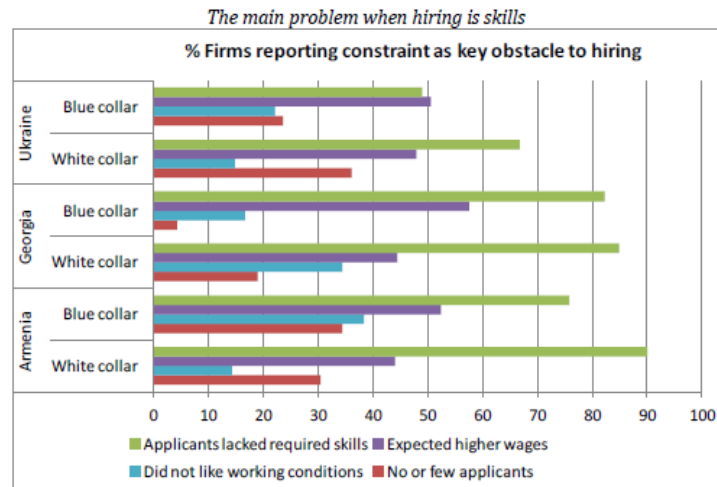
**Figure 20. Graphs to Show Skills Gap From Employer Side**

**Figure 3.1: Firms want to, but find problems in hiring workers**

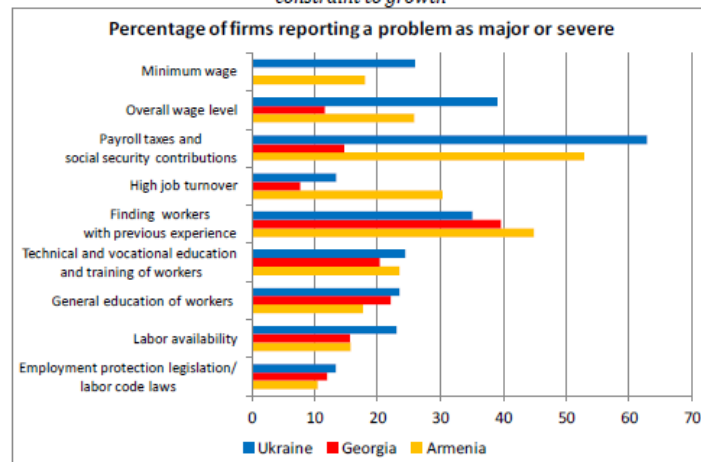


*Source: Authors, based on STEP employer surveys.*

**Figure 3.2: Skills are an important constraint to hiring and to business growth**



*Among labor related issues, skills are an important (although not most important) constraint to growth*



*Source: Authors, based on STEP employer surveys.*

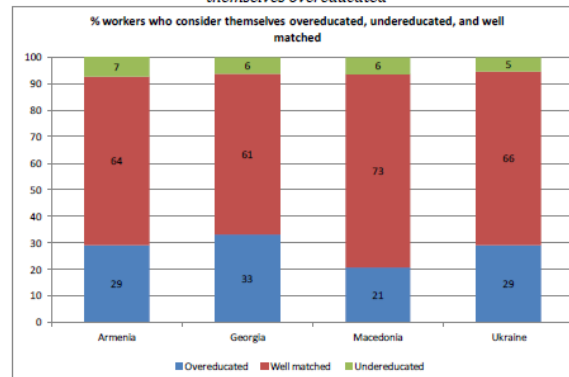
*Source: "Skills gaps and the path to successful skills development",*

- ii. Employee side: Show the % of workers that feel overqualified for the job. Example: figure 3.4 "Skills gaps and the path to successful skills development".

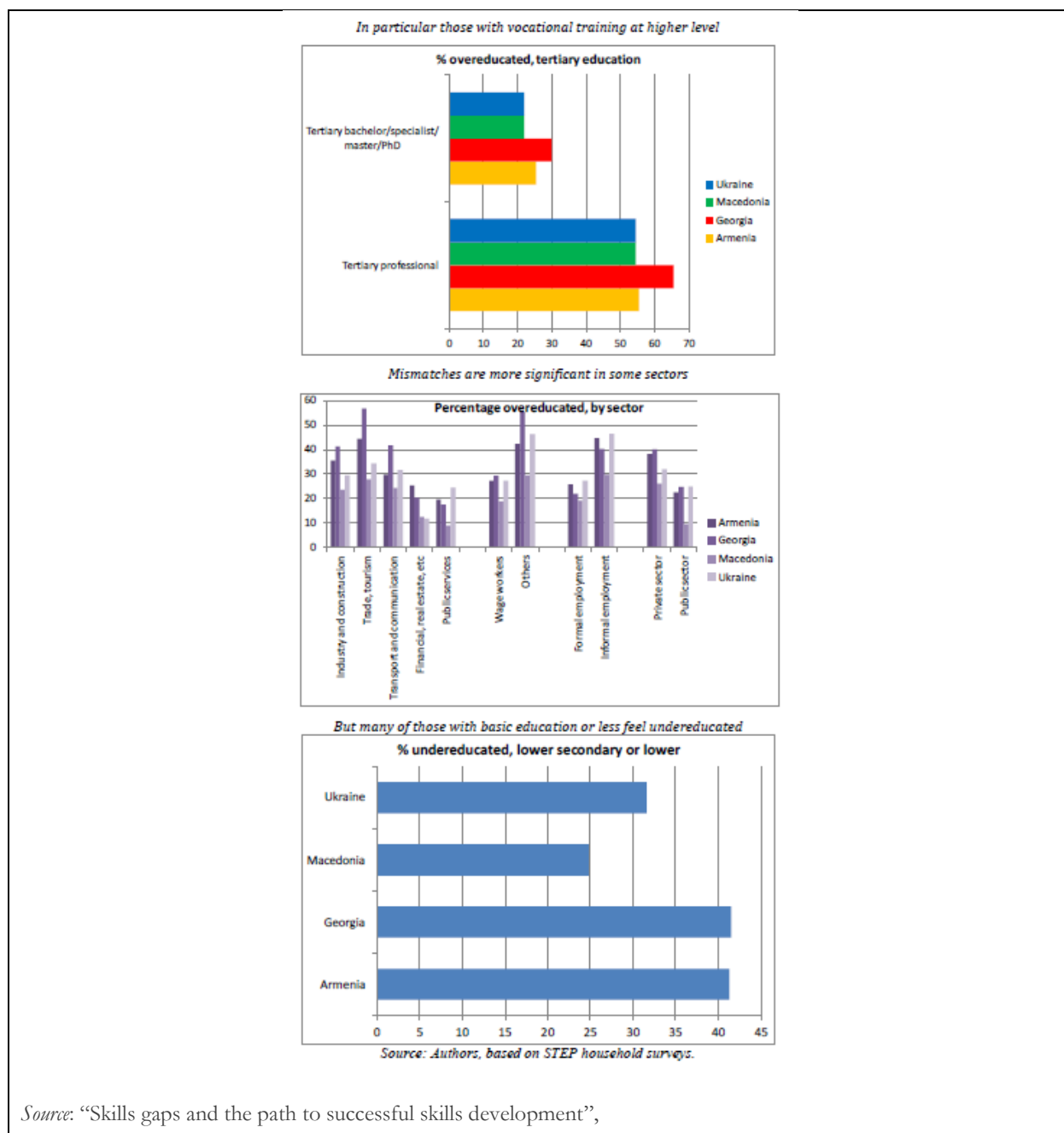
## Figure 21. Graphs to Show Skills Gap From Employee Side

**Figure 3.4: There is a perceived mismatch between job requirements and education levels**

*While most workers feel well matched to their jobs, a significant share consider themselves overeducated*



*Cont.*



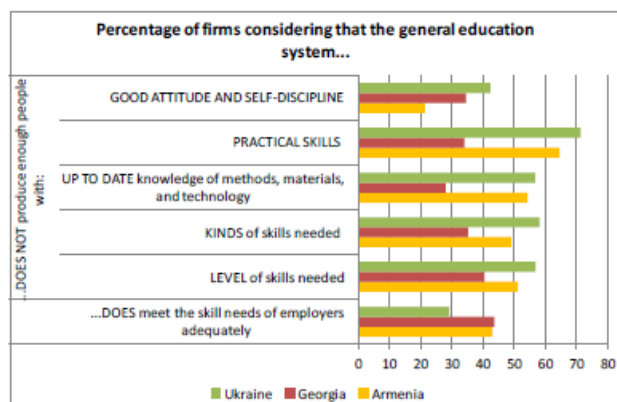
### 3) Problems with education sector and employers

- a. Poor quality of general education and vocational training system. Show that firms and workers are dissatisfied with the quality of education and vocational training system. Example: figure 6.1 and 6.2 "Skills gaps and the path to successful skills development".

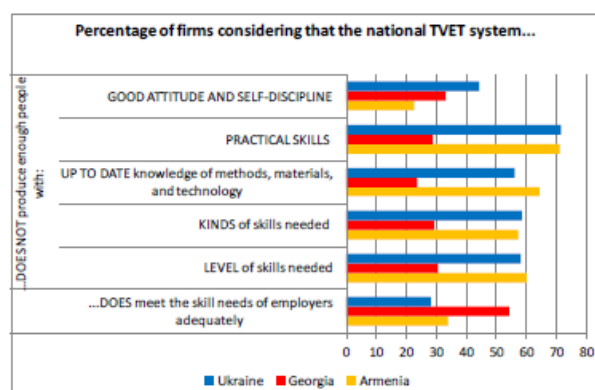
**Figure 22. Graphs to Show Problems with Education**

Figure 6.1: Employers view education and training systems as failing in providing necessary skills

*Dissatisfaction with the general education system*



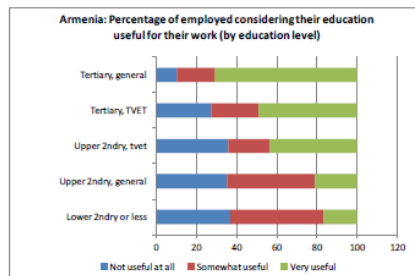
*And with the TVET system*



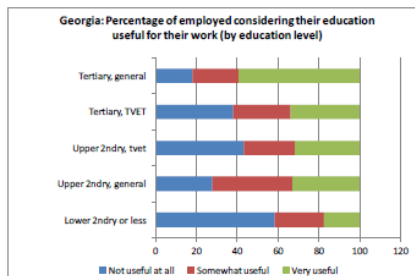
*Source: Authors, based on STEP employer surveys*

**Figure 6.2: Workers are also dissatisfied with the relevance of education and vocational training systems**

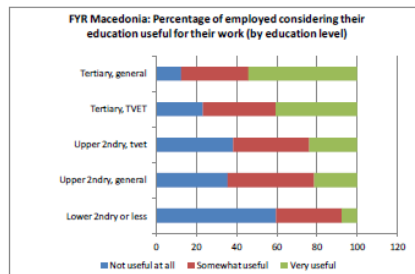
*In Armenia, those with low education are unhappy with education systems.*



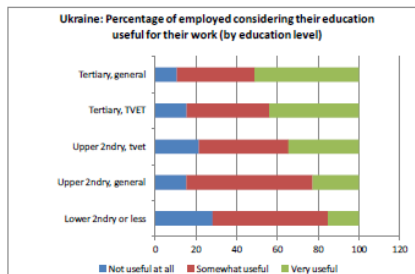
*In Georgia, only tertiary education is considered very useful by a majority*



*In Macedonia, there is great dissatisfaction at lower levels of education*



*Also in Ukraine, only half of the employed with tertiary education consider their background very useful.*



Source: Authors, based on STEP household surveys.

Note: Workers (or employed) include here all currently and previously employed (within the past 12 months) individuals who responded to the question.

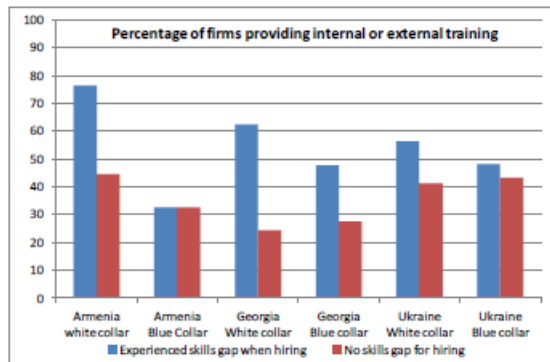
Source: "Skills gaps and the path to successful skills development",

- b. Low incidence of training among firms. Example: figure 6.4 "Skills gaps and the path to successful skills development".

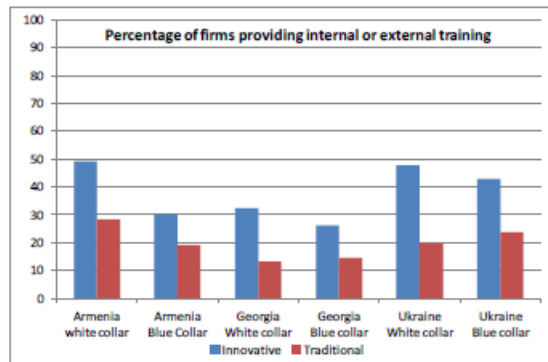
**Figure 23. Graphs to Show Training Among Firms**

**Figure 6.4: What firms provide training?**

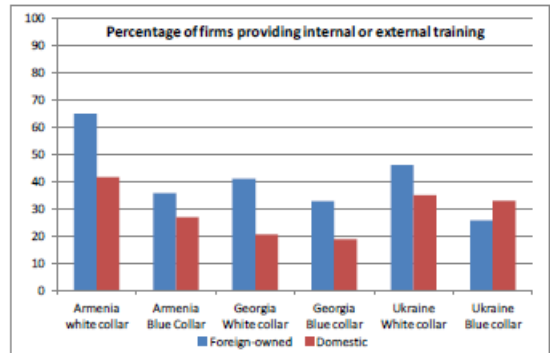
*Firms that experienced problems in hiring due to skills also train more than others*



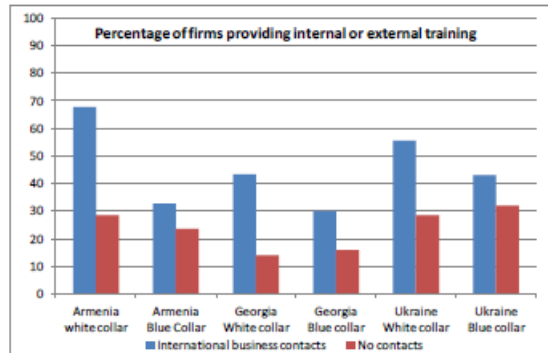
*So do more innovative firms...*



*... Foreign owned firms...*



*... And firms with international networks*



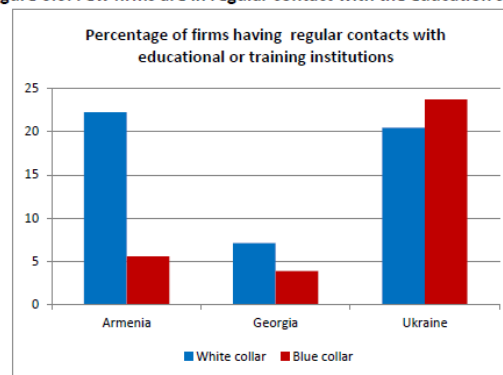
*Source: Authors, based on STEP employer surveys*

*Source: "Skills gaps and the path to successful skills development",*

- c. Little interaction between education system and enterprise sectors. Example: figure 6.6 and 6.7 "Skills gaps and the path to successful skills development".

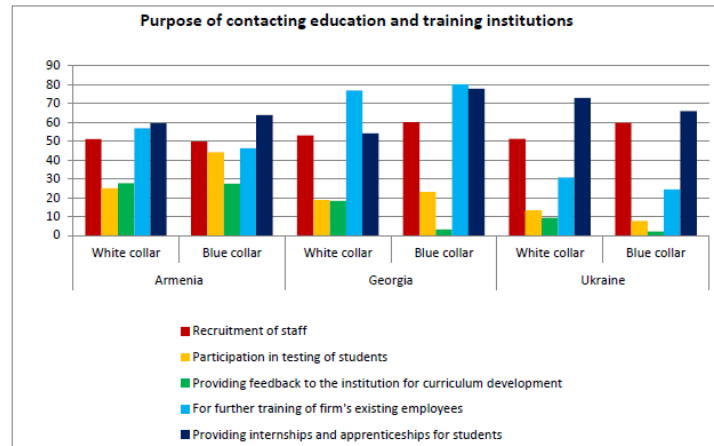
**Figure 24. Graphs to Show Interaction between Education Sector and Enterprises**

**Figure 6.6: Few firms are in regular contact with the education sector**



*Source: Authors, based on STEP employer surveys*

**Figure 6.7: Few contacts between employers and the education sector are about feedback or curriculum development**



Source: Authors, based on STEP employer surveys

Source: “Skills gaps and the path to successful skills development”,

#### 4) *Regional rates of employment of graduates upon completion of training programs*

“Skills for a Modern Ukraine” mentions that the State Employment Service (SES) reports it.

#### 5) *Unemployment rate by type of education*

In order to show that more education not necessarily guarantees a job. Example: figure 3.3 “Skills gaps and the path to successful skills development” shown in Figure 2 in this note.

#### 6) *Sectors and occupations with the largest vacancies*

Example: figures 3.7-3.9 “Skills for a Modern Ukraine” shown in Figure 1 in this note.

## 6. Ideas for Employers

#### 1) *Map with labor force characterization*

Number of people working in a certain occupation, divided in public-private sector, gender distribution, maximum educational attainment, types of skills prevalent (self-reported), skills used most in the occupation (self-reported). Example: Colombia’s portal “Graduados Colombia” [www.graduadoscolombia.edu.co](http://www.graduadoscolombia.edu.co).

Figure 25. Example of Labor Force Characterization

Panel a. Example of labor force characterization in Bogotá



Source: Colombia's web portal "Graduados Colombia", [www.graduadoscolombia.edu.co](http://www.graduadoscolombia.edu.co).

Panel b. Information shown when choosing Health Sciences in Bogotá



Source: Colombia's web portal "Graduados Colombia", [www.graduadoscolombia.edu.co](http://www.graduadoscolombia.edu.co).

2) *Wages paid to recent graduates per occupation*

This information is useful as a reference for an employer who needs to fill a position.

3) *Link between employer's posting and jobseekers*

If we could link this portal with the public and private sector job portal, the employer could invite to apply to his/her job posting those students or jobseekers registered that he/she thinks has the skills he/she needs for the position.

## **7. Ideas for Academics**

This section will include all the data series used to provide the information presented in the portal, with the possibility of creating graphs and viewing them in the portal or downloading the time series in Excel and .dta format for further analysis.

## 8. Appendix 1: Detail of the dissemination platforms and data sources studied

For the present document, I carried out a revision of the following dissemination platforms in Ukraine:

	Name or description of the dissemination platform	Link to web-source
1	State Statistics Service of Ukraine (SSSU)	<a href="http://www.ukrstat.gov.ua">www.ukrstat.gov.ua</a>
2	State Employment Service of Ukraine (SES) / Statistical information	<a href="http://www.dcz.gov.ua/control/uk/statdatacatalog/list/category?cat_id=30543">www.dcz.gov.ua/control/uk/statdatacatalog/list/category?cat_id=30543</a>
3	Career guidance platform and professional orientation testing (supported by UNDP and other organizations)	<a href="http://mycareer.org.ua/">http://mycareer.org.ua/</a>
4	Institute of professional qualifications (supported by the Federation of Employers), including the list of occupational standards and state education standards for a limited number of blue-collar professions	<a href="http://www.ipq.org.ua/">http://www.ipq.org.ua/</a>
5	Analysis of labor market situation and surveys by Head Hunter job portal (maintained by a private employment agency HeadHunter)	<a href="https://hh.ua/articles">https://hh.ua/articles</a>
6	Animated videos "Job search", 24 series (supported by SES)	<a href="https://www.youtube.com/channel/UCx2oO5gCIaoTV6b3BNLeAkg/videos?shelf_id=1&amp;view=0&amp;sort=dd">https://www.youtube.com/channel/UCx2oO5gCIaoTV6b3BNLeAkg/videos?shelf_id=1&amp;view=0&amp;sort=dd</a>
7	News about education, rankings of educational institutions, and several articles on career guidance	<a href="http://osvita.ua/vnz/">http://osvita.ua/vnz/</a>
8	Analysis of labor demand (current and in the next 5 years), project of Liga.net in 2015 (maintained by a news agency LigaBusinessInform)	<a href="http://www.liga.net/projects/jobtrends/">http://www.liga.net/projects/jobtrends/</a>
9	List and a short description of occupations (professions) in highest demand, with job requirements, average wage and prospects (maintained by a private employment agency RabotaPlus)	<a href="https://jobs.ua/career">https://jobs.ua/career</a>
10	List of training centers by region and occupation (maintained by a private employment agency RabotaPlus)	<a href="https://jobs.ua/qualification">https://jobs.ua/qualification</a>

11	List and a short description of selected occupations (professions) with basic job requirements (maintained by a private education portal education.ua, link from <a href="http://mycareer.org.ua/job-choice">http://mycareer.org.ua/job-choice</a> )	<a href="http://www.education.ua/ua/professions/">http://www.education.ua/ua/professions/</a>
12	List of training centers by region and occupation (maintained by a private education portal education.ua)	<a href="http://www.education.ua/ua/courses/">http://www.education.ua/ua/courses/</a>

In addition to this, I revised the following data sources:

	<b>Instrument</b>	<b>Agency collecting the primary data</b>
1	Labor Force Survey	SSSU
2	Survey of firms on labor statistics	
3	Survey of firms on the level and structure of wages by gender, age, education and occupational groups	
4	Administrative statistics on registered unemployment	SES
5	Administrative statistics on registered vacancies	

From other countries, the following dissemination platforms were revised:

	<b>Name or description of the dissemination platform</b>	<b>Country</b>	<b>Link to web-source</b>
1	Labour Market Information Portal	Australia	<a href="http://lmip.gov.au/">http://lmip.gov.au/</a>
2	Labor future (“Futuro Laboral”)	Chile	<a href="http://www.mifuturo.cl">www.mifuturo.cl</a>
3	Colombia’s graduates (“Graduados Colombia”)	Colombia	<a href="http://www.graduadoscolombia.edu.co">www.graduadoscolombia.edu.co</a>
4	Working in Canada	Canada	<a href="http://www.workingincanada.gc.ca">www.workingincanada.gc.ca</a>
5	Observatory of labor insertion of ANECA (“Observatorio de inserción laboral de ANECA”)	Spain	<a href="http://www.aneca.es">www.aneca.es</a>