



European
Commission



From University to Employment:

Higher Education Provision and Labour Market Needs

In the Western Balkans

Synthesis Report

Education and
Training

EUROPEAN COMMISSION

Directorate-General for Education and Culture

Directorate B Modernisation of Education

Unit B.4 International cooperation in education and youth; Jean Monnet actions

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Higher Education Provision and Labour Market Needs

in the Western Balkans

Synthesis Report

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Luxembourg: Publications Office of the European Union, 2016

ISBN 978-92-79-64428-3

doi:10.2766/48413

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Foreword



Higher education systems in the Western Balkans are facing serious challenges. Growing levels of student enrolment throughout the region are straining the limited resources of public universities. At the same time, the number of private institutions has been increasing rapidly.

Importantly, more needs to be done to ensure that higher education qualifications match labour market needs. Many young people in the region are unemployed – and a number of them have higher education diplomas. This suggests that employers do not hold university degrees in very high esteem.

Whatever the field of study, third-level education is a means of sharpening our intellect and therefore valuable in its own right. However, it should also prepare us for the world of work, and enable us to lead independent lives as confident, engaged citizens. Universities and other higher education institutions need to adapt and modernise to deliver. In rapidly changing job markets, higher education systems should provide graduates with relevant skills and competences. This is not only about finding employment after graduation, but also about being able to adapt to future labour market needs and adjust to career changes.

We all know that a country's human resources are an integral part of its wealth. We say so on many occasions, especially when addressing young people in graduation ceremonies, or in political speeches. Unfortunately, when it comes to following these words with action and giving education the relevance and funding it deserves, we all too often fall short. This is something we have to change.

The skills and qualifications gained in university should help us build our lives and secure our societies' prosperity, competitiveness and progress. This study examines the link between higher education provision and labour market opportunities in the Western Balkans. It also looks at the obstacles facing graduates looking for work and the relevance of their skills for employers. The study is part of the on-going regional policy dialogue under the *Western Balkans Platform on Education and Training*. I am pleased to see that Ministers for Education have been supporting and engaging in this dialogue since the European Commission launched it in 2012.

I hope that the findings of the country reports in this study will contribute to more evidence-based policy-making in each country's higher education and labour sectors. The region's young people deserve nothing less.

Tibor Navracsics
European Commissioner for Education, Culture, Youth and Sport

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List of abbreviations

BA	Bachelor degree
CAQA	Commission for Accreditation and Quality Assurance (Serbia)
Cedefop	European Centre for the Development of Vocational Training
EC	European Commission
ECTS	European credit transfer and accumulation system
EHEA	European Higher Education Area
ENQA	European Association for Quality Assurance in Higher Education
EQAR	European Quality Assurance Register for Higher Education
EQF	European Qualifications Framework
ERBD	European Bank for Reconstruction and Development
ESG	Standards and Guidelines for Quality Assurance in the EHEA
ETF	European Training Foundation
EUD	European Union Delegation
FDI	Foreign Direct Investment
HEAEB	Board of Accreditation and Evaluation of Higher Education (MK)
HE	Higher education
HEA	Agency for Development of Higher Education and Quality Assurance (BA)
HEI	Higher education institution
GDP	Gross Domestic Product
KAA	<i>Kosovo Accreditation Agency</i>
LSF	Labour Force Survey
MA	Masters degree
NGO	Non-Governmental Organization
PAAHE	Public Accreditation Agency of Higher Education (AL)
PES	Public Employment System
PhD	Doctor of Philosophy
WB	Western Balkans

Western Balkans

AL	Albania
BA	Bosnia and Herzegovina
XK	Kosovo*
MK**	The former Yugoslav Republic of Macedonia
ME	Montenegro
RS	Serbia
WB	Western Balkans

* *This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.*

** *Provisional code which does not prejudge in any way the definitive nomenclature for this country, which will be agreed following the conclusion of negotiations currently taking place under the auspices of the United Nations*

Executive summary

This synthesis report analyses higher education (HE) provision and labour market opportunities in the Western Balkans by looking into four inter-related issues: the provision of HE, the current situation of the graduate labour market, the challenges facing graduates and employers on the labour market, and the skill mismatches that hinder graduate labour market integration. The report concludes with recommendations on measures needed to ensure the right mix of skilled graduates to support robust economic growth in the future, support graduate job search, and to encourage employers to create more graduate jobs and take on more skilled graduates.

The data used in the study was collected from March to August 2015. It includes two large-scale surveys: one among recent HE graduates (graduate survey - 4,602 respondents) and one among organisations that employ HE graduates (employer survey - 1,074 respondents). Semi-structured interviews were carried out with management staff of higher education institutions (HEIs), ministries, employers' associations, and trade unions. A focus group was also carried out with Erasmus Mundus alumni. The project has assembled a unique database that covers details of most study programmes offered by HEIs in the Western Balkan country in recent years¹.

Main findings

After a period of rapid expansion over the last decade, there are now 240 public and private HEIs (universities including faculties, academies, and colleges) in the Western Balkans, providing 5,213 study programmes. Almost three quarters of a million students are registered to study at these HEIs. Having increased rapidly over the last decade, the growth in student numbers is now beginning to level off, except in Kosovo where expansion continues. Albania and Kosovo have more registered students in relation to population size than other countries. Throughout the Western Balkans, about 220,000 students newly enrolled to study in HEIs in the 2013/14 academic year and about 123,000 completed their studies, giving a completion ratio of 53%, varying from 33% in Kosovo to 85% in Serbia. 28% of students completed their studies in the fields of Business, Administration & Law, while 22% completed their studies in Science, Technology, Engineering & Mathematics (STEM) subjects. Graduates are moderately satisfied with the quality of higher education they received, but many perceive that their job prospects would have been improved by better teaching methods, a more relevant curriculum and by having better qualified professors.

Holding a HE degree provides advantages on the labour market. The average unemployment rate of HE graduates in the region is 16.2% compared to 23.9% for the whole labour force. However, the unemployment rate for new graduates is 37.1%, suggesting that graduates face a difficult transition from HEI to the labour market. On the labour market, there is a large oversupply of graduates in most study fields, especially from the broad study field of *Business, Administration & Law*. The sectors with the most rapid growth of graduate jobs include *Information & Communication Technologies, Construction, Financial & Insurance activities, Professional, Scientific & Technical activities* and *Other Service activities*. Graduate employment has grown relatively fast in micro and large employers, and in a small number of high-growth enterprises (so-called "gazelles") which tend to be SMEs. Overall, on the HE side, enrolment policies should be more focused on labour market needs, and on the labour market side, more high-skilled jobs should be created in fast-growth sectors by attracting

¹ Further details about the methodologies and data used in this study can be found in the Annex.

more foreign direct investment, and by supporting micro and small businesses to provide more graduate jobs.

Many graduates in the Western Balkans have a precarious entry to the labour market and often experience periods of unemployment before they find stable employment. This transition is not helped by a relatively low level of cooperation between HEIs and employers in relation to curriculum design and recruitment. Few employers discuss changes to curricula on a regular basis. Yet, most employers say that such cooperation would improve the matching of graduates to the job. This suggests that policy support is needed to encourage more such cooperative activity. When searching for employment, graduates rely primarily on family and friends to find a job. Graduates make little use of support from formal institutions such as HEI career centres or the Public Employment Services. A major barrier facing students in their transition from HE to the labour market is their lack of work experience, which is highly valued by employers in graduate recruitment decisions. Graduates with some prior work experience are more likely to find employment than others. In order to ease graduate entry to the labour market, HEI-business cooperation should be increased, graduate career guidance services should be better developed, and more opportunities should be provided for HE students to gain work experience before entering the labour market after graduation.

Employers in general are rather dissatisfied with the skills of their graduate recruits, although employers in high technology sectors are more satisfied with the skills of their graduate recruits than others. Only half of employers believe that their graduate recruits bring much value added in comparison with their non-graduate employees. Many employers believe that HEIs could better support the development of skills among graduates by modernising teaching methods, delivering teaching in small interactive class groups rather than in large anonymous lecture rooms, and adopting practical problem-solving approaches rather than theoretical and rote learning. Due to widespread skill gaps, especially in interactive skills such as decision-making skills and analytical and problem-solving skills, and in foreign language skills, most employers provide additional training to their graduate recruits. High technology employers, large and medium sized employers, and foreign employers are more likely to provide additional training than others. This suggests that governments should offer additional support for the post-graduate on-the-job training of graduates recruited by small domestic low-technology employers, especially suppliers to foreign investor supply chains. In addition, teaching methods within HE systems should be modernised to provide graduates with more interactive skills.

Only 48% of graduates are vertically well matched to the skills required by the job they hold by the level of their qualification, while 37% are overqualified for their job and 15% are underqualified, the latter suggesting that nepotism may be a feature in graduate recruitment. In addition, about 35% of graduates are horizontally mismatched in relation to their field of study. The benefits of successful matching are reflected in higher pay for well-matched graduates, reflecting potentially higher productivity due to matching. Being well matched by field of study assists graduates to keep hold of their job and avoid falling into unemployment. Having had an internship or work experience, following a vocationally oriented study programme, following a study programme with whose contents employers are familiar, studying at a private HEI, and receiving support from the HEI in finding a job all seem to be important factors that raise the likelihood of a graduate finding a horizontally well-matched job. A similar set of factors affect the likelihood of a graduate achieving a good vertical match on the labour market. Having above average performance at HEI, studying in small class groups, being exposed to teaching methods that use problem-solving and creative thinking methods, having an

internship or work experience during studies, receiving support from professors or from the PES, all increase the likelihood of finding a well matched job.

In summary, while only 53% of students complete their study programme; of those that do complete their course only 52% find a job; and of these, only 48% find a job that is well matched to their level of education. We define a coefficient of internal effectiveness of the combined HE and labour market systems (the HE-LM systems) equal to the product of these three proportions, which is 13%. In other words, of every hundred new students entering the HE systems in any one year, it can be expected that only 13 will eventually graduate and find a well-matched job. This indicates the rather low level of effectiveness of the HE systems in the Western Balkans in providing incoming students with the skills needed to find a well matched and stable job, and the ineffectiveness of the labour markets in providing a sufficient number of appropriate jobs for the graduates supplied by the HE systems. In order for the HE systems to make a better contribution to building human capital and to the competitiveness and growth of the economy, significant reforms of the HE systems and the graduate labour markets are needed, and better cooperation between employers and HEIs should be encouraged.

Policy recommendations

Higher education

1. HEIs should **modernise curricula and improve teaching methods** promoting a more student-centred approach to learning based on small discussion classes, student presentations, teamwork assignments, and analytical and practical problem solving exercises.
2. Government should **remove incentives to HEIs to take on too many students** by capping the number of students that an HEI can enrol in line with its capacity to provide high quality education. Imposing stricter criteria for enrolment, stricter progression conditions and additional support from teaching staff may contribute to better completion rates.
3. Steps should also be taken to **tackle corruption** in the entry process through greater transparency in regulations and procedures. Relevant institutions should strengthen inspections, ensure compliance with assessment and grading regulations and expand the power of ethics committees.
4. Where not already established, the **accreditation of HEIs and study programmes** should be carried out, and rigorous quality assurance measures should be applied to raise the quality of HE services. External evaluation of HEIs should be carried out in accordance with the European Standards and Guidelines for Quality Assurance.
5. The relevance of study programmes should be improved by encouraging **greater cooperation between HEIs and employers** in the design of curricula, and by providing work experience opportunities and internships. Having employers participate in faculty boards could contribute to ensuring that students are equipped with the right skills needed for the labour market. Such university-business cooperation should aim to modernise and adjust curricula and learning outcomes to those needed by the labour market.
6. Governments should **use scholarships to steer students towards priority subjects** such as STEM subjects and away from over-supplied subjects such as

Business, Administration & Law. HEIs should provide more information to potential applicants on the likely labour market demand for various study programmes. This could be done through outreach programmes to local schools in partnership with public educational guidance services.

7. Governments should **support entrepreneurial learning within HEIs** so as to maximise the opportunities for graduates to set up their own small high-technology businesses. Entrepreneurship learning should be based on links with the local business community.
8. **Work experience gained through internship schemes** can be instrumental in improving graduates' future job prospects. HEIs and employers should be encouraged to negotiate more work experience placements with local businesses so that graduates enter the labour market with some prior experience of working practices.
9. HEIs and public employment services should provide **improved support to graduates in their job search** to ensure that more graduates find well-matched jobs. This is needed to reduce reliance of support of family and friends and diminish nepotism in the graduate labour market. In parallel, HEIs should seek to track the employment destinations of their graduates by field of study, as a way to provide information on the success of graduates in finding a job and enable better evaluation of labour market needs.

Labour market

1. Priority should be given to raising awareness about the importance of **employer cooperation with HEIs** over curriculum design and recruitment. Governments should establish programmes to facilitate cooperation between HEIs and employers and should act as a network broker to bring the two sides closer together. New or additional programmes to provide internships for both students and graduates should be established. These should be carefully supervised to ensure that they provide useful learning outcomes.
2. Governments should **support the activity of fast-growth SMEs ('gazelles') in high technology knowledge intensive sectors**. Such enterprises tend to have a relatively high density of graduate employment. This can be done through the provision of low-cost finance through the banking systems, in partnership with EU funds and programmes.
3. Governments should **encourage competition and remove barriers to entry for new high technology enterprises** by creating supportive spaces for graduate-friendly business incubators and start-up hubs in public spaces at low rental cost. These should be closely linked to local HEIs, and collaboration between HEIs and new start up enterprises should be encouraged, promoted and supported.
4. Active labour market policies (e.g. training activities) should be better focused on recent graduates. Employers should be encouraged to **expand training programmes for new graduate recruits** through tax deduction of the costs of employer-sponsored training and use of training subsidies or vouchers. Training for micro, small and medium sized firms that employ graduates and have supply linkages to foreign investors should be prioritised. Governments should fund

graduate training schemes for knowledge-intensive SMEs, which lack resources to fund such schemes.

1 Introduction

The Western Balkan region has passed through two decades of economic and political transition that have brought about profound structural change to their economies with substantial implications for higher education (HE) systems. Following a period of deep transitional recession in the early 1990s, the break-up of former Yugoslavia and severe armed conflicts destroyed much of the industrial capacity. The new millennium ushered in a prolonged period of economic growth and democratisation and during the early to mid 2000s, the region experienced high rates of economic growth, declining inflation, and rapid expansion of foreign trade (Bartlett, 2008; Bennett et al., 2015). Economic growth during this period was based on large financial inflows in the form of bank-financed credit, foreign direct investment, and migrant workers remittances (Uvalić, 2013). As elsewhere in the post-socialist world, upgrading the skill content of exports has been identified as crucial for economic growth (Kathuria 2008). However, HE systems have been slow to adapt to these changes.

In late 2008 the region was badly affected by the spillover effects of the global financial crisis leading to a severe recession in 2009, when all Western Balkan countries registered negative or greatly reduced GDP growth rates (Bartlett and Prica, 2013). Economic recovery thereafter has been relatively weak and unsteady, with a second recession in most countries of the region in 2012 with the exception of Albania and Kosovo (Murgasova et al., 2015). Poverty has increased with the notable exceptions of Albania and the former Yugoslav Republic of Macedonia (World Bank, 2015). This has been partly due to the poor performance of the labour market, indicated by very low employment rates, high levels of unemployment, and the attendant risk of a depreciation of the human capital of unemployed and inactive workers (Kovtun et al., 2014). Structural reforms are a key element of policies designed to improve competitiveness and underpin the economic growth that is needed to catch up with the EU countries during the pre-accession period. Among the reforms required, upgrading labour force skills is an essential element of the structural reform process (European Commission, 2015a).

This study aims to support this reform process by providing the most recently available information on HE provision in the region, the scale and scope of study programmes provided by higher education institutions (HEIs), both public and private, the scale of student enrolment and completion of studies, the completion rates at different levels of study, an assessment of the accreditation process and the quality of provision of tertiary education, and an identification of the main gaps in HE policy making. The study also maps the graduate labour market, identifies the sectors with the greatest potential for graduate employment growth and provides a forecast of the supply and demand balance in terms of surpluses and shortages of graduates from different fields of study. It analyses the main challenges faced by graduates on their entry to the labour market, and the difficulties they face in finding employment, and the challenges facing employers in taking on new graduates. It also provides an assessment of the extent and nature of graduate skill gaps and skill mismatches. The findings from the study should be of interest to a range of stakeholders, including policy-makers at national and local level, officials in ministries of education, labour market and social welfare, managers of HEIs and among employers, students, and the social partners. The study findings and recommendations aim to support the governments in the region to identify areas where

reforms are most needed in the HE systems and in the graduate labour market, and how these could be best carried out in practice.

The data used in the study was collected from March to August 2015. It includes two large-scale cross-country surveys: one among recent HE graduates (4,602 respondents) and one among organisations that employ HE graduates (1,074 respondents). Almost one hundred semi-structured interviews were carried out with HEI management staff, employers associations, ministries, trade unions, and EU Delegations. Focus groups were carried with Erasmus Mundus alumni. The project has also assembled a unique database that covers details of all study programmes offered by all HEIs in the region in recent years.

In Section 2 the report begins by mapping the provision of HE throughout the region, providing a profile of HEIs, study programmes and students. Section 3 presents an overview of graduate labour markets, the extent of graduate unemployment, emerging graduate employment opportunities, and a forecast of the fields of study that are likely to be in most demand by employers in the future. Section 4 turns to the graduates' transition from HE to the world of work, analysing the links between the HE system and the labour market, job search assistance provided to graduates, the lack of work experience of new graduates, and the challenges faced by employers in taking on new graduate recruits. Section 5 considers the issue of skill mismatches, both horizontal by field of study and vertical by level of degree. Section 6 provides conclusions and policy recommendations. Details about the methodologies and data used in the study can be found in the Annex.

2 Mapping the provision of higher education

2.1 Higher education institutions

Higher education institutions in the Western Balkans comprise a variety of different types of organisations, including academies, colleges of applied studies and universities. Altogether, 240 HEIs and 586 faculties are recorded in the project database. A notable change in the HE systems in the Western Balkans has been the entry of large numbers of private HEIs, although their size is on average smaller than that of public HEIs.

Table 1: HEIs in the Western Balkans, 2015

	HEIs	Public HEIs	Private HEIs	Faculties	HEI per 100,000 population	Faculties per 100,000 population
AL	39	16	23	119	1.3	4.1
BA	47	10	37	120	1.2	3.1
XK	41	12	29	48	2.2	2.6
the former Yugoslav Republic of Macedonia	16	5	11	126	0.8	6.1
ME	12	1	11	45	2.1	7.2
RS	85	51	34	128	1.2	1.8
WB	240	95	145	586	1.3	3.2

Source: HEI provision database. Note: AL= Albania, BA= Bosnia and Herzegovina, XK= Kosovo, MK = the former Yugoslav Republic of Macedonia, ME = Montenegro, RS = Serbia; WB = Western Balkans. Additional data for Bosnia and Herzegovina from Agency for the Development of Higher Education and Quality Assurance, Sarajevo and Centre for information and Recognition of Qualifications in Higher Education, Sarajevo, FIS (2015c) and RSIS (2015c).

Table 1 shows the number of HEIs in each country, considering universities as single HEI units.² A large number of private HEIs were established in Albania, but due to concerns about their legal status and quality several were closed down as part of a major reform process. In every country, apart from Serbia, the number of private HEIs exceeds the number of public HEIs, mainly because there are a large number of public colleges in Serbia, whereas elsewhere else colleges tend to be private organisations. In relation to population, the greatest density of HEIs is in Kosovo and Montenegro and the least in the former Yugoslav Republic of Macedonia. Public universities are divided into powerful faculties that function in many respects on an autonomous basis from the parent HEI management. A characteristic of many HEIs, especially in the public sector, is they are essentially federations of autonomous faculties.

Throughout the region, HEIs provided 5,213 study programmes in 2015 at all levels of study. Almost half are delivered at Bachelor level and almost two-fifths are delivered at Master level (see Table 2). Most study programmes are delivered by public HEIs, but it is notable that almost one third are delivered by private HEIs, predominantly at Bachelor level. For the most part, these focus on the least costly and easiest to teach fields of study in the Humanities and Social Sciences, and are less willing to offer study programmes in STEM subjects.

Table 2: Study programmes by ownership of HEI and level of qualification, 2015

	AL	BA	XK	MK	ME	RS	WB
Total	1,757	663	498	522	255	1,518	5,213
Ownership of HEI							
Public	72.2%	79.5%	56.9%	62.1%	73.7%	74.0%	68.0%
Private	27.8%	20.5%	43.1%	37.9%	26.3%	26.0%	32.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Level of qualification							
Professional Diploma	3.6%	4.7%	0.0%	0.0%	0.0%	0.0%	1.7%
Bachelor	36.7%	54.1%	59.1%	82.6%	44.3%	43.7%	49.2%
Master	51.0%	27.9%	34.3%	15.3%	42.0%	39.9%	38.5%
Doctoral	8.8%	13.3%	6.6%	2.1%	13.7%	16.4%	10.5%
Total	100%	100%	100%	100%	100%	100%	100%

Source: HEI provision database. Note: Data are incomplete for BA. Note: Data for AL are after closures of private HEIs in 2014; data for the former Yugoslav Republic of Macedonia on second and third cycle programmes (Master and Doctoral degrees) are incomplete. In ME data for Master programmes also cover professional Specialist programmes.

The duration of study programmes of the same level of degree differs both within and between countries. Post-Bologna Bachelor programmes of three years duration have become more common than in the past, when four years duration was typical for first-cycle studies. By the academic year 2014-15, the three-year model had been fully adopted only in Montenegro, mainly adopted in Albania, Bosnia and Herzegovina, and Kosovo, but only partially adopted in the former Yugoslav Republic of Macedonia and Serbia. Overall, about half the Bachelor study programmes in the region have a three-year duration, and about half have a four-year duration. There are a few examples of study programmes with 4.5-year duration in Albania. In Kosovo, the former Yugoslav Republic of Macedonia, and Montenegro, there are a small number of Bachelor programmes lasting for five or six years. The European Credit Transfer System (ECTS) is widely used to define the value of study programme points, although a minority of HEIs and study programmes still do not use it (EHEA, 2015c). Concerning Master programmes, there is a similar variety, with 46% of programmes having a duration of two years, 34% one year duration, and 16% 1.5 years duration. In Bosnia and

² Where universities are composed of semi-autonomous faculties, as in Serbia, the faculties are not counted as HEIs in their own right; only the university is counted as an HEI.

Herzegovina, Kosovo, the former Yugoslav Republic of Macedonia and Montenegro, most Master programmes last for two years, although one-year programmes are also present. In Albania, while most Master programmes last for two years, there is a substantial number of 1.5-year programmes. In Serbia, Master programmes are mostly of one year duration (corresponding to the four-year Bachelor programmes, making a 4+1 scheme rather than a 3+2 scheme).

The most common group of study programmes is found in the broad field of *Business, Administration & Law*, having more than 1,040 study programmes accounting for one fifth of the total. A further concentration of study programmes is found in *Arts & Humanities* and in *Engineering, Manufacturing & Construction*, together accounting for a further one quarter of the total.

Table 3: Study programmes by broad field of study

Field of study	AL	BA	XK	MK	ME	RS	WB
01 Education	9.2%	12.1%	3.8%	3.6%	2.7%	10.1%	8.5%
02 Arts & Humanities	13.8%	25.5%	13.5%	19.9%	28.2%	9.7%	15.4%
03 Social Sciences, Journalism & Information	11.4%	13.7%	11.8%	11.1%	12.9%	9.6%	11.2%
04 Business, Administration & Law	23.6%	5.3%	31.1%	21.7%	11.4%	19.4%	20.0%
05 Natural Sciences, Mathematics & Statistics	6.8%	9.5%	5.2%	4.0%	7.1%	7.5%	6.9%
06 Information & Communication Technologies	5.1%	3.9%	6.2%	9.8%	6.3%	8.5%	6.6%
07 Engineering, Manufacturing & Construction	8.0%	14.8%	14.7%	15.7%	15.3%	20.3%	14.2%
08 Agriculture, Forestry, Fisheries & Veterinary	3.5%	2.1%	3.6%	3.5%	3.9%	2.8%	3.1%
09 Health & Welfare	12.2%	9.0%	5.6%	6.1%	2.7%	5.1%	8.0%
10 Services	6.3%	4.1%	4.4%	4.6%	9.4%	7.0%	6.0%
All fields of study	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<i>HSS (02+03+04)</i>	48.8%	44.5%	56.4%	52.7%	52.5%	38.7%	46.6%
<i>STEM (05+06+07)</i>	19.9%	28.2%	26.1%	29.5%	28.7%	36.3%	27.7%

Source: HEI provision database. Note: Fields of study are defined according to the ISCED standard

It is often thought that scientific study programmes (STEM subjects) including the broad fields of *Natural Sciences, Mathematics & Statistics, Information & Communication Technologies* and *Engineering, Manufacturing & Construction*, should be prioritised in the pursuit of innovative and knowledge-based economic development, and that occupations that require these subjects are critical for economic competitiveness (European Commission, 2015b). A recent report from European Parliament has also drawn attention to the emerging STEM skill gaps in the face of a strong upturn in demand for such skills in the EU (Caprile et al., 2015). In the Western Balkans, STEM study programmes account for more than one quarter of all study programmes, ranging from 20% in Albania to 36% in Serbia. About half of study programmes are found in the Humanities and Social Sciences (including *Business, Administration & Law* subjects).

Higher education fulfils many social functions, including the development of the personality, of citizenship, and the broad dissemination of knowledge. Yet an essential function of HE systems is to provide a society with a highly skilled work force capable of contributing to the development of knowledge-based societies. It is often thought that study programmes that are offered by HEIs in the Western Balkans neglect the latter function, have limited relevance to the labour market, and fail to provide graduates with the practical skills they need in their careers. Therefore, the graduate survey asked respondents to evaluate their most recent study programmes on the basis of their vocational orientation. For the region as a whole, the average score was just 2.9 (on a

scale of 1= not at all” to 5 = “very much”), indicating only a moderate degree of vocational orientation of study programmes. Study programmes are perceived to be most oriented to the labour market in the former Yugoslav Republic of Macedonia and Kosovo, and least in Bosnia and Herzegovina and Serbia. The perceived labour market orientation of study programmes is significantly higher in private HEIs (3.7) compared to public HEIs (2.7), the gap being greatest in Bosnia and Herzegovina and Serbia, the two countries where study programmes of public HEIs are perceived to be least oriented to the labour market. This may suggest that these two countries in particular should take measures to improve the vocational orientation of study programmes in public HEIs.

2.2 Students

The number of students registered for first cycle Bachelor studies in the Western Balkans has increased rapidly from about 430,000 in the 2007-2008 academic year to about 590,000 in the 2014-2015 academic year, an increase of 37% over seven years.³ By the 2014-2015 academic year a total of 665,000 students were registered at all levels of study, from first cycle studies through to third cycle Doctoral studies.⁴ The greatest increase in student numbers occurred before the academic year 2012-2013, after which numbers began to stabilise. This process of “massification” (Zgaga et al., 2013) has raised questions about the quality of the education provided, since there has been little increase in resources for HE systems and little change in teaching methods or curricula.

Several factors have driven change in student enrolments, most prominently demographic pressure. All the countries in the region, with the exception of Kosovo, have experienced adverse demographic changes over the last decade with an ageing population and a decline in the youth population. For example, the share of the population in the Western Balkans aged less than 15 years old fell from an average of 21.2% in 2002 to 17.1% by 2014, i.e. close to the EU-28 average of 15.6%.⁵ In Kosovo, by contrast, the share under 15 has stayed high at 28.1%.⁶ It is not surprising, therefore, that while in most countries the number of students registered for first cycle studies has begun to decline in recent years, the number registered to study in Kosovo has continued to increase. Since 2007, an increase in student numbers has also been observed in Albania where, despite demographic decline since 2002, the proportion of young people is still the highest in the region outside Kosovo. There are some signs that the increase in student numbers in Albania is now beginning to level off (see Figure 1).

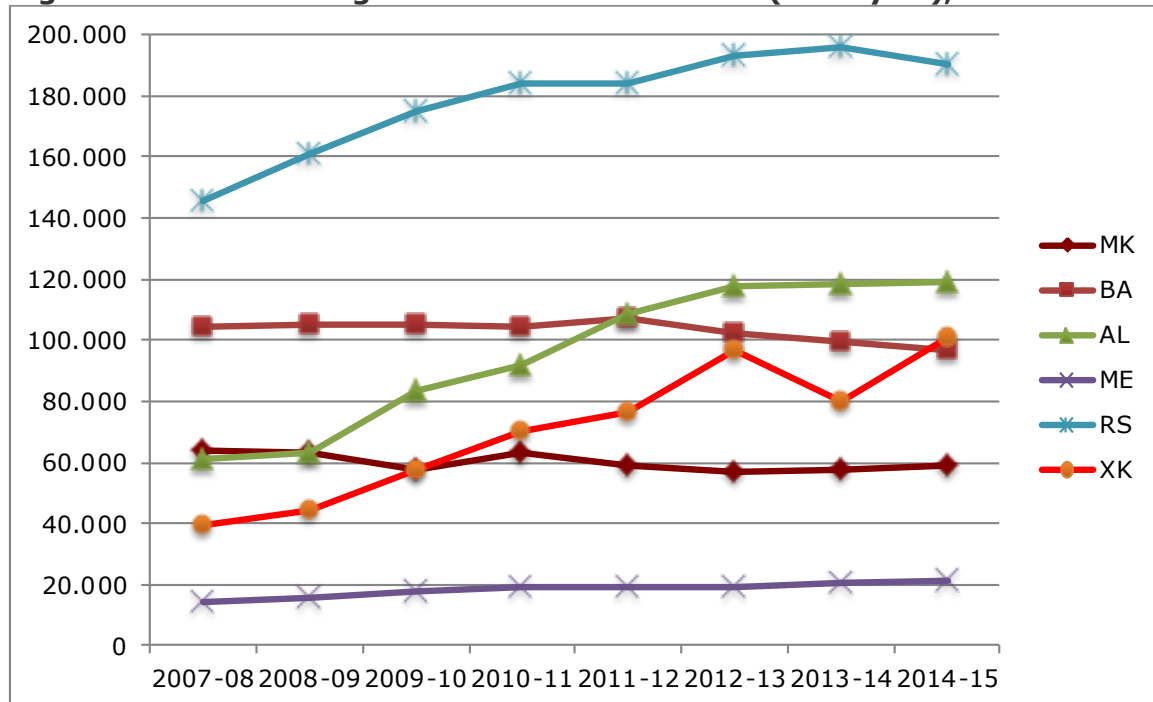
³ Calculated from data from national statistical offices. For details see accompanying country reports.

⁴ Calculated from the project’s HE provision database.

⁵ Calculated from Eurostat online database variable code [cpc_psdemo], unweighted average.

⁶ Eurostat online database variable code [cpc_psdemo].

Figure 1: Number of registered Bachelor students (first cycle), 2004-2015



Source: Country reports. Note: The data show the total number of students currently registered to study at all HEIs at all years within Bachelor programmes. Data for Albania are estimates based on the share of the total number of students enrolling in Bachelor studies; data for Kosovo for 2014-15 are estimated.

The condition of the labour market can have contradictory effects on student numbers as potential students are incentivised both through “pull” factors (due to expectations of higher earnings following graduation in the case of buoyant labour markets), or through “push” factors (as HE enrolment may become an alternative to unemployment in the case of adverse labour markets). The region experienced an economic boom up to 2009, prior to the global economic crisis, after which recession or sluggish growth set in with adverse effects on the labour market and graduate job opportunities. This may especially explain the growth in student numbers in Serbia from the academic year 2007-2008 until 2010-2011 shown in Figure 1, with stable or falling numbers thereafter.

Table 4: Students enrolling and completing studies in the Western Balkans

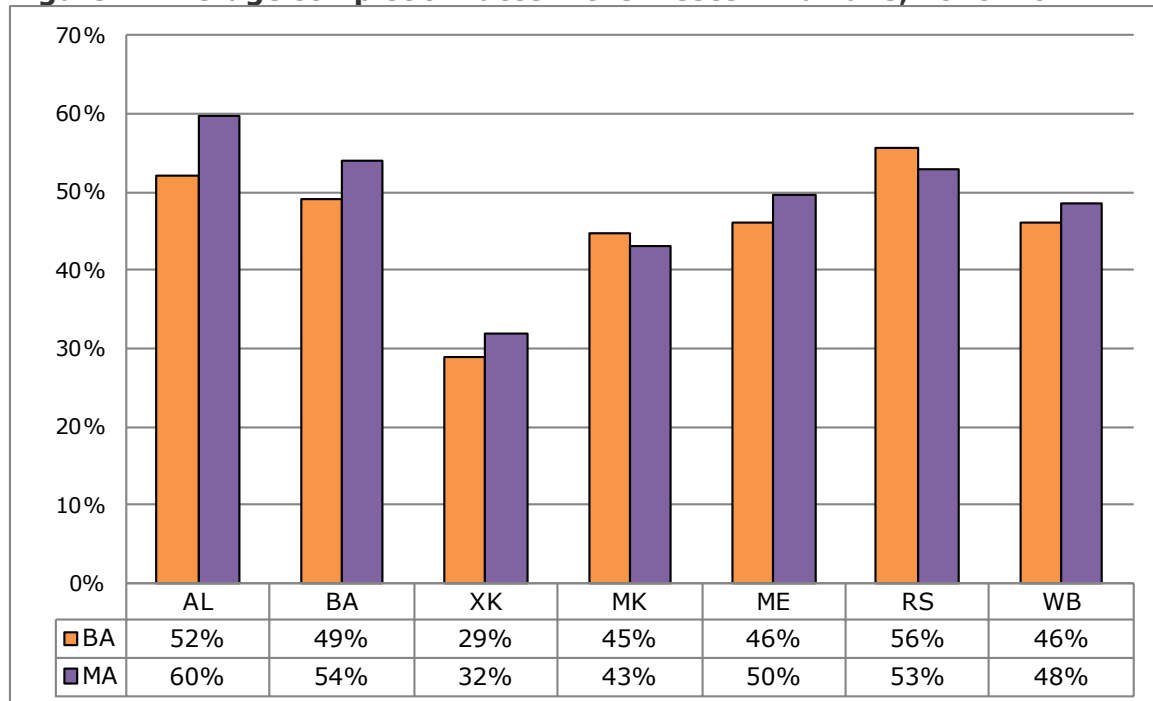
	Enrolment			Completion		
	2012-13	2013-14	2014-15	2011-12	2012-13	2013-14
Total	218,936	219,974	211,514	106,302	110,390	115,809
Vocational diploma	944	1,021	883	1,098	1,011	739
Bachelor	172,044	173,918	159,829	61,963	62,973	65,183
Master	40,486	40,489	46,740	41,652	44,275	47,627
Doctorate	4,246	3,324	2,798	934	1,493	1,601
Unattributed	1,216	1,222	1,264	655	638	659
Proportion of students in public and private HEIs						
% Public HEIs	79.2%	80.7%	79.3%	75.2%	76.8%	79.6%
% Private HEIs	20.8%	19.3%	20.7%	24.8%	23.2%	20.4%

Source: project HE provision database and country reports.

Since 2012, annual enrolments in the Western Balkans have been flat or decreasing, while annual completions have increased. Enrolment of students is highest in Kosovo, at

over 2,000 enrolments per hundred thousand people, followed by Albania and Montenegro at over 1,000 per hundred thousand people. About 19% of students enrol at private HEIs throughout the region, a similar situation to the EU where, for example, 20% of students in France study at private HEIs. In 2013-14, total annual enrolments throughout the region were almost twice as high as annual completions, and the “completion ratio” (the ratio between enrolments and completions in a given year) was 53%. The low completion ratio indicates the dire state of the HE system in the region, and the waste of human capital through dropout or excessive length of study.

Figure 2: Average completion rates in the Western Balkans, 2010-2014



Source: Calculated from HE provision database. Note: Study programmes with apparent completion rates above 100% are excluded. For BA and XK, Bachelor data are completion ratios rather than completion rates; for further details see country reports

The “completion rate” (rather than the ratio) is a standard indicator of the effectiveness of a HE system (Eurydice, 2015). It provides a more accurate picture of the effectiveness of individual HEIs and study programmes than the broad-brush completion ratio discussed above. It is calculated by the so-called “cross-section” method from the project’s HEI provision database.⁷ Figure 2 shows our estimates of overall “completion rates” at all levels of study in the Western Balkans.⁸ The completion rates are low in all countries, but are by far the lowest in Kosovo. In the region as a whole, the average completion rate of 46% for Bachelor programmes is lower than that in Hungary, which at 48% is the lowest in the European Higher Education Area (EHEA) for which data is available (Eurydice, 2015). In comparison, the average completion rate in the OECD countries was 68% in 2013 (OECD, 2013). The relatively low completion rates in all levels of HE in the Western Balkans, indicates a serious problem of drop out and failure

⁷ The data available from the HE provision database permit the computation of completion rates for two cohorts following two-year programmes. The completion rates are calculated as the ratio of the number of graduates completing studies in year “t” divided by the number of students who enrolled in year “t-x”, where “x” is the duration of the study programme. This method of calculating completion rates, known as the “cross section” method, is more robust than taking the ratio of completions and enrolments in a single year, as it tracks the performance of a given cohort through time. It is based on data for individual study programmes.

⁸ The data for Bosnia and Herzegovina and Kosovo are ratios rather than rates due to lack of data on rates.

to complete studies on time. Completion of studies is an important element of a successful higher education system. If many students drop out of higher education before completing their studies this represents a waste of resources and also indicates dissatisfaction with the courses that are on offer.

Table 5: New enrolments and completions by field of study (2013-14) (%)

	Enrolments							Completions						
	AL	BA	XK	MK	ME	RS	WB	AL	BA	XK	MK	ME	RS	WB
01 Education	9.1	9.1	6.2	2.7	2.6	8.3	7.5	9.7	12.7	3.6	6.2	4.0	10.1	9.0
02 Arts & Humanities	11.4	11.2	9.3	13.3	10.4	7.2	10.0	11.9	8.8	12.3	11.6	12.3	9.3	10.5
03 Social Sciences, Journalism & Information	9.8	18.7	13.0	9.8	19.5	10.8	12.5	9.3	28.3	11.4	12.9	23.4	9.1	11.8
04 Business, Administration & Law	28.8	11.7	42.9	26.1	24.5	22.4	26.1	28.2	11.0	47.0	28.8	27.3	26.4	28.0
05 Natural Sciences, Mathematics & Statistics	5.7	5.1	3.1	3.5	2.8	4.3	4.4	6.3	3.5	6.0	3.0	2.2	4.7	4.9
06 Information & Communication Technologies	5.9	3.6	5.9	9.7	6.7	7.5	6.3	5.5	3.5	2.9	7.2	6.2	5.5	5.2
07 Engineering, Manufacturing & Construction	8.1	18.9	8.4	13.3	16.3	18.6	13.7	7.3	11.4	4.3	9.8	11.3	17.6	12.2
08 Agriculture, Forestry, Fisheries' & Veterinary	3.4	5.1	1.9	2.3	2.6	4.2	3.5	3.5	2.9	1.0	2.3	2.6	2.4	2.6
09 Health & Welfare	13.5	13.4	5.5	11.6	2.7	8.4	10.1	14.0	16.4	6.7	8.9	3.7	8.0	10.0
10 Services	4.3	3.0	3.7	7.7	11.9	8.3	5.7	4.3	1.4	4.7	9.2	7.0	6.8	5.7
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
HSS (ISCED 02+03+04)	50.0	41.7	65.3	49.1	54.4	40.4	48.7	49.4	48.1	70.8	53.3	63.0	44.8	50.4
STEM (ISCED 05+06+07)	19.7	27.7	17.4	26.5	25.7	30.4	24.4	19.2	18.4	13.2	20.1	19.7	27.8	22.4

Source: Project HEI database. HSS= Humanities, Social Science and Business; STEM = Science, Technology, Engineering and Mathematics.

In the Western Balkans as a whole, 49% of students enrolled in HSS subjects in the academic year 2013-14, while only 24% of students enrolled in STEM subjects (see Table 5). This is little different to the situation in the EU-28 in 2014, where 45% of graduates had studied HSS subjects and 25% studied STEM subjects.⁹ In the Western Balkans, Kosovo stands out with a high proportion (65%) of students enrolling in HSS study fields, and only 17% enrolling in STEM subjects. In contrast, Serbia has the highest proportion of enrolments in STEM subjects, with 30% of students enrolling in these subjects. In the more advanced countries of the EU, new enrolments in STEM subjects tend to be much higher than in the Western Balkans. For example, in Germany, 38% of students enrolled in STEM subjects in 2014.¹⁰ Raising the proportion of students enrolling in STEM subjects is viewed as important for promoting economic growth and competitiveness in the EU, since many countries have experienced shortages of graduates with STEM skills (Caprile, et al., 2015). Similar bottlenecks are found in the Western Balkans, where shortages of graduates with STEM qualifications being the exception to the general pattern of oversupply of graduates (see Section 3 below).

Another indicator of the effectiveness of HE systems is the value for money perceived by fee-paying students. The graduate survey shows that the ratio between the tuition fee that graduates would be willing to pay and the actual fee paid (what we might call the "value for money ratio") is 68% for Bachelor degrees and 65% for Master degrees (with no significant differences between public or private HEIs). The first-cycle vocational diplomas are perceived by graduates to offer a higher value for money at 71%, while second-cycle specialist degrees (i.e. vocational Master degrees) have the highest value for money at 79%. It should be noted that low value for money in HEIs is also found in

⁹ Calculated from Eurostat online data, variable code [educ_uoe_grad02].

¹⁰ Eurostat, online data, variable code [educ_uoe_ent02]).

EU countries. In the UK, for example, three out of ten students think the academic experience in HE is poor value (Department for Business Information and Skills, 2016).

The rapid growth in student numbers over the last decade has taken place with scant regard for labour market needs. As shown below in section 3, there is an imbalance in the mix of graduates with a general oversupply of graduates with HSS qualifications. The reasons for this may be related to financing HEIs based on the number of students they enrol, which may provide perverse incentives to increase enrolments to inefficient levels (Tochkov et al., 2012). In Albania, for example, one interviewee observed that “financial autonomy has given the universities the right to use the resources from students’ fees for their own aims, whereas the salaries and the investments have been provided by the state budget and many public universities and faculties have artificially increased the number of students, without any investments in other facilities for increasing the quality of teaching and research”.¹¹ In Montenegro, another interviewee stated “an underlying problem is the market policy of universities that tend to enrol as many students as possible in order to earn money, producing too many qualified people that cannot find jobs afterwards”.¹² Such unplanned and unregulated expansion in enrolments comes at a cost to graduates who often cannot find a job related to their field of study, a problem that will be analysed in more detail below. A better alignment of HE enrolment policy with labour market needs would be a potential way to address such mismatch. To this end, students who apply to enter university should have more information on the likely labour market demand for various study programmes. Governments and HEIs should introduce measures designed to nudge students towards those disciplines that are most needed on the labour market

2.3 Quality

The growing demand for higher education in the Western Balkans has been met by an expansion in the number of HEIs. The expansion in the scale of provision, especially on the part of private providers, has led to policy concerns about the quality of education provided by HE systems. Under the Bologna Process, attention to quality has been a major concern in order to ensure the comparability of degrees between institutions and across countries, and to underpin student mobility in the EHEA. This has led to a focus on quality assurance systems, i.e. the set of Institutions, policies, and practices to achieve, maintain or enhance quality in HEIs. The Bologna Process has produced a set of standards known as the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG). In 2012, the Bucharest Communiqué stressed the importance of quality assurance in HE systems (Eurydice, 2015). In most countries, responsibility for quality assurance rests with HEIs, although in some countries the ministry of education or a quality assurance agency is also responsible.

Most countries in the EHEA have established dedicated institutions to manage the quality assurance process. Quality assurance agencies cooperate and exchange information through the European Association for Quality Assurance in Higher Education (ENQA). Agencies that have been evaluated and that operate in compliance with the ESG can register on the European Quality Assurance Register for Higher Education (EQAR), boosting their credibility. Agencies that are registered with the EQAR have the right to operate across the EHEA, and their decisions are recognised across borders. Cross-border quality assurance is designed to assist the internationalisation of higher education across the EHEA. So far in the Western Balkans, only the agencies in Serbia and Kosovo are members of ENQA and are registered with EQAR. Policies towards quality assurance differ

¹¹ Interview, public HEI, Albania.

¹² Interview, Trade Union representative, Montenegro.

in the extent to which they have a supervisory role in which the main aim is accreditation and regulation of institutions and programmes, or whether the agency is an advisory body whose main focus is on quality improvement. For example, Bosnia and Herzegovina has an agency at the state level with only an advisory role, while Republika Srpska has an independent agency with decision-making powers.

This sub-section continues with an outline of the institutional framework for the governance of quality assurance in the Western Balkans. Sub-section 2.3.1 analyses the process of external evaluation and its outcomes, and sub-section 2.3.2 discusses the procedures for evaluation of study programmes and provides an evaluation of study programmes in the Western Balkans based on the findings from the graduate survey. Sub-section 2.3.3 discusses teaching methods and the effect of these on education quality. The section concludes with a brief assessment of policy priorities and policy gaps in relation to higher education provision in the region.

As mentioned previously, only Kosovo and Serbia have established independent quality assurance agencies that are members of ENQA. The Kosovo Accreditation Agency (KAA) was established in 2004 and is responsible for guaranteeing the quality of HEIs and study programmes. It is officially independent, and advises the Ministry of Education on decisions to grant or revoke licences to HEIs. However, although the Agency is a member of ENQA, its work is being reviewed closely after the legal action started against its past director on charges of bribery.¹³ In Serbia, the Commission for Accreditation and Quality Assurance (CAQA) was formed in June 2006 as an independent expert body of the National Council of Higher Education. Since 2013 employers' representatives, elected by the Chamber of Commerce and Industry of Serbia, have been included in CAQA activities.

Albania and the former Yugoslav Republic of Macedonia have established agencies that are affiliates of ENQA but not yet full members. In Albania, the Public Accreditation Agency of Higher Education (PAAHE) has been established.¹⁴ It organizes assessments of the institutional activities of HEIs, the quality of study programmes, and their research and technological development activities as well as carrying out preliminary assessments of new study programmes at public and private HEIs. The Council of Accreditation makes decisions on accreditation on the basis of PAAHE assessments. In the former Yugoslav Republic of Macedonia, the Board of Accreditation and Evaluation of Higher Education (HEAEB) has been established to carry out accreditation of HEIs. Its role is to determine whether HEIs have met the standard accreditation requirements, and to license new scientific institutions and study programmes. At least once every five years HEAEB assesses the activities of academic staff and study programmes, and decides whether accreditation should be extended (Vujačić et al., 2013). The key criteria of the accreditation process are the competences of the teaching staff, research activities and the implementation of the ECTS system.

In Bosnia and Herzegovina, the quality assurance process is divided among several institutions, depending on the level of governance. The Agency for Development of Higher Education and Quality Assurance (HEA) is responsible at the state level, and is affiliated to ENQA. The HEA establishes criteria for appointment of local and international experts for quality evaluation, issues recommendations on the accreditation of HEIs and sets quality standards. Responsibility of quality assurance in the Federation of Bosnia and Herzegovina is the responsibility of Cantonal ministries, in the Republika Srpska it is the responsibility of the Ministry of Education and Culture, and in Brčko District it is the responsibility of the Department for Education. Republika Srpska has its own

¹³ Statement from European Commission official.

¹⁴ The Agency has not yet become part of the European Quality Assurance Register for Higher Education (EQAR) (EHEA, 2015a).

accreditation agency (the Higher Education Accreditation Agency of Republika Srpska), which is responsible for the external evaluation and accreditation of HEIs.

In Montenegro, quality assurance is the direct responsibility of the Ministry of Education, with no relationship to ENQA. The Council for Higher Education has established a special committee for evaluation and accreditation of institutions or programmes, based on a list of experts provided by the Ministry of Education.

Governance arrangements concerning the participation of stakeholders in quality assurance processes vary across countries. Students are involved in quality assurance governance bodies in Albania, the former Yugoslav Republic of Macedonia, and Montenegro on a compulsory basis, but are not involved in quality assurance procedures in Bosnia and Herzegovina or in Serbia (Eurydice, 2015: 99). However, students may be involved in external review teams in Bosnia and Herzegovina, Serbia, and the former Yugoslav Republic of Macedonia on a discretionary basis, while they are involved on a mandatory basis in Albania. There is mandatory involvement of students in decision-making processes for external reviews in Albania, Bosnia and Herzegovina, Montenegro, the former Yugoslav Republic of Macedonia, but not in Serbia. Overall, students have the highest level of involvement in quality assurance in the former Yugoslav Republic of Macedonia, a medium level of involvement in Albania and in Bosnia and Herzegovina, and a relatively low level of involvement in Montenegro and Serbia (Eurydice, 2015: 101). However, whatever the arrangement, student involvement in quality assurance systems usually has little impact. According to one interviewee, 'professors have a secure job position. This means that they do not have to improve at all if they do not want to. We have to abolish this system if we want to increase the quality of teaching'.¹⁵ A good practice example of student evaluations was found in the former Yugoslav Republic of Macedonia. At one private university in Skopje, "professors that have a score below 70 in evaluation results (on a scale of 0-100) for two consecutive years cannot teach anymore at the University".¹⁶ Employer involvement is also a feature of quality assurance systems in some countries. There is compulsory involvement of employers in QA governing body in the former Yugoslav Republic of Macedonia and Montenegro, and in external review teams in Bosnia and Herzegovina. Involvement of employers is not a requirement in either Albania or Serbia.

2.3.1 Accreditation

The outcomes of the quality assurance process through accreditation procedures have been varied. In both Albania and the former Yugoslav Republic of Macedonia the process has led to the closure of several HEIs deemed unworthy of accreditation. In Albania, in March-August 2014, the Ministry of Education and Sports in coordination with PAAHE and National Inspectorate of Education verified all public and private HEIs against legal criteria and minimal standards, leading to the closure of 18 private HEIs. In the former Yugoslav Republic of Macedonia, several HEIs were closed during the latest round of accreditation - the chief reason being the lack of appropriate academic staff.¹⁷

Of the 46 HEIs in Bosnia and Herzegovina, 16 HEIs have been accredited and a further 16 are in the process of accreditation.¹⁸ Study programmes are accredited at the cantonal, entity and Brčko District level, not at the state level.

¹⁵ Interview, public HEI, Belgrade.

¹⁶ Interview, private HEI, Skopje.

¹⁷ Interview, Ministry of Education, the former Yugoslav Republic of Macedonia.

¹⁸ Reported in the European Commission Progress Report on Bosnia and Herzegovina, p. 46.

In Kosovo, the criteria for accreditation include academic freedom, diversity of subjects, research, selection of teaching staff and the regulation of examinations. The KAA requires HEIs to provide information on teaching and learning methods as part of the accreditation process. However, it does not take into account data regarding student progression, success rates, employability of graduates, student's satisfaction with programmes, or effectiveness of teachers (Baketa, 2013). Furthermore, "some study programs without necessary academic staff have been accredited, which raises concerns on the quality of implementation".¹⁹

In Montenegro, the re-accreditation of HEIs and programmes is performed by a foreign accreditation agency, the appointment of which is based on a public call, published by the Ministry, following the opinion of the Council for Higher Education. It is worth stressing that the Council for Higher Education takes into account labour market needs when assessing a request for the accreditation of study programmes.²⁰ In addition, Montenegro is the only country in the region to have completed the process of referencing qualifications against the EQF.

In Serbia, CAQA carried out the accreditation of 232 HEIs (including both universities and their respective faculties) over the period from 2007 to 2011²¹. As a result of this process, a total of 205 HEIs were accredited. CAQA also carried out the accreditation of 1,947 study programmes over the period from 2007 to 2011²². As a result of this process, a total of 1,553 study programmes were accredited. A second round of accreditation has been carried out during the period from 2012-2016, and a third round is expected to begin in 2017. Serbia has the most comprehensive accreditation process in the region.

2.3.2 Programme evaluation

Internal programme evaluation is important for HE quality in the Western Balkans. In Bosnia and Herzegovina, Montenegro, and Serbia more than 75% of HEIs have established internal quality assurance systems, in the former Yugoslav Republic of Macedonia more than 50% have done so, and in Albania more than 25% have done so (Eurydice, 2015: 87). In Montenegro, the HE Law stipulates that HEIs are obliged to perform self-evaluation, a questionnaire-based process that involves students (either directly, or indirectly via student representatives). In Serbia, HEIs are obliged to conduct an internal evaluation of teaching staff and teaching processes. The proportion of HEIs that publish negative evaluations is an important indicator of transparency (Eurydice, 2015). Negative reports are published by no HEIs in Albania and Montenegro, fewer than 25% of HEIs in Serbia, over 50% of HEIs in the former Yugoslav Republic of Macedonia, and over 75% of HEIs in Bosnia and Herzegovina (Eurydice, 2015). Reports from focus groups held with graduates who spent part of their HE studies in the EU show that Western Balkan HEIs could enhance the quality of their HE provision if programme evaluation were carried out more systematically. Serbian graduates who spent time in EU universities felt that "their opinions were appreciated" since course evaluation "was very important". Similarly, an Albanian graduate who studied in both Albania and the Netherlands felt that in the latter country there are "established quality assurance standards" with "external and internal evaluations" which uphold the quality of the programmes. Systematically involving students in course evaluation and ensuring that

¹⁹ Interview, Public HEI, Kosovo.

²⁰ Interview, Ministry of Education, Montenegro.

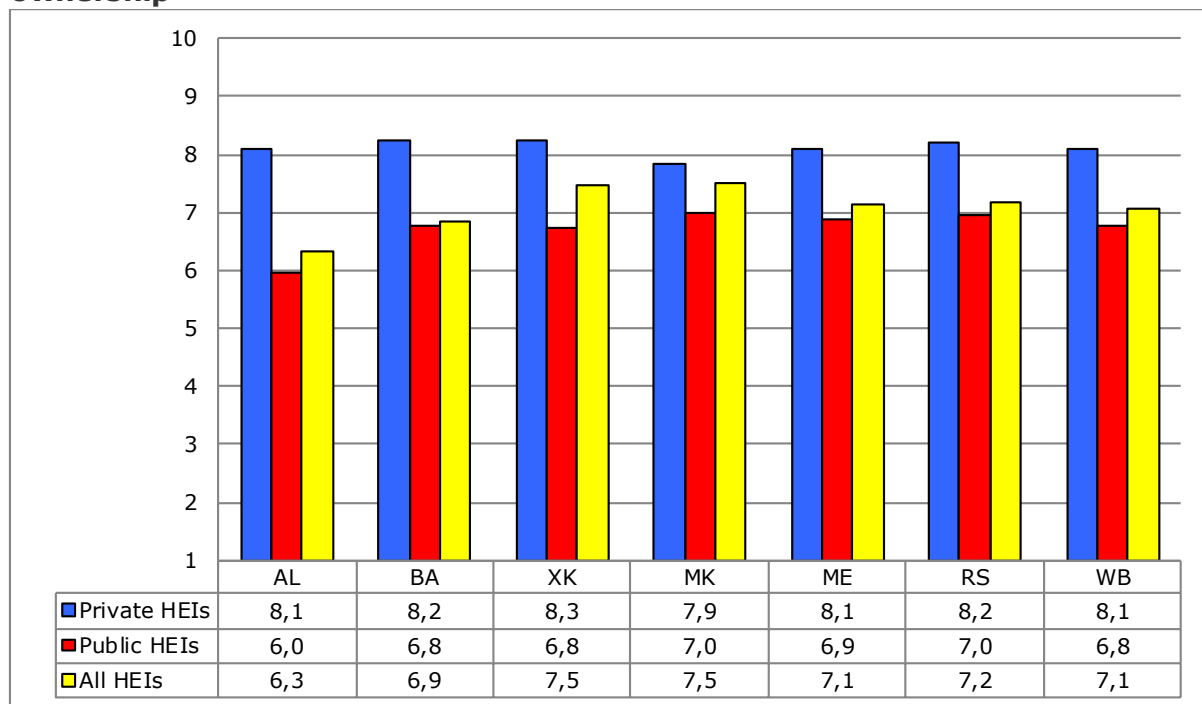
²¹ Pap, E., Vučić, V. and Pekić Quarrie, S. (2014) "Critical review on the system of quality assurance in Serbian higher education", PowerPoint presentation to Parliamentary Committee, 25 July, Belgrade: Commission for Accreditation and Quality Assurance.

²² Ibid.

such evaluations are used to improve educational quality are important pointers that emerge from the experience of Western Balkan graduates in the EU.

The graduate survey asked respondents to evaluate the study programmes at the HEI where they last studied. Respondents report their level of satisfaction with the education they received on a 1-10 scale.²³ The average level of satisfaction with quality in the Western Balkans as a whole is 7.1 (see Figure 3). Satisfaction with the perceived quality of HE provision is significantly lower in Albania than elsewhere²⁴, while Bosnia and Herzegovina also has significantly low level of satisfaction with educational quality compared to the better performing countries. This perhaps explains the urgency with which HE reforms have recently been carried out in Albania, and also points to the need for similarly profound reform actions in Bosnia and Herzegovina.

Figure 3: Satisfaction with quality of education at all levels of study, by type of ownership



Source: Graduate survey. Note: Satisfaction is scored on a 10-point scale from 1= not at all satisfied to 10= very satisfied). Differences between private and public HEIs are significant at 1% level for each country.

In Albania, Bosnia and Herzegovina, Kosovo, and the former Yugoslav Republic of Macedonia, survey respondents assessed the quality of Master programmes as better than the quality of Bachelor degree programmes, while in Montenegro and Serbia there is no significant difference in satisfaction with quality between these degree levels. Overall, graduates are more satisfied with the quality of education received at private HEIs than at public HEIs. The gap in perception of quality between private and public HEIs is especially large in Albania at 2.1 points. It should also be noted that in the Western Balkans as a whole the standard deviation of the perceptions of quality is 24% higher in public HEIs than in private HEIs, suggesting that some public HEIs offer relatively low

²³ Transforming this into a 1-5 scale where 4= quite satisfied and 5=very satisfied we find that 67% of graduates are (quite or very) satisfied with the education they received. This can be compared with the 85% that are satisfied with the quality of education in the UK (on the same scale) (Neves and Hillman, 2016).

²⁴ The difference is statistically significant at the 1% level.

quality education and others offer high quality education, while private HEIs tend to offer a more standard quality.

It is important to emphasise that these measures of quality are the subjective perceptions of the graduates. It may be argued that students enrol in private HEIs may more easily gain higher marks than those at public HEIs (“degrees for sale”). There may be some truth in this, since the apparent performance of graduates who studied at private HEIs is significantly above the performance of those who studied at public HEIs. The graduate survey asked graduates to assess their performance at HEI on a scale of 1-5 where 1= “far below average” and 5 = “far above average”. The average score for the performance of graduates from private HEIs was 3.85 compared to 3.65 for graduates from public HEIs ($p < 0.01$). This may either be due to students at private HEIs being more able than those at public HEIs, which seems improbable, or to their being more easily awarded higher grade point averages at private HEIs than at public HEIs. Further analysis reveals that several factors determine graduates’ satisfaction with the quality of their education in addition to HEI ownership status. A linear regression model was estimated to explain how these factors determine variations in satisfaction with the quality of education.

Table 6: Regression model for satisfaction with quality of education at HEIs in the Western Balkans

	Coefficient	t-statistic
Whether internship was used	0.92***	14.02
Above average performance	0.83***	12.89
Whether attended gymnasium	-0.27***	-4.09
Classes in small groups much used	0.75***	11.69
06 Information & Communication Technologies	-0.63***	-5.18
07 Engineering, Manufacturing & Construction	-0.17*	-1.72
Master degree	0.17***	2.66
Doctoral degree	0.90***	2.99
Public HEI	-0.97***	-12.24
Albania	-0.62***	-7.32
Constant	6.64***	61.27
<i>N=3,707; Adjusted R-squared = 0.238; F-statistic = 105.7***</i>		

*Source: Graduate survey. Note: the regression model was processed with SPSS by the method of backward elimination to give the best fit to the data. All independent variables are 0-1 dummies. Country dummies other than Albania are not significantly different from the base level (Serbia) and are not shown. Field of study dummies other than 06 & 07 are not significantly different to the base level (04 Business, Administration & Law) and are not shown. The base level for degree level is Bachelor degree. The constant shows the base level of satisfaction with quality of education when all dummies are set to zero. Significance levels are represented as: * = 10%; ** = 5%; *** = 1%.*

Table 6 shows the determinants of perceived satisfaction with the quality of education at HEIs. Several factors have a positive impact on satisfaction including whether the graduate had experienced internship or other form of work experience during HE studies, whether teaching methods had involved classes in small groups, and whether study performance had been above average. Graduates who achieved a Master or Doctoral degree are significantly more satisfied with their studies than those with only a Bachelor degree. Several other factors have a negative impact. For example, graduates who entered HE from academic grammar schools were less satisfied with their studies than those from vocational schools, perhaps because they had higher expectations. Graduates who studied in Albania are less satisfied with the quality of education than those who

studied elsewhere in the region. Worryingly, graduates who studied *Information & Communication Technologies (ICT)* and *Engineering, Manufacturing & Construction* have a lower level of satisfaction with quality of their education (compared to those who studied *Business, Administration and Law* – the baseline study field for this analysis).²⁵

Even when all these factors are taken into account, the ownership status of the HEIs still has a significant influence on perceived satisfaction with HE quality. The results indicate that level of satisfaction with quality of graduates who studied at public HEIs is 9.7 percentage points lower than those who studied at private HEIs, slightly less than the 13.0 percentage point gap identified in Figure 3 which does not control for other relevant factors. It should be emphasised that public HEIs are able to offset this difference if they offer internships or work experience during studies or use teaching in small class groups more frequently. It is also important to emphasise that graduates from *Information & Communication Technologies* and *Engineering, Manufacturing & Construction* fields of study have a significantly lower level of satisfaction with the quality of studies compared to other fields of study, irrespective of whether they studied at public or private HEIs. This is a worrying finding since graduates from these STEM fields are likely to be increasingly important in supporting the future competitiveness of the Western Balkan economies.

The quality of higher education is affected by a variety of factors. On the positive side, public HEIs enjoy several advantages including economies of scale, with large resources and experienced staff whose salary is guaranteed by the state budget, rather than being dependent on student fees as are private HEIs. However, public HEIs also suffer from a number of disadvantages including bureaucratic management structures, control over their financial affairs by the state, and a lack of managerial flexibility due to the need to follow a rigid set of rules and procedures as part of the public administration (Branković, 2014). Moreover, due to their large size, public HEIs may give less attention to individual students who may become alienated, whereas private HEIs, which are generally smaller in size, may be able to give more attention to individual student needs.²⁶

Additionally, in explaining the pattern of graduates' assessment of the quality of education they received the selection process into different types of HEIs may be relevant, especially in countries that offer scholarships to students who achieve the highest marks at secondary school or at an entrance exam to study at public HEIs. Due to this, public HEIs can be expected to enrol a proportion of the brightest students. The remaining students are self-financed, and those whose families can afford it may prefer to go to a private HEI where they are likely to receive more individual attention and where the available resources (e.g. buildings, equipment) may be superior to those at a public HEI. This then leaves a third group of less motivated students at public HEIs who are unable to afford private tuition but who nevertheless wish to gain a tertiary level qualification. Where such a triple segmentation takes place, public HEIs could be expected to enrol students with a wider range of ability than private HEIs (i.e. the best and the worst students). Then, if there is a relationship between satisfaction and the level of performance (as suggested by the regression analysis above), this would explain the much wider variation in perceptions of satisfaction at public HEIs compared to private HEIs, and it may be this variation that accounts for the overall difference in perceived satisfaction. In effect, the weakest and most marginalised students pull down the average satisfaction "scores" of public HEIs.

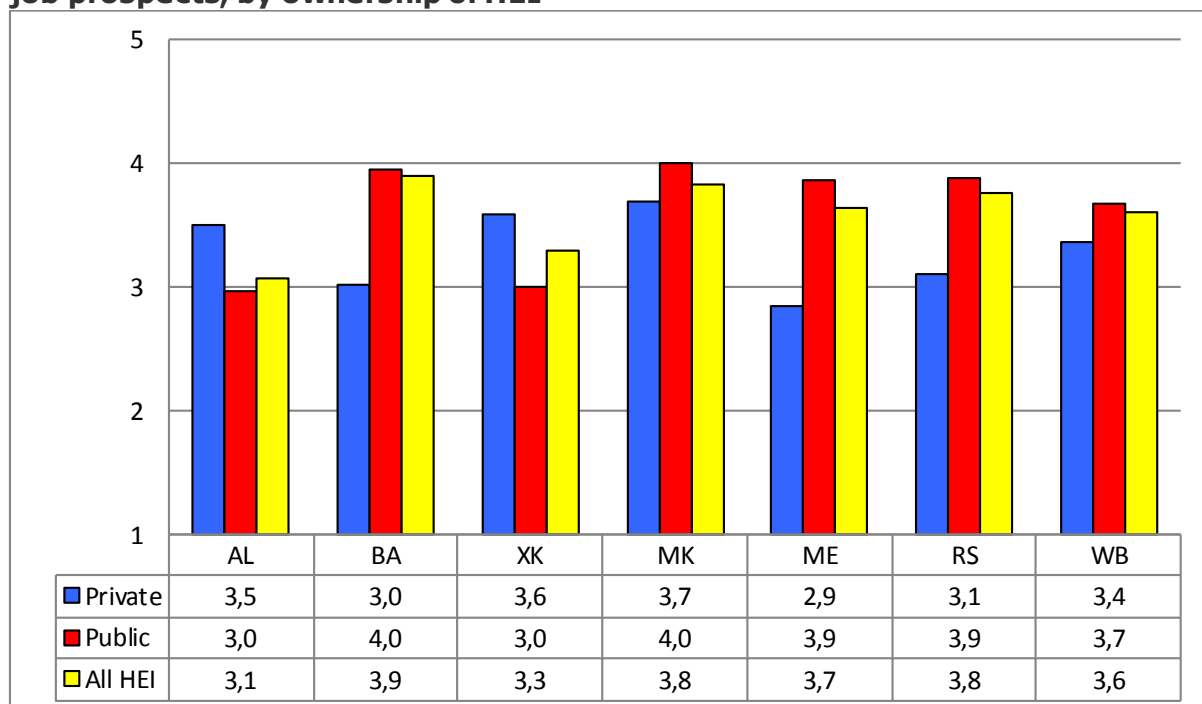
²⁵ *Business Studies, Administration & Law* is taken as the baseline since these subjects attract the largest proportion of students (24.1% according to the graduate survey covering students who graduated from 2010 onwards, or 25.2% according to the HE provision database for the academic year 2014-2015).

²⁶ In the academic year 2014-2015, the average enrolment into study programmes in public HEIs was 67.5 students, and in private HEIs was 46.1 students ($p < 0.01$) (source: HE provision database).

2.3.3 Teaching methods

It is a common observation that HEIs in post-socialist countries do not respond sufficiently to labour market changes through curricula reform or the adoption of new teaching methods (Sondergaard and Murthi et al., 2012; Vukasović, 2012). Many HEIs practice traditional modes of teaching and use out-dated curricula, and relatively few lecturers are interested in improving their teaching practices or curricula because there are few incentives for improvement. Appointments to a lectureship are often based on continuity of tenure irrespective of performance, and there is little rotation of professors in the same field of study, and those who try to introduce change are often perceived as a threat to established structures. For the same reason, it is difficult to appoint foreign nationals to teaching positions at HEIs in the region, an innovation that might improve teaching methods and quality. Due to poor teaching methods, many HE graduates lack skills that are relevant to the needs of the labour market (Arandarenko and Bartlett, 2012). In addition, students may often simultaneously work and study, an option made easier when there are chances to retake exams multiple times, as in most Western Balkan countries. This may have an impact on learning outcomes and the transition to employment (Robert and Saar, 2012). The graduate survey asked respondents which modes of teaching and learning were useful for their learning outcomes. Rote learning and lectures in large groups are reported to be least useful for learning outcomes, scoring just 2.1 and 2.6 respectively on a scale of 1="not at all useful" to 5="very useful". In contrast, teaching in small classes (3.5), problem solving and creative thinking (3.6) are much more useful for learning outcomes.

Figure 4: Whether improvements in teaching methods are needed to improve job prospects, by ownership of HEI



Source: Graduate survey. Note: AL= Albania, BA= Bosnia and Herzegovina, XK= Kosovo, MK = The former Yugoslav Republic of Macedonia, ME = Montenegro, RS = Serbia. The question is scored on a scale 1="no improvement needed" to 5 = "very much improvement needed". Differences between public and private HEIs are statistically significant at 1% level, N=3,758.

Graduates were asked which improvements would most enhance their future job prospects. The range of scores across different policy areas is wide, and reveals that

better teaching methods are considered to be more important than improvements to the physical environment such as better buildings or equipment. Graduates hold a strong view that teaching methods should be improved and that this would improve their job prospects (see Figure 4). In Albania and Kosovo the greatest improvement is sought at private HEIs. As shown above, steps have been taken to close down poorly performing private HEIs in Albania, and similar steps may be needed in Kosovo too. Elsewhere in the Western Balkans graduates perceive that public HEIs have the greatest need to improve teaching methods. This may be because private HEIs, as new institutions, do not need to adjust traditional teaching methods to new methodologies. On the other hand, private HEIs often employ staff from public HEIs on a part-time basis (Zgaga et al., 2013), which may limit the extent to which they are able to introduce new teaching methods, especially in Albania and Kosovo. This may explain the difference in graduates' perceptions of the need for improvement in teaching methods identified in Figure 4.

Differences in teaching methods between EU and Western Balkan HEIs appeared prominently in the results of the focus groups. Erasmus Mundus alumni from the former Yugoslav Republic of Macedonia highlighted the diversity of teaching methods in EU universities as a positive side of their experience abroad. They found that in the EU, "traditional" lectures delivered by professors to large groups of students are supplemented or replaced by other methods that were found more useful by students including seminars, lectures in small groups, and classes based on real-life problem-solving cases. Erasmus Mundus alumni from Serbia, Montenegro and Kosovo observed that in EU countries individual students' needs are better catered for thanks to teaching in smaller groups compared to their home countries. Higher specialisation of teaching was also found to be an important difference. Whilst many Erasmus Mundus alumni from Bosnia and Herzegovina, Serbia, and the former Yugoslav Republic of Macedonia felt that the broad knowledge learnt at their home universities was helpful to engage successfully in universities abroad, they nevertheless rated favourably the high degree of specialisation that they found in EU universities and which they thought is lacking in their home universities. Thus, striking the right balance between broad knowledge and specialisation appears to be an important issue that HEIs in the Western Balkan region ought to address, for instance by assigning a clearer aim in terms of broad vs. specialised teaching to, respectively, first- and second- cycle degree programmes.

In the employer survey, respondents were asked their opinions about the most useful modes of teaching and learning at HEIs. In their opinion the most useful teaching methods are internship and work placement, which scored 4.5 on a scale from 1 = "not at all important" to 5 = "very important", followed by problem solving and creative thinking teaching methods (scoring 4.4). Classes in small groups (3.9) are thought to be more useful than lectures in large groups (2.7). Rote learning of facts is considered by employers to be of little value (2.0) in imparting the skills needed by business.

2.4 Policy developments and gaps

Substantial policy gaps exist in the HE systems in the Western Balkans, and consequently substantial reforms are needed to improve their quality and enhance their contribution to economic competitiveness. The improvement of the quality of education has been a key theme in the reform of HE systems in the Western Balkans for several years, especially since the introduction of the Bologna reform process in the early to mid 2000s. New learning outcomes for the three study cycles (Diploma/Bachelor, Master and Doctorate) have been developed in many HEIs based upon the ECTS. Although the Bologna Process

has been adopted in all countries of the region,²⁷ there is a concern that this has not been applied in a way that has led to a profound reform of teaching practices and curricula. Results of an opinion survey of academic leaders in Western Balkan universities found that in many countries of the region the Bologna process was not perceived as “contributing importantly” to the quality of HEIs (Zgaga et al., 2013).

Most countries have introduced HE laws and HE strategies to institutionalise the adoption of the Bologna principles. A first wave of reforms were institutionalised through a set of laws regulating the HE systems in 2003 in Kosovo and in Montenegro, in 2005 in Serbia, in 2007 in Albania and in Bosnia and Herzegovina²⁸ and in 2008 in the former Yugoslav Republic of Macedonia. Since then, various strategic documents have been issued, several of which aim to align HE policy with the EU “Education and Training 2020” strategy. These include for example the “Strategy for the Development of Education 2020” in Serbia, and the “Strategy of Development and Financing of Higher Education 2011-2020” in Montenegro. Owing to dissatisfaction with the progress made in improving the quality of education in the first wave of post-Bologna legal enactments, several countries have passed new laws, such as the Montenegrin law on higher education of 2014 which aimed to promote an increase in the quality of HE by introducing stricter criteria on quality assurance, study programmes and financing and promoting a higher level of research activity and encouraging the greater relevance of the HE system to the labour market.²⁹ In Albania, the 2015 law on higher education gives greater autonomy to public HEIs to establish their own enrolment criteria, and bases funding on a competitive process driven by HEI performance in teaching and research.³⁰ In the former Yugoslav Republic of Macedonia a new law on higher education was introduced to parliament in 2015 to limit the number of repeat examinations that students can take and to set stricter criteria for the appointment of professors. However, owing to student protests the adoption of the new law has been postponed. Only in Kosovo, does the HE system lack a clear strategic plan to ensure the value of study programmes or to align the HE system to the needs of the labour market.³¹ All these new strategies and laws form a second wave of post-Bologna reforms. They focus on raising the quality of HE provision by addressing some of the key issues that hinder the HE systems in the region from delivering high quality teaching. These issues include the slow adoption of improved teaching methods, low completion rates, the irrelevance of many study programmes to labour market needs, and funding systems that fail to reward improvements in the quality of educational provision or to encourage flexible adaptation to changing student needs and employer demands.

These policy gaps are confirmed by the analysis presented previously in this section. The research findings show that although accreditation systems are in place, they are not uniformly effective in improving the quality of HE provision. The analysis of student satisfaction revealed major defects in the quality of provision among HEIs especially in some countries and at some levels of the HE system. Graduates perceive that teaching methods emphasising classes in small groups, problem solving, and creative thinking, and the provision of internships and work placements would all contribute significantly to the improvement of learning outcomes. The need for improvement in teaching methods

²⁷ Kosovo is not a full member of the Bologna Process, but attends ministerial meetings on an observer basis and has adopted the Bologna principles in its HE system.

²⁸ A Framework Law on Higher Education was adopted in 2007, and associated laws adopted in the cantons of the Federation of Bosnia and Herzegovina between 2009 and 2012, in Brčko District in 2009 and in Republika Srpska in 2011.

²⁹ European Commission Progress Report on Montenegro, 2015.

³⁰ As noted in the European Commission Progress Report on Albania, 2015.

³¹ European Commission Progress Report on Kosovo, 2015. The Progress Report recommendation of higher education follows that of the Economic and Reform Programme for 2015-2017. See: http://eeas.europa.eu/delegations/kosovo/press_corner/all_news/news/2015/20150512_en.htm.

is felt in both public and private HEIs, irrespective of the level of satisfaction with quality. These findings reveal that there is a large policy agenda in relation to improving teaching methods at all types of HEIs. Graduates also perceive that the education they received was of little use in helping them in their search for a job or in carrying out their jobs in a changing labour market. This is an important area for policy debate, an issue to which we return in the following sections of this Report.

3 Mapping graduate labour markets

A distinguishing characteristic of labour markets in the Western Balkans is the persistence of high unemployment rates combined with low levels of job creation. Although unemployment levels fell throughout the period of rapid growth in the early 2000s, they remained well above comparable levels attained in the EU, indicating a persistent problem of structural unemployment (Bartlett, 2013). Participation and employment rates have been on a downward trend and the region has been characterised by asymmetric adjustment patterns, worsening in 'bad' times, followed by meagre improvements in 'good' times (Arandarenko, 2015). Low employment rates hamper long-term growth prospects, since the long-term unemployed risk losing their skills making it harder for them to find jobs in the future creating a vicious circle of low growth and poverty (Kovtun et al. 2014).

Over the last twenty-five years, economic transition has led to a shift in employment from manufacturing to service sectors. At the same time, the agricultural sector remains relatively large in most Western Balkan countries in comparison with the EU average, while informal employment continues to play a prominent role (Kovtun et al., 2014), although it is not a major employer of HE graduates. Public sector employment has increased and is a major destination for HE graduates, while the share of employment in the private sector has lagged behind and remains relatively low. Moreover, most countries have a high share of vulnerable employment among self-employed and unpaid family workers. Labour market participation rates and employment rates of females, youth, older workers, and persons with disability are also extremely low. Many families have no income from work or have very low work intensity, elevating poverty and increasing the number and share of persons at risk of social exclusion.

3.1 Difficulties facing of graduates in finding a job

Throughout the European periphery, there is concern both about rising graduate unemployment and that graduates face substantial problems on their entry to the labour market. Although having a HE degree improves the chances of gaining a job, the rate of graduate unemployment remains relatively high, especially in recent years following the onset of the Eurozone crisis that began in 2009. The extent of youth unemployment is alarming, reaching up to 49% in Greece³², and is similarly high if not higher in most of the Western Balkan countries. Youth employment and unemployment tends to be particularly sensitive to changes in the business cycle. Recent research by the IMF reveals that youth unemployment is twice as sensitive to changes in GDP as overall unemployment (Kovtun et al., 2014). This explains to some extent why youth unemployment has risen so dramatically in the Western Balkans during the recent period of economic downturn. Unemployment is damaging for young people, and especially for graduates, as it risks the loss of skills (so-called "scarring" effects) that have been acquired at great economic cost within the HE systems. However, youth unemployment

³² The unemployment rate of 20-14 year olds in Greece in 2015 was 48.8%, both for all young people and for tertiary educated people (Eurostat online data variable code [Ifsa_urgaed]).

as it affects graduates is less persistent over time than unemployment of older workers, and so it should be possible to design effective measures to reduce it.

Table 7: Unemployment and employment rates of HE graduates and whole labour force, 2015 (%)

	Unemployment rate, total (a)	Unemployment rate all HE graduates (a)	Unemployment rate of recent HE graduates (b)	Employment rate, total (a)	Employment rate all HE graduates (a)	Employment rate, recent HE graduates (b)
AL	17.5	17.2	27.7	44.3	61.3	53.9
BA	27.7	18.4	40.1	31.9	n/a	48.8
XK	35.3	14.7	50.7	26.9	n/a	39.7
MK	26.1	21.4	37.2	42.1	66.8	53.9
ME	17.6	10.3	25.9	44.3	70.9	66.3
RS	19.4	15.0	42.4	41.7	55.0	48.1
WB	23.9	16.2	37.1	38.5	63.5	51.7
EU-28	9.4	5.6	n/a	58.1	76.9	n/a

Source: (a) Labour Force Surveys from National Statistical Offices and Eurostat, (b) data from graduate survey, calculated by the authors. Note: data for Western Balkan countries are for the 15+ age group, and for EU-28 are for the 15-74 age group (Eurostat variable code *lfsa_urgaed*).

Unemployment rates are extremely high throughout the Western Balkan region (see Table 7). In most countries, the unemployment rate of HE graduates is lower than that of the entire labour force. Albania is an exception with little difference in total and graduate unemployment rates, reflecting large outward migration.³³ In the EU-28, the proportional reduction in the unemployment rate of graduates compared to the total labour force is 40%. The graduate survey shows that the overall unemployment rate among recent graduates (who have graduated since 2010) is 37.1%, more than double the unemployment rate for all graduates. The unemployment rate of recent graduates ranges from 27.7% in Albania to 50.7% in Kosovo (compared to a range from 10.3% to 21.4% for all graduates). The employment rate of recent graduates, at 52%, is also lower than for the entire graduate population.

3.1.1 Graduate employment by size of employer

The employer survey covered 1,074 organisations that employ 31,990 graduates throughout the region. The sample included both public and private organisations and includes all sizes, from micro (employing fewer than 10 workers) to large (employing 250 or more). Almost two thirds of graduates covered by the survey are employed in large organisations and over a quarter are employed by medium sized organisations (see Table 8). The proportion of graduate employees (the “graduate density”) is inversely related to the size of the organisation, with micro and small employers having a greater graduate density than medium and large employers. This suggests that micro and small firms that employ graduates have a high demand for graduates relative to their size.

Table 8: Graduate employment by employer size groups in the Western Balkans

Size of firm (Eurostat)	Distribution of employers in the sample	Distribution of graduate employees	Average number of graduates employees	Median number of graduate employees	Average density of graduate employees (%)
Micro	26%	2%	3	3	65%
Small	35%	8%	12	9	48%
Medium	28%	26%	45	33	41%
Large	12%	64%	261	130	34%
Total	100%	100%	48	10	49%

³³ By “outward migration” we mean movement of persons from Albania to other countries in search of work.

Source: Employer survey. Note: Micro employers are defined as those with fewer than 10 employees; small employers from 10 to 49; medium sized employers from 50 to 249; large employers with 250 or more. This is in accordance with the Eurostat definition of employer size groups.

Fast-growth employers are sometimes called “gazelles” (Acs and Mueller, 2008; OECD 2009) and the employer survey reveals that 16% of employers in the Western Balkans are gazelles.³⁴ On average, gazelles employ significantly fewer employees than non-gazelles ($p < 0.01$), indicating that they are predominantly micro businesses or small and medium sized enterprises (SMEs).³⁵ Indeed, while only 4% of large employers are gazelles, 23% of micro employers are gazelles (18% of small employers are gazelles as are 12% of medium sized employers) ($p < 0.01$).³⁶ Moreover, gazelles have a higher density of graduate employees than slower growing organisations ($p < 0.05$).³⁷ Not surprisingly, they are more likely to be in the private sector than in the public sector ($p < 0.01$).³⁸ All this suggests that it would be important to support fast-growth micro, small and medium sized enterprises in order to support the creation of new graduate jobs.

3.1.2 Graduate employment by sector

The opportunity for graduates to find a job differs across sectors and across employers of different size. The employer survey shows that sectors differ markedly in the share of graduates they employ (see Figure 5). There are relatively few graduates working in the *Manufacturing* sector (only 14% of all employees in the sector). In contrast, 83% of all employees in *Education* sector are HE graduates, as are 76% of employees in *Arts, Entertainment & Recreation*, and 55% of employees in the *ICT* sectors.

³⁴ The definition of a gazelle, given by Eurostat, is a company that has been formed within the past three years and is expanding employment by at least 20% per annum over those three years. In Hungary, for example, about 1% businesses in the industrial sector that employ between 5 and 9 employees fall into this category as do 0.45% of businesses with 10 or more employees (Eurostat, variable [eip_pop3]).

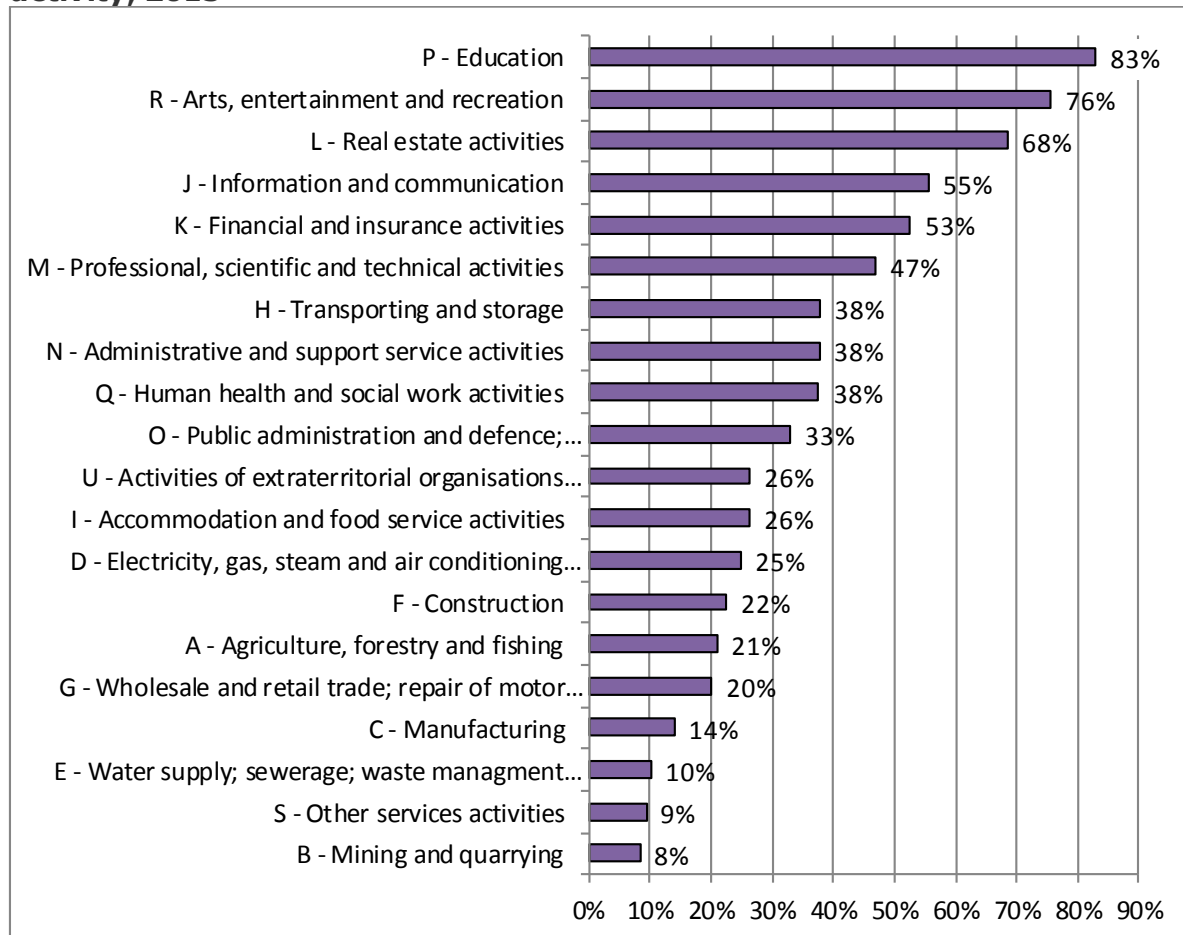
³⁵ For difference in means of employment size between gazelles and non-gazelles $t=4.64$, $p=0.000$, $N=530$).

³⁶ Chi-square=15.0; $p=0.002$; $N=631$.

³⁷ HE graduates comprise 55% of the workforce of gazelles, compared to 48% of the workforce of other employers ($t=2.02$, $p=0.044$, $N=606$).

³⁸ While 19% of private sector employers are gazelles, only 9% of employers in the public sector are gazelles (Chi-square = 7.94, $p=0.005$, $N=569$).

Figure 5: Share of graduate employment in total employment by sector of activity, 2015



Source: Employer survey

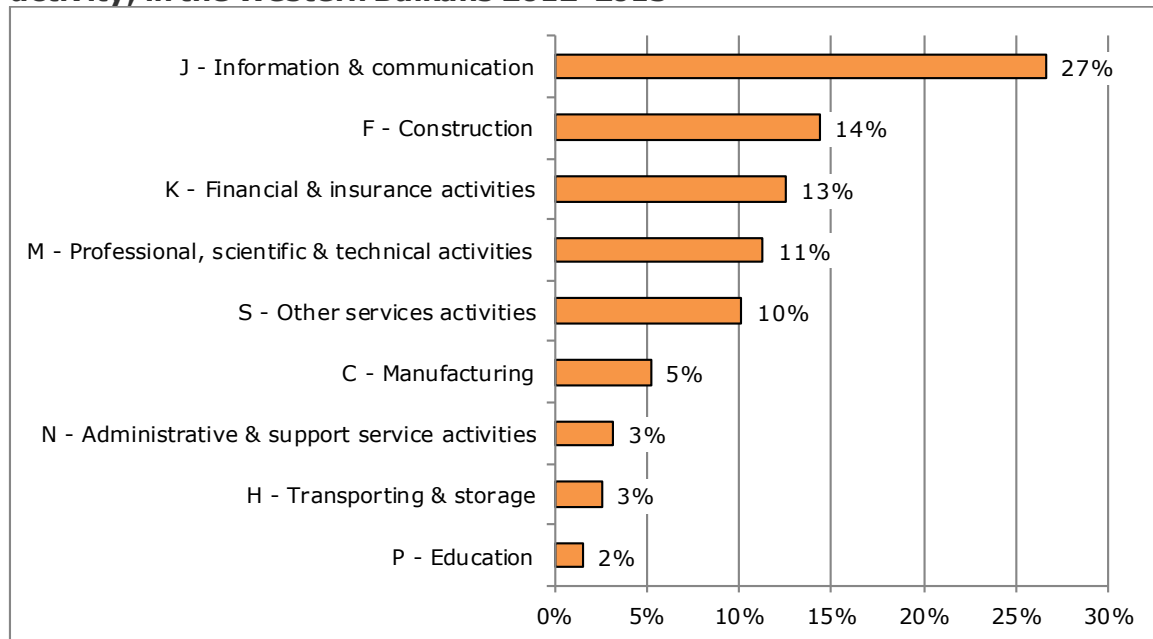
The share of graduates that are employed varies by the type of ownership of the organisations involved, with public employers having a higher density of graduates (62%) than private employers (43%) ($p < 0.01$).³⁹ This probably reflects the attractiveness of the public sector for graduates, given the relative job security and the wage premium in favour of the public sector (Avlijaš et al, 2013). It is also worth noting that high technology employers have a greater graduate density (51%) than other employers with a lower level of technology (38%) ($p < 0.01$).⁴⁰ This should be expected as high technology employers can be expected to have a higher demand for more highly qualified workers than other types of employers. It indicates that the graduate labour market is working efficiently to allocate more qualified workers to sectors of the economy where their skills are being put to the best use. However, as we show below, there is a limit to this efficiency as the level of skill mismatch in the Western Balkans is rather high. Finally, the graduate density is higher in employers based in the capital cities of the region (55%) compared to other employers (48%).⁴¹ This reflects the agglomeration effects in the largest urban areas, and suggests that there may be a need to consider policies that would encourage graduates to take up employment in other less developed towns in the region in order to support local economic development and minimise geographical inequalities in the development process.

³⁹ Significance test shows $F=41.1$, $p=0.000$, $N=608$.

⁴⁰ Significance test shows $F=14.5$, $p=0.000$, $N=391$.

⁴¹ Significance test shows $F=4.1$, $p=0.044$, $N=606$.

Figure 6: Annual % change in graduate employment in major sectors of activity, in the Western Balkans 2012-2015



Source: Employer survey. Note: The sectors shown account for over 80% of graduate employment

A relatively small proportion of employers accounts for most of the growth of employment. The employer survey⁴² reveals that 80% of all jobs created in the past three years have been created by just 20% of employers, and 80% of graduate jobs have been created by just 22% of employers. Over the three years prior to the employer survey (i.e. from 2012-15) there was a strong increase in graduate employment in the *Information & Communication (ICT)* sectors in the Western Balkans (see Figure 6). Relatively fast growth in graduate employment has also taken place in *Construction*, in *Financial & Insurance Activities*, in *Professional, Scientific & Technical activities* and in the *Other Services* sector (e.g. repairs of computers and other household goods, and personal services). The rapid growth of graduate jobs in the *Information & Communication* sector is a clear indication that graduates from related fields of study are likely to be in high demand. As we shall see below, there is a pressing shortage of graduates from the *ICT* fields of study to which the HE systems will need to respond in the future in order to meet the demand from employers and ensure that bottlenecks in the supply of skills do not hold back future economic growth.

It is also worth noting that the *ICT* sector has the greatest share of gazelle-type employers (27%). Other sectors with a high share of fast-growth gazelle employers are *Administrative & Support Services* (23%), *Professional, Scientific & Technical activities* (22%), *Manufacturing* (21%) and *Other Services* (21%). Thus it appears that fast-growth micro employers and SMEs in the *ICT* sectors are likely to be the fast growth enterprises of the future, and policy-makers who wish to expand graduate employment should not neglect them.

The employer survey shows rate of graduate employment growth is higher among employers who cooperate with HEIs over recruitment than among those who do not (for example through organising job fairs, visits to universities, or visits by students to the employers' premises). Thus, graduate employment growth rate is 24% per annum among employers who cooperate with HEIs over recruitment compared to 11% among

⁴² Further details about the employer survey methodology can be found in the Annex.

employers who do not ($p < 0.05$).⁴³ This may suggest that cooperation over recruitment of graduates has significant benefits in terms of finding the right sort of graduates for the job, and may reflect a better matching of the qualifications graduates to the skills needed by employers. Of course, it is equally possible that faster growing firms are more in need of skilled workers, and are therefore more likely to cooperate with HEIs over recruitment. Whichever way the causality runs, the association suggests that both HEIs and employers should give more attention to this form of cooperation.

3.2 Forecasts of future demand for HEI graduates

Over the three years from 2012 to 2014, average real per capita GDP growth rates have varied across the Western Balkans, with relatively robust growth in Albania, the former Yugoslav Republic of Macedonia, and Kosovo, but far slower growth in Bosnia and Herzegovina, Montenegro and Serbia. The faster growth in the southern countries of the region is partly related to their lower levels of development, but also to their lower levels of connectivity to the EU markets, with the consequence that the spillover effects of the Eurozone recession have been less severe in those countries. Several factors point towards a pick-up in growth over the next three years including lower oil prices, a devaluation of the euro against the dollar which supports a depreciation of the currencies of the region, and an expected pick-up in the Eurozone economies which will stimulate external demand (World Bank 2015). Faster growth is likely to be reflected in a higher level of demand for graduate labour.

In order to identify likely future demand and supply for HE graduates, forecasts are needed to predict future changes in labour market needs. Policy-makers can use such forecasts to adjust education strategies, or as an early warning of impending change.⁴⁴ In this section we set out our own forecasts of the likely demand for HE graduates by field of study in the period up to 2018. The analysis is carried out on the demand side, projecting forward the annual change in demand for graduate labour on the basis of existing information on graduate employment by sector of economic activity taken from national labour force surveys. The methodology of the forecast follows that of Cedefop (2010), which involves identifying “expansion demand” and “replacement demand”. Expansion demand is the extra demand arising from economic growth, while replacement demand is that arising from retirement and migration.

Table 8: Forecast of graduate employment growth (2015-18)

	AL	BA	XK	MK	ME	RS
2015	2.6	2.1	3.2	3.2	3.2	0.5
2016	3.4	3.0	3.8	3.2	4.9	1.5
2017	3.8	3.5	4.1	3.3	2.8	2.0
2018	4.1	3.7	4.1	3.4	2.9	3.5

Source: Country reports

Economic growth is expected to continue at a rate of around 3% over the next few years, although political instability and other headwinds may adversely affect this forecast. Growth in total employment is forecast to be below the trend in GDP growth due to expected increases in productivity, but graduate employment growth is likely to be given a boost due to skill-biased technical progress, so is expected to match the overall rate of economic growth (see Table 8). On this basis, forecast total graduate employment in the Western Balkans is expected to increase from 1.16 million in 2015 to around 1.25 million

⁴³ The test of significance gives the following statistics: $F=2.84$, $p=0.013$, $N=518$.

⁴⁴ It should be noted that all forecasts are by their nature imprecise and subject to revision as circumstances change. It has been said that every forecast is inevitably incorrect. Nevertheless a forecast provides a framework for policy makers to use as a benchmark against which to make their own judgments and decisions.

by 2018, an increase in almost 90,000 from the position in 2015, or around 30,000 each year. This increase is the “expansion demand” due to the net increase in job openings for graduates. To obtain a forecast for the actual number of graduates that will be demanded from the HE system, we add the “replacement demand” due to the retirement of currently employed graduates and other demographic reasons for which people leave the labour force. Applying this to our estimates of graduate employment, we derive an overall forecast of the annual increase in demand for graduates, which is the sum of expansion demand and replacement demand. Taking these two sources of demand for graduates into account, the total annual demand for *new* graduates is expected to increase from 58,550 in 2015 to almost 88,604 in 2018 (see Table 9). These annual requirements for graduates are below the actual output of the HE system, so that each year the total number of graduates exceeds the number of jobs available to employ them.

Table 8: Forecast for expansion, replacement and total demand for graduates by economic sector, Western Balkans, 2015-18

Sector	Expansion		Replacement		Total demand	
	2015	2018	2015	2018	2015	2018
A	278	913	643	696	920	1,610
B	97	276	200	218	296	493
C	1,099	3,337	2,654	2,885	3,754	6,221
D	211	598	415	450	625	1,048
E	235	567	506	553	742	1,120
F	490	1,271	995	1,083	1,485	2,353
G	1,499	3,994	2,995	3,258	4,496	7,250
H	606	1,534	1,532	1,672	2,136	3,207
I	311	615	677	743	989	1,359
J	718	1,817	1,480	1,617	2,199	3,433
K	1,012	2,249	2,367	2,595	3,379	4,843
L	26	54	39	43	64	96
M	2,139	4,637	5,896	6,465	8,035	11,102
N	1,523	2,874	4,774	5,252	6,299	8,127
O	2,050	4,821	3,395	3,700	5,444	8,521
P	3,983	9,384	7,763	8,490	11,748	17,873
Q	1,454	3,720	2,634	2,868	4,087	6,589
R	426	1,074	1,110	1,213	1,536	2,287
S	214	602	431	469	645	1,070
Total	18,372	44,334	40,510	44,271	58,880	88,604

Source: Country reports. Note: A=Agriculture, forestry & fisheries; B=Mining & quarrying; C=Manufacturing; D=Electricity, gas, steam & air conditioning supply; E=Water supply; F=Construction; G=Wholesale & retail trade; H=Transportation & storage; I=Accommodation & food service activities; J=Information & communication; K=Financial & insurance activities; L=Real estate; M=Professional, scientific & technical activities; N=Administrative & support service activities; O=Public administration & defence; P=Education; Q=Health & social work activities; R=Arts, entertainment & recreation; S=Other services.

Changes in the demand for graduates at sector level have implications for the pattern of recruitment that the HE system should anticipate. In order to address this issue we use the data from the graduate survey to estimate a transformation matrix that connects the sector in which graduates are employed to their field of study. This provides forecasts of

the demand for graduates by field of study that can be contrasted with the supply of graduates derived from the HE provision database (see Table 10).

Table 9: Annual new demand and supply of graduates by field of study

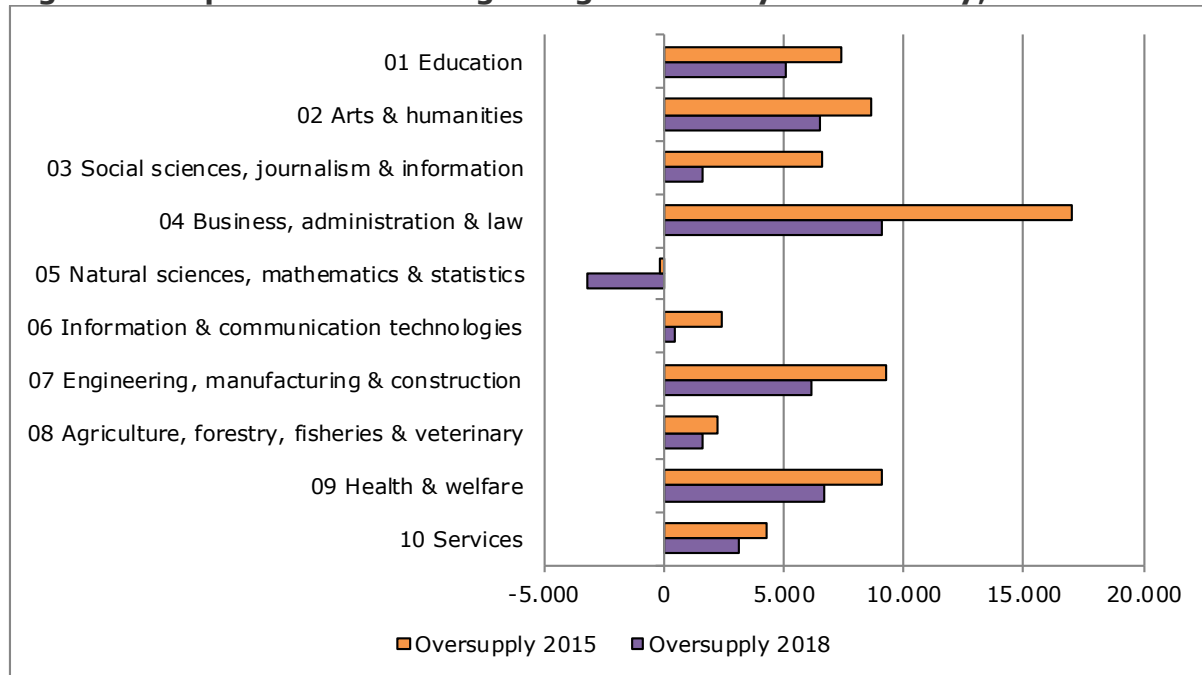
Field of study	Demand		Supply	Surplus/ Shortage
	2015	2018	2014	2018
01 Education	4,490	6,796	11,881	5,086
02 Arts & Humanities	4,367	6,542	13,051	6,509
03 Social Sciences, Journalism & Information	9,978	14,957	16,591	1,634
04 Business, Administration & Law	16,355	24,283	33,348	9,066
05 Natural Sciences, Mathematics & Statistics	6,189	9,189	6,010	-3,179
06 Information & Communication Technologies	3,970	5,973	6,401	427
07 Engineering, Manufacturing & Construction	5,934	9,098	15,249	6,151
08 Agriculture, Forestry, Fisheries & Veterinary	1,032	1,645	3,257	1,612
09 Health & Welfare	4,122	6,516	13,191	6,675
10 Services	2,443	3,607	6,718	3,111
Total	58,880	88,605	125,697	37,092

Source: Country reports

Table 10 shows the projected demand for graduates by field of study from 2015 to 2018 against the actual supply of graduates in 2014, which is used as a benchmark. In 2018 there is expected to be an overall oversupply of over 37,000 new graduates emerging from the HE sector (down from 67,000 in 2015, due to economic growth).⁴⁵ In 2018, the total demand for new graduates is therefore expected to be below actual supply (assuming the 2014 level remains unchanged) giving rise to a continuing, but falling surplus of new graduates. The only exception is for graduates from the STEM study fields of *Natural Sciences, Mathematics & Statistics* where a shortage of new graduates is expected to emerge, and in *Information & Communication Technologies* where the surplus is expected to practically disappear. However, within the STEM study fields, a large surplus of graduates with qualifications in *Engineering, Manufacturing & Construction* is expected to persist. In addition, there are many unemployed graduates who are also competing on the labour market in addition to the new supply of graduates emanating annually from HEIs. If current levels of supply are held constant, the supply of graduates will still be more than adequate to meet projected demand in 2018.

⁴⁵ It is worth noting that this means that some 9,000 of the 16,000 graduates who are expected to graduate in 2015 will have been left without a job, assuming all vacancies are filled (i.e. 56% of graduates).

Figure 7: Surpluses and shortages of graduates by field of study, 2015 and 2018



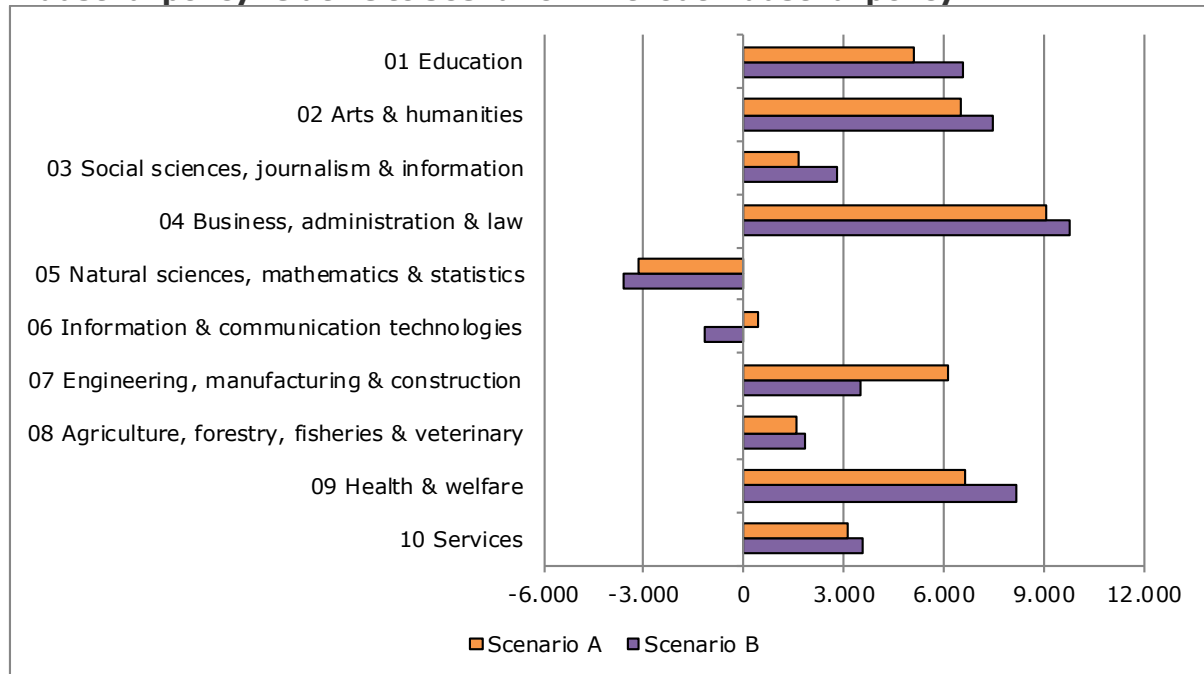
Source: Table 10. Note: Oversupply for 2015 and 2018 is calculated as the difference between supply of graduates from HE system in 2014 and forecast demand for HE graduates in 2015 and 2018 (i.e. the forecast scenario assumes stable annual supply).

Figure 7 shows the gap between new supply and annual demand for graduates in the labour market in 2015 and the forecast for 2018. The projection by field of study for 2018 is intended to give a picture of what oversupply would look like if there were no change in supply patterns from current levels. In doing this, the analysis provides a guide as to where the HE system should look to make adjustments to achieve a better balance between supply and demand. The analysis reveals that there is expected to be a continuing and large oversupply of graduates in 2018 in the broad fields of study *Education, Arts & Humanities, Business, Administration & Law, Engineering, Manufacturing & Construction* and *Health & Welfare*. In the absence of further expansion in the number of students graduating in these fields of study, these skill shortages are expected to increase over time. At the same time a shortage of graduates is likely to emerge in the study fields of *Natural Science, Mathematics & Statistics*. Among HSS study fields as a group, the annual surplus of new graduates is expected to fall from 32,000 to 17,000, while among STEM subjects the annual surplus is expected to fall from 11,500 to just 3,000. Although current oversupply in all fields of study is expected to diminish over time due to the expected pick-up in economic growth, it will be important in the future to rebalance the supply of graduates from HSS subjects to STEM subjects to meet the emerging needs in the Western Balkan economies.

The above analysis is based upon the absence of structural change in the economy. If instead of the status quo (scenario A), we envisage an alternative industrial policy (scenario B) that supports a more rapid development of the knowledge intensive sectors, the forecast would be different. In order to gauge the magnitude of possible changes, we develop a scenario in which the *Manufacturing, Construction, Information & Communication* sector, and the *Professional, Scientific & Technical* sectors are supported by a range of measures that have and will lead to their growth at a rate of 10% per annum over the period up to 2018, the public sectors (Public Administration, Education and Health and Welfare) remain fixed at their initial level, while other sectors are assumed to expand at the same rate as in the base scenario A (while maintaining the

same overall increase in the demand for graduates as would have occurred without the change in policy). The resulting change in our forecast for deficient demand (shortage) for graduates by field of study is presented in Figure 8.

Figure 8: Difference in oversupply of graduates in 2018 under scenario B with industrial policy relative to scenario A without industrial policy



Source: Table 10 and authors' estimates. Note: Scenario A represents the status quo; scenario B assumes rapid growth in manufacturing, ICT and professional and scientific sectors, and slower growth in other sectors. The horizontal bars show the proportional change under scenario B compared to scenario A.

Under the industrial policy, the forecasted annual surpluses of new graduates in 2018 in non-STEM fields of study increase, while the shortage in *Natural Science, Mathematics & Statistics* increases, the surplus of new graduates in *Information & Communication Technologies* turns into a shortage, and the surplus of new graduates in *Engineering, Manufacturing & Construction* diminishes. Overall, the forecasted surplus of 3,400 new graduates in 2018 in STEM subjects under Scenario A becomes a shortage of 1,200 STEM graduates under Scenario B. At the same time, the forecasted oversupply of graduates with HSS qualifications under the industrial policy increases from 17,000 to 20,000. This hypothesis shows that if a new industrial policy that boosted growth in knowledge-intensive industrial sectors were adopted throughout the Western Balkans, it might face constraints in the supply of qualified graduates in STEM subjects, and might require a change in HE admissions policies to ensure that a sufficient supply of qualified STEM graduates. This example provides support for the idea that higher education policy should be closely integrated with economic policy and in particular with economic policies that seek to boost competitiveness and productivity of the Western Balkan economies.

4 Transition from higher education to the labour market

Once HEI students have completed their studies they face the challenge of making a successful transition to the labour market, i.e. finding a job. Graduates face many challenges when they leave their HEI and look for work. The first and most obvious challenge is related to the high level of unemployment and the lack of jobs available. This may not be an absolute barrier, as employers will often prefer an overqualified recruit to

a less qualified one, even if the qualification is above the requirement of the job. However, a smooth transition ensures that the investment made in the education at HEI is put to good use and not wasted, since an initial period of unemployment or inactivity after leaving HEI can lead to a depreciation of the human capital that has been built up over several years (Mroz and Savage, 2006; Bell and Blanchflower, 2011) and an inability to find a job that is well matched to the field of study followed at HEI, or the level of studies undertaken, can reduce the return on investment (Robert, 2014). We return to this issue in section 5 below.

HE graduates in the Western Balkans face a precarious transition to stable employment. The graduate survey shows that currently employed graduates take nine months to find their first job. On average, they have held two different jobs since leaving their HEI and 57% have experienced at least one period of unemployment since entering the labour market. Currently unemployed graduates have a worse experience, having on average been unemployed for one year and four months, while one half (50%) has held at least one job; on average they took seven months to find their first job. These data reveal that the transition from HE to the labour market is far from being a smooth process for many graduates.

In this section we explore the challenges facing graduates and employers in the labour market. In subsection 4.1 we explore the relations between HEIs and employers and emphasise the need for improved cooperation between them. In subsection 4.2 we examine the challenges facing graduates in the labour market including the lack of formal job-search assistance available. In subsection 4.3 we address the problem that employers face in taking on new graduate recruits, including employers' dissatisfaction with the skills of new graduate recruits and their need to provide additional training to supplement the often weak skills gained at HEI.

4.1 Limited cooperation between HEIs and employers

Collaboration between HEIs and local industrial employers used to be widespread in the former socialist systems, but fell into disuse during the transition process that saw the collapse of many old industries and the disruption of linkages between HEIs and the business sector. There is now a need to rebuild these linkages and to improve the connectivity between HEIs and employers, especially in the private business sector.

The development of cooperative relations between employers and HEIs is a rapidly developing theme in developing policies for employability, sometimes known as "university-business cooperation". In the EU, many HEIs work collaboratively with local businesses to adapt existing study programmes or to design entirely new ones (Healy et al., 2012). Often, such collaborative arrangements are made at a local level, based on overlaps between teaching or research specialisms and local industry clusters. In the EU there is often a geographic basis to industry-HEI collaboration, which may be supported by local or regional economic development organisations. This can support economic growth by ensuring that strategic sectors will have the skilled staff they need in the future. Collaboration over curriculum design and contact between employers and students can lead to the provision of internships, improve graduate employability and ease graduates' transition from HEI to a future job in the collaborating sector. Cooperation between HEIs and employers in the form of curriculum development and graduate recruitment around specific sectors and study programmes can also spill over into wider cooperation in research and development activities, HEI spin-offs, and technology transfer, adding further impetus to local economic development, which will in turn create more jobs for the HEI graduates. In the EU, cooperation between employers and HEIs is fairly common and employers participate in decision making or consultative

bodies within HEIs in 22 countries, are actively involved in curriculum development in 19 countries, and frequently participate in teaching in 15 countries (Eurydice, 2014: 67). Employer cooperation with HEIs is often facilitated by government support for university-business cooperation projects. Such projects could also contribute to the labour market success of HEI graduates in the Western Balkans.

In order to gauge the level of cooperation between HEIs and employers, the employer survey asked employers to indicate how frequently they discussed changes in study programmes with HEIs. Only 21% of employers do this “often”, while 34% never cooperate with HEIs in this way. Similarly, only 16% of employers cooperate a lot or very much with HEIs over the recruitment of graduates, and 29% never cooperate in this way. However, when asked how much effect does cooperation over study programmes have on increasing the matching of HE graduates with their jobs, 62% responded “very much”, “a lot”, or “somewhat”, while in relation to cooperation over recruitment, 78% responded in the same way. This suggests that while employers believe that such cooperation would improve the outcome of the recruitment process, there are obstacles on both sides (i.e. both HEIs and employers) to taking cooperative action. This is a classical public policy situation, in which private actors on their own are unable to achieve mutual benefit and a more efficient social outcome. There is therefore a strong case for the government to play the role of an independent catalyst to support the development of cooperative relations to the benefit of both HEIs and employers. If such cooperation were organised, society as a whole might enjoy a substantial gain due to the economic benefits of better matching of graduates to their jobs, which might reduce job search time. It might also reduce discouraged graduates from dropping out of the labour market and improve the efficiency of the economy, since the proportion of good efficiency-enhancing matches between graduates and an appropriate job might be increased.

The employer survey asks employers about the technological level of their activities, and reveals that 27% of employers of graduates in the Western Balkans use “high technology”. Of these high technology employers, 27% “often” discuss changes to the syllabus of study programmes with HEIs compared to just 17% of other employers ($p < 0.01$).⁴⁶ In relation to cooperation over recruitment, 38.1% of high technology employers cooperate with HEIs over recruitment either “a lot” or “very much”, while only 11.3% of other employers do so ($p < 0.01$).⁴⁷ The extent of employer cooperation with HEIs over recruitment also varies according to the size of the employer, with large or medium sized employers being much more likely to cooperate with HEIs over graduate recruitment than small or micro employers. Thus, in the Western Balkans, 20% of large employers cooperate with HEIs over recruitment either “a lot” or very much” compared to just 6% of micro employers and 16% of small employers ($p < 0.01$).⁴⁸ This shows that in encouraging cooperation between employers and HEIs, policy makers are likely to have more success in supporting cooperation activities of larger high-technology employers than others, and should focus on these employers, especially in the early stages of a programme of enhancing university-business cooperation.

4.2 Challenges facing graduates on entering the labour market

A key challenge facing graduates on entry into the labour market is the relative lack of career guidance services within HEIs or public employment services. Due to this, graduates rely heavily on friends and family to find a suitable job, giving rise to charges of nepotism and corruption in the labour market. Another key challenge is graduates’

⁴⁶ Chi-square=11.4, $p=0.000$, $N=398$.

⁴⁷ Chi-square=46.3, $p=0.000$, $N=362$.

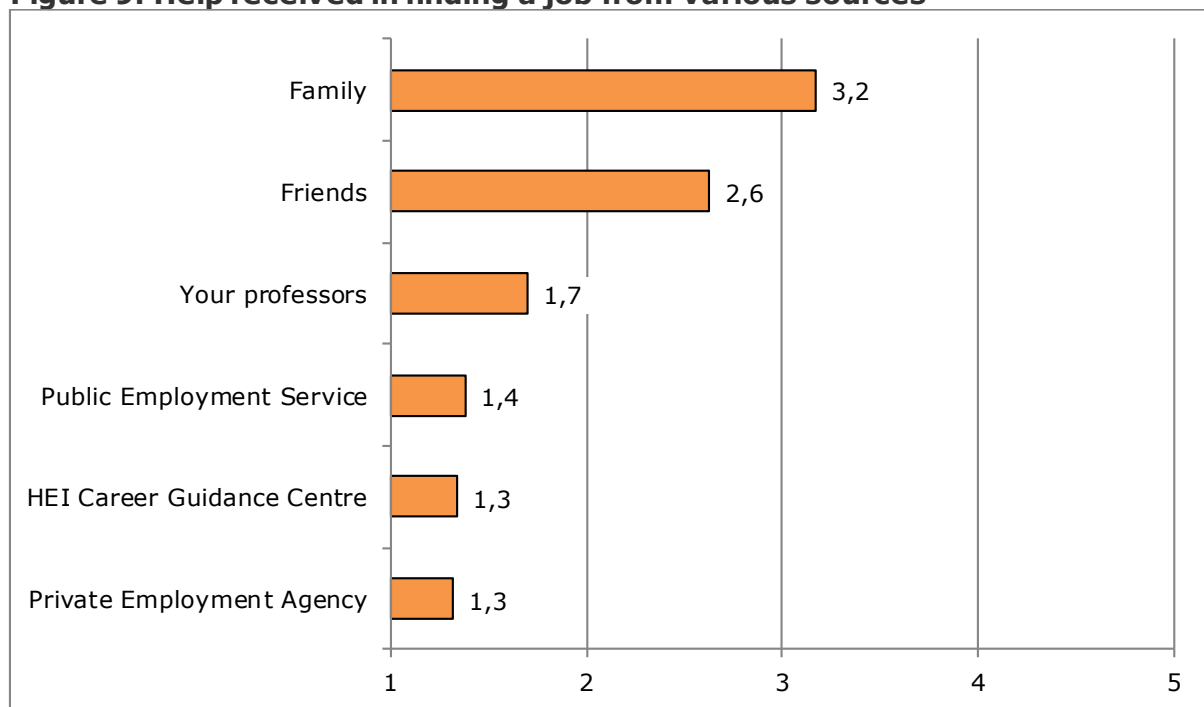
⁴⁸ Chi-square = 43.0, $p=0.000$, $N=648$.

lack of work experience when they enter the labour market, which limits their job prospects. In this sub-section we address these issues in turn.

4.2.1 Lack of assistance in finding a job

In seeking work in a competitive market, graduates require good information, since otherwise the graduate labour market cannot function efficiently. Graduates in the Western Balkans face a lack of adequate information about career opportunities, and social networks step in to fill the gap. This leads to an unbalanced playing field with the best-connected graduates able to access the best jobs.

Figure 9: Help received in finding a job from various sources



Source: Graduate survey

The graduate survey shows that, throughout the Western Balkans, the family is the main source of assistance in finding a job, closely followed by friends (see Figure 9). This highlights the importance of personal connections, and to a certain extent, nepotism, in the job search process. In contrast, assistance from graduates' professors or careers services at HEIs or from public or private employment agencies is extremely low.

Some HEIs in the Western Balkans have a career centre that aims to provide information to students and graduates about suitable careers and internships. Some career centres provide training in writing a CV, organise trial interviews with companies, organise career days and job fairs. However, most HEIs fail to monitor the effectiveness of their career centres, or identify which of their activities are most effective in helping graduates find a job.⁴⁹ This suggests that the activities of careers centres should be upgraded and monitored so that HEIs can become more aware of their successes and failures in order to better assist their students find a job upon graduation. Few HEIs have statistics on the labour market outcomes of their graduates. They could make use of such information to

⁴⁹ Interviews, at public HEIs in Sarajevo, Pristina and Tirana, and at private HEIs in Kosovo and the former Yugoslav Republic of Macedonia.

publicise the success of graduates in finding a job which could attract future students and be a basis for funding decisions by the responsible authorities.

4.2.2 Lack of prior work experience

The limited possibilities that students have to engage in internships or relevant work experience during their studies may also be obstacles to graduate employment. Employers frequently complain about the skills of HE graduates, emphasising their lack of work experience, practical knowledge and even lack of motivation to find a job in certain cases. The employer survey shows that 52% of employers in the Western Balkans attach “a lot” or “very much” importance to having previous work experience when making a decision to recruit a new graduate. Having some work experience is therefore important for HE graduates’ labour market outcomes. This view is supported by the findings from the graduate survey, which shows that 55% of respondents who had at least some work experience held a job, compared to 46% of those who had had no work experience ($p < 0.01$).⁵⁰ Work experience also supports the matching of qualifications to the job: while 78% of those who have at least some work experience (or internship) hold a job that is well matched to their field of study (horizontal matching), only 56% of those with no work experience hold a horizontally well-matched job ($p < 0.01$).⁵¹ Equally, work experience supports matching by level of qualification: while 52% of those who have at least some work experience (or internship) hold a job that is well matched to their level of qualification (vertical matching), only 40% of those with no work experience hold a vertically well-matched job ($p < 0.01$).⁵²

4.3 Employers’ challenges in taking on new graduates

Employers face several challenges in taking on new graduate recruits, relating to the level of skills that graduates bring with them to the workplace, the skill gaps of new graduates in relation to the level of skills that employers require, and costs of providing additional training to new graduate recruits when they do not have the appropriate skills for the job in hand.

4.3.1 Dissatisfaction with skills of new graduates

Employers’ perceptions of the skills of newly recruited graduates cast light on the extent to which HEIs are meeting the expectations of employers and providing the right mix of study programmes and adopting suitable teaching methods. The survey asked employers “how satisfied are you with the skills of new HE graduates for your business activity?” The question was scored on a scale from 1 = “very dissatisfied” to 10 = “very satisfied”. The average score on this question was 6.2, indicating that employers are not hugely satisfied with the skills of their new graduate recruits, with 36% of employers scoring graduate skills at a level of 5 or less. Encouragingly, employers in high technology sectors tend to be more satisfied with the skills of their new graduate recruits with a score of 7.1 compared to a score of 6.0 for other employers ($p < 0.01$).⁵³ This suggests that such employers may be able to attract the best graduate recruits.

Another factor that affects the degree of satisfaction with skills of new graduate recruits is the extent to which employers cooperate with HEIs over recruitment. Employers that cooperate “a lot” or “very much” with HEIs in this way have an average skill satisfaction score of 7.5 compared to just 5.9 for those who cooperate less often or not at all

⁵⁰ Chi-square=27.4, $p=0.000$, $N=3,847$.

⁵¹ Chi-square=47.8, $p=0.000$, $N=2,280$.

⁵² Chi-square=32.2, $p=0.000$, $N=2,277$.

⁵³ An independent samples t-test of difference in means shows: t-statistic=4.18, $p=0.000$, $N=315$.

($p < 0.01$).⁵⁴ This indicates that cooperation between employers and HEIs over recruitment issues (for example at recruitment fairs or other forms of cooperation) can be very important in enabling employers to attract graduates with skills that are appropriate to their needs.

The employer survey also provides an insight into the sort of skills that employers find in their graduate recruits. Employers were asked which skills their graduates have on a scale of 1="none at all" to 5 = "very much". On average the employers perceive the level of skills of their graduate recruits to be 3.6 on this scale indicating that graduate skills are only just above average. Many employers are of the opinion that graduates lack interactive skills such as decision-making skills (scoring just 3.4 on the 1-5 scale), and are relatively weak in planning and organisational skills (3.5), in foreign language skills (3.5) and in numeracy skills (3.6). The employers perceive graduates skills to be best in computer skills (3.8) and reading and writing skills (3.8). Looking at this another way, as many as 55% of employers consider that their graduate employees have either "none", "a little" or only "some" decision making skills, and 48% of employers have the same dim view of graduates' numeracy skills.

There are no significant differences in employers' perceptions of graduates' skills on the basis of employer size, suggesting that the generally low degree of satisfaction is found across the board and is a general phenomenon. There are some exceptions. Not surprisingly a significantly higher proportion of graduates employed by high technology employers have "very good" computer skills ($p < 0.01$)⁵⁵ and a significantly higher proportion of graduates employed by foreign employers have "very good" foreign language skills ($p < 0.05$).⁵⁶

A further impression of employers' dissatisfaction with the skills of their graduate recruits is given by the finding that only 50% of employers consider that HE graduates bring either "a lot" or "very much" value added to their business activities compared to non-graduates. This finding underpins the view that it is too costly for governments in the region to continue to produce graduates with little or no added value compared to graduates from secondary education.

4.3.2 Graduate skill gaps

Many stakeholders complain about the lack of job-readiness of HE graduates, while others report graduates' lack of interactive skills, IT skills, organisational skills, and ability to work in teams. HEIs are seen as focusing on theoretical knowledge to the detriment of providing graduates with practical knowledge and experience, which is a key concern of employers. In addition, the curricula of many study programmes fail to reflect the combination of skills that employers seek. In view of these concerns, the employers survey asked about the importance of each skill for business activity (current skill needs), and the importance of the same skill in three years' time (future skill needs). The difference between the importance of the desired skills and graduates' actual skills (reported in section 4.2.1 above) provides a measure of the current skill gap among graduate employees. A skill gaps refers to a situation where a graduate's level or type of skill is inadequate in view of particular job requirements. Skill gaps have been widely noted in transition countries, where constraints on business activity due to skills gaps

⁵⁴ An independent samples t-test of difference in means shows: t -statistic=6.12, $p=0.000$, $N=508$.

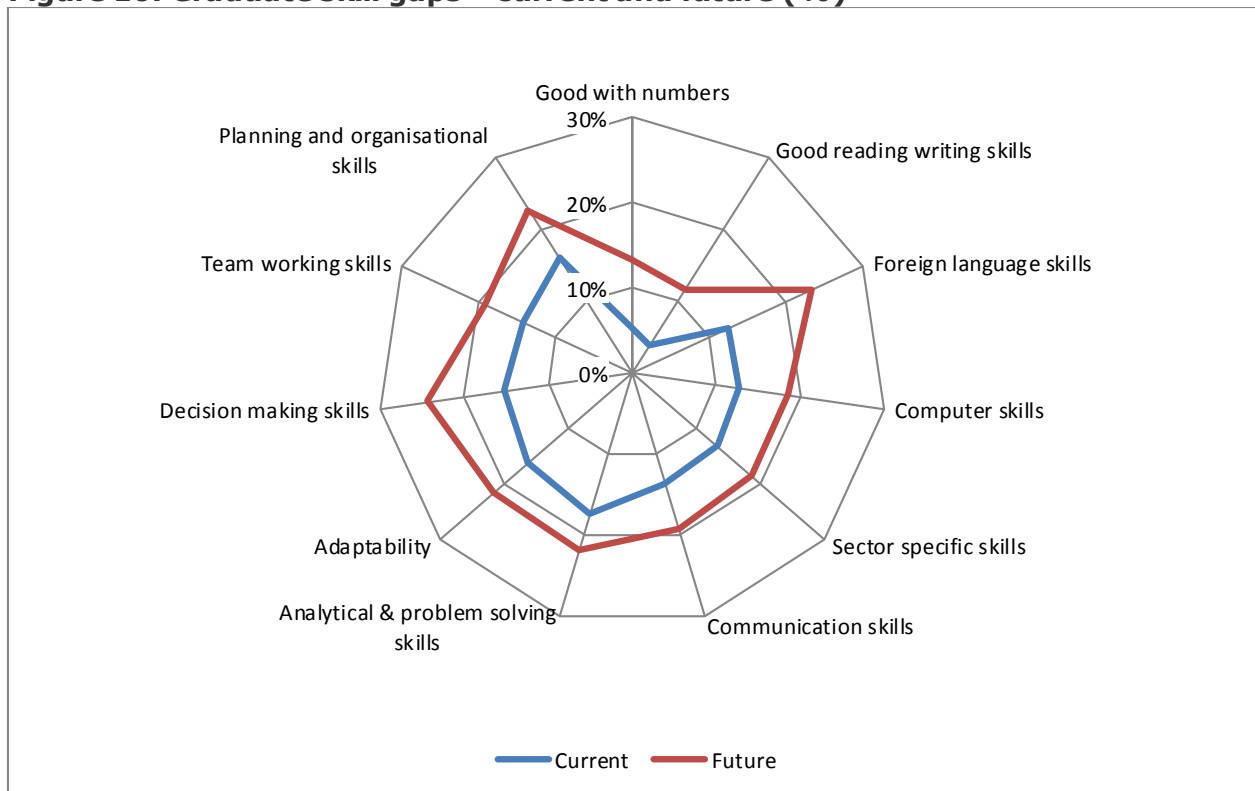
⁵⁵ While 26% of high technology firms say their graduate employees have very good computer skills, only 10% of other employers make the same claim (Chi-square = 15.1, $p=0.002$; $N=303$).

⁵⁶ While 21% of high technology firms say their graduate employees have very good computer skills, only 11% of other employers make the same claim (Chi-square = 11.3, $p=0.024$; $N=526$).

became increasingly prominent in the period of growth leading up to the global financial crisis of 2008 (Sondergaard and Murthi et al., 2012).

Skill gaps in the Western Balkans are plotted in Figure 10, which shows that they are found in all dimensions of skills.⁵⁷ The analysis distinguishes between “cognitive” skills and “interactive” skills. Cognitive skills include the following: numeracy, literacy, foreign language skills, computer skills, and sector-specific skills (e.g. engineering skills). Interactive skills include communication skills, analytical and problem solving skills, ability to adapt to and act in new situations, decision-making skills, team working skills, and planning and organisational skills.

Figure 10: Graduate skill gaps – current and future (%)



Source: Employer survey

Figure 10 reveals relatively high skill gaps in interactive skills such as planning and organisational skills, decision-making skills, analytical and problem-solving skills and adaptability. All types of skill gaps are expected to increase in the future (i.e. over the three years following the survey, up to 2018). The greatest expected increase in skill gaps is in foreign language decision-making skills. All this points to deficiencies in the quality of HE systems, especially in relation to teaching interactive skills.

The general pattern is that (i) current interactive skill gaps are greater than current cognitive skill gaps, (ii) future expected skill gaps of all types are greater than current skill gaps (i.e. the problem is expected to become greater over time) and (iii) future interactive skill gaps are expected to be greater than future cognitive skill gaps. The implication of this is that graduate’s skill gaps of all types are large and growing in

⁵⁷ We refer to a distinction between “cognitive” and “interactive” skills, rather than the commonly used terms “hard” and “soft” skills as more accurate descriptors of the different classes of skills involved. This terminology is proposed in Green (2013: 23-24).

relation to employer needs. The problem is more serious in relation to interactive skill gaps than cognitive skill gaps, reflecting the emphasis among HEIs on imparting theoretical knowledge, rather than the practical knowledge that would better assist the graduates in their future careers. As one interviewee put it, “graduates rarely acquire [interactive] skills; they lack problem-solving skills, or critical thinking skills”,⁵⁸ and “the main skill deficits among graduates in relation to the skills needed on the labour market are [interactive] skills, managerial skills, IT skills and teaching skills especially in foreign languages”,⁵⁹ and “students lack general skills like communication and team work skills which should be part of the HE curricula”.⁶⁰ The policy implication is that HEIs should restructure their learning pathways so that a larger proportion of student time is spent on developing their interactive skills. This needs to be built into the curriculum in cooperation with employers so that HEIs provide a new mix of skills, more appropriate to the changing labour markets. This should not imply a reduction in HE quality, rather a greater appreciation of the role of interactive skills in modern graduate labour markets.

These findings reflect research carried out elsewhere in Europe, where interactive skills are becoming increasingly important for graduate employability. Such skills can rarely be compensated by high grades or by a relevant study field, since such achievements may be outweighed by the negative effect of poor interpersonal skills on work teams and organisational goals (Humburg et al., 2013). The lack of “interpersonal, communication and problem-solving abilities” is a particularly problematic area for young graduates (Cedefop, 2014). A number of “employability” initiatives have been developed in EU countries to address this issue and improve the provision of interactive skills of graduates. The most common initiatives include co-design of curricula between HEIs and employers, project-based learning, sandwich courses⁶¹ and placement periods as well as exchange of staff between academia and business. A research project carried out in the UK suggests that the most valuable “employability element” to support a successful transition of HE graduates to the labour market is the availability of internships and work placements (Cranmer, 2006). While we are unable to generalise this claim through cross-country quantitative data, this finding is in line with qualitative evidence emerging from our focus groups and interviews which were characterised by a strong consensus around the need for HEIs in the Western Balkans to embed a mandatory element of work experience in their degree programmes.

4.3.3 Training of new graduate employees

Given the widespread skill gaps perceived by employers, it is not surprising that many find the need to provide additional training to their new graduate recruits. The employer survey shows that 66% of employers provide supplementary formal training to their new graduate recruit, and that 68% of graduates work for employers that provide formal training. The graduate survey broadly corroborates this, as 62% of graduates say that they have received additional formal training at a training centre, college or university since starting their employment. A relatively large proportion of employers offer additional training in Bosnia and Herzegovina (77%) and Montenegro (85%), while a relatively low proportion of employers in Albania (56%) and Kosovo (48%) offer additional training to their new graduate recruits. The high amount of training provided in Montenegro may be related to a government-sponsored internship scheme that offers a formal internship to all unemployed graduates without work experience. In addition,

⁵⁸ Interview, Ministry of Economy, Albania.

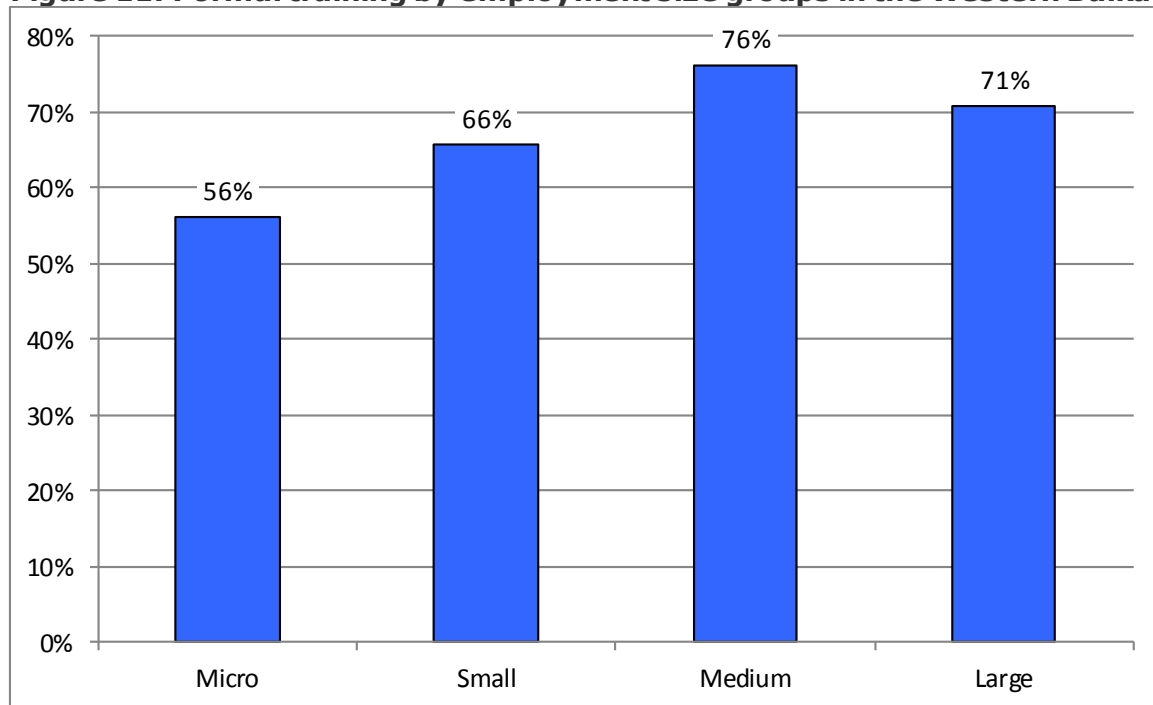
⁵⁹ Interview, Cantonal Chamber of Commerce, Bosnia and Herzegovina.

⁶⁰ Interview, Ministry of Labour and Social Welfare, Kosovo.

⁶¹ A “sandwich course” is an undergraduate programmes during which spells of work experience outside the HEI in a company are a mandatory part of the curriculum. Such work experience can be for an entire academic year for example as the third year of a four-year Bachelor programme or for shorter spells depending on the course content and objectives.

many employers also provide informal training to their graduate recruits. About four-fifths of employers claim to provide some form of informal training, although this is not fully corroborated by the graduate survey, as only 53% of graduates say they have received any form of on-the-job training. Overall, employers in Albania and Kosovo are less likely than employers in other countries to offer additional formal or informal training to their new graduate recruits.

Figure 11: Formal training by employment size groups in the Western Balkans



Source: Employer survey

In the Western Balkans, the employer survey shows that medium sized and large employers are the most likely to provide training while micro employers are the least likely to provide formal training compared to other types of employers ($p < 0.01$).⁶² In addition, high technology and medium-high technology employers provide significantly more formal training opportunities to their graduate recruits than do other employers ($p < 0.01$)⁶³ especially in Bosnia and Herzegovina, Kosovo and Montenegro. The employer survey also shows that foreign employers provide significantly more formal training opportunities to their graduate recruits than do other employers ($p < 0.05$)⁶⁴ especially in Serbia.

4.4 Summary

The research reported above shows that both graduates and their employers have a difficult time in managing the transition from HEI to work. The main reasons for graduates having difficulty in finding a job include firstly the lack of available jobs and a higher education system that does not equip its graduates with relevant skills. The lack of cooperation between HEIs and employers over recruitment, the lack of formal career

⁶² Chi-square = 13.7; $p = 0.003$; $N = 551$.

⁶³ While 72% of high and medium-high technology employers provide training to their new graduate recruits, only 51% of low and medium-low technology employers do so (Chi-square = 11.4; $p = 0.001$; $N = 308$).

⁶⁴ While 79% of foreign owned companies provide training to their new graduate recruits, only 64% of domestic employers do so (Chi-square = 5.56; $p = 0.018$; $N = 541$).

guidance services to support effective job search, lack of work experience, nepotism (especially in the public sector), and the poor perception of the quality of skills taught at private HEIs add to the problem. The low level of cooperation between HEIs and employers makes all of these factors worse than they need be. On the employer side, dissatisfaction with the skills of new graduate recruits and the need to provide additional training are factors that inhibit employers from taking on new graduates. The significant gaps in interactive skills (which are essential in high skill jobs) can be imparted to out-dated teaching methods. Employers who experience skill gaps find it necessary to provide additional training to their graduate recruits. While many employers provide such additional training, fewer micro and small sized private employers do so compared to other employers. The implication of these findings is that policy makers should focus attention on supporting smaller domestic and medium-low technology employers to provide training to their new graduate recruits, through instruments such as training subsidies or vouchers, in order to upgrade their productive capacity and competitiveness. This should be especially a concern for those small domestic low technology companies that supply inputs into foreign investor companies in order to build up the domestic supply chain, and ensure that inflows of productive FDI are associated with domestic sourcing of inputs and with graduate job creation.

5 Skill mismatch

Individuals follow various pathways in their transition from higher education to employment (Leuze, 2007). However, skill mismatches often occur. Skill mismatch⁶⁵ is widespread in market economies (McGuinness, 2006). It has two dimensions. The first is **horizontal** skill mismatch, which refers to a situation in which the employee has a qualification in a field of study that is not required by the job held (e.g. a graduate in biology holding a job in accountancy that requires a different degree). The second is **vertical** skill mismatch, which refers to a situation in which an employee has qualification either above or below the skill level necessary to carry out the job (e.g. someone holds a master's degree working in a job which requires a lower level of skill). Skill mismatch is important for the economy as a whole as well as for the individuals concerned, since there is strong evidence that there is an inverse relationship between skill mismatch and productivity levels at the country level (McGowan and Andrews, 2015). Thus, countries with a higher level of skill mismatch are expected to have a lower level of productivity and growth than countries with a lower level of skill mismatch, other factors being equal. In this section we set out the findings from the project surveys and interviews in relation to the extent and nature of skill mismatches in the Western Balkans. Section 5.1 reviews the evidence on horizontal mismatch and section 5.2 reviews the on vertical mismatch.

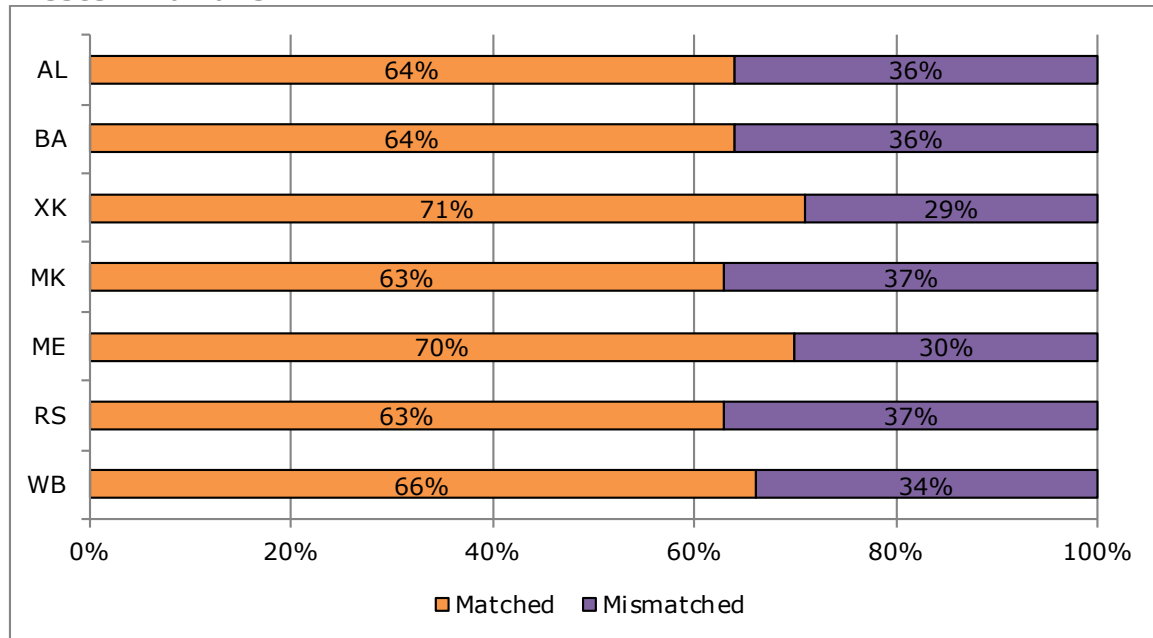
5.1 Horizontal mismatch

The process of restructuring, and the associated expansion of demand for new skills, has often taken place more rapidly than the education system has been able to adapt, leading to shortages of appropriately qualified graduates. In such circumstances, the qualifications provided by HEIs may no longer be demanded in the labour market leading to a surplus of graduates who may be unable to find a job that is well matched to their field of study. The graduate shows that horizontal mismatch is extensive, with 34% of all

⁶⁵ It should be noted that much of the discussion of skill mismatch is really framed within the context of "qualification mismatch". However, the term "skill mismatch" is commonly used throughout the literature, where "qualifications" is taken as a proxy for "skills". The OECD has recently begun to carry out skill surveys that get around this problem. In our graduate survey, for vertical mismatch we ask whether the qualifications of the graduate match the skills needed by the job, in order to pin down the "skill" aspect of the issue.

graduates reporting that their academic field of study did not match their current job requirements (see Figure 12). A higher level of horizontal matching is seen in Kosovo and Montenegro than elsewhere.

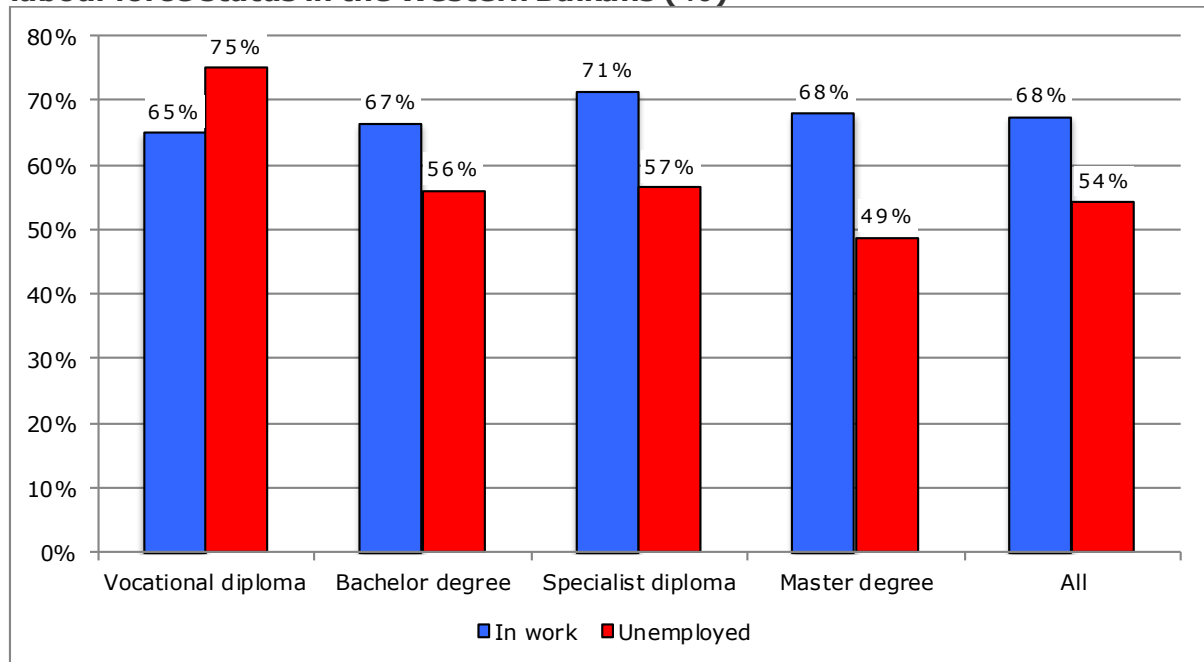
Figure 12: Proportion of graduates horizontally matched or mismatched in the Western Balkans



Source: Graduate survey. Note: for unemployed or inactive respondents, matching refers to last job held

The graduate survey shows that among graduates who are currently employed, a greater proportion (40%) were mismatched in their first job after graduation than are mismatched in their current job (32%). This suggests that the labour market is operating effectively to match graduates to appropriate jobs over time and that horizontal mismatch is a particularly serious problem facing graduates who are making the transition from HE to their first job. HEIs should therefore focus supporting graduates to make a better match to their first job when they enter the labour market.

Figure 13: Graduates with a horizontally well-matched job by degree level and labour force status in the Western Balkans (%)



Source: Graduate survey. Note: vertical bars represent % of well matched graduated within labour force status at each degree level. For unemployed graduates the data refer to the last job held

Figure 13 shows that the proportion of well-matched graduates is higher among employed graduates than among unemployed graduates (in their last job), at all levels of degree except for vocational degrees.⁶⁶ For degrees above the level of vocational diplomas, horizontal matching is significantly related to labour force status suggesting that having a horizontally well-matched job is important for job retention.

The graduate survey shows that several factors improve the likelihood of finding a horizontally well-matched job. First, graduates who have an internship or work placement during studies have a greater chance than others of finding a well-matched job.⁶⁷ This is because work experience, as shown above, is attractive to employers and allows a graduate greater choice of available jobs. Secondly internship can provide an opportunity for a student to better understand the world of work and how to navigate the labour market. Another factor is the type of HEI attended. Graduates who attended a private HEI are more likely to obtain a horizontally well-matched job than those that attended a public HEI.⁶⁸ This may have to do with the better links that private HEIs tend to have with employers through their greater level of cooperative activities.⁶⁹ Graduates who follow a study programme that is vocationally oriented, perhaps not surprisingly,

⁶⁶ The differences in proportions for Bachelor degrees are significant at 1% level (Chi-square = 11.5; $p=0.003$; $N=898$); for Specialist (second cycle) diploma the differences are significant at 5% level (Chi-square = 5.97; $p=0.051$; $N=289$); for Master degrees significant at 1% level (Chi-square = 18.5; $p=0.000$; $N=1,081$); and for all graduates significant at 1% level (Chi-square = 26.6; $p=0.000$, $N=2,430$).

⁶⁷ While 70% of graduates who experienced an internship or had some work experience had a horizontally well-matched job, only 56% of those without such experienced had a well-matched job (Chi-square = 52.7; $p=0.000$; $N=2,436$).

⁶⁸ The graduate survey shows that 71% of graduates who attended a private HEI have a horizontally well-matched job, compared to 64% of graduates who had attended a public HEI have a well-matched job (Chi-square = 8.65; $p=0.003$; $N=2,494$).

⁶⁹ The graduate survey shows that 22% of graduates who attended a public HEI thought that employers are "not at all" familiar with the content of their study programmes, while only 11% of graduates who had attended private HEI voiced this opinion (Chi-square = 179.6; $p=0.000$; $N=4,175$).

have a higher chance of finding a horizontally well-matched job than others⁷⁰, as do graduates who believe that employers are very familiar with the content of the study programme⁷¹, again reinforcing the importance of cooperation between employers and HEIs in the design of the curricula. The type of assistance provided to graduates when they leave their HEI also has a powerful impact on the nature of the horizontal matching that results. Graduates from HEIs that provide no, or only a little support for finding a job have a significantly lower probability of finding a well-matched job after graduation.⁷² All forms of assistance from the HEI seems to be important in finding a well-matched job, whether it be support from professors or from a HEI career service unit. Geographical immobility also hinders graduates from finding a job relevant to their field of study, and issue, which is especially relevant in Bosnia and Herzegovina and Albania.

In summary, having an internship or work experience, studying at a private HEI, following a vocationally oriented study programme, following a study programme with whose contents employers are familiar, and receiving support from the HEI in finding a job all seem to be important factors that raise the likelihood of a graduate finding a horizontally well-matched job.

5.2 Vertical mismatch

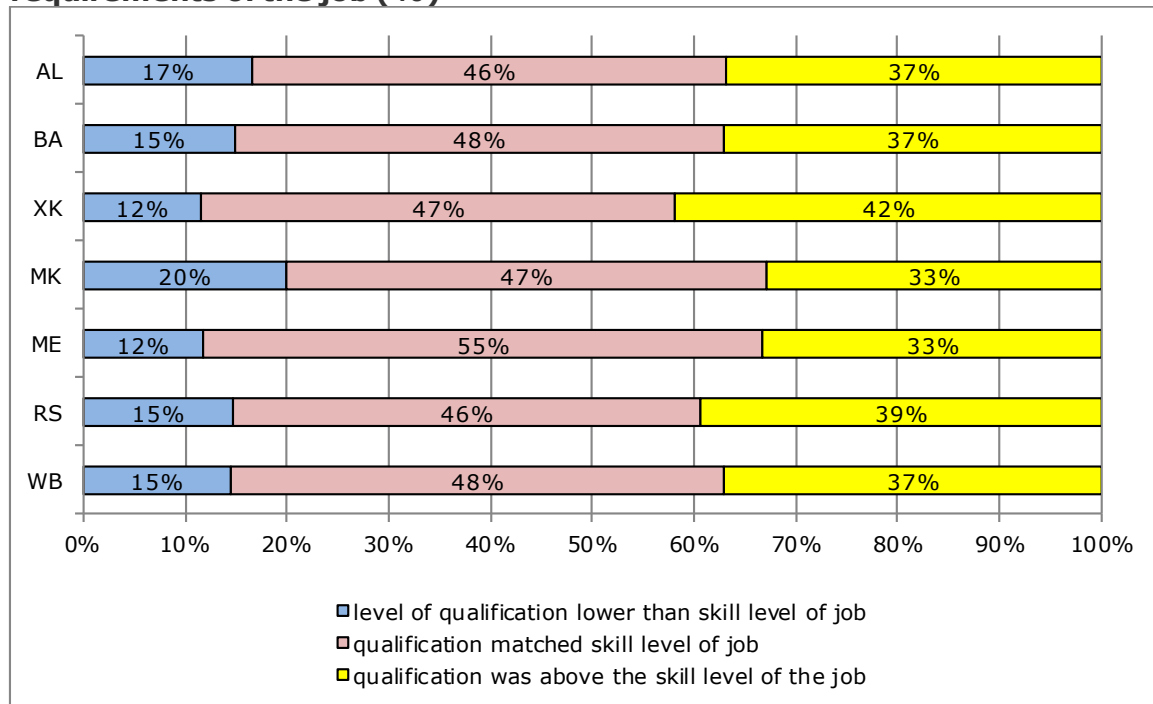
Vertical mismatch has been widely reported in post-socialist economies where newly created jobs typically require skills to those that have been destroyed during the transition (Lamo and Messina, 2010; Sondergaard and Murthi et al., 2012). Vertical mismatch is costly to individuals, as over-educated graduates typically earn lower wages relative to the earnings they could expect if they were employed in a job requiring their level of qualification (McGuinness, 2006). In such circumstances, employers may re-classify jobs as requiring a degree even though it was previously carried out by non-graduates (Di Pietro and Urwin, 2006). Vertical mismatch may be more persistent in transition countries than in more developed countries (Kiersztyn, 2013), although graduates with higher-level degrees may have more success in finding a well-matched job (Noelke et al. 2012).

⁷⁰ While 80% of graduates who say that their study programme was “very much” vocationally oriented have a well-matched job, only 46% of those who say their study programme was “not at all” vocationally oriented have a well-matched job (Chi-square = 108.7; p=0.000; N=2,439).

⁷¹ While 81% of graduates who say that employers were “very” familiar with the contents of their study programme have a well-matched job, only 49% of those who say employers were “not at all” familiar with its contents have a well-matched job (Chi-square = 122.3; p=0.000; N=2,448).

⁷² While 86% of graduates who say that they had “very much” support from their HEI in finding a job have a well-matched job, only 58% of those who say they had “no” support from their HEI have a well-matched job (Chi-square = 112.0; p=0.000; N=2,421).

Figure 14: Vertical matching: whether qualification level matched the requirements of the job (%)



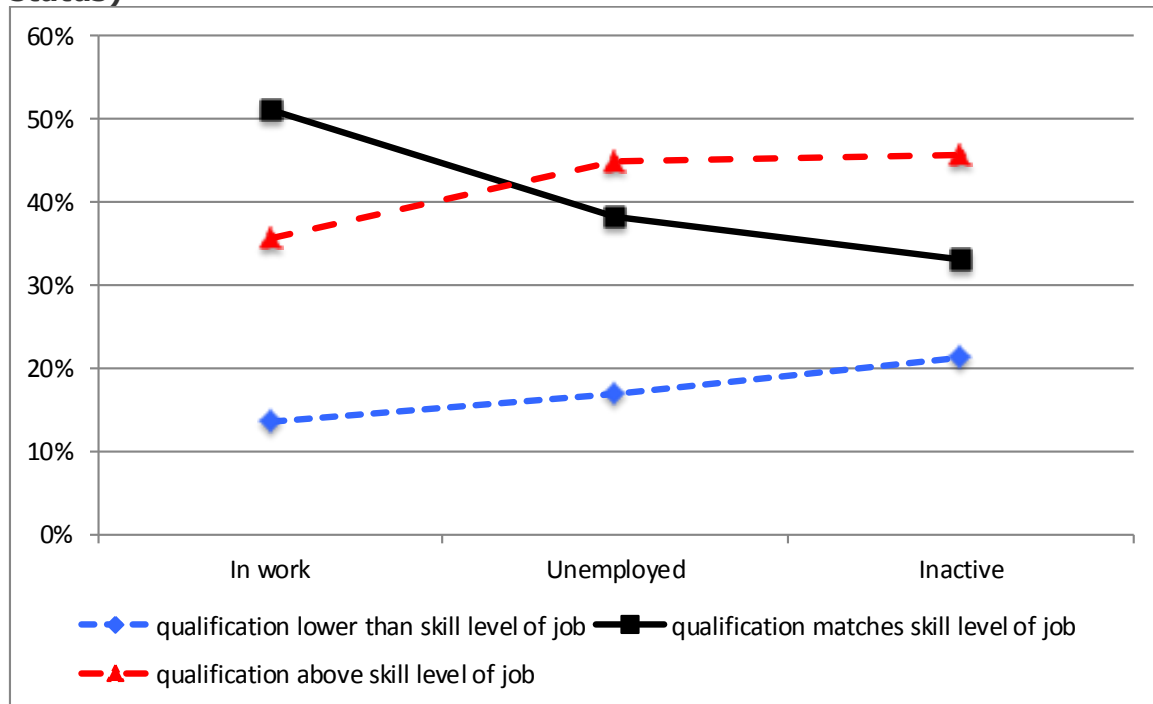
Source: Graduate survey. Note: AL=Albania, BA= Bosnia and Herzegovina, XK= Kosovo, MK=the former Yugoslav Republic of Macedonia, ME=Montenegro, RS=Serbia and WB=Western Balkans as a whole

Graduates were asked whether the qualification they obtained at the last HEI attended matched their skill level of their current job, (or last job if currently unemployed or inactive). Only 48% of graduates are in a vertically well-matched job, while 37% are over-qualified (see Figure 14). Interestingly, about 15% are underqualified illustrating perhaps the level of nepotism in recruitment in the region. Slow economic growth and high unemployment means that HE systems produce more graduates than the labour market can absorb. With an oversupply of graduates, grade inflation takes place which leads to a “bumping down” of lower qualified graduates with a Bachelor degree by those who have attained a Master degree.

Having a well-matched job has implications for earnings. The graduate survey shows that graduates who are well matched have higher initial earnings than those who are mismatched, with median monthly earnings of €300, compared to €250 for over-qualified graduates and €240 for under-qualified graduates. The differences persist, but narrow somewhat as graduates sort themselves into better-matched subsequent jobs. For the current job, well-matched graduate respondents have median monthly earnings of €400, compared to €370 for over-qualified graduates and €350 for under-qualified graduates.⁷³ The differences in earnings may be a measure of the productivity gap between well-matched and poorly matched graduates, and therefore of the potential gain from ensuring that the matching process works more efficiently for HE graduates.

⁷³ Other studies of skill mismatch in transition countries also find a wage penalty associated with over-qualification, see e.g. Lamo and Messina (2010).

Figure 15: Vertical matching by labour force status (% within labour force status)



Source: Graduate survey. Note: data for unemployed or inactive graduates refer to experience in previous job

Graduates who are (or were) well matched by level of qualification are more likely to be in work than to be unemployed or inactive ($p < 0.01$).⁷⁴ Graduates who are overqualified or underqualified are more likely to be unemployed or inactive than to be in work. This implies that having a well-matched job is important for job retention, since a substantial number of those whose first job is mismatched subsequently become unemployed or fall into inactivity.

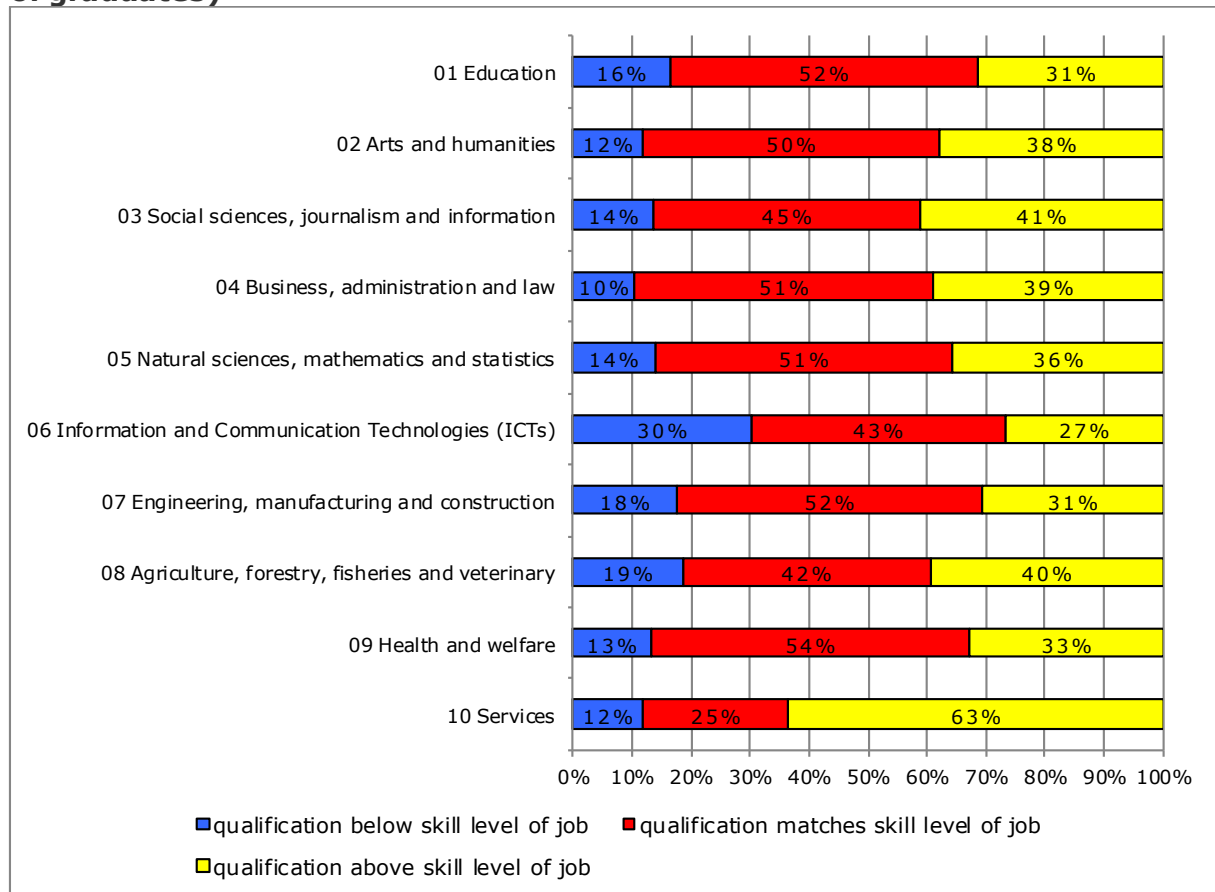
Figure 16 below shows that there are four fields of study in which fewer than half of graduates are in well-matched jobs. More than three-fifths of graduates who took a study programme in *Services* subjects are over-qualified for the job they currently hold, while over one quarter of graduates from study programmes in *Information & Communication Technologies* are under-qualified, suggesting that the HE systems are failing to provide adequate skills in the ICT sector where many high value added jobs are created.

Various factors have a significant influence over whether a graduate finds a well-matched job. Not surprisingly, graduates who performed better at HEI have a significantly higher chance of finding a vertically well-matched job than others ($p < 0.01$).⁷⁵ This is to be expected, since in conditions of an oversupply of recent graduates, employers can pick the most suitable candidate and they will probably select the brightest students with the best results, although nepotism sometimes interferes with this selection process.

⁷⁴ Chi-square = 32.16, $p = 0.000$, $N = 2,333$.

⁷⁵ The graduate survey shows that 52% of graduates who assess their performance as "far above average" have a well-matched job, compared to 43% of graduates who assess their own performance as "far below average" (Chi-Square=27.8; $p = 0.001$; $N = 2,283$).

Figure 16: Vertical matching by broad field of study in the Western Balkans (% of graduates)



Source: Graduate survey

Teaching methods also have a significant influence on whether a graduate ends up in a well-matched job. Classes in small groups and problem solving and creative thinking teaching methods predispose graduates to finding a well-matched job. While 51% of those who report “very much” use of classes in small groups have a well-matched job, only 39% of those who did not experience this teaching method have a well-matched job ($p < 0.01$).⁷⁶ Similarly, while 53% of graduates who reported that they had “very much” instruction in problem solving and creative thinking had a well-matched job, only 34% of those had “no” experience this method of teaching are in a well-matched job ($p < 0.01$).⁷⁷ A similar finding relates to the use of internships or work placements. While 52% of graduates who reported that internships or work placements were used within the study programme had a well-matched job, only 40% of those who reported these methods were not used had a well-matched job ($p < 0.01$).⁷⁸ Thus, appropriate teaching methods and interactive skills at HEI are of key importance in ensuring a graduate’s successful transition to the labour market.

The assistance provided by the HEI in finding a job has a positive effect on the degree of vertical matching. While 63% of those who report that their HEI provided “very much” assistance in finding a job had a well-matched job, only 41% of those who report that

⁷⁶ Pearson Chi-squared = 32.2; significance level = 0.000; N=2,277.

⁷⁷ Pearson Chi-squared = 68.8; significance level = 0.000; N=2,288.

⁷⁸ Pearson Chi-squared = 32.2; significance level = 0.000; N=2,277.

their HEI provided no assistance in finding a job had a well-matched job ($p < 0.01$).⁷⁹ This reflects the importance of personal support from professors, rather than influence of HEI career centres. The latter should be strengthened to provide a more equitable support for students. The graduate survey also reveals the importance of support from public employment services (PES). While 68% of graduates who receive “very much” support from PES are in a well-matched job, only 47% who receive no such support have a well-matched job. Since graduates also receive relatively little support from PES overall, its strong positive impact on the success of graduates in finding a well-matched job suggests that public employment services should further develop their support for graduates in their job search.

6 Conclusions and policy recommendations

The findings of this research project cast a worrying perspective on the ability of higher education systems in the Western Balkans to deliver the qualified personnel that are needed to support future economic growth. The HE systems produce too many graduates relative to the needs of the labour market, leading to high graduate unemployment rates throughout the region.⁸⁰ On the labour market side there is an oversupply of graduates from most study fields but especially from *Business, Administration & Law*. Many students drop out of studies leading to a low completion rate; of those students who do graduate many face the prospect of unemployment; of those who do find a job, many are in jobs that are not matched to their level of qualification, reducing their wages and job prospects in relation to graduates in well-matched jobs. With an overall completion ratio across the region of 53%, an employment rate of recent graduates of 52% and a matching rate of vertically well-matched graduates of 48%, it could be said that the internal efficiency of the combined HE and labour market systems (the HE-LM system) is just 13%.⁸¹ In other words, of every hundred new students entering the HE systems in any one year, it can be expected that only thirteen will eventually graduate and find a well-matched job. In order for the HE systems to make a better contribution to building human capital and to the competitiveness and growth of the region’s economies, significant reforms of HE systems and graduate labour markets are needed, and better cooperation between employers and HEIs should be encouraged.

6.1 The provision of higher education

The number of HEIs has increased over the last two decades in response to an increase in student demand, especially in the early 2000s when many new graduate level jobs were created. There are now 240 active HEIs in the Western Balkans, or 1.3 HEIs per 100,000 of the population. These HEIs deliver over five thousand study programmes - half at Bachelor level, and two-fifths at Master level. Almost one third of study programmes are delivered by private HEIs, which account for about three fifths of all HEIs. The region is in a good state of applying the Bologna 3-cycle study programmes. Most offer three-year study programmes at first cycle level (Bachelor), although many HEIs still offer four-year programmes. Almost half of second cycle study programmes (Master) are of two-year duration, but there are also many one-year and one and a half year programmes. Whether 3+2 or 4+1, the ECTS for Masters are usually respected. About one thousand study programmes (one fifth of the total) are in the broad field of *Business, Administration & Law*. The next most numerous study programmes are in *Arts*

⁷⁹ Pearson Chi-squared = 72.0; significance level = 0.000; N=2,261.

⁸⁰ The “difficult employment situation” of HE graduates in Serbia has also been identified in the CONGRAD survey of HE graduates in Serbia (TEMPUS, 2014: 103).

⁸¹ The efficiency of the HE-LM system can be assessed as the product of these three proportions: $0.53 \times 0.52 \times 0.48 = 0.13$.

& *Humanities and Engineering, Manufacturing & Construction*. STEM subjects account for more than one quarter of study programmes.

Student numbers have grown rapidly over the last decade as demand for higher education has increased. By 2015, about three quarters of a million students were registered to study at HEIs in the Western Balkans at all levels of study. The increase in student numbers is now beginning to level off, except in Kosovo where growth continues. In the 2013-14 academic year about 220,000 students were newly enrolled in HEIs, while fewer than 116,000 students completed their study programmes, giving an overall completion ratio of 53%. Completion rates (as distinct from completion ratios) for different types of study programmes are calculated using the cross-section method, and have been found to be very low in all fields of study; they are especially low in Kosovo.

In the 2013-2014 academic year, new enrolments in *Business, Administration & Law, and Engineering, Manufacturing & Construction* together accounted for 40% of all new annual enrolments. Almost half (49%) of students enrol in Humanities, Social Science, Business and Law (HSS) subjects (compared to 43% in the EU-28), while 24% enrol in Science, Technology, Engineering and Mathematics (STEM) subjects (compared to 23% in the EU-28). However, in Kosovo, a relatively high proportion of students enrol in HSS subjects and a relatively low proportion of students enrol in STEM subjects. While most students enrol in public HEIs, about one fifth of students enrol in private HEIs, not much different to the situation in the EU and similar to France.

Graduates are moderately satisfied with the quality of HE they receive, with teaching in small classes and having an internship or work experience during studies contributing significantly to their satisfaction with the quality of HE received. Many graduates consider that their job prospects would have been improved by better teaching methods, a more relevant curriculum and by having better qualified professors. They also consider that HEIs make too little use of analytical and problem-solving teaching methods. Yet, relatively few academic staff are willing to change their teaching practices, or to adapt to fast changing needs of the labour market.

6.2 The graduate labour markets

In 2015, the Western Balkan region had the highest unemployment rate in Europe, at 23.9%, while in comparison the unemployment rate in the EU-28 was 9.5%. Having a higher education provides some protection against unemployment: the average graduate unemployment rate in the Western Balkans was 16.2%, almost eight percentage points below the general unemployment rate. However, the graduate survey shows that the unemployment rate among *recent* graduates was 37.1% for the region as a whole, ranging from 50.7% in Kosovo to 25.9% in Montenegro. This indicates the difficult prospects facing new HE graduates in labour markets in the region.

On the labour market, there is a large oversupply of graduates in most study fields, especially from HSS study fields, and most of all from the broad field of *Business, Administration & Law*. If the current optimistic growth forecasts are realised, a shortage of graduates from the STEM study fields of *Natural Science, Mathematics & Statistics* is likely to emerge, while the supply of graduates from *Information & Communication Technologies* will come into balance with labour market demand. However, the oversupply of graduates in other fields of study will persist if appropriate changes are not made in HE policy and labour market policy. The oversupply of graduates from HSS study fields should be corrected by measures to motivate students to follow other fields of study where future shortages are expected to emerge on the graduate labour market, especially in STEM study fields.

According to the employers' survey, the sectors with the most rapid future growth of graduate jobs are likely to include *Information & Communication Technologies, Construction, Financial & Insurance activities, Professional, Scientific & Technical activities* and *Other Service activities*. Within individual countries, the fastest growth sectors are likely to be *Manufacturing* in Albania and in Bosnia and Herzegovina, *Information & Communication Technologies* in the former Yugoslav Republic of Macedonia and Serbia, *Professional, Scientific & Technical activities* in Kosovo and *Accommodation & Services* in Montenegro. These reflect the sectors in which individual countries have a comparative advantage; for example, Serbia in ICT services and Montenegro in tourism. These sectors are likely to create many graduate jobs in the future. While current labour market policies are focused on reducing the cost of labour to employers and on eliminating rigidities in the hiring and firing process, graduate labour market policy should not neglect the need to support the creation of additional high-skilled high-wage jobs in growth sectors such as *Manufacturing* and *Information & Communication* sectors.

Two thirds of recent graduates are employed by large organisations and one quarter by medium sized employers. However, the growth of graduate employment is concentrated in a small proportion of high-growth small firms called gazelles that are likely to be the main source of graduate employment growth in the future. Greater support is therefore needed for fast growth SMEs that could provide new jobs for graduates, and for aspiring young graduates who wish to establish their own small businesses.

Overall, on the HE side, enrolment policies should be more focused on labour market needs, and on the labour market side, more high-skilled jobs should be created in fast-growth sectors by attracting more foreign direct investment, and by supporting micro and small businesses to provide more graduate jobs. Combined actions are needed on both sides of the graduate labour market – on the supply side through appropriate HE reforms, and on the demand side through appropriate labour market reforms to create graduate jobs. Measures that are taken in both policy sectors should be coordinated to maximise their effectiveness.

6.3 Transition from higher education to the labour market

In making the transition from HE to the labour market, graduates face a lack of available jobs. Many pass through several jobs and multiple spells of unemployment before settling on a well-matched job. This transition is not helped by a relatively low level of cooperation between HEIs and employers in relation to curriculum design and recruitment. Few employers discuss curricula with HEIs on a regular basis. Yet, most employers say that such cooperation would improve the matching of graduates to the job. This suggests that there is a role for policy to provide incentives and support for improved employer-HEI cooperation over recruitment, since this could provide gains to both parties that they are unwilling or unable to achieve by themselves. In searching for a job when they exit the HE system, graduates receive relatively little support from formal career guidance institutions either within or outside their HEI. Consequently graduates are more reliant on their friends or family to assist in their job search, a factor that hinders a level playing field in the job market and promotes clientelism and nepotism in graduate recruitment.

A major barrier facing students in their transition from HE to the labour market is their lack of work experience. In a competitive market employers often prefer graduates with work experience, which handicaps graduates who have not had any work experience during their studies. More than half of employers believe that previous work experience is important to them in graduate recruitment decisions. The graduate survey shows that

graduates with work experience are more likely to find a job, and one well matched to their level of qualification, than graduates without any work experience. Various initiatives in the region to introduce internships during studies have mostly failed due to a lack of willingness by private employers to offer internships to final year students.

About one third of employers are dissatisfied with the skills of their new graduate recruits, although employers in high technology industries and employers that cooperate a lot with HEIs tend to be more satisfied with the skills of graduates than others. Only half of employers consider that HE graduates bring very much value added to their business activities compared to non-graduates. Employers perceive graduates' interactive skills, such as decision-making skills, analytical skills, team working skills, and planning and organisational skills to be relatively weak, and graduate skill gaps are correspondingly high in these areas. Such skills are often neglected in HE systems where traditional teaching methods emphasise rote learning rather than student-centred approaches. The employer survey shows that HEIs can support the development of interactive skills among graduates by modernising teaching methods, delivering teaching in small interactive class groups rather than in large anonymous lecture rooms, and adopting practical problem solving approaches rather than theoretical and rote learning. In addition, all types of skill gaps are expected to increase in the future, as technological development is likely to outstrip the ability of HE systems to adapt to changing labour market needs.

Employers often find that the skills that graduates have been taught are insufficient and that further training is needed. The large skill gaps that employers report among their graduate recruits reflect deficiencies in HE systems and the low quality of much of the education that is provided due to out-dated curricula and poor teaching methods. Large employers, employers in high technology industries, and foreign employers are more likely than others to provide additional training to their graduate employees. This may suggest that governments should offer additional support for the training of graduates recruited by small domestic low-technology employers, especially suppliers to foreign investor supply chains.

Overall, the research findings suggest that further measures need to be taken to ease graduates' transition to the labour market. For example, HEI-business cooperation should be increased in order to ensure that there is a better match between the skills of the graduates and the needs of employers, graduate career guidance services should be better developed, more opportunities should be provided for HE students to gain work experience before entering the labour market after graduation, teaching methods within HE systems should be modernised to provide graduates with more interactive skills, and on-the-job post-graduate training opportunities should be made more widely available in coordination with employers' training policies.

6.4 Skill mismatch

Despite the rapid increase in the number of graduates from the HE system, skill mismatches are a widespread problem. Horizontal skill mismatch (holding a job unrelated to the field of study) is a major problem facing graduates in their transition to the labour market. About one third of graduates are employed in a job that does not match their field of study. Having an internship or work experience, following a vocationally oriented study programme, following a study programme with whose contents employers are familiar, studying at a private HEI, and receiving support from the HEI in finding a job all seem to be important factors that raise the likelihood of a graduate finding a horizontally well-matched job. At the same time, only 48% of graduates in the region are vertically well matched, holding a job whose skill requirements match their level of qualifications,

while 37% of graduates are over-qualified, i.e. in jobs that require skills that are below the level of their qualification and 15% are under-qualified in relation to the skill needs of their job, the latter suggesting that nepotism may be a factor in graduate recruitment. Graduates in a vertically well-matched job have higher earnings than others, potentially reflecting higher productivity resulting from effective matching. Graduates whose first job is not well matched are more likely to become unemployed or to drop out of the labour market than others. Under-qualification is as serious concern as over-qualification. Among graduates who studied in the broad field of *Information & Communication Technologies* as many as 30% are under-qualified in relation to the skills needed by their job. This is a worrying finding, suggesting that the HE system fails to impart sufficient skills to meet the needs of the labour market in a key field that contributes to high value-added jobs.

Several factors affect the likelihood of a graduate achieving a good match on the labour market. Having above average performance at HEI, studying in small class groups, being exposed to teaching methods that use problem solving and creative thinking methods, having an internship or work experience during studies, receiving support from professors or from the PES all increase the likelihood of finding a well matched job. A major cause of mismatch is the overall lack of jobs, which provides an incentive for graduates to take up any job that is available. Yet simply increasing the number of graduates without tackling the underlying causes of mismatch, improving skill attainment and the quality of HE provision is unlikely to secure a more effective utilisation of the available human capital.

6.5 Policy recommendations

As the conclusions set out above demonstrate, action is need both on the part of HEIs and on the part of employers, government and public employment services in order to produce a more effective outcome for graduate job seekers. This is in line with the OECD skills strategy, which proposes that policy should not only focus on improving the supply of skills through education and training systems, but also on stimulating the demand for high level skills in the market and their utilisation in the workplace (OECD, 2012; Valiente, 2015). The research findings reported above suggest several key policy measures that should be implemented to improve the prospects for graduates when they enter the labour market. The recommendations are presented in order of priority.

Higher education

1. The quality of HE provision should be improved. HEIs should **modernise curricula and improve teaching methods** promoting a more student-centred, learning-outcome based approach to learning with small discussion classes, student presentations, teamwork assignments, and analytical and practical problem solving exercises. Applied knowledge and critical thinking skills should be the core focus of teaching, rather than memorisation of material from textbooks. This should be done to support students to complete their study programmes on time, reduce dropout, and raise completion rates.
2. Government should **remove incentives to HEIs on too many students** to earn fee income, by capping the number of student that an HEI can enrol in line with its capacity to provide high quality education. Students who fail to complete their course work on time should be given additional support and remedial classes. Imposing stricter criteria for enrolment, stricter progression conditions and additional support from teaching staff may contribute to better completion rates. Students who successfully complete their study programme within the allotted

time could be given a partial refund of their examination fee to incentivise on-time completion.

3. Steps should also be taken to **tackle corruption** in the entry process and award of degree certificates through greater transparency in regulations and procedures. Relevant institutions should strengthen inspections, ensure compliance with assessment and grading regulations and expand the power of ethics committees. HEIs should obtain the software necessary to prevent plagiarism and copying and make this available to academic staff and anti-plagiarism rules should be fully enforced.
4. Where not already established, the **accreditation of HEIs and study programmes** should proceed without exception, and rigorous quality assurance measures should be applied to raise the quality of services provided. External peer-reviews should be conducted for both public and private HEIs, thus ensuring equal treatment. External evaluation of HEIs should be carried out in accordance with the European Standards and Guidelines for Quality Assurance. Institutions should be assessed according to the quality of their teaching and the ranked scores should be published. Professors whose quality of teaching is judged unsatisfactory through internal peer assessment, and drawing on student assessment, should be required to attend refresher courses on teaching methods.
5. The relevance of study programmes should be improved by encouraging **greater cooperation between HEIs and employers** in the design of curricula, and by providing work experience opportunities and internships. Policy makers should support better cooperation between employers and HEIs through active programmes to organise meetings, round-tables, discussions, and sharing of information. Having employers participate in faculty boards could contribute to ensuring that students are equipped with the right skills needed for the labour market. Such university-business cooperation should aim to modernise and adjust curricula and learning outcomes to those needed by the labour market. Employers and their representatives such as Chambers of Commerce should identify skill shortages in the labour market and publicise these to HEIs and to potential students about to embark upon HE studies.
6. Governments should **use scholarships to steer students towards priority subjects** such as STEM subjects and away from over-supplied subjects such as Arts and Humanities, Social Sciences, and Business, Administration and Law. HEIs should provide more information to potential applicants on the likely labour market demand for various study programmes. This could be done through outreach programmes to local schools in partnership with public educational guidance services. Educational guidance should be provided to students before they enrol in HE courses to provide better information about likely labour market prospects of embarking on a particular study programme.
7. Governments should **support entrepreneurial learning within HEIs** so as to maximise the opportunities for graduates to set up their own small high-technology businesses. Entrepreneurship learning should be based on links with the local business community. This could involve group projects in which students aim at solving a real-world problem for a public or private client to gain practical business experience.
8. **Work experience gained through internship schemes** can be instrumental in improving graduates' future job prospects. More focus on practical training is

needed, including a period of internship in consultation with local employers. HEIs and employers should be encouraged to negotiate more work experience placements with local businesses so that graduates enter the labour market with some prior work experience. HEIs should integrate such practical work experience placements into the study programmes.

9. Graduates should be provided with more information about steps they can take before and after the transition to the labour market. HEIs and public employment services should provide **improved support to graduates in their job search** to improve the allocative efficiency of the graduate labour market and ensure that more graduates find well matched jobs (matched to the level of their degree and their field of study). This is needed to reduce reliance of support of family and friends and diminish nepotism in the graduate labour market. In parallel, HEIs should seek to track the employment destinations of their graduates by field of study, as a way to provide information on the success of graduates in finding a job and enable better evaluation of labour market needs.

Labour market

1. Priority should be given to raising awareness about the importance of **employer cooperation with HEIs**. Employers of all sizes should be encouraged to become more involved in providing advice to HEIs in the design curricula. Governments should establish programmes to facilitate cooperation between HEIs and employers and should act as a network broker to bring the two sides closer together. More cooperation is also needed to develop new or additional programmes to provide internships for both students and graduates. These should be carefully supervised to ensure that they provide useful learning outcomes. Institutional arrangements such as sector skills councils should be supported to bring employers and HEIs together with local government bodies to identify skill needs and take joint actions.
2. In order to create more graduate level jobs and reduce the graduate unemployment rate, governments should **support the activity of fast-growth SMEs ('gazelles') in high technology knowledge intensive sectors**, which will benefit the whole economy. Such enterprises tend to have a relatively high density of graduate employment. Governments should support 'gazelles' in sectors such as Manufacturing and Information and Communication Technologies where graduate jobs grow fastest. This can be done through the provision of low-cost finance through the banking systems in partnership with the EBRD, EIB, WB EDIF, EIF and the European Commission's 'SME Instrument' of the HORIZON 2020 programme.⁸²
3. Governments should **encourage competition and remove barriers to entry for new high technology enterprises**. This should be done by creating supportive spaces for graduate-friendly business incubators and start-up hubs in public spaces at low rental cost. These should be closely linked to local HEIs, and collaboration between HEIs and new start up enterprises should be encouraged, promoted and supported. Spin-off enterprises from HEIs should be encouraged to start up in the graduate business incubators. Specialisations should be encouraged to develop in the form of clusters around local competitive strengths in specific technologies. Governments should sponsor Start-up Funds to support

⁸² WB EDIF is the Western Balkans Enterprise Development and Innovation Facility: <http://www.wbedif.eu/about-wb-edif/>; EIF is the European investment Fund: <http://www.eif.org>; EBRD is the European Bank for Reconstruction and Development; EIB is the European investment Bank.

the creation of new enterprises by HE graduates with training and mentoring support.

4. Active labour market policies (e.g. training activities) should be better focused on recent graduates. Employers should be encouraged to **expand training programmes for new graduate recruits** through arrangements where new graduate employees can be encouraged to continue their training while at work through distance learning or day release to local HEIs for short professional courses. Several tools can encourage this: tax deduction of the costs of employer-sponsored training, training subsidies or vouchers. Training for high tech small firms that employ graduates and have supply linkages to foreign investors should be supported. Government should fund graduate training schemes for knowledge-intensive SMEs, which lack resources to fund such schemes.

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Annex – Methodological note

1. Higher education provision database

The project has compiled a comprehensive database of all study programmes offered by both public and private HEIs in the Western Balkans. This provides a rich resource for the analysis of the extent and structure of HEI provision in the region. The data was collected from numerous sources including statistical offices, Ministries of Education and HEIs themselves. The database covers 222 HEIs including independent faculties and 5,214 study programmes, based on data provided by HEIs, statistical offices and ministries of education. In each country the most appropriate source of data has been identified. The database provides for *each study programme* several categories of data, e.g. name of HEI, name of faculty, name of qualification, level of qualification (Diploma's level, Bachelor's level, Master's level, field of study (ISCED classification), number of students beginning studies per year (since academic year 2011-2012 through to 2014-15), number of students completing studies per year (since academic year 2011-2012 through to 2013-14), total number of students enrolled in 2014-2015. A few HEIs failed to provide complete data on the number of students beginning or completing their studies. HEIs located in North Mitrovica, in Kosovo, provided only aggregated data (enrolment and completion data were not broken down by study programmes nor field of study). The database also contains information about HEIs that have been closed in Albania and elsewhere, but were open during the period of observation from 2011-2015. As far as can be ascertained, despite some inevitable gaps due to incomplete data availability in some cases, the data presented are the most reliable that currently exist in the region. The database has been developed as an interactive tool that can be used to make queries and search for details of individual HEIs or study programmes.

2. Surveys

Two surveys were administered, one to recent HE graduates and the other to organisations located in the Western Balkans who employ recent HE graduates among their workforce. These surveys were carried out from May to August 2015.

2.1. Graduate survey

The sample frame comprises employed and unemployed recent graduates from HEIs, i.e. students that graduated from higher education in the period 2010-2015. An online survey link was sent by participating HEIs (see list below) directly to their alumni contact lists, and was posted on the LSE Qualtrics account where alumni could access the survey outside of the institutions.

We designed an online survey questionnaire and managed it through the Qualtrics software platform. An online survey link was sent by 67 participating HEIs (see list below) directly to their alumni contact lists, as well as by the LSE Qualtrics account where contacts of alumni could be provided outside of the institutions. Graduates were, in most cases, sent personalised emails by the respective HEIs that invited them to complete the survey, and to pass it on to friends and colleagues from their HEI. HEIs that were not able to directly contact their graduates published an invitation letter on their institutional websites, Facebook pages and elsewhere. Graduates were also contacted through the ERASMUS Mundus alumni group. It should be noted that not all HEIs that participated in the survey sent an official confirmation. None of the institutions that confirmed their participation reported any obstacles in inviting graduates to take part in the survey. Further outreach efforts were made by the EU Delegations and Erasmus+ Offices in the region which posted the link to the graduate survey on their websites.

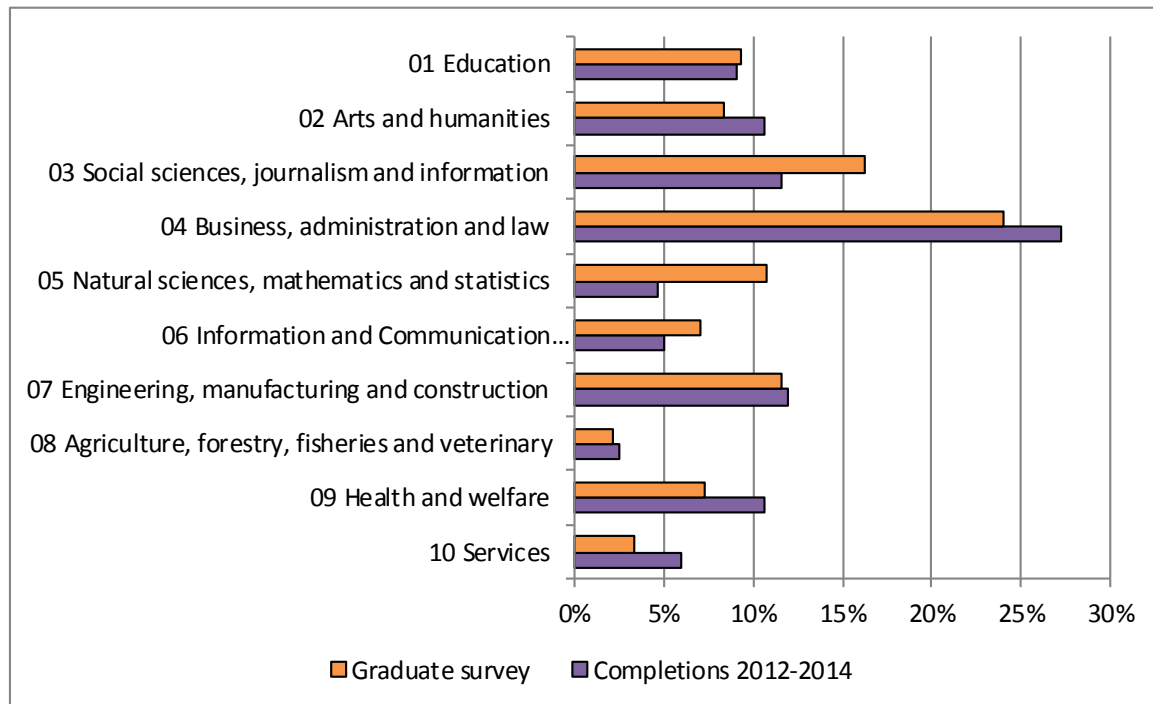
Table A1: HEIs included in the study

Country	Name of HEI
Albania	Agricultural University of Tirana
Albania	Albanian Students Abroad Network (ASAN)
Albania	Albanian University
Albania	European University of Tirana
Albania	Polytechnic University of Tirana (UPT)
Albania	University "Marin Barleti"
Albania	University "Aleksandër Xhuvani", Elbasan
Albania	University "Hena e Plote" (Beder)
Albania	University "Ismail Qemali", Vlora
Albania	University "Luigj Gurakuqi", Shkodra
Albania	University Aleksander Moisiu, Durres
Albania	University Epoka
Albania	University Eqerem Çabej, Gjirokaster
Albania	University Fan S.Noli, Korca
Albania	University New York-Tirana
Albania	University of Arts, Tirana
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Albania	University of Sports Tirana
Albania	University of Tirana
Bosnia and Herzegovina	University of Sarajevo
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Bosnia and Herzegovina	College of Business Assistance in Sokolac
Bosnia and Herzegovina	Communications College Kapa Fi in Banja Luka
Bosnia and Herzegovina	International Burch University Sarajevo
Bosnia and Herzegovina	Prometej College Banja Luka
Bosnia and Herzegovina	University Sinergija in Bijeljina
Kosovo	AAB College
Kosovo	American University in Kosovo
Kosovo	Akademia Evolucion
Kosovo	Fama College
Kosovo	Iliria Royal University
Kosovo	ISPE College
Kosovo	Qeap Heimerer College
Kosovo	Riinvest College

Kosovo	Tempulli College
Kosovo	University for Business and Technology
Kosovo	Universum University
Kosovo	University of Ljubljana in Kosovo
Kosovo	University of Peja "Haxhi Zeka"
Kosovo	University of Prishtina
the former Yugoslav Republic of Macedonia	South East European University, Tetovo
the former Yugoslav Republic of Macedonia	Ss. Cyril and Methodius University, Skopje
the former Yugoslav Republic of Macedonia	St Kliment Ohridski University, Bitola
the former Yugoslav Republic of Macedonia	University of Information Science and Technology "St. Paul the Apostle", Ohrid
the former Yugoslav Republic of Macedonia	University American College, Skopje
the former Yugoslav Republic of Macedonia	University Goce Delcev, Štip
Montenegro	University of Montenegro
Montenegro	University "Mediterranean"
Montenegro	University of Donja Gorica
Serbia	EDUCONS University
Serbia	Singidunum University
Serbia	State University of Novi Pazar
Serbia	Union University
Serbia	University Business Academy in Novi Sad
Serbia	University of Arts
Serbia	University of Belgrade
Serbia	University of Kragujevac
Serbia	University of Nis
Serbia	University of Novi Pazar
Serbia	University of Novi Sad

We collected a total of **4,602** completed questionnaires (respondents who did not fit the sample frame were ruled out). The representativeness of the sample can be checked by comparing the distribution of the sample of graduates by field of study to the distribution of the underlying population of students by field of study as reported in the HEI provision database. Figure A compares the proportions of students who completed their degree in the three academic years from 2011 to 2014 by field of study from the HEI database, and compare this with the distribution of graduates by field of study from the graduate survey. It can be seen from Figure A that the sample provides a good representation of the distribution of completions for most fields of study, with a correlation coefficient of +0.88. There is some over-sampling of graduates from *Social Science, Journalism & Information* and *Natural Sciences, Statistics & Mathematics* and an under-sampling of graduates from *Business, Administration & Law* and *Health & Welfare*. This should be taken into account when interpreting the results of the survey.

Figure A: Sample distribution (graduate survey) by broad field of study and population distribution of graduates (completions) by broad field of study



Source: Graduate survey and HEI provision database

2.2 Employer survey

We designed a questionnaire that was implemented through a mix of online survey and phone interviews. The target sample was composed of companies of all sizes located in the Western Balkans and employing HE graduates. The online survey link was forwarded by some key labour markets organisations (see list below).

Country	Name of organisation
Albania	Albanian Chamber of International Trade and Development
Albania	Chamber of Commerce, Tirana
Albania	Department of Public Administration at the Prime Minister's office
Albania	Europe Agency (private employment agency)
Albania	Ministry of Economy
Albania	Tax Agency
Bosnia and Herzegovina	Institute for Employment of Republika Srpska
Bosnia and Herzegovina	Institute for Employment of Federation of Bosnia and Herzegovina
Bosnia and Herzegovina	Institute for Employment of Brčko District
Kosovo	Kosovo Chamber of Commerce
Kosovo	American Chamber of Commerce
Kosovo	Wood Processing Association
Kosovo	ICT Association
the former Yugoslav Republic of Macedonia	Macedonian Chamber of Commerce
the former Yugoslav Republic of Macedonia	Macedonian Foundation for Enterprise Development

the former Yugoslav Republic of Macedonia	<i>Economic Chamber of North-West Macedonia</i>
the former Yugoslav Republic of Macedonia	Ministry of Information Society and Public Administration
the former Yugoslav Republic of Macedonia	University American College Skopje - Business Council Database
Montenegro	Montenegrin Chamber of Commerce
Montenegro	Montenegrin Employers' Federation
Montenegro	Montenegrin Business Alliance
Montenegro	Municipalities
Montenegro	Public Agencies
Serbia	Chamber of Commerce and Industry of Serbia,
Serbia	American Chamber of Commerce (AmCham),
Serbia	Ministry of Economy,
Serbia	Ministry of Labour, Employment, Veteran and Social Affairs,
Serbia	Serbian Association of Employers

We collected a total of **1,074** completed questionnaires. Since the survey sample was taken from the population of employers who employ graduates, there is no available population distribution, and so the representativeness of the sample cannot be validated; nor can the sample be adjusted by any relevant weighting technique. Also, the sample was by design adjusted (using additional telephone interviews) to ensure that we had a similar distribution of employers across all enterprise size groups according to the Eurostat definition. In terms of the number of employees most of the employers surveyed were either micro sized (28%), small sized (32%) or medium sized (27%) and large employers (13%). Efforts were made (e.g. through phone contacts where needed) to ensure that we had a sufficient number of large sized employers in the sample to make meaningful comparisons across size groups. For these reasons we are unable to claim that the survey is representative of the population of employers who employ graduates. However, this does not preclude us from drawing inferences from within the sample about statistically significant differences between employer size categories for variables of interest (such as skill gaps).

3. Interviews with key stakeholders

We carried out semi-structured interviews with **98** key stakeholders, with the aim to develop a comprehensive view on the causes of challenges for employers and HE graduates in labour market. We identified stakeholders at three levels.

1. **Policy-making stakeholders** (26 ministries, 8 at EU Delegation offices)
2. **Higher education stakeholders** (27 HEIs, 3 student associations, 3 Erasmus + Offices, 6 Erasmus Mundi focus groups)
3. **Labour market stakeholders** (9 employers' associations, 4 trades unions, 8 public employment service centres, 6 NGOs)

We developed an interview guideline containing a set of questions for these semi-structured interviews. One group of questions were of a general nature and are posed to all stakeholders, to better confront their views on key issues. The second group of questions were specifically tailored to the various stakeholders, designed to explore further primarily issues within their specific competences. Local experts conducted the interviews and translated the transcripts into English.

4. Labour market data

We obtained labour force survey data for all countries in the study. This provided information about the sectoral structure of tertiary level employees, which were used as a base for the forecast for graduate employment by sector. The sectoral forecast was then converted into a forecast of demand for graduates by field of study using coefficients derived from the graduate survey. The Labour Force Survey was also used to identify the relevant labour market key statistics for HE graduates (employment rate, unemployment rate), which could be compared to the statistics derived from the graduate survey relating to the employment rate and the unemployment rate of recent graduates.

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ISBN 978-92-79-64428-3



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Luxembourg: Publications Office of the European Union, 2016

ISBN 978-92-79-54670-9

doi: 10.2766/883984

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Foreword

Higher education systems in the Western Balkans are facing serious challenges. Growing levels of student enrolment throughout the region are straining the limited resources of public universities. At the same time, the number of private institutions has been increasing rapidly.

Importantly, more needs to be done to ensure that higher education qualifications match labour market needs. Many young people in the region are unemployed – and a number of them have higher education diplomas. This suggests that employers do not hold university degrees in very high esteem.

Whatever the field of study, third-level education is a means of sharpening our intellect and therefore valuable in its own right. However, it should also prepare us for the world of work, and enable us to lead independent lives as confident, engaged citizens. Universities and other higher education institutions need to adapt and modernise to deliver. In rapidly changing job markets, higher education systems should provide graduates with relevant skills and competences. This is not only about finding employment after graduation, but also about being able to adapt to future labour market needs and adjust to career changes.

We all know that a country's human resources are an integral part of its wealth. We say so on many occasions, especially when addressing young people in graduation ceremonies, or in political speeches. Unfortunately, when it comes to following these words with action and giving education the relevance and funding it deserves, we all too often fall short. This is something we have to change.

The skills and qualifications gained in university should help us build our lives and secure our societies' prosperity, competitiveness and progress. This study examines the link between higher education provision and labour market opportunities in the Western Balkans. It also looks at the obstacles facing graduates looking for work and the relevance of their skills for employers. The study is part of the on-going regional policy dialogue under the *Western Balkans Platform on Education and Training*. I am pleased to see that Ministers for Education have been supporting and engaging in this dialogue since the European Commission launched it in 2012.

I hope that the findings of the country reports in this study will contribute to more evidence-based policy-making in each country's higher education and labour sectors. The region's young people deserve nothing less.

Tibor Navracsics
European Commissioner for Education, Culture, Youth and Sport

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List of abbreviations

ALL	Albanian currency unit (Lek)
AQF	Albanian Qualification Framework
BA	Bachelor degree
Cedefop	European Centre for the Development of Vocational Training
CV	Curricula Vitae
ECFIN	Directorate General for Economic and Financial Affairs
ECTS	European Credit Transfer System
EHEA	European Higher Education Area
EQAR	European Quality Assurance Register for Higher Education
EQF	European Qualifications Framework
EU	European Union
GDP	Gross Domestic Product
HE	Higher education
HEI	Higher education institution
HSS	Humanities and Social Sciences
ICT	Information and Communication Technologies
ILO	International Labour Organization
INSTAT	Institute of Statistics in Albania
IPA	Instrument for Pre-Accession Assistance
LFS	Labour Force Survey
LM	Labour market
MoES	Ministry of Education and Sports
NES	National Employment Service
OECD	Organisation for Economic Co-operation and Development
PAAHE	Public Accreditation Agency of Higher Education
PES	Public Employment Services
PhD	Doctorate degree
SNA	Skills Needs Analysis
STEM	Science, Technology, Engineering and Mathematics
UNESCO	United Nations Educational, Scientific and Cultural Organization
VET	Vocational education and training

Executive summary

This report analyses higher education (HE) provision and labour market opportunities in Albania by looking into four inter-related issues: the provision of HE, the current situation of the graduate labour market, the challenges facing graduates and employers on the labour market, and the skill mismatches that hinder graduate labour market integration. The report concludes with a set of recommendations on measures needed to ease graduates' transition to the labour market.

The data used in the study was collected from March to August 2015. It includes two large-scale surveys: one among recent HE graduates (895 respondents)¹ and one among organisations that employ HE graduates (209 respondents). Semi-structured interviews were carried out with management staff of higher education institutions (HEIs), ministries, employers' associations, and trade unions. A focus group was also carried out with Erasmus Mundus alumni. The project has also assembled a unique database that covers details of most study programmes offered by higher education institutions (HEIs) in recent years².

Main findings

While the number of students in the HE system has almost tripled over the last decade, the quality of HE provision has failed to improve in tandem. Every year around 55,000 students enrol at all levels of studies at 39 HEIs, of which only about 30,000 complete their studies each year, giving a completion ratio of just 53%, reflecting continuing inefficiencies in the HE system. Teaching methods rely on traditional forms of instruction, out-dated curricula and provide few opportunities for practical studies. Many graduates consider that better teaching methods would have significantly improved their job prospects after graduation and although the students report to be fairly satisfied with the quality of education they receive at their HEI, they consider that their job prospects would have been improved by more relevant curriculum and by having better qualified professors. Corruption also plays a negative role in admission and in passing exams. While many students are dissatisfied with the quality of the education they receive, the graduate survey shows that much can be done to improve the situation by providing students with more work experience during their studies and organising more teaching in small class groups. There is a surplus of graduates on the labour market with qualifications in the study fields of *Health & Welfare, Arts & Humanities, Business, Administration & Law* and *Education* combined with shortages of graduates from *Natural Sciences, Mathematics & Statistics, and Social Science, Journalism & Information*. This indicates that it will be important to adjust the mix of graduates from these study fields in the future.

Due to high levels of emigration, the overall unemployment rate in Albania is the lowest in the Western Balkans. However, the HE system produces too many graduates relative to the needs of the labour market, leading to a high rate of graduate unemployment. In 2015 the graduate unemployment rate was above the overall unemployment rate, which is quite alarming in terms of the effectiveness of the HE system. Among recent graduates the unemployment rate is 32%, reflecting the difficulty that new graduates face in entering the labour market. Nevertheless, graduate employment growth has been strong in the *Manufacturing, Construction* and *ICT* sectors over the last three years, and small

¹ Many HEIs could not be involved in the online survey because they do not keep e-mail contact of their graduates. Public HEIs have started to create an electronic database of their students only in the last two years, which will be useful for future analysis of the HE system.

² Further details about the methodologies and data used in this study can be found in the Annex.

and medium sized employers have an intensive demand for graduates. These sectors and types of employers can be expected to make a key contribution to growth and competitiveness in the future and should be supported to create additional high-skilled jobs for HE graduates. Therefore, it is imperative that the strategy for the future development of the HE system should be closely coordinated and integrated with economic and industrial strategies.

Many graduates experience periods of unemployment before they find a stable job. The institutional framework in support of graduate job search is relatively weak and many graduates rely on personal connections of family and friends to find a job. This leads to nepotism on the graduate labour market, and poor matching of graduates to suitable jobs. More effort should therefore be made to ensure that graduates have effective support in finding a job, irrespective of the extent of their connections or family ties. Cooperation between HEIs and employers over curricula development and recruitment is weak, even though many employers think that greater cooperation would enable them to hire graduates with skills better matched to the requirements of the job. This suggests a role for public policy to support improved university-business cooperation in order to ease graduates' transition to the labour market. Another major difficulty facing graduates is their lack of work experience, an important element of employers' graduate recruitment decisions. Related to this, employers are dissatisfied with the skills of their graduate recruits. They report that graduates have large gaps in interactive skills such as analytical and problem-solving skills, planning and organisation skills, team working, and communication and decision-making skills. One reason for such skill gaps is the use of traditional teaching methods rather than student-centred learning in small classes using practical problem solving exercises and other student centred approaches. To compensate for these skill gaps, many employers provide further training to their graduate recruits. Such training is more likely to be carried out by employers whose graduates have gaps in the area of analytical and problem solving skills, emphasising the importance of such skills to employers and their relative lack of provision by the HE system.

Despite the rapid increase in the number of graduates from the HE system, skill mismatches are a widespread problem, especially among graduates with Bachelor level qualifications. More than a third of graduates are in a job that does not match their field of study, and more than a third have qualifications that are above the level needed in their job (i.e. over-qualified). This is important since finding a well-matched job helps graduates to retain their jobs, and raises wages and productivity. An important factor explaining the poor level of vertical matching is the low availability of jobs, as graduates who cannot find a well-matched job are likely to opt for a job below their level of qualification. Given this context, a major cause of graduate skill mismatch is the low quality of education provided at HEIs. Practical tuition is important in this respect, as graduates who follow vocational courses that teach specific skills are more likely to find a well-matched job than others, as are graduates who are taught interactive skills such as analytical and problem-solving skills. The experience of having an internship or other form of work experience also increases the chances that a graduate will find a well-matched job. Finally, graduates who receive more support from their HEI to find a job are more likely to find a well-matched job than others. All this points to the need to improve the quality of teaching, modernise teaching methods, upgrade the curricula, provide more opportunities for practical learning and work experience and provide more support to graduates to find appropriate jobs matched to their field of study and level of qualification.

Policy recommendations

As the conclusions set out above demonstrate, action is needed both on the part of HEIs and on the part of employers, government, and public employment services to produce a more effective outcome for graduate job seekers. The research findings reported above suggest several key policy measures that should be implemented to improve the prospects for graduates when they enter the labour market. The recommendations are presented in order of priority.

Higher education

1. **The quality of HE provision** should be improved to provide graduates with the skills demanded on the labour market. Curricula should be modernised, and teaching methods should be reformed to promote a student-centred approach and more interactive learning. Applied knowledge and critical thinking skills should be the core focus of teaching. Teaching should focus more on small classes, team working, and the use of analytical and problem solving approaches. Guest lectures from the local business community could be included in the teaching schedule. HEIs should hire more faculty members who have been educated abroad.
2. Steps should be taken to **improve the completion rates** of students. Students who fail to complete their course work on time should be given additional support, while students who successfully complete their study programme could be given a partial discount on their tuition fee for the subsequent academic year. HEIs should publish completion rates for individual study programmes, and this should be used as a criterion for funding decisions by the state.
3. **Work experience** gained through an internship scheme can be instrumental in improving graduates' future job prospects. More focus on practical training is needed, including a period of internship in consultation with local employers.
4. The **accreditation of all HEIs and study programmes** should proceed without exception, and rigorous quality assurance measures should be applied to raise the quality of services provided. Professors whose quality of teaching is unsatisfactory should be required to attend specialised refresher courses on teaching methods.
5. In order to **stem corruption** at HEIs, ethics committees should monitor compliance with assessment and grading regulations. Professors' role in carrying out examinations should be reviewed and an independent body should monitor the validity of examinations.
6. HEIs should deliver **entrepreneurship learning** to students, based on links with the local business community. This could involve group projects in which students aim at solving a real-world problem for a public or private client to gain practical business experience.
7. Students, both at HEIs and secondary schools, should be provided with more **information about the jobs available** in their field of study through improved career advisory services at HEIs and at the National Employment Service. In parallel, HEIs should seek to track the employment destinations of their graduates by field of study, as a way to better evaluate labour market needs.

Labour market

1. A new **industrial policy** is needed to link domestic and foreign investors to supply chains of domestic SMEs that employ graduates. Industrial policy should also support employers to invest in innovations and processes that increase the demand for highly skilled workers and develop skill-intensive workplaces that

could employ graduates. Sector Skills Councils could be established to support the development of skills needed for such high skill-intensive sectors.

2. **Employers should be supported to collaborate more closely with HEIs**, over the mix of courses on offer, curricula, teaching methods and internships. Such university-business cooperation should aim to modernise and adjust curricula and learning outcomes to those needed by the labour market.
3. **Entrepreneurship programmes** should be developed to assist graduates in setting up their own businesses with subsidies for equipment.
4. Government should **support employers, especially SMEs, to expand their training programmes** for new graduate recruits through financial incentives and arrangements where new graduate employees can continue their training while at work.
5. Employers should be provided with **incentives to take on interns** and the current government programme, which does this, should be expanded. In this spirit, the Decision of the Council of Ministers no. 873, dated 27.12.2006 that envisages the provision of internship opportunities for new graduates should be fully implemented.
6. Graduates should be encouraged to take **employment outside Tirana**.

1 Introduction

Over the last twenty years, Albania has experienced a remarkable period of economic development, being Europe's fastest growing economy in the period up to the global financial crisis of 2008 (World Bank, 2015). The transition to a market economy involved the privatisation of the old industrial sector based on inefficient large enterprises. Following a banking crisis and civil unrest in 1997 (Vaughan-Whitehead, 1999), the economy turned around and has experienced a period of rapid growth and noticeable improvement of living standards. Yet, living standards are still relatively low, with per capita GDP of €3,440 (compared to an average of €4,256 for the rest of the Western Balkan region).³ Economic development has been based upon a pattern of growth that has drawn on labour surplus and migration from rural areas to the cities, as well as out-migration to Greece, Italy, and recently to Germany and USA (Lerch, 2014). It has been supported by remittances that migrant workers have sent back home to their families, which may have pushed reservation wages above productivity levels (Vullnetari and King, 2011). The Albanian economy was little affected by the global economic crisis of the late 2000s. In recent years, however, there have been signs of a slowdown in the wake of the economic difficulties facing Greece. Migrant workers have begun to return home and the flow of remittance incomes, one of the main drivers of growth, has begun to fall. As opportunities for migration have diminished, the economy will need to turn away from an "extensive" pattern of development based on migration and labour reallocation, to an "intensive" pattern of development based on innovation and skills. This will require an upgrading of the domestic production capacities and an upskilling of the labour force in order to raise labour productivity and industrial competitiveness. This is particularly important in Albania where 36% of firms report that the workforce does not have the skills they require, the largest such proportion in the Western Balkans (World Bank, 2015: 41). In pursuing such a strategy, the higher education (HE) system will have a crucial role to play in supplying highly qualified graduates to the economy. Since only 16.8% of the population of 30-34 year olds hold a tertiary degree, compared to 38% in the EU there is clearly some way to go.⁴ At the same time, the government will need to introduce a smart industrial policy to ensure that there are suitable high value-added jobs available for highly skilled graduate workers in the private sector.

This report is based on a research project that provides new evidence on the mix of qualifications provided by the HE system and the students who obtain them, the difficulties and opportunities facing graduates and their employers in the labour market, and the extent of graduate skill gaps and skill mismatches. Data was gathered from the statistical unit of the Ministry of Education and Sports (MoES), the website of the official statistics agency (Institute of Statistics - INSTAT), and the websites of individual higher education institutions (HEIs). A special database was developed to record information on the HE system. Original data was collected from March to August 2015 through two questionnaire surveys: of recent HE graduates (895 respondents) and of organisations that employ them (209 respondents). Semi-structured interviews were carried out with management staff of HEIs, ministry officials, and representatives of employers' associations and trade unions, and NGOs supporting graduate employment. A focus group with Erasmus Mundus alumni was organised to gain a better understanding of the dynamics of the HE system in Albania compared to EU countries.

³ Gross Domestic Product per capita for 2014 taken from Eurostat variable code [cpc_ecnagdp]. The authors have calculated an unweighted average for the Western Balkans, excluding Kosovo for which no data is available.

⁴ Data from Eurostat, for Albania [cpc_pseduc] and for the EU-298 [edat_lfse_03], are for 2012 as later data are unavailable for Albania.

This report is based on a research project that provides new evidence on the mix of qualifications provided by the HE sector and the students who obtain them, the difficulties and opportunities facing graduates and their employers in the labour market, a forecast of the demand for graduates in the near future, the nature of skill mismatches and skill gaps, and concludes with recommendations on measures needed to ensure a relevant supply of skilled graduates who will be needed to support economic growth in the future. The report is divided into six sections. Section 2 maps the structure of HE provision; Section 3 reviews the experience of graduates on the labour market, and provides a forecast of expected future demand for graduates by sector; Section 4 considers the obstacles facing graduates in their transition to the labour market and the difficulties facing employers in recruiting new graduates; Section 5 analyses the extent and nature of skill mismatches. Section 6 concludes with a summary of the research findings and a set of related policy recommendations. A special database recording basic data on HE provision was created for this study ("HE provision database"). In addition, two online surveys of recent graduates and of the organisations that employ graduates were carried out. Details about the methodologies and data used in the study can be found in the Annex.

2 Mapping the provision of higher education

In recent years the number of students in the HE system has increased by leaps and bounds as have the number of private HE institutions, of varying quality. However, public expenditure on education remains relatively low at 3.3% of GDP, compared to an average of 5.2% in the EU.⁵ Moreover, HE expenditure accounts for only 14% of the budget of the Ministry of Education and Sports (MoES, 2014b: 6). The student-teacher ratio in the HE system is about average for the Western Balkans⁶, but despite an increase in student enrolments only a relatively small proportion of the population has a tertiary education degree (16.8% of the population of 30-34 year olds, compared to 38% in the EU),⁷ one of the lowest levels of HE attainment in region.⁸

The programme of fiscal consolidation agreed with the IMF envisages reducing the government budget deficit from 3.9% of GDP in 2015 to 2.6% in 2016 and to 1.3% in 2017 (ECFIN, 2015: 12). This sharp fiscal consolidation is likely to exert downward pressure of the already limited budget for higher education. Public expenditure on HE students was just €500 in 2013 compared to an average of about €8,600 per student in the EU.⁹ Since private HEIs can charge their own tuition fees the total (public and private) expenditure on HE per student is greater than this amount, but probably not much greater. The low level of public expenditure on HE in addition to the very slow reforms in implementing student-centred learning, learning outcomes and quality assurance raise serious questions about the quality of education and whether graduates are equipped with the sort of skills that are needed by a rapidly growing transition economy. This section takes stock of the situation in both public and private HEIs, and analyses the study programmes, qualifications and degrees offered by HEIs, and the profile of students and graduates. It investigates quality issues, from accreditation

⁵ Data for Albania for 2014 is taken from Eurostat, variable code [cpc_pseduc]; data for the Western Balkans is an unweighted average, variable code [educ_uoe_fine06].

⁶ The student teacher ratio was 12.3 in 2013, data from UNESCO online database: "Pupil teacher ratio in tertiary education (headcount basis)".

⁷ Data for Albania are for 2012 from Eurostat [cpc_pseduc], and for EU-28 are from [edat_ifse_03].

⁸ In the Western Balkan region as a whole, 20.9% of 30-34 year olds have a tertiary degree - unweighted average calculated from Eurostat, [cpc_pseduc].

⁹ Data for Albania are from UNESCO Institute of Statistics online database and for the EU are an unweighted average of countries with data availability for 2012 and 2013 from Eurostat variable code [educ_uoe_fine06].

procedures to teaching methods. Last, we present a brief summary of the latest HE policy developments.

2.1 Profile of higher education institutions

Higher education institutions in Albania consist of public and private academies, colleges and universities. In the 2014-2015 academic year there were 14 public HEIs in Albania, where most students are registered (see section 2.2 below). However, in response to an increasing demand for HE in the context of limited opportunities to enrol in public HEIs, the 1999 Law on Higher Education permitted the creation of private HEIs. This led to the rapid entry of many new private HEIs so that by 2013-2014 academic year there were almost three times as many private HEIs as public HEIs (see Table 1). In view of this huge expansion in the demand for HE places, the 2007 Law on Higher Education increased the autonomy of public HEIs, enabling them to increase the number of students and study programmes approved by the MoES.

Table 1: HEIs by ownership and type of organisation, 2015

	2013-14	2014-15	HEIs per 100,000 inhabitants in 2014-15 (regional average)	Faculties per 100,000 inhabitants in 2014-15 (regional average)
Total number of HEIs	59	37	1.3 (1.3)	4.1 (3.2)
Of which: Public	15	14	0.6 (0.5)	2.0 (1.7)
Private	44	23 ¹⁰	0.8 (0.8)	2.1 (1.5)

Source: HE provision database. Note: While private HEIs had gone through an accreditation process by 2015, public HEIs had not; their accreditation was carried out by an external organisation in 2016.

The expansion HE system led to a drastic deterioration in the quality of HE provision. Therefore, in 2014 the government decided on a radical reform and restructuring of the HE system in order to reduce the number of HEIs that were not performing well, and a new law was passed in July 2015.¹¹ After a rigorous round of inspections, several private HEIs were closed or suspended due to non-fulfilment of legal criteria. One public HEI and several affiliated branches of the main universities were also closed. By the academic year 2014-2015, the number of HEIs was substantially reduced (see Table 1). Furthermore, no new quotas for admission to Doctoral studies were given to public HEIs from 2013 to 2015, and admission at some private HEIs was suspended. Following these reforms, in the academic year 2014-2015 the number of HEIs per 100,000 inhabitants fell to the average for the region as a whole (see Table 1). However, the number of faculties, both public and private, in relation to population is still above the regional average, which suggests that there may be room for further consolidation of the HE system at the faculty level.

Over the last decade, most study programmes have been reorganised and comply with the Bologna principles in their structure and organisation, at least formally. The 2007 Law on Higher Education introduced three cycles of study programmes. First cycle Bachelor programmes last for three years and carry 180 European Credit Transfer System (ECTS) points. The second cycle includes Professional and Master programmes lasting one or one and a half years, and carry 60 or 90 ECTS, or Master of Science and Master of Fine Arts programmes with two years and 120 ECTS. Integrated Programmes last five-six years and carry 300 - 360 ECTS (e.g. *Medicine, Pharmacy, Dentistry, Veterinary, Law and Architecture*). Third cycle Doctoral programmes last for three years

¹⁰ Out of 23 active private HEIs, only 21 admitted new students in the 2014-2015 academic year. 3 private HEIs have been suspended.

¹¹ Law No. 80/2015 of 22 July 2015.

with 180 ECTS and are accessible to students with a Master of Science or Master of Fine Arts degree or Integrated Programmes.¹² Further specialisation programmes are offered in the fields of *Medicine* and *Law*, lasting for two academic years with 120 ECTS.

Table 2: Study programmes by type of ownership and degree level, 2015

	Number of study programmes before private HEI closures	Percentage of study programmes before private HEI closures	Percentage of study programmes after private HEI closures
Ownership of HEI			
Private	643	36.6%	27.8%
Public	1,114	63.4%	72.2%
Total	1,757	100.0%	100.0%
Level of qualification			
Diploma	60	3.4%	3.6%
Bachelor	702	40.0%	36.7%
Master	860	48.9%	51.0%
Doctoral	134	7.6%	8.8%
Total	1,757	100.0%	100.0%

Source: HE provision database.

The project's HE provision database shows that 587 Bachelor programmes last for three years, and 115 Bachelor programmes last for four and a half years.¹³ There are 467 two-year Master programmes and 312 one-and-a-half year Professional Master programmes. Other Professional Master programmes have one-year duration. HEIs may also provide vocational post-secondary non-university study programmes lasting at least two academic years with 120 ECTS, equivalent to the European Qualification Framework (EQF) level 5. Such studies deliver a "Professional Diploma" upon completion, and the credits accumulated during these studies can be used towards a university first cycle programme. Study programmes can be organised as full-time, part-time or distance learning, although part-time programmes at public HEIs were closed in 2014-2015.¹⁴ Accreditation of all HEIs is planned and should indicate if all study programmes are appropriately supported according to EU standards for accreditation, i.e. with three full-time PhD professors per study programme.

Table 3: Study programmes by broad field of study, 2015

Field of study	Number of study programmes	Proportion of study programmes
01 Education	162	9.2%
02 Arts & Humanities	243	13.8%
03 Social Sciences, Journalism & Information	200	11.4%
04 Business, Administration & Law	414	23.6%
05 Natural Sciences, Mathematics & Statistics	120	6.8%
06 Information & Communication Technologies	90	5.1%
07 Engineering, Manufacturing & Construction	141	8.0%
08 Agriculture, Forestry, Fisheries & Veterinary	62	3.5%
09 Health & Welfare	214	12.2%

¹² Following the implementation of the Bologna system, PhD students follow compulsory theoretical courses in addition to research for their PhD thesis.

¹³ INSTAT does not classify the data according to ISCED 2013, making it difficult to accurately place diplomas with mixed titles into the project database.

¹⁴ In the academic year 2014-2015, distance-learning programmes were only provided by the public Polytechnic University, in electric and mechanic engineering fields of study at Bachelor level.

10 Services	111	6.3%
Total	1,757	100%
HSS (02+03+04)	857	48.8%
STEM (05+06+07)	351	19.9%

Source: HE provision database. Note: STEM = Science, Technology, Engineering and Mathematics; HSS = Humanities and Social Science.

About half of the study programmes are found in the humanities and social science (HSS) fields, including Business, Administration & Law subjects, while STEM subjects (Science, Technology, Engineering and Mathematics) account for only 20% of all study programmes. The latter are offered predominantly in the public HEIs (where 73% of all STEM study programmes are delivered), while private HEIs focus more on HSS subjects (delivering 45% of all study programmes of this type). After the reform, there was a shift towards STEM subjects, since the private HEIs that were closed mainly focus on HSS.

2.2 Students

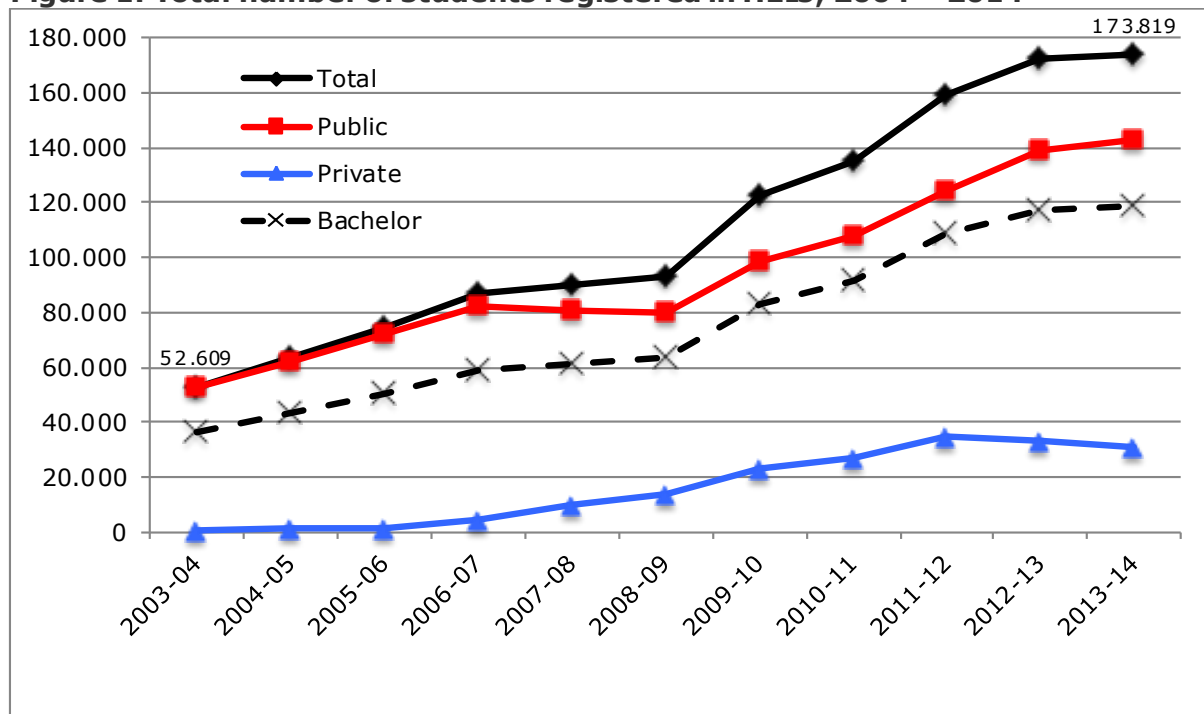
The number of students registered in the HE system more than tripled from the academic year 2003-2004 to 2013-2014 (see Figure 1) reflecting the demographic increase of the young population in Albania. Even though the private sector has expanded rapidly, the public sector remains the main provider, and more than 82% of all students are enrolled in public HEIs. However, over the whole ten year period, the increase in the number of students enrolled in public HEIs was accompanied by a reduction in public expenditure on the HE system, from 6,210 million lek to 4,664 million lek per annum leading to a reduction in the quality of public HE provision. In the 2014-15 academic year, the closure of part-time programmes in public HEIs and of some of their branches in small cities brought about a decrease in the number of registered students in the main public HEIs, especially in Tirana and Shkodra.

Both public and private HEIs charge tuition fees. For Bachelor degrees, the average annual tuition fee is just €185 at public HEIs, while the average tuition fee at private HEIs is ten times higher at €1,860.¹⁵ Average tuition fees for Master degree studies are four times higher at private HEIs (€2,090) than at public HEIs (€532). Undergraduate students who are unable to enter public HEIs due to the fixed entry quotas pay up to ten times as much at private HEIs, in the belief that a HE degree will enable them to obtain a well-paid job. However, these expectations are often not realised, and many graduates are disappointed with the education they receive at HEIs. The graduate survey shows that the ratio between the tuition fee that, in retrospect, graduates would be willing to pay for their study programmes, and the fee they actually did pay (what we might call the "value for money ratio") is only 61% for Bachelor degrees (62% at public HEIs and 53% at private HEIs) and 56% for Master degrees (57% at a public HEI and 55% at private HEIs). This suggests that private HEIs provide lower value for money, especially at Bachelor level, compared to public HEIs. Overall, the value for money provided by Albanian HEIs is rather low compared to the regional average.¹⁶

¹⁵ Data are taken from HEI database.

¹⁶ For the Western Balkan region as a whole, value for money at HEIs is 68% for Bachelor degrees, and 65% for Master degrees.

Figure 1: Total number of students registered in HEIs, 2004 – 2014



Source: INSTAT "Students enrolled on tertiary and by gender". Note: "registered" refers to a stock; i.e. the total number of students studying at HEIs at all stages of study. Data for Bachelor students are authors' estimates based on information from HE provision database.

The MoES offers a limited number of state scholarships to students who pursue a full-time course of study at Bachelor level in public HEIs. Scholarships are offered to three categories of students. The first is based on socio-economic status, administered by local authorities to students from poor families, orphans, parents with children accommodated in public dormitories, and disabled students. The second category is students who achieve excellent results in the State Matura and who enrol for the first time at a public HEI; in the academic year 2014-15 this was limited to 25 students. Students who have completed the previous academic year with the highest results also receive a scholarship. Such scholarships are used to nudge students to enrol in Mathematics through more lenient criteria than in other fields (a minimum score of eight rather than ten). The third category is students whose parents have been employed in the State Police, the Republican Guard, the Internal Control Service, Police, Fire Protection and Rescue, Armed Forces, National Intelligence Service and the Prison Police, and who died during their service. In the 2014-15 academic year, 15.5% of students at Bachelor level received scholarships (2,629 students out of 16,869).

Enrolment in public HEIs is organised by the National Examination Agency, which ranks applicants based on their preferences and the points they achieve in school exams. Students may enrol in private HEIs, but most prefer to enrol in public HEIs due to their long tradition and the range and variety of their programmes. Less than one fifth of students enrol in private HEIs (see Table 4). The low enrolments in Doctoral studies in the academic year 2013-2014 reflect the decision of the MoES put a limit on quotas for Doctoral programmes in that year due to the on-going reforms to the HE system.

Table 4: Students enrolling and completing studies each year, 2012-15

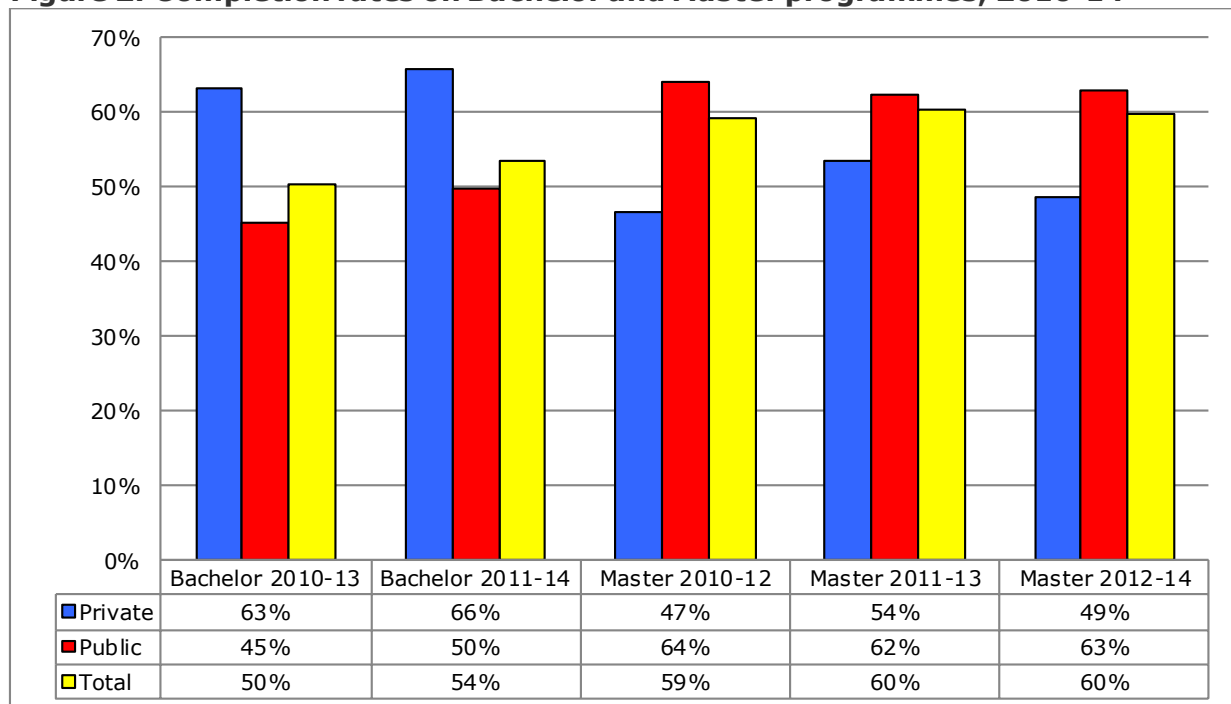
	Enrolment			Completion		
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14
Total number of students	58,873	58,791	55,173	28,260	30,205	29,283

Diploma	934	710	818	337	292	235
Bachelor	40,255	36,563	34,824	20,764	19,959	17,189
Master	16,073	20,151	19,255	7,061	9,613	11,366
Doctoral	1,611	1,367	276	98	303	493
Proportion of students in public and private HEIs						
% public HEIs	79.3%	79.0%	81.7%	62.2%	72.0%	84.4%
% private HEIs	20.7%	21.0%	18.3%	37.8%	27.8%	15.6%

Source: project HE provision database. Note: data for enrolments on Doctoral programmes is incomplete for the 2013-14 academic year.

Table 4 presents data on the number of students who enrolled and the number who completed their studies for three academic years 2011-12 to 2013-14. Completion of studies is an important element of a successful HE system, as a high level of student dropout is a waste of resources. In the academic year 2013-14, while 55,173 students began their studies only 29,283 completed their studies, a ratio of completions to enrolments of 53%. This low completion ratio implies a high internal inefficiency in the HE system.

Figure 2: Completion rates on Bachelor and Master programmes, 2010-14



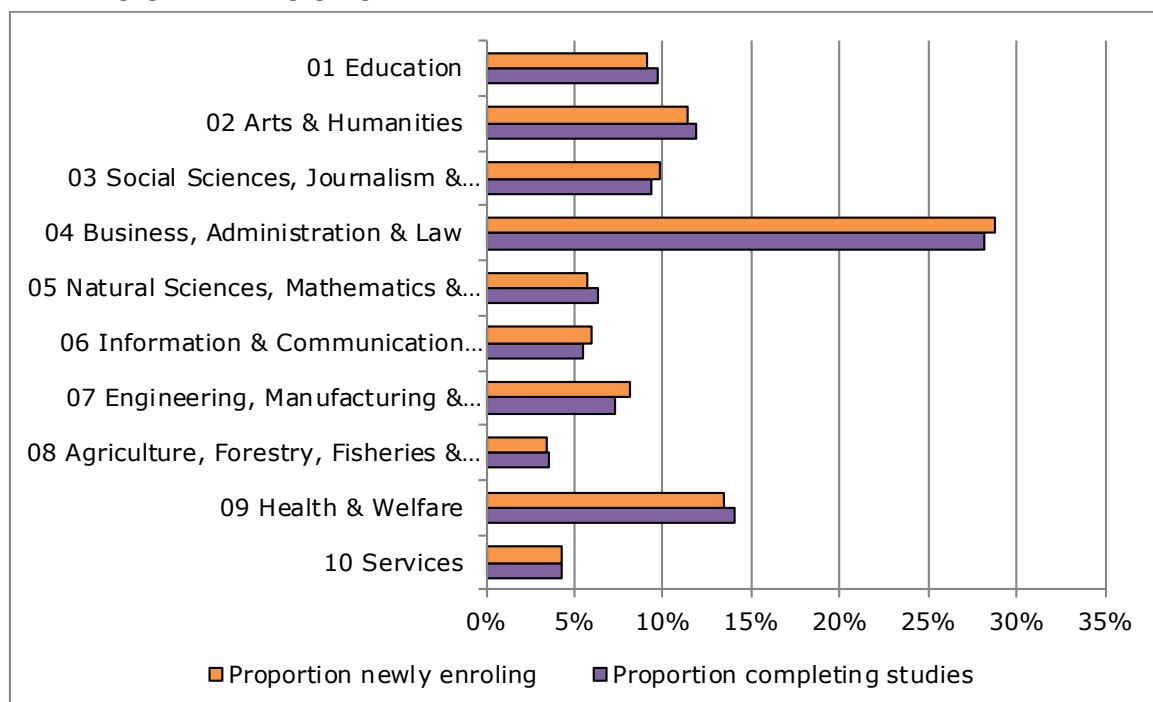
Source: HE provision database. Note: Master programmes are 2 year duration; study programmes with completion rates over 100% are excluded.

The completion rate (rather than the ratio) shown in Figure 2 is a standard indicator of the effectiveness of an HE system (Eurydice, 2015). It provides a more accurate picture of the effectiveness of individual HEIs and study programmes than the broad-brush completion ratio discussed in the previous paragraph.¹⁷ The average completion rate for three-year Bachelor degrees is 52% (similar to the overall completion *ratio* of 53%

¹⁷ Completion rates are calculated as the ratio of the number of graduates completing studies in year "t" divided by the number of students who enrolled in year "t-x", where "x" is the duration of the study programme. This method of calculating completion rates, known as the "cross section" method. Data is taken from the project's HE provision database.

reported above).¹⁸ Although rather low, the completion rate on Bachelor programmes is above the lowest completion rate in the European Higher Education Area (EHEA), which is 48% in Hungary (Eurydice, 2015). The higher completion rate for Bachelor students at private HEIs compared to public HEIs (see Figure 4) may be due to the higher fees paid by their students, which may encourage these HEIs to be more responsive to students' needs, which may in turn increase the probability that students will complete their studies. Analysis of the HE provision database supports this hypothesis, as there is a significant positive association between the tuition fee charged and the completion rate at Bachelor degree level.¹⁹ For two-year Master programmes the average completion rate is 60%. In contrast to the Bachelor programmes, the completion rates on Master programmes are higher at public than at private HEIs, averaging 63% at public HEIs over the period, not too far below the average completion rate of 68% reported for all levels of study in OECD countries in 2013 (OECD, 2013)

Figure 3: Proportion of students newly enrolling and completing studies by field of study (2013-14) (%)



Source: HE provision database.

Figure 3 shows the pattern of enrolments in and completions by field of study. In the 2013-14 academic year, 50% of students enrolled and 49% completed their studies in HSS subjects (ISCED²⁰ 02+03+04). At the same time, 20% enrolled and 19% completed studies in STEM subjects (ISCED 05+06+07). These data can be compared to the situation in the EU-28 where 25% of all graduates hold STEM qualifications (Cedefop, 2015). In this perspective, a rather low proportion of STEM graduates are produced by the HE system in Albania. As in the EU, shortages of such graduates are likely to emerge in the future, especially in the fields of *Natural Sciences, Mathematics & Statistics* (see

¹⁸ Study programmes with completion rates above 100% are excluded from the calculation on the grounds that the data are unreliable.

¹⁹ For the 2010-13 cohort we find a Pearson correlation of +0.197, significant at the 1% level ($p=0.002$) and for the 2011-14 cohort we find a similar correlation of +0.228, also significant at the 1% level ($p=0.000$).

²⁰ The International Standard Classification of Education (ISCED) developed by developed by UNESCO.

Figure 8 below) unless more students can be persuaded to take up these fields of study. It is notable that only 6% of students completed studies in *Natural Science, Mathematics & Statistics* and only 5% in *Information & Communication Technologies*. In contrast 28% completed studies in *Business, Administration & Law* subjects. This indicates a need for a fundamental rethink into the nature of HE provision, since the transition to an export-led and high value-added economy would require a greater output of graduates with qualifications in STEM subjects that are most relevant to private sector employers in competitive industries.

2.3 Quality

The rapid expansion in the HE system over the last decade has raised issues about quality. According to the MoES, private HEIs do not apply rigorous enrolment criteria nor do they apply a strict evaluation process for issuing diplomas (MoES, 2014a). This concern reached such a level that a rigorous examination of the system led to the closure of a number of private HEIs in 2015 as explained above. This, along with the identified problem of corruption, the limited capacity of professors in delivering high quality education and in conducting research, the out-dated teaching methods and lack of equipment indicate that there are serious quality issues that need to be addressed. In this section we first analyse the accreditation system that is designed to ensure quality. In section 2.3.2 we address the issue of programme evaluation and the degree of student satisfaction with the quality of HE provision. In section 2.3.3 we analyse the role of teaching methods in supporting quality education in the HE system, before turning to a discussion of recent policy developments and policy gaps.

2.3.1 Accreditation

The process of external accreditation has so far only been implemented in very few private HEIs, and even then has only involved checking the licence to operate rather than a true accreditation process. Public HEIs have not yet passed through any accreditation process, however the government plans to proceed with the accreditation of all HEIs. In February 2016 the government signed an agreement with the UK Quality Assurance Agency to carry out an external evaluation and ranking of all HEIs in Albania, which should be finalised by October 2017. This would then need to be followed up with programme evaluation. Monitoring the quality of study programmes can be especially challenging for public HEIs that have never been subjected to external evaluation or accreditation, even though it has been a legal requirement since 2007. Perhaps for this reason, initial plans to include the University of Tirana in this accreditation process have been dropped, and so the main HEI in Albania will still not have been accredited even after this process is completed. The government plans to, and should, proceed with the accreditation of all HEIs, public and private, as a second step after the verification of the legal criteria. This is an important element in quality assurance and part of the reform process of HE.

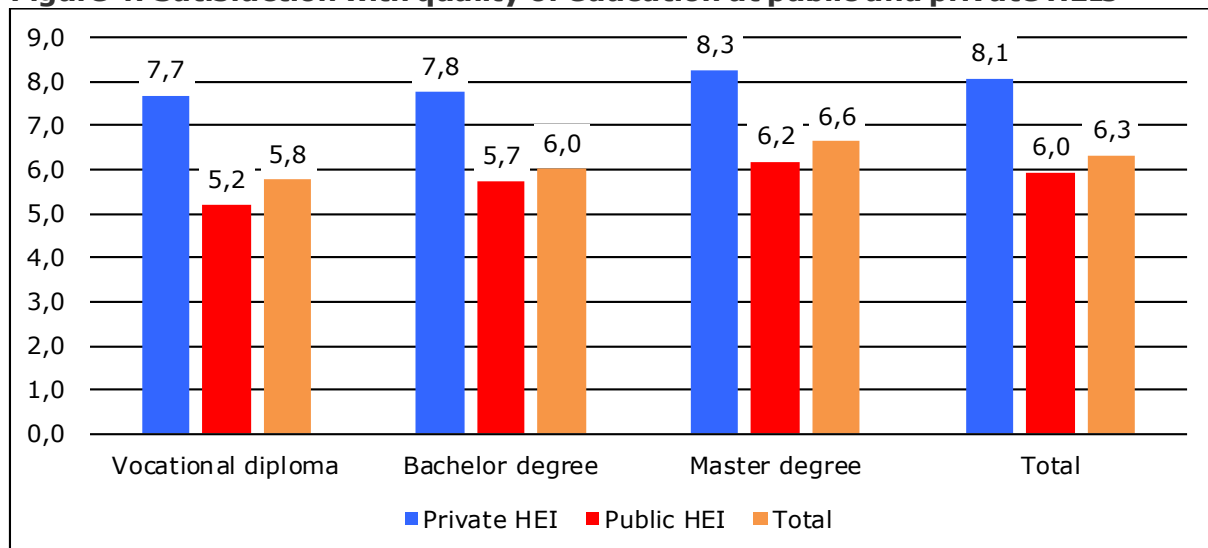
The State Quality Standards on HE require that new study programmes are relevant to the labour market. In order to achieve this, the new study programmes will need to adopt modern student-centred teaching methods, implement curricula reform, ensure adequate and appropriate learning outcomes, and provide students with sufficient practical skills. However, most study programmes are seriously out of date, as are teaching methods and few are student-centred, based on learning outcomes and provide the mix of skills which valued by the labour market. Private HEIs are more flexible than public HEIs in opening new study programmes that respond to labour market demands and in adapting and designing new curricula.

2.3.2 Programme evaluation

Quality assurance is not limited to accreditation and HEIs themselves need to apply rigorous monitoring of the services they provide. Public HEIs have made great efforts to reorganise their study programmes, which now comply, at least in form and structure, with the Bologna principles. Although HEIs are required to monitor the quality of their study programmes following State Quality Standards, few HEIs have the organisational procedures in place to do so. HEIs lack a regular and transparent system for internal self-evaluation. The absence of any evaluation reports on the websites of most HEIs indicates the lack of enforcement of the State Quality Standards. Few HEIs carry out evaluations of learning outcomes, a key aspect of the Bologna process (Jashari, 2015). The PAAHE has identified problems with HEI information systems, ranging from a lack of information infrastructure to missing or false information given to students.²¹

There is a widespread public perception, shared by several stakeholders, that public HEIs adopt high standards and have better quality teaching staff, while private HEIs provide lower quality education.²² The reputation of "bought" diplomas has to be taken into account.²³ The latest rankings of world universities based on standard metrics show a more nuanced picture. Among the top ten ranked HEIs in Albania, six are from the public sector and four are from the private sector.²⁴ The private university "Epoka" is the top ranked HEI in Albania with a global ranking of 4,928th position (ranked in 380th position in Central and Eastern Europe – CEE), while the University of Tirana second ranked, with a global ranking of 6,215th position (ranked 488th in CEE).

Figure 4: Satisfaction with quality of education at public and private HEIs



Source: Graduate survey. Note: Satisfaction with quality is assessed in response to the question "How satisfied are you with the quality of the education you received?" on a scale of 1-10 where 1 = "very dissatisfied" to 10 = "very satisfied"; differences between means are statistically significant at 1% level ($F=110$, $p=0.000$).

²¹ Public Accreditation Agency for Higher Education, (2014) Annual Report 2013, p.27-29.

²² Interview with MoES.

²³ See "Albania ignores trade in fake degrees", Balkan Insight, 21st February 2008, although the worst offenders may have been closed down in the 2014 closures (see "Albania closes suspected Diploma Factories", Balkan Insight, 7 August 2014).

²⁴ See "Webometrics Ranking of World Universities", <http://www.webometrics.info/en>.

The graduate survey shows that respondents who studied at private HEIs are more satisfied with the quality of the education they received than those that studied at public HEIs (see Figure 4). An explanation may be that private HEIs are driven by the profit motive to attract and retain promising students and may therefore have a strong incentive to provide a satisfying student experience (Branković, 2014; Shima and George, 2014). They can also demand better performance from their staff, and may also be more flexible in their organisational and working practices. Having a smaller number of students and a clear hierarchy in decision-making may enable private HEIs to better respond to the demands of the labour market, whereas in public HEIs decision-making tends to be more complex due to their larger size and more complex administrative procedures (Branković, 2014). However, it may also be the case that graduates who attended private HEIs have different characteristics than those that attend public HEIs. In order to explore this hypothesis a regression model is developed to identify whether any additional determinants of graduate satisfaction with quality have an effect, and if so whether they are responsible for the observed differences in perceptions of quality.

Table 5: Regression model for graduate satisfaction with quality of HE studies

	Coefficient	t-statistic
Public HEI	-1.576***	-7.403
Above average performance	0.416***	4.439
Internship or work experience	0.996***	6.137
Classes in small groups	0.861***	5.239
Information & Communication Technologies (ICT)	-0.751**	-2.269
Engineering, Manufacturing & Construction	-1.090***	-3.469
Health & Welfare	-0.623***	-2.693
Constant	5.397***	12.782
<i>Adjusted R-Squared = 0.278; F= 35.24***; N=895</i>		

Source: Graduate survey. Note: Significance level ***=1%, **=5%; Model estimated using SPSS with backward elimination. Other potential explanatory variables are rejected.

The regression analysis shows that factors in addition to ownership status of the HEI determine graduate satisfaction (see Table 5). Several factors have a positive impact on satisfaction including whether the graduate had experienced internship or other form of work experience during studies, whether study performance was above average, whether teaching methods involved classes in small groups. Graduates who studied key STEM subjects such as *Engineering, Manufacturing & Construction* subjects or *Information and Communication Technologies (ICT)* have a lower level of satisfaction with quality of their education (compared to those who studied *Business, Administration & Law* – the baseline study field for this analysis). Even when these factors are taken into account, the ownership status of the HEI still has a significant influence on perceived satisfaction with HE quality. The results indicate that graduates who studied at public HEIs have a level of satisfaction with their education that is 15.8 percentage points lower than those who studied at private HEIs, slightly less than the 21.0 percentage point gap identified in Figure 4 which does not control for other relevant factors included in the regression analysis.²⁵ It should be emphasised that this difference can be offset by public HEIs by offering internship or work experience and by more frequent use of teaching to small class groups. It is important to note also that graduates from *ICT* fields of study have a lower level of satisfaction with the quality of studies compared to other fields of study by

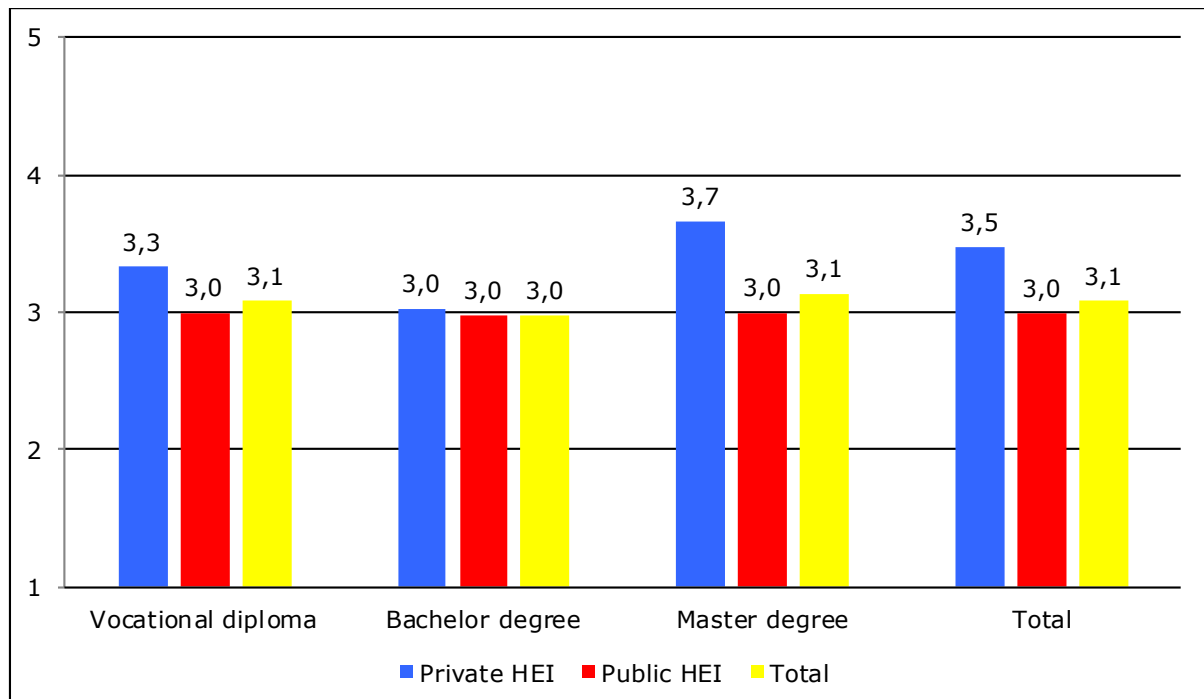
²⁵ The percentage difference is found by dividing the coefficient on the [1,0] dummy variable "Public HEI" by the constant term. In this case the percentage difference = $-0.846/5.192=0.163$.

7.5 percentage points, irrespective of whether they studied at public or private HEIs. This is a worrying finding since *ICT* fields of study are likely to be increasingly important in supporting future competitiveness of the Albanian economy.

2.3.3 Teaching methods

It is often stated that HEIs in post-socialist countries are not sufficiently flexible to respond to labour market changes through curricula reform and the adoption of new and improved teaching methods (Sondergaard and Murthi 2012). Most university staff were educated in the previous century with few acquiring experience or obtaining PhD degrees abroad. The graduate survey shows that 40% of respondents consider that better teaching methods would have improved their job prospects after graduation either “a lot” or “very much”. Traditional teaching methods prevail, with professors having the main role in class rather than taking the role of a moderator, facilitating group discussions, and sharing ideas with students. Learning depends primarily on rote learning with out-dated curricula. Students are often required to buy the textbooks that their professors have written themselves, or simply translated from a foreign textbook, rather than recommending more suitable textbooks and a wider literature (Kächelein, Jasini and Zhllima, 2013). Few HEIs have access to online libraries or professional journals. Plagiarism is thought to be widespread but is difficult to detect, as plagiarism software is rarely used. Students seldom participate in the evaluation of courses or of teaching practices. There are abuses of the right to retake exams multiple times, leading to extended length of studies. It is hardly surprising, therefore, that graduates often enter the labour market without the necessary skills to succeed in their profession. Currently, the quality of teaching is evaluated through formal indicators that give little weight to the quality of knowledge passed on to students, or the quality of teaching methods (MoES, 2014a: 41). However, we can use the graduate survey to investigate perceptions about the quality of teaching at Albanian HEIs.

Figure 5: Whether better teaching methods would have improved job prospects



Source: Graduate survey. Note: The question asked was “Regarding the study programme for your LAST degree obtained, to what extent would better teaching methods at your higher education institution have improved your job prospects after graduation? (1=not at all, 2= a little, 3= some; 4=much, 5= very much)”.

The graduate survey shows that 40% of graduates think that improved teaching methods would have improved job prospects “a lot” or “very much”. Moreover, 51% of graduates think that being taught by better-qualified professors would have improved their job prospects, and 42% felt the same about the need for a more relevant curriculum. These findings suggest that improvements to the quality of teaching should be central to the reform of the HE system. Graduates from private HEIs perceive a greater need for improvement in teaching methods than those from public HEIs, suggesting that the drivers of satisfaction with teaching quality reported above may be factors other than teaching methods.

Box 1: Comparing studying in Albania with the EU: findings from a focus group

Albanian Erasmus Mundus alumni who were exposed to the learning environment of European HEIs identified several elements where they thought European HEIs performed better than their Albanian counterparts. These elements were mostly related to teaching methods, the connection between HEIs and the labour market, and the need for more transparency in the HE system. Students who were enrolled in EU universities found that practical experience was generally given more prominence than in Albania, where pure theory tends to dominate. They also felt that in contrast to other EU countries, there are fewer ways to evaluate the performance of academics or individual HEIs, which decreases HEIs’ accountability. According to Albanian students, EU HEIs offer more opportunities for interactive learning, building on team- and project-based work, which was deemed important to develop the skills required in the labour market. These learning methods are enacted through smaller classes than is usual in Albanian HEIs. They also observed that Albanian universities are insufficiently aware of the needs of labour market and do not provide the qualifications and skills that are most sought after by employers. They also praised the option of having an internship, that was often a central component of their experience abroad, and which is largely missing in the Albanian HE system.

Source: Focus group report.

Expressing the answers to these questions in the graduate questionnaire in the form of a score (on a scale from 1 to 5), graduates who studied at private HEIs express a significantly greater need for better teaching methods (see Figure 5).²⁶ Also, graduates from private HEIs score the need for improvement at private than at public HEIs with respect to better-qualified professors ($p < 0.01$), more relevant curriculum ($p < 0.01$) and better job counselling ($p < 0.01$).²⁷ It can be seen from these data that, graduates consider there is a need for more improvements to support job prospects in private HEIs compared to public HEIs, with the difference being mainly driven by a perceived need for improvements in Master degrees at private HEIs.

2.4 Policy developments and gaps

HE reforms have been a policy priority beginning a few years after Albania signed the Bologna Declaration in 2003, culminating in the 2007 Law on Higher Education (Xhaferri and Branković, 2013). Unfortunately, the adoption of the Bologna principles and ECTS, have not been associated with improvements in teaching quality or improvement in the skills and competencies of students. The difficult process of reorganisation and adoption

²⁶ The difference in means between the scores for the need for improvement in teaching methods at Master level between public and private HEIs is significant at the 1% level (Pearson Chi-square = 22.4, $p = 0.000$).

²⁷ These results are derived from a t-test of difference in mean scores on a set of questions “to what extent would the following improvements at your higher education institution have improved your job prospects after graduation?”.

of the HEIs curricula according to the Bologna system and the introduction of the ECTS is incomplete, especially as curricula have not been harmonised according to the cycles and fields of study at national and European levels (MoES, 2014a: 15).

The National Strategy on Higher Education for 2008-2013 prioritised an increase in the quality of HE and the autonomy of HEIs. However little of this was realised, and the National Plan for European Integration of 2014 aims to further improve the quality of HE in line with European standards, although the implementation of this remains to be seen.

A new Law on Higher Education entered into force on 5 October 2015. It gives more autonomy to public HEIs to establish their own enrolment criteria based on national standards²⁸ and to attract more financing for the HE system. The reform aims to base the financing of HEIs on a national formula based on performance in teaching and research using measurable indicators. Formula funding will introduce competition between HEIs based on quality, as funds will follow students' choice of the best HEIs. Public funds will be distributed by a new National Funding Agency for the HE system, and public HEIs will also be able to earn income from research and other activities in addition to teaching (MoES, 2014a: 9-10). The law also proposes scholarships for students with excellent results at secondary school, for those wishing to study priority subjects, and for students from disadvantaged social groups. This is to be supplemented by a student loan scheme. Another aim is to create internal mechanisms and external control to ensure quality standards for the HE system and increase its accountability. Periodic audits of HEIs are planned to be carried out to ensure that they are more effective. New measures, including an evaluation of standards and accreditation is to be introduced with new bylaws. The 2015 law also proposed the introduction of an Executive Master degree (corresponding to level 8 EQF) that would provide an opportunity for mature graduates to deepen their applied skills, according to the specific skills and competencies required by their job position. This is a new approach, aiming to respond directly to the changing demands on the labour market.

It remains to be seen whether the new law will actually be enforced and bring about improvements in the quality of education or in teaching methods at HEIs. The agreement to subject all HEIs to an external evaluation by the British Quality Assurance Agency is a step in the right direction. Reform of the financing system for HEIs may raise the quality of HE provision by introducing competition into the system. This is in line with trends throughout Europe to bring quasi-market forces to bear in public services (Agasisti and Catalano, 2006). The level of public finance for HE in Albania is relatively low by international comparisons. In order for the quasi-market model to work effectively, a sufficient level of funding is needed to enable user choices to exert effective influence over HEI provider budgets. In addition, the equity effects of quasi-market competition should be taken into account, and the formula used to finance HEIs should give significant weight to disadvantaged students. On the positive side, the HE system is now open to students from emigrant families returning from Albania who can convert ECTS points obtained from universities abroad to study at Albanian universities for a degree in a similar field of study.

Quality can also be affected when HEIs tolerate corruption in the education process. Corruption occurs through bribery and when professors sell their own books to their students (Kächelein et al., 2013). In addition, favouritism is a significant problem (e.g. professors may give better marks to the relatives of their colleagues, or to relatives of individuals in an important political position). As students may resort to personal connections to improve their marks, the objectivity of the exam process is subject to criticism. Bribing to compensate for insufficient learning or lack of attendance in order to

²⁸ The legal framework for implementing the law will come into force in the academic year 2016-2017.

pass an exam, especially in difficult subjects is another dimension of corruption in the HE system, as revealed in a series of recent scandals (Kächelein et al., 2013).

3 Mapping graduate labour markets

Over the last quarter of a century, Albania has been going through a profound transformation due to the transition from a centrally planned to a market economy. At the start of transition, Albania had one of the most centralised economies anywhere in the socialist world. This was quite different to the case of former Yugoslavia, which had a relatively liberal economy with regulated markets for goods and labour. It is not surprising therefore that the transition in Albania was immensely difficult. The collapse of the old industrial sector destroyed jobs with little to replace them apart from agriculture. The labour market is characterised by a large agriculture sector, a low female employment rate and a high level of informal, undeclared work.²⁹ These factors are related to the largely rural nature of the economy (World Bank 2015). Another characteristic is the young age demographic profile, with 21% of the workforce being under 25 years of age. Albania also has a high level of outward migration and an associated high level of remittance incomes that migrant workers send to their families at home (Germenji and Lati, 2011).

This is not an auspicious environment for graduate jobs. Over the entire period from 2001-2014, total employment has stagnated; the official statistics agency, INSTAT, recorded that there were 920,560 employed persons in 2001, and 925,262 in 2014, an increase of barely 5,000.³⁰ Yet, over this period a successful private sector has emerged. The share of employment in the non-agricultural private sector increased from 22% to 34% of total employment (the number of employed persons in the sector increased from 205,267 to 290,763) providing many graduate jobs. Moreover, while the share of employment in the public sector fell from 21% to 18%, the share of graduate employment within it doubled from 26% to 50% (68,762 in 2001 to 81,430). Therefore the public sector has been a strong absorber of graduate employment, even as total public sector employment has fallen. This might be related to the establishment of Civil Servant Status for senior level and technical staff within central, regional and local public administration in 2000, which requires public employees to hold at least a Bachelor degree.

This chapter maps the graduate labour market in Albania on the basis of official data, the findings from a survey of 895 HE graduates who have completed their studies since 2010, and a survey of 209 employers who employ HE graduates. The next section identifies the difficulties facing graduates in finding a job, the size of the organisation in which they are employed, and the distribution of graduates by sector. Section 3.2 analyses emerging opportunities for graduate employment and provides a forecast of the demand for graduates in 2018 by field of study. Section 3.3 identifies policy developments and gaps in relation to the graduate labour market.

²⁹ About 43% of the labour force works informally, defined there as all self-employed and unpaid family workers in nonagricultural sectors, plus employees not covered by social security (World Bank, 2015: 32).

³⁰ INSTAT online data; this data is based on administrative sources rather than the Labour Force Survey, and may under-record both informal employment and formal employment in small and medium sized enterprises (SMEs). Moreover, economic growth has been robust over this period and it seems unlikely that employment was really unchanged as reported by the official employment figures. Therefore, the above account should be taken with caution.

3.1 Difficulties facing graduates in finding a job

The unemployment rate in Albania is well below the average of the Western Balkans, partly due to large outward migration. Nevertheless, it is almost double the rate in the EU-28 and for graduates it was more than three times as high (see Table 6). Although strong economic growth has persisted throughout the recent period of global economic crisis, the overall unemployment rate has steadily increased. In 2013, the graduate unemployment rate was below the overall unemployment rate. Since then, it has increased, and by 2015 the graduate unemployment rate was above the overall unemployment rate. The high graduate unemployment, even when economic growth was still buoyant, suggests that unemployment has a large structural component related to poor flows of labour market information, low geographical graduate mobility, and significant problems of skill mismatch. In addition, unlike the situation in other Western Balkan countries, a university or HE degree in Albania does not offer graduates much protection from unemployment.

Table 6: Unemployment rate and employment rate, 2013-15 (%)

	Albania, total			HE graduates			Western Balkans	EU-28, total	EU-28, graduates
	2013	2014	2015	2013	2014	2015	2014	2015	2015
Unemployment rate	16.4	17.9	17.5	14.9	17.2	19.1	24.2	9.4	5.6
Employment rate	59.6	50.5	52.9	62.5	61.3	59.2	48.6	58.1	76.9

Source: INSTAT - Labour Force Surveys 2013-2015 and Eurostat online data variable code [lfsq_urgaed]. Note: Data for Western Balkans are an unweighted average of unemployment rates from Eurostat online database.

However, graduates do have some advantages in the labour market as indicated by their higher employment rate compared to the working population as a whole.³¹ This is related to the high level of rural population where the level of education is lower than in the urban areas where most graduates live. However, in recent years the graduate employment rate has been declining, indicating an increasingly difficult labour market environment. Another indicator of the problematic situation is that the graduate employment rate in Albania is 18 percentage points below that in the EU.

In addition, the graduate survey shows that the unemployment rate of recent graduates is 28%, far above the unemployment rate of the labour force as a whole and above that for all graduates, while the employment rate of recent graduates is just 54%, only slightly higher than for the working age population as a whole and substantially lower than the employment rate of all graduates. This reflects the difficulty that graduates face in becoming established on the labour market in the years immediately after they graduate from university. As they make progress in their careers, over time, a larger proportion succeeds in finding work.

3.1.1 Graduate employment by size of employer

The private sector is dominated by micro and small enterprises. In 2014, 90% of active enterprises employed up to four workers, accounting for 37% of all employees, primarily in the service sector. Companies that employ 20 workers or more represent only 2% of active enterprises, but account for 47% of total employment (INSTAT, 2014). According

³¹ The employment rate is the ratio of the number of employed people to the total population of working age, while the unemployment rate is the ratio of the number of unemployed people to the labour force (employed plus unemployed).

to one interviewee, “the labour market is dominated by small enterprises, which operate based on family connections and do not need very specialized qualifications.”³²

The employer survey covered 209 employers of all sizes, from micro (employing fewer than ten workers) to large (employing 250 or more), that employ graduates. While most enterprises in Albania are small or micro sized³³, only a relatively few of them employ graduates. The size distribution of organisations that employ graduates in the sample shown in Table 7 therefore differs from the size distribution of all employers. In the sample, almost one quarter of employers are micro sized, and more than a third are small sized. The extent to which individual employers provide jobs for graduates varies across sectors and forms of ownership. The largest private employer in the sample is a subsidiary of an Italian shoe manufacturer. The company has 1,710 employees, of which only 35 are graduates. The next largest private employer is a bank, which has 1,300 employees, of which 1,200 are graduates. In the public sector, the largest employer has only 379 employees, of which none are graduates, while the second largest public sector employer has 360 employees of which 300 are graduates. The last column in Table 7 shows the ratio of the number of graduate employees to the number of all employees for each size group (the density of graduate employment) is shown in the final column.

Table 7: Graduate employment by employer size groups

	Distribution of employers in sample	Distribution of graduate employees	Average number of graduate employees	Median number of graduate employees	Density of graduate employment
Micro	23.3%	0.8%	3.3	3	73.6%
Small	37.7%	6.6%	16.0	12	64.3%
Medium	24.7%	18.7%	68.9	57.5	57.5%
Large	14.4%	73.8%	466.4	280	57.2%
Total	100%	100%	91	15	63.6%

Source: Employer survey. Note: Micro employers are defined as those with fewer than 10 employees; small employers from 10-49; medium sized employers from 50-249; large employers with 250 or more. This is in accordance with the Eurostat definition of employer size groups.

Public sector employers have a significantly higher graduate density (79%) than private sector employers (53%). Graduate density also differs by sector. The *Manufacturing* and *Construction* sectors have relatively low graduate densities (37% and 35% respectively), while *Professional, Scientific & Technical Activities*, and the *Education* sector have relatively high graduate densities (90% and 88% respectively). The low proportion of graduate employment in private manufacturing indicates that the private business sector in Albania is mainly based on low skill, low value-added production methods. The example of the large shoe manufacturing company under Italian ownership identified above is a case in point. The company outsources the low value-added parts of the production to Albania and imports the finished shoes for sale in Italy. This is one of Albania’s largest merchandise exports.

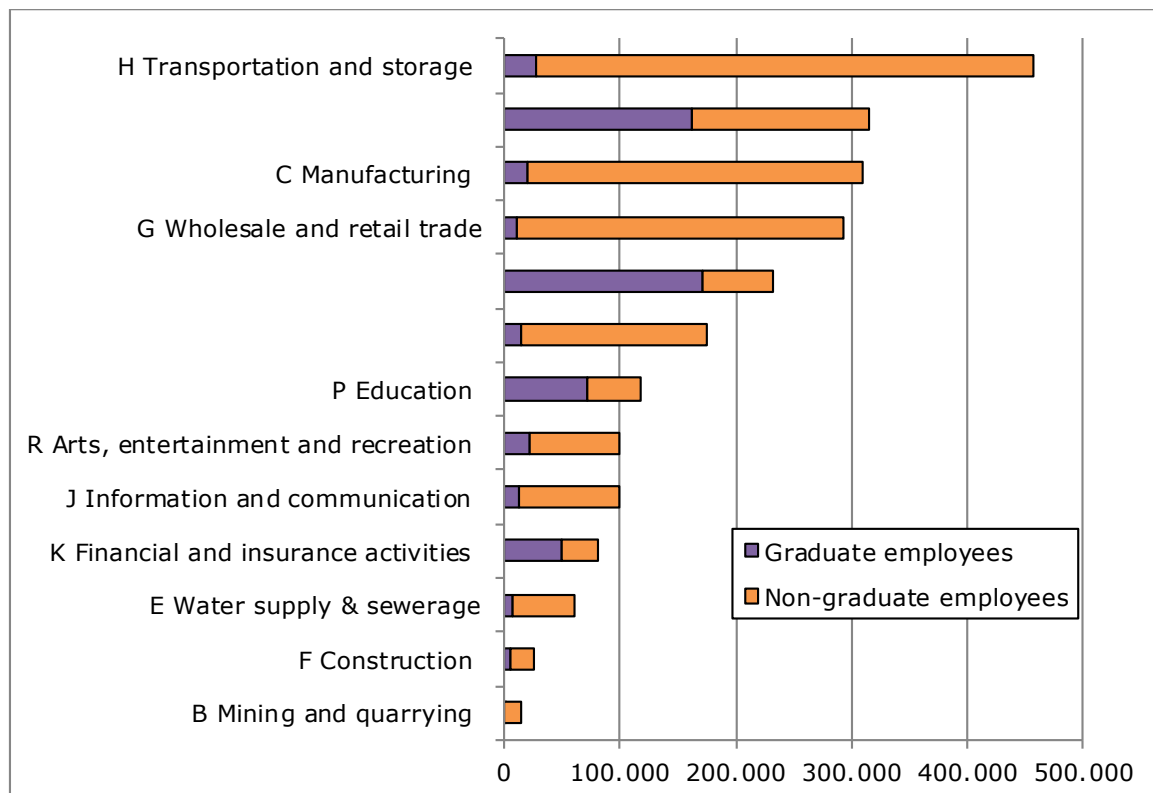
³² Interview, MoES.

³³ The private sector is dominated by micro and small- enterprises. In 2013, 89% of active enterprises employed up to four workers, accounting for 35% of all employees, primarily in the service sector. Companies that employ 20 workers or more represent only 2% of active enterprises, but account for 48% of total employment (INSTAT, 2014).

3.1.2 Graduate employment by sector

The opportunity for graduates to find a job differs across sectors and across employers of different size. Most graduates are employed in relatively few sectors (see Figure 6). More than two thirds (71%) of HE graduates are employed in *Administrative & Support Activities*, in *Professional, Scientific & Technical Activities* and in the *Education* sector. Graduates have a high presence in *Administrative & Support Activities*, where they account for 74% of all employees. They account for 61% of employees in *Financial & Insurance Activities*, for 52% of employees in *Professional, Scientific & Technical Activities* and for 61% of employees in *Education*. These data emphasise that most graduates find employment in the service sector. Only 3.5% of graduates are employed in manufacturing, partly because there are so few jobs in that sector following the collapse of the old heavy industry infrastructure in the 1990s through privatisation and transitional recession (Vaughan-Whitehead, 1999). Since then, Albania has received very little in the way of new foreign direct investment to rebuild the manufacturing base, and many domestic entrepreneurs have found it more profitable to set up their businesses in the new services sectors (although this seems to be changing).

Figure 6: Graduate and non-graduate employment by sector, 2013



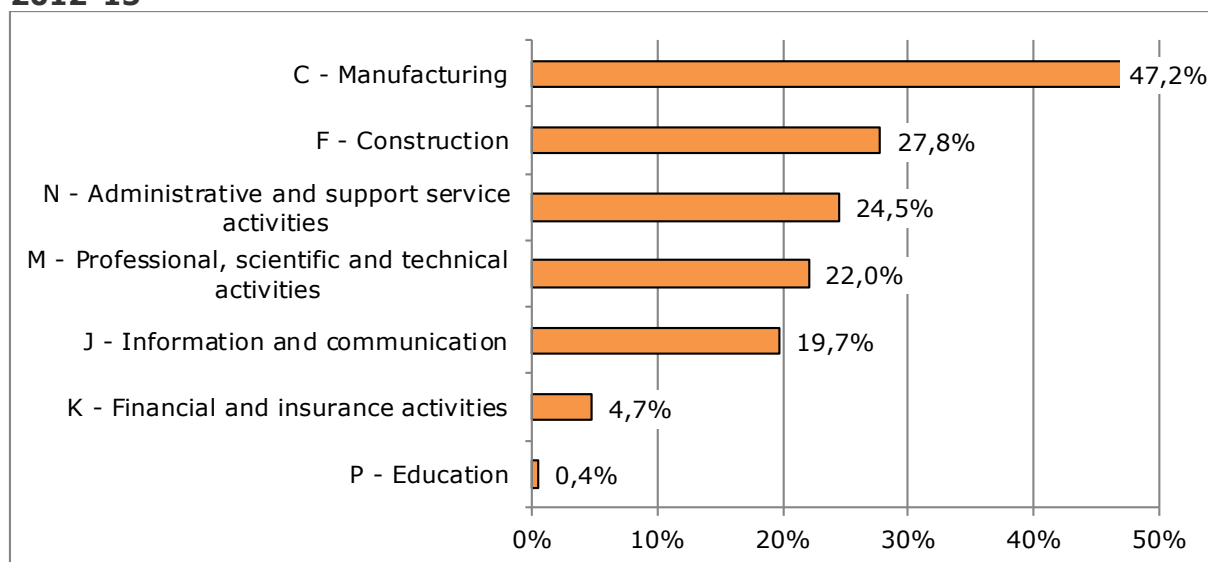
Source: Albania Labour Force Survey, 2013. Note: INSTAT does not provide data on all sectors of the economy as the sector coverage of the Labour Force Survey is incomplete

The growth in graduate employment is concentrated in a few sectors of activity. Figure 7 shows the seven of the eight sectors that account for 85% of total graduate employment. Over the period from 2012 to 2015, five of these sectors had an annual growth rate of graduate employment in excess of 20% per annum. The fastest growing sector in terms of graduate employment was the *Manufacturing* sector, while the *Education* sector hardly increased its graduate employment at all. However, Manufacturing has a very small base of graduate employees to start from (about 5% of total) whereas Education employees account for more than half (about 60%) of total. If past trends continue, it can be

expected that these will also be the sectors that will experience fast growth of graduate employment in the future.

A relatively small proportion of employers accounts for most of the growth of employment. The employer survey³⁴ reveals that 81% of all jobs created in the past three years have been created by just 17% of employers, and 80% of graduate jobs have been created by just 14% of employers. Such employment dynamics are typical in market economies, where fast-growth employers are sometimes called “gazelles” (Acs and Mueller, 2008; OECD 2009).³⁵ In Albania, 7% of employers are “gazelles” which, in line with the Eurostat definition, are growing at 20% per annum in terms of employment, while 18% of employers are growing at 10% or more per annum in terms of employment. The latter type of employer could be called “divokoza”, a type of Balkan gazelle.³⁶

Figure 7: Annual % change in graduate employment in major sectors of activity, 2012-15



Source: Employer survey. Note: The sectors shown account for 85% of graduate employment.

3.2 Forecast of future demand for graduates

In order to identify likely future demand and supply for HE graduates, forecasts are needed to predict future changes in labour market needs. Policy makers can use such forecasts to adjust education strategies, or as an early warning of impending change.³⁷ In this section we set out our own forecasts of the likely demand for HE graduates by field of study in the period up to 2018. The analysis is carried out on the demand side,

³⁴ Further details about the employer survey methodology can be found in the Annex.

³⁵ The definition of a gazelle, given by Eurostat, is a company that has been formed within the past three years and is expanding employment by at least 20% per annum over those three years. In Hungary, for example, about 1% businesses in the industrial sector that employ between 5 and 9 employees fall into this category as do 0.45% of businesses with 10 or more employees (Eurostat, variable [eip_pop3]).

³⁶ “Divokoza”, or Balkan Chamois, is speedy, but not as fast as a gazelle. The top speed of a chamois is about 50 kilometres per hour, while that of a gazelle is about 100 kilometres per hour.

³⁷ It should be noted that all forecasts are by their nature imprecise and subject to both error and revision as circumstances change. It has been said that every forecast is inevitably incorrect. Nevertheless a forecast provides a framework for policy makers to use as a benchmark against which to make their own judgments and decisions.

projecting forward the annual change in demand for graduate labour on the basis of existing information on graduate employment by sector of economic activity taken from national labour force surveys. The methodology of the forecast follows that of Cedefop (2010), which involves identifying “expansion demand” and “replacement demand”. Expansion demand is the extra demand arising from economic growth, while replacement demand is that arising from retirement and migration. Expansion demand is estimated on the basis of Labour Force Survey data estimates of graduate employment for 2014 and 2015, projected forward to 2018 on the basis of GDP forecasts derived from the IMF World Economic Outlook database.³⁸ The replacement demand is estimated using a standard estimate of the retirement rate based on the assumption of a 40-year working life, giving a baseline 2.5% retirement rate and an estimation of net migration.³⁹ Expansion demand and replacement demand are summed to give an overall estimate of the annual change in demand for graduates by sector. Contrasting the forecast increase in demand for graduates with current levels of supply of graduates (as a benchmark) gives the projected levels of oversupply of graduates by field of study in 2018, assuming current levels of supply are held constant.⁴⁰ It should be emphasised that these are only estimated forecasts and should be used only as a general guide to the likely direction of change vis à vis current levels of provision, and should not be taken as accurate figures for planning purposes.

Table 8: Annual growth of real GDP, total and tertiary employment, 2014-18

	GDP growth (%)	Employment growth (%)	Tertiary employment growth (%)
2014	2.0	1.6	2.0
2015	2.6	1.7	2.6
2016	3.4	2.5	3.4
2017	3.8	2.7	3.8
2018	4.1	2.9	4.1

Source: Projections for GDP growth from IMF World Economic Outlook database; projections for employment are from European Commission EU Candidate and Potential Candidate Countries’ Economic Quarterly, Q1 2016, projected forward to 2018 on the basis of the GDP growth rate.

Economic growth has been robust since 2014 and is expected to continue to increase to 4% per annum in 2018 (see Table 8). Growth in total employment is forecast to be below this trend due to expected productivity growth, but tertiary employment growth (i.e. growth in demand for HE graduates) is expected to be given a boost due to skill-biased technical progress, and so is expected to match the overall rate of economic growth.

³⁸ The same rate of expansion demand is applied to each sector. Labour Force Survey data are not sufficiently robust to identify differential growth rates per sector, as these are too sensitive to the base year used for calculation.

³⁹ According to Eurostat data, the net migration rate from Albania is 6.2%, and we adjust replacement demand for this factor. See Eurostat online data “Population change - Demographic balance and crude rates at national level” – variable code [demo_gind].

⁴⁰ Oversupply (surplus) is defined as the difference between the projected demand for graduates in a future year and the supply of graduates that completed their studies in 2014, which is taken as a benchmark. For policy purposes, it is appropriate to measure oversupply in this way, so that policy makers may see the consequences of holding the HE output constant at current levels, and can then identify the changes that might be needed in the future to achieve a demand-supply balance.

Table 9: Forecast for expansion, replacement and total demand for graduates by economic sector, 2015-18

Sector	Expansion				Replacement				Total demand			
	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018
A	2	2	3	3	6	6	6	6	7	8	8	9
B	5	6	7	8	16	16	17	18	21	23	24	26
C	151	203	235	263	506	519	537	557	657	722	771	820
E	49	66	76	85	164	168	174	180	213	234	249	265
F	43	57	66	74	143	146	151	157	185	203	217	231
G	80	108	125	140	269	276	285	296	349	384	410	436
H	214	287	331	371	715	733	758	787	928	1,020	1,089	1,158
I	108	145	167	187	361	370	383	397	469	515	550	585
J	92	123	143	160	308	316	327	339	400	439	469	499
K	370	496	573	642	1,237	1,269	1,312	1,362	1,606	1,764	1,885	2,003
M	1,230	1,650	1,907	2,135	4,115	4,222	4,365	4,531	5,344	5,872	6,272	6,666
N	1,292	1,733	2,003	2,243	4,323	4,435	4,586	4,761	5,615	6,169	6,589	7,004
P	542	727	840	941	1,813	1,861	1,924	1,997	2,355	2,588	2,764	2,938
R	166	222	257	287	554	568	588	610	719	790	844	897
Total	4,342	5,825	6,732	7,539	14,528	14,906	15,412	15,998	18,869	20,731	22,144	23,537

Source: Table 8 and estimates of replacement demand. Note: A=Agriculture, forestry & fisheries; B=Mining & quarrying; C=Manufacturing; E=Water supply; F=Construction; G=Wholesale & retail trade; H=Transportation & storage; I=Accommodation & food service activities; J=Information & communication; K=Financial & insurance activities; M=Professional, scientific & technical activities; N=Administrative & support service activities; P=Education; R=Arts, entertainment & recreation. Note: Final digits do not always add up due to rounding.

On this basis, forecast of total graduate employment is expected to be around 190,000 by 2018, an increase of 20,000 from 2015, or around 6,700 net new job openings each year. This increase is the expansion demand that results from the net increase in job openings for graduates. To obtain a forecast for the actual numbers of graduates that will be demanded from the HE system, we add the "replacement demand" arising from the retirement of currently employed graduates and other demographic reasons for which people leave the labour force. Applying this to our estimates of graduate employment, we derive an overall forecast of the annual increase in demand for graduates, which is the sum of expansion demand and replacement demand and which is expected to increase from 18,869 in 2015 to about 23,537 in 2018 (an increase in the required output of graduates of around 8% per annum).

Change in the demand for graduates at sector level has implications for the pattern of recruitment that the HE system should anticipate. In order to address this issue we use the data from the graduate survey to estimate a transformation matrix that connects the sector in which graduates are employed to their field of study.⁴¹ This provides forecasts of the demand for graduates by field of study. This is contrasted with the supply of graduates, which we derive from the HE provision database.

⁴¹ In order to obtain reliable estimates the entire graduate survey for the Western Balkan countries is used to create the transition matrix. This is justified on the grounds that the technological level in each country is rather similar and so it can be expected that an average measure of inputs of graduates per unit of output can be a good approximation to the country coefficients.

Table 10: Annual new demand and supply of graduate by field of study

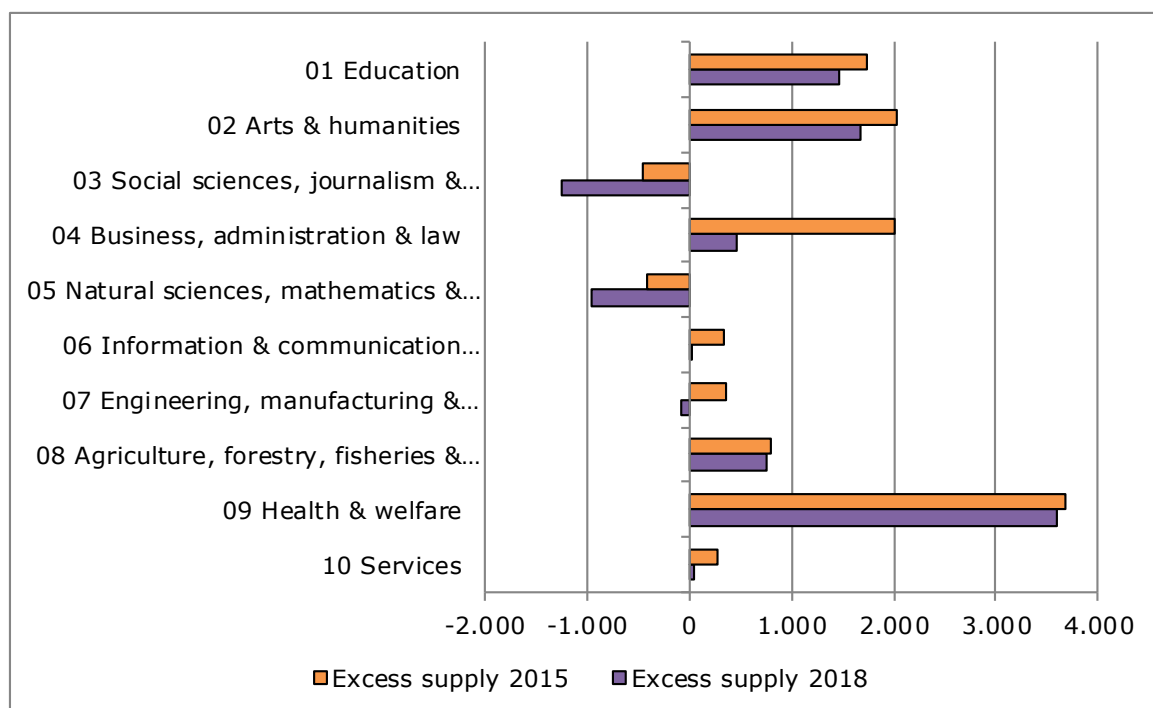
Field of study	Demand		Supply		Surplus	
	2015	2016	2017	2018	2014	2018
01 Education	1,110	1,219	1,302	1,384	2,855	1,471
02 Arts & Humanities	1,436	1,578	1,685	1,791	3,472	1,681
03 Social Sciences, Journalism & Information	3,183	3,497	3,735	3,970	2,768	-1,248
04 Business, Administration & Law	6,247	6,863	7,331	7,792	8,126	466
05 Natural Sciences, Mathematics & Statistics	2,260	2,483	2,652	2,819	1,856	-963
06 Information & Communication Technologies	1,263	1,388	1,482	1,576	1,609	33
07 Engineering, Manufacturing & Construction	1,773	1,948	2,081	2,212	2,143	-69
08 Agriculture, Forestry, Fisheries & Veterinary	214	235	251	266	1,014	748
09 Health & Welfare	419	460	491	522	4,096	3,585
10 Services	965	1,060	1,132	1,204	1,156	43
Total	18,869	20,731	22,144	23,537	29,095	5,746

Sources: Graduate survey and project HEI database. Note: Demand is the annual employer demand for graduate workers; Supply is the annual number of students graduating from HEIs.

Table 10 shows the projected demand for graduates by field of study from 2015 to 2018 against the actual supply of graduates by field of study in 2014 derived from the HE provision database. On the assumption of unchanged supply of new graduates, the oversupply (surplus) is expected to fall from about 10,000 in 2015 to about 6,000 in 2018. On this basis, the supply of graduates will be still be more than adequate to meet projected demand in 2018, and there will still not be enough jobs available to absorb the whole supply of graduates emerging from the HE system.

Figure 8 shows the broad fields of study from which there is expected to be surpluses or shortages of HE graduates in 2015 and 2018, given the initial level of supply. The projection gives a picture of what the pattern of surpluses and shortages would look like if there were no change in supply from current levels. In doing this, it provides a guide as to where the HEI system should look to make adjustments to supply. The analysis reveals that there is expected to be a continuing oversupply of graduates in the broad fields of study *Education*, *Arts & Humanities*, in *Business, Administration & Law* and *Health & Welfare*. The large surplus of graduates from the latter field of study consists mainly of health workers. A recent study concluded that due to the absence of manpower planning in the health sector, about 1,400 more nurses graduate each year than are needed in the health system (Koduzi et al., 2015). As a result, many graduate health workers leave to work abroad. A main destination of migration for Albanian nurses has been Belgium, while Italy has been a main destination for doctors (Dussault et al., 2009). More recently, Germany has become a destination country for Albanian health workers, including both doctors and nurses. In explaining this, the German Ambassador to Albania has stated, "the number of health workers in Albania surmounts the market need by far" (Koduzi and Kongjonaj, 2014:17).

Figure 8: Surpluses and shortages of graduates by field of study, 2015 and 2018



Source: Table 10. Note: Oversupply for 2018 is calculated as the difference between supply of graduates from HE system in 2014 and forecast demand for HE graduates in 2018.

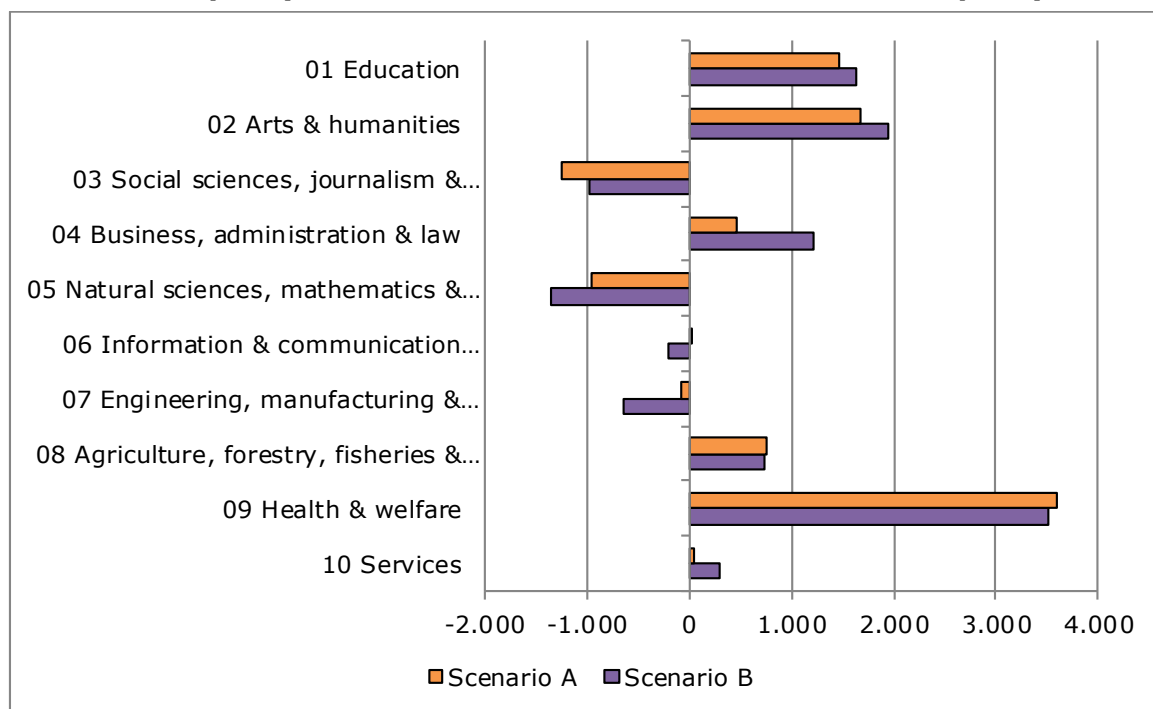
At the same time, there is a shortage of graduates in the fields of *Social Science, Journalism & Information*, and in *Natural Sciences, Mathematics & Statistics*. Such shortages are expected to increase over time, indicating that it may be important to expand the supply of graduates in these fields in the future. It may seem strange that there is a shortage of graduates from *Social Sciences, Journalism & Information*, but it should be noted that while the HSS subjects in general including *Business, Administration & Law* are oversubscribed, especially at private HEIs, the former set of study programmes do not attract many students (less than one tenth of students overall – see Figure 3 above). Yet social science graduates (e.g. economists, psychologists)⁴² are in relatively high demand both in the public sector and in private sector activities such as Financial Services and Administrative & Support Service activities, reflecting the strong service orientation of the Albanian economy following the transition process, which led to

⁴² The ISCED classification categorises study programmes in the area of Economics within Social Sciences, not Business Studies, which covers subjects such as Accounting and Marketing.

a reallocation of labour away from agriculture and manufacturing into service activities (World Bank, 2015).

The above analysis is based upon the assumption of an absence of sectoral change over time. If instead of the status quo, the government were to initiate an industrial policy that supported a more rapid development of knowledge intensive sectors, the forecast of the demand for graduates by field of study would be different to the status quo. In order to gauge the magnitude of possible changes, we develop a scenario in which the *Manufacturing* sector, the *Construction* sector, the *Information and Communication* sector, and the *Professional, Scientific and Technical* sectors are supported by a range of measures that have and will lead to their growth at a rate of 8% per annum over the period up to 2018, while other sectors are assumed to expand at a more leisurely 1% per annum (while maintaining the same overall increase in the demand for graduates as would have occurred without the change in policy). The resulting change in our forecast for oversupply or shortage of graduates by field of study is presented in Figure 9.

Figure 9: Difference in oversupply of graduates in 2018 under scenario B with an industrial policy relative to scenario A without an industrial policy



Source: Table 10 and authors' calculations. Note: Scenario A represents the status quo; scenario B assumes rapid growth in manufacturing, ICT and professional and scientific sectors, and slower growth in other sectors.

Under Scenario B with an industrial policy that supports faster growth of some technology-intensive sectors, there is an increased shortage of graduates with qualifications in *Natural Sciences, Mathematics & Statistics* and in *Engineering, Manufacturing & Construction* compared to the status quo. This is not surprising, since the hypothetical industrial policy should be expected to lead to a greater demand for these graduates. There is also a reduced shortage of graduates from *Social Science, Journalism & Information* and an increased surplus of graduates from *Business, Administration & Law*. Overall, the changes are not huge, illustrating that the overall pace of growth is a more important determinant of the demand for graduate labour than inter-sectoral shifts in the structure of demand. This scenario-building exercise illustrates how the forecast methodology can be used to enable policy makers to reflect upon the consequences of industrial policy decisions for the consequent changes in requirements

for qualified graduates. Of course, such scenarios rely upon a number of restrictive assumptions that may not hold up in practice and so can only be a rough guide to policy makers who should also apply their own judgements about the significance of any outcomes, bearing in mind the full range of policy goals.

The lesson from this exercise in scenario building is that the industrial policies that are followed have consequences for the demand for graduates from different fields of study. Therefore, it is imperative that the strategy for the future development of the HE system should be closely coordinated and integrated with economic and industrial strategies.

3.3 Policy developments and gaps

There have been few effective labour market reforms in recent years that have made much difference to the ability of graduates to find a job. Most initiatives have been supported, if not designed, by external donor organisations. The National Employment and Skills Strategy for 2014 to 2020, supported by the EU IPA I⁴³, aimed to increase the skills and competences of the labour force. The specific objectives of the Strategy are to reduce youth unemployment by eight percentage points, reduce long-term unemployment, and increase the share of people employed through active labour market policies. However, it is targeted mainly at vocational school leavers rather than at HE graduates and, remarkably, HE graduates are not mentioned at all in the Strategy as part of the target group for employment and skills policy initiatives.

Graduates are recognised as a target group for active employment policies by the National Employment Service (NES). The Decision of the Council of Ministers no. 873, dated 27.12.2006 on "The extent of funding, criteria and procedures for implementation professional practice programs for unemployed people, who have completed higher education, at home or abroad" sets out an active labour market programme targeted at new graduates, and is designed to assist them in finding their first job on the labour market. Under the programme, recent graduates who have graduated from either Albanian or foreign universities within the previous 24 months may apply to the National Employment Service for a six-month internship with either a public or a private employer. Public employers are obliged to offer internships to graduate jobseekers according to the programme's provision that for every fifty members of staff, they must employ one intern. Private employers who involve graduate jobseekers in work experience programmes receive 100% of the unemployment insurance benefit for six months from the employment office, as well as the social insurance contributions against employment injuries. They receive these benefits if a supervisor is appointed to monitor the internship and to perform a final evaluation. But these rules are often not implemented because of a lack of collaboration between HEIs and employment offices.

Proposed improvements to the Labour Code⁴⁴ are also designed to encourage employers to offer internships to new graduates to assist them to gain additional skills and competences. Under the proposed changes, employers are requested to offer professional practice to students in their final year of studies at Bachelor and Master levels. Employers that recruit two new graduates are exempted from paying social insurance. The draft Labour Code encourages employers to announce new vacancies for internships in the same way as they announce the new vacancies for employment, defining specifications of the required professions.

⁴³ Design of the strategy was supported by IPA I: ILO-EU IPA 2010 Project on HRD in Albania. MoSWY will be able to benefit from 27 Mio Euro as IPA II Employment & Skills Sector Budget Support from the EU (Sector Reform Contract 2016-2018) and a TA support of up to 3 Mio Euro, both based on performance indicators

⁴⁴ The draft Labour Code has been discussed in the Albanian Parliament in 2014-2015.

A major policy gap is the lack of coherent and joint planning to coordinate HE supply policy with demand for graduates on the labour market. Other policy gaps include the lack of well-organised support to assist HE graduates to find a job when they enter the labour market so that they do not have to rely on personal and family connections. On the side of employers, the main policy gaps include the lack of support for employers in providing additional training to HE graduates to make up for the gaps in graduates' skills, especially practical and interactive skills which, as demonstrated below, the HE system is not well placed to provide.

4 Transition from higher education to the labour market

The transition from HEI to the labour market is an important stage in a graduate's career. A smooth transition ensures that the investment made in education at HEI is put to good use and not wasted. An initial period of unemployment or inactivity after leaving HEI can lead to a depreciation of the human capital that has been built up over several years (Mroz and Savage, 2006; Bell and Blanchflower, 2011). An inability to find a job that is well matched to the field of study followed at HEI, or the level of studies undertaken can reduce the return on investment (Robert, 2014). We return to this issue in section 5 below.

HE graduates in Albania face a difficult transition to stable employment. The graduate survey shows that employed graduates on average spent six months to find their first job after graduating from HEI, and that 57% have experienced at least one spell of unemployment. On average they have spent sixteen months in employment. Currently unemployed graduates have also had a precarious entry to the labour market, having been unemployed on average for thirteen months. On average, they have also spent nine months as an employee, having taken five and a half months to find their first job. This is suggestive of a pattern of unstable attachment to the labour market that lasts for a considerable period of time after graduation. These data reveal that the transition from higher education to the labour market is far from being a smooth process for many graduates.

In this section we explore the challenges facing both graduates and employers in the labour market. We begin by exploring the relations between HEIs and employers and emphasising the need for improved cooperation between them. In subsection 4.2 we examine the challenges facing graduates in the labour market including the lack of formal job-search assistance available and the lack of work experience during studies. In subsection 4.3 we address the problem that employers face in taking on new graduate recruits including employers' dissatisfaction with the skills of new graduate recruits, the skill gaps those recruits bring with them to the labour market, and employers' need to provide them with additional training.

4.1 Limited cooperation between HEIs and employers

A major challenge facing HEIs is to develop cooperative relations with employers. Such cooperation is needed for the development of up-to-date curricula that are appropriate to the current technologies and practices in the world of work. Cooperation is also needed to enable students to access an internship while studying, or to find a job when they leave their HEI. This issue is problematic in many countries including in the EU, where policies to improve university business cooperation are being introduced and developed. Common forms of such cooperation include collaboration over the design and development of curricula and in some cases the delivery of course content through guest lectures by practitioners, continuing education and lifelong learning, and entrepreneurial education (Healy et al., 2012: 21). In the EU, cooperation between employers and HEIs is fairly common. Employers participate in decision making or consultative bodies within

HEIs in 22 countries, are actively involved in curriculum development in 19 countries and frequently participate in teaching in 15 countries (Eurydice, 2014: 67). Employer cooperation with HEIs is often facilitated through government support for university-business cooperation projects.

Private HEIs seem to be better connected to employers than public HEIs. The graduate survey asked respondents whether employers are familiar with the content of the study programme. While two fifths (40%) of graduates at private HEIs said that employers are “a lot” or “very much” familiar with the content of their study programme, less than one quarter (24%) of graduates who attended public HEI ($p < 0.01$) said the same.⁴⁵ This finding may partly explain the greater satisfaction of graduates from private HEIs.

The employer survey shows that employers are not very involved in the development of HE curricula as almost two thirds of employers (63%) are either “rarely” or “never” involved in discussing education programmes or syllabi with HEIs, and only 15% of employers cooperate “a lot” or “very much” with HEIs in the recruitment of graduates. The employer survey also shows that small and medium sized employers cooperate less frequently with HEIs over recruitment compared to other employers ($p < 0.05$).⁴⁶ When cooperation over study programmes or recruitment does occur, it has a positive effect on improving the matching of HE graduates to their work activity.⁴⁷ This suggests that, although employers believe that such cooperation would be beneficial, there are obstacles on both sides (i.e. both HEIs and employers) to taking collective action. This is a classical public policy problem, where private actors on their own are unable to achieve mutual benefit and a more efficient social outcome. There is therefore a strong case for the government to play the role of independent catalyst to support the development of cooperative relations to the benefit of both HEIs and employers.

4.2 Challenges facing graduates on entering the labour market

The employability of graduates has emerged as a major challenge facing the HE sector. In recent years, the graduate unemployment rate has increased, as there have not been enough new jobs created to absorb the supply of graduates from the HE system. This is not an absolute barrier, as employers will often prefer an overqualified recruit to a less qualified one, even if the qualification is above the requirement of the job. We return to this issue in section 5 below. A major challenge facing graduates on entry into the labour market is the relative lack of assistance from formal institutions such as the career guidance services within HEIs and the public employment services outside HEIs. Due to this, graduates rely mainly on friends and family to find a suitable job, giving rise to charges of nepotism and corruption in the graduate labour market. Another key challenge is the lack of work experience that many graduates have when they enter the labour market, as well as the problem that the HE system does not equip them with sufficient and relevant skills, which limits their job prospects. In this section we address these issues in turn.

⁴⁵ Equivalently, almost half (45%) of graduates who studies at public HEIs consider that employers are “not at all” or only “a little” familiar with the content of their study programme, only one quarter (27%) of graduates from private HEIs think this (Chi-square=18.94, $p = 10.001$).

⁴⁶ Large employers score an average of 3.1 on a question “how frequently do cooperate with HEIs” compared to between 2.4 and 2.7 for other employers ($F = 3.71$, $p = 0.013$).

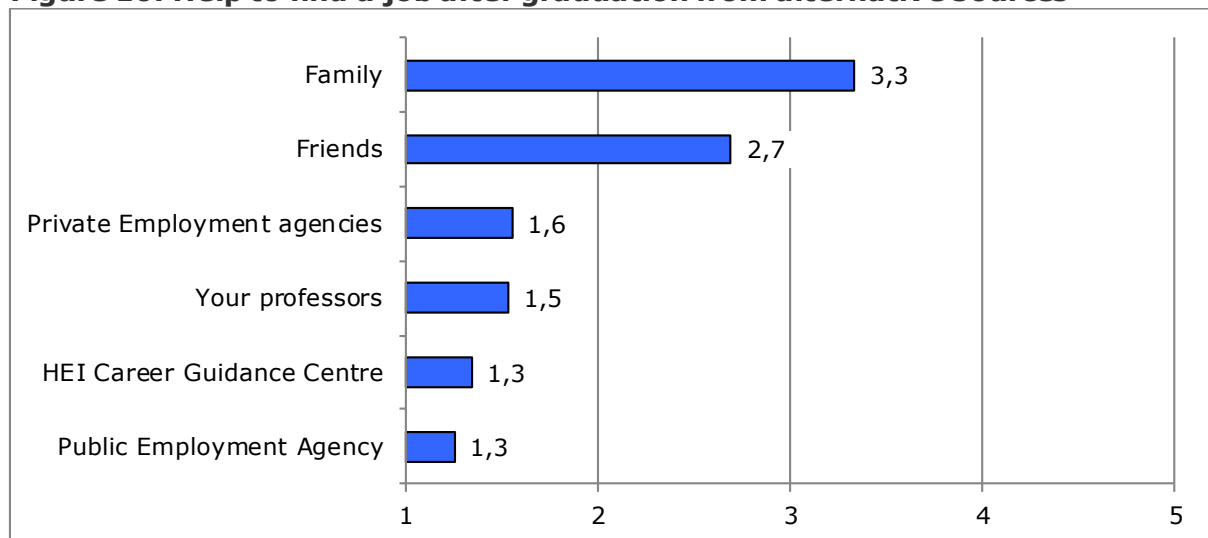
⁴⁷ When asked how much effect cooperation over curricula has on matching graduate employees to the job almost two thirds (63%) responded “very much” or “a lot”, or “somewhat”, while in relation to cooperation over recruitment, four fifths (56%) answered in the same way.

4.2.1 Lack of assistance in finding a job

In the context of the economic transition that has taken place in Albania over the last twenty five years and the shift towards a market economy, simply providing skills is not enough to improve the employability of HE graduates. As elsewhere, graduates need to become more proactive in searching for work and building their career path (Bridgstock, 2009). To do so they also need support and assistance to develop their job search skills.

The graduate survey shows that family and friends are the most important source of assistance in finding a job after graduation, while HEI career guidance centres and the National Employment Service provide relatively little assistance (see Figure 10).⁴⁸ This suggests that the strength of informal contacts is important for enabling graduates to find a job on the labour market.⁴⁹ Such a situation is one in which nepotism can be an important factor in a successful search and obtaining a job. This is supported by evidence from the graduate survey, which shows that graduates who held a job had received significantly more assistance from their friends than those that were out of work ($p < 0.01$).⁵⁰ Assistance from professors, although generally rather low, is also associated with a graduate having a job rather than being unemployed ($p < 0.01$).⁵¹ The policy implication is that more effort should be made to ensure that all graduates have full information about available jobs, and that more support should be provided to graduates by formal career guidance institutions on an equal basis for all job seekers in place of informal social networks.⁵²

Figure 10: Help to find a job after graduation from alternative sources



⁴⁸ This supports the finding of previous research that showed that “acquaintances, relatives and friends” are the preferred method used by businesses to fill vacancies, as reported by two-thirds of the businesses in the SNA 2014. Only just over one tenth of businesses use the public employment agencies as the recruitment method of first choice (ILO and NES, 2014).

⁴⁹ Family connections are especially important for micro firms that rely on kinship networks both within the firm and with their business partners to reduce the risk of being cheated in their business dealings (Gassie-Falzone, 2016).

⁵⁰ Graduates in employment score 2.8 (on a 1-5 scale) on the extent of assistance received from their family compared to 2.53 for unemployed or inactive graduates (t -statistic=3.36, $p=0.001$).

⁵¹ Graduates in employment score 1.62 (on a 1-5 scale) on the extent of assistance received from their friends compared to 2.5 for unemployed graduates (t -statistic =3.38, $p=0.001$), and 1.6 versus 1.4 on the extent of assistance from professors ($F=29.7$, $p=0.000$).

⁵² Assistance from the friends can have a negative effect on earnings of graduates, if they channel a graduate into a mismatched job with lower pay, while formal professional networks seem to be more effective at channelling graduates into appropriate jobs (Tatsiramos, 2015).

Source: Graduate survey. Note: Responses are scored on a scale of 1-5, where 1="no assistance" and 5="very much assistance".

Employers can use the NES for recruitment assistance through a network of public employment agencies. However, in practice the NES has a limited role in matching graduates to jobs because few graduates and employers use the service. By law, employers have an obligation to report to the NES any job vacancy in their company within seven days, but most neglect to do so. The NES selects job applicants and send their CVs to employers, organises interviews if requested, and organises job fairs at which employers can interview graduates directly.⁵³ However, the NES only offers career guidance to a few registered job seekers, which limits their role in linking demand for graduate labour with supply. A focus group discussion confirmed that students do not receive effective guidance during their university studies for their future career development. Career guidance is a new function for Albanian HEIs and should be provided even earlier at secondary school level in order for students to make informed choices about the field of study to follow. Few students recognise that the relevance of their study programmes can be partly measured in relation to employer demands. Most graduates are provided with little information on labour market demand or on the opportunities for employment after completion of their studies.

4.2.2 Lack of prior work experience

Most HE students have limited opportunities to engage in internships or relevant work experience during their studies, a factor that may limit their chance of finding a job.⁵⁴ The employer survey shows that 68% of employers attach "a lot" or "very much" importance to previous work experience when making a decision to recruit a new graduate. The reason for this may be that such graduates are more likely to have relevant skills than those recruited straight from HEI. From the graduate survey we find that 54% of students had some form of work experience or an internship during their period of studies at HEI, although only 36% of students found such experience to be "a lot" or "very much" useful to their learning outcomes. Students are required to complete professional practice, working with public and private employers, organisations, or NGOs during the last semester of their first and second cycle of studies. This practice varies from 2-3 weeks (at Bachelor level) to 12 weeks (Professional Master), but is still considered as insufficient. In general, it is not well organised as a professional practice, lacking professional supervision and monitoring mechanisms, which are necessary to ensure the effectiveness of the experience.

Having some work experience also seems to be an important for HE graduates' labour market outcomes. The graduate survey shows that 77% of respondents who had "very much" work experience held a job, compared to just 45% of those who had had no work experience ($p < 0.01$).⁵⁵ Work experience also supports the matching of qualifications to the job: while 78% of those who have at least some work experience (or internship) hold a job that is well matched to their field of study (horizontal matching), only 56% of those with no work experience hold a well-matched job ($p < 0.01$).⁵⁶ Similarly, while 63% of those who had very much work experience hold a job that is well matched to their level of qualification (vertical matching), only 37% of those who have no work experience hold a well matched job ($p < 0.01$).⁵⁷

⁵³ Interview with National Employment Services.

⁵⁴ Several European comparative studies have shown that students who participated in practical training before graduation are more likely to find jobs than those without relevant work experience (Eurydice, 2014: 69).

⁵⁵ Chi-square = 13.6, $p = 0.009$, $N = 504$.

⁵⁶ Chi-square = 14.7, $p = 0.000$, $N = 394$.

⁵⁷ Chi-square = 18.07, $p = 0.001$, $N = 355$.

Study experience abroad is another factor that is often thought to influence the ease with which a graduate can find a job. The employer survey bears this out to some extent, as 41% of employers say that previous study experience abroad is an important factor in deciding whether to recruit a new graduate, indirectly illustrating the lack of trust in their own HE system. The employer survey reveals that employers in knowledge intensive service sectors in particular are significantly more likely to value such experience than other employers ($p < 0.05$).⁵⁸ Foreign investors also value such experience more than other employers ($p < 0.05$).⁵⁹ A focus group with students who graduated abroad confirmed that they are in a better position compared to graduates who have not studied abroad.

4.3 Employers' challenges in taking on new graduates

Employers face many challenges in taking on new graduate recruits. In this section we first consider the extent of employers' dissatisfaction with graduate skills, then analyse the nature of the skill gaps that employers face, before turning to a discussion of the extent of training that employers feel they must provide to make up the deficiencies of the HE system in providing graduates with the required skills.

4.3.1 Dissatisfaction with skills of new graduates

The employer survey shows that over 62% of employers believe that graduate employees bring only "a lot" or "very much" added value in comparison with the skills of non-graduate employees, a proportion that is above the average for the Western Balkans as a whole where 50% of employers hold this view. At the same time this implies that over one third of employers believe that graduates bring only a little or some value added. Employers on average score their satisfaction with the skills of their graduate employees at just 6.6 out of 10.0 (the maximum degree of satisfaction), suggesting that they are only moderately satisfied with the graduates' skills (although this is above the Western Balkan average of 6.2).⁶⁰ Employers were asked to rate the skills of their employees on a 1-5 scale (1="none at all" to 5 = "very much"). They perceive graduates to be especially weak in interactive skills such as decision making skills, analytical and problem solving skills, teamwork, planning and organisation, communication skills and ability to adapt and act in new situations, while being more satisfied of the computer and reading and writing skills of graduates. The weakest perceived skills are decision-making skills (3.27) and the strongest are reading and writing skills (3.74).⁶¹ However, in the opinion of employers, graduates also have relatively weak numeracy skills.⁶² Graduates themselves have a similar perception of their skills as employers, rating their average skill level at 3.3 on the same 1-5 scale (which translates into 6.6 on a 10-point scale). However, the graduate survey provides a rather different picture of the distribution of skills to the employer survey, as graduates consider that they are weakest in cognitive skills (numeracy, computer skills and foreign language skills). Overall, the skills of graduates appear to be relatively weak in all dimensions, both interactive and cognitive, a finding that differs to other Western Balkan countries where the main gaps are in the area of interactive rather than cognitive skills. The common weakness of all types of

⁵⁸ A cross-tabulation of these two variables from the employer survey gives a Pearson Chi-square of 27.4, $p = 0.37$.

⁵⁹ Two fifths of foreign direct investors (40%) attach "a lot" or "very much" importance to their graduate recruits having study experience abroad compared to 25% of domestic employers (Chi-square=10.14, $p = 0.038$).

⁶⁰ This is not necessarily a ground for optimism, since the relatively high level of satisfaction in regional comparison may simply mean that Albanian employers have less need for highly skilled graduates.

⁶¹ Note that the data in this paragraph refer to the current perceived level of graduate employee skills, not the skill gaps shown in Figure 11.

⁶² Employers rate numeracy skills at 3.28 on the 1-5 scale.

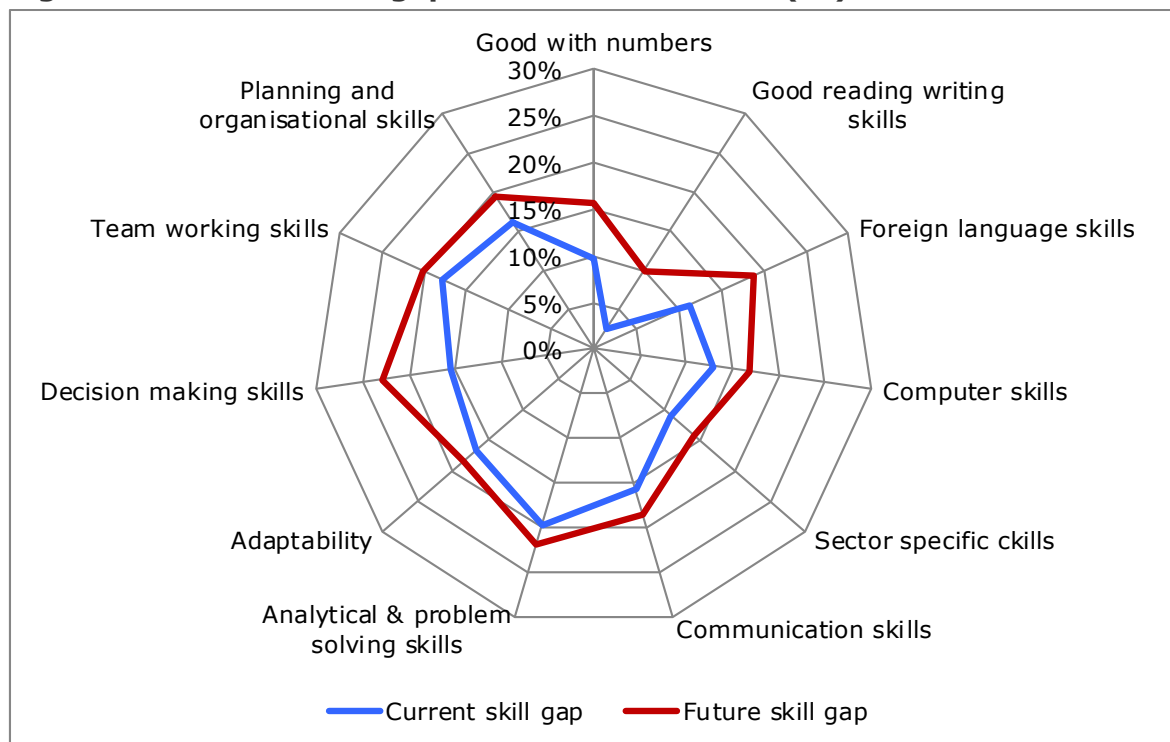
skills among graduates is worrying and indicates a major challenge facing employers. Many of them solve this problem through providing additional training to their graduate recruits.

These findings corroborate the conclusion of the Skill Needs Assessment 2014 carried out by the National Employment Service, which found that almost half of employers were concerned about the unsuitable qualifications of the workforce and about the attitudes of jobseekers. Almost a fifth of employers stated that the education system did not meet their needs for skilled labour. However, the study did not distinguish between graduates from secondary, vocational or higher education (ILO and NES, 2014).

4.3.2 Graduate skill gaps

The curricula of many study programmes often fail to provide the combination of skills that employers seek. It is also widely thought that HEIs equip students mainly with theoretical knowledge and that graduates lack both general and specific skills. HE graduates therefore often lack necessary skills to carry out their work effectively. The employer survey measured skill gaps by asking employers about (i) the actual skills of their graduate employees along a range of skill dimensions and (ii) the level of skills they consider necessary to carry out the job. The difference between these two measures is the estimated skill gap. Reducing the skill gaps of graduates would increase their employability. The size of the overall graduate skill gap identified by this method is 13%, while the size of the skill gap is expected to increase to 19% over the three years following the survey.

Figure 11: Graduate skill gaps – current and future (%)



Source: Employer survey. Skill gaps are defined as the percentage difference between employers’ desired present or future skill level and employees’ actual reported skill level.

Graduates have large gaps in interactive skills such as analytical and problem solving skills (20%) and team working skills (18%) followed by planning and organisational, communication and decision-making skills (see Figure 11). Large cognitive skill gaps are

found in computer skills (13%) and foreign language skills (11%). All types of skill gaps are expected to increase in the future (i.e. over the three years following the survey – up to 2018) with the greatest expected increase in gaps to be in decision-making skills, foreign language skills and numeracy. Fast-growth employers (gazelles) have significantly lower future skills gaps than other employers suggesting gazelle employers have made sure that they employ graduates with the needed skills for future growth, and that the absence of adequately skilled graduates may be a major constraint on the expansion of graduate employment mainly among low-growth enterprises.⁶³

A reasonable conclusion is that the HE system fails to provide enough graduates with appropriate skills for the labour market, especially in relation to interactive skills. This was supported by the Erasmus Mundus alumni focus group, which stressed that Master programmes in EU countries promote more independent work, group discussions with teachers in the role of moderators, and group homework. In Albania, teachers prefer traditional teaching methods that are not centred on student interaction in the classroom. The employer survey asked which forms of teaching at HEI contributed most to the skills that are needed by the business. The answers are revealing: the most important teaching and learning methods are identified as internships or work placements, problem solving and creative thinking teaching methods, and classes in small groups.⁶⁴ In contrast, rote learning of facts and lectures in large groups are thought to contribute far less to the skills that employers need.⁶⁵

Box 2: Good practice example in resolving skill gaps

The Skill Needs Analysis (SNA 2014) highlights the need to strengthen technical education to prepare technicians in various fields of study. The University "Aleksandër Moisiu", established in Durrës as a public university in 2005, has introduced banking studies under the "FASTIP" project (Xhumari and Dibra, 2013). The university and the National Commercial Bank have created a public-private partnership, sharing the responsibility for the study programme, which has both an academic and a practical orientation. Altogether, 62 bank employees have graduated under this successful initiative. The National Commercial Bank has sponsored the students, who study bank management part-time over a seven-year period to gain a Diploma (180 ECTS).

Data represented in Figure 12 demonstrate the positive impact of cooperation with HEIs. This chart shows that employers who cooperate at least to some extent with the HEIs over curricula tend to have lower current and future expected skill gaps than employers who never cooperate with HEIs ($p < 0.05$).⁶⁶

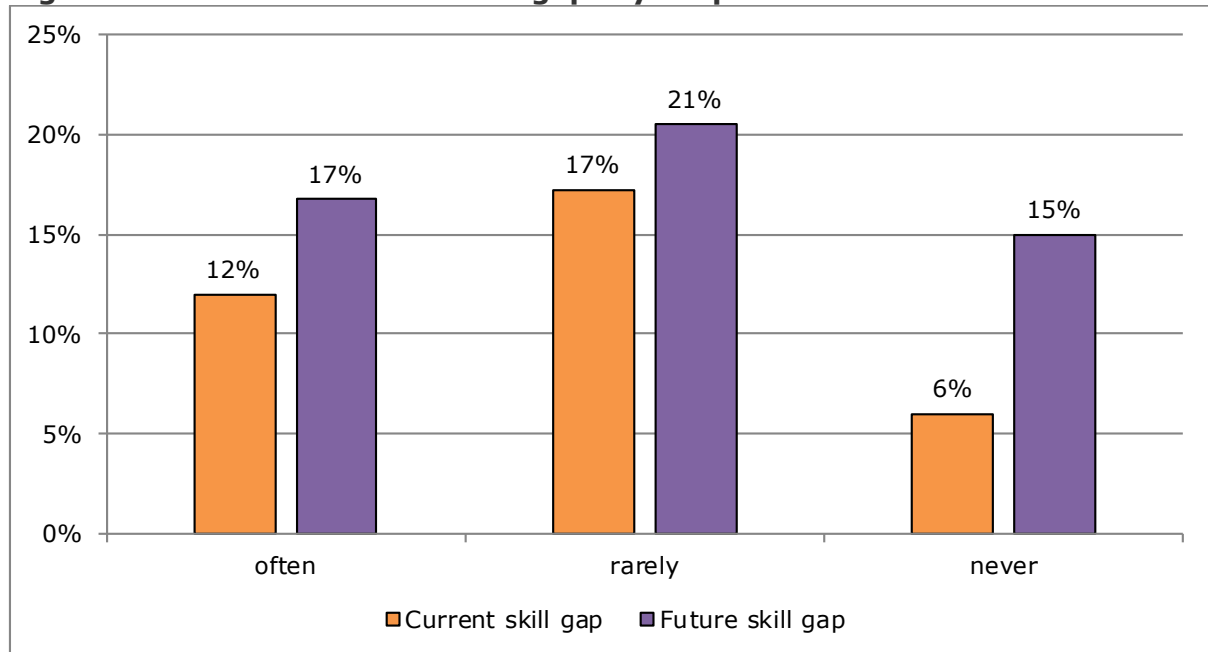
⁶³ Fast growth employers (gazelles) score significantly higher on all measures of future skills than other employers on a t-test of difference of mean skill gaps, with $p < 0.01$ in all cases. The average future expected skill gap is 10% for gazelle employers compared to 21% for other employers ($t = 2.66$, $p = 0.009$).

⁶⁴ These methods score between 3.7 and 4.4 on a 1-5 scale where 1 = "not at all" and 5 = "very much".

⁶⁵ These methods scored between 2.3 and 3.0 on a 1-5 scale where 1 = "not at all" and 5 = "very much".

⁶⁶ Differences between means (mean of "never" versus means of "rarely" or "often") are significant at 5% level, $F = 4.0$, $p = 0.021$, $N = 110$. There are no significant differences in expected future skill gaps, indicating that skill gaps are expected to increase irrespective of the degree of cooperation with HEIs.

Figure 12: Current and future skill gaps by cooperation with HEIs over curricula



Source: Employer survey. Note: skill gaps are measured as the difference between actual and desired skills reported by employers, with the underlying scale of skill measurement set at 1 where the respective skill is not important and 5 where it is very important for the performance of the business.

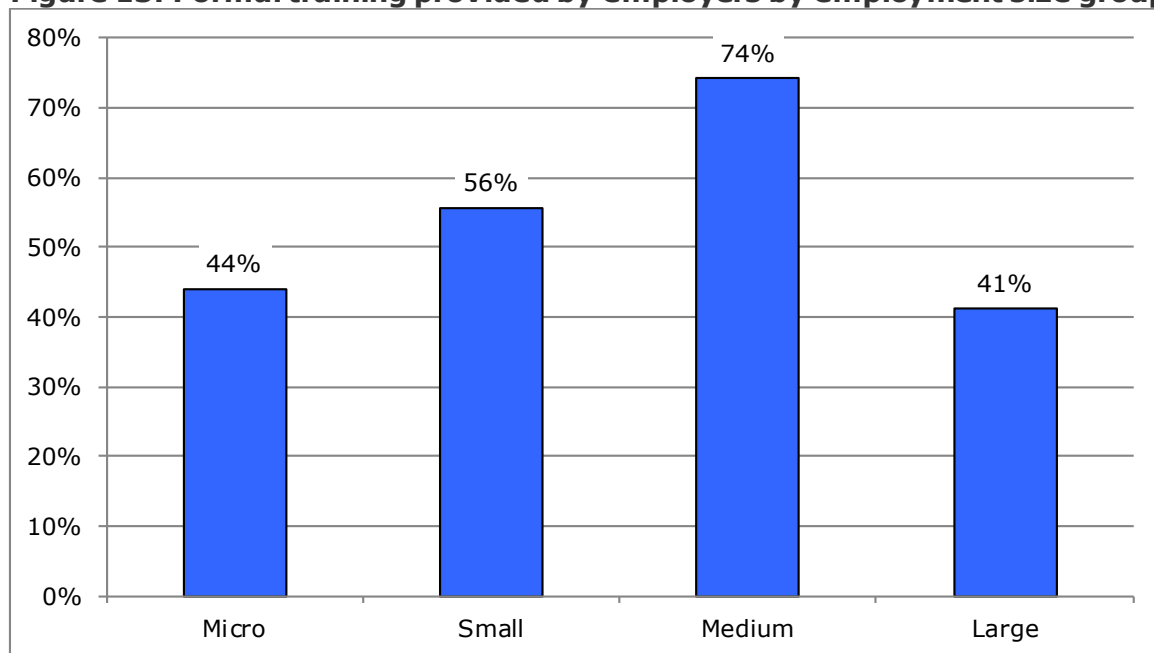
4.3.3 Training of new graduate employees

Employers often provide additional training to their new recruits beyond that which they obtain at their HEIs. More than half (56%) of employers provide formal training, while 72% provide informal training. This indicates a substantial skill deficit on graduation from HEIs. The skills deficit is felt especially strongly by public sector employers, 85% of whom provide additional formal training to their graduate employees compared to 51% of private sector employers ($p < 0.01$).⁶⁷ The size of employer also has a bearing on the amount of training, with three quarters of medium sized employers providing formal training compared to less than half of micro sized employers, just over half of small employers and two fifths of large employers ($p < 0.1$). Providing training to the owner of an SME while running the business, leading to a post-graduate qualification in business studies, has a positive impact on business success (Xheneti and Bartlett, 2012). The amount of informal training increases with size but drops off for large employers (see Figure 13). This may be related to the low skill strategy of large foreign employers that was highlighted above. Informal training is provided by 70% to 80% of all size groups other than micro employers, only half of whom (52%) provide informal training ($p < 0.01$). It may be relevant in understanding these relationships that public employers report a significantly higher skill gap in the case of reading and writing skills compared to private employers ($p < 0.05$), and since this is such a basic skill, the gaps in this area may be driving public sector employers to provide more training than private sector employers.⁶⁸ Alternatively public sector employers may be less constrained by cost considerations than private sector employers in providing additional training.

⁶⁷ A cross-tabulation of these two variables gives a Pearson Chi-square of 3.05, $p = 0.081$.

⁶⁸ Public sector employers report a mean gap in reading and writing skills of 9% while private employers report no skill gaps in this respect ($t = 2.36$, $p = 0.21$).

Figure 13: Formal training provided by employers by employment size group



Source: Employer survey.

While there is no general relationship between perceptions of graduate skill gaps and the provision of formal training, the graduate employees of employers who provide formal training have a significantly larger skill gap in relation to analytical and problem solving skills than others ($p < 0.05$).⁶⁹ This suggests that a major driver of employers' decision to provide additional formal training to their graduate recruits lies in the perceived gap in this particular skill domain, and that HEIs are failing to provide their students with the skills to think analytically, in a way that enables them to perform well in jobs that require analytical and problem solving abilities.

4.4 Summary

The research reported above shows that graduates have a precarious entry into the labour market, with many moving in and out of unemployment in their search for a well-matched job. Few employers cooperate with HEIs even though they believe that such cooperation would improve their recruitment of graduates. Currently, large and medium sized employers cooperate with HEIs more than small and micro employers, and policy makers face a challenge to encourage the smaller employers who wish to employ graduates in the process of cooperation with HEIs. Graduates receive more assistance in finding a job from family and friends than they do from their own HEI career service or the National Employment Service. The important role that is played by networks or connections in finding a job, rather than formal assistance from public bodies, indicates that the labour market is not operating transparently to match graduates to the most suitable jobs and make best use of their skills.

Employers value work experience, yet almost half of graduates bring little work experience with them to the labour market when they complete their studies. Those that do have some prior work experience are more likely to have a well-matched job and less likely to be unemployed. Most employers that take on a new graduate recruit find that

⁶⁹ The mean score for gaps in analytical and problem solving skills among graduate employees of employers who provide formal training is 25% compared to 13% for other employers who do not provide such training ($t = 2.357, p = 0.02$).

the skills that have been taught at HEI are inadequate and that large skill gaps are found in relation to analytical and problem solving skills and team working skills, all of which are important skills in the modern workplace. Employers who experience skill gaps find it necessary to provide additional training to their graduate recruits. Overall, about three quarters of employers provide such additional training, although the high cost of training inhibits smaller private employers from providing as much training as medium sized employers.

5 Skill mismatch

Skill mismatch is a widespread phenomenon in market economies (McGuinness, 2006) and it is not surprising that the phenomenon is also observed in the transition countries (Lamo and Messina, 2010; Kiersztyn, 2013). It has two dimensions. The first is horizontal skill mismatch, which refers to a situation in which the employee has a qualification in a field of study that is not required by the job held. The second is vertical skill mismatch, which refers to a situation in which an employee has qualification either above or below that necessary to carry out the job. There is strong evidence that there is a skill mismatch reduces productivity (Adalet McGowan and Andrews, 2015a). Thus, countries with a higher level of skill mismatch are expected to have a lower level of growth than countries with a lower level of skill mismatch, other factors being equal. At individual level, this is reflected in differences in earnings between matched and mismatched workers.

5.1 Horizontal mismatch

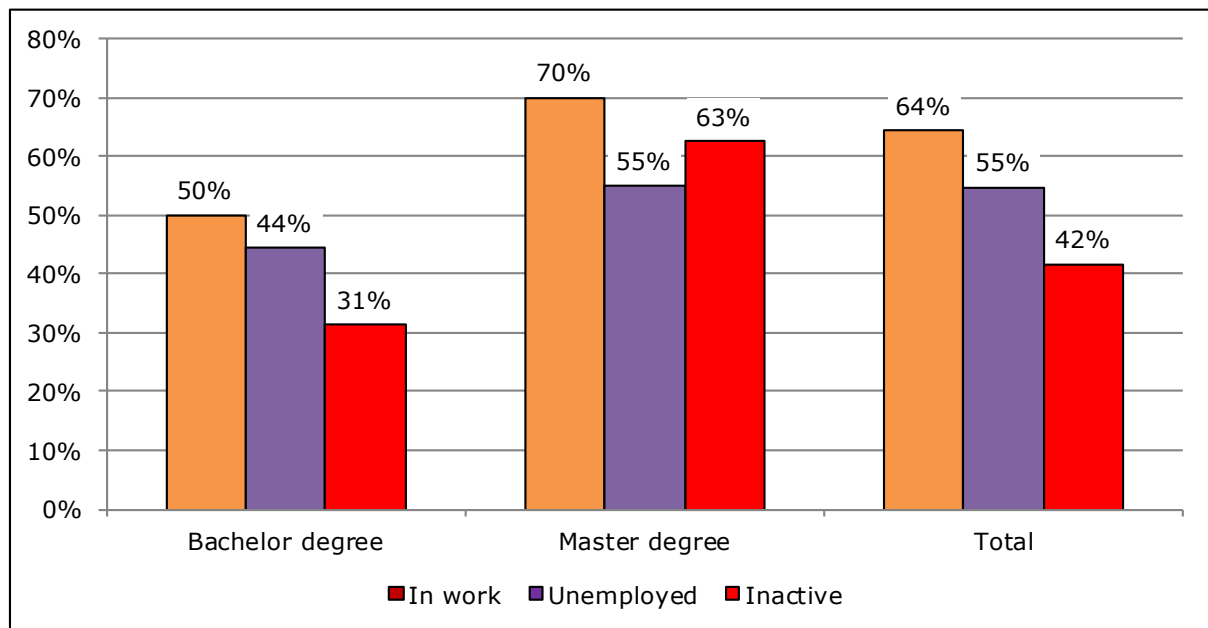
New graduates often find themselves in routine jobs that do not provide an opportunity to practice the skills they learned at HEI.⁷⁰ Over one third (38%) of graduates report that they are in a job that is not well matched to their qualifications. The problem is particularly acute for graduates with lower level degrees. Less than half (46%) of graduates with Bachelor degrees report being well matched compared to 69% of graduates with Master degree ($p < 0.05$).⁷¹

The graduate survey shows that horizontal matching is strongly related to labour force status and degree level (see Figure 14). The effect is strongest among graduates with a Bachelor degree. While half of these graduates are well matched in their current job, less than half of currently unemployed or inactive graduates were well matched in the previous job that they held. This suggests that having a well-matched job is important for job retention for Bachelor degree holders and that horizontal mismatch is a key risk factor in pushing new graduates into unemployment or inactivity. It also may imply that there is a lack of trust on the value of a Bachelor degree in the labour market as the figure below illustrates.

⁷⁰ Interview with Trade Union and focus group discussion with Erasmus+ alumni students.

⁷¹ Pearson Chi-square=5.55, $p=0.062$.

Figure 14: Graduates with a horizontally well-matched job by degree level and labour force status (% within highest degree level)



Source: Graduate survey. Note: for unemployed and inactive respondents, matching refers to last job held. Vocational diploma's not shown due to low counts. N=352

Various other factors influence the extent to which graduates are well matched by field of study. The assistance provided by their professors in finding a job seems to be especially important. While four fifths (82%) of graduates who receive "very much" assistance from their professors have a well-matched job, only 57% of those who receive no help from their professors have a well-matched job ($p < 0.01$).⁷² Similarly, help from family is important for finding a well-matched job ($p < 0.05$).⁷³ These findings reveal that informal sources of assistance are important for graduates to find a well-matched job, in a context in which the provision of formal assistance for graduate job search is very underdeveloped.

5.2 Vertical mismatch

The graduate survey shows that many graduates have a job that is not well matched to their level of qualification. More than half (53%) of HE graduates hold a job whose requirements are below or above their level of qualification. This is far above the level of mismatch in the EU, where the highest level of mismatch, found in Italy, is around 34% (Adalet McGowan and Andrews, 2015b). In Albania, 36% of graduates are over-qualified for the job they hold (or did hold if currently inactive or unemployed) and, interestingly, 16% are under-qualified. The other 47% hold a vertically well-matched job. These results suggest that simply increasing the number of graduates without tackling the underlying causes of mismatch, improving skills attainment and quality of HE provision, is unlikely to secure a more effective utilisation of the available human capital.

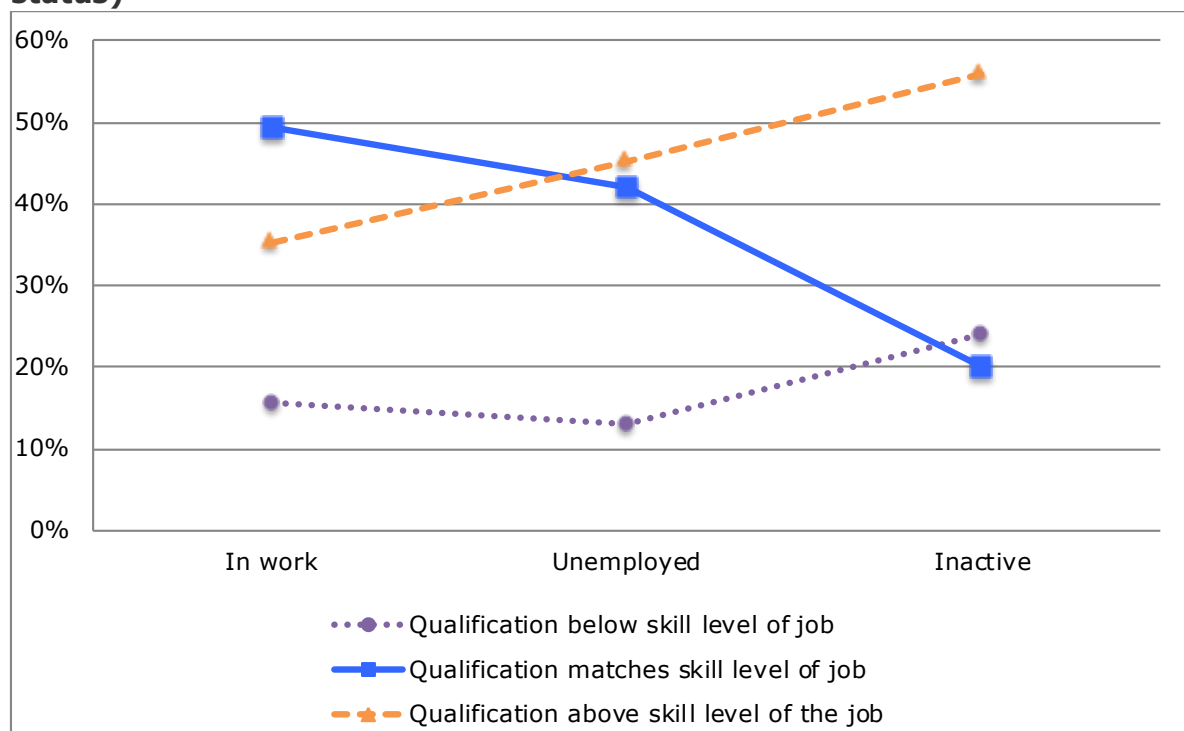
The graduate survey shows that graduates who are well matched have the same initial earnings after graduation than those who are over-qualified, with median monthly earnings of €200, but above the median monthly earnings of under-qualified graduates of

⁷² The cross-tabulation gives a Chi-square of 16.25, $p = 0.003$.

⁷³ While two thirds of those who receive very much help from family have a well-matched job, only one half of those who receive only "a little" help from family have a well-matched job (Chi-square = 13.19, $p = 0.010$).

€150. If earnings reflect productivity, this suggests that graduates who are vertically well matched have the same productivity as graduates who are over-qualified, which may indicate that well-matched graduates bring a generally low level of value added to their job, and may be a further evidence of that the HE system in Albania is not imparting skills that are relevant to the labour market. These differences widen as graduates sort themselves into subsequent jobs. For the current job, well-matched graduates have median monthly earnings of €350, compared to €290 for under-qualified graduates and €260 for over-qualified graduates.⁷⁴ This widening of differences in earnings may indicate that the labour market is efficiently sorting well-matched graduates into higher paying jobs as they progress in their careers, and may therefore indicate the potential gain from ensuring that the matching process works more efficiently for HE graduates.

Figure 15: Vertical matching by labour force status (% within labour force status)



Source: Graduate survey. Note: Differences are significant at 10% level. Chi-square=8.87, $p=0.064$; $N=360$.

Figure 15 shows that there is a relationship between the proportion of graduates who are in well-matched jobs and their labour force status. While 49% of those in employment have a well-matched job, only 42% of the unemployed and 20% of the inactive graduates had a well-matched job in their previous employment. In contrast, while 56% of those who are inactive and 45% of those who are currently unemployed were overqualified in their previous job, only 35% of the employed are overqualified for their job. This implies that having a well-matched job is important for job retention, since a substantial number of those whose first job is mismatched subsequently become unemployed or fall into inactivity.

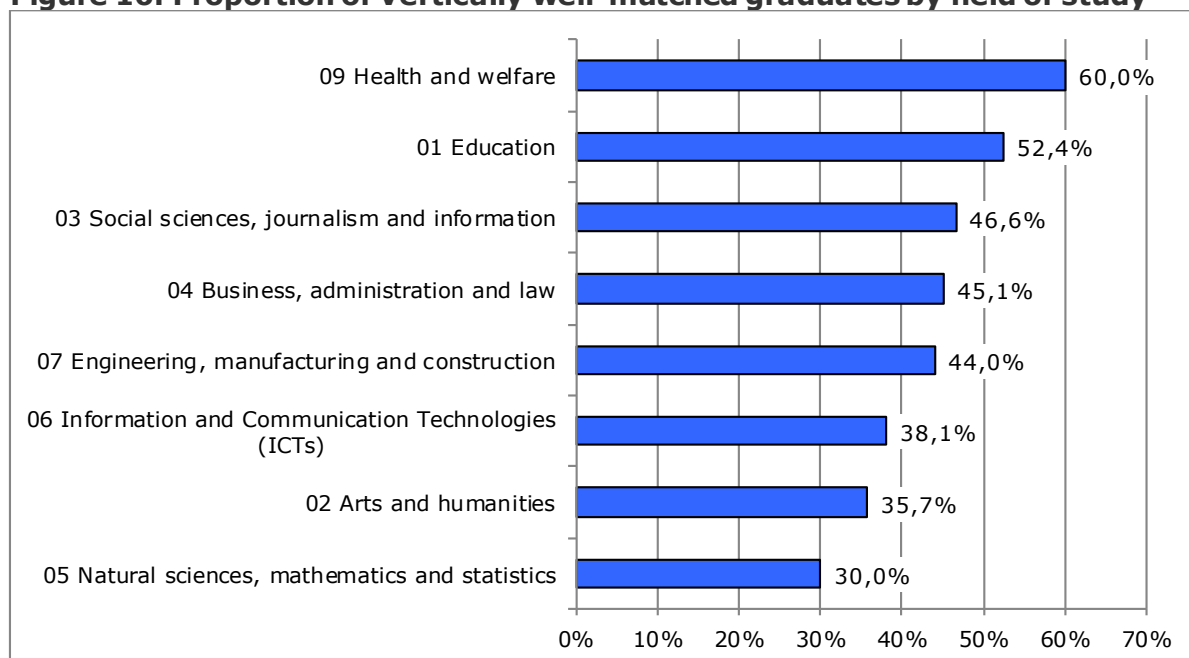
The economic situation experienced by graduates has a strong influence on their job match success. Almost half (49%) of graduates who experience no difficulty in finding a

⁷⁴ Other studies of skill mismatch in transition countries also find a wage penalty associated with over-qualification, see e.g. Lamo and Messina (2010).

job due to the economic situation have a well-matched job, while 80% of graduates who experience a very poor economic situation are overqualified for their job compared to 35% of graduates who do not face such difficulties ($p < 0.01$).⁷⁵ This suggests that graduates who live in less developed regions such as in the north of Albania, or localities that have been badly affected by the economic recession, may be willing to take a job that is below their level of qualification just to survive until a better job comes along in the future.

Finding a successful vertically matched job is more likely for graduates who have qualified in some fields of study than in others. Almost three fifths of graduates who study *Health & Welfare* programmes find a well-matched job (see Figure 16), as do about half of graduates who study *Education, Social Sciences, Journalism & Information, or Business, Administration & Law*. The least favourable subjects for attaining a well-matched job are *Arts & Humanities* and *Natural Sciences, Mathematics & Statistics*. Most graduates who followed these fields of study take jobs below their level of qualification. Further analysis shows that graduates who followed STEM subjects are generally less likely than others to have a well-matched job, indicating the difficulty such graduates have in their transition to the labour market ($p < 0.1$).⁷⁶ This is likely due to the lack of high technology jobs available.

Figure 16: Proportion of vertically well-matched graduates by field of study



Source: Graduate survey.

In addition to study programmes and the qualifications associated with them, the nature of the skills learned at HEI also has an impact on the success in finding a well-matched job. While 50% of those who report that they mainly learned subject specific skills had a well-matched job, only 41% of those who report they did not learn any subject specific skills had a well-matched job ($p < 0.1$).⁷⁷ This indicates the usefulness of vocational education in achieving a good match on the labour market. More importantly, learning analytical and problem solving skills contributes strongly to achieving a well-matched job

⁷⁵ Cross-tabulation of the proportion of graduates in different matching situations with the difficulty in finding a job due to the economic situation gives a Pearson Chi-square of 27.5, $p = 0.001$.

⁷⁶ The cross tabulation with STEM fields of study gives a Pearson Chi-square of 5.87, $p = 0.053$.

⁷⁷ Pearson Chi-square = 14.17, $p = 0.077$, $N = 353$.

($p < 0.01$).⁷⁸ This may indicate that graduates with these skills are favoured by employers and have greater success in their job search than graduates who learn more traditional cognitive skills at their HEI. Similar results are found in relation to learning other interactive skills including team working skills ($p < 0.01$), planning and organisational skills ($p < 0.01$), ability to adapt and act in new situations ($p < 0.05$) and decision-making skills ($p < 0.1$). Such interactive skills will also serve graduates for changing labour market needs.

Teaching methods, too, have a significant influence on whether a graduate ends up in a well-matched job. Almost three quarters (73%) of graduates who reported that problem solving and creative thinking were used as teaching methods had a well-matched job, while only 25% of graduates who report that such methods were not used had a well-matched job ($p < 0.01$).⁷⁹ This suggests that such teaching methods are very appropriate for imparting the interactive skills that are increasingly in demand from employers. Also, whether a graduate received lectures in large groups has negative effect on the success of matching to the level of qualification ($p < 0.1$), presumably for similar reasons. Importantly, the graduate survey shows that graduates who had an internship, or who had some work experience as part of their study programme are much more likely than others to be employed in a vertically well-matched job ($p < 0.01$).⁸⁰ This finding illustrates the way in which internship and work experience can ease the transition to the labour market and help to prevent the misallocation of resources associated with vertical mismatch.

Graduates who attended private HEIs are more likely to be well matched than graduates from public HEIs. Graduates from public HEIs have a higher risk of being either over-qualified or under-qualified for their job ($p < 0.01$).⁸¹ Since it seems unlikely that employers would recruit a graduate whose qualifications are below the level required by the job purely on the basis of market criteria, there must be some other factor that explains this such as personal or family connections, nepotism and lack of meritocratic recruitment. Analysis of the relationship between type of help received to find a job and the ownership of the HEI provides some support to this argument. Graduates who attended public HEI are more likely to receive assistance from their family in finding a job than graduates who attended private HEI ($p < 0.1$).⁸² Graduates from private HEIs are more likely to receive assistance from formal channels such as a career guidance centre at the HEI ($p < 0.01$) or the National Employment Service ($p < 0.1$).⁸³ Private HEIs may also be better connected with employers through their established cooperative links with employers (see section 4.1 above).

Active support from the HEI is important for a graduate's success in finding a vertically well-matched job. While 82% of graduates who receive "very much" support from their

⁷⁸ Pearson Chi-square = 21.43, $p = 0.006$, $N = 354$.

⁷⁹ Pearson Chi-square = 25.30, $p = 0.001$, $N = 357$.

⁸⁰ The cross-tabulation with internship, or work experience, as part of a study programme, gives a Pearson Chi-square of 9.53, $p = 0.009$; the same results relate to both internship and work experience.

⁸¹ Two fifths (41%) of graduates who attended public HEIs were overqualified for the job held, and 20% are under-qualified. The cross-tabulation of the proportion of graduates who are well matched or mismatched with the ownership status of the HEI they attended gives a Pearson Chi-square on 30.32 ($p = 0.000$), significant at the 1% level.

⁸² Three fifths (60%) of graduates who attended public HEI received "a lot" or "very much" help from their family in finding a job compared to 57% of those who attended private HEI (Chi-square of 9.11, $p = 0.058$, $N = 643$).

⁸³ Only 2% of graduates who attended public HEI received "a lot" or "very much" help in finding a job from a career centre at their HEI compared to 12% of those who attended private HEI (Chi-square of 29.18, $p = 0.000$, $N = 639$) and while only 7% of graduates who attended public HEI received "some", "a lot" or "very much" help in finding a job from the National Employment Service, 12% of those who attended private HEI did so (Chi-square of 8.82, $p = 0.066$, $N = 636$).

HEI in their job search have a well-matched job, only 42% who have “none” such support have a well-matched job ($p < 0.05$).⁸⁴

6 Conclusions and policy recommendations

The research reported above shows that the HE system in Albania produces too many graduates relative to the needs of the labour market. Of every hundred new students that enter the HE system, only thirteen will eventually find a well-matched job indicating that the internal efficiency of the combined HE and labour market systems is just 11%.⁸⁵ In order for HE system to make a better contribution to building human capital and to the competitiveness and growth of the economy, significant reforms of the HE system and the graduate labour market are needed, and better cooperation between employers and HEIs should be encouraged.

6.1 The provision of higher education

In recent years Albania experienced a rapid expansion of its HE system, involving the creation of several new public and private HEIs. However, following recent reforms and closures of several private HEIs, Albania now has 1.3 HEIs per 100,000 of the population equivalent to the average for the Western Balkans. Although the number of students in the HE system has almost tripled over the last ten years, the quality of HE remains weak since the level of public funding has not increased in line with student numbers. Every year around 55,000 students enrol at all levels of studies at 37 HEIs, of which only about 30,000 complete their studies each year, giving a completion ratio of just 53%. Corruption over admissions and examinations adversely affects enrolment and completion rates, and the low completion rates represent a waste of resources devoted to education. There is a surplus of graduates with qualifications in the study fields of *Health & Welfare, Arts & Humanities, Business, Administration & Law and Education*; these are combined with shortages of graduates from *Natural Sciences, Mathematics & Statistics, and Social Science, Journalism & Information*. This indicates that it will be important to adjust the mix of graduates from these study fields in the future. HEIs are only beginning to go through a rigorous process of full accreditation, and the introduction of the ECTS is incomplete. Quality standards vary due to the lack of resources and corruption in the education process, e.g. bribery and the sale of professors own books to their students. Low quality of education is partly due to poor teaching methods, and many graduates consider that better teaching methods would have significantly improved their job prospects after graduation. Graduates from private HEIs are more satisfied with the quality of their education than graduates from public HEIs, possibly due to their greater responsiveness to student needs. However, this is not the whole story, since graduates from private HEIs are more likely than those from public HEIs to say that better teaching methods would have improved job prospects after graduation. Teaching methods continue to rely on rote learning and out-dated curricula, and there is a lack of practice-oriented education. The consequence is that graduates do not attain the skills that employers need.

⁸⁴ The cross-tabulation of the extent of support from the HEI and the level of vertical matching gives a Chi-square of 19.86, $p = 0.011$.

⁸⁵ With an overall completion ratio of 53%, an employment rate of recent graduates of 43% and a rate of (vertically) well-matched graduates at 47%, it could be said that the internal efficiency of the combined HE and labour market systems is just 11%. The efficiency of the HE-LM system can be assessed as the product of these three ratios: $0.53 \times 0.54 \times 0.47 = 0.13$.

6.2 The graduate labour market

Due to strong out-migration, the overall unemployment rate is the lowest in the Western Balkans. However, having an HE degree does not provide protection against unemployment, and remarkably in 2015 the graduate unemployment rate was higher than the overall unemployment rate, while among recent graduates the unemployment rate is 32%. Total annual demand for new graduates is expected to increase to 23,500 by 2018, but since about 29,000 students complete their studies each year, the HE system produces too many graduates relative to the needs of the labour market. Graduate employment growth has been strong in the *Manufacturing, Construction* and *ICT* sectors over the last three years, and if future industrial policy were to succeed in developing high-technology, knowledge-intensive industries, the demand for graduates in the *Natural Sciences, Mathematics & Statistics* and in *Engineering, Manufacturing & Construction* would be expected to increase, but the broad pattern of oversupply of graduates in *Arts & Humanities, Business, Administration & Law, and Health and Welfare* would not change. Small and medium sized employers have a more intensive demand for graduates than larger firms, and these can be expected to make a key contribution to growth and competitiveness in the future and should be supported. Current labour market policies are focused on creating a more flexible labour market, but graduate labour market policy should also support the creation of additional high-skilled high-wage jobs in growth sectors such as *Manufacturing* and *Information & Communication* sectors. Therefore, it is imperative that the strategy for the future development of the HE system should be closely coordinated and integrated with economic and industrial strategies.

6.3 Transition from higher education to the labour market

Many graduates experience periods of unemployment before they find a stable job. The institutional framework in support of graduate job search is relatively weak and so many graduates rely on personal connections of family and friends to find a job. This leads to nepotism on the graduate labour market, which consequently fails to efficiently match graduates to suitable jobs. More effort should therefore be made to ensure that graduates have effective support in finding a job, irrespective of the extent of their connections or family ties. There is little cooperation between HEIs and employers, even though many employers think that greater cooperation would enable them to hire graduates with skills that are better matched to the requirements of the jobs on offer. This suggests a role for public policy to support improved university-business cooperation in order to ease graduates' transition to the labour market. Another major difficulty facing graduates is their lack of work experience, an important element of employers' graduate recruitment decisions. Graduates with work experience are more likely to find a job that is well matched to their level of qualification than those without any. Related to this, employers are dissatisfied with the skills of their graduate recruits in all fields, but report especially large skill gaps in interactive skills such as team working, and in analytical and problem solving skills. A major reason for these large skill gaps is the use traditional teaching methods, rather than modern student-centred learning in small classes using analytical and problem solving approaches. As a consequence, many employers provide additional training for their graduate recruits. Such training should be supported, but HEIs should also provide their students with more work experience and practical education, and improved teaching methods and curricula, to give them the practical skills needed to ensure a smoother entry to the labour market.

6.4 Skill mismatches

Despite the rapid increase in the number of graduates from the HE system, skill mismatches are a widespread problem, especially among graduates with Bachelor level

qualifications. Simply increasing the number of graduates without tackling the underlying causes of mismatch, improving skills attainment and quality of HE provision is unlikely to secure a more effective utilisation of the available human capital. An important factor explaining the poor level of vertical matching is the low availability of jobs, as graduates who cannot find a well-matched job are likely to opt for a job below their level of qualification. Given this context, a major cause of graduate skill mismatch is the low quality of education provided at HEIs, the lack of modern teaching methods, and the use of out-dated curricula. Almost three quarters of graduates who reported that problem solving and creative thinking were used as teaching methods had a well-matched job, practical tuition is important in this respect, as graduates who follow vocational courses that teach specific skills are more likely to find a well-matched job than others, as are graduates who are taught interactive skills such as analytical and problem-solving skills. The experience of having an internship also increases the chances that a graduate will find a well-matched job. Finally, graduates who receive more support from their HEI to find a job are more likely to find a well-matched job than others. All this points to the need to improve the quality of teaching, modernise teaching methods, upgrade the curricula, provide more opportunities for practical learning and work experience and provide more support to graduates to find appropriate jobs matched to their field of study and level of qualification.

6.5 Policy recommendations

As the conclusions set out above demonstrate, action is needed both on the part of HEIs and on the part of employers, government, and public employment services to produce a more effective outcome for graduate job seekers. This is in line with the OECD skills strategy, which proposes that policy should not only focus on improving the supply of skills through education and training systems, but also on stimulating the demand for high level skills in the market and their utilisation in the workplace (OECD, 2012; Valiente, 2015). The research findings reported above suggest several key policy measures that should be implemented to improve the prospects for graduates when they enter the labour market. The recommendations are presented in order of priority.

Higher education

1. **The quality of HE provision** should be improved to provide graduates with the skills demanded on the labour market. Curricula should be modernised and teaching methods reformed to promote a student-centred approach combined with more interactive learning. Applied knowledge and critical-thinking skills should become the core focus of teaching, rather than memorisation of material from textbooks. Teaching should focus more on small classes, team working, and the use of analytical and problem solving approaches. Guest lectures from the local business community could be included in the teaching schedule. HEIs should hire more faculty members educated abroad. A national programme to financially support HEIs in recruiting international staff could also be considered.
2. Steps should be taken to **improve the completion rates** of students. Students who fail to complete their course work on time should be given additional support and remedial classes, while students who successfully complete their study programme could be given a partial discount on their tuition fee for the subsequent academic year. This could be subsidised by the government. HEIs should publish completion rates for individual study programmes, and this should be used as a criterion for funding decisions by the state.
3. **Work experience** gained through an internship scheme can be instrumental in increasing the graduate skills and providing work experience to enhance

graduates' future job prospects. A greater focus on practical training is needed, including a period of internships arranged in consultation with local employers.

4. The **accreditation of all HEIs and study programmes** should proceed, and rigorous quality assurance measures should be applied in order to raise the quality of services provided. Professors whose quality of teaching is judged unsatisfactory through student and peer assessment should be required to attend specialised refresher courses on teaching methods.
5. In order to **stem corruption** at HEIs, ethics committees should monitor compliance with assessment and grading regulations. The engagement of professors at multiple institutions should be reduced. Criteria for indexing publications, and for selecting and promoting teaching staff should become more transparent. Professors' role in carrying out examinations should be reviewed and an independent body should monitor the validity of student examinations.
6. HEIs should deliver **entrepreneurship learning** courses to students. Such courses could be based on links with the local business community. They could involve group projects in which students aim at solving a real-world problem for a public or private client, applying their skills in a professional context and gaining practical business experience.
7. Students, both at HEIs and secondary schools, should be provided with more **information about the jobs available** in their field of study through improved career advisory services at HEIs and at the National Employment Service. In parallel, HEIs should seek to track the employment destinations of their graduates by field of study, as a way to better evaluate labour market needs.

Labour market

1. A new **industrial policy** is needed to link domestic and foreign investors to supply chains of domestic SMEs that employ graduates (e.g. in the *Manufacturing* and *ICT* sector). This should increase demand for skilled labour, stimulate prospective students to choose subjects in high demand, and support the high-level skills required to underpin future competitiveness and growth. Industrial policy should also support employers to invest in innovations and processes that increase the demand for highly skilled workers and develop skill-intensive workplaces that employ graduates. Sector Skills Councils could be established to support the development of skills needed for such high skill-intensive sectors.
2. **Employers should be supported to collaborate more closely with HEIs**, over the mix of courses on offer, curricula, teaching methods and internships. Special attention should be given to enabling a closer cooperation between HEIs and SMEs, which currently have less cooperation with HEIs than do large employers. Such university-business cooperation should aim to modernise and adjust curricula and learning outcomes to those needed by the labour market.
3. **Entrepreneurship programmes** should be developed to assist graduates in setting up their own businesses with subsidies for equipment. As shown by this report, micro and small companies that employ graduates have a high graduate density and should be nurtured to offer more jobs for graduates.
4. Government should **support employers, especially SMEs, to expand their training programmes** for new graduate recruits through financial incentives (e.g. deduction of the costs of employer-sponsored training for tax purposes, training subsidies or vouchers), and through arrangements where new graduate employees can continue their training while at work through distance learning or day release to local HEIs for short professional courses. The new Law on Higher

Education opened the possibility for HEIs to offer short professional courses, which can be promoted with the support of the employers to their employees.

5. Employers should be provided with **incentives to take on interns** and the current government programme should be expanded. In this spirit, the Decision of the Council of Ministers no. 873, dated 27.12.2006 that envisages the provision of internship opportunities for new graduates should be fully implemented.

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Decision of the Council of Ministers no. 873, dated 27.12.2006 on "The extent of funding, criteria and procedures for implementation professional practice programs for unemployed people, who have completed higher education, at home or abroad"

7.2 Strategies and policies

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Albanian Government, *National plan for European Integration, 2014*

National Strategy on Science, Technology and Innovation, 2009-2015

National Strategy on Business Development and Investment 2014-2020

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Ministry of Finance, *National Economic Reform Program in Albania, 2015-2017*

Ministry of Social Welfare and Youth, *Final Report on Evaluation the Employment Promotion programs of 2008-2014*

Public Accreditation Agency for Higher Education, *(2016) Annual Report 2014-15*

Public Accreditation Agency for Higher Education 2012, *State Quality Standards for Accreditation of third cycle study programs*

Public Accreditation Agency for Higher Education 2012, *State Quality Standards for Accreditation of second cycle study programs*

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7.3 HEI Websites

Public HEIs

- Agriculture University of Tirana <http://www.ubt.edu.al/>
- University Aleksandër Moisiu of Durrës <http://www.uamd.edu.al/>
- University Aleksandër Xhuvani of Elbasan <http://www.uniel.edu.al/>
- Albanological Studies Centre <http://www.qsa.edu.al/>
- University Eqrem Çabej of Gjirokastrë, <http://www.uogj.edu.al/>
- University Fan S. Noli of Korçë: <http://www.unkorce.edu.al/>
- University Ismail Qemali of Vlora: <http://univlora.edu.al/>
- University Luigj Gurakuqi of Shkodra: <http://www.unishk.edu.al/>
- Polytechnic University of Tirana: <http://www.upt.al/>
- Academy of Defence Spiro Moisiu: <http://www.tradoc.mil.al/>
- University of Arts of Tirana: <http://www.artacademy.al/>
- University of Medicine of Tirana: www.umed.edu.al
- University of Sports of Tirana: <http://www.aefs.edu.al/>
- University of Tirana: http://www.unitir.edu.al

Private HEIs

- New York University of Tirana: www.unyt.edu.al
- University Higher School Luarasi: www.luarasi-univ.edu.al
- Albanian University: www.albanianuniversity.al
- Catholic University "Zoja e KëshillitëMirë": www.unizkm.al
- Academy of Film and Multimedia "Marubi": www.afmm.edu.al
- University Higher School "University "Marin Barleti": www.umb.edu.al
- University Higher School "Sevasti e ParashqeviQiriazi": www.uniqiriazi.edu.al
- European University of Tirana: www.uet.edu.al
- University Higher School "Justicia": www.universitetijusticia.com
- Aldent University: www.ual.edu.al
- Higher University School, "Wisdom University": www.wisdom.al
- University Polis: www.universitetipolis.edu.al
- Private University "Epoka": www.epoka.edu.al
- Private Institution of Higher Education "ISSAT": www.issatinstitute.com
- Private Institution of Higher Education "Higher School "Nehemia": www.ng-university.org
- Private Higher School "University Mediteranian of Shqipërisë": www.umsh.edu.al
- Private Professional College "IvoclarVivadent& Partners": www.dorinamele.com
- Private Higher Education School "Pavarësia": www.unipavaresia.edu.al
- Private Professional College "New Generation": www.newgeneration-al.com
- Private Higher School "Logos": www.shlplogos.edu.al
- Private Higher Education School "University Metropolitan Tirana": www.umt.edu.al
- Private Higher School "Tirana Business University": www.tbu.al
- Private Higher School "Hëna e Plotë", Bedër: www.beder.edu.al
- Professional Academy of Business: www.apb.edu.al
- Academy of Applied Studies "REALD": www.asar.edu.al
- Private Higher University School "Canadian Institute of Technology", Tirana: www.cit.edu.al
- Professional College of Tirana: <http://www.kolegjiprofesional.edu.al/>
- Private University Higher School "University Kristal": www.kristal.edu.al
- Private University Higher School "Justiniani I": www.justinianiipare.com

- Private University Higher School "Medikadent": www.medikadent.edu.al
- Private Higher University School "American Higher School of Tirana":
www.uat.edu.al
- Private Higher University School "European Higher School of Tourism":
<http://euft.eu/>
- Private University Higher School "ILLYRIA": www.uni-illyria.com
- Private University Higher School "International Higher School of Tirana":
www.universitetinderkombetar.com
- Private Higher University School "Vitrina": www.vitrina.edu.al
- Private Professional Colleges "Medikom": www.medicom.edu.al
- Private Higher University School "University Planetar of Tirana":
www.universitetiplanetar.com
- Private Higher University School "Gjon Buzuku": www.unigjb.com
- Private Higher University School "Elite University": www.universitetielite.edu.al
- Pedagogical Academy: www.akademia-pedagogjike.com
- Professional College "ARGENT": www.argenti.edu.al

Annex – Methodological note

1. Higher education provision database

We collected data on existing study programmes in Albania offered by both public and private HEIs. The data were collected in 2015. The database covers 59 HEIs (including those closed following the 2014 reforms) and 1,757 study programmes, based on data provided by the statistical sector of the Ministry of Education and Sports. The database provides for *each study programme* several categories of data, e.g. the name of the HEI, the name of the faculty, the name of the qualification, the level of the qualification (Diploma level, Bachelor level, Master level, and field of study by ISCED classification), the number of students beginning studies per year (enrolled during the academic years 2012-2013 through 2014-2015), the number of students completing studies per year (during the academic years 2011-2012 through 2013-2014), total number of students enrolled in 2014-2015. Data on tuition fees are taken from each HEI's website, their visits and DCM for public HEIs. The main difficulty was that the fields of study were not classified in accordance with international classification standards as set out in the ISCED framework, and so the research team made the classification according to the information available. Harmonization of the official statistical data on HEIs offered by the Ministry of Education and Sports, INSTAT and HEIs would be taken in consideration.

Table A1: HEIs included in the HE provision database

Name of HEI	Ownership status
Academy of Arts, Shkodër [closed]	Public
Agricultural University of Tirana	Public
Albanological Studies Centre	Public
Polytechnic University of Tirana	Public
University "Eqerem Çabej", Gjirokastër	Public
University "Ismail Qemali", Vlorë	Public
University "Luigj Gurakuqi", Shkodër	Public
University "Aleksandër Moisiu", Durrës	Public
University "Aleksandër Xhuvani", Elbasan	Public
University "Eqerem Çabej", Gjirokastër	Public
University "Fan S.Noli", Korçë	Public
University "Ismail Qemali", Vlorë	Public
University of Armed Forces	Public
University of Arts	Public
University of Medicine, Tirana	Public
University of Sports of Tirana	Public
University of Tirana	Public
Academia of Applied Studies, Durrës [closed]	Private
Academy of Applied Studies "REALD"	Private
Academy of Film and Multimedia "Marubi"	Private
Albanian University	Private
Catholic University "Zonja e Këshillit të Mirë"	Private
European University of Tirana	Private

Higher University School, Nonpublic, "Wisdom University"	Private
Pedagogical Academy [closed]	Private
Private Higher Education School "Pavarësia"	Private
Private Higher Education School "University Metropolitan Tirana"	Private
Private Higher Education School [closed]	Private
Private Higher School "Hëna e Plotë", Bedër	Private
Private Higher School "Logos"	Private
Private Higher School "Tirana Business University"	Private
Private Higher School "Universiteti Mesdhetar i Shqipërisë"	Private
Private Higher University School "American Higher School of Tirana" [closed]	Private
Private Higher University School "Canadian Institute of Technology", Tirana	Private
Private Higher University School "Elite University" [closed]	Private
Private Higher University School "European Higher School of Tourism" [closed]	Private
Private Higher University School "Gjon Buzuku" [closed]	Private
Private Higher University School "International Higher School of Tirana" [closed]	Private
Private Higher University School "University Planetar of Tirana" [closed]	Private
Private Higher University School "Vitrina" [closed]	Private
Private Institution of Higher Education "Higher School "Nehemia""	Private
Private Institution of Higher Education "Higher School "Nëna Mbretëreshë, Geraldinë"	Private
Private Institution of Higher Education "ISSAT" [closed]	Private
Private Professional College "New Generation" [temporary suspended]	Private
Private Professional Colleges "Medikom" [closed]	Private
Private Professional College "Ivoclar Vivadent & Partners" [temporary suspended]	Private
Private University "Epoka"	Private
Private University Higher School "ILLYRIA" [closed]	Private
Private University Higher School "International Higher School of Tirana" [closed]	Private
Private University Higher School "Justiniani I" [closed]	Private
Private University Higher School "Medikadent" [closed]	Private
Private University Higher School "University Kristal" [closed]	Private
Professional Academy of Business	Private
Professional College "ARGENT" [closed]	Private
Professional College of Sports, Fier [closed]	Private
University Higher School "LUARASI"	Private
University Aldent	Private
University Higher School "Justicia" [temporarily suspended]	Private
University Higher School "Sevasti e Parashqevi Qiriazhi" [temporarily suspended]	Private
University Higher School "University "Marin Barleti""	Private
University of New York Tirana	Private
University Polis	Private

2. Surveys

Two surveys were carried out: one that was administered to recent graduates from higher education institutions (HEIs) and one that surveyed employers located in Albania who employ recent HE graduates among their workforce. These surveys were carried out from May to August 2015.

2.1. Graduate survey

The sample frame comprises employed and unemployed recent graduates from Albanian HEIs, i.e. the students that graduated from higher education since 2010. We designed an online survey questionnaire and managed it through the Qualtrics software platform. An online survey link was sent by participating HEIs (see list below) directly to their alumni contact lists, and was also posted on the LSE Qualtrics account where alumni could access the survey outside of the institutions.

The first step in implementing the graduates' survey involved collecting information about public and private HEIs in Albania from the Ministry of Education and Sports and from the Public Agency of Higher Education. HEIs were contacted to obtain information on their graduates and to discuss how to distribute the online graduates' survey to those who graduated in the past three years (respectively graduates of 2012, 2013, and 2014). As most HEIs in Albania do not have a database of their graduates, it was difficult to identify e-mail addresses. The HEIs were asked to use their secretaries and students' career centres information in order to gather e-mail addresses to create a database of their graduates. The best way to maximise the number of respondents was by involving students' associations and public and private employment agencies.

Table A2: HEIs included in the survey

Name of HEI	Ownership status
Agricultural University of Tirana	Public
Albanian University	Private
European University of Tirana	Private
Polytechnic University of Tirana (UPT)	Public
University Higher School "Marin Barleti"	Private
University "Aleksandër Xhuvani", Elbasan	Public
University "Hena e Plote" (Beder)	Private
University "Ismail Qemali", Vlora	Public
University "Luigj Gurakuqi", Shkodra	Public
University Aleksander Moisiu, Durres	Public
University Epoka	Private
University Egerem Çabej, Gjirokaster	Public
University Fan S.Noli, Korca	Public
University New York-Tirana	Private
University of Arts, Tirana	Public
University of Medicine, Tirana	Public
University of Sports Tirana	Public
University of Tirana	Public
Albanian Students Abroad Network (ASAN)	Other
Alumni of ERASMUS	Other

The National Employment Service register includes only phone numbers and residence address as contact points for registered jobseekers, while the Europe Agency (a private employment agency) was able to provide e-mail contacts to for distributing the survey link among its jobseekers. The University of Tirana has developed a graduate database

over the past two years, but many other HEIs relied on graduates' e-mail addresses that were known to professors or on the e-mail address provided to students during their studies. HEIs, graduate associations, and employment agencies agreed to forward the survey to their graduate contacts. In most cases, the HEIs contacted graduates from the academic years 2011-2012 to 2013-2014. Other HEIs, the graduates' alumni associations and the Europe Agency sent the survey to their graduate contacts from all years without targeting the cohort. In this way, students who graduated since 2010 were also included in the sample. The number of the contacted graduates is not known. We collected a total of **895** completed questionnaires (respondents who did not fit the sample frame were ruled out). The main difficulty faced in implementing the survey was that some private universities, such as University Epoka and University "Hena e Plote" Beder, provided their students with university e-mail addresses, which are only active as long as the students are enrolled. Some graduates responded via their university e-mail address and were asked to send the survey link to the personal e-mail addresses of their peers.

The representativeness of the sample can be checked by comparing the distribution of the sample of graduates by field of study to the distribution of the underlying population of students by field of study as reported in the HE provision database. We compare the proportions of students who completed their degree in the three academic years from 2011-14 by field of study from the HE provision database, and compare this with the distribution of graduates by field of study from the graduate survey. We take the average over the three years, since the graduates in the graduate survey have completed their degrees at different points of time in the past. It can be seen that the representation of the sample is fairly close to that of the distribution of enrolments with a Pearson correlation coefficient of +0.88. The distribution of respondents by broad field of study compared to the population distribution from the HEI database is shown in Table A3.

Table A3: Sample distribution (graduate survey) and population distribution of graduates (completions) by broad field of study

Broad field of study	Graduate survey (number)	Graduate survey (%)	HEI database (%)
01 Education	78	9.3%	10.3%
02 Arts & Humanities	32	3.8%	12.0%
03 Social Sciences, Journalism & Information	173	20.6%	9.8%
04 Business, Administration & Law	290	34.6%	27.9%
05 Natural Sciences, Mathematics & Statistics	26	3.1%	6.0%
06 Information & Communication Technologies	53	6.3%	4.2%
07 Engineering, Manufacturing & Construction	61	7.3%	6.8%
08 Agriculture, Forestry, Fisheries & Veterinary	5	0.6%	3.0%
09 Health & Welfare	117	14.0%	15.5%
10 Services	3	0.4%	4.5%
Total	838	100.0%	100.0%
Missing	57		
Total including missing values	895		

2.2. Employer survey

We designed a questionnaire that was implemented through a mix of online survey and phone interviews. The sample frame was composed of companies of all sizes located in Albania and employing HE graduates. The employers' survey was implemented by

inviting organisations such as the Ministry of Economy, the Ministry of Social Welfare and Youth, the Department of Public Administration, National Employment Services, the Institute of Statistics, the Chamber of Commerce and private companies to the project launch event. The National Employment Service and the Institute of Statistics were expected to assist with providing e-mail contacts for registered employers to access the online survey platform, but in practice they were only able to provide telephone numbers. The Ministry of Economy and the Chamber of Commerce, as well as the private employment agency Europe provided us with their employer contacts, but some of their contacts were not accessible anymore. The Department of Public Administration and some other organisations agreed to send the survey to their employers’ e-mail contact addresses. The Tax agency provided us with a database of the registered businesses operating in Albania, which provided us with a list of employers’ e-mail contact addresses. In all, five organisations agreed to forward the survey link to their contacts, as shown in Table A4.

Table A4: Organisations that distributed the employer survey

Name of organisation
Albanian Chamber of International Trade and Development
Chamber of Commerce, Tirana
Department of Public Administration at the Prime Minister’s office
Europe Agency (private employment agency)
Ministry of Economy

Altogether, we collected a total of **209** completed questionnaires. Since the survey sample was taken from the population of employers who employ graduates, there is no available population distribution, and so the representativeness of the sample cannot be validated; nor can the sample be adjusted by any relevant weighting technique. Also, the sample was by design adjusted (using additional telephone interviews) to ensure that we had a similar distribution of employers across all enterprise size groups according to the Eurostat definition. The sample was balanced: in terms of the number of employees most of the employers surveyed were either micro sized (23%), small sized (37%) or medium sized (26%) and large employers (14%). This design was chosen to ensure that we had enough medium and large sized employers in the sample to make comparisons across size groups.

3. Interviews with key stakeholders

We conducted semi-structured interviews with **17** key stakeholders, with the aim to develop a comprehensive view on the causes of challenges for employers and HE graduates in labour market. We identified stakeholders at three levels.

- **Policy-making stakeholders** (4 Ministries, the EU Delegation Office, and the National Employment Service)
- **Higher education stakeholders** (4 HEIs, 3 student associations, and the Erasmus+ Office)
- **Labour market stakeholders** (1 employers’ association, and 2 representatives of the Chamber of Commerce and Industry of Albania)

We developed an interview guideline containing a set of questions for these semi-structured interviews. One group of questions were of a general nature and are posed to all stakeholders, to better confront their views on key issues. The second group of questions were specifically tailored to the various stakeholders, designed to explore further primarily issues within their specific competences. Local experts conducted the interviews and translated them into English.

We also carried out a focus group discussion with Erasmus Mundus alumni who had studied abroad, to gather their impressions of the contrasts between teaching methods used in their home and host countries.

4. Labour market data

We obtained Labour Force Survey (LFS) data for the 2011-2014 period from INSTAT. This provided information about the sectoral structure of tertiary level employees for the years 2013 and 2014, which were used as a base for the forecast for graduate employment by sector. The sectoral forecast was then converted into a forecast of demand for graduates by field of study using coefficients derived from the graduate survey. The LFS was also used to identify the relevant labour market statistics for HE graduates (employment rate, unemployment rate), which could be compared to the statistics derived from the graduate survey relating to the employment rate and the unemployment rate of recent graduates.

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From University to Employment:

*Higher Education Provision and Labour Market Needs
in Bosnia and Herzegovina*

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Directorate-General for Education and Culture
Directorate B Modernisation of Education
Unit B.4 International cooperation in education and youth; Jean Monnet actions

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From University to Employment:

*Higher Education Provision and Labour Market Needs
in Bosnia and Herzegovina*

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Luxembourg: Publications Office of the European Union, 2016

ISBN 978-92-79-54672-3

doi: 10.2766/25365

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Foreword

Higher education systems in the Western Balkans are facing serious challenges. Growing levels of student enrolment throughout the region are straining the limited resources of public universities. At the same time, the number of private institutions has been increasing rapidly.

Importantly, more needs to be done to ensure that higher education qualifications match labour market needs. Many young people in the region are unemployed – and a number of them have higher education diplomas. This suggests that employers do not hold university degrees in very high esteem.

Whatever the field of study, third-level education is a means of sharpening our intellect and therefore valuable in its own right. However, it should also prepare us for the world of work, and enable us to lead independent lives as confident, engaged citizens. Universities and other higher education institutions need to adapt and modernise to deliver. In rapidly changing job markets, higher education systems should provide graduates with relevant skills and competences. This is not only about finding employment after graduation, but also about being able to adapt to future labour market needs and adjust to career changes.

We all know that a country's human resources are an integral part of its wealth. We say so on many occasions, especially when addressing young people in graduation ceremonies, or in political speeches. Unfortunately, when it comes to following these words with action and giving education the relevance and funding it deserves, we all too often fall short. This is something we have to change.

The skills and qualifications gained in university should help us build our lives and secure our societies' prosperity, competitiveness and progress. This study examines the link between higher education provision and labour market opportunities in the Western Balkans. It also looks at the obstacles facing graduates looking for work and the relevance of their skills for employers. The study is part of the on-going regional policy dialogue under the *Western Balkans Platform on Education and Training*. I am pleased to see that Ministers for Education have been supporting and engaging in this dialogue since the European Commission launched it in 2012.

I hope that the findings of the country reports in this study will contribute to more evidence-based policy-making in each country's higher education and labour sectors. The region's young people deserve nothing less.

Tibor Navracsics
European Commissioner for Education, Culture, Youth and Sport

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List of abbreviations

BA	Bachelor's degree
BHAS	Bosnia and Herzegovina Agency for Statistics
BiH	Bosnia and Herzegovina
Cedefop	European Centre for the Development of Vocational Training
CV	Curriculum vitae
ECTS	European Credit Transfer System
EHEA	European Higher Education Area
EQF	European Qualifications Framework
EU	European Union
FBiH	Federation of Bosnia and Herzegovina
FDI	Foreign Direct Investment
FIS	Federation of Bosnia and Herzegovina Institute of Statistics
GDP	Gross Domestic Product
HE	Higher education
HEA	Agency for Development of Higher Education and Quality Assurance
HEAARS	Higher Education Accreditation Agency of Republika Srpska
HEI	Higher education institution
HSS	Humanities and Social Sciences
ICT	Information and Communication Technology
ILO	International Labour Organization
IMF	International Monetary Fund
MA	Master's degree
NEET	Not in education, employment or training
NGO	Non-governmental organisation
OECD	Organisation for Economic Co-Operation and Development
PES	Public Employment Services
PhD	Doctor of Philosophy
R&D	Research and development
RS	Republika Srpska
RSIS	Republika Srpska Institute for Statistics
SME	Small and medium sized enterprises
STEM	Science, Technology, Engineering And Mathematics
UBC	University-business collaboration

Executive summary

This country report analyses higher education (HE) provision and labour market opportunities in Bosnia and Herzegovina by looking into four inter-related issues: the provision of HE, current labour market conditions for graduates, the challenges graduates face during the transition from HE to employment, and the type of skill gaps and skill mismatches that employers face when recruiting young graduates. The report concludes with recommendations on measures needed to ensure the right mix of skilled graduates to support robust economic growth in the future, support graduate job search, and encourage employers to create more graduate jobs and take on more skilled graduates.

The data used in the study was collected from March to August 2015. It includes two large-scale surveys: one among recent HE graduates (graduate survey - 774 respondents) and one among organisations that employ HE graduates (employer survey - 153 respondents). Interviews were carried out with management staff of higher education institutions (HEIs), ministries, employers' associations, and trade unions. A focus group was also carried with Erasmus Mundus alumni. The project has also assembled a unique database that includes details of most study programmes offered by HEIs in recent years¹.

Main findings

The governance of the HE system in Bosnia and Herzegovina is highly decentralised with a low level of regulation. Ministries and departments of education at entity and district levels hold responsibilities for education policies. Within the Federation of Bosnia and Herzegovina, responsibility is further delegated to 10 cantonal ministries of education. At the state level, the Ministry of Civil Affairs is responsible for coordination of entity education policies and the definition of strategies at international level. Altogether, 14 institutions are involved in shaping and coordinating higher education policies, an arrangement that hinders the reform of the HE system. Institutions at various levels of governance are responsible for HE accreditation, and not all higher education institutions have yet been fully accredited.

Teaching methods continue to rely on rote learning and out-dated curricula, and there is a lack of practice-oriented education. Corruption plays a significantly negative role in the HE system where admissions and exams can sometimes be fraudulently obtained, and also in the labour market where personal connections and nepotism often influence recruitment decisions. The graduate survey shows that several factors can improve the satisfaction of graduates with the education they received, including better professors, having work experience or internship during their studies, and being more often taught in small class groups rather than in large lecture halls. More than two thirds of graduate respondents consider that better teaching methods would have significantly improved their job prospects after graduation.

The HE system produces too many graduates relative to the number of jobs available. Although the unemployment rate of all graduates is below the average for the labour force, the unemployment rate of recent graduates who gained their qualification since 2010 is estimated to be about 39%. Too many students graduate in a narrow range of subjects such as *Social Science, Journalism & Information*, which accounted for 28% of all completions in 2013-14. There is an oversupply of graduates from this study field on

¹ Further details about the methodologies and data used in this study can be found in the Annex.

the labour market, as well as from the broad study fields of *Health & Welfare* and *Education*. Even though economic growth will create more graduate jobs in the future, oversupply in these and other study fields will continue unless appropriate action is taken. Should the governments adopt an industrial policy that gives greater emphasis to high technology value-added sectors, shortages of HE graduates would be likely to emerge in *Business, Administration & Law* and *Information & Communication Technologies*. Therefore, even though the HEI system produces an overall surplus of graduates, shortages in some study fields may be a constraint on future economic growth and competitiveness.

In recent years, graduate employment has increased rapidly in the *Manufacturing* and *Information & Communication Technologies* sectors. The HE system will need to equip graduates with the right skills to sustain this private sector growth. Small and medium sized employers have a more intensive demand for graduates than larger firms, and these can be expected to make a key contribution to graduate jobs in the future. Current labour market policies are focused on reducing the cost of labour to employers and on eliminating rigidities in the hiring and firing process, but labour market policy should also focus on creating additional high-skill high-wage jobs in these growth sectors.

Graduates face many difficulties in their search for work not least of which is the limited availability of jobs, especially in the private sector. This is not helped by a lack of cooperation between HEIs and the business sector over curriculum reform and recruitment, even though employers consider that greater cooperation would help them to hire graduates with appropriate skills. This suggests a role for public policy to support better cooperation between HEIs and employers in order to ease graduates' transition to the labour market.

Employers are relatively dissatisfied with the skills of HE graduates. They identify large skill gaps among their graduate recruits in interactive skills, such as organisational skills, analytical and problem-solving skills and decision-making skills as well as cognitive skills such as sector specific and foreign language skills. In most HEIs teaching methods emphasise rote learning rather than modern student-centred approaches. In response to these skill gaps, many employers provide additional training to their graduate recruits. Employers often prefer graduates with work experience. The graduate survey shows that 30% of graduates received no work experience during their period of studies and 34% received only "a little" work experience. Government initiatives to introduce internships in the final year of study have largely failed due to lack of interest from private employers who have been reluctant to offer internships to final year students.

Among graduates that do find a job, many have a job is not well matched to their field of study (64% of graduates) or level of qualification (53% of graduates). Being in a well-matched job is important for job retention. A variety of factors predispose a graduate to finding a job that is well matched including being a budget funded student, following a study programme in which problem solving and creative thinking teaching methods are used intensively, having had an internship or a work placement, following a study programme that teaches sector specific vocational skills, and receiving assistance to find a job from the HEI. The field of study is also an influential factor with the highest degree of mismatch (over-qualification) among graduates who studied *Social Science, Journalism & Information*. At the same time, many graduates encountered difficulty finding a well-matched job due to the poor economic situation.

Policy recommendations

Higher education

1. The **quality of education** in HEIs in Bosnia and Herzegovina should be improved. Curricula should be modernised, and teaching methods should be reformed to promote a student-centred approach and more interactive learning. Applied knowledge and critical thinking skills should be the core focus of teaching. The Ministries of Education should organise training sessions on innovative and interactive teaching methods. A greater focus on practical training is needed, such as a period of internship, which could be arranged in consultation with local employers. A national programme to financially support HEIs in recruiting international staff could be considered. A more harmonised approach to improved quality of HE should be adopted, pushing the standards towards a common higher education provision.
2. Ministries of education should adopt a strong and clear stance on **graduate employability** through a stricter enrolment policy, using scholarships to encourage enrolment in fields of study where shortages may emerge in the future such as *Business, Administration & Law* and *Natural Sciences, Mathematics & Statistics*. The number of scholarships should be increased for students in these fields of study and decreased in less employable fields such as *Social Science, Journalism & Information* following the practice in the Republika Srpska. Overall quotas for entry into such fields should be reduced. HEIs should provide more information to potential applicants on the likely labour market demand for various study programmes.
3. Steps should be taken to **improve the completion rates** of students who enrol in study programmes. This could be done by limiting repeat examinations and making the provision of scholarships conditional on completing studies on time. Students who fail to complete on time should be given additional support and remedial classes. Students who successfully complete their study programme within a given year could be given a partial discount on their tuition fee for the subsequent academic year to motivate on-time completion. HEIs should publish the completion rates of their degree courses.
4. **Improvements to the quality assurance system** are needed. The promotion of teaching staff could be linked to student evaluations, attainment, and completion rates. Professors whose quality of teaching is judged unsatisfactory through student and peer assessment should be required to attend refresher courses on teaching methods. In this regard, a greater effort should also be made to attract experts educated abroad into BiH academia. External peer-reviews should be conducted for both public and private HEIs, thus ensuring equal treatment. Institutions should be assessed according to the quality of their teaching and ranked scores should be published.
5. In order to **stem corruption at HEIs**, relevant institutions should strengthen inspections, ensure compliance with assessment and grading regulations, including monitoring of exams held by teachers, and expand the power of ethics committees. The validity of student examinations should be controlled by rules enforced by an independent body.
6. HEIs should provide **better information and career guidance to students**, to assist them in finding a well-matched job. Graduated students should have

continued access to the HEI career guidance services for up to one year after graduation. Systems for tracing students after graduation should be strengthened where they already exist, and established at HEIs where they do not.

Labour market

1. A **renewed industrial policy** is needed to better link foreign investors to suppliers such as domestic SMEs that employ graduates (especially in the *Manufacturing* and *ICT* sectors). This would generate an increased demand for skilled labour, stimulate prospective students to choose subjects in high demand, and support the high-level skills that will be required to underpin future competitiveness and growth.
2. **More cooperation between employers and HEIs** is needed, with employers participating in the relevant HEI councils for curriculum design and recruitment issues. HEIs could be required to offer an internship semester in collaboration with local employers. Employers could receive incentives to provide work experience placements to students, with HEIs providing quality assurance. This could be done within the context of a broader strategy to improve university-business collaboration.
3. **Graduate entrepreneurship** should be encouraged through the creation of a government-sponsored Graduate Entrepreneur Start-up Fund that would be used to support the creation of new enterprises by HE graduates with adequate training and mentoring support. This could be directed towards high technology employers, with significant growth potential.
4. The **effectiveness of public employment services** should be improved through better organisation and more information about services offered. The range of active labour market policies should be better focused on recent graduates. Training schemes should be provided to help companies, especially knowledge-intensive SMEs, which lack resources to fund such schemes. Medium sized employers may be a priority target group among this type of employer, since the prospects for growth of graduate employers among this group seem particularly favourable.

1 Introduction

Bosnia and Herzegovina (BiH) was severely affected by the global economic crisis, with a deep recession in 2009 and a double dip recession in 2012. Growth is currently forecast at around 3% for 2016 with an annual growth rate fluctuating between 3% and 4% over the next five years (IMF, 2015). This rather optimistic forecast will, however, only be attained if the competitiveness of the economy can be improved. Living standards in the country are low with per capita GDP of €3,641 (compared to an average of €4,410 for the rest of the Western Balkan region)² and a high rate of unemployment. Economic development has been largely based upon the remittances that migrant workers (and persons displaced as a result of the 1992-95 war) send back home to their families. These remittances have pushed reservation wages well above productivity levels, as many within the labour market are willing to forego low-paid jobs for which there is limited competition. In the future, BiH will need to focus on upgrading domestic production capacities and upskilling the labour force to raise labour productivity and industrial competitiveness. In pursuing such a strategy, the higher education (HE) sector will have a critical role to play in supplying skilled graduate workers to the economy. Since only 19% of the population aged 30-34 hold a graduate degree, compared to 38% in the EU, there is still some way to go.³ At the same time, the government will need to introduce a smart industrial policy to ensure that there are suitable high value-added jobs available for highly skilled graduate workers in the private sector.

Parallel to the limited economic growth over the last decade, graduate unemployment has remained high. This represents a waste of human resources and risks a depletion of human capital. As this study shows, for those graduates who find employment, many are placed in jobs below their level of qualifications (vertical mismatch). Among those with jobs at the right level of qualifications, many are placed in jobs unrelated to their field of study (horizontal mismatch). At the same time, employers complain about serious skill gaps in growing and dynamic sectors of the economy, and that new graduate recruits have not been properly prepared at their higher education institution (HEI) for the world of work.

This report is based on a research project that provides new evidence on the mix of qualifications provided by the HE sector and the students who obtain them, the difficulties and opportunities facing graduates and their employers in the labour market, a forecast of the demand for graduates in the near future, the nature of skill mismatches and skill gaps, and concludes with recommendations on measures needed to ensure a relevant supply of skilled graduates who will be needed to support economic growth in the future. The report is divided into six sections. Section 2 maps the structure of HE provision; Section 3 reviews the experience of graduates on the labour market, and provides a forecast of expected future demand for graduates by sector; Section 4 considers the obstacles facing graduates in their transition to the labour market and the difficulties facing employers in recruiting new graduates; Section 5 analyses the extent and nature of skill mismatches. Section 6 concludes with a summary of the research findings and a set of related policy recommendations. A special database recording basic data on HE provision was created for this study. In addition, two online surveys of recent graduates and of the organisations that employ graduates were carried out. Details about the methodologies and data used in the study can be found in the Annex.

² Based on data from Eurostat variable code [cpc_ecnagd].

³ Data from Eurostat variable code [cpc_pseduc].

2 Mapping the provision of higher education

In 2014, public expenditure on education amounted to 4.8% of GDP (BHAS, 2015a). The Federation of Bosnia and Herzegovina (FBiH) spent 1.2% of GDP on HE, of which 73% was public expenditure and 26% was private expenditure (with some expenditure by international organisations) (FIS, 2015a, 2015b).⁴ The Republika Srpska spent 1.25% of GDP on HE of which 65.6% was public expenditure and 33% was private expenditure (also with some expenditure by international organisations) (RSIS, 2015a, 2015b).⁵ The HE sector is among the weakest in the region, with falling student numbers, relatively high student-teacher ratios⁶, and a relatively small portion of the population obtaining graduate degrees. For example, the number of registered Bachelor students in 2014 was 25 per 1,000 population, the lowest in the Western Balkans.⁷ Guidance from the European Commission urges the government to tackle the deficiencies in the education system by prioritising measures based on a mapping of skills gaps taking into account the needs of industry, especially SMEs, and to harmonise legislation and standards related to education at state, entity level, and cantonal levels.⁸ This section takes stock of the situation in the HE system, and analyses study programmes, qualifications offered by HEIs, and the profile of students. It investigates quality issues, from accreditation procedures to teaching methods. Last, we present a brief summary of the latest HE policy developments and gaps.

2.1 Profile of higher education institutions

BiH signed the Bologna Declaration in 2003, and a new state level Framework Law on Higher Education in Bosnia and Herzegovina was adopted in 2007. This law defined the status of HEIs as *Univerzitet* (universities) or *Visoka škola* (professional colleges). A university organises teaching and research activities and provides academic degrees in all three cycles, and must offer a minimum of five study programmes in at least three different subject areas. A college provides degrees of the first cycle in at least one study programme and one subject area. In addition, there are Academies and Religious Faculties. After a period of HEI “boom” between 2004 and 2008, when most private HEIs were established, the introduction of new regulations led to a slowdown in the entry of new HEIs. Consequently, only three HEIs have been established in the last three years: one university in Brčko, one in Goražde, and one college in Kiseljak.

There are now 47 HEIs in BiH of which 18 are accredited institutions and 29 are not yet accredited (12 HEIs are in the process of accreditation).⁹ Of the accredited HEIs, 10 are located in FBiH, and eight in Republika Srpska. The largest HEI is the University of Sarajevo, a public university comprising 30 Faculties with more than 34,000 registered students (over a quarter of all registered students). Two of the largest private HEIs are the International University of Sarajevo, founded in 2003, and the International Burch

⁴ The Statistical releases of the FBiH Institute for Statistics FIS (2015a, 2015b) show that total expenditure on education is 5% of GDP and that 24% of this is spent on HE.

⁵ The Statistical releases of the RS Institute for Statistics RSIS (2015a, 2015b) show that total expenditure on education is 4.4% of GDP and that 28.4% of this is spent on HE.

⁶ In 2013, BiH had the lowest student-teacher ratio in higher education in the Western Balkans, at just 12.3 students per teacher (UNESCO, 2016).

⁷ From Eurostat data on the number of Bachelor students [cpc_pseduc] and total population [cpc_psdemo].

⁸ Joint conclusions of the Economic and Financial Dialogue between the EU and the Western Balkans and Turkey Economic and Financial Affairs Council meeting Brussels, 12 May 2015, cited in European Commission (2015b).

⁹ A full list is available at BiH Higher Education Development and Quality Assurance Agency, http://hea.gov.ba/akreditacija_vsu. Of the accredited HEIs, 8 are public and 10 are private.

University, founded in 2008, both of which were created through Turkish investments. Other HEIs have received Turkish investment, with academics either coming from Turkey or having previously worked at Turkish private HEIs. The strong links to HEIs in Turkey are reflected in the pattern of international credit mobility of the Erasmus+ programme where 37% of all mobilities to and from BiH requested in 2016, involve Turkish HEIs¹⁰.

Table 1: Accredited HEIs and faculties by ownership, 2016

	HEIs	Faculties	Number of HEIs per 100,000 inhabitants (regional average)	Number of faculties per 100,000 inhabitants (regional average)
Total number of HEIs ¹¹	47	120	1.2 (1.3)	3.1 (3.2)
Of which: Public	10	52	0.3 (0.5)	1.4 (1.7)
Private	37	68	1.0 (0.8)	1.8 (1.5)

Source: HE Provision database

The 2007 Framework Law introduced three cycles of studies and the corresponding European Credit Transfer System (ECTS) credits. Bachelor studies provide 180 or 240 ECTS (for three or four year programmes, respectively), Master studies either 60 or 120 ECTS and PhD studies provide 180 ECTS. Therefore, after completing Bachelor and Master studies a student ought to have a total of 300 ECTS. Students can study on a full-time, part-time or distance learning basis. Sometimes both models of HE studies (3+2 and 4+1) are used within an HEI. This complicates student progression as those who finished a 3-year Bachelor degree and wish to continue studying at a different HEI that only offers a 1-year Master's degree will have to complete an additional year of studies to obtain the necessary ECTS credits.

Table 2: Study programmes by type of ownership and degree level, 2014-2015

	Number of study programmes	Percentage of study programmes
Ownership of HEI		
Private	136	20.5%
Public	527	79.5%
Total	663	100.0%
Level of qualification		
Diploma	31	4.7%
Bachelor	359	54.1%
Master	185	27.9%
Doctoral	88	13.3%
Total	663	100.0%

Source: HE provision database created for this study. Note: The database covers seven private and five public HEIs in BiH.

Table 2 provides information on study programmes offered by the largest public and private HEIs in BiH.¹² While the coverage is not complete, it is likely that it provides a good representation of study programmes in the HE sector. Public HEIs provide the

¹⁰ According to EU statistics on Erasmus+, of the total 3,232 exchange proposals submitted for the 2016 Call, 1,208 applications involved HEIs in Turkey; less interest was shown for exchanges with EU member states: e.g. Spain 389, Germany 223, France 76, and UK 44.

¹¹ The Centre for Information and Recognition of Degrees (www.cip.gov.ba) states that there are an additional three HEIs that are not active but remain on their books.

¹² The project database covers 5 public HEIs (out of 10) and 7 private HEIs (out of 37). Although coverage is not complete, the database includes the largest HEIs in BiH.

majority of study programmes. The distribution of study programmes across fields of study is shown in Table 3.

Table 3: Study programmes by broad field of study, 2015

Field of study	Number of study programmes	Proportion of study programmes
01 Education	80	12.1%
02 Arts & Humanities	169	25.5%
03 Social Sciences, Journalism & Information	91	13.7%
04 Business, Administration & Law	35	5.3%
05 Natural Sciences, Mathematics & Statistics	63	9.5%
06 Information & Communication Technologies (ICTs)	26	3.9%
07 Engineering, Manufacturing & Construction	98	14.8%
08 Agriculture, Forestry, Fisheries & Veterinary	14	2.1%
09 Health & Welfare	60	9.0%
10 Services	27	4.1%
Total	663	100.0%
<i>HSS subjects (02+03+04)</i>	295	44.5%
<i>STEM subjects (05+06+07)</i>	187	28.2%

Source: HE provision database. Note: The database covers seven private and five public HEIs in BiH.

2.2 Students

Under the BiH Framework Law on Higher Education, students who have completed four years of secondary education¹³ and who pass an entrance exam may enter an HEI. For Bachelor studies, the median annual fee is €770 at public HEI and €1,400 at private HEI, and at Master level the respective fees are €770 and €1,530.¹⁴ The median fee for a vocational diploma at a public HEI is €770 while private HEIs charge €1,020. Studying for a Doctoral degree is more expensive at public HEIs (€1,800) compared to private HEIs (€1,500). Average annual expenditure per student in BiH is around €1,700, compared to an average of €8,500 in the EU-28.¹⁵ Given this, the fees charged by private HEIs broadly reflect the average cost of education per student, while the fees charged at public HEIs imply a cost-sharing element between entities, cantons and students. A limited number of scholarships are available for students who perform especially well in the entrance examination. The graduate survey shows that 23% of students received a scholarship to support their Bachelor studies. Students from grammar and technical schools were more likely to receive a scholarship than students from vocational schools.¹⁶ Almost two thirds (63%) of those who received a scholarship came from grammar schools, while only 7% of graduates who studied for a vocational diploma received state scholarship.¹⁷ The graduate survey shows that the ratio between the tuition fee that graduates would be willing to pay and the actual fee paid (what we might call the “value for money ratio”) is highest for Bachelor degrees at 78% (77% at public HEIs and 90% at private HEIs) and lowest for Master degrees at 74% (73% at a public HEI and 82% at

¹³ Secondary education is offered at the end of compulsory education, usually at the age of 15. It consists of selective grammar schools, technical schools and vocational schools. In addition to four-year programmes, vocational schools also offer three-year and two-year programmes, which do not provide a route to a HEI.

¹⁴ These data are derived from the project’s HE provision database.

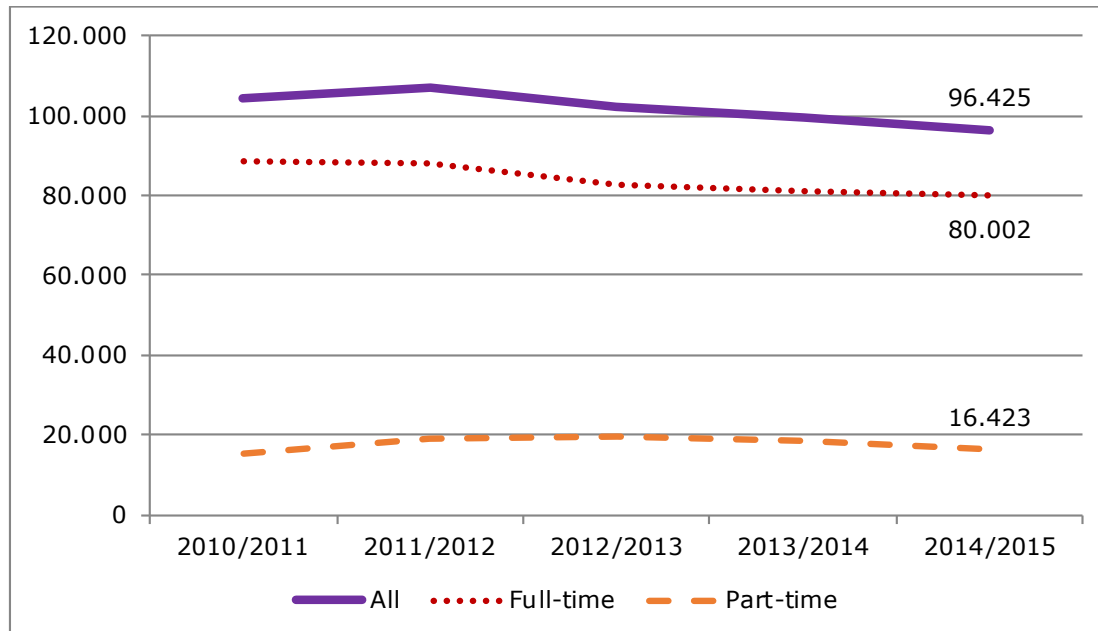
¹⁵ Expenditure per student in BiH is calculated by the authors from FIS (2015b) RSIS (2015b) BHAS (2015a)

¹⁶ Over one quarter (26%) of students from grammar or technical schools received a scholarship compared to just 17% of students from vocational schools (significant at 10% level (Chi-square =4.8.p=0.089).

¹⁷ According to the project’s HE provision database.

private HEIs). This suggests that public HEIs provide lower value for money at both Bachelor level and Master level compared to private HEIs.¹⁸ Overall, the value for money provided by Bosnian HEIs is rather high compared to elsewhere in the region.¹⁹

Figure 1: Total number of students registered in undergraduate studies, 2010 – 2015



Source: BHAS First Release, Education Statistics, various years, Sarajevo: BiH Agency for Statistics.

The number of undergraduate students registered in the first cycle of studies at HEIs has steadily fallen over the last five years (see Figure 1), reflecting demographic trends due to an ageing population and migration of potential students to other countries. More than 90% of all students are registered at public HEIs. In the 2015-16 academic year, 35,166 students were registered to study at the University of Sarajevo, i.e. 48% of all students in FBiH (FIS, 2015c), and 15,535 students were registered to study at the University of Banja Luka, i.e. 41% of all students in Republika Srpska (RSIS, 2015c).

Table 4: Students enrolling and completing studies each year, 2012-15

	Enrolment			Completion		
	2012-13	2013-14	2014-15	2012-13	2013-14	2014-15
Total number of students	34,463	36,900	33,008	8,778	9,117	9,199
Diploma	234	203	148	761	719	504
Bachelor	28,003	30,127	26,839	6,564	6,618	6,689
Master	5,607	5,997	5,447	1,235	1,479	1,768
Doctoral	619	573	574	218	301	238
Note: 1 st year Diploma	34,178	34,739	35,883	18,618	16,351	15,974

¹⁸ The difference in value for money at Bachelor level is statistically significant at the 10% level (t-statistic = 2.02, p=0.055, N=189), while the difference in value for money at Master level is not statistically significant (t-statistic = 0.693, p=0.49, N=233).

¹⁹ For the Western Balkan region as a whole, value for money at HEIs is 68% for Bachelor degrees, and 65% for Master degrees. Low value for money is found in EU countries too. In the UK, for example, three out of ten students think the academic experience in HE is poor value (Department for Business Information and Skills, 2016).

and Bachelor students recorded by the BiH Agency for Statistics						
Coverage of Diploma and Bachelor enrolments by project database	82.6%	87.3%	75.2%	39.3%	44.9%	45.0%
Proportion of students in public and private HEIs						
% public HEIs	93%	91%	94%	83%	83%	84%
% private HEIs	7%	9%	6%	17%	17%	17%

Source: HE provision database and "Education Statistics", Sarajevo: Agency for Statistics of Bosnia and Herzegovina, various years. Note: The database covers seven private and five public HEIs in BiH. Due to missing data for some HEIs and study programmes, the data are not fully reliable.

Table 4 presents data on the number of students who enrolled each year and the number who completed their studies over the period 2012-14.²⁰ Comparison is made with the information provided by the BiH Agency for Statistics, which covers all accredited and non-accredited HEIs. In comparison with the Agency data, the project database covers about 80% all student enrolments, and 40% of completions.²¹ On average, HEIs enrol 88 students into each study programme. The University of Banka Luka enrolls a large number of students into some of its Bachelor courses. For example, in 2014-15 academic year, the university admitted 3,195 to study Law, 1,507 students to study Economics and Business Management, and 1,068 to study English Language and Literature. Less than half of these students ever complete their studies.²²

Completion of studies is an important element of a successful higher education system, and a high level of student dropout is a waste of resources. The completion rate on one-year Master programmes in the 2013-14 academic year was 46%, and the completion rate on two-year Master programmes in 2012-14 was 62%.²³ The completion rate was higher at private HEIs for the one-year Master programme and higher at public HEIs for the two-year Master programme. For Bachelor degrees, it is only possible to calculate the completion *ratio* and not the completion *rate* as the data in the HE provision database do not span a sufficient number of years. As long as the number of students entering the system is not rising too fast, this can be a good proxy for the completion rate. In the 2014-15 academic year, 35,883 Diploma and Bachelor students began their studies at HEIs, while only 15,974 completed their studies (see Table 4), giving a completion ratio of 45%, while the completion ratio in 2012-13 was 54% and in 2013-2014 was 47%, giving an average over the three academic years of 49%. The average completion *ratios* for Bachelor programmes, and the completion *rates* for one-year Master programmes, are similar to the lowest completion rate in the EU, which is found in Hungary at 48% (Eurydice, 2015), while the completion rates on two-year Master programmes are more similar to, although below, the average completion rate in the OECD countries, which was 68% in 2013.²⁴

²⁰ The number of students completing under the pre-Bologna system has steadily declined, while the number graduating with Bologna compliant degrees increased to 87% in 2014. It seems likely that from 2016 onwards all graduates will be completing Bologna compliant study programmes.

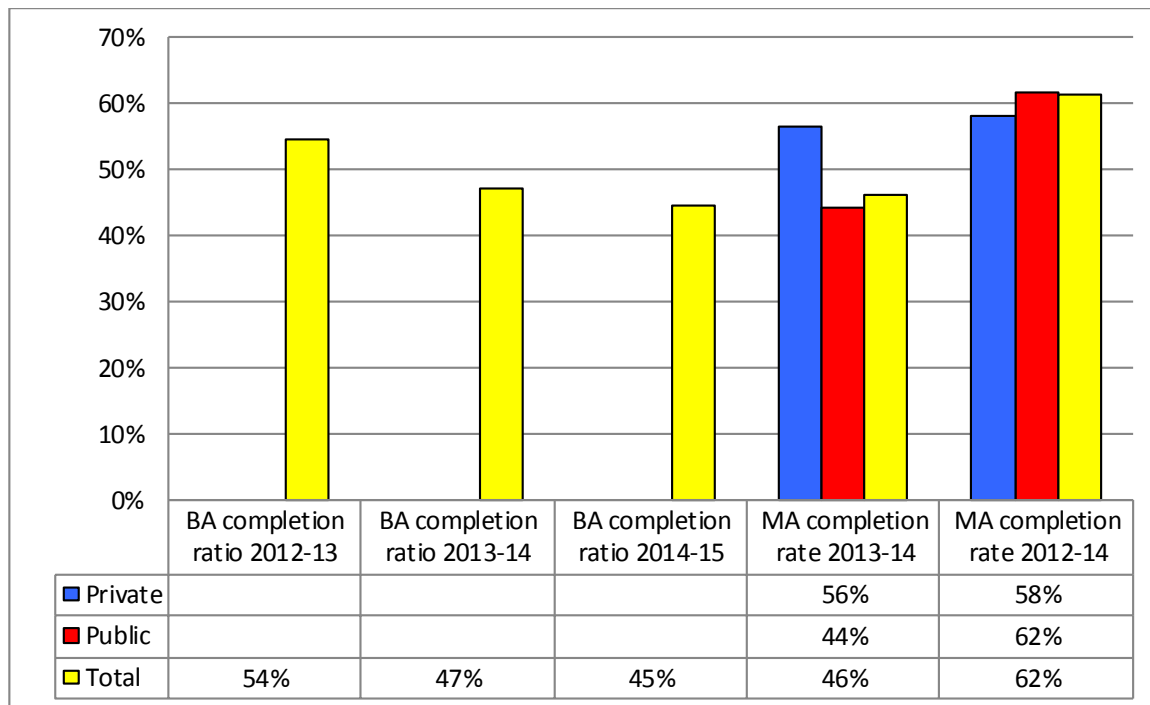
²¹ The difference arises because the project database covers only accredited institutions, while the Agency data cover all HEIs whether accredited or not.

²² Data are from the project's HE provision database.

²³ Completion rates are calculated from the HE provision database for two cohorts following two-year Master programmes. They are calculated as the ratio of the number of graduates completing studies in year "t" divided by the number of students who enrolled in year "t-x", where "x" is the duration of the study programme. This method of calculating completion rates, known as the "cross section" method.

²⁴ See OECD (2013) *Education at a Glance*, and the data appendix available at: <http://dx.doi.org/10.1787/888932848495>,

Figure 2: Completion ratios and completion rates, 2012-15

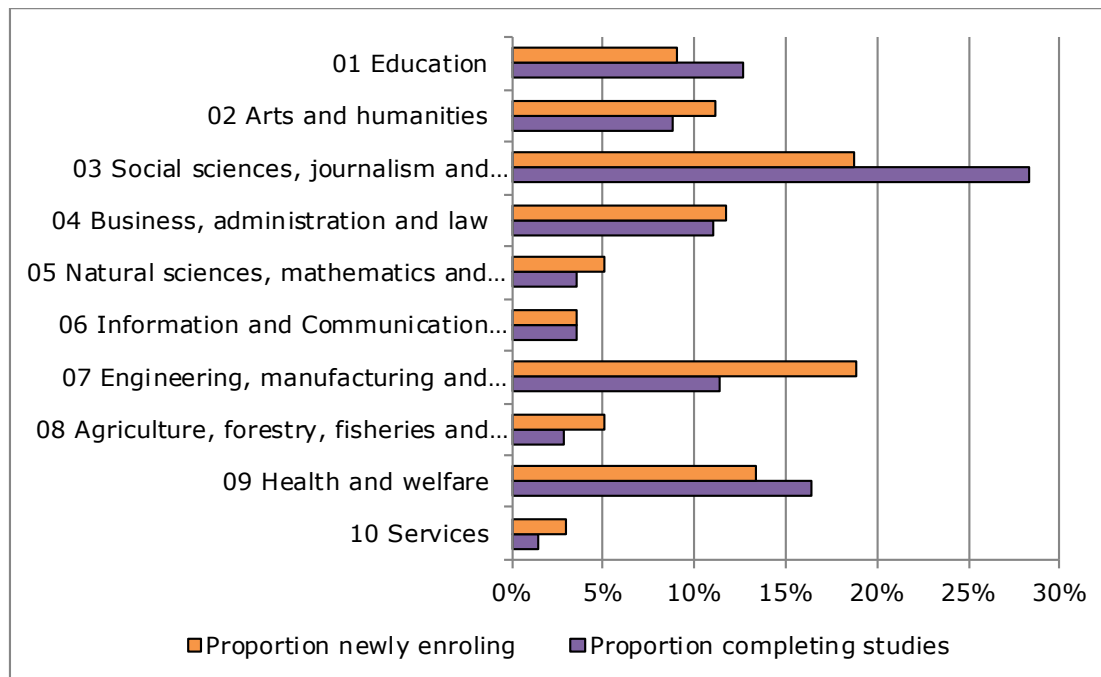


Source: HE provision database and Table 4 above (for BA completion ratios). Note: BA data are completion ratios MA data are completion rates for which study programmes with completion rates above 100% are excluded.

The relatively low completion ratios at Bachelor degree level and on one-year Master programmes are a cause for concern. Part of the reason may be the high level of drop out from studies. It is estimated that about 13% of students drop out of studies each year (World Bank, 2015). One reason for the high dropout rate may be the tuition fees that all but the best students at public HEIs must pay. Another factor is the practice of allowing students to repeat exams over a number of years until the student eventually passes the exam. This can be profitable for HEIs that charge additional fees for repeat exams and have little incentive to change the practice. It is estimated that about 24% of students repeat an academic year (World Bank, 2015). Consequently it took the average student seven years to complete a 4-year degree under the pre-Bologna system. There is little evidence that such practices have changed following the introduction of the Bologna principles. There is also a tendency for some young people to enrol at an HEI in order to claim social benefits while looking for a job. Such students are not highly motivated to study, and often drop out at some point.

Another issue is the impact of corruption on the completion process, which may even artificially raise the completion rates. A Transparency International report has shown that about one in seven HE staff believe that there is an almost even number of “earned” and “unearned” diplomas, and that most diplomas are not awarded on the basis of a student’s knowledge. Almost one in four students have had a personal experience with corruption involving a payment to pass an exam or being asked to do so (Transparency international, 2011). Non-monetary forms of corruption include passing exams on the basis of personal connections and having influential parents (Sabic - El-Rayess, 2012). In addition to corrupt influences in order to pass an exam, other forms of corruption include the purchase of books as a prerequisite for taking exams; favouritism of the children of university employees; violation of the rules that ensure that students have completed the course obligations necessary to take exams; and the manipulation of university entrance exams (Transparency international, 2011: 190).

Figure 3: Proportion of students newly enrolling and completing studies by field of study (2013-14) (%)



Source: HE provision database. Note: The database covers seven private and five public HEIs in BiH.

Figure 3 shows the proportion of students who enrol in, and complete, different broad fields of study. In the 2013-14 academic year, 42% of students enrolled and 48% completed their studies in HSS subjects (ISCED²⁵ 02+03+04). At the same time, 28% enrolled and 18% completed studies in STEM subjects (ISCED 05+06+07). These data can be compared to the situation in the EU-28 where 25% of all graduates hold STEM qualifications (Cedefop, 2015). In this perspective, a rather low proportion of STEM graduates are produced by the HE system in Bosnia and Herzegovina. As in the EU, shortages of such graduates are likely to emerge in the future, especially in the fields of *Natural Sciences, Mathematics & Statistics* (see Figure 8 below) unless more students can be persuaded to take up these fields of study. It is notable that only 4% of students completed studies in *Natural Science, Mathematics & Statistics* and only 4% in *Information & Communication Technologies*. In contrast 16% completed studies in *Health & Welfare* subjects. The larger proportion of completions in comparison to enrolments in HSS subjects is likely due to the lower drop out rate in these subjects compared to STEM subjects such as Engineering. This indicates a need for a fundamental rethink into the nature of HE provision, since the transition to an export-led and high value-added economy would require a greater output of graduates with qualifications in STEM subjects that are most relevant to private sector employers in competitive industries.

2.3 Quality

There are widespread concerns about the quality of education provided by HEIs. Professors often lack the capacity to deliver high quality education, and have limitations in their potential for delivering relevant practical and laboratory-based classes due to both out-dated equipment and their lack of knowledge regarding equipment currently in

²⁵ The International Standard Classification of Education (ISCED) developed by developed by UNESCO. See: *ISCED Fields of Education and Training (ISCED-F 2013)*, Montreal: UNESCO Institute of Statistics, 2013.

use in the labour market, particularly in regard to ICT-reliant methods. There has also been a lack of progress made in the process of accreditation and in developing quality assurance systems (World Bank, 2015: 94). The survey cited in the previous section shows that 56% of students consider corruption to be a widespread phenomenon in higher education in BiH (Transparency International, 2011), with a negative impact on the quality of the education provided. There is therefore still a long way to go to improve the quality of the HE system.

2.3.1 Accreditation

Quality assurance is a key mechanism through which governments can encourage HEIs to enhance the employability of their graduates. The Agency for Development of Higher Education and Quality Assurance (HEA) was established in 2008.²⁶ It is responsible for defining criteria for the accreditation of HEIs, quality assurance, restructuring study programmes, and making recommendations on the founding and closing of HEIs.²⁷ Republika Srpska has its own accreditation agency (the Higher Education Accreditation Agency of Republika Srpska - HEAARS), which is responsible for the external evaluation and accreditation of HEIs. Some study programmes are accredited at the cantonal or entity level and in Brčko district. However, progress has been slow. The HE system is under strong political influence, which defines the speed of the reform and the content of reform policies and there is a lack of effective coordination and cooperation among different levels of government. Due to differences in regulations, clarity of procedures is weak, and lines of responsibility are unclear which cause problems and delays (Agency for Quality Assurance and Accreditation Austria, 2011).

The first HEIs were accredited in 2013. Midway through 2015, 18 HEIs had been accredited, with 9 further HEIs on the waiting list (HEA, 2015). The lack of accreditation of several HEIs in BiH has severe implications relating to the validity of degrees and has consequences for graduates' success in the labour market and for the HE system's inclusion in the European Higher Education Area. The process of referencing qualifications against the EQF has not yet taken place, and the state accreditation agency is not listed in EQAR, the European Quality Assurance Register for Higher Education (EHEA, 2015).

Lastly, the fragmentation of the HE system at the cantonal level is a serious challenge in FBiH. The opening of new private universities is not consistently regulated, since some cantons do not have education legislation, leaving room for setting up new universities without any quality assurance process. This has a negative impact on the quality of teaching. For example, there has been a case of a private university in Canton Sarajevo – a canton with strict rules - which has had its licence withdrawn due to a violation of the law and forbidden to operate. The university involved, the International University Philip Noel-Baker, simply relocated in 2009 from Sarajevo to Posusje in West Herzegovina Canton where such legislation does not exist.

²⁶ The Centre for Information and Recognition of Qualifications in Higher Education was established at the same time.

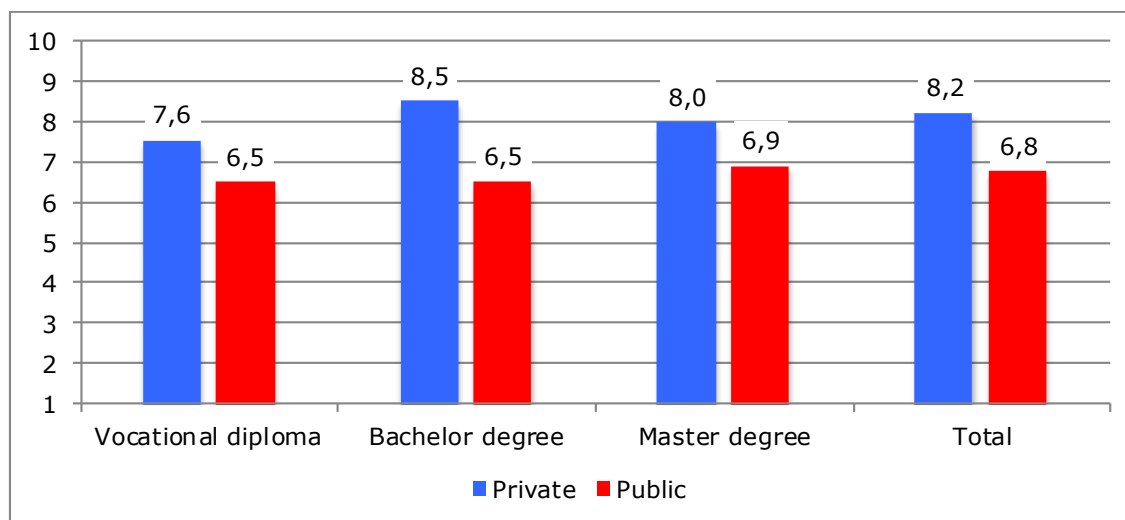
²⁷ The Agency is responsible for: 1) defining criteria for the accreditation of higher education institutions; 2) setting norms for minimum standards in the field of higher education; 3) defining criteria for the selection of local and international experts in charge of appraisal, quality review and recommendations; 4) providing recommendations to relevant ministries on criteria and standards for the establishment and closure of HE institutions; and 5) restructuring of study programmes.

2.3.2 Programme evaluation

Curricula at private HEIs tend to be more in line with international trends and local needs compared to those at public HEIs, where academic staff often resist changes to established teaching methods. Private HEIs tend to be institutionally more flexible in adopting changes to curricula. Still, the public's overall perception of private HEIs is negative. Widespread media coverage of several failures in establishing good private HEIs has cast a negative image over all of them. They are considered to be "second choice institutions, of lower quality than public ones, driven mainly by profit and not oriented toward the public good" (Branković, 2014). The public HEIs are more accepted because of their prestige and tradition, a perception that is partly backed up by international university rankings. For BiH, public HEIs occupy the top two places in the global ranking of universities, followed by two private HEIs.²⁸ The top public HEI, the University of Sarajevo has a world ranking of 1,820th position (116th position in Central and Eastern Europe – CEE), while the top private HEI, the International University of Sarajevo is placed in 3,463rd position globally (246th in CEE). The University of Banja Luka is ranked in 4,596th position globally (345th in CEE). However, these rankings are only indirectly connected to teaching quality, as the metrics are mainly research-based. Most professors from public HEIs teach at one or more private HEIs at the same time (Transparency International, 2011).

However, graduates who studied at private HEIs tend to be more satisfied with the quality of the education that they received than graduates from public HEIs across all levels and types of degree (see Figure 4). The overall difference in satisfaction with quality is around 14 percentage points, with even larger differences for Bachelor studies. The results may be surprising, as private HEIs tend to have a worse reputation than public HEIs.

Figure 4: Satisfaction with quality of education at public and private HEIs



Source: Graduate survey. Note: Satisfaction with quality is assessed in response to the question "How satisfied are you with the quality of the education you received?" on a scale of 1-10 where 1 = "very dissatisfied" to 10 = "very satisfied"; overall difference between scores for public and private HEIs are significant at 1% level.

²⁸ The data is taken from the Spain-based "Webometrics Ranking of World Universities", an initiative of the Cybermetrics Lab, a research group belonging to the Consejo Superior de Investigaciones Científicas (CSIC), the largest public research body in Spain. It should be noted that the methodology includes only publicly available web links data and does not rank specifically on teaching quality. See "Webometrics Ranking of World Universities", <http://www.webometrics.info/en>.

It may be that students who attended private HEIs have different experience or expectations than those that attend public HEIs. In order to explore this hypothesis a regression model has been developed to identify whether such additional possible determinants of graduate satisfaction with their HEI studies have an effect, and if so whether it is these alternative factors that are responsible for the observed differences.

Table 5: Regression model for graduate satisfaction with quality of education

	Coefficient	t-statistic
Internship or work experience	0.768***	4.813
Classes in small groups	0.757***	4.982
Information & communication technologies (ICT)	-0.962***	-2.797
Specialist degree	1.185***	3.063
Master degree	0.271*	1.782
Public HEI	-1.350***	-4.406
Above average performance	0.869***	5.864
Constant	6.748***	19.918
<i>Adjusted R-Squared = 0.186; F= 21.85***; N=639</i>		

Source: Graduate survey. Note: Significance level ***=1%; * = 10%. Model estimated using SPSS with backward elimination.

The regression analysis shows that several factors determine graduate satisfaction with the quality of the education they received (see Table 5). Several factors have a positive impact on satisfaction including whether the graduate had experienced internship or other form of work experience during studies, whether teaching methods involved classes in small groups and whether study performance was above average. Graduates with a Specialist degree were substantially more satisfied than graduates whose highest degree was at Bachelor level, while Master degree graduates also experienced a better quality of education than Bachelor graduates although the difference is relatively small at 0.3 percentage points. Graduates who studied *Information and Communication Technologies (ICT)* have a lower level of satisfaction with quality of their education (compared to those who studied *Social Sciences, Journalism and Information* – the baseline study field for this analysis), a finding that may raise concerns that *ICT* study programmes do not provide HE students with a sufficient quality of education to meet the needs of the labour market. Even when these factors are taken into account, the ownership status of the HEI still has a significant influence on perceived satisfaction with HE quality. The results indicate that graduates who studied at public HEIs have a level of satisfaction with their education that is lower than those who studied at private HEIs.²⁹ It should be emphasised that this difference can be offset by public HEIs by offering internship or work experience and by more frequent use of teaching to small class groups.

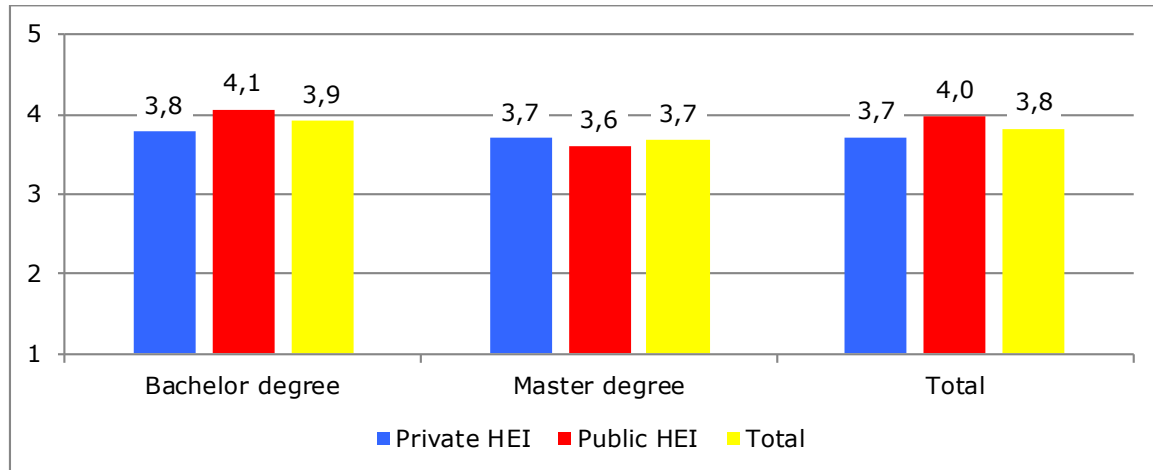
2.3.3 Teaching methods

It is often stated that HEIs in post-socialist countries are not sufficiently flexible to respond to labour market changes through curricula reform and the adoption of new teaching methods (Sondergaard and Murthi 2012). This is because many HEIs practice unchanged modes of teaching, relying heavily on rote learning, and use out-dated curricula, with few opportunities to apply their knowledge (Sabic El-Rayess, 2012). Most university staff were educated in the previous century with few acquiring experience or obtaining PhD degrees abroad. In addition, relatively few lecturers and professors are interested in improving their teaching practices or curricula, because it would require

²⁹ The percentage difference is found by dividing the coefficient on the [1,0] dummy variable "Public HEI" by the constant term. In this case the percentage difference = $-0.846/5.192=0.163$.

additional work and there are few incentives for improvement. These opinions are supported by the graduate survey from which we find that more than two thirds (70%) of respondents consider that better teaching methods would have improved their job prospects after graduation either “a lot” or “very much”.

Figure 5: Whether better teaching methods would have improved job prospects



Source: Graduate survey. Note: The question asked was “Regarding the study programme for your LAST degree obtained, to what extent would better teaching methods at your higher education institution have improved your job prospects after graduation? (1=not at all, 2= a little, 3= some; 4=much, 5= very much). Overall difference between scores for public and private HEIs for are significant at 5% level.

Not only are graduates from public HEI less satisfied with the quality of education they received than graduates from private HEIs, they also more often think that better teaching methods would have helped them find a job (see Figure 5).³⁰ Teaching methods in private HEIs are seen as more relevant and better tailored for equipping graduates with the right skills for the labour market. The differences in perception between graduates from private and public HEIs are largest for Master degrees and less so for vocational degrees. Overall, graduates from all institutions and degrees types tend to think that there is much room for improvement of teaching methods – especially in comparison with EU countries, as showed our findings from a focus group (see Box 1).

Box 1: Comparing studying in Bosnia and Herzegovina with the EU: findings from a focus group

Bosnian Erasmus Mundus alumni in our focus group spent part of their HE studies in the EU. They flagged a number of issues that were found in EU HEIs and deemed as positive features largely missing in Bosnian HEIs. First, they highlighted how students have a more central role in EU HE systems: the learning process emerges as a two-way process whereby there is more interaction between professors and students and where critical thinking is more encouraged. On the contrary, they found that the approach in Bosnian HEIs over emphasised rote learning. Furthermore, the learning experience was often enhanced in EU countries thanks to better equipment (e.g. laboratories), which also allowed for more practice-oriented teaching. They also flagged how the learning experience could benefit from more interaction with industry (e.g. through industry representatives delivering some lectures).

Source: Focus group report, BiH.

³⁰ Although relatively small in absolute size at just six percentage points, the difference in means between public and private HEIs is statistically significant ($F= 6.123$, $p<0.05$, $N=380$).

Corruption also has a negative impact on teaching methods. Students are “no longer taught that hard work equates with achievement and instead are being trained in and adapting to the complex workings of widespread corruption” (Sabic El-Rayess, 2012). Corruption also affects the employment and promotion of teaching staff.

2.4 Policy developments and gaps

BiH has one of the most complex HE systems in Europe. According to the Constitution, responsibilities for education policies are delegated to entity levels. Within the FBiH, responsibility is further delegated to 10 Cantonal Ministries of Education³¹ coordinated through the Federal Ministry of Education and Science. In practice however, only six of these have public universities on their territory, and most private HEIs are based in Sarajevo or Banja Luka. In the Republika Srpska, HE policy is the responsibility of the Ministry of Education and Culture, and in Brčko District it is the responsibility of the Department of Education. At the state level, the Ministry of Civil Affairs is responsible for coordination of entity education policies, and the definition of strategies at the international level. Altogether, 14 institutions are involved in shaping and coordinating HE policies. This arrangement hinders the reform of the HE system.

The system-wide reform of the HE sector began with the adoption of the Framework Law on Higher Education in 2007, with corresponding laws on Higher Education adopted in Brčko District (2009), in Republika Srpska (2011), and in the cantons of FBiH between 2009 and 2012. HE reform has involved changes in governance of HE institutions. International actors have supported HE reform, while national stakeholders have stressed that they are devoted to modernising the HE system in BiH and bringing it closer to European standards. The European Commission and Council of Europe have supported the integration of the universities as legal entities composed of different faculties in accordance with the Bologna Process. The programme has been progressing slowly, mainly due to the resistance of faculties to become part of an integrated university which would imply giving up their autonomous status (Branković, 2013). However, the programme has been successful in the Republika Srpska where the University of Banja Luka has been operating as a single legal entity with integrated Faculties since 2008.

At the state level, HE policies are coordinated by the Department of Education of the Ministry of Civil Affairs of Bosnia and Herzegovina, which has prioritised the accreditation, funding and infrastructure of higher education. The Strategy on Education Development 2008-2015 (Council of Ministers, 2008) analysed overall education sector development, focusing on short-, mid- and long-term priorities in financing, policy development, and infrastructure. Some of the Strategy’s objectives have been realised. While the Strategy defines priorities for each institution directly responsible for a certain field within HE, educational development is not significantly elaborated. The document “Priorities of Higher Education for the Period 2016-2026” was adopted by the Council of Ministers. The priorities include the harmonisation of laws on HE with the Framework Law; strengthening institutional autonomy of HEIs; introducing of new ways of HE financing; strengthening the BiH Rectors Conference as the highest advisory academic body in BiH

³¹ These are the Ministry of Education, Science, Sports and Culture of the Una-Sana Canton, Ministry of Education, Science, Sports and Culture of the Posavina Canton, Ministry of Education, Science, Culture and Sports of Tuzla Canton, Ministry of Education, Culture and Sports of Zenica-Doboj Canton, Ministry of Education, Science, Culture and Sport of the Bosnia-Podrinje Canton, Ministry of Education, Science, Sports and Culture of the Central Bosnia Canton, Ministry of Education, Science, Sports and Culture of the Herzegovina-Neretva Canton, Ministry of Education, Science, Culture and Sports of the West Herzegovina Canton, Ministry of Education and Science of the Sarajevo Canton and the Ministry of Education, Science, Culture and Sports of the Herzegboscia Canton.

by including private HEIs as new members; strengthening research and innovation, paying particular attention to the necessity to base teachers' salaries not exclusively on the number of teaching hours; and strengthening the connection between higher education and the labour market.

Despite legal reforms and the development of a strategy for HE development, BiH needs to develop a stronger framework of accountability and regulation that provides incentives for improvements in teaching methods and quality control of HEIs across entities. In its 2015 Progress Report, the European Commission recommended that the BiH governments should tackle deficiencies in the training and education systems by prioritising measures based on mapping skill gaps taking into account the needs of industry, especially SMEs. In addition, the Commission proposed harmonising legislation and standards related to education and training at state and entity level, as well as at cantonal level, since educational competences in FBiH are at cantonal level (European Commission, 2015a: 46-47).

3 Mapping graduate labour markets

BiH has a highly devolved form of government, has created a complex policy making process, with many key decisions on employment policy devolved to the entities and cantons (Efendić and Hadžiahmetović, 2015). The economy suffered a recession in 2009 in the wake of the global economic crisis and has struggled to recover, with adverse effects on employment (Domljan, 2013). Since 2014 economic growth has picked up, but private investment, including foreign investment remains relatively low at 17.6% of GDP (IMF 2015).

This section maps the graduate labour market in BiH on the basis of official data, the findings from our survey of HE graduates who have graduated since 2010, and our survey of employers who employ HE graduates. The next section identifies the difficulties faced by graduates in finding a job, the distribution of graduates by sector and by the size of the enterprise or organisation in which they are employed. Section 3.2 analyses emerging opportunities for graduate employment and provides a forecast of the demand for graduates in 2018 in relation to current levels of supply by field of study. Section 3.3 identifies policy developments and gaps in relation to the graduate labour market.

3.1 Difficulties facing graduates in finding a job

In 2015, there were 145,000 HE graduates in employment, accounting for 17% of all employees (20% in FBiH and 14% in Republika Srpska) (BHAS 2015b, LFS). This is far below the position in the EU-28, where 33.3% of employees have a graduate qualification.³² Given the relatively small number of graduate level jobs available, it is not surprising that the approximately 16,000 graduates who enter the labour market each year face severe difficulties in finding a job. Having a job in the public sector is seen as highly desirable due to relatively high wages, job security and low levels of workload and responsibility. It is not surprising therefore that in 2014, some 17,000 candidates applied for just 280 vacancies in a single branch of the civil service in FBiH. There is also a large informal economy mainly involving less educated people, supported by poorly targeted welfare benefits and underpinned by a high level of remittances that raises the reservation wage (Krstić and Sanfey, 2006).

³² Eurostat online data variable code [lfsq_egaed].

Table 6: Unemployment and employment rates, 2012-14 (%)

	BiH, Total			BiH, HE graduates			Western Balkans	EU-28, total	EU-28, graduates
	2013	2014	2015	2013	2014	2015	2014	2015	2015
Unemployment rate	27.5	27.5	27.7	16.9	19.3	18.4	24.2	9.4	5.6
Employment rate	31.6	31.7	31.9	61.1	59.5	n/a	48.6	58.1	76.9

Source: BiH Agency of Statistics (BHAS) Labour Force Surveys 2011-2014 and Eurostat online data (Western Balkans unweighted averages). Note: Rates for BiH are for age group 15+ and for EU28 are for 15-74 year olds.

In 2015, the employment rate was extremely low at just 32%, and 28% of the labour force was unemployed (see Table 6). The youth unemployment rate for 15-24 year olds was exceptionally high at 62% (65% in FBiH; 57% in RS) (BHAS, 2015b); for comparison, the youth unemployment rate in the EU-28 in 2015 was 20%, with the highest in Greece at 49%. Labour market indicators in BiH are generally better for HE graduates than others. In 2015, the unemployment rate of HE graduates was 18%. HE graduates are therefore less likely to be unemployed than others (BHAS, 2015a).³³ However, in comparative perspective, HE graduates in BiH face a relatively difficult labour market situation with an unemployment rate three and a half times as high as in the EU-28. From the graduate survey we estimate the unemployment rate of *recent* HE graduates to be 38.6%, even higher than the overall unemployment rate (but lower than the general youth unemployment rate).

3.1.1 Graduate employment by size of employer

The opportunity for HE graduates to find a job differs across employers of different size in terms of the number of employees. The distribution of graduate employment by employer size group can be identified from the employer survey, which received 153 responses from employers of all sizes, ranging from micro (employing fewer than 10 workers) to large (employing 250 or more).³⁴

Table 7: Graduate employment by employer size groups

	Distribution of employers in sample	Distribution of graduate employees	Average number of graduate employees	Median number of graduate employees	Density of graduate employment per employer
Micro	24.2%	4.2%	2.0	2	46.8%
Small	34.8%	17.4%	5.8	4	24.2%
Medium	31.1%	31.8%	11.8	10	11.7%
Large	9.8%	46.6%	54.7	25	8.8%
Total	100%	100%	11.6	5	24.3%

Source: Employer survey. Note: Micro employers are defined as those with fewer than 10 employees; small employers from 10 to 49; medium sized employers from 50 to 249; large employers with 250 or more. This is in accordance with the Eurostat definition of employer size groups.

³³ There are noticeable differences between the entities, with slightly higher levels of graduate unemployment and long-term unemployment in Republika Srpska compared to the Federation of BiH.

³⁴ Further details about the employer survey methodology can be found in the Annex.

Table 7 shows the average number of graduate employees in each size group among organisations that employ graduates. In the sample, small and medium sized employers (SMEs) employ about one half of all graduate employees. The density of graduate employment (the ratio of graduate employees to all employees) is inversely related to size. Among micro employers, on average almost one half of their respondents are graduates; conversely, among large employers less than one tenth of respondents are graduates. Thus, although micro firms do not employ more than a small fraction of graduate employees overall, those that do, tend to have a large demand for such employees. Since these may be the fast growth firms of the future, policy-makers who wish to expand graduate employment opportunities should not neglect them. Having said this, it is among the SMEs and large employers where the bulk of the future demand for graduates is likely to emerge.

Most of the growth in employment has taken place among a relatively small proportion of employers. The employer survey reveals that 80% of all jobs created in the past three years have been created by just 15% of employers. Similarly, 80% of graduate jobs created have been created by just 23% of employers. This structure of employment dynamics is typical in market economies (Acs and Mueller, 2008; OECD 2009). The fast-growth employers involved are sometimes called “gazelles”.³⁵ The survey reveals that 15% of employers are gazelles. One third (35%) of the gazelles had been micro-businesses three years before the survey was carried out and one half (53%) had been SMEs. One respondent had started out as a small enterprise with 20 employees and had become a medium sized enterprise by 2015, with 100 employees. Comparing the size of gazelles with other employers shows that gazelles on average employ significantly fewer employees than non-gazelles, indicating that gazelles are predominantly micro businesses or SMEs.³⁶ However, unlike other countries in the region, there is no evidence that the gazelles on average employ proportionately more graduates than slower growing organisations.³⁷

3.1.2 Graduate employment by sector

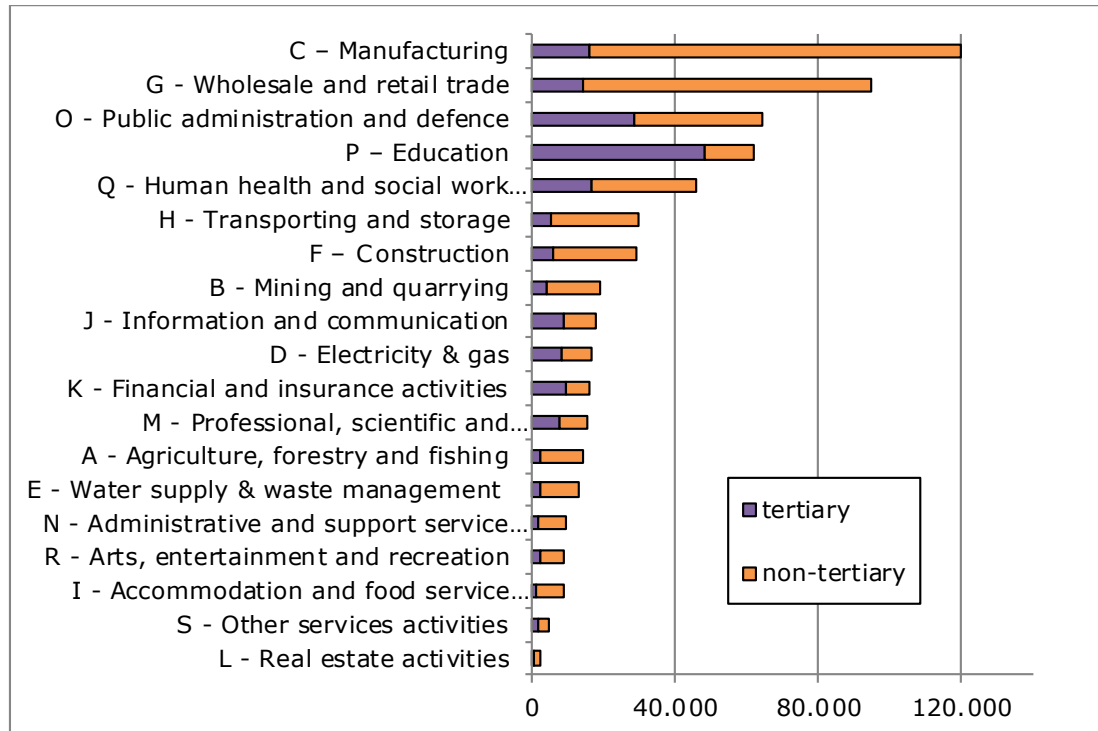
The opportunity for graduates to find a job differs across sectors and across employers of different size. Most graduates are employed in relatively few sectors.

³⁵ The definition of a gazelle, given by Eurostat, is a company that has been formed within the past three years and is expanding employment by at least 20% per annum over those three years. In Hungary, for example, about 1% businesses in the industrial sector that employ between 5 and 9 employees fall into this category as do 0.45% of businesses with 10 or more employees (Eurostat, variable {eip_pop3}).

³⁶ A t-test of differences in means between gazelles and non-gazelles give a t-statistic of 2.33, $p=0.022$, $N=113$).

³⁷ The density of graduate employment is not significantly different between the two types of employers (t-statistic=0.089, $p=0.93$, $N=113$).

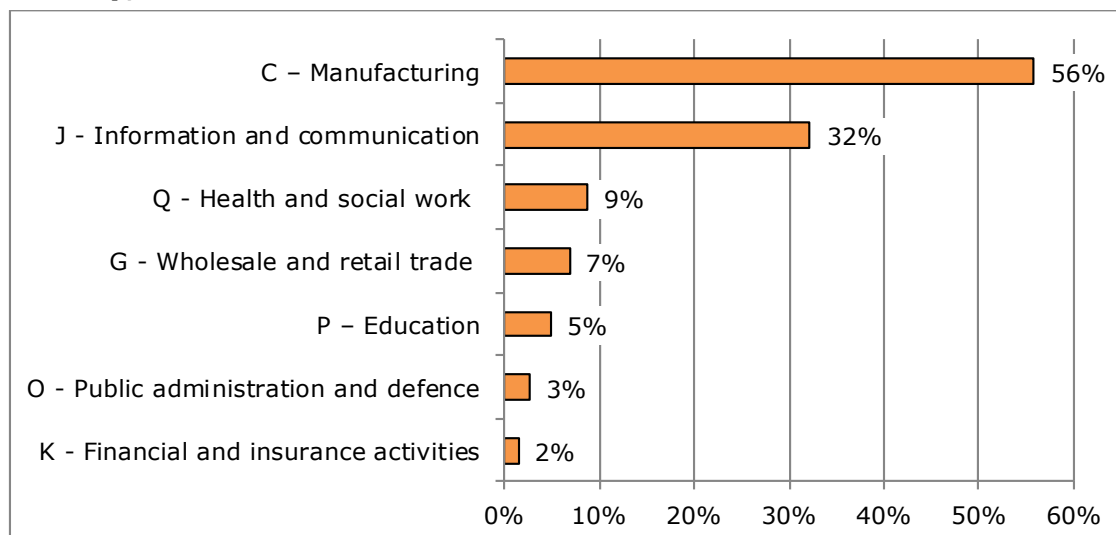
Figure 6: Graduate and non-graduate employment by sector of activity, 2014



Source: Data received from BHAS based on Labour Force Survey 2014.

While almost half of all employees are found in *Manufacturing, Wholesale & Retail Trade* and *Public Administration*, more than half of HE graduates are found in *Education, Public Administration* and *Health & Social Work* activities. Sectors also differ markedly in the share of graduates they employ (see Figure 6). There are relatively few graduates working in the *Manufacturing* sector (13% of all employees), while 79% of all employees in *Education* sector are HE graduates, as are 45% of employees in *Public Administration*.

Figure 7: Annual % change in graduate employment in major sectors of activity, 2013-14



Source: BiH Labour Force Survey. Note: The sectors shown account for over 75% of graduate employment.

Recent years have seen a substantial increase in demand for graduates in the *Manufacturing* and *ICT* sectors due to a fast recovery in these sectors following the worst effects of the recent economic crisis. The production of consumer durables increased by 43% in the year up to May 2015, while the production of intermediate goods increased by 18.6%, of energy by 8.6%, of capital goods by 3.3%. Manufacturing output as a whole increased by 9.1%, with especially high increases in the repair and installation of machinery and the manufacture of chemicals, set off by declines in transport equipment and textile production.³⁸

The employer survey shows that there are also differences in the rate of growth of employment between high technology enterprises and other types of employers. While the average overall rate of job growth in high technology firms over the three years prior to the survey was 25.6% per annum, for all other types of employers the average growth rate was 7.7% per annum.³⁹ Medium sized employers account for the highest rate of growth of graduate employees, with an average growth rate over the three years of 19.3% compared to around 8% per annum for other firm size groups.⁴⁰

3.2 Forecast of future demand for graduates

In order to identify likely future demand and supply for HEI graduates, forecasts are needed to predict future changes in labour market needs. Policy makers can use such forecasts to adjust education strategies, or as an early warning of impending change.⁴¹ In this section we set out our forecasts of the likely demand for HEI graduates by field of study in the period up to 2018. The analysis is carried out on the demand side, projecting forward the annual change in demand for graduate labour on the basis of existing information on graduate employment by sector of economic activity taken from national labour force surveys. The methodology of the forecast follows that of Cedefop (2010), which involves identifying "expansion demand" and "replacement demand". Expansion demand is the extra demand arising from economic growth, while replacement demand is that arising from retirement and migration. Expansion demand is estimated on the basis of estimates of economic growth up to 2018, using GDP forecasts from the IMF World Economic Outlook database.⁴² The forecast for the growth of graduate employment (employment of HE graduates) is made on the basis of assumed employment elasticity with respect to GDP equal to unity.⁴³ The replacement demand uses a standard estimate of the retirement rate based on the assumption of a 40-year working life, giving a baseline 2.5% retirement rate, and an estimation of net migration using Eurostat data.⁴⁴

³⁸ BiH Agency for Statistics online data.

³⁹ The difference in growth rates between the two types of employers is statistically significant at 5% level ($F=5.43$, $p=0.022$).

⁴⁰ The difference in growth rates between the two types of employers is statistically significant at 5% level ($F=2.88$, $p=0.040$).

⁴¹ It should be noted that all forecasts are by their nature imprecise and subject to revision as circumstances change. It has been said that every forecast is inevitably incorrect. Nevertheless a forecast provides a framework for policy makers to use as a benchmark against which to make their own judgments and decisions.

⁴² The same rate of expansion demand is applied to each sector. Labour Force Survey data are not sufficiently robust to identify differential growth rates by sector, as they are sensitive to the base year used for calculation.

⁴³ This is a crucial assumption of the forecast. From a theoretical point of view, one would expect different factors to drive the employment elasticity. First, productivity growth would be expected to give rise to elasticity below 1. Second, skill-biased technical change would be expected to drive the employment elasticity above 1. The assumption of a unitary elasticity balances both these opposing influences, and is also broadly in line with the average of time-varying estimates.

⁴⁴ According to Eurostat data, the net migration rate from BiH is 0%, and so we do not adjust replacement demand for this factor. See Eurostat online data "Population change - Demographic balance and crude rates

Expansion demand and replacement demand are summed to give an overall estimate of the annual change in demand for graduates by sector.

Contrasting current levels of supply of graduates (as a benchmark) with the forecast increase in demand for graduates gives the projected levels of oversupply of graduates by field of study in 2018, assuming current levels of supply are held constant.⁴⁵ It should be emphasised that these are only estimated forecasts, and should be used only as a general guide to the likely direction of change vis à vis current levels of provision, and should not be taken as accurate for planning purposes.

Table 8: Annual growth of real GDP, total and graduate employment, 2014-18

	GDP growth (%)	Employment growth (%)	Graduate employment growth (%)
2015	2.1	1.9	2.1
2016	3.0	2.8	3.0
2017	3.5	3.3	3.5
2018	3.7	3.5	3.7

Source: Projections for GDP from IMF World Economic Outlook database, October 2015; Employment growth 2014 from CCEQ 2015 Q4; Employment growth forecasts from BiH Labour Force Surveys and author estimates.

Economic growth has been robust since 2015 and is expected to continue at a rate of around 3% over the next few years, although political instability may adversely affect this forecast. Growth in total employment is forecast to be below this trend due to expected productivity growth, but graduate employment growth is expected to be given a boost due to skill-biased technical progress, so is expected to match the overall rate of economic growth (see Table 9). On this basis, forecast total graduate employment is expected to be around 180,000 by 2018, an increase in almost 17,000 from the position in 2015, or around 6,000 each year. This increase is the expansion demand that results from the net increase in job openings for graduates. To obtain a forecast for the actual numbers of graduates that will be demanded from the HE system, we add the "replacement demand" arising from the retirement of currently employed graduates and other demographic reasons for which people leave the labour force. Applying this to our estimates of graduate employment, we derive an overall forecast of the annual increase in demand for graduates, which is the sum of expansion demand and replacement demand. Taking into account expansion and replacement demand, the total annual demand for new graduates is expected to increase from 7,400 in 2015 to almost 11,000 in 2018. These annual requirements for graduates are below the actual output of the HE system, so that each year the total number of graduates is in excess of the jobs available to employ them.

at national level" – variable code [demo_gind]. This estimate looks rather low, but we have used it for consistency of data sources.

⁴⁵ Oversupply is defined here as the difference between the supply of graduates that completed their studies in 2014, which is taken as a benchmark, and the projected demand for graduates in a future year (e.g. 2018). For policy purposes, it seems appropriate to measure oversupply in this way, so that policy makers may see the consequences of holding the HE output constant at current levels, and can then identify the changes that might be needed in the future to achieve a demand-supply balance.

Table 9: Forecast for expansion, replacement and total demand for new graduates by sector, 2015-18

Sector	Expansion				Replacement				Total demand			
	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018
A	45	67	81	88	56	58	60	62	101	125	141	150
B	34	51	62	68	43	44	46	47	77	95	107	115
C	211	315	378	414	262	270	279	290	473	584	657	703
D	77	115	139	152	96	99	103	106	173	214	241	258
E	36	53	64	70	44	46	47	49	80	99	111	119
F	73	109	131	143	91	93	97	100	163	202	227	243
G	275	411	494	540	343	353	365	379	618	764	859	919
H	76	113	136	149	94	97	101	104	170	210	236	253
I	16	24	28	31	20	20	21	22	36	44	49	53
J	135	201	241	264	167	172	179	185	302	373	420	449
K	187	280	336	368	233	240	249	258	421	520	585	626
L	10	15	18	20	13	13	13	14	23	28	32	34
M	137	205	246	270	171	176	182	189	308	381	429	459
N	32	48	58	63	40	41	43	44	73	90	101	108
O	577	862	1,036	1,134	719	740	766	794	1,296	1,602	1,802	1,928
P	956	1,428	1,716	1,878	1,190	1,226	1,269	1,316	2,146	2,654	2,985	3,193
Q	313	468	562	615	390	402	416	431	703	869	978	1,046
R	37	55	66	72	46	47	49	51	83	102	115	123
S	27	40	48	53	33	34	35	37	60	74	83	89
Total	3,255	4,861	5,841	6,391	4,051	4,172	4,318	4,478	7,305	9,033	10,159	10,869

Source: Table 8, LFS data and an estimate of replacement demand for graduates. Note: C Manufacturing; D Electricity, gas, steam and air conditioning supply; E Water supply; F Construction; G Wholesale and retail trade; H Transportation and storage; I Accommodation and food service activities; J Information and communication; K Financial and insurance activities; M Professional, scientific and technical activities; O Public administration and defence, P Education; Q Health and social work activities, R Arts, entertainment and recreation; S Other services.

Change in the demand for graduates at sector level has implications for the pattern of recruitment that the HE system should anticipate. In order to address this issue we use the data from the graduate survey to estimate a transformation matrix that connects the sector in which graduates are employed to their field of study. This provides forecasts of the demand for graduates by field of study⁴⁶. This is contrasted with the supply of graduates, which we derive from the HE provision database.

⁴⁶ In order to obtain reliable estimates the entire graduate survey for the Western Balkan countries is used to create the transition matrix. This is justified on the grounds that the technological level in each country is rather similar and so it can be expected that an average measure of inputs of graduates per unit of output can be a good approximation to the country coefficients.

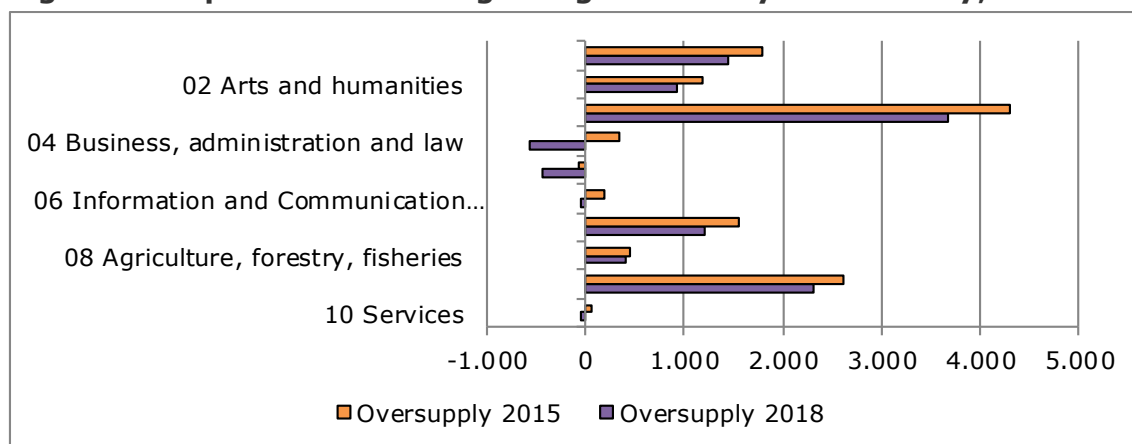
Table 10: Annual new demand and supply of graduates by field of study

Field of study	Demand				Supply	Surplus/ Shortage
	2015	2016	2017	2018	2014	2018
01 Education	711	879	1,448	1,057	2,505	1,448
02 Arts & Humanities	549	678	922	816	1,738	922
03 Social Sciences, Journalism & Information	1,276	1,577	3,672	1,898	5,570	3,672
04 Business, Administration & Law	1,843	2,279	-565	2,743	2,177	-565
05 Natural Sciences, Mathematics & Statistics	754	932	-438	1,122	684	-438
06 Information & Communication Technologies	502	621	-49	747	699	-49
07 Engineering, Manufacturing & Construction	700	866	1,209	1,042	2,250	1,209
08 Agriculture, Forestry, Fisheries & Veterinary	119	148	399	178	577	399
09 Health & Welfare	630	779	2,306	937	3,243	2,306
10 Services	222	274	-58	330	272	-58
Total	7,305	9,033	8,846	10,869	19,715	8,846

Source: Author estimates based on Table 9 above, BiH Labour Force Survey data, project HE provision database, and BiH Agency for Statistics data on total number of graduate completions.

Table 11 shows the projected demand for graduates by field of study from 2015 to 2018 against the actual supply of graduates in 2014, which is used as a benchmark. In 2018 there is expected to be an overall oversupply of over 8,800 new graduates emerging from the HE sector (down from 12,400 in 2015, due to economic growth).⁴⁷ Total demand in each year is therefore expected to be below actual supply achieved in 2014. In addition, there are many unemployed graduates who are also competing on the labour market in addition to the new supply of graduates emanating annually from HEIs. If current levels of supply are held constant, the supply of graduates will be more than adequate to meet projected demand in 2018.

Figure 8: Surpluses and shortages of graduates by field of study, 2015 and 2018



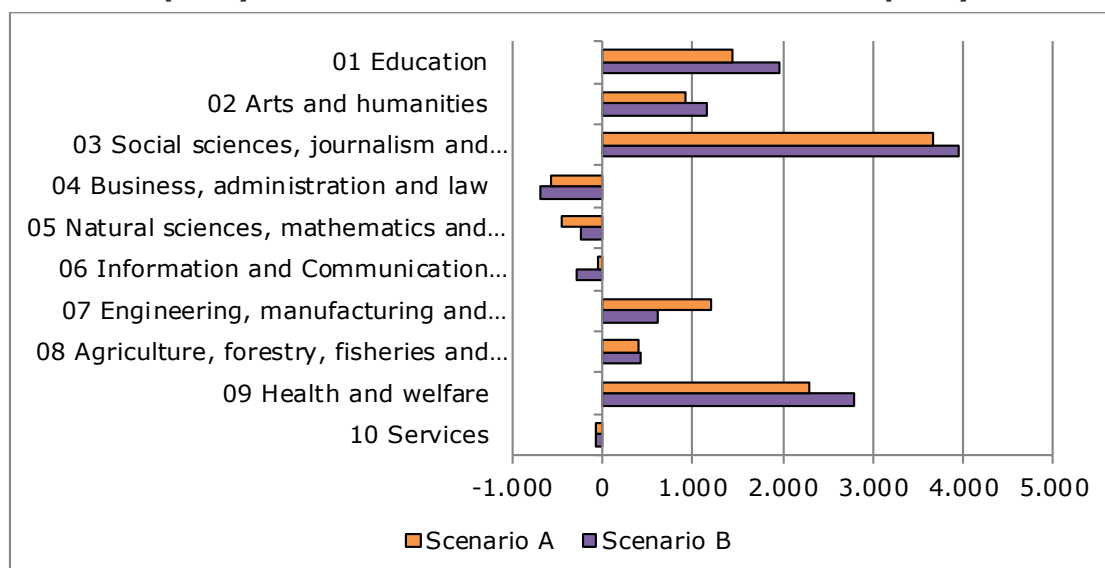
Source: Table 10. Note: Oversupply for 2015 and 2018 is calculated as the difference between supply of graduates from HE system in 2014 and forecast demand for HE graduates in 2015 and 2018 (i.e. the forecast scenario assumes stable annual supply).

⁴⁷ It is worth noting that this means that some 9,000 of the 16,000 graduates who are expected to graduate in 2015 will have been left without a job, assuming all vacancies are filled (i.e. 56% of graduates).

Figure 8 shows the gap between new supply and annual demand for graduates in the labour market in 2015 and the forecast for 2018. The projection by field of study for 2018 is intended to give a picture of what oversupply would look like if there were no change in supply patterns from current levels. In doing this, the analysis provides a guide as to where the HE system should look to make adjustments to achieve a better balance between supply and demand. The analysis reveals that there is expected to be a continuing and large oversupply of graduates in the broad fields of study *Education, Arts & Humanities, Social Sciences, Journalism & Information, Engineering, Manufacturing & Construction* and *Health & Welfare* in 2018. Current oversupply in most fields of study is expected to diminish over time. The largest emerging imbalances are skill shortages in the fields of *Business, Administration & Law*, and in *Natural Sciences, Mathematics & Statistics*. In the absence of further expansion in the number of students graduating in these fields of study, these skill shortages will increase over time. This suggests that it will be important to expand the supply of graduates in these fields in the future, while reducing supply from fields of study that are currently in large oversupply.

The above analysis is based upon the absence of structural change in the economy. If instead of the status quo (scenario A), we envisage an alternative industrial policy (scenario B) that supports a more rapid development of the knowledge intensive sectors, the forecast would be different. In order to gauge the magnitude of possible changes, we develop a scenario in which the *Manufacturing, Construction, Information & Communication* sector, and the *Professional, Scientific & Technical* sectors are supported by a range of measures that have and will lead to their growth at a rate of 10% per annum over the period up to 2018, the public sectors (Public Administration, Education and Health and Welfare) remain fixed at their initial level, while other sectors are assumed to expand at the same rate as in the base scenario A (while maintaining the same overall increase in the demand for graduates as would have occurred without the change in policy). The resulting change in our forecast for deficient demand (shortage) for graduates by field of study is presented in Figure 9.

Figure 9: Difference in oversupply of graduates in 2018 under scenario B with industrial policy relative to scenario A without industrial policy



Source: Table 10 and authors' estimates. Note: Scenario A represents the status quo; scenario B assumes rapid growth in manufacturing, ICT and professional and scientific sectors, and slower growth in other sectors. The horizontal bars shows the proportional change under scenario B compared to scenario A.

Under the industrial policy, the forecasted shortage of graduates in *Business, Administration & Law* and in *Information & Communication Technologies (ICT)* subjects increases⁴⁸, and the forecasted oversupply of graduates with qualifications in *Engineering, Manufacturing & Construction* diminishes. At the same time, the forecasted oversupply of graduates with HSS qualifications increases under the industrial policy. This hypothesis shows that if a new industrial policy that boosted growth in knowledge intensive industrial sectors were to be adopted, it might face constraints on the side of available skills produced by the HE system in certain fields of study, and would therefore require a change in the HE admissions policies to ensure that a sufficient supply of qualified graduates in appropriate subjects would be made available to support the changed demand for skilled labour. This example provides support for the idea that higher education policy should be closely integrated with economic policy and in particular with economic policies that seek to boost competitiveness and productivity of the BiH economy.

Box 2: Good practice example: Using scholarships to influence enrolment by field of study

The Republika Srpska spends about €1 million each year to finance student scholarships, out of a total higher education budget of €62 million. In 2015, the Republika Srpska introduced a reform of the scholarship system for HE graduates designed to incentivise more graduates to enrol in the STEM fields of study. The Ministry of Education and Culture announced that from the new academic year scholarships would no longer be provided for students enrolling in the first year of the first cycle studies in geography, ecology and environmental protection, journalism and communications, political science, sport, physical education, vocal and instrumental, musical and pedagogical theory, or journalism. The number of scholarships that will be offered for students following study programmes in the fields of law and economics will be reduced. The aim of the policy is to increase the number of students enrolled in natural sciences, engineering and technology departments, expertise which “can constitute a driving force of economic and social development of the Republic of Srpska”.

Source: Ministry of Education and Culture, 2015.

3.3 Policy developments and gaps

Much of the advice on labour market policy comes from international institutions. The World Bank argues that inflexible labour markets make it unprofitable for employers to hire workers in the private sector due to high hiring and redundancy costs. In a recent report, the World Bank has claimed that BiH has the most rigid labour market rules in the Western Balkans (World Bank, 2015: 78). Therefore, current labour market policies are focused on reducing the cost of labour to employers and on eliminating rigidities in the hiring and firing process. Unfortunately, they neglect the need to support the creation of additional high-skilled high-wage jobs for HE graduates.⁴⁹ The International Monetary Fund (IMF) has also been active in promoting labour market reforms as a condition of its loans to the government. For example, the IMF has required that policy makers should reduce disincentives for hiring and provide additional training for workers. The European

⁴⁸ Rather unexpectedly, the shortage of graduates with qualifications in Natural Sciences, Mathematics and Statistics diminishes in Scenario B. This is because of the large demand for these graduates in the *Education* sector, which is assumed to remain unchanged. Other main sources of demand for these graduates are in *Mining and Water Supply*, which are not part of the hypothesised industrial policy.

⁴⁹ Critics also suggest that the reform agenda neglects the social protection of workers and in summer 2015, the ILO started an initiative to improve the social protection for informal workers, but the effort is still to be translated into legislation and policy.

Commission, too, has recommended that the governments of BiH should introduce more flexibility in the process of collective wage bargaining and address disincentives to hiring, by reducing the “tax wedge”, i.e. the high level of social contributions related to wages (European Commission, 2015b: 71).

In response to this advice, in June 2015 BiH agreed with the international community on a reform agenda for the period 2015-2018. This aims to address rigidities in the labour market, particularly in the public sector and to introduce new labour laws that introduce more flexibility in the labour market. In line with this, Republika Srpska introduced measures to reduce social contributions from 33% to 31.6% of wages. In July 2015, the parliament of FBiH passed a new Labour Law (European Commission, 2015b), which was followed shortly thereafter by a new Labour Law of the Republika Srpska, which was signed on 29th December 2015, and published in the entity’s Official Gazette in mid-January 2016.⁵⁰ However, the Labour Law of FBiH was declared unconstitutional by the FBiH Constitutional Court on 17th February 2016, and was returned to the parliament. The law was re-issued (with amendments) on March 31st 2016.⁵¹

The BiH governments, with the support of the World Bank, have developed a Strategy for Strengthening Employment Offices’ Mediation Role, which proposes changing the focus of the employment bureaus from passive registration of unemployed (who do not necessarily actively look for a job but need to be registered in order to receive health insurance) to more active support for unemployed people in finding a (decent) jobs. An active labour market programme for young graduates was introduced in 2015 consisting of co-financing the first work experience, a retraining programme, and enterprise start-up support. In addition, the employment agencies participate in the “Youth Employment Project”, funded by the Swiss Development Agency, which targets unemployed people aged 16-30, although this is not specifically aimed at HE graduates.

In 2007, Republika Srpska introduced an apprenticeship programme for university graduates without any work experience that has continued in subsequent years (Djukić et al., 2012). The programme subsidises 70% of HE graduates’ salaries up to 600KM per month (in 2011) and 80% of the social contributions. The criteria for award of an apprenticeship subsidy included whether the graduate was employed in agriculture, processing or a service industry, the length of time spent in unemployment, location in an underdeveloped region, and disability. In 2011, 1,000 HE graduates were enrolled in the programme. A major deficiency of the programme has been its focus on apprenticeship in the public sector (mainly municipal administrations), with only one quarter of graduates hired as apprentices by private sector employers. Most of the graduates hired under the programme have a degree in Economics or Law, rather than science or engineering. The programme has also been criticised for its lack of transparency in the allocation of subsidised apprenticeships.

There are several policy gaps in the labour market affecting unemployed HE graduates. An increased budget and a better design of active labour market programmes are needed to address graduate unemployment. There is also a need to strengthen the role of public employment services to provide career guidance to young HE graduates that would ease their transition to the labour market.

⁵⁰ See Labour Law of the Republika Srpska, 2016. <https://advokat-prnjavorac.com/zakoni/Zakon-o-radu-Republike-Srpske-2016.pdf>.

⁵¹ See Labour Law of FBiH, 2016. <http://www.radiosarajevo.ba/novost/221189/ponovo-usvojen-zakon-o-radu-fbih>.

4 Transition from higher education to the labour market

Once HE students have completed their studies they face the challenge of making a successful transition to the labour market. An unsuccessful transition represents a waste of resources that BiH can ill afford. An initial period of unemployment or inactivity after leaving HEI can lead to a depreciation of the human capital built up over several years. An inability to find a job well matched to the field of study followed at HEI, or to the level of studies undertaken can reduce the return on investment (Robert, 2014). Indeed, the success of graduates' transition to the labour market is crucial for the improvement of economic competitiveness and for the future growth of the economy. However, the high unemployment rate of recent graduates suggests that they face major obstacles in their search for a job after leaving their HEI. This is not an absolute barrier, as employers will often prefer an overqualified recruit to a less qualified one. However, some HE graduates are reluctant to accept jobs that they feel are below what they deserve. We return to this issue in section 5 below.

HE graduates in BiH face a precarious transition to stable employment. The graduate survey provides detailed information on graduates' transition to work. Currently unemployed graduates have on average been unemployed for one year and two months. Yet on average they have also spent eleven months in employment, having taken eight months to find their first job. This is suggestive of a pattern of unstable attachment to the labour market that lasts for a considerable period of time after graduation. Currently employed graduates do not seem to fare much better. On average, they have spent two years and two months in employment. More than half (53%) have experienced at least one spell of unemployment, having taken on average eight months to find their first job after graduating from HEI and seven months to find their current job. These data reveal that the transition from higher education to the labour market is far from being a smooth process for many graduates.

In this section we explore the challenges facing both graduates and employers in the labour market. We begin by exploring the relations between HEIs and employers and emphasising the need for improved cooperation between them. In subsection 4.2 we examine the challenges facing graduates in the labour market including the lack of formal job-search assistance available. In subsection 4.3 we address the problem that employers face in taking on new graduate recruits including employers' dissatisfaction with the skills of new graduate recruits, the gaps they experience in graduates' skills, and their need to provide additional training to fill these gaps.

4.1 Limited cooperation between HEIs and employers

A major challenge facing HEIs is to develop cooperative relations with employers. Such cooperation is needed for the development of curricula, for placing students in companies for internships, for finding jobs for graduates, and for improving HEI career guidance. This issue is problematic in many countries including in the EU, where many countries are making efforts to improve university business cooperation. The most common forms of cooperation are in curriculum design, development and delivery; course development; exchange and mobility programmes; continuing education and lifelong learning; and entrepreneurial education (Healy, et al., 2012: 21).

In order to gauge the level of cooperation between HEIs and employers in BiH, the employer survey asked employers to indicate how frequently they discussed changes in study programmes with HEI representatives. The responses indicate that few companies discuss these issues with HEIs: almost one half of employers (46%) responded "never", a

similar proportion responded “rarely”, while less than one tenth (8%) responded “often”. When asked how frequently they cooperate with a HEI in the recruitment of graduates, almost two thirds (62%) responded “not at all”, or “a little”. These answers suggest that there is little cooperation between enterprises and HEIs.

However, when asked how much effect does cooperation over study programmes have on increasing the matching of HE graduates with their jobs; 47% responded “very much” or “a lot”, or “somewhat”, while in relation to cooperation over recruitment, 54% answered in the same way. This suggests that while employers believe that such cooperation would improve the outcome of the recruitment process, there are obstacles on both sides (i.e. both HEIs and employers) to taking cooperative action. This is a classical public policy problem, where private actors on their own are unable to achieve mutual benefit and a more efficient social outcome. There is therefore a strong case for the government to play the role of independent catalyst to support the development of cooperative relations to the benefit of both HEIs and employers.

In the EU, cooperation between employers and HEIs is fairly common. Employers participate in decision making or consultative bodies within HEIs in 22 countries, are actively involved in curriculum development in 19 countries and frequently participate in teaching in 15 countries (Eurydice, 2014: 67). Employer cooperation with HEIs is often facilitated through government support for university-business cooperation projects. Such cooperation projects could be a useful means for HEIs in BiH to contribute to the labour market success of the HEI graduates. There are already some examples of cooperation projects such as at the Visoka škola “Logos” in Mostar, and the University of Mostar’s Faculties of Economics, Medicine and Electro-engineering that can be drawn upon as good practice examples.

4.2 Challenges facing graduates on entering the labour market

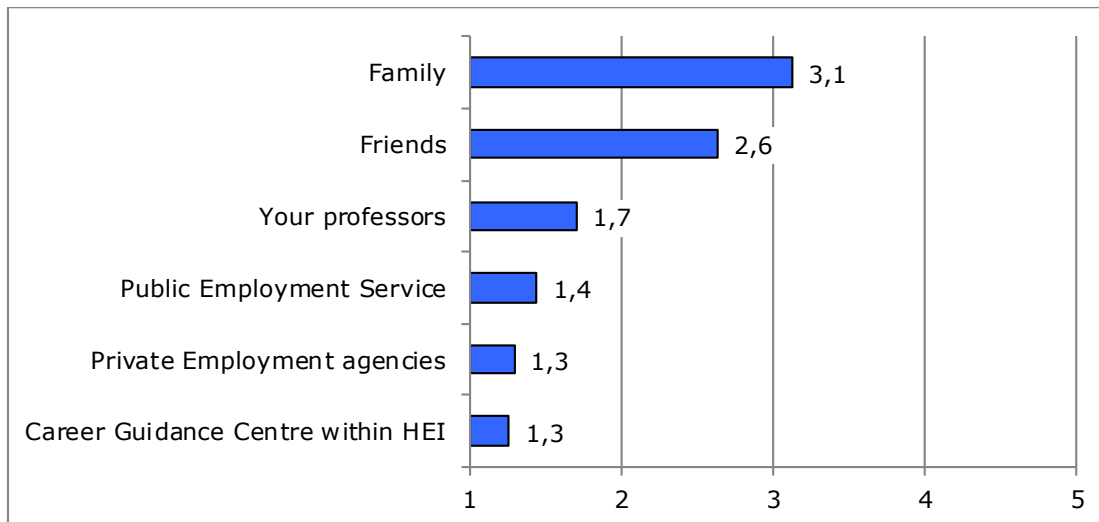
A key challenge facing graduates on entry to the labour market is the relative lack of assistance from the formal institutions such as career guidance services within HEIs and the public employment services (PES) outside HEIs. Due to this, graduates need to rely heavily on friends and family to find a suitable job, giving rise to charges of nepotism and corruption in the labour market. Another key challenge is the lack of work experience that many graduates have when they enter the labour market, which limits their job prospects. In this section we address these issues in turn. The findings reported in this section are largely based on the project’s graduate survey, which had 774 respondents in BiH.

4.2.1 Lack of assistance in finding a job

In a context of low demand for HE graduates in the private sector, the public sector has been a major provider of employment opportunities. Yet, employment in the public sector is affected by a lack of transparency over the recruitment process, which contributes to unfair competition on the labour market. Graduates can, in theory, rely on a transparent and level playing field by seeking employment through the PES of their respective entity or canton. However, the graduate survey shows that 88% of graduates receive “none” or only “a little” help from PES and that 93% of graduates receive “none” or only “a little” help from career guidance centres within HEIs. Since 2009, PES have tried to improve matters by implementing active labour market measures to co-finance employment and self-employment of young people without work experience and to support internship training of HE graduates. The highly decentralised administration in FBiH limits the services PES are able to provide in that entity. Some graduates turn to private

employment agencies, indicating the shortcomings of the PES, but these are often even less effective.

Figure 10: Help to find a job after graduation from alternative sources



Source: Graduate survey. Note: Responses are scored on a scale of 1-5, where 1="no assistance" and 5="very much assistance".

The graduate survey shows that family and friends provide the most important assistance to HE graduates in finding a job (see Figure 10). This reflects the commonly held view that nepotism plays an important role in graduate success on the labour market and that graduates who are less well connected have lower chances of finding a job, especially in the public sector. Career guidance is still underdeveloped in BiH.⁵² More effort should therefore be made to ensure that all graduates have full information about available jobs. Support should be provided on an equal basis for all job seekers so that they are hired on merit, irrespective of their connections or family ties. It is also important that secondary school graduates receive support in making informed choices about entry into HE study programmes, while the career guidance at HEIs should provide more support to students in their jobs application. Unfortunately, HEIs currently have little interest or incentive to ensure that their graduates succeed in finding a job. Private HEIs are more proactive than public HEIs in this respect and many use their own statistics on graduate employment in promotional literature.⁵³ To improve the situation, FBiH recently adopted the "Strategic Directions of Career Guidance in Federation of BiH 2015-2020".

Box 3: Good practice example – early intervention at secondary school level by the Employment Bureau in Mostar

The Employment Bureau in Mostar is one of the rare institutions in FBiH to initiate an orientation programme for secondary school students in their final year. The orientation aims to guide students into choosing a field of study that will give them good prospects for employment in the future. The programme is constantly evolving, as it is currently being developed via a trial and error (ad hoc) approach. In 2011, the

⁵² In almost all countries of the EU, career guidance is available in HEIs throughout the whole student lifecycle. It is typically open to all students and responds to individual demands (Eurydice, 2014).

⁵³ However, graduates from private HEIs report significantly more difficulty in finding a job due to the reputation of the institution they attended than do graduates from public HEIs (p<0.01). This perception is influenced by the long tradition of public HEIs, their better infrastructure, and their more comprehensive coverage of subjects.

Employment Bureau engaged in school visits, an activity that soon turned out to be very time-consuming. In 2013, it began inviting both children and parents to workshops. It was noted that parents are an important part of this activity, as often their wish for their children to engage in a particular field of study does not take into account labour market needs. It was also noted that working directly with students and their parents instead of through the school system proved to be more effective (Branković N. et al., 2013).

4.2.2 Lack of prior work experience

The limited possibilities that students have to engage in internships or relevant work experience during their studies hinders their job search.⁵⁴ The graduate survey shows that 30% of HE graduates had no work experience during their period of studies and 34% gained only “a little” work experience. Employers frequently complain about the skills of HE graduates, emphasising their lack of work experience, practical knowledge and even lack of motivation to find a job.⁵⁵ The employer survey shows that 27% of employers attach “a lot” or “very much” importance to previous work experience when making a decision to recruit a new graduate. This is a persistent challenge that cannot be easily addressed, since relatively few private firms are able or willing to offer internships that would provide relevant work experience. Having some work experience is important for HE graduates’ labour market outcomes in BiH. The graduate survey shows that 63% of respondents who had “a lot” of work experience held a job, compared to 50% of those without work experience ($p < 0.05$).⁵⁶ Work experience also supports the matching of qualifications to the job: while 80% of those who have “very much” work experience (or internship) hold a job that is well matched to their field of study (horizontal matching), only 52% of those with no work experience hold a well-matched job ($p < 0.05$).⁵⁷

Beyond work experience, employers have difficulty understanding the new system of degree recognition under the Bologna process. A more pro-active approach by the Centre for Information and Recognition of Qualifications in Higher Education could improve awareness about the new system of qualifications, as well as the finalisation of an appropriate Qualifications Framework of Bosnia and Herzegovina. HE graduates also experience a variety of obstacles to mobility across entities. For example, they can be obliged to pass new exams in order to take up a job in an entity different from the one where they have studied.⁵⁸ Geographical discrimination is therefore a political matter that harms labour mobility and job matching.

4.3 Employers’ challenges in taking on new graduates

Employers face several challenges in taking on new graduate recruits, including the inadequate skills of graduates and the training costs that are incurred as a consequence. Altogether, employers’ perspective of the quality of HE graduates and perception of skill gaps points to the rather low quality of higher education in BiH.⁵⁹ The findings reported in this section are largely based on the project’s employer survey, which had 153 respondents.

⁵⁴ Several European comparative studies have shown that students who participated in practical training before graduation are more likely to find jobs than those without relevant work experience (Eurydice, 2014: 69).

⁵⁵ Interviews, PES, 2015.

⁵⁶ Chi-square=15.6, $p=0.049$, $N=640$.

⁵⁷ Chi-square=13.3, $p=0.010$, $N=364$.

⁵⁸ Interviews, EU Delegation and Association of Employers, 2015.

⁵⁹ A recent World Bank report noted that: “The quality of instruction at public universities is below par due to a general lack of qualified professors in BH,” World Bank (2009: 29).

4.3.1 Dissatisfaction with skills of new graduates

The employer survey shows that employers on average score their satisfaction with the skills of their graduate employees at just 6.0 out of 10 (the maximum degree of satisfaction). Employers in the public sector and foreign private employers tend to be significantly more satisfied with the skills of their new graduate recruits than domestic employers, perhaps suggesting that the better graduates seek jobs with the former employers.⁶⁰ Employers in public administration and education sectors also show higher satisfaction with the skills of new recruits than employers in other sectors.⁶¹ However, the employer survey shows that over two thirds of employers (69%) believe that graduate employees bring “none”, only “a little” or just “some” added value in comparison with the skills of non-graduate employees. This finding underpins the view that it is too costly to continue to produce graduates with no or little added value compared to graduates from secondary education.

Many employers are of the opinion that graduates lack interactive skills: they are poor in planning and organisational skills, scoring just 3.28 (on a scale of 1 to 5, where 1 = no skill, and 5 = very much skill in the relevant dimension), and in foreign language skills (3.22) and decision making skills (3.18). Even the skill that scores best (sector-specific skills) scores only 3.63 on the scale. There are no significant differences in employers’ perceptions of graduates’ skills on the basis of employer size or technology level, suggesting that the generally low degree of satisfaction is found across the board and is a general phenomenon, rather than being restricted to one or other type of employer.

4.3.2 Graduate skill gaps

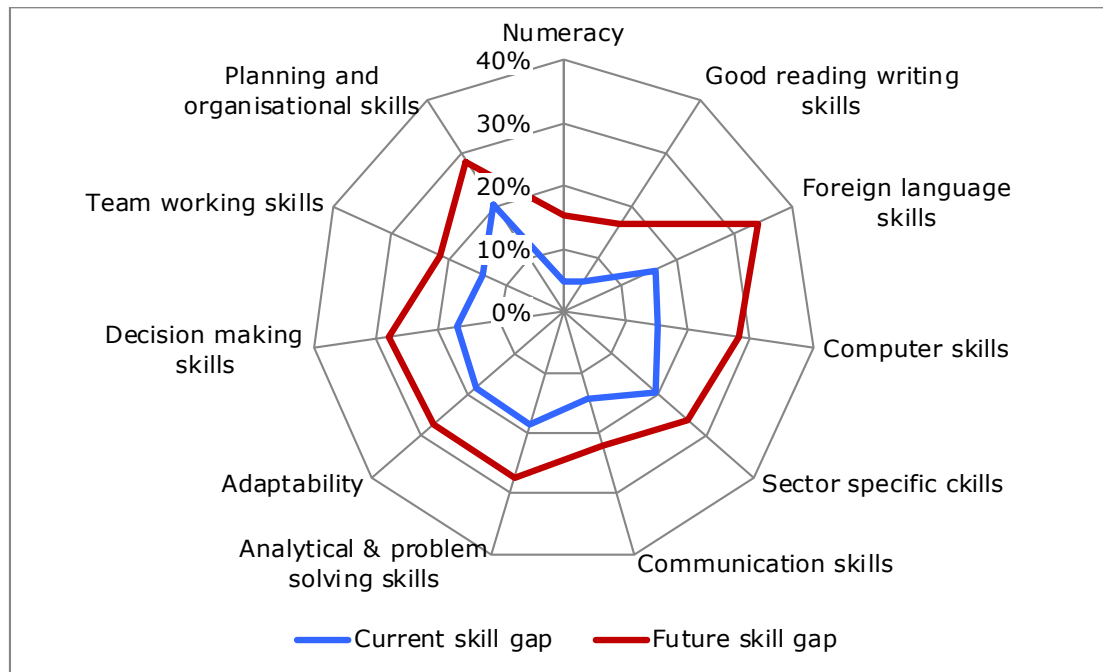
Even if they have studied the subjects that provide them with skills that are in high demand, HE graduates often lack the associated practical and interactive skills or competencies that employers expect, which entails a need for further training, as shown in the previous section. The curricula of many study programmes often fail to reflect the combination of skills that employers seek. It is also thought that HEIs equip students mainly with theoretical knowledge and that graduates lack both general and specific skills.

This study has examined graduate skill gaps through the employer survey, which measured cognitive and interactive skill gaps by asking employers about (i) the actual skills of their graduate employees along a range of skill dimensions and (ii) the level of skills they consider necessary to carry out the job. The difference between these two measures is the estimated skill gap. Reducing the skill gaps of graduates would increase their employability.

⁶⁰ The difference in means is significant at the 10% level.

⁶¹ The score for level of satisfaction with skills of new HE graduate recruits is 8.0 in both of these sectors.

Figure 11: Graduate skill gaps – current and future (%)



Source: Employer survey. Note: skill gaps are measured as the difference between actual and desired skills reported by employers, with the underlying scale of skill measurement set at 1 where the respective skill is not important and 5 where it is very important for the performance of the business.

Figure 11 shows graduate skill gaps as reported by employers. The data shows relatively high skill gaps in interactive skills/competencies such as planning and organisational skills, decision-making skills, analytical skills and adaptability. Among cognitive skills, there is a noticeably large gap in sector specific skills. All these type of skill gaps are expected to increase in the future (i.e. over the three years following the time of the survey up to 2018). The greatest expected increase in skill gaps is expected in foreign language skills. All this points to deficiencies in the quality of education, especially in relation to teaching interactive skills to HE graduates.

Teaching at HEIs often fails to provide the specific skills expected by employers. The out-dated teaching system also partly explains the large gaps in interactive skills. The importance of rote learning, and the low interaction in the classroom between the lecturer and the students, hinders their adaptability and the development of their professional skills. As put by an employer representative:

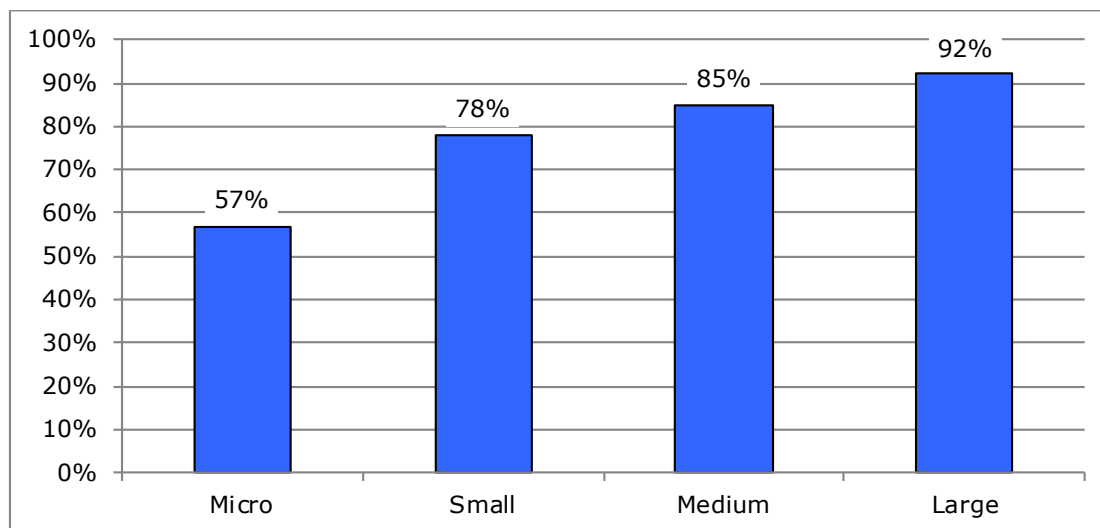
“The graduates generally lack in innovation, our formal education system is based mostly on theory and we are very good at this. However, the education right from the beginning in primary schools lacks in creativity, innovation and practical experience.” (Interview, Chamber of Commerce, 2015).

In this perspective it is worrying that HEIs and the entire education system do not equip their students with sufficient interactive skills, where the skills gaps are biggest. This is terribly important to remedy as future jobs are expected to involve precisely more non-routine, interactive skills (World Bank, 2015).

4.3.3 Training of new graduate employees

Employers throughout all key sectors complain that graduates need further training in order to perform tasks that should have been taught during studies. According to a report by the Agency for Employment of Bosnia and Herzegovina (2013), some 30% of employers have difficulties in finding appropriate workers for certain positions. In the private sector, this figure rises to 60%. In total, 44% of employers report a lack of practical experience as the major problem in finding adequate workers, followed by a lack of potential employees' interest in positions offered (16%) and dissatisfaction with remuneration offered (12%). A large proportion of employers report an interest in training their employees within the working environment (44%) or in supporting prequalification and additional qualification of their employees in some form of industry-based training centre (30%).

Figure 12: Formal training provided by employers by employment size group



Source: Employer survey. Note: differences are statistically significant at 5% level.

The employer survey shows that more than one quarter of employers attach “a lot” or “very much” importance to having previous work experience when making a decision to recruit a new graduate. The reason for this is that graduates with previous work experience are likely to have more relevant skills than those recruited straight from HEI. This conclusion is supported by the finding that 77% of employers provide formal training to their graduate employees, and 81% provide informal training. This is a similar proportion to that found in a previous study (World Bank, 2009).

The need that employers have to provide training to their graduate employees is related to the size of the employer. Large employers are significantly more likely than smaller employers to provide training to their graduate recruits, demonstrating not only the greater resources that such employers have but also the need for additional training beyond the education received at HEI. It is also notable that more than half of all micro enterprises employing HE graduates provided formal training (see Figure 12). Employers in high or medium high technology sectors are also significantly more likely to provide informal training to their graduate employees than employers with lower levels of technology. Over four fifths (82%) of employers in the former category provide formal and informal training, compared to two thirds (65%) of employers in the latter category. This suggests the importance of well-developed skills for high technology firms, and the need for such firms to provide additional training for new graduates.

4.4 Summary

The research reported above shows that both graduates and their employers have a difficult time in managing the transition from HEI to work. The main reasons for graduates having difficulty in finding a job include firstly the lack of available jobs and a higher education system that does not equip its graduates with relevant skills. The lack of cooperation between HEIs and employers over recruitment, the lack of formal career guidance services to support effective job search, lack of work experience, nepotism (especially in the public sector), and the poor perception of the quality of skills taught at private HEIs add to the problem. The low level of cooperation between HEIs and employers makes all of these factors worse than they need be. On the employer side, dissatisfaction with the skills of new graduate recruits and the need to provide additional training are factors that inhibit employers from taking on new graduates. The significant gaps in interactive skills (which are essential in high skill jobs) can be imparted to out-dated teaching methods.

5 Skill mismatch

Skill mismatch⁶² is widespread in market economies (McGuinness, 2006).⁶³ Skill mismatch is important for the economy as a whole as well as for the individuals concerned, since there is strong evidence that there is an inverse relationship between skill mismatch and productivity levels at the country level (McGowan and Andrews, 2015a). Thus, countries with a higher level of skill mismatch are expected to have a lower level of productivity and growth than countries with a lower level of skill mismatch, other factors being equal.

Skill mismatch has two dimensions. Horizontal skill mismatch refers to a situation in which an employee has a qualification in a field of study that is not required by the job held. Vertical skill mismatch refers to a situation in which an employee has a qualification either above or below the skill level necessary to carry out the job.

5.1 Horizontal mismatch

The graduate survey shows that 64% of graduates are in a job that is well matched to their field of study. Graduates with vocational diplomas and specialist diplomas are the best matched; 77% of the former and 80% of the latter report that their field of study is appropriate for the job held. Horizontal mismatching is partly at least a direct result of the huge number of graduates in study fields that are not needed in labour market.

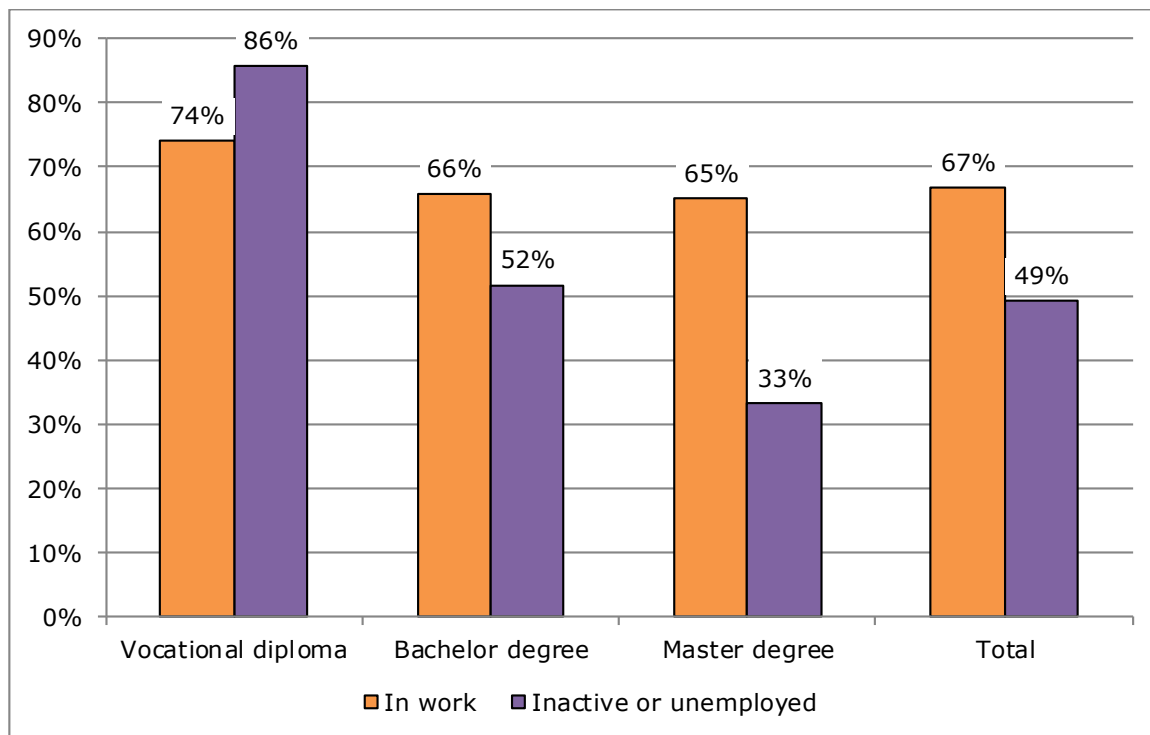
The extent to which graduates achieve horizontal matching is related to their labour force status and their degree level (see Figure 13). Only 49% of currently unemployed or inactive graduates were well matched in their previous job compared to 67% of currently employed graduates. Among Master degree holders the effect is even stronger. This

⁶² It should be noted that much of the discussion of skill mismatch is really framed within the context of "qualification mismatch". However, the term "skill mismatch" is commonly used throughout the literature, where "qualifications" is taken as a proxy for "skills". The OECD has recently begun to carry out skill surveys that get around this problem. In our graduate survey, for vertical mismatch we ask whether the qualifications of the graduate match the skills needed by the job, in order to pin down the "skill" aspect of the issue.

⁶³ Skill mismatch has two dimensions. Horizontal skill mismatch refers to a situation in which an employee has a qualification in a field of study that is not required by the job held. Vertical skill mismatch refers to a situation in which an employee has qualification either above or below the skill level necessary to carry out the job.

suggests that having a well-matched job is important for job retention, and that horizontal mismatch is a key risk factor in pushing new graduates into unemployment or inactivity. It is also notable that graduates with vocational diplomas oriented towards practical skills and labour market relevance achieve a better matching with their job than graduates with higher, but more “academic” qualifications.

Figure 13: Graduates with a horizontally well-matched job by degree level and labour force status (% within highest degree level)



Source: Graduate survey. Note: for unemployed respondents, matching refers to last job held.

A graduate’s success in finding a horizontally well-matched job has implications for the earnings that can be achieved. On average, graduates in horizontally well-matched jobs earn €576 per month compared to €457 for those in a job that is not well matched to their study programme at HEI.⁶⁴ In so far as earnings reflect productivity, this implies that horizontal matching is also important for business productivity and the competitiveness and growth of the economy.

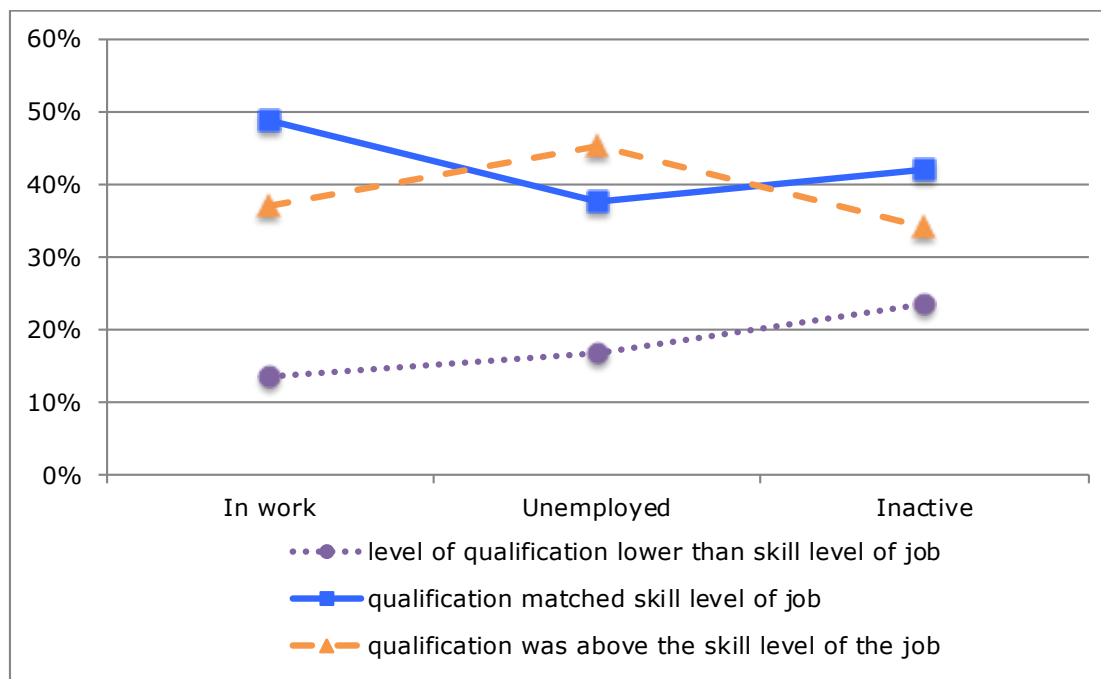
5.2 Vertical mismatch

The graduate survey shows that there is a high degree of vertical mismatch, with 53% of HE graduates reporting that their level of qualification is not matched to the skill requirements of the job they hold. This is far greater than the level of skill mismatch observed in the EU where according to the OECD Survey of Adult Skills the highest level of mismatch is in Italy at around 34% (McGowan and Andrews, 2015b). In BiH, 38% of graduates are over-qualified for the job they hold (or did hold if currently unemployed or inactive) and a further 15% is under-qualified, implying a lack of meritocratic hiring practices. Less than half (47%) of recent graduates hold a vertically well-matched job.

⁶⁴ The difference in mean earnings is significant at the 5% level ($F=4.42$, $p=0.036$, $N=282$). Median earnings are €500 in well-matched jobs compared to €400 in other jobs.

Having a well-matched job has implications for earnings. The graduate survey shows that graduates who are well matched have higher initial earnings than those who are mismatched, with median monthly earnings of €350, compared to €300 for both over-qualified and under-qualified graduates. The differences persist, but narrow somewhat, as graduates sort themselves into better-matched subsequent jobs. For the current job, well-matched graduates have median monthly earnings of €468, compared to €450 for over-qualified graduates and €385 for under-qualified graduates.⁶⁵ The initial difference in earnings may be a measure of the productivity gap between well-matched and poorly matched graduates, and therefore of the potential gain from ensuring that the matching process works more efficiently for HE graduates.

Figure 14: Vertical matching by labour force status (% within labour force status)



Source: Graduate survey. Note: differences between public and private HEIs are significant at 5% level; N=311.

Figure 14 shows that graduates who perceive that they are well matched by level of qualification are more likely to be in work than to be unemployed or inactive. Graduates who are overqualified are more likely to be unemployed than either employed or inactive. Graduates who are under-qualified are more likely to be inactive or unemployed than in employment. This implies that having a well-matched job is important for job retention, since a substantial number of those whose first job is mismatched subsequently become unemployed or fall into inactivity.

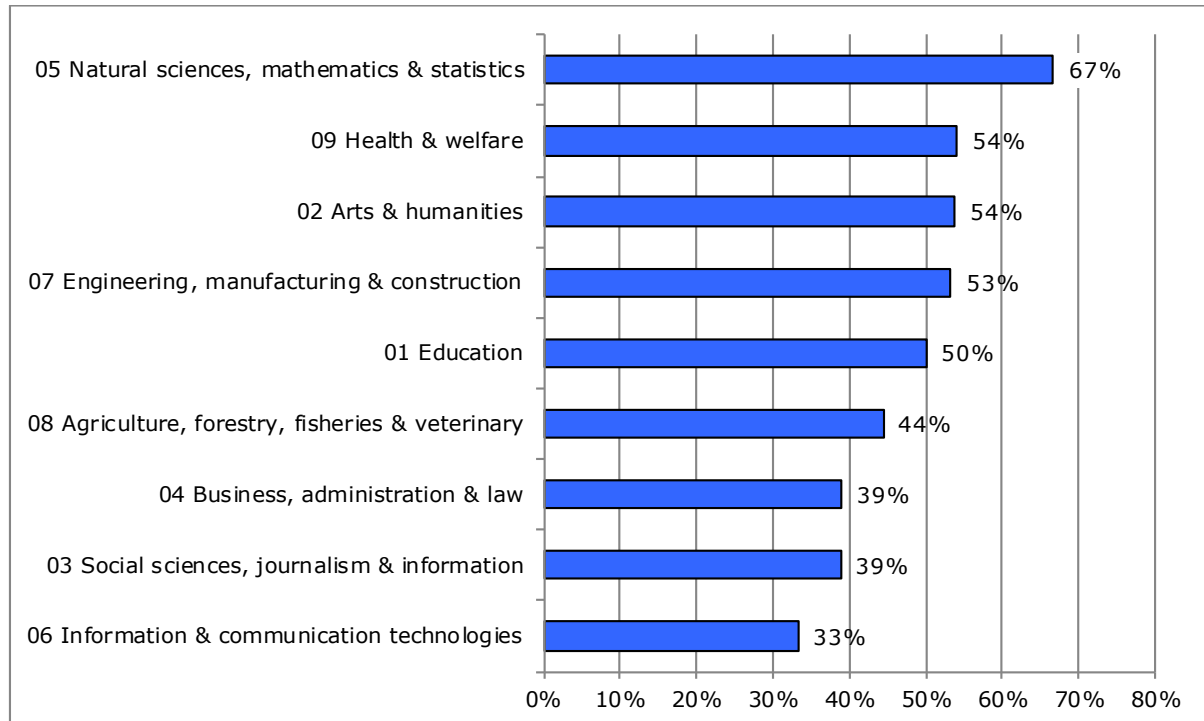
Various other factors have a significant influence over whether a graduate finds a well-matched job. The students who were budget funded at HEI have a significantly higher chance of finding a well-matched job than non-budget funded students ($p < 0.05$).⁶⁶ This is to be expected, since in conditions of an oversupply of recent graduates, employers can pick the most suitable candidate and they will probably select the brightest students

⁶⁵ Other studies of skill mismatch in transition countries also find a wage penalty associated with over-qualification, see e.g. Lamo and Messina (2010).

⁶⁶ The graduate survey shows that 52% of graduates who had been budget funded had a well-matched job, compared to 42% of graduates who had not been budget funded.

with the best results, although nepotism sometimes interferes with this logical selection process. Graduates who attended public HEIs are more likely to be well matched than graduates from private HEIs. Graduates from private HEIs have a higher risk of being over-qualified for their job ($p < 0.05$).⁶⁷

Figure 15: Proportion of vertically well-matched graduates by field of study



Source: Graduate survey.

Success in finding a vertically matched job is more likely for graduates who have qualified in some fields of study than in others. The degree of matching varies by field of study (see Figure 15). Graduates who studied *Natural Sciences, Mathematics & Statistics* subjects are more likely than others to find a vertically well-matched job, while graduates from *Social Science, Journalism & Information* and *ICT* fields of study are less likely to be well matched.

Teaching methods also have a significant influence on whether a graduate ends up in a well-matched job. More than half (54%) of graduates who reported that teaching involving problem solving and creative thinking are very useful for learning outcomes had a well-matched job, while only 29% of graduates who report that such methods are not useful had a well-matched job ($p < 0.05$).⁶⁸ Also, learning decision-making skills contributes strongly to achieving a well-matched job ($p < 0.1$)⁶⁹ as does learning computer skills ($p < 0.1$).⁷⁰ This may indicate that graduates with these skills are favoured by employers and have greater success in their job search than graduates who learn more traditional cognitive skills at their HEI.

⁶⁷ 57% of graduates who attended private HEIs were overqualified for their job, compared to 36% of those from a public HEI (Chi-square=6.00; $p = 0.05$; $N = 396$).

⁶⁸ Pearson Chi-square = 16.0; significance level = 0.043; $N = 309$.

⁶⁹ 52% of those with very good decision-making skills have a well matched job compared to just 24% with no computer skills (Chi-square=13.79; $p = 0.088$; $N = 391$).

⁷⁰ 41% of those with very good computer skills have a well matched job compared to just 32% with no computer skills (Chi-square=14.44; $p = 0.071$; $N = 390$).

The nature of the skills learned at HEI also affects success in finding a well-matched job. While over half (54%) of those who report that they mainly learned subject specific skills had a well-matched job, only one third (33%) of those who report they did not learn any subject specific skills had a well-matched job ($p < 0.05$).⁷¹ A similar finding relates to the use of internships or work placement in securing a well-matched job. While 64% of those who report that these were very useful for learning outcomes have a well-matched job, only 33% of those who report these methods are not at all useful have a well-matched job ($p < 0.05$).⁷² This indicates the usefulness of vocational education in achieving a good match on the labour market.

The assistance provided by the HEI in finding a job has a strong effect on the degree of vertical matching. While 62% of those who report that their HEI provided “very much” assistance in finding a job had a well-matched job, only 38% of those who report that their HEI provided no assistance in finding a job had a well-matched job ($p < 0.01$).⁷³ This reinforces the case for strengthening assistance by HEI career centres (see section 4.2.1.)

The economic situation experienced by graduates has a strong influence on their job match success. 60% of those who report that they experienced “no difficulty” in finding a job on account of the economic situation have a well-matched job, while only 39% of graduates who experienced “very much” difficulty in finding a job on account of the economic situation have a well-matched job. This supports the proposition that graduates who are in poor economic circumstances or who live in a part of the country that has been badly affected by economic recession are willing to take a job that is below their level of qualification, probably just to survive until a better job comes along in the future. Given the lack of mobility in BiH, this finding could reflect a geographic difference, as some regions have been harder hit by the recession than others. In recession-hit regions it may be expected that graduates would be disappointed with the jobs they find and that they are likely to be employed in a job that is below their level of qualification.

6 Conclusions and policy recommendations

The research reported above shows that the HE system in BiH produces too many graduates relative to the needs of the labour market, leading to a high graduate unemployment rate. Many students drop out of studies leading to a low completion rate. Of those students who do graduate many face the prospect of unemployment. Of those who do find a job, many are in jobs that are not matched to their field of study or their level of qualification, reducing their wages and job prospects in relation to graduates in well-matched jobs. With an overall completion ratio of 48%, an employment rate of recent graduates of 50% and a rate of (vertically) well-matched graduates of 47%, it could be said that the internal efficiency of the combined HE and labour market systems (the HELM system) is extremely low, at just 11%⁷⁴. In other words, of every hundred new students entering the system in any one year, it can be expected that only eleven will eventually graduate from the system and find a well-matched job. In order for HE system to make a better contribution to building human capital and to the competitiveness and growth of the BiH economy, significant reforms of the HE system

⁷¹ Pearson Chi-square = 16.44, $p = 0.036$, $N = 394$.

⁷² Pearson Chi-square = 18.9; significance level = 0.015; $N = 305$.

⁷³ Pearson Chi-square = 22.9; significance level = 0.003; $N = 391$.

⁷⁴ The efficiency of the HE-LM system can be assessed as the product of these three ratios: $0.48 \times 0.50 \times 0.47 = 0.11$.

and the graduate labour market are needed, and better cooperation between employers and HEIs should be encouraged.

6.1 The provision of higher education

The number of HEIs has increased over the last two decades in response to an increase in student demand especially in the 2000s as the economy recovered and new graduate level jobs were being created. There are now 47 HEIs in BiH, of which 10 are public and 37 are private HEIs. The country has 1.2 HEIs per 100,000 of the population, about the same as the regional average of 1.3. Every year around 35,000 students enrol in first cycle studies at 18 accredited HEIs and 29 non-accredited HEIs. In the 2013-14 academic year, 42% of students enrolled in Humanities, Social Science, Business, and Law (HSS) subjects, while 28% enrolled in Science, Technology, Engineering and Mathematics (STEM) subjects. About 16,000- 18,000 complete their studies each year. The annual ratio of completions to enrolments is relatively low, averaging just 48%. Possible explanations for this poor performance of the HE system include the tradition of re-taking examinations and the high dropout rate of students. Corruption over admissions and examinations may also affect enrolment and completion rates. Institutions at various levels of governance are responsible for HE accreditation; not all HEIs have yet been fully accredited. Quality standards vary due to the lack of comprehensive coverage of accreditation (some cantons do not have education legislation). Graduates who studied at private HEI are more satisfied with the quality of the education they received than graduates who studied at public HEIs. More than two thirds of graduate respondents consider that better teaching methods would have significantly improved their job prospects after graduation. Teaching methods continue to rely on rote learning and out-dated curricula, and there is a lack of practice-oriented education.

6.2 The graduate labour market

While HE graduates have lower unemployment rates and higher employment rates than less educated people, in 2015 recent HE graduates had a higher unemployment rate (39%) than the national average (28%). Overall, graduate unemployment rates are around three times higher than in the EU-28 (see Table 6 above). Graduates are disproportionately employed in the economic sectors of *Education, Public Administration and Health & Welfare*, and are under-represented in the *Manufacturing* sector. However, the number of graduates employed in *Manufacturing* has been increasing rapidly as the economy recovers from economic recession. On the labour market, there is a large oversupply of graduates from the broad study fields of *Social Science, Journalism & Information and Health & Welfare*. If future industrial policy succeeds in developing high technology and knowledge intensive industries, the demand for graduates in the *Business, Administration & Law* and in *Information & Communication Technologies* is expected to increase, but the broad pattern of oversupply in the fields of study listed above will not change much. Small and medium sized employers have a more intensive demand for graduates than larger firms, and these can be expected to make a key contribution to growth and competitiveness in the future. While current labour market policies are focused on reducing the cost of labour to employers and on eliminating rigidities in the hiring and firing process, graduate labour market policy should not neglect the need to support the creation of additional high-skilled high-wage jobs in growth sectors such as *Manufacturing and Information & Communication* sectors.

6.3 Transition from higher education to the labour market

HE graduates face many difficulties in making a successful transition to the labour market, not least of which is the low demand for skilled labour reflected in an oversupply of graduates. This gives rise to an intense competition for jobs and a willingness of many graduates to take a job that has a lower skill content than is warranted by their level of education. This is not helped by a relatively low level of cooperation between HEIs and employers, in relation to both curriculum reform and recruitment. Employers feel that greater cooperation would be beneficial in enabling them to hire graduates with appropriate skills that are better matched to the requirements of the jobs on offer. This suggests a role for public policy to support improved cooperation between HEIs and employers in order to ease graduates' transition to the labour market. Graduates rely heavily on their friends or family to assist in their job search, a factor that promotes clientelism and nepotism in graduate recruitment. In a competitive market, employers often prefer graduates with work experience, which handicaps graduates who have not had any work experience during their studies. The graduate survey shows that 30% of graduates received no work experience during their period of studies and 34% received only "a little" work experience. Government initiatives to introduce internships in the final year of study have largely failed due to lack of interest from private employers who have been reluctant to offer internships to final year students. Employers are relatively dissatisfied with the skills of HE graduates, and they identify large skill gaps among their graduate recruits especially in relation to interactive skills, which are neglected at most HEIs where teaching methods emphasise rote learning and neglect modern student centred approaches. In response to these skill gaps many employers provide additional training to their graduate recruits.

6.4 Skill mismatches

Among graduates that do find a job, many have a job that is not well matched to their field of study (64% of graduates) or level of qualification (53% of graduates). Being in a well-matched job (either horizontally or vertically) is important for job retention. A variety of factors predispose a graduate to finding a job that is well matched to the level of qualification, including being a budget funded student, following study programmes in which problem solving and creative thinking teaching methods were used intensively, attending a private HEI, having had an internship or a work placement, following a study programme that teaches sector specific vocational skills, and receiving assistance to find a job from the HEI. The field of study is also an influential factor, with the highest degree of mismatch (over-qualification) among graduates who studied *Social Science, Journalism & Information*. At the same time, many graduates encountered difficulty finding a well-matched job due to the poor economic situation.

6.5 Policy recommendations

As the conclusions set out above demonstrate, action is needed both on the part of HEIs and on the part of employers, government and public employment services to produce a more effective outcome for graduate job seekers. Governments at all levels have an important role to play in ensuring that necessary changes are properly supported. This is in line with the OECD skills strategy, which proposes that skills strategies should not only focus on improving the supply of skills through education and training systems, but also on stimulating the demand for high skills in the market and their utilization in the workplace (OECD, 2012; Valiente, 2015). The research findings reported above suggest a range of policy measures that should be implemented to improve the prospects for

graduates when they enter the labour market. The recommendations are presented in order of priority.

Higher education

1. **The quality of education in HEIs in Bosnia and Herzegovina should be improved.** Curricula should be modernised, and teaching methods should be reformed to promote a student-centred approach and more interactive learning. Applied knowledge and critical thinking skills should be the core focus of teaching, rather than memorisation of material from textbooks. The ministries of education should organise training sessions on innovative and interactive teaching methods. Professors should be encouraged to use more case studies, role-play examples and simulations in their teaching. A greater focus on practical training is needed, such as the introduction of a period of internship, which could be arranged in consultation with local employers. A national programme to financially support HEIs in recruiting international staff could be considered.
2. Ministries of education should adopt a strong and clear stance on graduate employability through a stricter enrolment policy, **using scholarships to encourage enrolment in fields of study that are likely to be in deficient supply in the future.** The number of scholarships should be increased for students in these fields of study, and decreased study fields in which there is an oversupply of graduates, following the practice in Republika Srpska. HEIs should provide more information to potential applicants on the likely labour market demand for various study programmes. This could be done through outreach programmes to local schools in partnership with public educational guidance services, as is currently performed through an existing Republika Srpska scheme.
3. Steps should be taken to **improve the completion rates** of students who enrol in study programmes by limiting repeat examinations and reducing drop out. Provision of scholarships should be conditional on completing studies on time. Students who fail to complete their course work on time should be given additional support and remedial classes. Students who successfully complete their study programme within a given year could be given a partial discount on their tuition fee for the subsequent academic year to motivate on-time completion. This could be subsidised by the government. HEIs should publish the completion rates of their students, not only for degree courses, but also for individual exams and modules. This information should be used to attract students and as a basis for funding decisions by the responsible institutions of the state.
4. **Improvements to the quality assurance system** are needed to enable the scrutiny of professors' work based on student evaluations. Professors whose quality of teaching is judged unsatisfactory through student and peer assessment should be required to attend specialised refresher courses on teaching methods. Publishing of assessment scores as public information could potentially create incentives for professors to achieve better results in teaching, working with students, and in research and publications. In this regard, a greater effort should also be made to attract experts educated abroad into BiH academia. The government should promote the internationalisation of HEIs with some financial rewards for acquiring international accreditations. External peer-reviews should be conducted for both public and private HEIs, thus ensuring equal treatment. Institutions should be assessed according to the quality of their teaching and the ranked scores should be published.

5. In order to **stem widespread corruption** at HEIs, policy-making institutions should strengthen inspections, introduce internal monitoring of compliance with assessment and grading regulations, including monitoring of exams held by teachers, and expanding the power of ethics committees. A protocol should be introduced through which professors' engagement at multiple institutions can be monitored and controlled. HEIs should make more transparent the criteria used for indexing publications, selecting and promoting teaching staff. The validity of student examinations should be controlled by rules enforced by an independent body.
6. HEIs should **provide better information and career guidance** to students to assist them in finding a well-matched job. Graduated students should have continued access to the HEI career guidance services for up to one year after graduation. Systems for tracing students after graduation should be strengthened where they exist already, and established at other HEIs. Tracer studies would provide information on the success rate of graduates in finding a job.

Labour market

1. A **renewed industrial policy** is needed to link foreign investors to suppliers such as domestic SMEs that employ graduates (especially in the *Manufacturing* and *ICT* sector). This might generate an increased demand for skilled labour, stimulate prospective students to choose subjects in high demand, and support the high-level skills that will be required to underpin future competitiveness and growth. Simultaneously, a broader policy framework for the promotion of greater levels of R&D expenditure by firms in BiH, which in itself might generate a greater level of demand for HE graduates, is needed in order to encourage growth and investment.
2. **More direct cooperation between employers and HEIs** is needed, for information-sharing and active participation in the relevant councils of the HEIs over curriculum design and recruitment issues. The relevant levels of government (Entity, Canton) should set up a framework for cooperation between HEIs and employers over curricula and recruitment. HEIs could offer an internship semester in collaboration with local employers, which might improve the matching of HE graduates to appropriate jobs. Employers and their representatives such as Chambers of Commerce should identify skill shortages in the labour market and publicise these to HEIs and to potential students about to embark upon HE studies. Employers could receive incentives to provide on-site training to HE students, with both HEIs and employers providing a quality assurance system. This would reinforce the trust that employers have in the HE system and motivate HEIs to be more responsive to the labour market. If HEIs are willing to institute placement schemes or set internship requirements as part of their degrees, a sufficient number of employers will need to be willing to offer such placements, and government subsidies and support would incentivise this. Sector skills councils, bringing together HEIs and employers, should be established. This should be done within the context of a broader government strategy to encourage improved university-business collaboration.
3. **Graduate entrepreneurship should be encouraged** through a government-sponsored Start-up Fund that would be used to support the creation of new enterprises by HE graduates with adequate training and mentoring support. This could also be directed towards fast-growth high-technology employers.

- 4. The effectiveness of public employment services could be improved** through better organisation and more information about services offered. Active labour market policies (e.g. training activities) should be better focused on recent graduates. Government should fund graduate training schemes at knowledge-intensive SMEs, which lack resources to fund such schemes. Medium-sized employers may be a priority target group among this type of employer, since the prospects for growth of graduate employees among this group seem particularly favourable.

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Annex – Methodological note

1. Higher education provision database

We collected data on existing study programmes in Bosnia and Herzegovina offered by both public and private HEIs. Records concerning the number of HEIs are subject to frequent change as HEIs that are licensed by their responsible ministry sometimes do not appear in the data base of the Centre for Information and Recognition of Qualifications in BiH (CIP), while those that are in this database may have ceased operations. Fully licensed and accredited HEIs ought to appear in the database of the Agency for Development of Higher Education and Quality Assurance in BiH (HEA) while offices for statistics have their own information and data. However, these sources are often contradictory. To create our HE Provision database we have mainly relied upon the list of institutions given in the HEA database, as it is the most stable source of information. We collected data on existing study programmes in Bosnia and Herzegovina offered by both public and private HEIs from all accredited and non-accredited HEIs that submitted their data to the project team (after all reminders).

Table A1: HEIs included in the HE provision database

Name of HEI	Ownership status
University of Banja Luka	Public
University of Mostar	Public
University of Sarajevo	Public
University of Tuzla	Public
University of Zenica	Public
Apeiron University in Banja Luka	Private
College of Business Assistance in Sokolac	Private
Communications College Kapa Fi in Banja Luka	Private
International Burch University Sarajevo	Private
International University of Sarajevo	Private
Prometej College Banja Luka	Private
University Singerija in Bijeljina	Private

Having analysed all sources, our final HE Provision database covers **12** HEIs and **663** study programmes. The database provides for *each study programme* several categories of data, e.g. name of HEI, name of faculty, name of qualification, level of qualification (Diploma's level, Bachelor's level, Master's level, field of study (ISCED classification), number of students beginning studies per year (since academic year 2012-2013), number of students completing studies per year (since academic year 2012-2013), total number of students enrolled in 2014-2015. A few HEIs failed to provide complete data on the number of students beginning or completing their studies.

2. Surveys

Two surveys were administered, one to recent HE graduates and the other to organisations located in Bosnia and Herzegovina that employ HE graduates among their workforce. These surveys were carried out from May to August 2015.

2.1. Graduate survey

The sample frame comprises recent graduates from Bosnia and Herzegovina HEIs who graduated from higher education since 2010. We designed an online survey questionnaire and managed it through the Qualtrics software platform. An online survey link was sent by a number of Bosnian HEIs (see list below) directly to their alumni contact lists. The graduate cohort of these HEIs comprises between 85% and 90% of the student population of BiH. Due to private data protection policies, most HEIs decided to send the survey link to students themselves, with only one HEI sending us the email addresses of their graduates directly. In the subsequent period, a number of reminders were sent to universities reminding them to send the link to graduates if they had not already done so. In order to increase the response rate, all relevant institutional stakeholders beside HEIs, including governmental ministries, were asked to publish the link to the survey upon their web sites, which they did.

Table A2: HEIs included in the survey

Name of HEI	Ownership status
University of Sarajevo	Public
University of Banja Luka	Public
University of Bihac	Public
University of Mostar	Public
International University of Sarajevo	Public
University of Tuzla	Public
University of Zenica	Public
University "Dzemal Bijedic", Mostar	Public
University of East Sarajevo	Public
American University of Bosnia and Herzegovina	Private
Banja Luka College, Banja Luka	Private
College "Logos centar", Mostar	Private
College "Primus", Gradiška	Private
Communications College Kapa Fi, Banja Luka	Private
Higher School for Service Business, Sokolac	Private
Independent University of Banja Luka	Private
International Burch University, Sarajevo	Private
Prometej College Banja Luka	Private
Sarajevo School of Science and Technology	Private
Slobomir P University, Bijeljina	Private
University of Business Administration, Banja Luka	Private
University Sinergija, Bijeljina	Private

The required sample size was assessed on the basis of the desired level of precision. Among other issues, we were interested in the experience of graduates from different types of HEI, public and private, and across three categories of labour force status: in work, unemployed, or inactive. We collected a total of **774** completed questionnaires (respondents who did not fit the sample frame were ruled out). This gave the desired degree of precision to the estimates.

The representativeness of the sample can be checked by comparing the distribution of the sample of graduates by field of study to the distribution of the underlying population of students by field of study as reported in the HE provision database. We compare the proportions of students who completed their degree in the three academic years from 2011-14 by field of study from the HE provision database, and compare this with the distribution of graduates by field of study from the graduate survey. We take the average over the three years, since the graduates in the graduate survey have completed their degrees at different points of time in the past. It can be seen that the representation of the sample is fairly close to that of the distribution of enrolments with a Pearson

correlation coefficient of +0.85. The distribution of respondents by broad field of study compared to the population distribution from the HEI database is shown in Table A3.

Table A3: Sample distribution (graduate survey) and population distribution of graduates (completions) by broad field of study

Broad field of study	Graduate survey (number)	Graduate survey (%)	HEI database (%)
01 Education	109	14.6%	13.8%
02 Arts & Humanities	95	12.8%	9.4%
03 Social Sciences, Journalism & Information	143	19.2%	28.0%
04 Business, Administration & Law	80	10.7%	10.8%
05 Natural Sciences, Mathematics & Statistics	29	3.9%	4.1%
06 Information & Communication Technologies (ICTs)	36	4.8%	3.7%
07 Engineering, Manufacturing & Construction	118	15.8%	9.9%
08 Agriculture, Forestry, Fisheries & Veterinary	52	7.0%	3.0%
09 Health & Welfare	79	10.6%	16.2%
10 Services	4	0.5%	1.1%
Total	745	100.0%	100.0%
Missing	29		
Total including missing values	774		

2.2. Employer survey

We designed a questionnaire that was implemented through a mix of online survey and phone interviews. The sample frame consisted of companies of all sizes located in Bosnia and Herzegovina and employing HE graduates. The first major problem was obtaining a database with employers' contact details. A number of institutions were contacted, including ministries of labour, statistical offices, associations of employers, agencies for employment and administrators of different EU-funded projects that had collected similar data within their activities. The process of data collection included numerous email and telephone calls. One EU-funded projects provided contact data for 4,000 employers in the country, which was used as a starting point. The second problem was the low response rate from employers. Therefore, PhD students were engaged to personally call employers and to visit them, in order to obtain a sufficient number of completed questionnaires. In order to increase the response rate to the employers' questionnaire, all relevant institutional stakeholders beside HEIs, including governmental ministries, were asked to publish the link to the survey upon their web sites, which they did. The online survey link was also forwarded by some key labour markets organisations (see Table A4).

Table A4: Organisations that distributed the employer survey

Institute for Employment of Republika Srpska
Institute for Employment of Federation of Bosnia and Herzegovina
Institute for Employment of Brcko District

Altogether we collected a total of **153** completed questionnaires. The sample was balanced: most of the employers surveyed were either micro enterprises (24%) or SMES

(66%), while large companies represented a minority (10%). The survey covered the various sectors of the economy, with the largest concentrations in manufacturing (33%).

Table A5: Comparison of population (all employers) and survey (graduate employers) distribution by size groups

	BHAS, 2014		Survey	
Micro and Small enterprises (0-49)	22,877	94.7%	79	58.5%
Medium sized enterprises (50-249)	1,083	4.5%	42	31.1%
Large enterprises (>=250)	188	0.8%	14	10.4%
Total	24,148	100.0%	135	100.0%

Source: Graduate survey and Bosnia and Herzegovina Agency for Statistics enterprise demography data.

Table A5 shows the distribution of the sample by employer size groups (small employers with 0-49; medium employers 50-249; large employers >= 250 employees). The distributions are rather different for two reasons. First, the survey sample was taken from employers who employ graduates, whereas the enterprise demography from BHAS shows the distribution of all enterprises whether or not they employ graduates. There is no available population distribution for the employers that employ graduates, and so the representativeness of the sample cannot be validated; nor can the sample be adjusted by any relevant weighting technique. Second, the sample was by design adjusted to ensure that we had a similar distribution of employers across all size groups (in the survey we also split the small employers into two groups – “micro” who employ less than 10 employees and small who employ between 10 and 49 employees (according to the Eurostat definition). This design was chosen to ensure that we had enough medium and large sized employers in the sample to make comparisons across size groups. For both these reasons we are unable to claim that the survey is representative of the population of employers who employ graduates. However, this does not preclude us from drawing inferences from within the sample about statistically significant differences between employer size categories for variables of interest (such as skill gaps). It does mean however, that care should be taken when interpreting the mean values of variables from the survey, since they may be subject to biases due to the potential over-representation of large and medium sized employers in the sample.

3. Interviews with key stakeholders

We carried out semi-structured interviews with **18** key stakeholders, with the aim to develop a comprehensive view on the causes of challenges for employers and HE graduates in the labour market. We identified stakeholders at three levels.

- **Policy-making stakeholders** (6 ministries, EU Delegation office)
- **Higher education stakeholders** (5 HEIs, Erasmus + Office, Erasmus alumni focus group)
- **Labour market stakeholders** (2 employers’ associations, 2 public employment service centres, 1 NGO)

We developed an interview guideline containing a set of questions for these semi-structured interviews. One group of questions were of a general nature and are posed to all stakeholders, to better confront their views on key issues. The second group of questions were specifically tailored to the various stakeholders, designed to explore further primarily issues within their specific competences. Local experts conducted the interviews and translate the transcripts into English.

We also carried out a focus group discussion with Erasmus Mundus alumni who had studied abroad, to gather their impressions of the contrasts between teaching methods used in their home and host countries.

4. Labour market data

We obtained labour force survey data at the federal and entity level for 2011-2014 from the Institute for Statistics of Federation Bosnia and Herzegovina, the Agency for Statistics of BiH and the Agency for Statistics of Republika Srpska. This provided information about the sectoral structure of graduate level employees for 2013, which were used as a base for the forecast for graduate employment by sector. The sectoral forecast was then converted into a forecast of demand for graduates by field of study using coefficients derived from the graduate survey.

The Labour Force Survey was also used to identify the relevant labour market key statistics for HE graduates (employment rate, unemployment rate), which could be compared to the statistics derived from the graduate survey relating to the employment rate and the unemployment rate of recent graduates.

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From University to Employment:

Higher Education Provision and Labour Market Needs

*in Kosovo**

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* *This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence*

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Luxembourg: Publications Office of the European Union, 2016

ISBN 978-92-79-54677-8

doi: 10.2766/081857

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Foreword

Higher education systems in the Western Balkans are facing serious challenges. Growing levels of student enrolment throughout the region are straining the limited resources of public universities. At the same time, the number of private institutions has been increasing rapidly.

Importantly, more needs to be done to ensure that higher education qualifications match labour market needs. Many young people in the region are unemployed – and a number of them have higher education diplomas. This suggests that employers do not hold university degrees in very high esteem.

Whatever the field of study, third-level education is a means of sharpening our intellect and therefore valuable in its own right. However, it should also prepare us for the world of work, and enable us to lead independent lives as confident, engaged citizens. Universities and other higher education institutions need to adapt and modernise to deliver. In rapidly changing job markets, higher education systems should provide graduates with relevant skills and competences. This is not only about finding employment after graduation, but also about being able to adapt to future labour market needs and adjust to career changes.

We all know that a country's human resources are an integral part of its wealth. We say so on many occasions, especially when addressing young people in graduation ceremonies, or in political speeches. Unfortunately, when it comes to following these words with action and giving education the relevance and funding it deserves, we all too often fall short. This is something we have to change.

The skills and qualifications gained in university should help us build our lives and secure our societies' prosperity, competitiveness and progress. This study examines the link between higher education provision and labour market opportunities in the Western Balkans. It also looks at the obstacles facing graduates looking for work and the relevance of their skills for employers. The study is part of the on-going regional policy dialogue under the *Western Balkans Platform on Education and Training*. I am pleased to see that Ministers for Education have been supporting and engaging in this dialogue since the European Commission launched it in 2012.

I hope that the findings of the country reports in this study will contribute to more evidence-based policy-making in each country's higher education and labour sectors. The region's young people deserve nothing less.

Tibor Navracsics
European Commissioner for Education, Culture, Youth and Sport

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List of abbreviations

BA	Bachelor degree
CAQA	Serbian Commission for Accreditation and Quality Assurance
Cedefop	European Centre for the Development of Vocational Training
CV	Curriculum vitae
EBRD	European Bank for Reconstruction and Development
ECTS	European Credit Transfer System
EHEA	European Higher Education Area
ENQA	European Association for Quality Assurance in Higher Education
EQAR	European Quality Assurance Register
EQF	European Qualifications Framework
EU	European Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
HE	Higher education
HEI	Higher education institution
HSS	Humanities and Social Sciences
ICT	Information and Communication Technology
ILO	International Labour Organization
IMF	International Monetary Fund
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupations
KAA	Kosovo* Accreditation Agency
LFS	Labour Force Survey
MA	Master degree
MEST	Ministry of Education, Science and Technology
NEET	Not in education, employment or training
NES	National Employment Services
NQF	National Qualifications Framework
OECD	Organisation for Economic Co-Operation and Development
PES	Public Employment Services
PhD	Doctor of Philosophy
R&D	Research and development
SME	Small and medium sized enterprises
STEM	Science, Technology, Engineering And Mathematics
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
VET	Vocational Education and Training

Executive summary

This report analyses higher education (HE) provision and labour market opportunities in Kosovo*¹ by looking at several inter-related issues: the provision of HE, current labour market conditions for graduates, the challenges graduates face during their transition from HE to the labour market, the skill gaps that employers face when recruiting young graduates, and skill mismatches and their effects. The report concludes with recommendations on measures needed to ensure the right mix of skilled graduates to support robust economic growth in the future, support graduate job search, and encourage employers to create more graduate jobs and take on more skilled graduates.

The data used in the study was collected from March to August 2015. It includes two large-scale surveys: one among recent HE graduates (440 respondents) and one among organisations that employ HE graduates (139 respondents). Semi-structured interviews were carried out with management staff of higher education institutions (HEIs), ministries, employers' associations, and trade unions. A focus group was also carried with Erasmus Mundus alumni. The project has also assembled a unique database that includes details of most study programmes offered by HEIs.²

Main findings

In recent years there has been a rapid expansion of the HE system, involving the creation of several new public and private HEIs. With 37 HEIs, Kosovo now has more HEIs per head of population than the average in the Western Balkans. The HE system is aiming at convergence towards the Bologna principles and all HEIs now implement three cycles of studies and use the ECTS credit system. The number of students registered to study at HEIs has increased from 87,000 in 2007 to 128,000 in 2014 with around 40,000 new students enrolling to study at HEIs every year. The most frequent field of study is *Business, Administration and Law*, which attracts 42% of all new students while only 19% enrol in *Science, Technology, Engineering and Mathematics* (STEM) subjects. Compared to labour market needs, there is a large surplus of graduates from *Business, Administration & Law* and *Arts & Humanities* study programmes, with an emerging shortage of graduates from STEM study fields, especially in *Engineering* and *ICT*. Each year, far fewer students successfully complete than begin studies. In the academic year 2013-14, the completion ratio was just 32.5%, indicating a **high internal inefficiency of the HE system**.

A major concern following the expansion of the HE system has been **the low quality of education**. Quality is low because in many cases neither study programmes nor curricula have been updated to meet the changes that have taken place in the labour market, and few professors have kept up with the latest developments in their fields of expertise. The graduate survey shows that 48% of respondents consider that better teaching methods would have improved their job prospects, and a similar proportion think that better qualified professors are needed. In order to control quality an accreditation agency has been established, which has completed the accreditation of HEIs and is carrying out accreditation of individual study programmes. Since 2009, nine private HEIs have been refused accreditation.

* This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

² Further details about the methodologies and data used in this study can be found in the Annex.

It would be difficult to exaggerate the calamitous situation facing HE graduates in Kosovo as they make their transition to the labour market. Even though having a HE degree provides some protection against unemployment (the graduate unemployment rate is 15% compared to 35% for the working population as a whole), the unemployment rate of recent graduates is 49%, similar to the general rate of unemployment for young people of the same age group. A major challenge that graduates face is the **very limited number of jobs** that are appropriate to their level of qualification and skills, especially in the private sector. Lack of work experience during studies is another obstacle to finding a job. Most graduates are employed in the public sector, in *Education, Health & Social Work* and *Public Administration, Defence & Social Security*. However, in recent years, graduate employment has increased rapidly in the *Professional, Scientific & Technical Activities* and *Construction sectors*.

Even though many graduates are overqualified for the job they hold, most employers find that the skills graduates have been taught during their studies are inadequate or inappropriate. Many **HE graduates lack interactive skills**: problem-solving, analytical, organisational, decision-making and communication skills. These skill gaps, along with foreign language and sector specific skills, are predicted to increase in the future if no improvements are made in the HE system. As a result of the skills gap, almost half of employers find it necessary to provide further formal training to their graduate employees, while two thirds provide informal training. Among those graduates who do find a job, vertical mismatch (where the level of education does not match the skill level required by the job) is widespread, affecting 53% of recent graduates. Graduates who do not have personal connections to assist them in their job search have the highest degree of vertical mismatch.

HEIs and employers seldom cooperate to ensure the curriculum is more relevant to labour market needs or over recruitment of new graduates. Although most employers believe that such cooperation would improve the effectiveness of graduate recruitment, relatively few cooperate with HEIs. This suggests a strong case for public policy intervention to support better cooperation between HEIs and the business sector.

Policy recommendations

As the conclusions set out above demonstrate, a variety of policy measures are needed to provide a framework for HEIs, employers, government, and public employment services to provide more effective outcomes for graduate job seekers. The research findings reported above suggest several key policy measures that should be implemented to improve the prospects for graduates when they enter the labour market. These policy measures are presented in this section in order of priority.

Higher education

1. Steps should be taken to **improve the quality of education at HEIs**, giving more attention to teaching interactive skills and modernising teaching methods to give more responsibility to students in the learning process. HEIs should increase the proportion of staff that hold a PhD and have been educated abroad.
2. **Internal evaluation procedures** should be established or improved, especially concerning the quality of teaching and the relevance of study programmes to the labour market. Student evaluation through regular surveys of teaching quality should become mandatory at all HEIs to increase transparency and promote quality improvement.

3. Measures should be taken to **improve completion rates** for all students at all HEIs in order to reduce the cost of dropout, which is a waste of human potential and financial resources. Imposing stricter criteria for enrolment, stricter progression conditions and additional support from teaching staff may contribute to better completion rates.
4. More **cooperation with employers** in designing curricula could contribute to making curricula more relevant to the labour market and providing students with the right skills needed for the world of work. It could also help to inform employers about the competences that new graduate recruits may have.
5. The Government should **promote professional HE degrees** according to the National Qualifications Framework (NQF) and introduce study programmes with a professional orientation.
6. **The proportion of students who enrol in STEM subjects should be increased** possibly through the use of scholarships. The number of students following study programmes in *Business, Administration and Law, and Arts and Humanities* should be decreased, as there is a surplus of graduates from these fields of study in relation to labour market needs.
7. HEIs should propose optional **entrepreneurship education courses** to all students. Such courses could explain how to set up a company, reinforce interactive skills and links with the local business community.
8. An **internship semester** should be required to complete a study programme, so that graduates enter the labour market with work experience. Such internships should be closely monitored to ensure their contribution to learning outcomes.
9. Measures should be introduced to **reduce and eventually eliminate corruption** in HEIs. Payment of bribes for improved examination results or awarding degrees should be more rigorously monitored and penalised by sanctioning academic staff engaged in such practices.
10. **Career guidance services** should be improved to provide information about available jobs and support the employment of graduates. It should be provided to currently registered students and to recent graduates up to three years after their graduation. Educational and career guidance should also be provided to students before they enrol in HE courses to provide better information about likely labour market prospects of embarking on a particular study programme.

Labour market

1. The Government should consider strategies to **increase the number of graduate jobs available**. This should be done by supporting graduates who wish to establish new start-up companies, by supporting fast-growth SMEs in high technology sectors that have a high propensity to employ graduates, and by creating a more business friendly environment for foreign investment.
2. Employers should be encouraged to upgrade graduate jobs through more investment in knowledge intensive processes and technologies. Setting up a public **skills investment bank** could provide investment subsidies to employers who invest in innovation processes that increase the demand for highly skilled workers.

3. Improved **partnerships between employers and HEIs**, particularly those that include study programmes focused on new technologies, would help define a framework for the skills needed by the economy.
4. **Sector skills councils**, bringing together HEIs and employers, should be established. This should be done within the context of a broader government strategy to encourage improved university-business collaboration.
5. More **work experience and internships** should be provided to HEI students. Internships should be available to recent graduates up to three years after graduation. Employers should be provided with incentives to take on interns and the current public programme should be expanded.
6. The unemployment rate among new and recent graduates is far higher than for graduates as a whole. The current **wage subsidy scheme** introduced by the Kosovo Government and the UNDP to decrease the cost of recent graduates to employers in priority sectors that are identified in the national economic development plan should be extended, to include all new graduates with qualifications in STEM subjects.
7. Employers should be encouraged to expand their **graduate training programmes** for new graduate recruits. This could be encouraged by full deduction of the costs of employer-sponsored training for tax purposes, and by the use of training subsidies or vouchers.
8. Employers should be required to **report vacancies for graduate level jobs** to the Employment Offices managed by the Ministry of Labour and Social Welfare.
9. **Graduate entrepreneurship schemes** should be developed to assist recent graduates in developing business plans for knowledge-based business start-ups and offer subsidies for high technology equipment.
10. The Government should ensure that the *Employment and Welfare Strategy 2014-2020*, which aims to **promote skills development**, should be fully implemented and supported with appropriate legislation and allocation of necessary funds.

1 Introduction

Unlike most countries in the Western Balkans, Kosovo has had positive economic growth every year since the beginning of the global economic crisis in 2008 (World Bank, 2015). However, it has the lowest living standards in the region with a per capita GDP of €2,560 (less than two thirds the average of €4,059 for the rest of the Western Balkan region)³ and the highest rate of unemployment in Europe at 32.9%⁴ in 2015 (European Commission, 2015: 84). Kosovo's development has been based upon outward migration of labour and the remittances that migrant workers have subsequently sent back home to their families, amounting to 9.3% of GDP in 2012 (KAS, 2013). These remittances have pushed reservation wages well above productivity levels (IMF, 2015a). Despite strong growth performance, the labour market situation of young graduates is difficult due to a high level of unemployment. Unemployment has been historically high, even during the period of the socialist economy; in 1987, the unemployment rate was 33% compared to 13% for the whole of former Yugoslavia (Bartlett, 1990). In 2015, almost 30 years later, the unemployment rate was exactly the same at 33% (KAS, 2016). Unlike most other countries in the Western Balkans, Kosovo has a young population, with 28% of the population less than 15 years old compared to 19% in Albania and 14% in Serbia.⁵ With a young population, the demand for education at all levels is high. However, the economy faces persistent structural weaknesses that threaten long-term growth prospects, with a dysfunctional labour market and a low human capital endowment. Improving skills through strengthening higher education (HE) is therefore a government priority (MEST, 2011; European Commission, 2015; IMF 2015b). The EU's Economic and Financial Affairs Council has recommended that Kosovo should seek to improve the quality of higher education and make it more responsive to the labour market (Council of the European Union, 2015).

This report is based on a research project that aims to provide new evidence on the mix of qualifications provided by the HE sector and the students who obtain them, the difficulties and opportunities facing graduates and their employers in the labour market, and the nature of skill mismatches and skill gaps. It also provides a forecast of the demand for graduates in the near future and concludes with recommendations on measures needed to ensure a growing supply of skilled graduates who will be needed to support robust economic growth. The report is divided into six sections. Section 2 identifies the structure of HE provision; Section 3 reviews the experience of graduates on the labour market, and provides a forecast of expected future demand for graduates by sector; Section 4 considers the obstacles facing graduates on the labour market and the difficulties facing employers in recruiting new graduates; Section 5 analyses the extent and nature of skill mismatches between graduates' HE education and their job; Section 6 concludes with a summary of the research findings and a set of related policy recommendations. A special database recording basic data on HE provision was created for this study. In addition two online surveys of recent graduates and of organisations that employ graduates were carried out. Details about the methodologies and data used in the study can be found in the Annex.

³ Data for DGP per capita in Kosovo are taken from the World Bank Economic Development Indicators, and data for the EU-28 are taken from Eurostat. Kosovo's GDP per capita is just 63% of GDP per capita in the rest of the Western Balkan region.

⁴ See Table 6 below.

⁵ Eurostat online database, variable code [cpc_demo].

2 Mapping the provision of higher education

Overall public expenditure on education in Kosovo was 4.4% of GDP in 2014, lower than the average of 5.5% in the EU⁶. The extent of public expenditure on HE is opaque, with little information made publicly available either through national statistical sources or through the various online databases of international organisations. According to a presentation of the Ministry of Education, Science and Technology, public expenditure on the HE system is about 0.6% of GDP: the lowest in the Western Balkans, and about half the average 1.26% of GDP in the EU.⁷

This section takes stock of the situation in both public and private HEIs, and analyses the study programmes, qualifications and degrees offered by HEIs, as well as the profile of students and graduates. We also investigate quality issues, from accreditation procedures to teaching methods. Last, we present a brief summary of the latest HE policy developments.

2.1 Profile of higher education institutions

Until 2009, the University of Pristina was the only public HEI in Kosovo. It is the largest HEI and the oldest, having been established in 1969. Each year it enrolls about 33% of all HE students. About 50,000 students⁸ are registered to study at 17 departments, three of which are located outside Pristina (in Peje, Ferizaj and Mitrovica)⁹. In 2009, the government decided to expand the number of universities and by 2013 had established five new universities in Prizren (2010), Peja (2011), Gjakova (2013), Gjilan (2013) and Mitrovica (2013). The creation of new public HEIs presents a challenge for the government in terms of funding, availability of academic staff and ensuring the quality of the education service provided (MEST, 2011). In addition, from 2003 to 2008 many private HEIs were established, but without any quality control system in place (KAA, 2013). As a consequence the public trust in the HE system was at the lowest possible level (KAA, 2013). The International Business College Mitrovica (a private HEI) has been accredited by the German accreditation agency Evalag.

In addition, there are 4 public HEIs in northern Kosovo that are accredited by the authorities in Serbia, making a total of 12 public HEIs in all (see Table 1). The University of Kosovska Mitrovica (officially called the "University of Pristina - North Mitrovica") is a public HEI that relocated to the north of Kosovo at the end of the 1999 war, and provides higher education for about 10,000 students from northern Kosovo, Serbia and Montenegro. There are three other public HEIs (Higher Technical Professional School, Zvečan; the Higher Economic Professional School, Leposavić; and the Higher Technical Professional School) in northern Kosovo, all of which have been accredited by the Serbian accreditation agency CAQA (CAQA, 2013). The University of Kosovska Mitrovica has been accredited both by the European University Association and CAQA (CAQA, 2015). Since the end of the 1999 conflict, the northern Kosovo institutions have not recognised the

⁶ KAS (2015), Table 4.3; data for the EU from Eurostat online database, for countries for which data is available, variable code [educ_uoe_fine06].

⁷ Presentation: *Higher Education Financing: The Experience of Kosovo*, by Prof. Dr. N. Hasani and Q. Sinanaj, Higher Education Department, Ministry of Education, Science and Technology, Kosovo (no date); data for the EU from Eurostat online database, for countries for which data is available, variable code [educ_uoe_fine06].

⁸ Project HE provision database.

⁹ According to the University of Pristina website: <http://www.uni-pr.edu/Universiteti/Historiku.aspx>.

authority of the Government of Kosovo, but they are gradually being integrated through the EU-mediated “normalisation of relations” process (European Parliament, 2016). A key part of the negotiations on normalisation has been the mutual recognition of diplomas.

Table 1: Accredited HEIs and faculties by ownership, 2015

	HEIs	Faculties	Number of HEIs per 100,000 inhabitants (regional average)	Number of faculties per 100,000 inhabitants (regional average)
Total number of HEIs	41	48	2.2 (1.3)	2.6 (3.2)
<i>Of which:</i> Public	12	42	0.7 (0.5)	2.3 (1.7)
Private	29	6	1.6 (0.8)	0.3 (1.5)

Source: HE provision database. Note: Most private HEIs do not have faculties although they run study programmes in different broad field of studies.

The number of both public and private HEIs has increased in recent years, and there are now many more private than public HEIs, most of which are small with only a single unit. However, private HEIs suffer from a poor reputation for quality (GAP, 2008; Baliqi, 2010). Several depend on the input of part-time academic staff from the University of Prishtina (Baketa, 2013) and in order to meet accreditation requirements they offer full-time positions to retired professors. It has been reported that 53 professors hold full-time contracts with more than two HEIs,¹⁰ although they are officially only allowed to have one full-time and two other part-time teaching engagements.

HEIs organise studies according to the Bologna three-cycle structure and apply ECTS credits. First-cycle Bachelor programmes usually last three to four years of full time study, during which a student achieves 180 or 240 (mainly studies in Law) ECTS credits, respectively. However, there are exceptions in the case of professional studies such as general medicine, veterinary science, dentistry and pharmacy; students who complete these five (or sometimes even six) year programmes achieve the required 300 ECTS credits and can enrol directly into Doctoral programmes (NQA, 2014). At second-cycle level, Master programmes typically last for two years of full time study, which carry 120 ECTS credits; or for one year of full time study, carrying 60 ECTS credits. At the end of the second cycle a student ought to have a total of 300 ECTS (180+120 in the case of 3+2 years, or 240+60 in the case of 4+1 years). Third cycle studies include a programme of Doctoral studies, which provides 180 ECTS. The project’s HE provision database shows that 40% of study programmes provide 120 ECTS, while 44% provide 180 ECTS. A further 11% of study programmes provide 240 ECTS. Most (83%) of the 120 ECTS programmes are offered at Master level, and the rest at Doctoral level, while all the 180 ECTS and 240 ECTS are offered at Bachelor level.

¹⁰ See: <http://shqip.press/53-profesore-me-dy-e-me-shume-vende-pune-me-orar-te-plote/>.

Table 2: Study programmes by type of ownership and degree level, 2015

	Number of study programmes	Percentage of study programmes
Ownership of HEI		
Private	215	43.1%
Public	284	56.9%
Total	499	100.0%
Level of qualification¹¹		
Bachelor	259	59.1%
Master	171	34.3%
Doctoral	32	6.6%
Total	498	100.0%

Source: HE provision database.

More than half of the study programmes are offered by public HEIs (see Table 2), with 59% offered at Bachelor level, and 34% at Master level. There are only 32 study programmes at Doctoral level; all of these are provided by public HEIs, mainly by the University of Pristina, which has more study programmes, more qualified and stable academic staff, and a long tradition in higher education. Most private HEIs do not have accredited study programmes at Doctoral level. By law, every accredited and licensed HEI in Kosovo is allowed to provide Doctoral studies on condition that they fulfil the quality standards set out in the law in accordance with the European Association for Quality Assurance in Higher Education (ENQA) standards, which as we will see later is not always the case in Kosovo.

Table 3: Study programmes by broad field of study, 2015

Field of study	Number of study programmes	Proportion of study programmes
01 Education	19	3.8%
02 Arts & Humanities	67	13.5%
03 Social Sciences, Journalism & Information	59	11.8%
04 Business, Administration & Law	155	31.1%
05 Natural Sciences, Mathematics & Statistics	26	5.2%
06 Information & Communication Technologies (ICTs)	31	6.2%
07 Engineering, Manufacturing & Construction	73	14.7%
08 Agriculture, Forestry, Fisheries & Veterinary	18	3.6%
09 Health & Welfare	28	5.6%
10 Services	22	4.4%
Total	498	100.0%
<i>HSS subjects (02+03+04)</i>	281	56.4%
<i>STEM subjects (05+06+07)</i>	130	26.1%

Source: HE provision database. Fields of study are presented according to the International Standard Classification of Education (ISCED), the statistical framework for organising information on education maintained by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

An extraordinary 31% of all study programmes are offered in *Business¹², Administration & Law* (see Table 3). The concentration of study programmes in these fields reflects the

¹¹ The count of qualifications is one less than the count of HEIs by ownership because the University of Pristina in North Mitrovica did not provide a breakdown of study programmes, despite repeated requests for such data.

¹² Business studies include study programmes in subjects such as accountancy, management and marketing.

orientation of many of the new private HEIs, which tend to focus on these subject areas. The broad fields of *Arts & Humanities*, *Social Sciences*, *Journalism & Information*, and *Business, Administration & Law* (i.e. the group of Humanities and Social Sciences - HSS) account for over a half of all study programmes. STEM (Science, Technology, Engineering and Mathematics) subjects cover a quarter of all study programmes, of which most are found in *ICT* and *Engineering*. The focus on HSS study programmes is greater than elsewhere in the region and may reflect the lack of industrial production in Kosovo, and the relatively high expectation of students that they will find a job in the public sector or the private services sector.

2.2 Students

According to the 2011 Law on Higher Education, any student who passes the graduation exam at secondary school has the right to continue studies at an HEI. For students who have not passed the school-leaving exam, HEIs have the right to administer their own entrance exam. Additional tests can be set by an HEI for specific areas of study with the approval of the Ministry of Education, Science and Technology. Private HEIs do not have to adhere to these minimal and very loose requirements but may “admit any applicant to their programmes, provided that they can justify their decision to the KAA” (2011 Law: Article 29.7). Admission to Master level is on a competitive basis according to performance in first-cycle studies.

Most students have to pay a tuition fee to study at HEI. For Bachelor degrees, the median fee paid at public HEIs is €300, while at a private HEI the median fee is €700.¹³ For Master degree studies, the median fees are more comparable, from €1,300 at public HEIs compared to €1,500 at private HEIs. A limited number of scholarships are available to students up to a quota on the basis of merit.¹⁴ Fee-paying students who perform exceptionally well may be allocated a scholarship in their second or subsequent years’ studies. The graduate survey shows that 10% of students received a scholarship to support their studies at HEI, with no difference between students from grammar schools or vocational schools. Public HEIs may also admit additional students on a fee-paying basis beyond the quota. As elsewhere in the Western Balkans, this provision gives public HEIs an incentive to admit as many students as possible, which has an impact on the quality of HE.

The graduate survey shows that the ratio between the tuition fee that graduates would be willing to pay and the actual fee paid (what we might call the “value for money ratio”) is highest for Bachelor degrees at 53% (54% at public HEIs and 53% at private HEIs) and lowest for Master degrees at 57% (58% at a public HEI and 57% at private HEIs). This suggests that public HEIs provide similar levels of value for money at both Bachelor level and Master levels to private HEIs.¹⁵ Overall, the value for money provided by Kosovar HEIs is much below that found elsewhere in the region.¹⁶

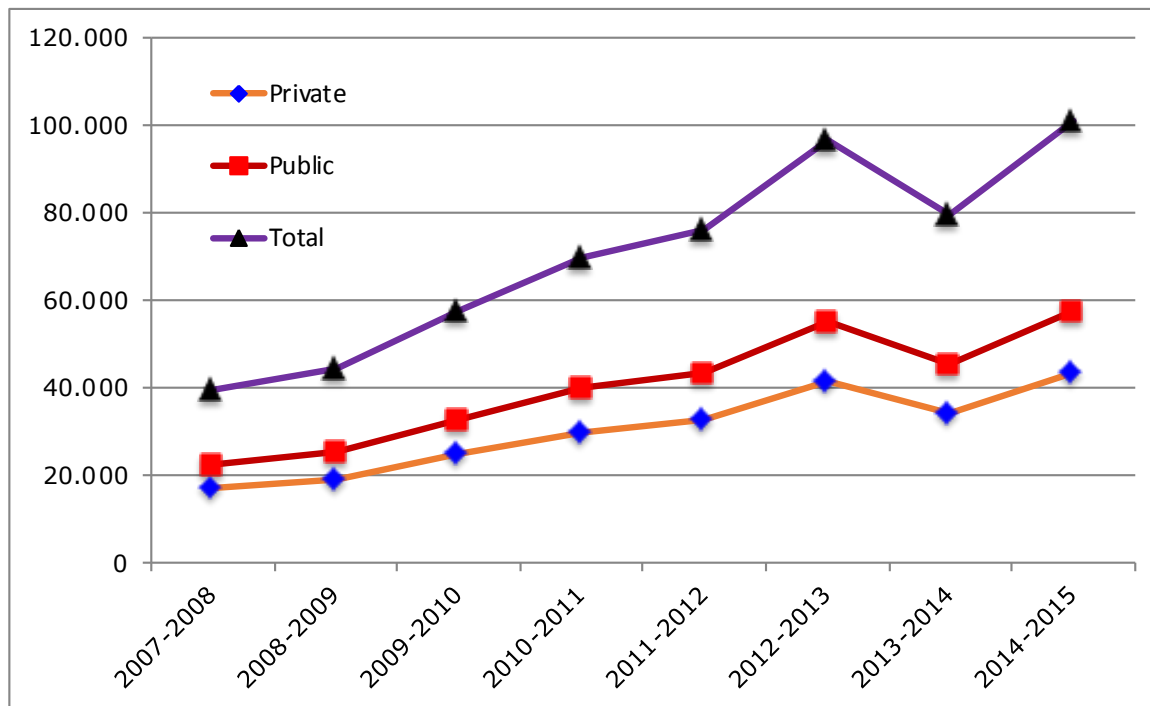
¹³ From the graduate survey, we find an average tuition fee for a Bachelor degree at public HEIs of €552, and at private HEIs €1,461.

¹⁴ The graduate survey shows that overall, 11% of students receive a scholarship. The award of a scholarship seems to be partly merit based with 18% of graduates from public HEIs who self-assess as being above average students receiving a scholarship, and 7% who self-assess as being below average receiving a scholarship (Chi-square = 3.62; $p < 0.05$; $N = 182$).

¹⁵ The difference in the mean value for money between public and private HEIs is statistically insignificant at Bachelor level (t-statistic = 0.14, $p = 0.888$, $N = 205$), and at Master level (t-statistic = 0.41, $p = 0.687$, $N = 64$).

¹⁶ In comparison, for the Western Balkan region as a whole, value for money at HEIs is 68% for Bachelor degrees, and 65% for Master degrees. It should be noted that low value for money is found in EU countries

Figure 1: Total number of students registered in undergraduate studies, 2007 – 2015



Source: HE provision database and Statistical Yearbook of Kosovo 2015. Note: The data is estimated from both sources, as the statistical yearbook does not provide data on the total number of registered students, but only on annual new enrollments. The two data sources have been used to derive the estimated time series data.

Increasing numbers of students have entered higher education in Kosovo over the last eight years, giving rise to a rapid expansion in the number of registered students (see Figure 1). In the 2007-2008 academic year, we estimate that about 39,500 undergraduate students were registered to study at HEIs in Kosovo; by 2014-2015 the number had more than doubled increasing to 101,000.¹⁷ The rapid expansion in student numbers reflects demographic trends in Kosovo. The expansion has begun to falter since 2012, reflecting the slowdown in real GDP growth in that year from 4.4% in 2011 to 2.8% in 2012, which might have caused parents difficulties in paying fees for their children. About 10% of registered students study at HEIs operating in northern Kosovo.¹⁸

Annual enrolment of new students and the number of students who complete their studies at accredited HEIs is recorded in the project's HE provision database (see Table 4). The number of newly enrolled students has increased over time, although the number of new enrolments at Bachelor level has hardly changed, while the number enrolled at Master courses increased by 23% from the 2011-12 academic year up to the 2013-14 academic year. This may reflect an increase in demand for Master level graduates, or it may be a reflection of the high unemployment rate providing an incentive for young people to continue their education to avoid entering the labour market searching for a

too. In the UK, for example, three out of ten students think the academic experience in HE is poor value (Department for Business Information and Skills, 2016).

¹⁷ According to data compiled in our HE provision database.

¹⁸ The 2014-2015 figures for students enrolled in northern Kosovo HEIs in 2014-2015 are as follows: University of Pristina-Mitrovica (8,640), International Business College of Mitrovica (235), Higher Economic Professional School, Leposavić (1,484), Higher Technical Professional School, Zvečan (442), Higher Technical Professional School, Uroševac- Zvečan (370).

job. Public HEIs have enrolled about three-fifths of students over this period (see Table 4). While public HEIs lead in numbers of enrolled students in BA studies, the intake in MA studies is almost the same in public and private HEIs.

Table 4: Students enrolling and completing studies each year, 2011 – 2014

	Enrolment			Completion		
	2012-13	2013-14	2014-15	2011-12	2012-13	2013-14
Total number of students	38,765	39,162	40,984	7,616	9,453	12,732
Bachelor	31,643	31,618	32,385	6,012	7,639	10,673
Master	5,760	6,039	7,139	929	1,173	1,387
Doctoral	146	283	196	20	3	13
Level not reported	1,216	1,222	1,264	655	638	659
Proportion of students in public and private HEIs						
% Public HEIs	59.2%	63.8%	59.8%	74.6%	62.3%	63.9%
% Private HEIs	40.8%	36.2%	40.2%	25.4%	37.7%	36.1%

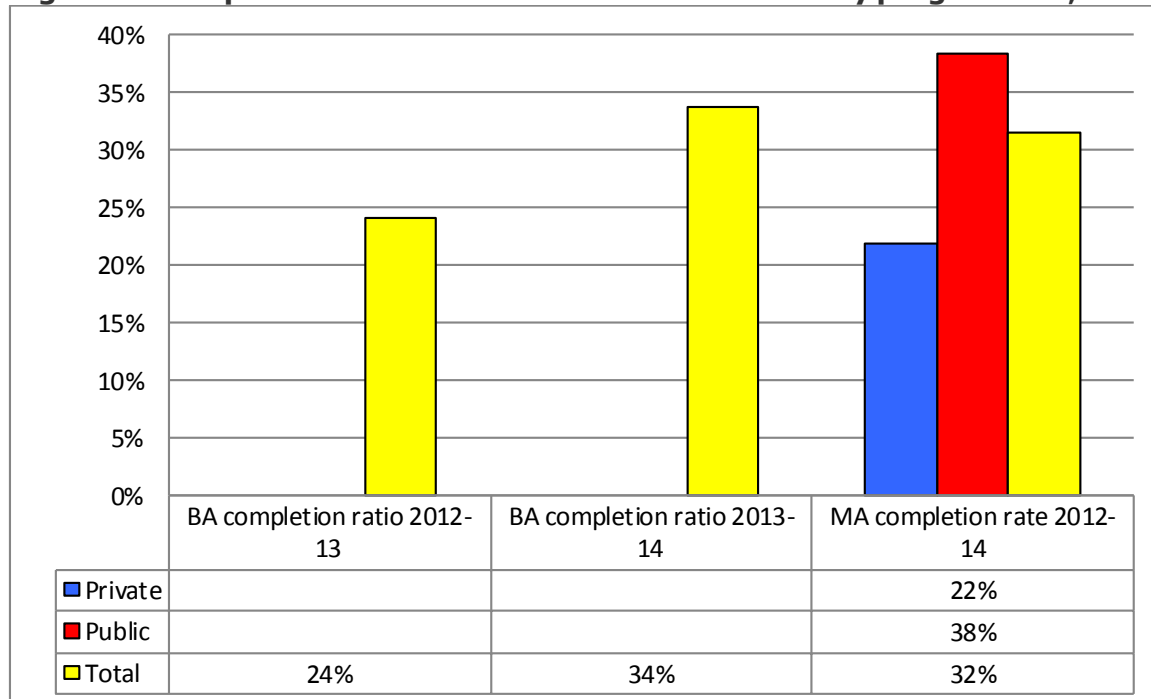
Source: HE provision database; Note: Calculations excluding enrolment in HEIs in Northern Kosovo since the type of qualification has not been provided.

Enrolment practices are not always transparent. In 2015, the former Rector of the University of Pristina rejected the practice of enrolling children of war veterans outside the normal process. Until then, they had been given preference in admissions on the basis of a list of students that was accepted without appropriate evaluation procedures or their academic performance. Moreover some of these candidates were not even the children of veterans, but had used bribes or favours to get their name included on the list. Despite several protests the former Rector stood by his decision and did not permit such admissions in the academic year 2015-16.

Completion of studies is an important element of a successful HE system. If many students drop out of higher education before completing their studies this is a waste of resources and indicates dissatisfaction with the courses on offer. Each year, fewer students successfully complete than begin studies at HEIs. In the 2013-2014 academic year, 39,162 students enrolled at HEIs, but less than a third, 12,732, completed their studies, a ratio of completions to enrolments of just 33%. The situation is even worse in private HEIs where the completion ratio was just 26%. These extremely low completion ratios¹⁹ imply a high level of internal inefficiency in the HE system. The HEIs in northern Kosovo tend to have higher completion ratios than HEIs in the rest of Kosovo. Over the period 2012-14, the average completion ratio in northern Kosovo was 50%.

¹⁹ The completion ratio is the number of students who complete studies divided by the number who begin studies in the same year. It should not be confused with the completion rate, which is analysed below and shown in Figure 2.

Figure 2: Completion rates on Bachelor and Master study programmes, 2012-14



Source: HE provision database. Note: Study programmes for which the completion rate exceeds 100% are excluded. Data for Bachelor programmes are averages over the period and are completion ratios rather than completion rates.

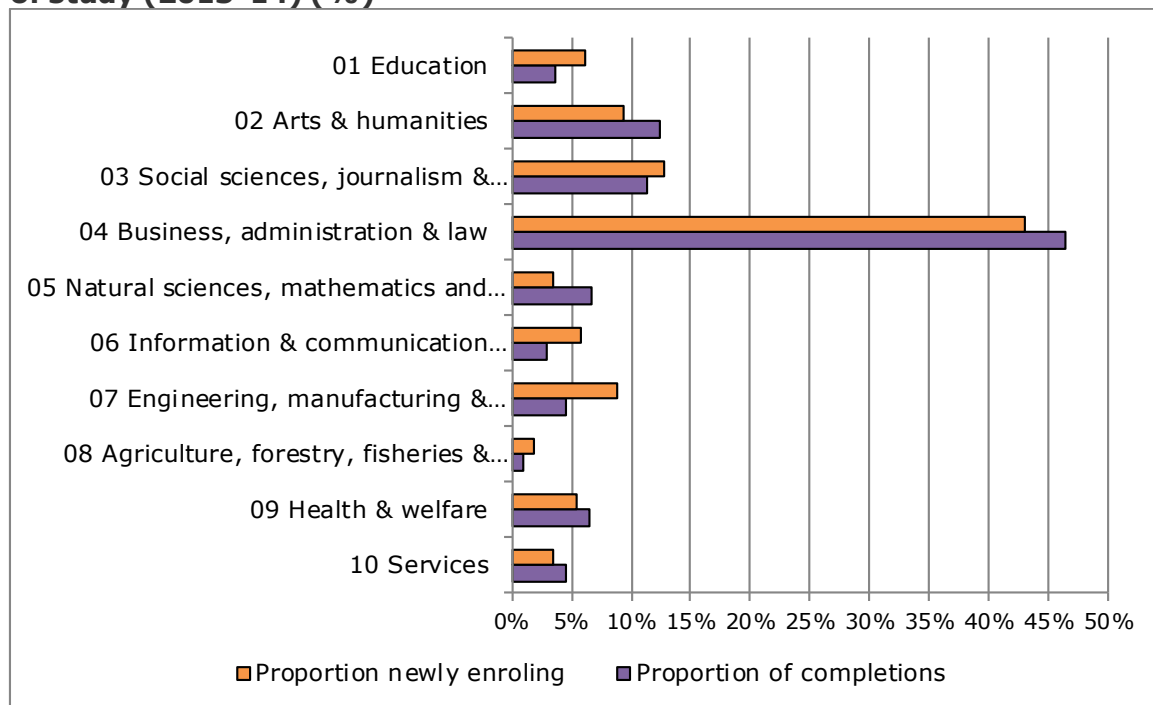
The completion rate (rather than the ratio) is a standard indicator of the effectiveness of a HE system (Eurydice, 2015). It provides a more accurate picture of the effectiveness of individual HEIs and study programmes than the broad-brush completion ratio discussed above. It is calculated by the so-called "cross-section" method from the project's HEI provision database.²⁰ Based on this method, the overall completion rate (rather than ratio) on two-year Master programmes is 32% (see Figure 2), and far higher in public HEIs than in private HEIs.²¹ The higher completion rates at public HEIs suggest that they may attract the best students, and that the fees charged by private HEIs may demotivate completion of studies for those students who have difficulty paying them. For Bachelor degrees, it is only possible to calculate the completion *ratio* and not the completion *rate* as the data in the HE provision database do not span a sufficient number of years. As long as the number of students entering the system is not rising too fast, this can be a good proxy for the completion rate. In the 2012-13 academic year, the completion ratio on Bachelor studies was 24%, while the completion ratio in 2013-14 was 34%, giving an average over the two academic years of 29%. Overall, completion rates and completion ratios in Kosovo are extremely low; they are far below the lowest completion rates in the EHEA, which are in Hungary at 48% (Eurydice, 2015), while the average completion rate

²⁰ The completion rate is calculated from the HE provision database for two cohorts following two-year Master programmes, and is defined as the ratio of the number of students completing studies in year "t" divided by the number of students who enrolled in year "t-x", where "x" is the duration of the study programme. This way of calculating completion rates is known as the "cross section" method.

²¹ Study programmes for which completion rates exceed 100% are excluded from this calculation, giving a coverage of about 93% of all Master study programmes.

in the OECD countries was 68% in 2013.²² They are also the lowest in the Western Balkan region.

Figure 3: Proportion of students newly enrolling and completing studies by field of study (2013-14) (%)



Source: HE provision database. Note: Fields of study not classified refers to the University of Pristina in Mitrovica and the American University College Kosovo

Figure 3 shows the proportion of students who enrolled in, and completed, studies programmes by broad field of study in the 2013-14 academic year. Taking broad groups of study fields into account, in the 2013-2014 academic year 63% of students enrolled and 67% completed their studies in HSS study fields (ISCED 02+03+04). At the same time, 17% of students enrolled and 13% completed their studies in STEM subjects (ISCED 05+06+07). This is a very low proportion compared to the situation in the EU-28 where 25% of all graduates hold STEM qualifications (Cedefop, 2015). Kosovo is therefore highly deficient in the proportion of students who graduate in STEM subjects. It is notable that only 7% of students completed studies in *Natural Science, Mathematics & Statistics* and only 3% in *Information & Communication Technologies*. In contrast, 47% of students completed studies in *Business, Administration & Law*. This extraordinarily high proportion of students graduating in *Business, Administration & Law* produces a chronic oversupply of students with qualifications in these subjects. This is borne out by the analysis below, which shows that there is little demand for graduates with these qualifications on the labour market (see section 3.2). This indicates a need for a fundamental rethink into the nature of HE provision in Kosovo, since the transition to an export-led and high value-added economy would require a greater output of graduates with qualifications in STEM subjects that are most relevant to private sector employers in competitive industries, as well as to foreign investor companies.

²² See OECD (2013) Education at a Glance, and the data appendix available at: <http://dx.doi.org/10.1787/888932848495>.

2.3 Quality

Expansion of the HE sector has raised concerns about the quality of the education provided, due to out-dated teaching methods, poor quality of teaching, and corruption within the HE system. In the next part of this sub-section we analyse the accreditation system that is designed to ensure quality. In section 2.3.2 we address the issue of programme evaluation and the degree of student satisfaction with the quality of HE provision. In section 2.3.3 we analyse the role of teaching methods in supporting quality education in the HE system, before turning in section 2.3.4 to a discussion of recent policy developments and policy gaps.

2.3.1 Accreditation

In 2008 the Ministry of Education, Science and Technology appointed the British Accreditation Council to conduct an external audit of all 30 private HEIs in Kosovo. 29 failed to pass the evaluation (Bristow and Vickers, 2008). Indeed, this audit recommended that many of these providers should be renamed “colleges” as they failed to fulfil the basic requirements to be called a university. Since then, external quality assurance has been carried out by a domestic agency, known as the Kosovo Accreditation Agency (KAA). This is in compliance with the aim of the Bologna Process to improve the quality of higher education in the EHEA (Eurydice, 2015). The KAA, established in 2008, is responsible for guaranteeing the quality of HEIs and study programmes. It is officially independent, but advises the Ministry of Education, Science and Technology on decisions to grant or revoke licences to HEIs. The KAA is a member of the European Association for Quality Assurance in Higher Education (ENQA).

The main criteria for accreditation include academic freedom, diversity of subjects, research, the selection of teaching staff and regulations of examinations. It requires HEIs to provide information on teaching and learning methods as part of the accreditation process. Nonetheless, it does not take into account data regarding student progression, success rates, employability of graduates, student’s satisfaction with programmes, and effectiveness of teachers (Baketa, 2013). The KAA has accredited almost all HEIs with the exception of four private HEIs. During the 2009-10 academic year, the KAA evaluated all private HEIs and their study programmes as well as some of the faculties of the University of Pristina. Due to the many shortcomings that expert panels found, particularly at private HEIs, the first accreditation was mostly given only for a one-year period (KAA, 2013). Since 2009, nine private HEIs have been refused accreditation due to their failure to meet the KAA quality standards. By 2015, the Kosovo Accreditation Agency (KAA) had accredited 37 HEIs: 8 public and 29 private.²³ However due to a legal action on bribery charges against the former director of the KAA, the accreditation statuses of some private HEIs may be revised (see section 2.2.1 below).²⁴

The development of the accreditation process has been criticised on the grounds that HEIs have not been treated equally.²⁵ For example, newly established public HEIs have been accredited despite having a large share of staff seconded from the University of Pristina on a part-time basis, whereas private HEIs have been required to employ a proportion of their academic staff on a full time basis. Moreover, the standards

²³ In addition to the University of Pristina and the five new public universities, the public sector also includes the Faculty of Islamic Studies in Pristina and the Kosovo Academy of Public Safety, a police training college.

²⁴ See Kosovo Accreditation Agency website: <http://www.akreditimi-ks.org/new/index.php/en/download/higher-educacion-institutions>.

²⁵ Interviews with private HEIs.

introduced through the accreditation process have largely failed to bring about an improvement in the quality of higher education.²⁶ Neither public nor private HEIs are happy with accreditation procedures. Private HEIs believe that the accreditation procedures have failed to effectively differentiate between good performing and bad performing HEIs,²⁷ while public HEIs believe that some study programmes have been accredited without having sufficient academic staff, which raises concerns about their quality and the validity of the accreditation procedure.²⁸

2.3.2 Programme evaluation

In the latest evaluation in 2013, out of 140 study programmes in private HEIs, 27 received negative evaluation decisions, and out of 118 study programmes at public HEIs, 25 received negative decisions (KAA, 2013: 35).

The HE system faces many challenges in developing high quality study programmes. Many study programmes that were designed to meet needs of the socialist system are still in use and fail to match the changed circumstances of the economy or meet the needs of the contemporary labour market. Few study programmes have been properly evaluated, and students often complain about out-dated teaching methods and the quality of the academic staff. In modernising study programmes, it is a typical practice to copy study programmes from other European countries, often without any adjustment to the domestic context. The frequent absence of adequate infrastructure, including laboratories, is also an obstacle to providing high quality teaching.²⁹ In recognition of this, the Government Programme for 2015-2018 emphasises the modernisation of learning environments in HEIs by establishing laboratories and modern computer centres (GoK, 2014). However, the main obstacle is the lack of capacity of the academic staff, their teaching methods and weak management of the institutions.

Corruption in the evaluation process is also a concern. In 2015, charges were raised against the KAA director and the head of National Quality Council (NQC) related to bribery. Since then the European Quality Assurance Register (EQAR), is closely monitoring and has requested more reports to review KAA's activities³⁰ The incomplete evaluation of study programmes is compounded by the close links between HEIs and political parties and the opaque manner in which they are managed. Decisions on promotion and awarding degrees are too often made on the basis of a clientelistic approach.

In 2016, a new Head of the Council was appointed as well as a new acting director. The first findings of the new management are that many study programmes fail to comply with the ENQA criteria, for example having at least three academic staff with a PhD for each study programme. According to the Head of NQC there are only 608 staff with PhDs employed in HEIs, which implies that about two thirds of study programmes do not meet this criterion.³¹

There is a popular perception that public HEIs provide better quality education and have better quality teaching staff, while private HEIs provide a lower quality of education. This is partly backed up by international university rankings. One of the few such ranking

²⁶ KAA (2013) Self-Evaluation Report, Prishtina.

²⁷ Interview with private HEI.

²⁸ Interview with public HEI.

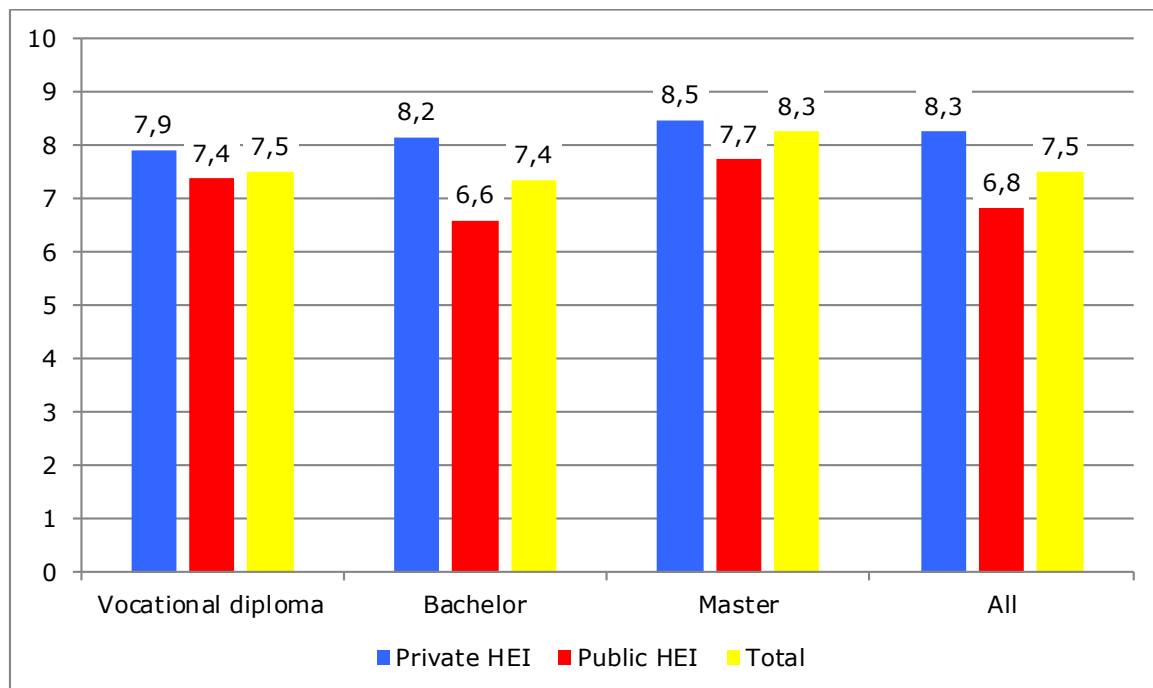
²⁹ Interview with Ministry of Trade and Industry.

³⁰ Statement from European Commission official.

³¹ <http://www.rtklive.com/?id=2&r=64631>.

agencies that include HEIs from Kosovo is “Webometrics”, a ranking system based on international online links of HEIs around the world. For Kosovo, public universities occupy the top two places in the ranking (the University of Pristina and the University of Pristina – North Mitrovica), followed by six private HEIs and one public HEI.³² HEI. The top public HEI, the University of Pristina has a world ranking of 3,401stth position (242nd position in Central and Eastern Europe – CEE), the Serbian-language University of Pristina in Kosovska Mitrovica (north Kosovo) is ranked in 4,717th position globally (357th in CEE), while the top private HEI, the AAB University is placed in 15,446th position globally (1,775th in CEE). However, it should be noted that these rankings are only indirectly connected to teaching quality, as the metrics are mainly research-based.

Figure 4: Satisfaction with quality of education at public and private HEIs



Source: Graduate survey. Note: Differences in means between public and private HEI are significant at 1% for Bachelor and All degree levels and at 5% for Vocational Diploma and Master levels, n=351.

The graduate survey asked respondents what their opinion is about the quality of education at public and private HEIs in Kosovo. Graduates who studied at private HEIs tend to be more satisfied with the quality of the education that they received than graduates who studied at public HEIs across all levels and types of degree (see Figure 4). The overall difference in satisfaction with quality is around 15 percentage points, with the largest differences in Bachelor studies. These findings are surprising, since public HEIs in general have a better reputation than private HEIs. This may be explainable as public HEIs seem to be less able or willing to adapt to change compared to private HEIs, use more traditional teaching methods, and are more overcrowded with students. Students also claim that professors who teach at both public and private HEIs do a better job in

³² This data is taken from the Spain-based “Webometrics Ranking of World Universities”, an initiative of the Cybermetrics Lab, a research group belonging to the Consejo Superior de Investigaciones Científicas (CSIC), the largest public research body in Spain. It should be noted that the methodology includes only publicly available web links data and does not rank specifically on teaching quality. The data for HEIs in Kosovo are found in the section on Serbia. See “Webometrics Ranking of World Universities”, <http://www.webometrics.info/en>.

the latter, and often do not even show up to give lessons in the former.³³ Another explanation may be that different types of students attend private HEIs with different characteristics than those that attend public HEIs. In order to explore this hypothesis, a regression model is used to identify whether graduate satisfaction with the quality of their HEI studies is related to some policy-relevant factors such as teaching methods and work experience during studies, and other relevant factors that might influence perceptions of satisfaction with the quality of education such as gender, field of study, level of degree and ability as measured by average perceived performance during studies.

Table 5: Regression model for graduate satisfaction with HE studies

	Coefficients	t-statistic	Significance level
Classes in small groups	0.603**	2.34	0.020
Internship or work experience	0.198	0.88	0.379
Above average performance	1.263***	5.77	0.000
Master degree	0.459*	1.72	0.086
ICT study programme	-0.738*	-1.73	0.084
Public or Private HEI	-0.941***	-4.22	0.000
Male gender	-0.422**	-1.98	0.049
Constant	7.052***	24.17	0.000

Adjusted R-squared=0.253; F=14.5; p<0.01; N=278

*Source: Graduate survey. Note: Linear regression using SPSS. Significance levels: *** 1%; ** 5%; * 10%*

The regression model shows that several factors influence the satisfaction with the quality of education at HEI. Graduates who had been taught in small class groups believe they experienced higher quality of education than others by 6.0 percentage points, indicating the importance of this mode of teaching, which requires more intensive resources. Graduates who studied ICT subjects have a significantly lower level of satisfaction with their education, with a 7.4 percentage point lower level of satisfaction than other graduates. Respondents whose performance in their studies was above average have a higher level of satisfaction with the quality of the education they received (on average by 12 percentage points than lower ability respondents). Male students are less satisfied with the quality of their studies than female students. Even accounting for all these factors, respondents who had studied at private HEIs report a higher level of satisfaction with the quality of education than students that studied at public HEIs, with a differential of 9.4 percentage points. Surprisingly, internship or work experience during studies has no effect on the perceived level of satisfaction with quality of education, unlike elsewhere in the region. This may suggest a low quality of internship with little emphasis on learning outcomes.

2.3.3 Teaching methods

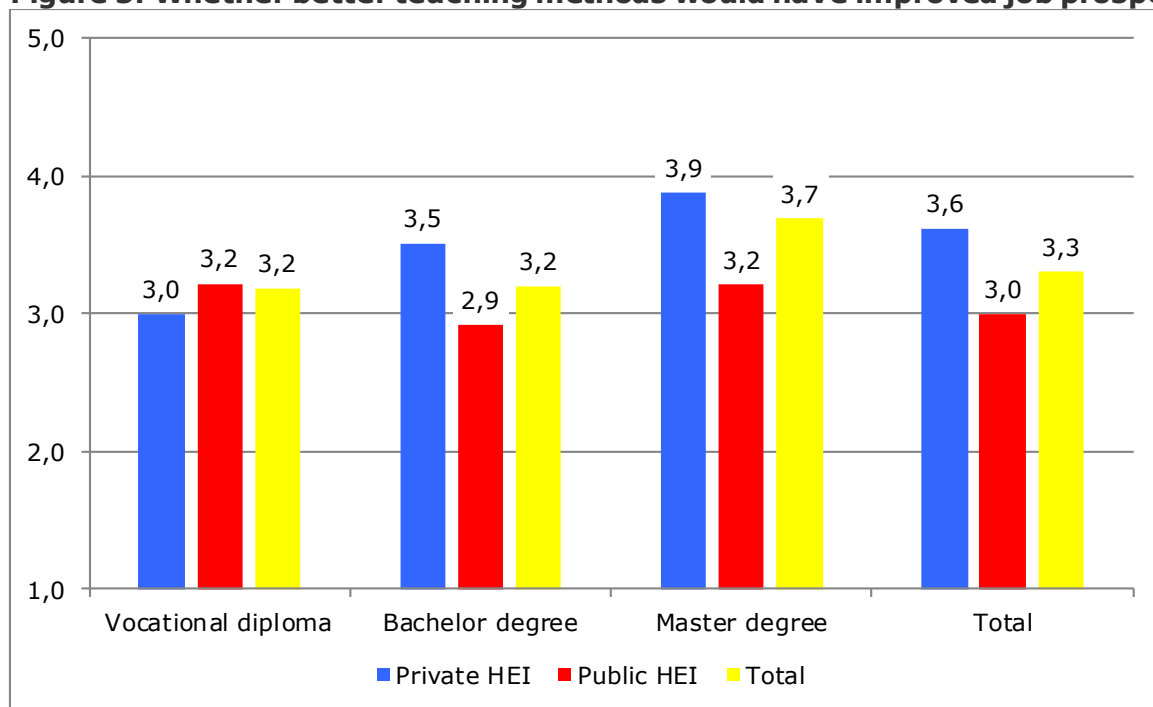
It is often stated that HEIs in post-socialist countries do not respond sufficiently to labour market changes by reforming the curricula reform and adopting new teaching methods (Sondergaard and Murthi 2012). Many academic staff in HEIs completed their studies during the socialist period, other studied in the post-socialist period in Kosovo and a few have studied and obtained PhD degrees abroad. The first group of academic staff often use out-dated teaching methods and inadequate teaching literature and do not apply an interactive teaching approach. Many academic staff have been promoted without meeting basic criteria related to scientific work and are not up to date with new developments in

³³ EU Official's report from student/alumni meetings.

their field of study (Pupovci and Gashi, 2015). The way in which many academic staff assess students requires them to memorise facts, rather than to develop independent analytical and critical thinking. The lack of transparency and autonomy of public HEIs also has a negative impact on the quality of teaching.

These opinions are supported by the graduate survey from which we find that 48% of respondents consider that better teaching methods would have improved their job prospects after graduation either “a lot” or “very much”. Graduates who studied at private HEIs perceive a greater need to improve their teaching methods than public HEIs at the level of Bachelor and Master degrees (see Figure 5). However, there is no difference at the vocational diploma level where private HEIs seem to offer the same standard of teaching methods and programmes more relevant to the labour market.

Figure 5: Whether better teaching methods would have improved job prospects



Source: Graduate survey. Note: Responses are scored on a scale of 1-5 where 1=“not at all” to 5=“very much”. Within group differences between public and private HEIs are statistically significant at 1% level; N=315.

A major area of concern is that teaching staff have few opportunities to improve their teaching skills, learn new teaching methods and update their knowledge. Such upgrading in teaching skills is needed as many academic staff lack the high level of education required to teach the study programmes that are provided. Another concern raised by students is that teaching staff often miss their classes. This is confirmed by a recent survey carried out by UNDP (2014), which revealed that about 35% of academic staff consider that it is very or somewhat common that some teachers miss their classes most of the time and are not penalised for such behaviour. The same study reported that nearly two thirds of higher education teaching staff and students consider that the presence of corruption is a serious problem. While most teaching staff consider that corruption is at a constant level, students responded that corruption is increasing. The same study also found that students at HEIs are more likely to engage in corrupt practices than upper secondary school students, parents or teachers at all levels of education. They also stated that paying bribes is a successful way to achieve desired results. For about half of HE students the driving motive for corruption is that they believe that there is no other way to get things done (UNDP, 2014g).

Research activities in Kosovo remain at the margin, as HEIs have limited capacities and motivation to undertake research activities (Kosovo Education Centre, 2015). Moreover, there is also a limited demand for scientific research from the industry. This in turn constrains the engagement of students in projects directly linked to the economy and limits their chances to establish connections with potential employers.

Finally, the employer survey asked employers which forms of teaching and learning experience at HEI contributed most to the skills that are needed by the business on a 1-5 scale where 1 = “not at all important” and 5 = “very important”. The answers are revealing: the most important teaching and learning methods are identified as internships or work placements (which scored 4.5), problem solving and creative thinking teaching methods (4.2) and classes in small groups (4.0). In contrast, lectures in large groups (3.2), and rote learning of facts (2.2) are thought to contribute little to the skills that employers need. Thus, employers agree with graduates that work experience and modern teaching methods are more relevant than traditional methods for preparing graduates for a successful transition to the labour market.

2.4 Policy developments and gaps

The Government has stated that one of its top priorities is to “raise workforce skills through targeted training and better education” (IMF, 2015a). The European Council’s *Recommendation on the Kosovo Economic Reform Programme* calls on the government to continue to improve the quality of higher education and improve the focus on making the education system more responsive to the labour market (European Commission, 2015: 36). This is strongly emphasised in the *Kosovo National Development Strategy 2016-2021*, which states that one of the key priorities for higher education is to ensure linkage between education and labour market. In addition the *Programme of the Government of Republic of Kosovo 2015-2018* emphasises strengthening the link between HE and the economy, and advocates measures to improve the quality of education. The Programme also aims to develop higher vocational education institutions, and promote professional HE degrees according to the National Qualifications Framework (NQF). The aim is to stimulate the opening of study programmes with a professional orientation and to adjust them to the needs of the labour market. However, considering that the commitment of the Government in the past to reform the education system as a whole has made very little progress and (as discussed in more details in the following paragraphs), it remains to be seen whether the HE system will be harmonised with labour market needs in practice.

The two main strategic national documents that support the development of higher education in Kosovo are the *Strategy for Development of Higher Education in Kosovo 2005-2015* and the *Kosovo Education Strategic Plan 2011-2016*. A main goal has been to apply the Bologna Process and integrate into the European Higher Education Area (EHEA). The *Kosovo Education Strategic Plan 2011-2016* aims to ensure a stronger orientation of HEIs towards the promotion of entrepreneurship. This would facilitate employability of students. Ensuring that study programmes reflect labour market needs is seen as key for the employment of graduates. This could be achieved through continuous dialogue with employers and by aligning the HE system to Kosovo’s development priorities and employment strategies. It remains to be seen whether these goals will be met in the future.

European and international trends have played an important role in HE policy. Kosovo seeks to formally become part of the Bologna Process, and takes part in European and international exchange programmes such as Tempus, Erasmus Mundus, Erasmus+, CIP, FP7 and others (KESP, 2011). Although Kosovo is not formally a member of the Bologna

Process, all HEIs (with the exception of the American University of Kosovo) follow the Bologna guidelines. The introduction of learning outcomes at module and study programme level is an important development. The diploma supplement³⁴ facilitates the mobility of students. However, there is a continuing need to develop awareness of learning outcomes, and to link learning outcomes to teaching and assessment. All accredited HEIs now implement the ECTS credit system, the three-cycle degree system, student and staff mobility, the diploma supplement and some quality assurance systems as well as engaging in curriculum reform (KAA, 2013). The continued implementation of the Bologna principles is preparing Kosovo for student and academic mobility and integration into the EHEA. Supported by the Tempus and Erasmus+ programme, with endorsement from the Ministry of Education, Science and Technology, the Kosovo Higher Education Reform Experts team has developed several documents for the integration of HE into the EHEA. Several projects have been developed and supported by the Tempus programme to support the implementation of the Bologna principles, and continued support is available through the Erasmus+ programme and actions for capacity building in HE. Kosovo has also benefited from the support of the World Bank, the Austrian Development Agency (ADA), USAID and from other EU programmes in its reforms of the HE system and for the implementation of the *Strategy for Development of Higher Education in Kosovo 2005-2015*. A project "Aligning Education with Labour Market Needs", funded by the ADA and the EU, deals with HE as an important component. Overall, progress has been made in the technical aspect of reforms (three cycles, ECTS) but has been slow in terms of improving the quality of education provided.

Unfortunately, despite all this assistance and the commitment of the Government to reform the education system as a whole, very little progress has been made and few reforms of significance have taken place in the HE system.³⁵ Resistance to change has been embedded within the HE system for a long time (Bache and Taylor, 2003). The skills acquired by the students are low, as is trust in the quality of degrees they obtain. The capacity of staff to deliver modern study programmes is limited, as many professors do not have the qualifications needed to deliver their study programmes effectively. HEIs are trying to improve their curricula and quality assurance systems, but the quality of education remains a challenge (Baliqi, 2010; Baketa, 2013; Pupovci and Gashi, 2015; World Bank 2015; Kosovo Government, 2016). Completion rates are extremely low and the increasing number of graduates has not led to an increased supply of qualified workers.

A major gap in the institutional framework for HE and the alignment to the Bologna Process is in the systems in place for quality assurance. Quality assurance in Kosovo is mainly based on formal accreditation procedures, rather than on the enhancement of quality. As shown above, the accreditation process is open to abuse and corrupt practices. Internal evaluation procedures also need to be established or improved. As yet, there is little employer involvement or student participation in the internal evaluation of study programmes.³⁶ Many HE systems require their HEIs to publish the results of internal evaluations, even when negative (Eurydice, 2015). This practice should be adopted in Kosovo in order to increase transparency and promote quality improvement. A draft Law on Higher Education aims to improve the quality of HE through better quality assurance measures, a different funding scheme linked to performance, and increased

³⁴ The Diploma Supplement is a document accompanying a higher education diploma that provides a standardised description of the nature, level, context, content and status of the studies completed by its holder.

³⁵ According to the European Commission Country Strategy for Kosovo, "Higher education in Kosovo is subject of reform in line with the Bologna process, but many reforms still need to be implemented".

³⁶ The Standards and Guidelines for Quality Assurance in the EHEA developed by ENQA specify that quality assurance processes should include regular feedback from employers and trade unions.

transparency in HEIs, but this law is encountering opposition and has not yet been adopted.

There is also a major gap in the implementation of programme evaluation, which seriously undermines the quality of HE provision. Some experiences from other countries could be useful in filling this gap. In some countries in the EHEA, HEIs sign performance agreements with national authorities in which specific performance criteria are set out against which the HEIs can be evaluated. Such performance indicators can be directly related to the funding of HEIs in order to provide incentives for improvement (Eurydice, 2015). Elsewhere, e.g. in Moldova, minimum completion rates (of 50%) are established as one of the standards that has to be met, a procedure that could be quite applicable to HEIs in Kosovo.

3 Mapping graduate labour markets

For many years the labour market in Kosovo has been characterised by extremely low employment rates and high unemployment.³⁷ During the 1990s, many employees were dismissed from their jobs, and it has only been since the end of the Kosovo war in 1999, that the labour market has begun to recover, though it remains highly dysfunctional with few job opportunities for graduates. This has led to huge pressures for young people to seek work abroad, and it is little exaggeration to say that Kosovo is a labour export economy. Estimates suggest that there is nearly one emigrant for every five Kosovo residents (UNDP, 2014). At the same time, many Serbians of working age were forced to leave the country and live as refugees in Serbia. In the 2000s, the economy revived with an average rate of growth of GDP per capita of 4.9% between 2003 and 2007. Since the onset of the economic crisis, growth has slowed down to an average of 2.3% per annum from 2008 to 2013, leading to an increase in the unemployment rate from 31% in 2012 to 35% in 2014.³⁸ At the same time, the employment rate is extraordinarily low, at just 25% of the working age population in 2105 (12% among women), and 62% of the working age population is inactive (KAS, 2016). Kosovo has the lowest employment rate in Europe (European Commission, 2015: 32).

This section maps the graduate labour market on the basis of official data, the findings from a survey of 440 HE graduates who have graduated since 2010, and a survey of 139 employers who employ HE graduates.³⁹ Section 3.1 identifies the difficulties graduates face in finding a job, the distribution of graduates by the size of the enterprise or organisation in which they are employed and by sector of activity. Section 3.2 provides a forecast of the demand for graduates in 2018 in relation to current levels of supply by field of study. Section 3.3 identifies labour market policy developments and policy gaps.

3.1 Difficulties facing graduates in finding a job

In 2015, the unemployment rate for persons with primary education was 47%; for those with secondary education from gymnasium (grammar school) it was 36%, and from

³⁷ Unemployment has been historically high, even during the period of the socialist economy; in 1988, the unemployment rate in Kosovo was 36.6% (Bartlett, 1991). See also Woodward (1995).

³⁸ Authors' calculations: real GDP per capita growth rates are from the World Bank's World Development Indicators online database.

³⁹ Although the National Employment Service (NES) is required to keep information about jobseekers with their e-mail address, in practice this is not done and only the phone contacts of graduate job seekers and their employers are retained. Facing such difficulties in carrying out the online survey it is suggested that such e-mail contacts to be part of the application form for jobseekers and for the employers electronic database created by the NES.

vocational school 30%. In comparison, the unemployment rate of HE graduates was 19% (KAS, 2016). Having a HE qualification reduces the chance of being unemployed by about a half in relation to less educated groups. However, the unemployment rate of HE graduates is more than three times as high as in the EU-28 (see Table 6).

Table 6: Unemployment and employment rates, 2013-2015 (%)

	Kosovo, Total			HE graduates			Western Balkans	EU-28, total	EU-28, graduates
	2013	2014	2015	2013	2014	2015	2014	2015	2015
Unemployment rate	30.0	35.3	32.9	15.5	18.9	19.0	24.2	9.4	5.6
Employment rate	28.4	26.9	25.2	n/a	n/a	n/a	48.6	58.1	76.9

Source: Kosovo Labour Force Survey 2015, Table 6-1 (KAS, 2016) and Kosovo LFS 2013 & 2014; Eurostat online data variable code [lfsq_urgaed] and authors' calculations for Western Balkans.

From the graduate survey we find that the unemployment rate of recent graduates is 49%, much higher than for all graduates and closer to the youth unemployment rate of 56% for 15-24 year olds (and 37% for 25-34 year olds). The unweighted mean of the unemployment rate for these two groups is 47%, more representative of the age profile of recent graduates and similar to the estimate from the survey data. We also find that the employment rate for recent graduates is 41%, which is above that for the working population. However, it is below the average for the working population in the region, and almost half the employment rate of graduates in the EU. This is a further indication that the HE system fails to provide sufficient skills to many HE graduates.

3.1.1 Graduate employment by size of employer

The opportunity for graduates to find a job differs across employers of different sizes. The distribution of graduate employment by employer size group can be identified from the employer survey, which received 139 responses from employers of all sizes, ranging from micro (employing fewer than 10 workers) to large (employing 250 or more).⁴⁰

Table 7: Graduate employment by employer size groups

	Distribution of employers in sample	Distribution of graduate employees	Average number of graduate employees	Median number of graduate employees	Density of graduate employment per employer
Micro	41.0%	5.0%	3.8	4.0	68.4%
Small	35.2%	12.1%	9.5	7.0	41.7%
Medium	16.2%	26.0%	47.4	33.5	44.8%
Large	5.8%	56.9%	236.6	120.0	24.2%
Total	100%	100%	29.4	6.0	51.5%

Source: Employer survey. Note: Micro employers are defined as those with fewer than 10 employees; small employers from 10 to 49; medium sized employers from 50 to 249; large employers with 250 or more.

Table 7 shows the average number of graduate employees in each size group among organisations that employ graduates. In the sample, small and medium sized employers

⁴⁰ Further details about the employer survey methodology can be found in the Annex.

(SMEs) employ 38% of all graduate employees, while large organisations employ more than half of all graduates. The density of graduate employment (the ratio of graduate employees to all employees) is inversely related to size. Among micro employers, on average just over two thirds of their employees are graduates. Conversely, among large employers, less than one quarter of their employees are graduates. Thus, although micro firms do not employ more than a small fraction of graduate employees overall, those that do so tend to have a relatively high demand for such employees. Since these may be the fast growth firms of the future, policy-makers who wish to expand graduate employment opportunities should not neglect them.

Most of the growth in employment has taken place among a relatively small proportion of employers. The employer survey reveals that 80% of all jobs created in the past three years have been created by just 14% of employers. Similarly, 80% of graduate jobs created have been created by just 16% of employers. This structure of employment dynamics is typical in market economies, and the fast-growth employers involved are sometimes called “gazelles” (Acs and Mueller, 2008; OECD 2009).⁴¹ In Kosovo, 23% of employers are gazelles, i.e organisations that have been expanding employment at a rate of more than 20% each year over a three-year period. Also, 15% of employers are growing at between 10% and 20% per annum in terms of employment. The latter type of employer could be called “divokoza”, a type of Balkan gazelle.⁴² Almost all of the gazelles had been micro-businesses three years before the survey was carried out and had grown into small sized businesses when the survey was implemented in 2015. One respondent had started out as a micro enterprise and had become a medium sized enterprise by 2015, with 73 employees. Most of the divokoza started out as SMEs in 2013, and had become larger SMEs by 2015. The graduate density of gazelles (62%) is significantly greater than that of slower growing employers (47%) ($p < 0.05$) indicating that the gazelles make a more substantial contribution to graduate employment growth than other employers. Therefore, gazelle enterprises hold the key to creating new graduate jobs.

3.1.2 Graduate employment by sector

The opportunity for graduates to find a job differs across sectors. Most graduates are employed in relatively few sectors (see Figure 6). It is striking that while more than 50% of all employees are employed in *Wholesale & Retail Trade* (13%), *Manufacturing* (13%), *Construction* (12%) and *Education* (12%), more than 50% of HE graduates are employed in *Education* (30%), *Health & Social Work* (13%) and *Public Administration & Defense* (9%). Consequently, the distribution of graduates across sectors differs from the distribution of all employees across sectors.

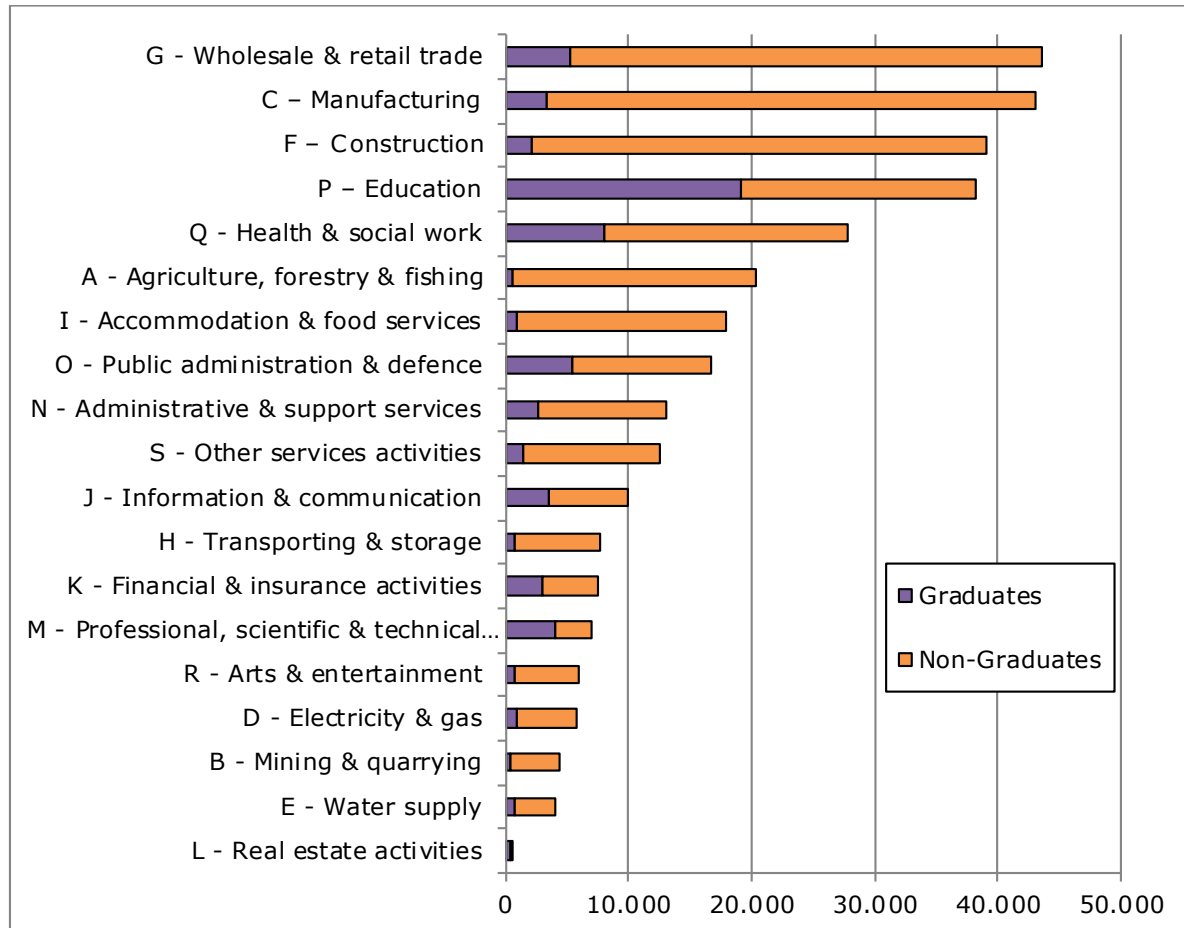
Sectors also differ in the share of graduates they employ, e.g. in 2013 the share of graduate employees was relatively high within the *Professional, Scientific & Technical Activities* (57%) and within the *Education* (50%) sector. There is a significant imbalance between the proportion of graduate employees in the public and private sectors. More than half (58%) of all employees in the public sector, and 47% of employees in state-owned companies have a higher education qualification, compared to just 17% of employees in private companies (KAS, 2016). The low proportion of graduate employees

⁴¹ The definition of a gazelle, given by Eurostat, is a company that has been formed within the past three years and is expanding employment by at least 20% per annum over those three years. In Hungary, for example, about 1% businesses in the industrial sector that employ between 5 and 9 employees fall into this category as do 0.45% of businesses with 10 or more employees (Eurostat, variable {eip_pop3}).

⁴² “Divokoza”, or Balkan Chamois, is speedy, but not as fast as a gazelle. The top speed of a chamois is about 50 kilometres per hour, while that of a gazelle is about 100 kilometres per hour.

in the private sector is probably because most employers in the private sector are small companies that do not employ any graduates. Our employer survey shows that among those private enterprises that do employ graduates, 43% of their employees have an HE qualification, similar to the proportion in state-owned enterprises. There are also differences between the main labour market in Kosovo and the separate labour market ecosystem in northern Kosovo. Employers in northern Kosovo are more likely to be in the public sector than are employers in the rest of Kosovo, and if they are in the private sector they are more likely to be micro sized businesses.

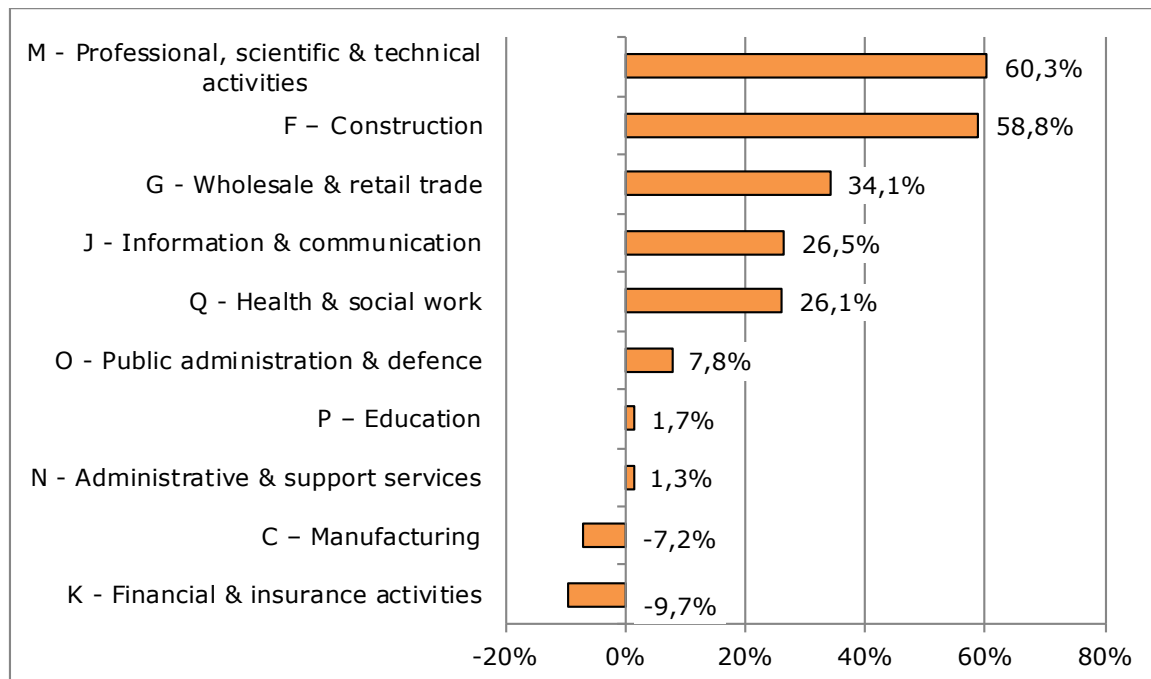
Figure 6: Graduate and non-graduate employment by sector of activity, 2013



Source: Kosovo Labour Force Survey.

Among self-employed persons the proportion of graduates is just 7%, indicating perhaps that graduates are not aware of the opportunities available to become self-employed entrepreneurs, or that there are few opportunities available. Yet, many self-employed persons work in the informal economy and so these data may not be wholly reliable.

Figure 7: Annual % change in graduate employment in major sectors of activity, 2012-13



Source: Kosovo Labour Force Survey. Note: The sectors shown account for over 90% of graduate employment.

Figure 7 shows the ten sectors that account for 90% of total graduate employment. Over the period from 2012-13, four of these sectors have a growth rate of graduate employment in excess of 12%. The fast-growth, high-employment sectors are *Professional, Scientific & Technical Activities* (including architecture, engineering, advertising and other professional activities), *Construction*, *Wholesale & Retail Trade*, *ICT* (including video and television, broadcasting, telecommunications, computer programming, consultancy and information services), and *Health & Social Work*. If past trends continue, it can be expected that these will also be the sectors that will experience fast growth of graduate employment in the future. Some of the sectors have declining graduate employment trends. These are *Finance & Insurance Activities*, which employ 5% of graduates and experienced a 10% decline in employment between 2012 and 2013, and *Manufacturing*, which employs 5% of graduates and experienced a 7% decline in graduate employment over this period.

3.2 Forecast of future demand for graduates

In order to identify likely future demand and supply for HE graduates, forecasts are needed to predict future changes in labour market needs. Policy makers can use such forecasts to adjust education strategies, or as an early warning of impending change.⁴³ In this section we set out our forecasts of the likely demand for HE graduates by field of study in the period up to 2018. The analysis is carried out on the demand side, projecting forward the annual change in demand for graduate labour on the basis of existing information on graduate employment by sector of economic activity taken from national labour force surveys. The methodology of the forecast follows that of Cedefop (2010),

⁴³ It should be noted that all forecasts are by their nature imprecise and subject to both error and revision as circumstances change. It has been said that every forecast is inevitably incorrect. Nevertheless a forecast provides a framework for policy makers to use as a benchmark against which to make their own judgments and decisions.

which involves identifying “expansion demand” and “replacement demand”. Expansion demand is the extra demand arising from economic growth, while replacement demand is associated with retirement and migration. Expansion demand is estimated on the basis of estimates of economic growth up to 2018, using GDP forecasts from the IMF World Economic Outlook database.⁴⁴ The forecast for the growth of graduate employment is made using an employment elasticity with respect to GDP equal to unity.⁴⁵ The replacement demand is calculated using a standard estimate of the retirement rate based on the assumption of a 40-year working life, giving a baseline 2.5% retirement rate and an estimation of net migration.⁴⁶ Expansion demand and replacement demand are summed to give an overall estimate of the annual change in demand for graduates by sector.

Contrasting the forecast increase in demand for graduates with current levels of supply of graduates (as a benchmark) gives the projected levels of oversupply of graduates by field of study in 2018, assuming current levels of supply are held constant.⁴⁷ It should be emphasised that these are only estimated forecasts and should be used only as a general guide to likely direction of change vis à vis current levels of provision, and should not be taken as accurate figures for planning purposes.

Table 8: Growth of real GDP, total and graduate employment, 2015-18

	GDP growth (%)	Employment growth (%)	Graduate employment growth (%)
2015	3.2	1.0	3.2
2016	3.8	1.1	3.8
2017	4.1	1.2	4.1
2018	4.1	1.2	4.1

Source: Projections for GDP growth from IMF World Economic Outlook database. .

Economic growth slowed down in 2014, but is forecast by the IMF⁴⁸ to pick up to 4.1% by 2018. The employment growth forecast is based upon evidence that the employment elasticity with respect to GDP growth is about 0.3 in Kosovo (Sen and Kirkpatrick, 2011). The forecast for the growth of employment of HE graduates is made using an estimate of the employment elasticity with respect to GDP equal to unity as explained above.

⁴⁴ The same rate of expansion demand is applied to each sector. Labour Force Survey data are not sufficiently robust to identify differential growth rates per sector, as these are too sensitive to the base year used for calculation. Several experiments were done using various estimated sectoral growth rates, which demonstrated that the forecasts over a period of three years are sensitive to realistic differences in assumed sectoral growth rates. Further analysis should be undertaken to refine the forecasts according to better predictions of sectoral change.

⁴⁵ This is a crucial assumption of the forecast. Direct evidence on the employment elasticity for HE graduates is not available. However, from a theoretical point of view, one would expect several factors to drive the employment elasticity. First, productivity growth would be expected to give rise to elasticity below 1 (as found by Sen and Kilpatrick (2011) for total employment. Second, skill-biased technical change would be expected to drive the employment elasticity above 1. The assumption of a unitary elasticity balances both these opposing influences, and seems a neutral estimate.

⁴⁶ According to UNDP, the net migration rate from Kosovo is 1% per annum (UNDP, 2014).

⁴⁷ Oversupply is defined here as the difference between the projected demand for graduates in a future year (e.g. 2018) and the supply of graduates that completed their studies in 2014, which is taken as a benchmark. It is therefore not to be understood as the difference between the annual demand and annual supply of graduates in the same future year, since we do not model a change in the supply of graduates over time. For policy purposes, it seems more appropriate to measure oversupply in this way, so that policy makers may see the consequences of holding the HE output constant at current levels, and can then identify the changes that might be needed in the future to achieve a demand-supply balance.

⁴⁸ See IMF World Economic Outlook online database.

By 2018, graduate employment is expected to be about 76,000, an increase of about 8,000 from 2015, or around 2,700 each year. This increase is the expansion demand that results from the net increase in job openings for graduates. To obtain a forecast for the actual numbers of graduates that will be demanded from the HE system, we add the “replacement demand” arising from the retirement of currently employed graduates. Applying this to our estimates of graduate employment, we derive an overall forecast of the annual increase in demand for graduates, which is the sum of expansion demand and replacement demand. Taking account of both expansion and replacement demand, the total annual demand for new graduates is expected to increase from about 4,500 in 2015 to 5,700 in 2018, an annual increase in the required output of graduates from HEIs of around 9% per annum (see Table 10). It should be noted that all these forecasts are dependent on a number of assumptions, including that net migration takes place at a rate of 1% per annum, and that the graduate employment elasticity is about 1. Should the leakage through such “brain drain” be stemmed, or graduate employment elasticity be less than assumed, the forecasts would be correspondingly reduced. It should also be born in mind that these forecasts are for the “gross” demand for new graduates, taking into account both replacement and expansion demand.

Table 9: Forecast for expansion, replacement and total demand for new graduates, by sector of activity, 2015-2018

Sector	Expansion				Replacement				Total demand			
	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018
A	21	25	28	29	23	24	25	26	44	49	53	56
B	11	13	15	16	12	13	13	14	23	26	28	30
C	110	135	151	157	125	130	135	141	235	265	286	298
D	28	35	39	40	32	33	35	36	60	68	74	77
E	25	31	35	36	29	30	31	32	54	61	66	68
F	70	86	97	101	80	83	87	90	151	170	183	191
G	170	209	234	244	195	202	210	219	365	411	444	462
H	25	31	34	36	28	30	31	32	53	60	65	68
I	33	40	45	46	37	39	40	42	70	78	85	88
J	114	140	157	163	130	135	141	147	245	275	298	310
K	100	122	137	143	114	118	123	128	214	241	260	271
L	14	17	19	20	16	16	17	18	29	33	36	37
M	131	161	180	187	150	155	162	168	281	316	341	355
N	88	108	121	126	101	104	109	113	189	212	230	239
O	177	217	243	253	202	210	218	227	379	427	461	480
P	628	770	862	897	717	745	775	807	1,346	1,514	1,637	1,704
Q	267	327	366	381	304	316	329	342	571	643	695	723
R	27	33	36	38	30	31	33	34	57	64	69	72
S	49	60	67	70	56	58	60	63	105	118	128	133
Total	2,087	2,558	2,864	2,982	2,384	2,474	2,576	2,681	4,471	5,032	5,440	5,663

Source: Table 9 and estimate of replacement demand for graduates. Note: A Agriculture, forestry and fishing; B Mining and quarrying; C Manufacturing; D Electricity, gas, steam and air conditioning supply; E Water supply; F Construction; G Wholesale and retail trade; H Transportation and storage; I Accommodation and food service activities; J Information and communication; K Financial and insurance activities; L Real estate activities, M Professional, scientific and technical activities; N Administrative and support service activities; O Public administration and defence, P Education; Q Health and social work activities, R Arts, entertainment and recreation; S Other services.

Change in the demand for graduates at sector level has implications for the pattern of recruitment that the HE system should anticipate. In order to address this issue we use the data from the graduate survey to estimate a transformation matrix that connects the sector in which graduates are employed to their field of study.⁴⁹ This provides forecasts of the demand for graduates by field of study. This is contrasted with the supply of graduates, which we derive from the HE provision database.

Table 11 shows the projected demand for graduates by field of study in 2015 and 2018 against the actual supply of graduates by field of study in 2014, which is used as a benchmark. The largest oversupply of graduates is in the field of studies of *Business, Administration and Law*, and *Arts and Humanities*. Total demand was overall below actual supply in 2014 and hence there is a surplus of graduates amounting to about 6,000 each year. Even if current levels of supply are held constant, they will still be more than adequate to meet projected demand in 2016 and a surplus of graduates will continue to be a reality in terms of job opportunities. The key question therefore is a) the creation of more jobs and b) improving the skills of the graduates. In addition, the mix of skills provided by the higher education system need to better match the mix of skills (interactive skills) demanded currently by employers and to better equip graduates for a changing labour market.

Table 10: Annual demand for and supply of new graduates by field of study

Field of study	Demand				Supply	Surplus/ Shortage
	2015	2016	2017	2018	2014	2018
01 Education	448	504	545	567	433	-134
02 Arts & Humanities	339	382	413	430	1,472	1,042
03 Social Sciences, Journalism & Information	724	815	881	918	1,364	446
04 Business, Administration & Law	1,054	1,187	1,283	1,336	5,606	4,270
05 Natural Sciences, Mathematics & Statistics	482	543	587	611	714	103
06 Information & Communication Technologies	310	349	377	393	351	-42
07 Engineering, Manufacturing & Construction	414	466	503	524	507	-17
08 Agriculture, Forestry, Fisheries & Veterinary	59	66	71	74	123	49
09 Health & Welfare	494	556	601	625	793	168
10 Services	147	165	179	186	557	371
Total	4,471	5,032	5,440	5,663	11,920	6,257

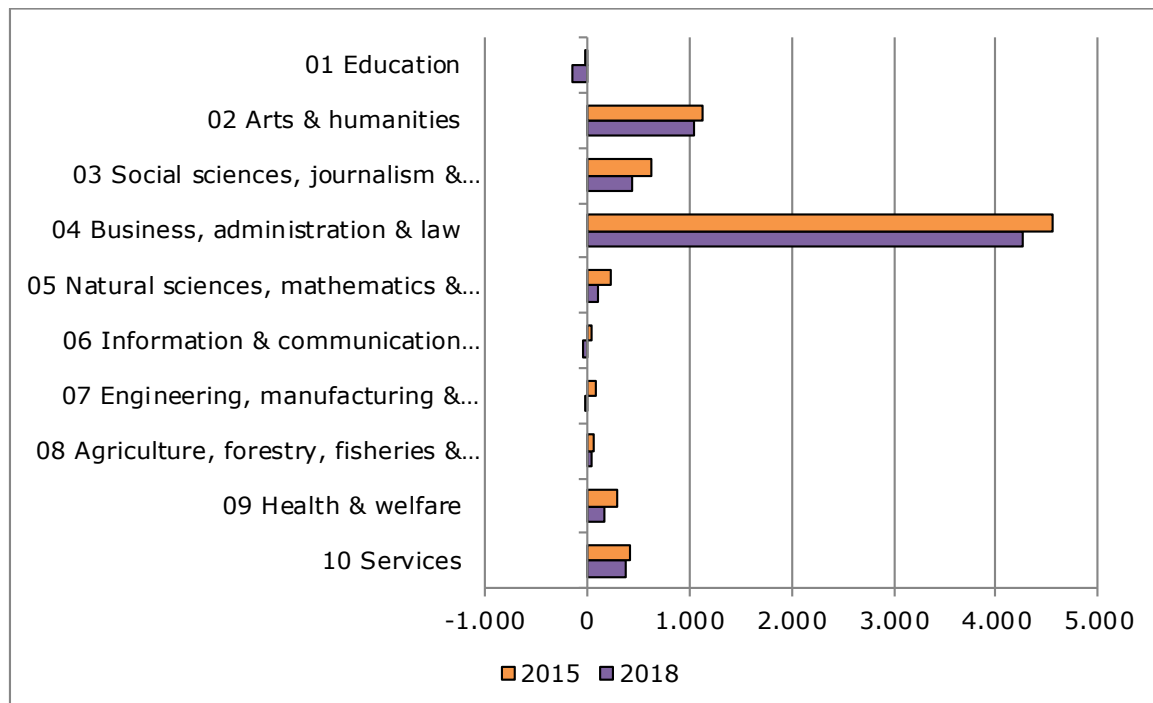
Source: Table 10, Graduate survey and HE provision database.

Figure 8 shows the gap between supply and demand for graduates from the labour market. The oversupply is shown for 2015 and 2018, identifying the broad fields of study where there is a surplus (or shortage) of graduates. The forecast by field of study for 2018 is intended to give a picture of what surpluses and shortages would look like if

⁴⁹ In order to obtain reliable estimates the entire graduate survey for the Western Balkan countries is used to create the transition matrix. This is justified on the grounds that the technological level in each country is rather similar and so it can be expected that an average measure of inputs of graduates per unit of output can be a good approximation to the country coefficients.

there were no changes in supply patterns from current levels. In doing this, the analysis provides a guide as to where adjustments should be made to the HE system, to change the supply of graduates so as to achieve a better balance between supply and demand. There is expected to be a continuing large surplus of graduates in the broad study fields of *Business, Administration & Law* and *Arts & Humanities* and to some extent in *Social Sciences, Journalism & Information* (i.e. the HSS subjects, ISCED 02+03+04). The supply of graduates from other fields of study is in rough balance with demand. The surpluses are expected to diminish over time as economic growth creates an increased demand for graduate employees.

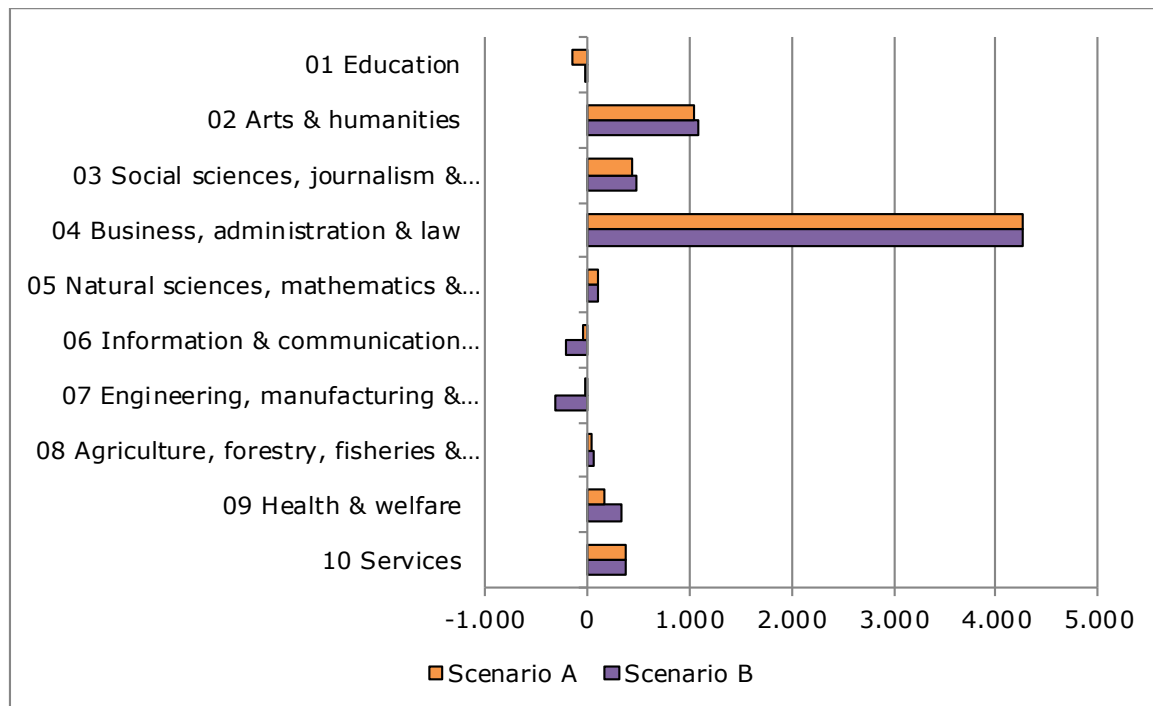
Figure 8: Surpluses and shortages of graduates by field of study, 2015 and 2018



Source: Table 10 Note: Positive bars represent surpluses; negative bars represent shortages.

The above analysis is based upon the absence of structural change in the economy. If instead of the status quo, the government were to initiate an industrial policy that supported a more rapid development of the knowledge intensive manufacturing sectors, the forecast would be different. In order to gauge the magnitude of possible changes, we develop a scenario in which the *Manufacturing* sector, the *Construction* sector, the *Information & Communication* sector, and the *Professional, Scientific & Technical* sectors are supported by a range of measures that have and will lead to their growth at a rate of 10% per annum over the period up to 2018, while other sectors are assumed to 2% per annum. The resulting change in our forecast for oversupply or shortages of graduates by field of study is presented in Figure 11. Under Scenario B with an industrial policy that supports faster growth of some technology-intensive sectors, shortages emerge for graduates in *Engineering, Manufacturing & Construction* and *ICT*, and the forecasted large surplus of graduates with HSS remains. This hypothesis shows that if a new industrial policy that boosted growth in knowledge intensive industrial sectors were to be adopted, it might face constraints on the side of available skills produced by the HE system in certain fields of study, and would therefore require a change in the HE admissions policies to ensure that a sufficient supply of qualified graduates in some STEM subjects, particularly engineering and ICT subjects, would be made available to support an increased demand for skilled labour with qualifications in these fields.

Figure 11: Difference in oversupply of graduates in 2018 under scenario B with industrial policy relative to scenario A without industrial policy



Source: Table 10 and author calculations. Note: Scenario A represents the status quo; scenario B assumes rapid growth in Manufacturing, Construction, ICT and Professional, Scientific and Technical sectors, and slower growth in other sectors.

The differences between Scenarios A and B are not huge, illustrating that the overall pace of growth is a more important determinant of the demand for graduate labour than inter-sectoral shifts in the structure of demand. This scenario-building exercise illustrates how the forecast methodology can be used to enable policy makers to reflect upon the consequences of industrial policy decisions for the consequent changes in requirements for qualified graduates. Of course, such scenarios rely upon a number of restrictive assumptions that may not hold up in practice and so can only be a rough guide to policy makers who should also apply their own judgements about the significance of any outcomes, bearing in mind the full range of policy goals.

3.3 Policy developments and gaps

Kosovo faces a serious challenge in providing jobs for the increasing number of HE graduates. With 68,000 graduates in employment, and with about 6,000 of the 12,000 graduates produced by the HE system each year being above labour market needs, it is not surprising that the unemployment rate of new graduates approaches 50%. There are simply too many graduates being produced by the HE system chasing too few jobs. Many surplus graduates are in HSS study fields such as *Arts & Humanities*, and *Business, Administration & Law*. Kosovo therefore urgently needs to either rationalise the supply of graduates in these areas or increase the number of graduate level jobs.

The *Programme of the Government of Republic of Kosovo 2015-2018* emphasises the need to strengthen the link between HE institutions and the economy, and the transformation of universities into generators of economic development. The *Employment and Welfare Strategy 2014-2020* aims to improve the functioning of the labour market, promote skills development, overhaul the social welfare system and consolidate the role

of social partners. However, there has been no progress in implementing this strategy, pending the adoption of legislation and the allocation of funds (European Commission, 2015: 44).

Despite the persistent high rate of unemployment, there has been a lack of labour market reforms to improve the employment opportunities of HE graduates. Kosovo has made progress in the World Bank Ease of Doing Business rankings, but this has not yet translated into more private sector development and has not succeeded in attracting foreign investors.⁵⁰ The government has for some years supported entrepreneurship programmes, on-the-job training and wage subsidy schemes though mainly supported by donors. Although these measures did support private sector development, they have been of limited scope. Calls have been made for more entrepreneurship programmes, a more friendly business environment and more support for business development. Substantial gaps persist in all areas of employment policy especially in active labour market policies to assist graduate entrants to the labour market.

Box 1: Good practice example: a wage subsidy scheme for recent graduates

For some years, the Ministry of Labour and Social Welfare has run wage subsidy schemes with an internship component that have proved successful in three aspects: they have enabled graduates to experience the world of work and enhance their skills, they have provided work experience which graduates can record under experience in their job applications, and in some cases graduates have obtained permanent jobs with the companies. In 2012, UNDP commissioned an evaluation study to measure the impact of the running Active Labour Market Youth Programme, part of which was the Internship placement scheme. The evaluation covered the period 2008-2010 and it was found that between 44 and 59% of graduates that were placed in companies for internship purposes kept on working for the same employers. It was also found that the internship placement scheme had a sustainable employment impact since 54% of the 2008 cohorts were in employment in 2011, 51% of the 2009 cohort were in employment in 2011 and 37% of the 2010 cohorts were in employment in 2011 (Kavanagh, 2012).

Enabling graduates to undertake a period of internship has been proposed as one way to ensure that graduates obtain the necessary work experience to support successful job search after graduation. Some attempts have been made to ensure internship placements of HE students within companies. For example, the Kosovo Investment and Enterprise Support Agency under the Ministry of Trade and Industry has an internship programme to support placement of students in companies giving successful applicants an internship in any company for one month, and so establish cooperation between government institutions, HEIs and the business community. However, so far such initiatives have had only limited success.⁵¹ This is due both to a lack of interest from the business sector to take on students as interns, and also due to a lack of commitment of HEIs. Some of the faculties of the public HEIs are closely linked to the labour market. A good example is the Industrial Board of the Technical Faculty of the University of Pristina, which fosters the quality and relevance of the education provided, and enables better employment prospects for graduates.⁵²

⁵⁰ Interview, Ministry of Trade and Investment, and employers' representatives.

⁵¹ Interview with employers' representative.

⁵² Interview, Ministry of Education, Science and Technology.

4 Transition from higher education to the labour market

Once HE students have completed their studies they face the challenge of making a successful transition to the labour market. An unsuccessful transition represents a waste of resources that Kosovo can ill afford. Indeed, the success of graduates' transition to the labour market is crucial for the improvement of economic competitiveness and for the future growth of the economy. However, the high unemployment rate of recent graduates suggests that they face major obstacles in their search for a job after leaving their HEI. This is not an absolute barrier, as employers will often prefer an overqualified recruit to a less qualified one, even if the qualification is above the requirement of the job. We return to this issue in section 5 below.

HE graduates in Kosovo face a difficult transition to stable employment. The graduate survey shows that currently unemployed graduates have had a precarious entry to the labour market, and have been unemployed on average for sixteen months. Yet they have also been on average one year and three months in employment, having spent on average nine months to find their first job. This is suggestive of a pattern of unstable attachment to the labour market that lasts for a considerable period of time after graduation and can have negative implications for productivity and competitiveness of the economy that persist over time. This is because unemployment or inactivity after leaving HEI can lead to a depreciation of the human capital that has been built up over several years (Mroz and Savage, 2006; Bell and Blanchflower, 2011). Currently employed graduates do not seem to fare much better. On average, they have spent one year and eleven months in employment. Almost half (46%) have experienced at least one spell of unemployment, having taken on average nine months to find their first job after graduating from HEI. These data reveal that the transition from higher education to the labour market is far from being a smooth process for many graduates.

In this section we explore the challenges facing both graduates and employers in the labour market. We begin by exploring the relations between HEIs and employers and emphasising the need for improved cooperation between them. In subsection 4.2 we examine the challenges facing graduates in the labour market including the lack of formal job-search assistance available. In subsection 4.3 we address the problem that employers face in taking on new graduate recruits including the length of time needed to recruit a new graduate, employers' dissatisfaction with the skills of new graduate recruits and the need for them to provide additional training to supplement that which they gained at HEI.

4.1 Limited cooperation between HEIs and employers

A major challenge facing HEIs is to develop cooperative relations with employers. Such cooperation is needed for the development of curricula, for placing students in companies for internships, and for finding suitable jobs for graduates. This issue is problematic even in the EU, where many countries are trying to improve university business cooperation. The most common forms of such cooperation are over curriculum design, development and delivery; course development; exchange and mobility programmes; continuing education and lifelong learning; and entrepreneurial education (Healy, 2012: 21).

In order to gauge the level of cooperation between HEIs and employers in Kosovo, the employer survey asked employers to indicate how frequently they discussed changes in study programmes with HEI representatives. Three quarters of employers (75%) are either "rarely" or "never" involved in discussing education programmes or syllabi with HEIs, and only 13% cooperate "a lot" or "very much" with HEIs in the recruitment of

graduates. Yet, at the same time, 56% of employers believe that such cooperation has “a lot” or “very much” effect on increasing the matching of graduates into appropriate jobs. However, only 30% of employers think that HEIs take note of employer input or that their opinions are taken into account in the design of study programmes. This suggests that while employers believe that such cooperation would improve the outcome of the recruitment process, there are obstacles on both sides (i.e. both HEIs and employers) to taking cooperative action. This is a classical public policy problem, where private actors on their own are unable to achieve mutual benefit and a more efficient social outcome. There is therefore a strong case for the government to play the role of independent catalyst to support the development of cooperative relations to the benefit of both HEIs and employers.

Box 2: Good practice example in university-business cooperation

A good example of a productive cooperation between a university and the business sector can be found at the Technical Faculty of the University of Pristina, where employers contribute to designing the curricula. The employers involved in the programme become well informed about the skills of prospective graduates and are therefore willing to take on students for practical work experience, which facilitates their future employment. This experience could be promoted and introduced in all faculties as students gain a better employment probability and employers have access to a skilled workforce.⁵³

In the EU, employers participate in decision-making or consultative bodies within HEIs in 22 countries, are actively involved in curriculum development in 19 countries, and frequently participate in teaching in 15 countries (Eurydice, 2014: 67). In these countries, employer cooperation with HEIs is often made possible by government support for university-business cooperation projects. For example, in 2013 the Danish government allocated €5.3 million to support innovation projects at universities, colleges and business academies in cooperation with public and private enterprises to motivate practice-based innovation and knowledge activities (Eurydice, 2014: 67). The projects focused on specific practical challenges in the enterprises and aimed to strengthen students’ innovative competences and develop relevant educational programmes. Participating enterprises contributed with significant self-financing to the projects. Other countries have established dedicated centres (e.g. Innovation and Liaison Offices in Greece and Centres of Technology Transfer in Latvia) to facilitate university-business cooperation (Eurydice, 2014: 67). Such cooperation projects could be a useful way for HEIs in Kosovo to contribute to the labour market success of their graduates.

The National Economic-Social Council of Kosovo could do more to enhance cooperation between HEIs and employers. The members of the Council are the key stakeholders for HE and the labour market, including the Ministry of Education, Science and Technology; the Ministry of Trade and Industry; the Ministry of Labour and Social Welfare; the Ministry of Health; and representatives of employers and employees. Despite holding regular monthly meetings of the Council, and despite the increasingly important issue of unemployment and the poor quality of education, the social dialogue has so far produced few practical outcomes.⁵⁴ Since the Council includes representatives of both employers and the HE system it is well placed to take steps to improve the curriculum and to facilitate internship arrangements for HE graduates.

⁵³ Interview with Ministry of Education, Science and Technology.

⁵⁴ Interview with Trade Union.

4.2 Challenges facing graduates on entering the labour market

The employment of graduates is a major challenge facing the HE system because the labour market cannot absorb the large number of graduates who are produced each year. Few graduates benefit from formal assistance in finding a job and face a problem of nepotism on the labour market. We address this issue in section 4.2.1 below. Furthermore, few graduates have any practical work experience and their skills often fail to match labour market needs. Employers therefore usually look for applicants with several years of work experience, which is a difficult requirement for many young graduates searching for their first job to fulfil. We return to this issue in section 4.2.2 below.

4.2.1 Lack of assistance in finding a job

The Public Employment Service (PES) consists of a network of Employment Offices in each municipality which function under the auspices of the Ministry of Labour and Social Welfare. The PES has a modern management information system, with data for job seekers and information on vacancies.⁵⁵ It guides job seekers onto training courses at eight vocational training centres; 426 HE graduates received such training in 2014.⁵⁶ Since 2015, in cooperation with donors, the Ministry of Labour and Social Welfare has been running entrepreneurship programmes that have involved training to start a business and grants for the best project applications. These programmes were mainly targeted at youth and women entrepreneurs.⁵⁷ Despite the variety of programmes provided by the PES, the number of beneficiaries has been quite limited. Moreover, since most active job seekers do not have a HE degree, most measures have been designed to match the needs of less educated job seekers.

Career guidance centres within HEIs provide information on vacancies, training in preparing CVs, developing presentation skills, and performing in recruitment interviews.⁵⁸ Career guidance within HEIs is a key indicator of success in implementing the *Kosovo Education Strategic Plan 2011-2016*, although few HEIs have career guidance and counselling services and few students have access to such services (Rraci, 2013). The relative lack of jobs prevents career centres from adequately supporting their students, particularly in centres outside Pristina.⁵⁹ In 2013 the “Centre for Career Development” at the University of Pristina had around 30,000 registered students and alumni. However, it is only able to identify a few jobs and offers limited opportunities for employment (Rraci, 2013). In general, HEIs aim to enrol as many students as possible, and have little interest or incentive to ensure that the graduates they produce are employable or actually succeed in finding a job.⁶⁰

⁵⁵ In 2013, Kosovo’s Assembly approved the Law on the Employment Agency as independent body within the MLSW. Although planned for the 1st of January 2015, the Agency is not yet established.

⁵⁶ Labour and Employment, 2013: <https://mpms.rks-gov.net/en-us/publications.aspx>.

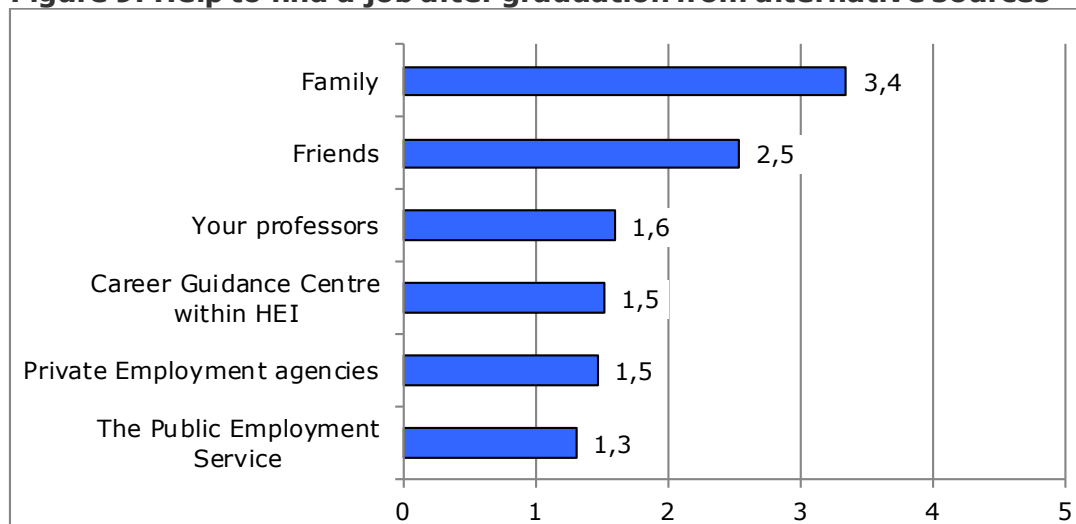
⁵⁷ As an example, a recently announced call for application only for women see: <http://mpms.rks-gov.net/Lajmet/Publikimiilajmeve/tabid/116/articleType/ArticleView/articleId/3774/language/sq-AL/Thirrje-per-Aplikim-per-gra-te-papunesuara.aspx>.

⁵⁸ Career guidance is important, and should also be provided at earlier stages, e.g. at secondary school level in order for students to make informed choices about the field of study to follow.

⁵⁹ Interview with public HEI.

⁶⁰ Interview with employers’ representative.

Figure 9: Help to find a job after graduation from alternative sources



Source: Graduate survey. Note: Responses are scored on a scale of 1-5, where 1="no assistance" and 5="very much assistance".

The graduate survey confirms the relative lack of assistance from PES and HEI career guidance centres, as 93% of graduates receive "none" or only "a little" help from the former and 84% of graduates receive "none" or only "a little" help from the latter. As in other countries in the Western Balkans, family and friends are the most important source of assistance in finding a job after graduation (see Figure 9). This suggests that the strength of informal contacts is an important factor in graduates' success in finding a job. In the public sector, where many graduates are employed, nepotism and political affiliation play an important role, and graduates who are less well connected on a personal or political basis may have very low chances in finding a job.⁶¹

It is important to note that since there is no unemployment benefit scheme there is a low rate of registration at PES and there is no obligation for employers to inform PES on their vacancies. In 2014, the PES helped to find jobs for only 3% of registered jobseekers, and organised training for only 2.5% of them (European Commission, 2015). In the future, non-financial incentive schemes should be tailored to induce both unemployed and employers to register at PES. Providing quality services to both users will probably be the most efficient measure to address both weaknesses in the system.

4.2.2 Lack of prior work experience

Many recent studies from around Europe have found that work experience during studies has a beneficial effect on the employability of graduates from HE systems (Bullock, et al., 2009; Wilton, 2012; Jackson, 2015; Thune and Storen, 2015). Therefore, the limited possibilities that students have to engage in practical work during their studies in Kosovo may reduce graduates' employment prospects. The employer survey shows that 66% of employers attach "a lot" or "very much" importance to previous work experience when recruiting a new graduate. This is a persistent challenge that cannot be easily addressed since the number of jobs available is limited in relation to the large supply of graduates.

From the graduate survey we find that 65% of students had some form of work experience or an internship during their period of studies at HEI, although only 27% of

⁶¹ Interviews, Ministry of Labour and Social Welfare, Chamber of Commerce, private HEIs and NGO.

students found such experience to be “a lot” or “very much” useful to their learning outcomes. Graduates that have had at least some work experience while studying are likely to be more successful in their job search. The graduate survey shows that 63% of those who had “very much” work experience held a job, compared to just 23% of those who had had no work experience ($p < 0.01$).⁶² Work experience also supports the matching of qualifications to the job. While 76% of those who had had at least a little work experience (or internship) held a job that was well matched to their field of study at the time of the graduate survey, only 50% of those who had no work experience held a well-matched job ($p < 0.01$).⁶³ Also, while 52% of those with at least some work experience held a job that was well matched to the level of their degree, only 21% of those without work experience held such a job ($p < 0.05$).⁶⁴ These findings show that there is a strong positive relationship between having at least some work experience gained during studies and the likelihood of not only finding a job, but also one that is well matched to the field of study and level of degree obtained at HEI.

Box 3: Findings from a focus group

Considering the connections between the HE sector and the labour market, a focus group of Erasmus Mundus alumni identified two main elements that could be introduced in Kosovo based on their experience in the EU: firstly, internships and work placements could be facilitated by the establishment of dedicated offices in the HEIs; secondly, a vacancies e-portal could be established by universities for employers to post their vacancies and streamline the job search of graduates.

Source: Focus group report.

4.3 Employer’s challenges in taking on new graduates

Employers face many challenges in taking on new graduate recruits, including the substantial skill gaps of HE graduates and the training costs that are incurred as a result. The World Bank (2015) argues that the education system fails to equip graduates with the skills necessary to transition to a rapidly changing labour market. Recent sectoral studies (for wood, metal, food processing, tourism, textile) carried out by UNDP in 2013 found that the lack of an appropriately qualified labour force is a barrier for business development and raises labour costs (UNDP, 2014a-f). In this section we first consider the extent of employers’ dissatisfaction with graduate skills, then analyse the nature of the skill gaps that employers face, before turning to a discussion of the extent of training that employers feel they must provide to make up the deficiencies of the HE system in providing graduates with the required skills.

4.3.1 Dissatisfaction with skills of new graduates

Despite the large numbers of graduates produced by the HE system in Kosovo, many employers experience shortages of workers with the right skills on the labour market. A recent large-scale employer survey found that almost half of employers consider the lack of educated and skilled workers to be a barrier to doing business, especially among larger corporations (Rinvest, 2014). Also, about a third of SMEs have difficulties in recruiting suitably skilled employees, while nearly one fifth of SMEs consider that their employees lack the required skills once they are recruited (KOSME, 2014). Companies in

⁶² Chi-square=35.2, $p=0.000$, $N=307$. Also, 50% of those who had at least some work experience held a job, so even having a little work experience seems to be beneficial for a graduate’s success in job search.

⁶³ Chi-square=7.36, $p=0.007$, $N=126$.

⁶⁴ Chi-square=8.77, $p=0.012$, $N=122$.

the ICT sector find it particularly hard to fill job positions, and once they do they invest more on employee training. This is because educational programmes do not provide the needed ICT skills (STIKK, 2013) and because curricula in HEIs are usually general rather than job-specific (UNDP, 2014g).

Even when employers do managed to recruit skilled workers, many are dissatisfied with the skills of the graduates that they recruit; the employer survey shows that almost half of employers (49%) believe that graduate employees bring “none”, only “a little” or just “some” added value in comparison with the skills of non-graduate employees. It is hardly surprising therefore that, on average, employers score their satisfaction with the skills of their graduate employees at just 6.0 out of 10.0 (the maximum degree of satisfaction), providing further evidence that they are only moderately satisfied with the graduates’ skills. Additionally, the employer survey asked respondents to rate the specific skills of their employees on a 1-5 scale (from 1 = “none at all” to 5 = “very much”). This shows that employers perceive graduates to be relatively weak in foreign language skills (with a score of 3.49), numerical skills (3.55), and decision-making skills (3.61), and that they consider that graduates are relatively strong in computer skills (3.88) and team-working skills (3.95). Unlike in other countries in the region, where employers consistently indicate that graduates lack interactive skills (such as decision-making skills and team-working skills) as opposed to cognitive skills (such as numeracy and computer skills), no such pattern emerges in Kosovo, perhaps because graduate skills are weak across the board. On the other hand, this pattern is found among foreign employers, who consistently rate their graduate recruits to have very poor interactive skills (but not poor cognitive skills). For example, while domestic employers rate graduates’ analytical and problem-solving skills at 3.86 out of 5.00, foreign employers rate these skills at just 2.80 ($p < 0.05$), and while domestic employers rate graduates’ planning and organisational skills at 3.82, foreign employers rate these skills at just 2.60 ($p < 0.01$). Similar differences are found for other interactive skills such as adaptability skills, decision-making skills and team-working skills. This is a worrying finding as it suggests that there may be a severe skill constraint facing the government’s ability to attract inward foreign investment that is essential to improve international competitiveness and sustain future economic growth. All of this provides strong evidence to support the view that Kosovo urgently needs to improve the quality of the HE system as it is too costly to continue to produce graduates with no or little added value compared to secondary school leavers.

Employer satisfaction with skills differs across various categories of employer. For example, employers in high technology sectors tend to be more satisfied with the skills of their graduate employees than employers in low technology sectors (the former scoring 7.3 on the scale compared to 4.5 for the latter).⁶⁵ This may indicate that high technology employers are able to select the best graduates, and that the more skilled graduates prefer to work in high technology companies. It may also suggest that there is a limited supply of skilled graduates who succeed in finding employment in high technology sectors. On this interpretation, the remaining graduates with a relatively low level of skills find work in lower technology sectors, but even there they do not satisfy employers with their skill levels.

Another finding from the employer survey is that employers that “often” cooperate with HEIs over recruitment are significantly more satisfied with the skills of their graduate recruits (scoring 7.9) than employers that never cooperate (5.1) or only rarely cooperate

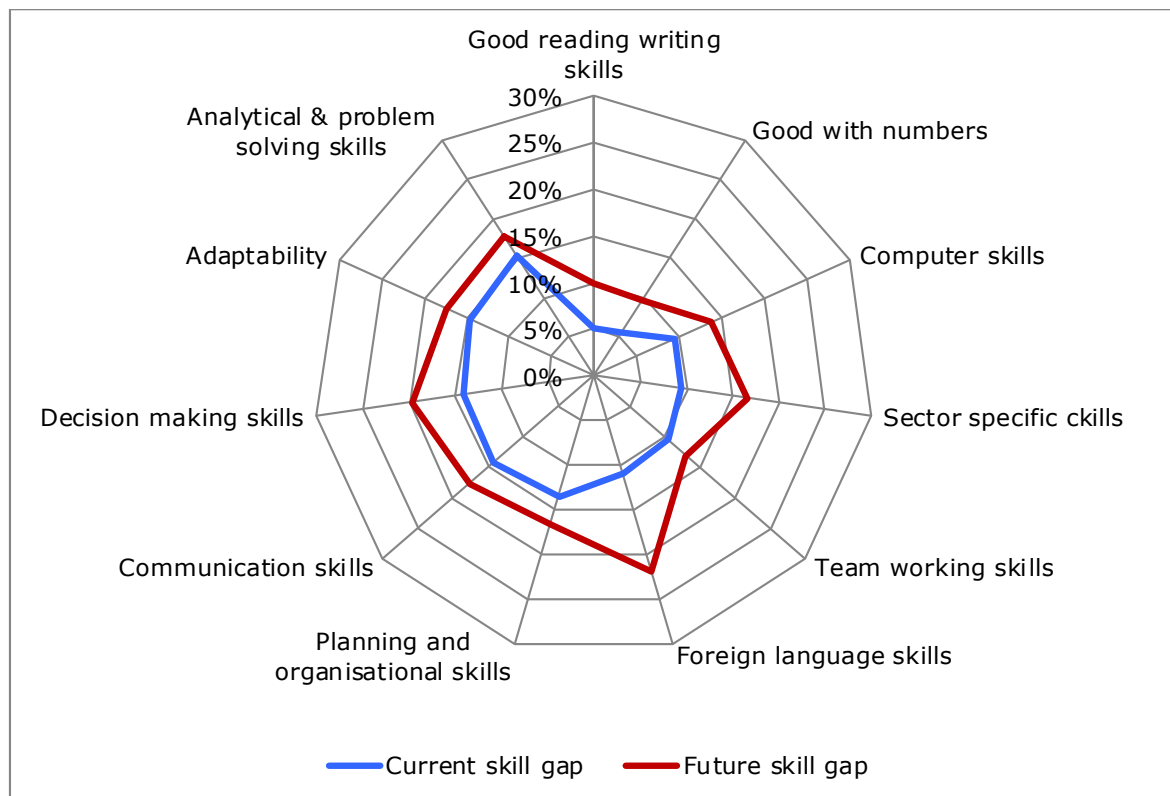
⁶⁵ The difference is significant at the 5% level (F-statistic=3.22; $p=0.035$; $N=36$).

with HEIs (6.0).⁶⁶ This indicates the importance of this particular type of cooperation for employers' ability to attract skilled graduates.

4.3.2 Graduate skill gaps

The employer survey measured skill gaps by asking employers about (i) the level of skills they consider necessary to carry out the job along a range of skill dimensions and (ii) the actual skills of their graduate employees, both measured on a 1-5 scale where 1= "not at all" and 5= very much". The difference between required and actual skills is the estimated skill gap. Reducing the skill gaps of graduates would increase their employability.

Figure 10: Graduate skill gaps – current and future (%)



Source: Employer survey. Note: skill gaps are measured as the difference between actual and desired skills reported by employers, with the underlying scale of skill measurement set at 1 where the respective skill is not important and 5 where it is very important for the performance of the business. The resulting skill gap is converted to a proportion of the maximum feasible skill gap.

Graduate skill gaps as reported by employers are displayed in Figure 10. The data shows the largest skill gaps are for interactive skills such as analytical and problem solving skills (a gap of 15% between the required and actual skill level), adaptability (15%), communication skills (14%), decision-making skills (14%) and planning and organisational skills (14%). Among cognitive skills, the largest gap is in foreign language skills (11%). All types of skill gaps are expected to increase in the future (i.e. over the three years following the time of the survey – up to 2018). In future, the largest gaps are expected to be in decision-making skills (20%). The greatest expected increase in

⁶⁶ The difference is significant at the 1% level (F-statistic=7.55; p=0.001; N=68).

skill gaps is expected in foreign language skills. One interviewee identified gaps in communication skills and foreign languages:

"Graduates are mainly equipped with theoretical knowledge and very limited practical skills. Lack of experience in enterprises during studies is a central barrier to developing skills that employers demand. ... Students are ... weak in languages. Communication skills are also not developed during studies".⁶⁷

Current skill gaps are significantly higher among public sector employers (19%) compared to private sector employers (9%).⁶⁸ Skill gaps also vary systematically by employer size groups. The smallest current skill gaps are found among the micro employers (6%) and small employers (9%), and largest for medium sized employers (20%) and large employers (25%).⁶⁹ Whether this is due to more highly skilled graduates preferring to work in smaller employers, or because the larger employers operate more technically complex procedures and have a greater demand for skills, should be a matter for further investigation. However, from the graduate survey there is no detectable relationship between the size of employer and either the extent to which employers consider that graduates bring value added to the organisation or the technological level of the employer.

Location seems to have a bearing on skill gap perceptions, as employers located in North Kosovo report virtually no skill gaps (2%) compared to the rest of Kosovo (13%).⁷⁰ Similar skill gaps are found in respect of location in the capital city (Pristina) (16%) compared to elsewhere (3%).⁷¹ It is rather surprising that such large skill gaps are found in the capital city, where most graduates are educated, and where one might have expected employers to be able to select from a larger pool of talent. Perhaps it reflects the overall low level of skills and the greater demand for skilled labour in the capital city. This may be related to language skills since employers in the capital city score foreign language skills as much more important for the performance of their organisation than do employers located outside Pristina ($p < 0.01$).⁷² Worryingly, the largest skill gaps are reported by foreign employers (31%) compared to domestic employers (9%).⁷³ Since all foreign employers are located in Pristina, this may explain the reason for the large skill gaps in the capital city.

4.3.3 Training of new graduate employees

Employers often provide additional training to their new recruits. In Kosovo, many employers complain that they need to provide additional training to graduates so that they can perform their tasks effectively, and that that they expect that graduates should have learned the skills that are needed during their HE studies.⁷⁴ Evidence to support this is provided from the employer survey, which shows that 61% of employers provide either formal or informal training to their graduate employees, and from the graduate survey, which shows a similar proportion (58%) of graduate employees receive on-the-job training from their employer. 15% of recent graduates who responded to the survey had received formal training outside their place of employment. Of these, 48% received

⁶⁷ Interview with NGO.

⁶⁸ The difference is statistically significant at 10% level (F-statistic = 3.70; $p = 0.059$; $N = 68$).

⁶⁹ The difference is statistically significant at 10% level (F-statistic = 2.27; $p = 0.088$; $N = 79$).

⁷⁰ The difference is statistically significant at 5% level (t-statistic = 2.00; $p = 0.049$; $N = 79$).

⁷¹ The difference is statistically significant at 1% level (t-statistic = 3.18; $p = 0.002$; $N = 77$).

⁷² The difference is statistically significant at 1% level (using a t-test for difference in means gives the t-statistic = 3.46; $p = 0.001$; $N = 75$).

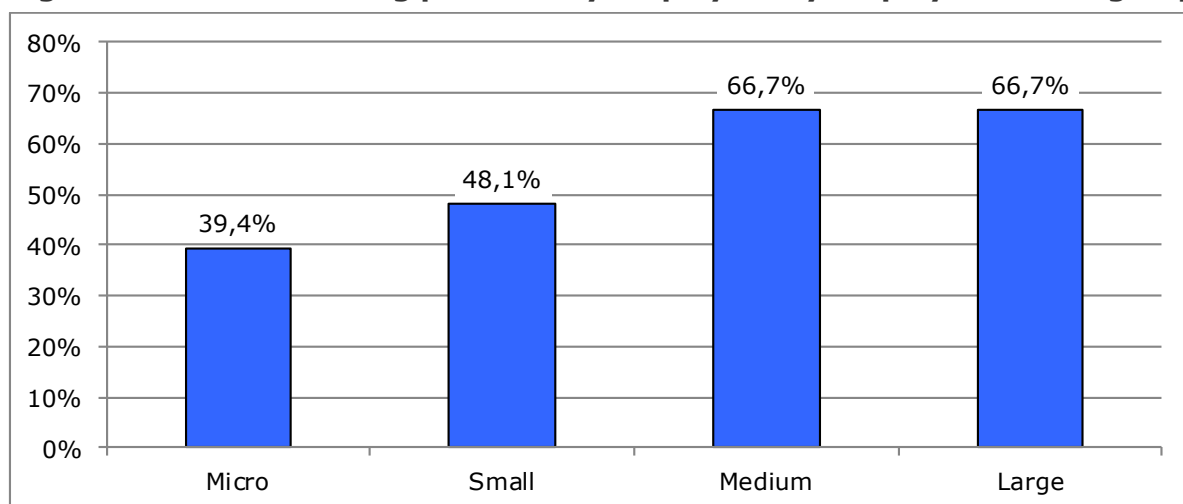
⁷³ The difference is statistically significant at 5% level (F-statistic = 6.01; $p = 0.017$; $N = 78$).

⁷⁴ Interview with Ministry of Labour and Social Welfare.

training at a vocational training centre⁷⁵, 26% at a college, and 22% at a university. Graduates who studied humanities and social sciences, including business studies, are more likely to need additional training from their employers than others. The graduate survey shows that 53% of such graduates received additional training paid for by their employer compared to 31% who studied other subjects ($p < 0.1$).⁷⁶

More than one half (56%) of graduates that are well matched by the level of qualification (see section 5 below) have received additional formal training from their employers compared to 33% of graduates who are mismatched ($p < 0.05$).⁷⁷ This suggests that employers are not willing to make up for the deficiencies of the HE system in providing training to graduates with qualifications below the level of the job, while those with qualifications above the required level presumably need no further training by the employer. Employers search for workers who possess the required skills, and who have work experience. Training employees is expensive for employers, and there is always a risk that once they learn to do the job they will leave the company.

Figure 11: Formal training provided by employers by employment size group



Source: Employer survey.

Large and medium sized employers are more likely to provide formal training than small and micro employers. Employers that operate with a medium to low level of technology provide significantly more formal training to their new graduate employees than do other employers. As demonstrated above, this is also the category of employers that is least satisfied with the skills of the new graduates, which explains to some extent the reason why they need to provide greater supplementary training in addition to that which the new graduates received at their HEI.

4.4 Summary

The research reported above shows that many graduates have difficulties in managing the transition from HE to work. The main reasons for this include the lack of available

⁷⁵ Vocational training is carried out in a network of eight Regional Vocational Training Centres (VTCs) function managed by the Vocational Training Division of the Department of Labour and Employment within the Ministry of Labour and Social Welfare. In 2014, some 426 university graduates benefitted from a training course at a VTC (MLSW, 2014).

⁷⁶ The differences are significant at 10% level (Chi-square = 3.60; $p = 0.058$, $N = 82$).

⁷⁷ The differences are significant at 5% level (Chi-square = 4.17; $p = 0.041$, $N = 84$).

jobs, a HE system that does not equip graduates with relevant skills, a lack of assistance from formal institutions, a lack of practical work experience, and the poor quality of the education students receive.

Having had some work experience during the period of studies seems to be particularly important in enabling a successful transition to the labour market. Although employers attach much importance to graduates having some work experience, in practice many do not gain any work experience during their period of studies. Graduates with some work experience have a higher probability of finding a job than those without any work experience, and a higher probability of finding a job that is well matched to the field of study followed at the HEI.

Only about half of employers believe that HE graduates bring much added value to their organisation compared to secondary school leavers. Many employers, especially foreign investors, have a relatively poor perception of the quality of skills taught at HEIs, and many provide additional training to their graduate recruits. Foreign employers are more concerned with the absence of interactive skills, and report serious and growing skill gaps in this area. Worryingly, high technology employers report higher skill gaps than other employers. Employers who are dissatisfied with the skills of new graduate recruits find that they need to provide additional training. Training is more likely to be provided to graduates who have studied humanities or social science subjects at their HEI than others, presumably because these subjects provide few practical skills. Graduates who are well matched by level of qualification are more likely to receive training from their employers than mismatched graduates, suggesting that employers are reluctant to make up for a skill mismatch and have a lower commitment to the long-term employment of such graduates. Training is more often provided by large employers than by smaller employers, and more often by foreign employers located in Pristina than by other employers.

In dealing with these problems, few employers cooperate with HEIs over the design of study programmes or in the recruitment of graduates even though they believe, on the whole, that such cooperation would enable them to find more suitable employees. Employers that cooperate more with HEIs tend to experience lower skill gaps among their graduate recruits than other employers. Yet relatively few employers believe that HEIs would take their needs into account if they knew what these needs were. Policy makers could play a useful role in bringing the two sides to discuss their shared concerns and identify areas of improvement within HEI programmes that could be mutually beneficial.

5 Skill mismatch

Skill mismatch is widespread in market economies (McGuinness, 2006).⁷⁸ It has two dimensions. The first is *horizontal* skill mismatch, where the employee has a qualification in a field of study that is not required by the job held. The second is *vertical* skill mismatch, where an employee has a qualification either above or below the skill level needed to do the job. Skill mismatch is important for individuals, since an inability to find a job that is well matched may reduce the return on the investment made in building human capital (Robert, 2014). Skill mismatch is also important for the economy as a whole, since there is strong evidence of an inverse relationship between skill mismatch

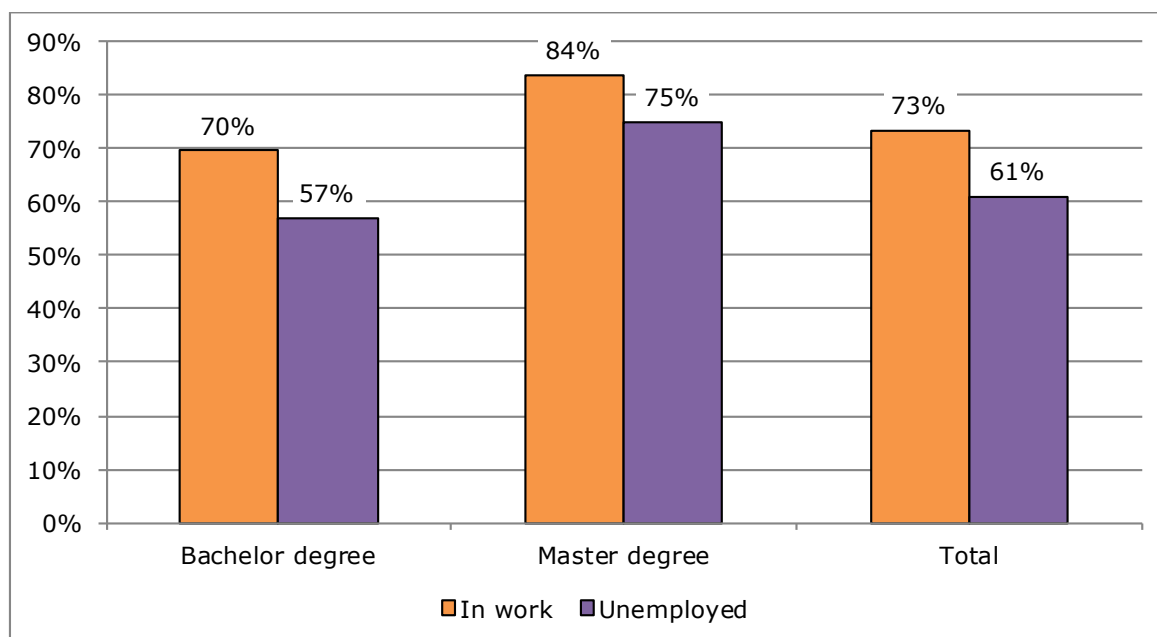
⁷⁸ The concept of skill mismatch is usually operationalised by reference to qualifications, on the grounds that the level of qualification is a good proxy for the level of skill. The survey asked about the relationship between qualifications held and skills needed in the job.

and productivity at the country level (Adalet McGowan and Andrews, 2015a). Thus, countries with a higher level of skill mismatch have a lower level of productivity and growth than countries with a lower level of skill mismatch, other factors being equal.

5.1 Horizontal mismatch

The graduate survey shows that 28% of graduates are poorly matched to their current job by field of study followed at HEI (or to their previous job if unemployed or inactive). Horizontal matching is important for a successful transition to the labour market. It enables the full use of human capital accumulated at HEI, which facilitates high productivity at work.

Figure 12: Graduates with a horizontally well-matched job by degree level and labour force status



Source: Graduate survey. Note: % within labour force status; for unemployed respondents, matching refers to last job held. The first vertical bar shows that 70% of those in work with a Bachelor degree are well matched compared to 57% of those unemployed with a Bachelor degree. Inactive graduates are not shown here as there are relatively few in the sample.

Horizontal matching is related to labour force status and level of degree (see Figure 12). Graduates who are unemployed were asked whether they were mismatched in their previous job. Almost three quarters of the employed graduates are mismatched compared to only two fifths of the unemployed graduates in their previous job. This suggests that horizontal mismatch is a key risk factor in pushing new graduates into unemployment, and that having a well-matched job is important for job retention. The effect is the same across degree levels. Graduates with a Master degree have a higher chance of finding a well-matched job than graduates with a Bachelor degree.

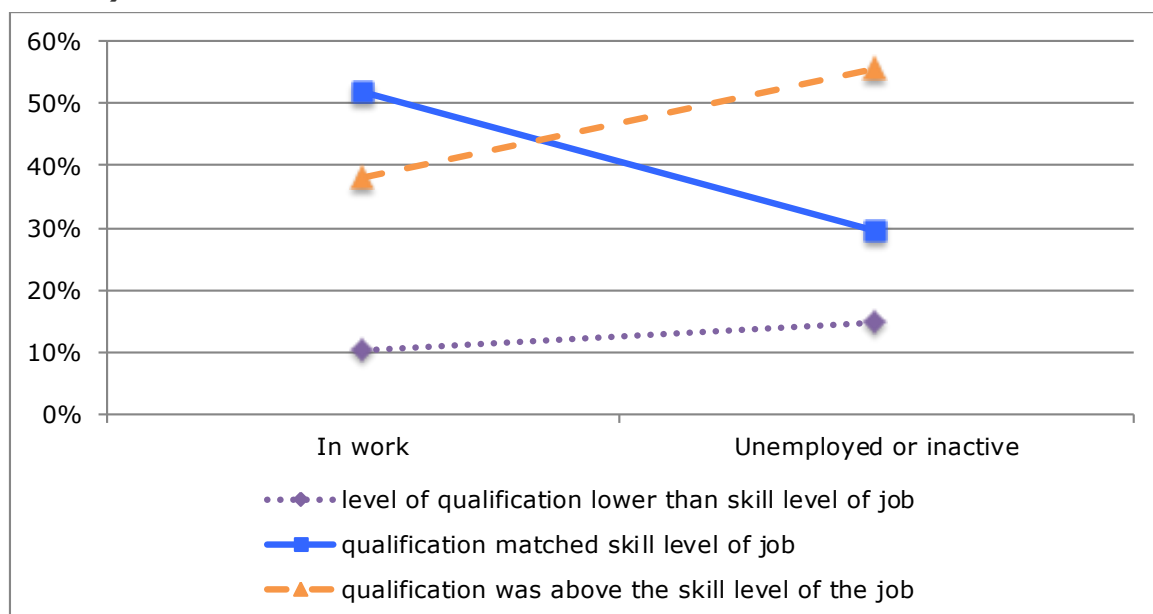
5.2 Vertical mismatch

Graduates are vertically mismatched if their level of qualification provides a set of skills that is either above or below the skills needed to carry out the job. If the graduate's degree level is above the level of required skills, this situation is often referred to as over-education. This problem seems to be significant in Kosovo. The graduate survey

shows that vertical mismatch is widespread in Kosovo with only 47% of HE graduates reporting that their level of qualification is well matched to the requirements of the job they hold. Equivalently, 53% of graduates are mismatched to the skill requirements of their job, of whom 42% are over-qualified and 11% are under-qualified. This latter feature is rather surprising considering the scarcity of jobs and the surplus of graduates; it may reflect nepotism in the labour market, enabling underqualified graduates to attain jobs above their level of ability. This proportion of mismatch is higher than in the EU where, according to the OECD Survey of Adult Skills, the highest level of mismatch is in Italy, at 34% (Adalet McGowan and Andrews, 2015b).

Having a vertically well-matched job is not reflected in earnings in the initial job held after graduation. The graduate survey shows that graduates who are vertically well matched earn a median salary of €200 per month, which is above the median salary of €150 for under-qualified graduates but below the median salary of €250 for over-qualified graduates. If earnings reflect productivity, this suggests that graduates who are vertically well matched have lower productivity than graduates who are over-qualified. This may indicate that well-matched graduates bring a low level of added value to their job, and this may be a further evidence of the inadequacy of the HE system in Kosovo in imparting skills that are relevant to the labour market. The differences in earnings change as graduates sort themselves into better-matched subsequent jobs. For the current job, well-matched graduates have median monthly earnings of €423, compared to €400 for over-qualified graduates, and €325 for under-qualified graduates.⁷⁹ This widening of differences in earnings may indicate that the labour market is efficiently sorting well-matched graduates into higher paying jobs as they progress in their careers, and may therefore indicate the potential gain from ensuring that the matching process works more efficiently for HE graduates.

Figure 13 Vertical matching by labour force status (% within labour force status)



Source: Graduate survey. Note: differences are significant at 10% level; N=135.

⁷⁹ Other studies of skill mismatch in transition countries also find a wage penalty associated with over-qualification, see e.g. Lamo and Messina (2010).

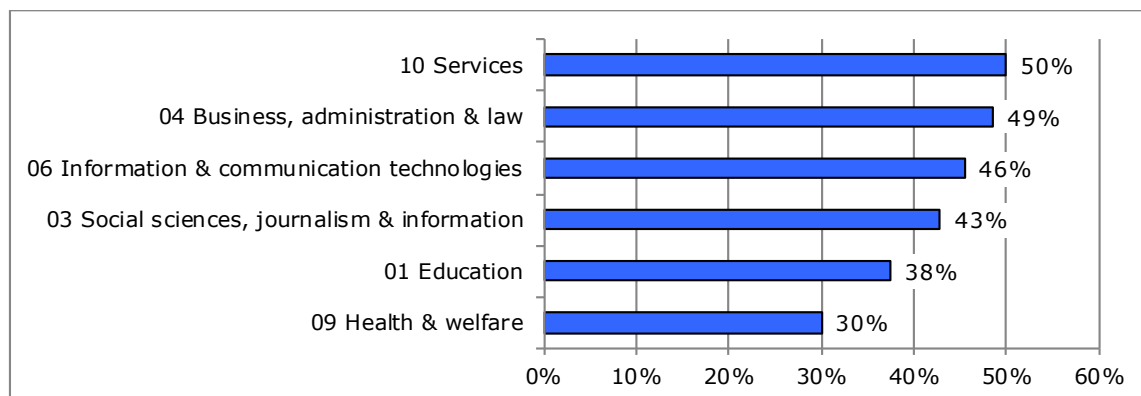
Figure 13 shows that graduates that are in work (employed or self-employed) are more likely to be in a well-matched job by level of qualification than unemployed or inactive graduates (in their previous job), while the latter are more likely to have been overqualified (in their last job) compared to employed graduates (in their current job). As with horizontal matching, this implies that matching is important for job retention, as unemployed and inactive graduates appear to have been less well matched in their previous job compared to employed graduates.⁸⁰

Various other factors seem to predispose graduates to have a well-matched job compared to either being under-qualified or over-qualified for the job held. Firstly, graduates who had any work experience through an internship or other form of work experience were more likely to end up in a well-matched job than others ($p < 0.01$).⁸¹ This highlights the importance of work experience gained through an internship while studying in easing the graduates' transition to the labour market.

The type of skills gained also influences the likelihood of finding a well-matched job. Skills such as an ability to adapt to new situations ($p < 0.1$), and planning and organisational skills ($p < 0.05$) seem to be especially relevant in obtaining a well-matched job.⁸² This supports the idea that gaining interactive skills at HEI are important for a successful transition to the labour market. In addition, receiving job counselling seems to have a beneficial role to play in finding a well-matched job ($p < 0.05$).⁸³

The subject studied at HEI also affects the extent of vertical matching: 27% of those who said that they experienced "very much" difficulty in finding a job due to the subject they studied at HEI were employed in a job for which they were under-qualified, while 8% of those who said they had no difficulty on this account were under-qualified. As shown in Figure 14, some fields of study are associated with very poor matching, including *Health & Welfare* and *Education*, perhaps due the low number of job openings.

Figure 14: Proportion of vertically well-matched graduates by field of study



Source: Graduate survey.

⁸⁰ Relatively few graduates of any labour force status are underqualified for their current or previous job.

⁸¹ The graduate survey shows that while only 21% of those who had "no" work experience held a well-matched job 52% of those who had at least some work experience had a well-matched job (Chi-square = 8.21; $p = 0.004$; $N = 122$).

⁸² While 56% of graduates who had gained "a lot" of adaptability skills have a well-matched job, only 20% of those who gained only "a little" adaptability skill have a well-matched job (Chi-square = 8.25; $p = 0.083$; $N = 129$); and while 65% of graduates who gained "a lot" of planning and organisational skills have a well-matched job, only 38% of those who gained only "a little" of such skills have a well-matched job (Chi-square = 13.16; $p = 0.011$; $N = 132$).

⁸³ While 63% of graduates who had received "a lot" of job counselling have a well-matched job, only 18% of those who received "no" job counselling have a well-matched job (Chi-square = 11.01; $p = 0.027$; $N = 130$);

Vertical mismatch is also sensitive to the extent of assistance received from friends in finding a job. Graduates who received “a lot” or “very much” help from friends are significantly more likely to be under-qualified for the job they hold. Those who received “none” or only “a little” help from friends are more likely to have a job that is below their level of qualifications (i.e. be over-qualified). This suggests the power of personal connections even where the level of qualifications does not match the requirements of the job. Graduates who do not have the personal connections to assist them in their job search experience the highest degree of vertical mismatch.

6 Conclusions and policy recommendations

The research reported above shows that the HE system in Kosovo produces too many graduates relative to the needs of the labour market, leading to a high graduate unemployment rate. On the labour market there is an oversupply of graduates from most study fields but especially from *Arts & Humanities, Social Science, Journalism & Information* and *Business, Administration & Law*. A high number of students drop out of studies leading to a low completion rate. Of those students who do graduate many face the prospect of unemployment. Of those who do find a job, many are in jobs that are not matched to their field of study or their level of qualification, reducing their wages and job prospects in relation to graduates in well-matched jobs. With an overall completion ratio of 32.5%, an employment rate of 41% and a rate of (vertically) well-matched graduates of 47%, it could be said that the internal efficiency of the combined HE and labour market systems (the HELM system) is extremely low, at just 6%.⁸⁴ In other words, of every hundred new students entering the system in any one year, it can be expected that only six will eventually graduate from the system and find a well-matched job. In order that the HE system makes a better contribution to building human capital and to the competitiveness and growth of the economy, significant reforms of the HE system and the graduate labour market are needed, and better cooperation between employers and HEIs should be encouraged.

6.1 The provision of higher education

In recent years Kosovo experienced a rapid expansion of its HE system, involving the creation of several new public and private HEIs. Kosovo now has more HEIs per head of population than the average for the Western Balkans, raising concerns about the quality of the education provided. HEIs are allowed to enrol additional students beyond the quota if they are willing to pay their own tuition fees, and the number of students registered to study at HEIs has increased rapidly. Every year around 30,000 students enrol in Bachelor level study programmes, while the number enrolling in Master level programmes reached over 7,000 in 2014. The high level of enrolment and the rapid expansion in the system has had a negative effect on quality, led to low completion rates of students within the HE system. The research also shows that the HE system in Kosovo produces too many graduates relative to the needs of the labour market, leading to a high graduate unemployment rate. The most popular field of study is *Business, Administration and Law*, which attracts 42% of all students, despite there being not enough jobs on the labour market. Only 19% of students enrol in STEM subjects, leading to a shortage of graduates in those study fields. Each year, fewer students successfully complete than begin studies, indicating a high level of internal inefficiency of the HE

⁸⁴ The efficiency of the HE-LM system can be assessed as the product of these three ratios: $0.325 \times 0.41 \times 0.47 = 0.062$.

system. In the academic year 2013-14, the completion ratio was just 32.5%. The graduate survey shows that the subjectively assessed value for money is 65%.

A major concern following the expansion of the HE system has been the low quality of education. The graduate survey shows that respondents consider that private HEIs provide better quality education than public HEIs. Worryingly, graduates who studied STEM subjects are less satisfied with the quality of provision than others. In order to regulate quality, an accreditation agency was established, which refused the accreditation of nine private HEIs since 2009. Unfortunately, the process has been damaged by evidence of corruption, and a new management is implementing more rigorous procedures. Quality at many HEIs is low partly because study programmes and curricula are seldom updated in response to changes that take place in the economy and the labour market, and few professors keep up with the latest developments in their fields of expertise. Other major problems are the low level of university-business cooperation and the pervasive problem of corruption, which affects the efficiency of the HE system. A direct consequence is that the HE system fails to equip graduates with the skills that employers look for. The graduate survey shows that 48% of respondents consider that better teaching methods would have improved their job prospects, and a similar proportion think that better qualified professors are needed. However, teaching staff at both public and private HEIs have few opportunities to improve their teaching skills, learn new teaching methods or update their knowledge. In addition, there are not enough academics that hold a PhD degree for the large number of study programmes on offer.

These findings clearly show that the HE system in Kosovo needs to be better supported by the government and labour market stakeholders in order to be improved. The various laws and strategies that have been adopted are a step in the right direction, but often the implementation of new regulations and policy proposals is limited and more should be done to implement policies that would lead to an improvement in the quality rather than simply the quantity of HE graduates so that they are able to make a real contribution to economic development and competitiveness of the economy.

6.2 The graduate labour market

The graduate unemployment rate is 19% compared to 33% for the labour force as a whole. However, the graduate survey shows that the unemployment rate of recent graduates is much higher at 49%, similar to the unemployment rate for young people of a similar age group. This suggests that the HE sector is failing to support the employability of graduates. The HE system produces a large surplus of graduates in relation to labour market needs. There are simply not enough jobs available to employ all the graduates that are produced by the system. This is especially so in the study fields of *Business, Administration and Law*, where there is a surplus of more than 4,000 graduates each year. This should be corrected by measures to incentivise students to follow other fields of study, especially those where future shortages are expected, mainly in the STEM subjects.

The fastest growth of graduate employment among key sectors has been in *Professional, Scientific and Technical Activities*, and *Construction*. Most of the growth in graduate employment has taken place among a small proportion of employers. Almost a quarter of employers are gazelles, growing at 20% per annum or more in terms of employment. The graduate density of gazelles is significantly greater than that of slower growing employers, indicating that they make a major contribution to graduate employment growth. Kosovo has made progress in the World Bank Ease of Doing Business rankings,

but this has not yet translated into more private sector development and has not succeeded in attracting foreign investors

Few labour market reforms have been adopted to improve the employment opportunities of HE graduates, although a wage subsidy scheme with an internship component has enabled some graduates to gain work experience and enhance their skills. The main gap in labour market policy is the lack of any measures to create graduate jobs, other than through wage subsidies and internships. Far more support is needed for fast growth SMEs that could provide new jobs for graduates. Graduates also need more assistance in finding a job from the PES and yet employers are under no obligation to inform PES on their vacancies. This should change. Greater support is also needed for aspiring young graduates to establish their own small businesses. To develop this approach many more young people will need to be persuaded to enrol in STEM subjects rather than the oversupplied humanities, social science and business subjects.

6.3 Transition from higher education to the labour market

With high unemployment and few jobs available, most graduates face a precarious transition to the labour market. Family and friends are the most important source of assistance in finding a job after graduation, and so the strength of informal contacts is an important factor in a graduate's success in finding a job. In the public sector, where many graduates are employed, nepotism and political affiliation play an important role, and graduates who are less well connected on a personal or political basis may have very low chances in finding a job there.⁸⁵

Employers also face substantial challenges in taking on new graduate recruits, and often find that graduates have inadequate skills for the workplace and that further training is needed. The employer survey shows that graduate employees have large interactive skill gaps, especially in team-working skills, decision-making skills, analytical and problem solving skills. The widespread use of traditional teaching methods often fails to develop such skills. It is worrying that foreign employers are especially disappointed with the skills of HE graduates, and this may be a factor in the low level of foreign investment that is attracted to Kosovo. Work experience during studies can help students to obtain the necessary interactive skills and increase their chances of finding a job. The graduate survey shows that 65% of students had some form of work experience or an internship during their period of studies at HEI, although only 27% of students found such experience to be of much use to their learning outcomes. Employers seldom cooperate with HEIs to make the curriculum more relevant to labour market needs, even though most employers believe that such cooperation would improve the effectiveness of graduate recruitment.

These findings suggest that many further measures need to be taken on the side of the graduate labour market. For example, career guidance services need to be better developed, more FDI should be attracted to create graduate level jobs, HEI-business cooperation should be increased to ensure that there is a better match between the skills of the graduates and the needs of employers, and micro and small businesses should be nurtured in order to provide more jobs for the large number of graduates that are produced by the HE system.

⁸⁵ Interviews, Ministry of Labour and Social Welfare, Chamber of Commerce, private HEIs and NGO.

6.4 Skill mismatches

Skill mismatch is associated with low productivity and low wages. Graduates in a well-matched job have higher earnings than others, reflecting higher productivity that results from effective matching of graduate employees to their jobs. A major cause of mismatch is the overall lack of jobs, which provides an incentive for graduates to take up any job that is available. Additionally, the low quality of teaching and the use of out-dated curricula contribute to the problem of mismatch. The result is that more than one quarter (28%) of recent graduates are in a job that is not well matched to their field of study. This is a serious problem since the research found that such horizontal mismatch may be a barrier to job retention and is responsible for lower pay and productivity than in the case of graduates who are in well matched jobs. In addition, 53% of recent graduates are vertically mismatched, with 42% having a qualification above the needs of the job. In the public sector, graduates often have jobs that would normally require a higher level of qualification due to personal connections, nepotism or political affiliations. Several factors support good vertical matching. Having had some work experience during studies improves the likelihood of finding a well-matched job, as does learning interactive skills (adaptability, team work, organisational skills) at HEI. Graduates who receive help from friends are more likely to be under-qualified for the job they hold than graduates who do not have such connections. This suggests that nepotism and personal connections in finding a job on the graduate labour market promotes labour market misallocation and inefficient job outcomes.

6.5 Policy recommendations

As the conclusions set out above demonstrate, action is needed both on the part of HEIs and on the part of employers, government and public employment services in order to produce more effective outcomes for graduate job seekers. Governments have an important role to play in ensuring the necessary changes are properly supported. This is in line with the OECD skills strategy, which proposes that policy should not only focus on improving the supply of skills through HE systems, but also on stimulating the demand for skills in the workplace (OECD, 2012). The research findings reported above suggest some key policy measures that could improve the prospects for graduates when they enter the labour market. The recommendations are presented in order of priority.

Higher education

1. Steps should be taken to **improve the quality of educational provision** at both public and private HEIs. HEIs should give more attention to providing students with interactive skills, which are the area with the largest current and future skill gaps. This can be done through modernising teaching methods to give more responsibility to students in the learning process by introducing small student-focused classes alongside large lecture groups, giving students more practical assignments, and encouraging student group approaches to study tasks. HEIs should be encouraged to increase the proportion of staff that hold a PhD and have been educated abroad.
2. **Internal evaluation procedures** need to be established or improved, especially concerning the quality of teaching and the relevance of study programmes to the labour market. As yet, there is little employer involvement or student participation in the internal evaluation of study programmes. Student evaluation of teaching quality through regular surveys of teaching quality on individual study

programmes should be mandatory at all HEIs. This practice should be adopted in order to increase transparency and promote quality improvement.

3. Measures should be implemented to **improve completion rates** for all students at all HEIs in order to reduce the cost of completing studies over a long period of time on the one hand and reducing the drop-out rates which is a waste of human potential and financial resources on the other. Imposing stricter criteria for enrolment, stricter progression conditions and additional support from teaching staff may contribute to better completion rates.
4. **Cooperation with employers** in designing curricula (for instance by having employers participate in faculty boards) would be a contributing factor to ensure that students are equipped with the right skills needed for the world of work. It will also be an important mechanism to inform employers about the competences that students will have upon completion of studies.
5. In order to ensure that the HE system meets labour market needs, the Government should **promote professional HE degrees** according to the National Qualifications Framework (NQF), and introduce study programmes with a professional orientation.
6. The Government should **develop schemes to guide students** who enter HE courses. The proportion of students who enrol in STEM subjects should be increased. Scholarships would be one mechanism to induce students to enrol in STEM subjects. The same policy should be applied to increase the number of students in *ICT and Engineering, manufacturing and construction*, as there is a higher demand for graduates from these fields of study. The number of students following study programmes in *Business, administration and law, and Arts and humanities* should be decreased, as there is an excess supply of graduates from these fields of study.
7. HEIs should provide optional **entrepreneurship education courses** for all students. Such courses could explain how to set up a company and promote better links with the local business community.
8. An **internship semester** should be required to complete a study programme, so that graduates enter the labour market with a previous work experience.
9. Corruption is a serious problem in many HEIs and measures should be adopted to **reduce and eventually eliminate corruption**. A common practice is payment of bribes for improved examination results, and this should be more rigorously monitored and penalised by sanctioning academic staff engaged in such practices.
10. Students should be provided with more information about the likely jobs available in their field of study. **Career guidance** should be embedded in curricula to provide information about available jobs and support the employment of graduates. It should be provided to both currently registered students and to recent graduates up to three years after their graduation, given that recent graduates have a far higher unemployment rate and a lower employment rate than the graduate working age population as a whole. Complimentary methods of developing skills can also be pursued through career guidance centres providing short seminars, workshops and group projects focused on the development of interactive skills. Educational and career guidance should also be provided to

students before they enrol in HE courses to provide better information about likely labour market prospects of embarking on a particular study programme.

Labour market

1. As employment opportunities are dismally low in Kosovo and in view of the surplus and continuing increase in HE graduates, the government should seriously consider intervention strategies to **increase the number of graduate jobs available**. This should be done by supporting graduates who wish to establish new start-up companies, by supporting fast-growth SMEs (“gazelles”) in high-technology sectors that have a high propensity to employ graduates, and by creating a more business friendly environment for foreign investment. Until there are more employment opportunities, the situation is not likely to improve for HE graduates or others in finding gainful employment.
2. Employers should be encouraged to upgrade the jobs they provide to graduates through more investment in knowledge intensive processes and technologies. Setting up a public **skills investment bank** could provide investment subsidies encouraging employers to invest in productivity enhancing innovation and in machinery and processes that are likely to increase the demand for highly skilled workers. Indeed, the role of a public investment bank is to counteract market gaps or failures: it intervenes where the market does not provide incentives for investments because they are risky (innovations). Simultaneously, a broader policy framework for the promotion of greater levels of R&D expenditure by firms in Kosovo, which in itself might generate a greater level of demand for HE graduates, is needed in order to encourage growth and investment.
3. Improved **partnerships between employers and HEIs** (particularly those which include study programmes focused on new technologies) would help define a framework for the skills needed by the economy. This would contribute to reform curricula appropriately, increasing cooperation in the forms of mandatory internships, apprenticeships, and work experience-based project.
4. **Sector skills councils**, bringing together HEIs and employers, should be established. This should be done within the context of a broader government strategy to encourage improved university-business collaboration.
5. More **work experience and internships** should be provided to HEI students. Internships should also be available to recent graduates up to three years after graduation. This means that a sufficient number of employers will need to be willing to offer such placements. Employers should be provided with incentives to take on interns and the current government programme, which does this, should be expanded.
6. The unemployment rate among new and recent graduates is far higher than for graduates as a whole. The current **wage subsidy scheme** introduced by the Kosovo Government and the UNDP to decrease the cost of recent graduates to employers in priority sectors that are identified in the national economic development plan should be extended, to include all new graduates with qualifications in STEM subjects.
7. Employers should be encouraged to expand their **graduate training programmes** for new graduate recruits through financial incentives, and through arrangements where new graduate employees can be encouraged to continue

their training while at work through distance learning or day release to local HEIs for short professional courses (several tools can encourage this: full deduction of the costs of employer-sponsored training for tax purposes, training subsidies or vouchers).

8. Employers should be required to report their **vacancies for graduate level jobs** to the Employment Offices managed by the Ministry of Labour and Social Welfare.
9. **Graduate entrepreneurship schemes** should be developed to assist new and recent graduates in setting up business plans for knowledge-based projects and offer subsidies covering equipment. As shown by this report, micro and small companies that employ graduates have a high graduate density and thus should be nurtured.
10. The Government should ensure that the *Employment and Welfare Strategy 2014-2020*, which aims to **promote skills development**, should be fully implemented and supported with appropriate legislation and allocation of necessary funds.

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7.1 National legislation

National Qualifications Law (No. 03/L-060 approved by the Assembly in November 2008)

The Labour Law (No. 2010/03-L-212, approved by Assembly 02.11.2010)

7.2 Strategies and policies

Employment and Welfare Strategy 2014-2020 (draft)

The Strategy for Development of Higher Education in Kosovo 2005-2015

GoK (2016) National Development Strategy 2016-2021: http://www.kryeministri-ks.net/repository/docs/National_Development_Strategy_2016-2021_ENG.pdf

Annex – Methodological note

1. Higher education provision database

We collected data on existing study programmes in Kosovo offered by both public and private HEIs mainly directly from HEIs and in some cases from the Ministry of Education, Science and Technology. The HEIs included in the database are shown in Table A1.

Table A1: HEIs included in the HE provision database

Name of HEI	Ownership status
University of Pristina "Hasan Prishtina"	Public
University of Gjakova "Fehmi Agani"	Public
University of Gjilan "Kadri Zeka"	Public
University of Mitrovica "Isa Boletini"	Public
University of Peja "Haxhi Zeka"	Public
University of Prishtina – North Mitrovica, northern Kosovo	Public
University of Prizren	Public
Faculty of Islamic Studies, Pristina	Public
High Economic School of Professional Studies Pec-Leposavic, Leposavić, northern Kosovo	Public
High Technical School, Mitrovica, northern Kosovo	Public
Higher Technical Professional School, Zvečan, northern Kosovo	Public
Kosovo Academy of Public Safety, Vushtrri	Public
AAB College, Pristina (satellite campuses in Gjakova and Ferizaj)	Private
Akademia Evolucion, Pristina	Private
American University of Kosovo, Pristina	Private
Business College, Pristina	Private
College "Gjilani", Gjilan	Private
College "Humanistica", Pristina	Private
College "Iliria", Pristina	Private
College "Pjeter Budi", Pristina	Private
College "Qeap Heimerer", Pristina	Private
College "Vizioni per Arsim", Pristina and Ferizaj	Private
College ISPE, Pristina	Private
College of Applied Technical Sciences "Tempulli", Pristina	Private
College of International Management "Globus", Pristina	Private
Dardania College, Pristina	Private
Design Factory, Pristina	Private
European College "Juridika", Pristina	Private
European College Dukagjini, Peja	Private
European College of Kosovo, Pristina	Private
European School of Law and Governance, Pristina	Private
Faculty of Economics of the University of Ljubljana in Pristina	Private
FAMA College, Mitrovica	Private

International Business College, Mitrovica	Private
Riinvest Institute, Pristina	Private
Universi College, Pristina	Private
University of Business and Technology, Pristina	Private
Universum College, Pristina	Private
Victory College, Pristina	Private

Source: HE provision database.

The database covers 39 HEIs providing 499 study programmes.⁸⁶ For *each study programme* it identifies several categories of data, e.g. the name of the HEI, the name of the faculty, the name of the qualification, the level of the qualification (Diploma level, Bachelor level, Master level), the field of study by ISCED classification, the number of students beginning studies per year since the academic year 2012-2013, the number of students completing studies per year since academic year 2012-2013, and the total number of students enrolled in 2014-2015. A few HEIs failed to provide complete data on the number of students beginning or completing their studies. HEIs located in North Mitrovica provided only aggregated data (enrolment and completion data were broken down by study programmes not field of study).

2. Surveys

Two surveys were carried out: one that was administered to recent graduates from HEIs and one that surveyed organisations located in Kosovo that employ HE graduates among their workforce. These surveys were carried out from May to August 2015.

2.1 Graduate survey

The sample frame comprises recent graduates from Kosovo HEIs who graduated from higher education since 2010. We designed an online survey questionnaire and managed it through the Qualtrics software platform. An online survey link was sent by participating HEIs (see Table A2 below) directly to their alumni contact lists, and was posted on the LSE Qualtrics account where alumni could access the survey outside of the institutions. Some HEIs provided contact details of their graduates and others agreed to send the survey link to their graduates. HEIs that were not able to directly contact their graduates published an invitation letter on their institutional websites and elsewhere.

Table A2: HEIs included in the survey

University of Pristina "Hasan Prishtina"
University of Peja "Haxhi Zeka"
University of Business and Technology, Pristina
AAB College, Pristina
Akademia Evolucion, Pristina
American University of Kosovo, Pristina
College "Iliria", Pristina
College "Qeap Heimerer", Pristina
College ISPE, Pristina
College of Applied Technical Sciences "Tempulli", Pristina

⁸⁶ The Kosovo Accreditation Agency lists 41 HEIs, including three colleges that do not appear in the HE provision database: the International Prizren College, "PrBHE EADE" and Rezonanca College. The Faculty of Economics of the University of Ljubljana in Pristina, which is included in the HE provision database, is not listed on the KAA website.

European College "Juridika", Pristina
Faculty of Economics of the University of Ljubljana in Pristina
FAMA College, Mitrovica
Riinvest Institute, Pristina
Universi

The required sample size was assessed on the basis of the desired level of precision. Among other issues, we were interested in the experience of graduates from different types of HEI, public and private, and across three categories of labour force status: in work, unemployed, or inactive. We collected a total of 440 complete questionnaires (respondents who did not fit the sample frame were ruled out). This gave the desired degree of precision to the estimates.

The representativeness of the sample can be checked by comparing the distribution of the sample of graduates by field of study to the distribution of the underlying population of students by field of study as reported in the HE provision database. We compare the proportions of students who completed their degree in the three academic years from 2011-14 by field of study from the HE provision database, and compare this with the distribution of graduates by field of study from the graduate survey. We take the average over the three years, since the graduates in the graduate survey have completed their degrees at different points of time in the past. It can be seen that the representation of the sample is fairly close to that of the distribution of enrolments with a Pearson correlation coefficient of +0.95. The distribution of respondents by broad field of study compared to the population distribution from the HEI database is shown in Table A3.

Table A3: Sample distribution (graduate survey) and population distribution of graduates (completions) by broad field of study

Broad field of study	Graduate survey (number)	Graduate survey (%)	HEI database (%)
01 Education	22	5.5%	2.7%
02 Arts & Humanities	9	2.3%	13.3%
03 Social Sciences, Journalism & Information	44	11.1%	12.3%
04 Business, Administration & Law	215	54.2%	44.6%
05 Natural Sciences, Mathematics & Statistics	15	3.8%	6.9%
06 Information & Communication Technologies (ICTs)	23	5.8%	2.7%
07 Engineering, Manufacturing & Construction	29	7.3%	6.0%
08 Agriculture, Forestry, Fisheries & Veterinary	6	1.5%	1.2%
09 Health & Welfare	20	5.0%	6.2%
10 Services	14	3.5%	4.2%
Total	397	100.0%	100.0%
Missing	43		
Total including missing values	440		

Source: Graduate survey and HE provision database.

2.2. Employer survey

We designed a questionnaire that was implemented through a mix of online survey and phone interviews. The sample frame consisted of public and private organisations of all sizes located in Kosovo and employing HE graduates. We used several channels to

distribute the survey (see list below). Most important and far reaching was the distribution of the survey through the Kosovo Chamber of Commerce. The online survey link was also forwarded by some key labour markets organisations (see Table A4).

Table A4: Organisations that distributed the employer survey

Kosovo Chamber of Commerce
American Chamber of Commerce
Wood Processing Association
ICT Association

We collected a total of 139 completed questionnaires. The sample was balanced: most of the employers surveyed were either micro sized (41%), small sized (35%) or medium sized (16%), while large employers represented a minority (6%). The survey covered all sectors of the economy, with the largest concentrations in manufacturing (17%) construction (13%), health and welfare (11%) and information and communication (11%). There is no available population distribution for the employers that employ graduates, and so the representativeness of the sample cannot be validated; nor can the sample be adjusted by any relevant weighting technique. Second, the sample was by design adjusted to ensure that we had a similar distribution of employers across all size groups according to the Eurostat definition. This design was chosen to ensure that we had enough medium and large sized employers in the sample to make comparisons across size groups. For both these reasons we are unable to claim that the survey is representative of the population of employers who employ graduates. However, this does not preclude us from drawing inferences from within the sample about statistically significant differences between employer size categories for variables of interest (such as skill gaps).

3. Interviews with key stakeholders

We conducted semi-structured interviews with 17 key stakeholders, with the aim to develop a comprehensive view on the causes of challenges for employers and HE graduates in the labour market. We identified stakeholders at three levels.

- Policy-making stakeholders (3 ministries, 3 at EU delegation offices)
- Higher education stakeholders (6 HEIs)
- Labour market stakeholders (1 employers' associations, 1 association of trade unions, 2 public employment service offices, 1 NGO)

We included in the interviews three key stakeholders from North Mitrovica: one public HEI, one private HEI and one public employment service office.

We developed an interview guideline containing a set of questions for these semi-structured interviews. One group of questions were of a general nature and were posed to all stakeholders, to better confront their views on key issues. The second group of questions were specifically tailored to the various stakeholders, designed to explore further primarily issues within their specific competences. We also carried out a focus group discussion with Erasmus Mundus alumni who had studied abroad, to gather their impressions of the contrasts between teaching methods used in their home and host countries. Local experts conducted the interviews and translated the transcripts into English.

4. Labour market data

We obtained labour force survey data for the 2011-2014 period from the Kosovo Agency of Statistics. This provided information about the sectoral structure of graduate employees for the years 2013 and 2014, which were used as a base for the forecast for graduate employment by sector. The sectoral forecast was then converted into a forecast of demand for graduates by field of study using coefficients derived from the graduate survey.

The Labour Force Survey was also used to identify the relevant labour market key statistics for HE graduates (employment rate, unemployment rate), which could be compared to the statistics derived from the graduate survey relating to the employment rate and the unemployment rate of recent graduates.

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From University to Employment:

*Higher Education Provision and Labour Market Needs
in Montenegro*

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Directorate B Modernisation of Education

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From University to Employment:

*Higher Education Provision and Labour Market Needs
in Montenegro*

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Luxembourg: Publications Office of the European Union, 2016

ISBN: 978-92-79-51523-1

doi: 10.2766/387524

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Foreword

Higher education systems in the Western Balkans are facing serious challenges. Growing levels of student enrolment throughout the region are straining the limited resources of public universities. At the same time, the number of private institutions has been increasing rapidly.

Importantly, more needs to be done to ensure that higher education qualifications match labour market needs. Many young people in the region are unemployed – and a number of them have higher education diplomas. This suggests that employers do not hold university degrees in very high esteem.

Whatever the field of study, third-level education is a means of sharpening our intellect and therefore valuable in its own right. However, it should also prepare us for the world of work, and enable us to lead independent lives as confident, engaged citizens. Universities and other higher education institutions need to adapt and modernise to deliver. In rapidly changing job markets, higher education systems should provide graduates with relevant skills and competences. This is not only about finding employment after graduation, but also about being able to adapt to future labour market needs and adjust to career changes.

We all know that a country's human resources are an integral part of its wealth. We say so on many occasions, especially when addressing young people in graduation ceremonies, or in political speeches. Unfortunately, when it comes to following these words with action and giving education the relevance and funding it deserves, we all too often fall short. This is something we have to change.

The skills and qualifications gained in university should help us build our lives and secure our societies' prosperity, competitiveness and progress. This study examines the link between higher education provision and labour market opportunities in the Western Balkans. It also looks at the obstacles facing graduates looking for work and the relevance of their skills for employers. The study is part of the on-going regional policy dialogue under the *Western Balkans Platform on Education and Training*. I am pleased to see that Ministers for Education have been supporting and engaging in this dialogue since the European Commission launched it in 2012.

I hope that the findings of the country reports in this study will contribute to more evidence-based policy-making in each country's higher education and labour sectors. The region's young people deserve nothing less.

Tibor Navracsics
European Commissioner for Education, Culture, Youth and Sport

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List of abbreviations

ALMP	Active Labour Market Policy
BA	Bachelor degree
Cedefop	European Centre for the Development of Vocational Training
CIP	Informational and Professional Counselling Centre
EAM	Employment Agency of Montenegro
ECTS	European Credit Transfer System
EHEA	European Higher Education Area
ENQA	European Association for Quality Assurance in Higher Education
EQAR	European Quality Assurance Register
EQF	European Qualifications Framework
ETF	European Training Foundation
EU	European Union
FDI	Foreign direct investment
GDP	Gross domestic product
HE	Higher education
HEI	Higher education institution
HERIC	Higher Education and Research for Innovation and Competitiveness
HSS	Humanities and Social Science
ICT	Information and Communication Technology
IMF	International Monetary Fund
IPA	Instrument for Pre-Accession Assistance
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupations
LFS	Labour Force Survey
MA	Master degree
MONSTAT	Statistical Office of Montenegro
OECD	Organisation for Economic Co-operation and Development
PhD	Doctor of Philosophy
STEM	Science, technology, engineering and mathematics
UoM	University of Montenegro

Executive summary

This country report analyses higher education (HE) provision and labour market opportunities in Montenegro by looking into four inter-related issues: the nature and extent of provision of HE, current labour market conditions for graduates, the challenges graduates face during the transition from HE to employment, and the type of skill gaps and skill mismatches that employers face when recruiting young graduates. The report concludes with recommendations on measures needed to ensure the right mix of skilled graduates to support robust economic growth in the future, support graduate job search, and encourage employers to create more graduate jobs and take on more skilled graduates.

The data used in the study were collected from March to August 2015. It includes two large-scale surveys: one among recent HE graduates (613 respondents) and one among organisations that employ HE graduates (169 respondents). Semi-structured interviews were carried out with management staff of higher education institutions (HEIs), ministries, employers' associations and trade unions. A focus group was also carried with Erasmus Mundus alumni. The project has also assembled a unique database that covers details of most study programmes offered by HEIs in the country in recent years¹.

Main findings

The HE system in Montenegro produces too many graduates relative to the needs of the labour market, leading to a high level of graduate unemployment. Although the unemployment rate of all graduates (10.3%) is below the average for the labour force (17.5%), the unemployment rate of recent graduates who gained their qualification since 2010 is estimated to be much higher at 25.9%. The HE sector enrolls too many students in a narrow range of subjects such as *Business, Administration & Law*, which attracts more than a fifth of all students. On the labour market side there is an oversupply of graduates from this study field, as well as from the broad study fields of *Arts & Humanities*; and *Social Science, Journalism & Information*. Even though more graduate jobs will be created by economic growth, the oversupply in these study fields will continue in the future unless appropriate action is taken to change the pattern of supply from HEIs. There is also a large and continuing shortage of graduates from the study fields of *Natural Sciences, Mathematics & Statistics*. Should the Government adopt an industrial policy that gives greater emphasis to high technology value-added growth, shortages of HE graduates are also expected to emerge in *Information & Communication Technologies*. Therefore, even though the HEI system produces an overall surplus of graduates, shortages in some study fields may be a constraint on economic growth and competitiveness in the future.

The HE sector also suffers from a high level of internal inefficiency, as too many students enrol in studies but fail to complete their courses. Many graduates from vocational high schools move on to HE, which has a negative impact on quality of education and is one of the causes for oversupply of HE graduates. Many students drop out from studies; in the 2013-14 academic year, the completion ratio for HE studies was just 53%. The graduate survey shows that many graduates consider that their job prospects would have been improved by better teaching methods, a more relevant curriculum and by having better qualified professors.

¹ Further details about the methodologies and data used in this study can be found in the Annex.

Quality standards in the HE system are problematic. Graduates that studied at private HEIs are more satisfied with the quality of the education they received than those who studied at public HEIs, although these differences could be overcome by greater provision of work experience, internship during studies and classes in small groups rather than in large lecture halls. Teaching methods at public HEIs are often out-dated, based on lectures in large groups and rote learning of facts.

The HE system has made progress in introducing formal procedures to improve teaching quality. Accreditation is the responsibility of the Council of Higher Education, which has appointed a foreign accreditation agency to carry out reaccreditation of HEIs. However, widespread perceptions of corruption in HE suggest that there is still a long way to go in improving the quality of HE provision.

Of those graduates that succeed in finding a job, most are employed in the sectors of *Education, Professional Scientific & Technical Activities, Public Administration, and Wholesale & Retail Trade*. In the last three years, the largest increase in graduate employment has been in the sectors of *Accommodation & Food Services* and *Construction* reflecting the rapid growth in the tourism and property market. While most graduates are employed by large enterprises, much of the recent increase in graduate employment has been in fast-growth SMEs called “gazelles”. These may be an important source of graduate employment in the future.

Graduates face many difficulties in their search for work, not least of which is the limited availability of jobs, especially in the private sector. One obstacle to finding a job is a lack of work experience. Two fifths of graduates had no work experience during their studies. The government has introduced an internship programme to provide work experience to unemployed graduates, although few participants have gained a permanent job. This might have been more successful if employers were more involved in the design of curricula at HEIs and in supervising interns. However, few employers cooperate with HEIs on a regular basis, and graduates receive little assistance in finding a job other than through family and friends.

Many employers find that the graduates’ skills are insufficient and that further training is needed. Worryingly, foreign companies are less satisfied with the skills of their employees than domestic private companies. Many employers report that their graduate employees have large gaps in interactive skills such as analytical skills, problem-solving skills, and planning and organisational skills. Among cognitive skill gaps, foreign language skill gaps are prominent but there are even sector specific and communication skills gaps. As a result many employers find the need to provide additional training to provide graduates with the skills needed to carry out their job.

Almost one third of recent graduates are in a job that is not well matched to their field of study. The research found that such horizontal mismatch may be a barrier to career retention, especially for graduates with a Master degree. In addition, almost a half of recent graduates are “vertically” mismatched. One third have a qualification above the needs of the job, and 12% have a qualification below the needs of the job. Graduates in a well-matched job have higher earnings than others, reflecting the important contribution to productivity and competitiveness of the economy that results from effective matching of graduate employees to their jobs. As with horizontal mismatch, being vertically well matched is important for job retention. Graduates who receive help in finding a job from their HEI increases the likelihood of finding a well-matched job, as does the reputation of the HEI. Graduates who study *Information & Communications Technologies* have the highest probability of finding a well-matched job compared to graduates from other fields of study.

Policy recommendations

Higher Education

1. HEIs should **modernise teaching methods and curricula** to emphasise student-centred learning and develop interactive skills such as problem solving, and critical thinking. More practical learning opportunities should be provided in well-equipped laboratories and computer classrooms.
2. **Quality in the HE system should be improved.** Student assessments of each lecture course should be made and teachers who receive low assessments should be given opportunities for retraining. Young lecturers' postgraduate education abroad should be supported.
3. The Government should adjust the **budget funding of students** to guide more students to study priority and shortage subjects in fields of study such as *Natural Science, Mathematics & Statistics*.
4. Students who fail to complete their course work on time should be given **additional support and remedial classes**. Students who successfully complete their study programme within the allotted time could be given a partial refund of their examination fee to incentivize on-time completion.
5. The HE system should be internationalised by providing additional resources to **attract foreign lecturers** to teach post-graduate courses.
6. In order to **stem corruption at HEIs**, compliance with assessment and grading regulations should be enforced and the power of ethics committees should be expanded. Anti-plagiarism rules should be fully enforced.
7. **HEI practices and procedures should be made more transparent** through the publication of biographies of academic staff on the HEI websites, along with the number of teaching hours, and external evaluation reports, etc.
8. **Career guidance centres within HEIs should be further developed** to provide independent professional counselling to students who otherwise lack the social connections needed to support successful job search.

Labour Market

1. Priority should be given to raising awareness among employers about the importance of **cooperation with HEIs**. Employers should become more involved in providing advice to HEIs in the design of curricula, over recruitment and in providing internships for students and graduates.
2. The Government should give more **support to micro, small and medium sized employers that employ HE graduates**, especially in high growth sectors such as *Information & Communication Technologies*.
3. More **support should be given to graduates that aspire to establish their own small business**. The Employment Agency of Montenegro should provide

more support to graduates to start up their own business including mentoring and consultancy for business development.

4. Employers should be encouraged to **invest more in the training of graduate workers**. The Government could support this through instruments such as training subsidies or vouchers.
5. The current **system of internships after leaving HEIs should be continued and strengthened**. Employers who provide internships should participate in the design of study programmes and nominate mentors to supervise students during their internship.

1 Introduction

Montenegro was a part of the Federal Republic of Yugoslavia until 2006 when it became independent. Until that time both the economy and the higher education (HE) system were closely integrated with Serbia. Post-independence, economic growth has been highly reliant on inflows of foreign direct investment (FDI), which increased from €384 million in 2005 to over €1 billion² by 2007 (equivalent of 37% of GDP).³ This generated rapid economic growth mainly based on the real estate, construction and tourism sectors and led to a rebalancing of economic activity to coastal areas, a gradual decline of the old domestic industrial base in the north of the country, and a growth of service industries (Bartlett and Šišević, 2013). All of this has implications for the level and structure of demand for skilled labour and for the orientation of the HE system.

Under the impact of the global economic crisis, GDP fell by 5.7% in 2009. Since then, the average FDI inflow has been about €500 million per year (equivalent to 11% of GDP). This has supported post-crisis economic growth at an average rate of 1.8% per annum over the period 2010-2015. Living standards are the highest in the Western Balkans with per capita GDP of €5,436 (compared to an average of €4,410 for the rest of the Western Balkan region), equivalent to 41% of the per capita GDP in the EU-28.⁴ Economic growth and living standards have been sustained by FDI inflows, and graduate unemployment is therefore lower than in some neighbouring Balkan countries.

This report is based on a research project that provides new evidence on the mix of qualifications provided by the HE system, the students who obtain them, the difficulties facing graduates and their employers in the labour market, and the nature of skill mismatches and skill gaps. It also provides a forecast of the demand for graduates in the near future and concludes with recommendations on measures needed to ensure improved performance of the HE system and the graduate labour market. The report is divided into six sections. Section 2 identifies the structure of HE provision; Section 3 reviews the experience of graduates on the labour market and provides a forecast of expected future demand for graduates by sector; Section 4 identifies the obstacles facing graduates in their transition to the labour market and the skill gaps that employers face; Section 5 analyses the extent and nature of skill mismatches. Section 6 concludes with a summary of the research findings and a set of related policy recommendations. A special database recording basic data on HE provision was created for this study. In addition, two online surveys of recent graduates and of the organisations that employ graduates were carried out. Details about the methodologies and data used in the study can be found in the Annex.

2 Mapping the provision of higher education

In 2014, public expenditure on education amounted to 4.6% of GDP.⁵ Under the austerity programme designed to reduce public debt,⁶ this is projected to fall to 4.2% by 2017 despite the stated aim of the Montenegro Economic Reform Programme 2015-2017 to reinforce human capital in education and skills. Guidance from the European Commission in its assessment of the National Reform Programme urges the government to continue

² Data from Montenegrin Investment Promotion Agency.

³ UNCTAD online data.

⁴ Based on data from Eurostat variable code [cpc_ecnagdp] and [prc_ppp_ind].

⁵ Calculated from Statistical Yearbook, 2015, Podgorica: MONSTAT, Table 6-1.

⁶ Montenegro Economic Reform Programme, 2015-2017, Annex Tables, Table 3, Podgorica, MONSTAT, 3rd February 2015.

education reform with a view to better aligning education and skills with labour market needs, and to strengthen cooperation between education and business.⁷

Over the past ten years the HE sector has undergone a rapid expansion. From 2006 onwards, the number of students registered in higher education institutions (HEIs) doubled. Despite this expansion, Montenegro spends only 1.1% of GDP on higher education (HE), compared to an average of about 1.5% of GDP in the OECD countries (Jacimović and Karadžić, 2014). The proportion of the 30-34 year old population with a HE degree is only 28.3% compared to 38% in the EU.⁸ Although this is the highest in the Western Balkans, it is still far below the government's 2020 target of 40% of this age group having a HE degree. As the HE system has expanded, concerns have arisen concerning the quality of education and the ability of the economy to absorb the large number of graduates in the labour market.

This section takes stock of the situation in HEIs and analyses the type of study programmes, qualifications and degrees offered differentiating between public or private ownership. We also investigate quality issues, from accreditation procedures to teaching methods. The project has compiled a comprehensive database of study programmes offered by all HEIs in Montenegro. The data has been collected from both the Statistical Office of Montenegro (MONSTAT) and public and private HEIs themselves.

2.1 Profile of higher education institutions

In October 2003, Montenegro (while still within the State Union of Serbia and Montenegro) signed the Bologna Declaration, and a Law on Higher Education was adopted in the same year that introduced a three-cycle system (Bachelor, Master and Doctoral studies) under the Bologna principles. At the time there was only one public HEI operating in Montenegro. The Law provided the opportunity to establish new private HEIs, and the HE system now includes three universities – one public, two private - and 9 individual faculties.⁹

Table 1: Accredited HEIs by ownership and type of organization, 2016

	HEI (universities and individual faculties)	Faculties	Number of HEIs per 100,000 inhabitants (and regional average)	Number of faculties per 100,000 inhabitants (and regional average)
Total number of HEIs	12	45	2.1 (1.3)	7.2 (3.2)
<i>Of which:</i> Public	1	20	0.3 (0.5)	3.2 (1.5)
Private	11	25	1.8 (0.8)	4.0 (1.4)

Source: HE Provision database.

The University of Montenegro (UoM) is still the only public university, consisting of 19 faculties and two research institutes. There is also one independent public faculty. The two private universities are the Mediterranean University, established in 2006 with six faculties, and the University of Donja Gorica established in 2010 with 10 faculties. The Ministry of Education does not distinguish between public and private HEIs, and all are expected to implement the on-going reforms. Due to the expansion of both public and

⁷ Ibid. p. 51.

⁸ Eurostat online database variable code [cpc_pseuduc}.

⁹ In June 2016 the formerly independent public sector Faculty of Montenegrin language merged with the University of Montenegro, so that instead of two public HEIs there is now only one.

private sectors and the small size of the country, Montenegro has the highest number of faculties per capita in the region (see Table 1).

Two types of study programmes are available in the first cycle: academic study programmes (*akademske studije*) and applied study programmes (*primijenjene studije*). Only the former lead to second cycle Master studies and third cycle Doctoral studies, while applied study programmes lead to second cycle Specialist studies (*specijalističke studije*). HEIs apply the European Credit Transfer System (ECTS). Most Bachelor degrees carry 180 ECTS, as do all Doctoral degrees.¹⁰ Specialist degrees carry 60 ECTS while Master degrees carry 120 ECTS. Montenegro is the only country in the region to have completed the process of referencing qualifications against the European Qualifications Framework (EQF). This is an important step to fulfilling the Bologna principles and enhancing recognition of Montenegrin qualifications within the European Higher Education Area (EHEA).

Table 2: Study programmes by type of ownership and degree level, 2014-2015

	Number of study programmes	Proportion of study programmes
Ownership of HEI		
Public	188	74%
Private	67	26%
Total	255	100%
Level of qualification		
Bachelor	113	44%
Specialist	36	14%
Master	71	28%
Doctoral	35	14%
Total	255	100%

Source: HE provision database.

Both public and private universities offer BA, MA and PhD studies, but UoM has a broader range of study programmes compared to private universities and almost 75% of all study programmes on offer (see in Tables 2 & 3 above and below).

Table 3: Study programmes by broad field of study, 2014-2015

Field of study	Number of study programmes	Proportion of study programmes
01 Education	7	2.7%
02 Arts & Humanities	72	28.2%
03 Social Sciences, Journalism & Information	33	12.9%
04 Business, Administration & Law	29	11.4%
05 Natural Sciences, Mathematics & Statistics	18	7.1%
06 Information & Communication Technologies	16	6.3%
07 Engineering, Manufacturing & Construction	39	15.3%
08 Agriculture, Forestry, Fisheries & Veterinary	10	3.9%
09 Health & Welfare	7	2.8%
10 Services	24	9.4%
All fields of study	255	100.0%

¹⁰ There are 15 Bachelor degrees with a different number of ECTS ranging from 60 ECTS (six cases) to 360 ECTS (1 case – BA in Medicine). The 2014 HE Law stipulates that all Bachelor degrees should now carry 180 ECTS. Master degrees are split between one year Master with 60 ECTS (35 cases) and two-year Master degrees with 120 ECTS (71 cases).

<i>HSS subjects (02+03+04)</i>	134	53%
<i>STEM subjects (05+06+07)</i>	73	29%

Source: HE provision database. HSS = Humanities and Social Sciences; STEM = Science, Technology, Engineering and Mathematics.

2.2 Students

According to the new Law on Higher Education that was adopted in 2014, students who have completed four years of secondary education can enter HE on the basis of their final exam results (Matura).¹¹ Students from both grammar schools and vocational schools can enter HEI based on the scores of their, albeit different, Maturas. The majority (>60%) of upper secondary students follow VET and the overwhelming majority of these, about 70-80%, enter HE based on the results of their "lighter" Matura exams. This continuous practice implies that VET is not a means to enter the labour market after secondary school but as an easier way to obtain university entrance. This phenomenon has consequences in HEI such as the varying level of preparedness of their students upon entry touching upon teaching and level of study programmes. For admission to certain programmes such as arts, medicine or architecture an admission exam may also be used.

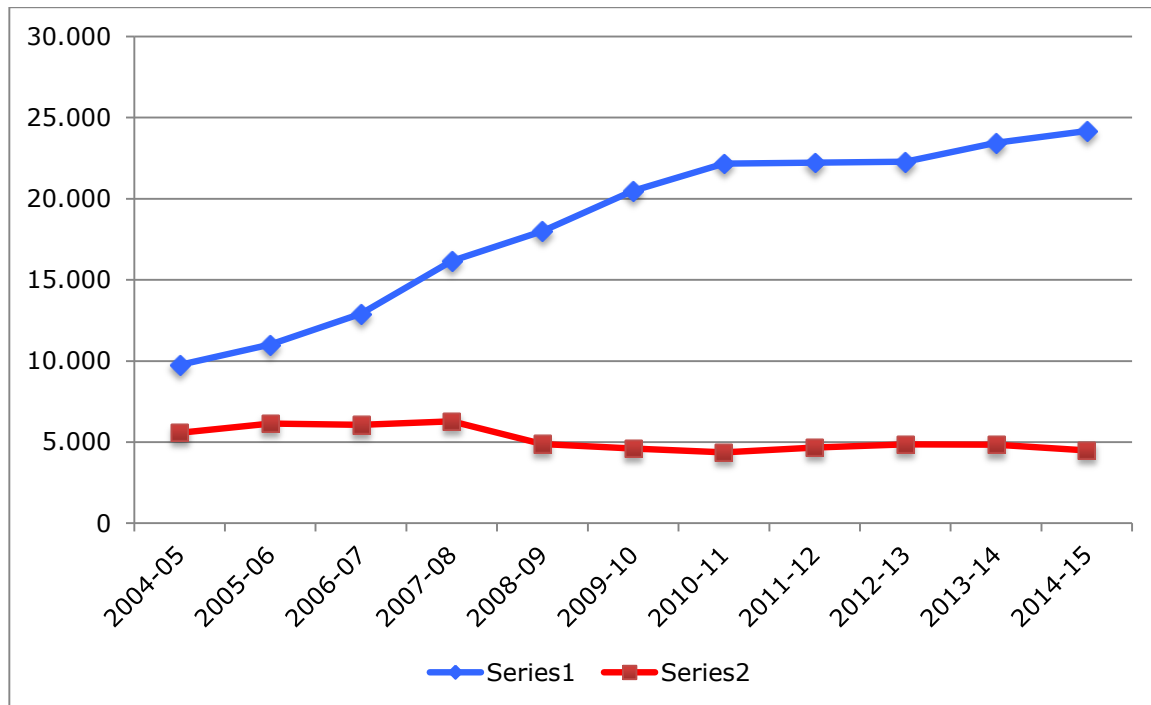
The average tuition fee differs between public and private HEIs. For Bachelor degrees, the median fee paid at the public HEI is €500, while at a private HEI the median fee is €1,500.¹² For Master degree studies, the median fees are more comparable, from €2,000 at the public HEI compared to €1,990 at private HEIs. The graduate survey asked students how much they would be willing to pay for their course if they were to take it again. The graduate survey shows that the ratio between the tuition fee that graduates would be willing to pay and the actual fee paid (what we might call the "value for money ratio") is highest for Bachelor degrees at 77% (75% at the public HEI and 82% at private HEIs) and lowest for Master degrees at 62% (56% at the public HEI and 71% at private HEIs). The value for money on Specialist degrees is perceived to be 76% (77% at public HEIs and 74% at private HEIs). Therefore private HEIs offer better perceived value for money at Bachelor and Master studies than the public HEI, while the latter offers better value for money than private HEIs on Specialist second cycle studies (vocational Masters). Overall, the perceived value for money provided by Montenegrin HEIs is somewhat higher for Bachelor degrees compared to the average in the region, but lower for Master degrees and Specialist degrees.¹³

¹¹ According to Article 93 of the 2014 Law on Higher Education, affirmative action can be applied for students with disabilities.

¹² The graduate survey shows an average tuition fee for a Bachelor degree at public HEIs of €552, and at private HEIs €1,461.

¹³ For the Western Balkan region as a whole, value for money at HEIs is 68% for Bachelor degrees, and 65% for Master degrees, and 79% for Specialist degrees. Low value for money is found in EU countries too. In the UK, for example, three out of ten students think the academic experience in HE is poor value (Department for Business Information and Skills, 2016).

Figure 1: Total number of registered students, 2003-2015



Source: Statistical Yearbook of Montenegro various years, Table 20-6. Note: No time series data are available on the breakdown between students registered at public and private HEIs

Over the last decade the total number of students registered to study at HEIs in Montenegro has increased by 148% supported by the opening of new faculties and departments. Most of the increase took place in the years up to the academic year 2010-11. Thereafter, until 2012-13 the number of registered students did not change, but has begun to increase again since then but at a slower pace than in the years before 2010-11.

At the same time the number of budget-funded students has fallen in absolute numbers and as a percentage from 57% of the total in 2004-05 to 19% in 2014-15. The budget-funded students receive grants and loans to cover tuition fees at the public HEI, and some financial support is also offered to students at private HEIs who are enrolled in study programmes of public interest that are not offered at UoM (Stetar and Zoric, 2008). The 2014 Law on Higher Education has introduced stricter criteria for receiving budget funding, reducing the number of students eligible. The graduate survey shows that students from grammar schools were significantly more likely to be budget funded than students from vocational schools ($p < 0.05$).¹⁴ Students who do not succeed in gaining a place at the public HEI often enrol at an HEI in neighbouring Serbia. The graduate survey¹⁵ shows that 6.5% of graduates who live in Montenegro have studied abroad, of whom 62% have studied at Serbian HEIs.

Table 4: Students enrolling and completing studies each year, 2012-2015

	Enrolment			Completion		
	2012-13	2013-14	2014-15	2011-12	2012-13	2013-14

¹⁴ 26% of students from grammar or technical schools received a scholarship compared to just 17% of students from vocational schools (a difference that is significant at 10% level (Chi-squared = 4.8, $p = 0.089$)).

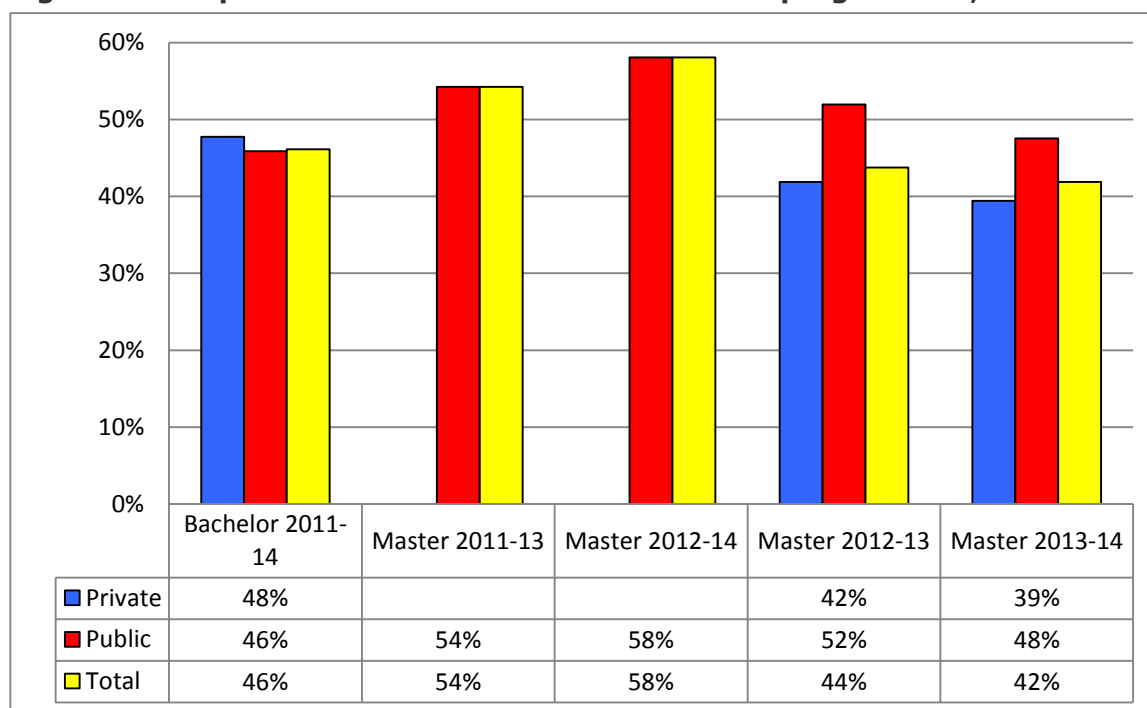
¹⁵ Further details about the graduate survey methodology can be found in the Annex (methodological note).

Total number of students	9,083	9,199	8,375	4,724	4,850	4,720
Bachelor	6,679	6,910	6,474	3,375	3,280	3,215
Master and specialist	2,346	2,249	1,869	1,341	1,563	1,487
Doctoral	58	40	32	8	7	18
Proportion of students in public HEIs						
% Public HEI	74.8%	70.2%	68.5%	82.0%	81.1%	78.1%
% Private HEI	25.2%	29.8%	31.5%	18.0%	18.9%	21.9%

Source: HE provision database. Note: These data differ slightly from data in the Statistical Yearbook of Montenegro.

Completion of studies is an important element of a successful higher education system. Student dropout from higher education represents a waste of resources. In 2013-14, the ratio of completions to enrolments was 51%, a relatively low completion ratio¹⁶ that indicates internal inefficiency in the HE system. The situation is worst in private HEIs where the completion ratio is only 38%, compared to 57% in the public HEI.¹⁷ From 2011-12 to the 2013-14, the absolute number of completions at private HEIs increased due to an increase in the number of students completing Master level at those HEIs.

Figure 2: Completion rates on Bachelor and Master programmes, 2011-14



Source: HE provision database. Note: Private HEIs do not provide 2-year Master degrees. Only study programmes with completion rates equal to or less than 100% are included; these account for the majority of study programmes.

Overall, completion rates are rather low.¹⁸ At 46%, completion rates on 3-year Bachelor degrees are similar to the lowest completion rates in the European Higher Education Area

¹⁶ The completion ratio is the ratio of the number of students who complete studies divided by the number of students who complete studies in the same year. It should not be confused with the completion rate.

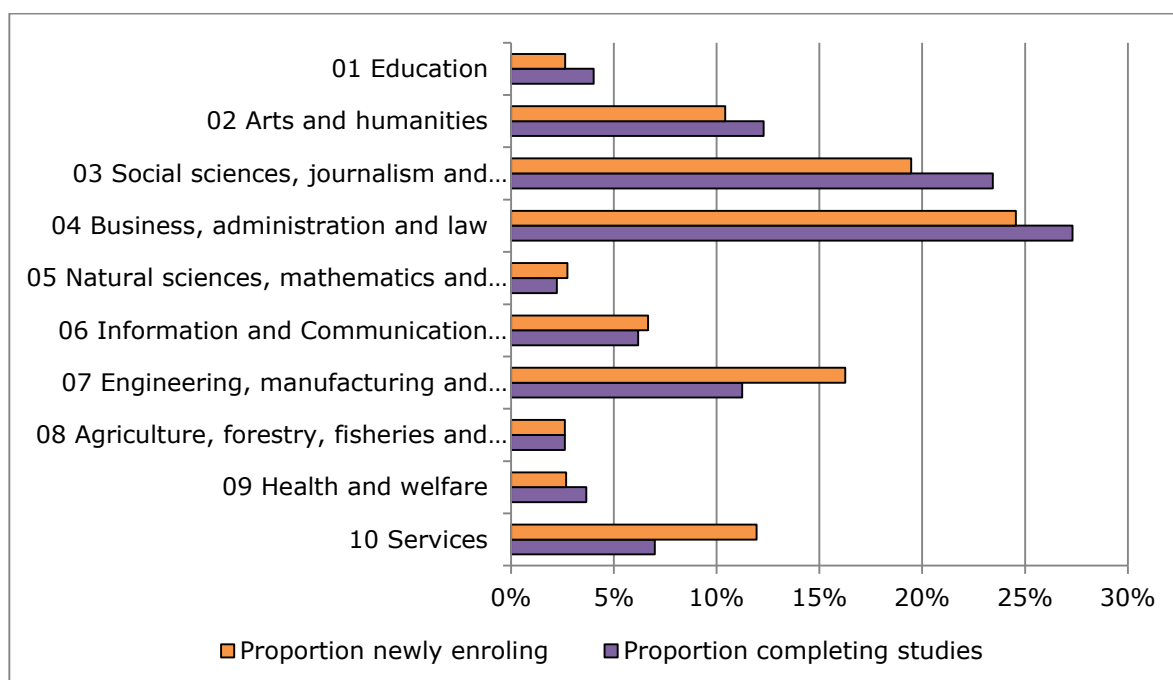
¹⁷ The data on the completion ratios is taken from the HE provision database. Completion ratios differ from the completion rates shown in Figure 2 and discussed in the next paragraph.

¹⁸ Completion rates are the ratio of the number of graduates completing studies in year "t" divided by the number of students who enrolled in year "t-x", where "x" is the duration of the study programme. This

(EHEA), which are found in Hungary at 48% (Eurydice, 2015), while the average completion rate in the OECD countries was 68% in 2013. Completion are higher on two-year Master programmes, reaching 58% for the 2012-2014 programmes in the public HEI. It is notable that these programmes appear to be more effective than one-year Master programmes which have the lowest completion rates of all, mainly due to the very low completion rates in private HEIs.

Corruption affects both the admission and the completion processes. In 2015, the Centre for Civic Education in Podgorica carried out a survey that revealed a widespread perception of corruption within the HE system (Uljarević and Kaludjerović, 2015). Half of respondents believe that corruption is present in both private and public HEIs, and that it affects academic advancement, grading and enrolments. Around two fifths of respondents believe that teachers accept money or gifts in exchange for a better grade, allow students to pass their exam or otherwise help them. One fifth of respondents claim they know someone who bought a degree, and 14% claim that they know someone who plagiarised their Master or PhD dissertation. Indeed, several allegations of plagiarism of Master's and PhD theses are currently under investigation (European Commission, 2015c). Concerns about corruption in education are widespread and have been highlighted in a recent Resolution of the European Parliament.¹⁹

Figure 3: Proportion of students newly enrolling and completing studies by field of study (2013-14) (%)



Source: database.

method of calculating completion rates, known as the "cross section" method, is more robust than taking the ratio of completions and enrolments in a single year, as it seeks to track the performance of a given cohort through time, though it is less accurate than the so-called "true cohort" method based on individual student data.

¹⁹ See European Parliament resolution of 10 March 2016 on the 2015 report on Montenegro (2015/2894(RSP)).

Overall, 53% of students enrolled and 60% of students completed their studies in HSS subjects (ISCED 2013 classification²⁰ 02+03+04). At the same time, 28% enrolled and 20% completed studies in STEM subjects (ISCED 05+06+07). These data can be compared to the situation in the EU-28 where 25% of all graduates hold STEM qualifications (Cedefop, 2015). Among graduates in the *Engineering, Manufacturing & Construction* broad field of study, almost half completed their studies in *Architecture*. In this perspective, a rather low proportion of STEM graduates are produced by the HE system in Montenegro. As in the EU, shortages of such graduates are likely to emerge in the future, especially in the fields of *Natural Sciences, Mathematics & Statistics* (see Figure 8 below) unless more students can be persuaded to take up these fields of study. It is notable that only 2% of students completed studies in *Natural Science, Mathematics & Statistics* and only 6% in *Information & Communication Technologies*.

In contrast 27% completed studies in *Business, Administration & Law* subjects. More than three quarters (77%) of graduates from private HEIs completed their studies in HSS subjects, compared to 54% of graduates from public HEIs. Within the *Business, Administration & Law* field of study, 12.8% of students completed in *Law*, a field of study that has traditionally been popular in Montenegro. For comparison, this is almost double the proportion of students that complete in *Law* in Serbia (6.3% of graduates in 2013-14). The larger proportion of completions in comparison to enrolments in HSS subjects is likely due to the lower drop out rate in these subjects compared to STEM subjects such as Engineering. This indicates a need for a fundamental rethink into the nature of HE provision in Montenegro, since the transition to an export-led and high value-added economy would require a greater output of graduates with qualifications in STEM subjects that are most relevant to private sector employers in competitive industries as well as to foreign investor companies.

2.3 Quality

The quality of HE in Montenegro is variable, both at the level of HEIs and their study programmes. Private HEIs rely heavily on guest lecturers and part-time professors, and have limited financial resources. In public HEIs, library stocks are limited, and there are not enough laboratories (Jorgenson and Sursock, 2014). Nor are there enough professors with PhD in certain disciplines, In addition, study programmes lack well defined learning outcomes and few students understand the learning outcomes they are expected to achieve. In addition, academic staff can supplement their income by admitting self-funded students above the quota of budget-funded students. This gives a strong incentive for over-enrolment, which promotes a high level of dropout and low completion rates with minimal concern for outcomes and quality (World Bank, 2011). As a result, too many students enrol in the HE system, contributing to a high level of graduate unemployment (European Commission, 2015b: 5).

In the rest of this sub-section we examine the accreditation system that is designed to ensure quality; the issue of programme evaluation; and the extent of student satisfaction with the quality of HE provision. We then examine teaching methods, before turning to a discussion of recent policy developments and gaps.

²⁰ The International Standard Classification of Education (ISCED) developed by developed by UNESCO enables comparison of education statistics across countries on the basis of uniform and internationally agreed definitions. We use the ISCED 2013 classification of fields of education and training, based on the content of study programmes (<http://www.uis.unesco.org/Education/Documents/isced-fields-of-education-training-2013.pdf>).

2.3.1 Accreditation

Unlike other countries in the Western Balkans, Montenegro does not have an independent Quality Assurance Agency. Instead it has a Council for Higher Education (CHE), which consists of 13 members appointed by the Government for a period of four years.²¹ The CHE carries out accreditation procedures and issues certificates for accreditation and re-accreditation of study programmes, which are valid for five years. It has established a special committee for evaluation and accreditation of institutions and programmes, based on a list of experts provided by the Ministry of Education. The re-accreditation of HEIs and programmes is carried out by a foreign accreditation agency registered with the European Quality Assurance Register for Higher Education (EQAR) appointed by the Ministry, following a public call and the opinion of the CHE. Montenegro is not a member of EQAR, but a member of the General Assembly of EQAR since 2011.

Quality assurance was an important component of the €12 million HERIC project funded by the World Bank from 2012-2017 which aimed to strengthen the quality and relevance of HE in Montenegro. One aim of the project was to improve quality assurance processes and reaccreditation procedures so that they would be more transparent and relevant. The component sought to improve the administrative capacity of the CHE and support capacity building in quality assurance within the Higher Education Department of the Ministry of Education and other relevant stakeholders in the HE sector. In our interviews, we found that these aims had been largely achieved and the quality assurance system is functioning better in Montenegro than elsewhere in the region.

2.3.2 Programme evaluation

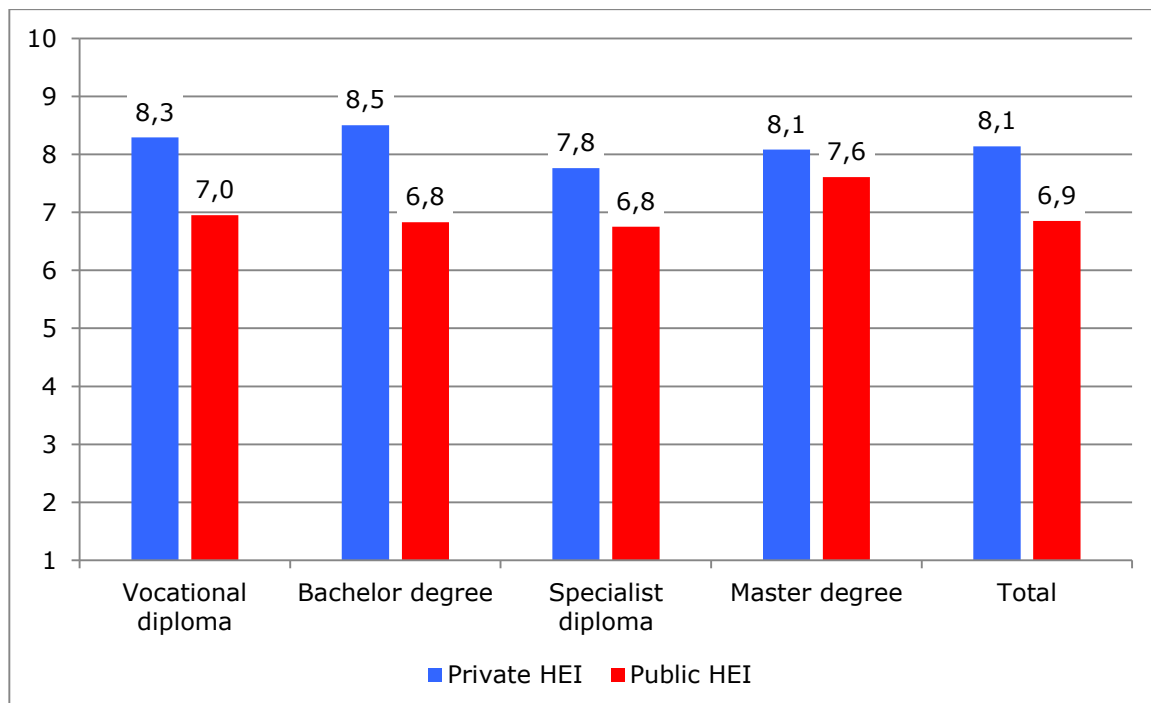
According to the 2014 law on HE, HEIs are required to carry out their own internal quality assurance arrangements through a questionnaire-based approach to self-evaluation that involves students either directly or indirectly via student representatives. However, an evaluation study carried out by Jorgensen and Sursock (2014) found that all HEIs have internal quality assurance arrangements in place, but at different stages of development. Student surveys are used but focus on teaching performance rather than learning outcomes. While some institutions publish the results of these surveys, the response rate is generally low. Good examples of other types of quality assurance procedures were found at one HEI where senior teaching staff provide feedback on the work of junior staff, and at another HEI where student labour market destinations are tracked three months after graduation. Weaknesses in the quality assurance systems were identified by the evaluation, which was particularly critical of governance arrangements at private HEIs, which often lack realistic plans to realise their stated goals, and formal governance structures are often weak at the smaller HEIs where leadership is often personalised in the founder, rather than on sustainable structures and commonly accepted institutional cultures. Administrative staff also lack capacity and there is little effort to improve their capacity through training staff. HEIs are also required to carry out an analysis of labour market needs at least once every five years, as part of their self-evaluation, yet few actually do so. Overall, quality assurance is viewed more as a formal process that responds to external requests rather than being internalised as an essential part of the governance strategies of HEIs.

There is a widespread public perception that UoM adopts higher teaching standards and has better quality teaching staff than private HEIs. International comparative rankings

²¹ See "Higher Education in Montenegro", European Commission, TEMPUS programme, (n.d.).

provide some support to this view.²² According to the international HE ranking produced by Webometrics, the University of Montenegro is in first position in Montenegro with a global rank of 2,997th position (202nd position in Central and Eastern Europe – CEE) followed by the Mediterranean University with a global rank of 13,606th position (1,447th in CEE) and the University of Donja Gorica with a global rank of 16,458th position (1,975th in CEE). However, it should be pointed out that this ranking depends heavily on research performance as measured by indicators gathered from the Internet than on an evaluation of teaching performance or quality. The graduate survey responses reveal a different rank order in relation to teaching quality.²³ The survey shows that graduates from the public HEI assess the quality of education received at a level of 6.9 on a scale of 1=very low quality to 10 = very high quality (see Figure 4). Graduates that studied at private HEIs scored 8.1, indicating that they are more satisfied with the quality of the education they received than those that studied at the public HEI. These opinions are surprising, as public HEIs generally have a better reputation and ranking than the private HEIs.

Figure 4: Satisfaction with quality of education at public and private HEIs



Source: Graduate survey. Note: Satisfaction with quality is assessed in response to the question "How satisfied are you with the quality of the education you received?" on a scale of 1-10 with 1= "very dissatisfied" to 10= "very satisfied".

One possible reason for the difference in satisfaction with quality revealed by the graduate survey may be that students who attended private HEIs have different characteristics than those that attended the public HEI. In order to explore this hypothesis a regression model has been developed to identify whether such additional determinants of graduate satisfaction with their HEI studies have an observable effect on perceptions of quality, and if so whether it is these characteristics of the student that attend different HEIs that are responsible for the observed differences between perceived quality at public and private HEIs.

²² See "Webometrics Ranking of World Universities", <http://www.webometrics.info/en>.

²³ The graduate survey received responses from 613 graduates who had graduated from Montenegrin HEIs since 2010. For further details on the graduate survey see the Annex.

Table 5: Regression model for graduate satisfaction with quality of HE studies

	Coefficient	t-statistic
Public HEI	-0.950***	-4.567
Internship or work experience	1.033***	5.870
Above average performance	1.124***	6.497
Classes in small groups	0.532***	3.068
Business, Administration & Law	-0.403***	-1.975
Information & communication technologies (ICT)	-0.923***	-2.518
Constant	6.385***	23.374
<i>Adjusted R-Squared = 0.238; F= 26.77***; N=495</i>		

Source: Graduate survey. Note: Significance level ***=1%. Model estimated using SPSS by backward elimination.

The regression analysis shows that several factors in addition to ownership status of the HEI determine graduate satisfaction (see Table 5).²⁴ Several factors have a positive impact on satisfaction including whether the graduate had experienced internship or other form of work experience during studies, whether study performance was above average, whether teaching methods involved classes in small groups. Graduates who studied *Business, Administration & Law* or *Information & Communication Technologies (ICT)* have a lower level of satisfaction with quality of their education (compared to those who studied *Social Sciences, Journalism & Information* – the baseline study field for this analysis). Even when these factors are taken into account, the ownership status of the HEI still has a significant influence on perceived satisfaction with HE quality. The results indicate that graduates who studied at public HEIs have a level of satisfaction with their education that is 9.5 percentage points lower than those who studied at private HEIs, slightly less than the 12.0 percentage point gap identified in Figure 4 which does not control for other relevant factors identified in this study.

It should be emphasised that this difference can be offset in public HEIs by offering internship or work experience to their students or by more frequent use of teaching in small class groups. The former increases student satisfaction with quality by 10.3 percentage points and the latter by 11.2 percentage points. It is important to note also that graduates from *ICT* fields of study have a lower level of satisfaction with the quality of studies compared to other fields of study by 9.2 percentage points, irrespective of whether they studied at public or private HEIs. This is a worrying finding since *ICT* fields of study are likely to be increasingly important in supporting future competitiveness of the Montenegrin economy.

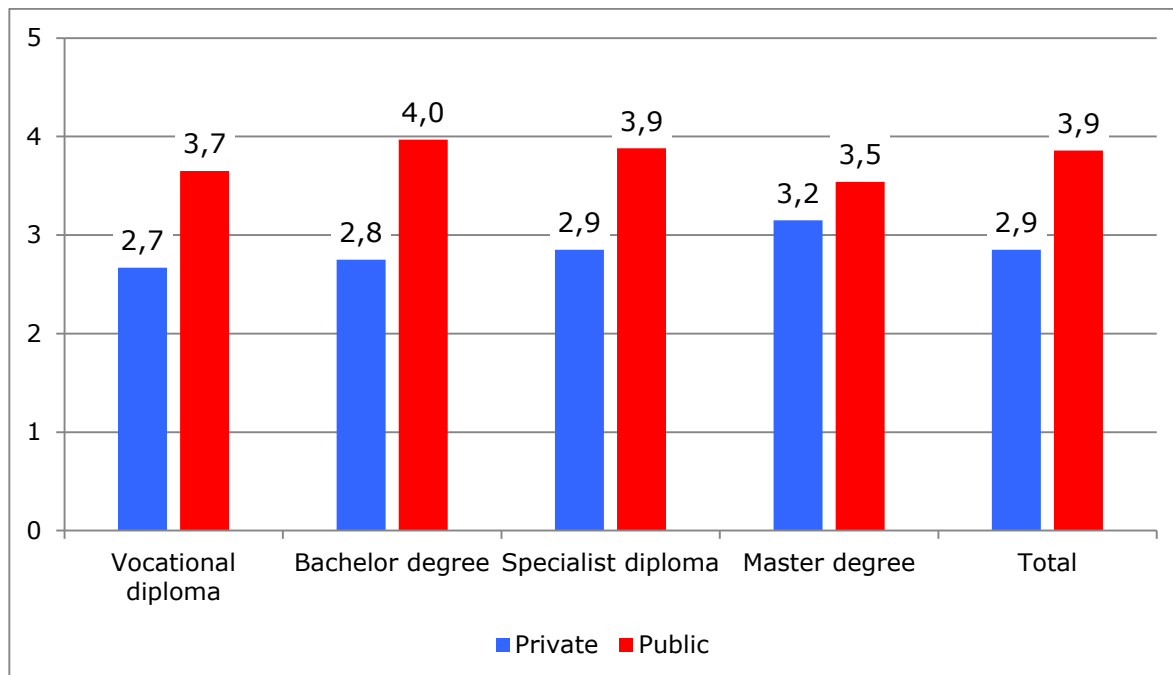
2.3.3 Teaching methods

It is often stated that HEIs in post-socialist countries are not sufficiently flexible to respond to labour market changes through curricula reform and the adoption of new teaching methods (Sondergaard and Murthi 2012). Most university staff were educated in the previous century with few acquiring experience or obtaining PhD degrees abroad. Relatively few lecturers are interested in improving their teaching practices or curricula, because it would require additional work and there are few incentives for improvement. This perspective is supported by the graduate survey from which we find that 59% of respondents consider that better teaching methods would have improved their job

²⁴ Other factors such as age, gender, and level of degree were taken into account but were not found to be significant influences on perceptions of quality of education at HEIs in the regression analysis, and so are not reported in Table 5.

prospects after graduation either “a lot” or “very much”. Graduates from public HEIs are more likely to think that better teaching methods would have helped them find a job than do graduates from private HEIs (see Figure 5).²⁵ Teaching methods in private HEIs are seen as more relevant and better tailored for equipping graduates with the right skills for the labour market. The differences in perception between graduates from private and public HEIs are largest for Bachelor degrees, suggesting that this is where attention should be focused in the public HEI to generate the greatest improvement in learning outcomes.

Figure 5: Whether better teaching methods would have improved job prospects



Source: Graduate survey. Note: Responses are scored on a scale of 1-5 where 1 = not at all to 5 = very much; overall difference between scores for public and private HEIs are significant at 1% level (“Total” columns).

Teaching methods are mainly based on gaining passive knowledge, memorising facts and large amounts of information, placing too much emphasis on formal achievements and a strong division between theoretical knowledge and solving practical problems. Some HE stakeholders stressed the need for more innovative curricula, for an education system which develops skills and competences, for changes in the way of thinking, for improvement in students’ innovative and creative capacity, and for the promotion of entrepreneurial skills. Some private HEIs believe that they do apply such an approach and that their students, thanks to such innovative practices, find it easier to get a job that corresponds to their field of study. The graduate survey backs up these perceptions. However there seems to be a long way to go in improving and modernising course content and teaching methods. According to a recent evaluation report, “resistance to innovative content... reflects the lack of discussion about skills requirement and the rarity of problem-based learning methods in Montenegro” (Jorgenson and Sursock, 2014:17). In addition, the low number of PhD professors and graduates, the outdated teaching methods, the unclear learning outcomes and the lack of rigorous evaluations all pose a serious challenge for development of HE in Montenegro.

²⁵ A t-test of the difference in means between public and private HEIs of the variable “better teaching methods would have improved job prospects” shows that the difference is significant at 1% level ($t=7.96$, $p=0.000$, $N=506$).

Box 1: Comparing studying in Montenegro with the EU: findings from a focus group

A focus group was carried with Montenegrin Erasmus Mundus alumni who spent part of their HE studies in different parts of EU. The group discussed and raised awareness about few serious issues of Montenegrin HE system in comparison with EU system. First issue that was focused referred to teaching methods that in the EU system are more student-oriented and interactive in comparison to what they usually witness in Montenegrin HE. This also applies to giving students more space to express their views and participate in discussions. Second important thing that they flagged about EU system is that critical thinking is more encouraged in comparison with Montenegrin. Other features that make EU HEIs function better are: better equipped libraries and laboratories, more practical and problem-solving classes and more opportunities to make connections with labour market.

2.4 Policy developments and gaps

Until recently, the implementation of the Bologna process has mainly focused on the reform of the institutional and legal framework. The major achievements have been the division to the three study cycles, application of ECTS (in most programmes) leading to the international recognition of Montenegrin degrees. As with other countries in the region, this has led to an increase in student mobility and somewhat to the internationalisation of the HE system (Drakić-Grgur and Mirković, 2013). However, in-bound student mobility is still very low, while the verification and recognition of diplomas and degrees is a time consuming and costly process. Critics have argued that the introduction of the Bologna principles in Montenegro has been difficult, and that the greatest obstacle to reform has been the structure of previously established HEIs (Jaćimović-Vojinović, 2015). Given the dominance of a single public HEI, the entry of new private HEIs has brought about some increase in competitive pressure to improve the quality of HE provision but the UoM is considered to have a monopoly on student scholarships and many study programmes.

In October 2014, the government adopted a new Law on Higher Education, acknowledging that in the future, education reforms should be geared towards a continuous increase in quality, a higher level of research activity, and greater relevance of HE to the labour market. The Law is primarily aimed at further harmonisation of the system with EU standards and at improving learning outcomes. It includes stricter criteria on quality assurance, study programmes and funding. However, the efficient implementation of the Law would require further improvement of technical and expert capacities of the Council on Higher Education. In addition, HEIs will have to work on the development of internal quality assurance mechanisms in accordance with ENQA and EU practice. As a result, two years on, the 2014 law has not yet been implemented.

The main national strategic document for HE development is the "Strategy of Development and Financing of Higher Education 2011-2020". The strategy aims to promote high quality HE; link HE and the labour market; increase the entrepreneurial and innovation dimensions of HE education; and increase the share of the population aged 30-34 with HE attainment to at least 40% by 2020. Other strategic documents are in line with the goals of this strategy. For example, the "Strategy on Lifelong Entrepreneurial Learning 2015-2018" requests all educational institutions to efficiently implement entrepreneurial learning. In addition, the "National Strategy for Lifelong Career Orientation 2011-2015" aims to strengthen career guidance in the education system at all levels. Despite the formal regulation of the HE sector by a variety of fragmented strategies, implementing change on the ground has been difficult and very

slow. The major problems are the limited capacity for implementation and resistance to change (European Commission, 2014). As witnessed in recent developments, increasing transparency and evaluation seem not to be in the interest of those who benefit from the current situation.

Another major gap in relation to HE policy is in the financing of the public HEI which is highly centralised based on a block grant related to inputs (teacher salaries) rather than on outputs. The Higher Education and Research for Innovation and Competitiveness (HERIC) project, supported by the World Bank, promoted the concept of output-based funding related to the success of the HEI in providing a good service to students. However, the final project report observed that no progress had been made in implementing a new model of financing. A more realistic option might be to move towards formula funding based on quasi-market principles (Glennister, 1991; Agasisti and Catalano, 2006). In such a system, the state funds HEIs according to the number of students who attend the HEI, whether public or private, but maintains strong controls over the total number of students who are able to access the HE system. This ensures that HEIs compete for students on the basis of quality. It could be a feasible option, as the Ministry already limits the number of students that HEIs can enrol in accordance with a Decision on Licensing. The drawback of this approach in Montenegro is the small size and number of private HEIs, which would limit the impact of quasi-market competition.

Another feature of the Montenegrin HE system is that the financial support for students through loans is merit based rather than being linked to need. Since students rely heavily on their parents to finance their studies (only a few work part-time during studies), this means that, in practice, students from higher income families have an advantage in receiving adequate financial support during their study period. According to a recent report from an EU Tempus project²⁶ “the present funding scheme of higher education in Montenegro [has] reached the point where a comprehensive reform is long overdue” (FINHED, 2015).

A major gap in HE policies concerns the issue of completion rates. Many EHEA countries have specific policies to raise completion rates (Eurydice, 2015: 175-182), but this is lacking in Montenegro. The range of policy measures that are used in EHEA countries includes providing guidance and counselling services to students; offering learning support to remedial activities; developing flexible pathways; and providing incentives to students to finish studies on time. Similar policies ought to be adopted in Montenegro in order to raise completion rates.

3 Mapping graduate labour markets

Over the last fifteen years the structure of the economy has gone through profound changes, characterized by a continuous process of deindustrialization and fast expansion of services. By 2013, the share of employees in the service sector had reached 77%, while the share of employees in the industrial sector had declined to 18%.²⁷ Structural changes have caused a reduction in the demand for occupations related to industry and extended the length of job search, particularly in labour-intensive sectors. Despite the increase in employment in recent years²⁸ there has been little indication of structural

²⁶ Towards Sustainable & Equitable Financing of Higher Education Reform in Bosnia and Herzegovina, Montenegro and Serbia – FINHED (<http://www.finhed.org/about>).

²⁷ See Annual Report of Employment Agency, 2013.

²⁸ Total employment has steadily increased from 161,742 in 2010 to 173,595 in 2014 (Statistical Yearbook of Montenegro, various years).

change towards higher productivity jobs as the economy has relied on labour-intensity to achieve growth (IMF, 2016: 20). As economic conditions change there is a need for a new approach to HE that would enable young graduates to find a job more quickly and contribute to economic growth (Drakić-Grgur and Mirković, 2013).

3.1 Difficulties facing graduates in finding a job

The economy has begun to recover from the main effects of the recent economic crisis and the unemployment rate has declined over the last three years (see Table 6). Nevertheless, in 2014, the overall unemployment rate was about twice as high as in the EU-28, as was the unemployment rate of HE graduates. Individuals with tertiary education generally experience better labour market outcomes than those with lower levels of education (although this is not the case of new graduates, as we explain further below). In 2015, the employment rate of HE graduates in Montenegro was 70.9%, far above the overall employment rate of 44.3%; and the unemployment rate of HE graduates was 10.3%, far below the overall unemployment rate of 17.6%.²⁹ While the tertiary employment rate is similar to that in the EU-28, the unemployment rate of HE graduates is about twice as high as in the EU-28.

Table 6: Unemployment rate and employment rate, 2013-15 (%)

	Montenegro, Total			HE graduates			Western Balkans average	EU-28, total	EU-28, graduates
	2013	2014	2015	2013	2014	2015	2014	2015	2015
Unemployment rate (15+)	19.5	18.0	17.5	9.8	9.9	10.3	24.2	9.4	5.6
Employment rate (15+)	40.3	43.2	44.3	70.8	70.5	70.9	48.6	58.1	76.9

Source: Statistical Office of Montenegro, Labour Force Survey and Eurostat. Note that rates for Montenegro are for population over 15 and rates for Eurostat are for population aged 15-74.

Labour market indicators are generally better for HE graduates than for the working age population as a whole. However, from the graduate survey we estimate the unemployment rate of *recent* HE graduates who have graduated between 2010 and 2015 to be 25.9%, which is above the overall unemployment rate and can be compared to the overall youth unemployment rate of 37.6%.³⁰ The unemployment rate of recent graduates would be even higher were it not for a state-sponsored internship programme, which has provided work experience for 20.4% of the recent graduate labour force.³¹ However, according to the EAM, only 13.4% of programme participants continue to work, so it can hardly be considered to have been a success. At the same time, the employment rate of recent graduates is 67%, below the employment rate of all graduates but above that of the working population as a whole.

²⁹ Eurostat online data variable code [lfsq_urgaed] (Data refer to the third quarter of 2015).

³⁰ Youth unemployment rate for the 15-24 year age group, Labour Force Survey, Q3, Table 3, 2015, MONSTAT.

³¹ In the Labour Force Survey definitions, apprentices or trainees within an enterprise working on a fixed term contract are classified as employees. See "EU Labour Force Survey Methodology", available on the Eurostat website.

Unemployment in Montenegro, as in the other countries of the region, has a large structural component (Botrić, 2011; Bartlett, 2013).³² Even when growth was strong during the pre-crisis period, unemployment did not fall below 16%, due to the high level of structural unemployment.³³ Thus, while future economic growth will create jobs and partly solve the problem of graduate unemployment, it cannot be expected to do so completely due to the structural nature of unemployment. Various theories have been advanced as to the causes of this structural problem, including cost factors and institutional factors. Kovtun et al., (2014) review these theories in the context of the Western Balkans. They argue that Montenegro is a special case where cost factors have been a major cause of the high unemployment rate, since unlike other countries in the region, unit labour costs have continued to rise since the onset of the economic crisis even as unemployment rose. This unusual combination of outcomes may be linked to the high inflows of remittance income, which is 9.4% of GDP,³⁴ and which has the effect of increasing the reservation wage.³⁵ Kovtun et al. (2014) discount other potential causes of structural unemployment. Thus, unemployment benefits are rather low and of short duration and cannot account for the high levels of unemployment; employment protection legislation is moderate and in line with European norms; the tax wedge is not especially high; and in general, labour market institutional factors are not out of line with the norm in much of Eastern Europe and the new member states. While the adverse effect of a high reservation wage is likely to be greater for unskilled low-wage workers than for HE graduates, especially for those who find a well-matched job at a salary above the reservation wage, it may nevertheless have a significant impact on the incentives facing a graduate who is offered a poorly matched job at a salary below the one expected.³⁶

Consequently, in a situation of high structural unemployment, the issue of job matching, i.e. ensuring that the job on offer is well matched to the qualifications held, may be an important part of the explanation of the high unemployment rate among new graduates, and may point to the importance of supporting graduates in their transition to the labour market and ensuring their job search is organised as effectively as possible.

3.1.1 Graduate employment by size of employer

The employer survey conducted in this project covered a total of 169 employers of all sizes, from micro (employing fewer than 10 workers) to large (employing 250 or more). While the vast majority of employers in Montenegro are small or micro sized, only a relatively few of them employ graduates. However, the size distribution of employers that employ graduates is different. In the sample, 30% of the employers that employ graduates are micro sized, and close to 60% of employers are SMEs. Table 7 shows the average number of graduate employees in each size group. The ratio of the number of

³² “The transition processes have radically changed the structure of the Montenegrin economy – from manufacturing to services, which caused high unemployment of a structural character”, IPA Employment Sector OP, p. 29.

³³ Structural unemployment is conventionally distinguished from deficient demand unemployment. It occurs as a result of imperfect information about jobs available, due to immobility of labour, or due to structural change in the economy, which leads to obsolescence of skills. In the case of new HE graduates, if the HE system has not been restructured in line with changes in the economy, graduates may emerge from the HE system with out-dated and unusable skills. This, together with a lack of effective support for job search, can lead to high unemployment among new graduates.

³⁴ Data are from the World Bank Development Indicators online database. This level of remittance income is about average for the Western Balkan region.

³⁵ The “reservation wage” is the level of wage below which a person would not be willing to work, for example because they receive remittance incomes or social benefits which reduces the need to work for a low wage (see Prasad, 2003).

³⁶ This issue is discussed in greater detail in section 5 below.

graduate employees to the number of all employees for each employer (the density of graduate employment) is shown in the final column.

Table 7: Graduate employment by employer size groups

	Number of employers in sample N (%)	Distribution of graduate employees	Average number of graduate employees	Median number of graduate employees	Density of graduate employment per employer
Micro	30.2%	2.7%	3.1	3.0	67.9%
Small	27.9%	11.0%	13.6	9.5	51.1%
Medium	27.9%	33.7%	41.5	30.0	34.5%
Large	14.0%	52.6%	129.8	89.5	29.2%
Total	100.0%	100%	34.4	10.5	48.5%

Source: Employer survey. Note: Micro employers are defined as those with fewer than 10 employees; small employers from 10 to 49; medium sized employers from 50 to 249; large employers with 250 or more. This is in accordance with the Eurostat definition of employer size groups.

Table 7 also shows that the density of graduate employment per employer is inversely related to size among companies that employ graduates. Thus, among micro employers, on average about 68% of their employees are graduates. Conversely, among large employers that employ graduates, only about 29% of their employees are graduates. Micro-firms may be the fast growth firms of the future, so policy-makers who wish to expand graduate employment opportunities should not neglect them. Having said this, the employer survey shows that it is the SMEs that have witnessed the fastest growth in graduate employment (by 10% per annum) over the last three years, while micro employers increased graduate employment by 3% per annum, and large employers have not increased their graduate employment at all during this time.

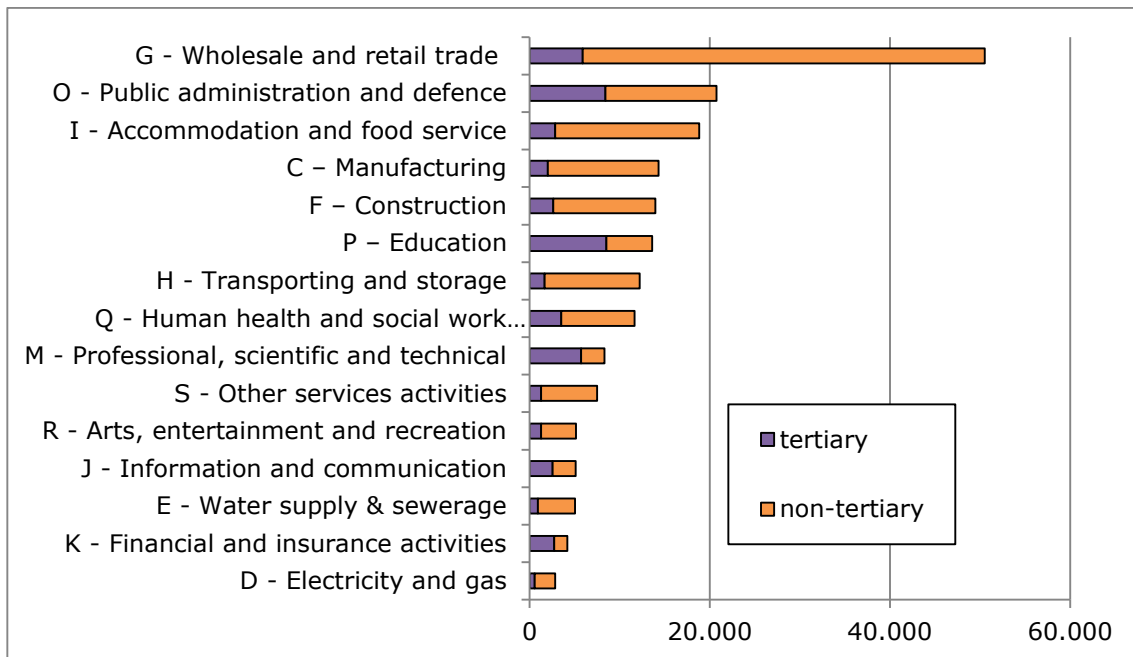
3.1.2 Graduate employment by sector

The opportunity for graduates to find a job differs across sectors and across employers of different size. Most graduates are employed in relatively few sectors (see Figure 6).

More than half (57%) of HE graduates are employed in *Education, Public Administration & Defence, Wholesale & Retail Trade, and Professional, Scientific & Technical Activities*.³⁷ The density of graduate employment is greatest in the sectors of *Professional, Scientific & Technical Activities, Financial & Insurance Activities, and Education*. These are not the fastest growth sectors (see Figure 7), but they do have moderate rates of graduate employment growth between 10% and 14%.

³⁷ The Professional, Scientific & Technical activities sector covers architecture, electrical engineering and research staff.

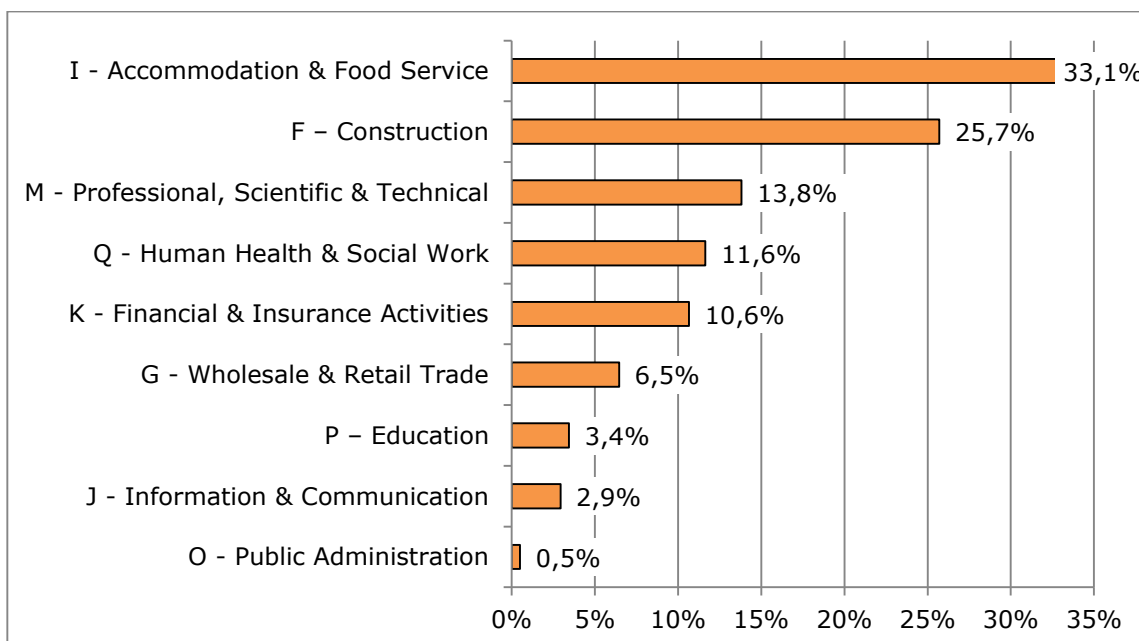
Figure 6: Graduate (tertiary) and non-graduate employment by sector of activity, 2014



Source: Montenegro Labour Force Survey, 2014.

Figure 7 shows the nine sectors that account for 90% of graduate employment. Between 2012 and 2014, the two sectors with a growth rate of over 25% per annum are *Accommodation & Food Services* and *Construction*. The rapid growth of these sectors reflects recent economic development i.e. the tourism and construction industries.

Figure 7: Annual % change in graduate employment in major sectors of activity, 2012-14



Source: Montenegro Labour Force Survey. Note: The sectors shown account for 90% of graduate employment. Most of the growth in employment has taken place in a relatively small proportion of organisations.

The employer survey³⁸ reveals that 81% of all jobs created in the past three years have been created by just 11% of employers. For HE graduates, 82% of jobs created have been created by just 14% of employers. Such employment dynamics are typical in most market economies, and such fast-growth employers involved are sometimes called “gazelles” (Acs and Mueller, 2008; OECD 2009).³⁹ In Montenegro, 7% of employers are gazelles (according to the Eurostat definition) and are growing at 20% per annum in terms of employment, while 18% of employers are growing at 10% or more per annum in terms of employment. The latter type of employer could be called “divokoza”, a type of Balkan gazelle.⁴⁰ Both gazelles and divokozas are more likely than other employers to be based in the capital city (Podgorica)⁴¹.

3.2 Forecast of future demand for graduates

In order to identify likely future demand and supply for HEI graduates, forecasts are needed to predict future changes in labour market needs. Policy makers can use such forecasts to adjust education strategies, or as an early warning of impending change.⁴² In this section we set out our own forecasts of the likely demand for HEI graduates by field of study in the period up to 2018. The analysis is carried out on the demand side, projecting forward the annual change in demand for graduate labour on the basis of existing information on graduate employment by sector of economic activity taken from national labour force surveys. The methodology of the forecast follows that of Cedefop (2010), which involves identifying “expansion demand” and “replacement demand”. Expansion demand is the extra demand arising from economic growth, while replacement demand is that arising from retirement and migration. Expansion demand is estimated on the basis of estimates of economic growth up to 2018, using GDP forecasts from the IMF World Economic Outlook database.⁴³ The forecast for the growth of tertiary employment (employment of HE graduates) is made on the basis of an assumed employment elasticity with respect to GDP equal to unity.⁴⁴ The replacement demand is using a standard estimate of the retirement rate based on the assumption of a 40-year working life, giving a baseline 2.5% retirement rate and an estimation of net migration.⁴⁵ Expansion demand and replacement demand are summed to give an overall estimate of the annual change in demand for graduates by sector.

³⁸ Further details about the employer survey methodology can be found in the Annex.

³⁹ The definition of a gazelle, given by Eurostat, is a company that has been formed within the past three years and is expanding employment by at least 20% per annum over those three years. In Hungary, for example, about 1% businesses in the industrial sector that employ between 5 and 9 employees fall into this category as do 0.45% of businesses with 10 or more employees (Eurostat, variable {eip_pop3}).

⁴⁰ “Divokoza”, or Balkan Chamois, is speedy, but not as fast as a gazelle. The top speed of a chamois is about 50 kilometres per hour, while that of a gazelle is about 100 kilometres per hour.

⁴¹ Some 86% of divokoza are based in Podgorica compared to 63% of other employers ($t=1.98$, $p<0.1$).

⁴² It should be noted that all forecasts are by their nature imprecise and subject both error and revision as circumstances change. It has been said that every forecast is inevitably incorrect. Nevertheless a forecast provides a framework for policy makers to use as a benchmark against which to make their own judgments and decisions.

⁴³ The same rate of expansion demand is applied to each sector. Labour Force Survey data are not sufficiently robust to identify differential growth rates per sector, as these are too sensitive to the base year used for calculation. Several experiments were done using various estimated sectoral growth rates, which demonstrated that the forecasts over a period of three years are sensitive to realistic differences in assumed sectoral growth rates. Further analysis should be undertaken to refine the forecasts according to better predictions of sectoral change.

⁴⁴ This is a crucial assumption of the forecast. From a theoretical point of view, one would expect different factors to drive the employment elasticity. First, productivity growth would be expected to give rise to elasticity below 1. Second, skill-biased technical change would be expected to drive the employment elasticity above 1. The assumption of a unitary elasticity balances both these opposing influences.

⁴⁵ According to Eurostat data, the net migration rate from Montenegro is 1.5% per annum, see Eurostat online data “Population change - Demographic balance and crude rates at national level” – variable code [demo_gind].

Contrasting the forecast increase in demand for graduates with current levels of supply of graduates (as a benchmark) gives the projected levels of oversupply of graduates by field of study in 2018, assuming current levels of supply are held constant.⁴⁶ It should be emphasised that these are only estimated forecasts and should be used only as a general guide to likely direction of change vis à vis current levels of provision, and should not be taken as accurate figures for planning purposes.

Table 8: Annual growth of real GDP, total and tertiary employment, 2015-18 (%)

	GDP growth (%)	Employment growth (%)	Graduate employment growth (%)
2015	3.2	1.6	3.2
2016	4.9	2.7	4.9
2017	2.8	1.5	2.8
2018	2.9	1.6	2.9

Source: Projections for GDP growth from IMF World Economic Outlook database; for employment from ECFIN Candidate and Potential Candidate Economic Quarterly, 2015 Q4; Tertiary employment growth is derived using an estimated employment/GDP elasticity equal to 1.

Economic growth has been robust since 2015 and is expected to continue at a rate of around 3% over the next few years (see Table 8). Growth in total employment is forecasted to be below this trend due to expected productivity growth, but tertiary employment growth (i.e. growth in employment of HE graduates) is expected to be given a boost due to skill-biased technical progress, so is expected to match the overall rate of economic growth.

On this basis, forecasted total graduate employment is expected to be around 58,000 by 2018, an increase in almost 6,000 from 2015. This increase is the expansion demand that will result from the expected net increase in job openings for graduates. To obtain a forecast for the actual numbers of HE graduates that will be demanded, we add the “replacement demand” arising from the retirement of currently employed graduates and other demographic reasons for which people leave the labour force. Applying this to our estimates of graduate employment, we derive an overall forecast of the annual increase in demand for graduates, which is the sum of expansion demand and replacement demand. It is expected to remain fairly stable at around 3,000-4,000 each year. These annual requirements for graduates are below the actual output of the HE system, which is around 5,000, so that each year the total number of graduates is higher than the number jobs available to employ them.

⁴⁶ Oversupply is defined here as the difference between the supply of graduates that completed their studies in 2014, which is taken as a benchmark, and projected demand for graduates in a future year (e.g. 2018). For policy purposes, it is appropriate to measure oversupply in this way, so that policy makers may see the consequences of holding the HE output constant at current levels, and can identify the changes that might be needed in the future to achieve a better balance between supply and demand.

Table 9: Forecast for expansion, replacement and total demand for new graduates by sector of activity, 2015-18

Sector	Expansion				Replacement				Total demand			
	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018
C	65	103	61	65	54	56	59	61	120	159	120	125
D	19	30	17	19	16	16	17	17	34	46	34	36
E	30	48	28	30	25	26	27	28	55	74	55	58
F	85	134	79	84	71	73	77	79	156	207	156	163
G	191	300	178	189	159	164	173	177	350	464	350	366
H	54	84	50	53	45	46	48	50	98	130	98	103
I	91	144	85	90	76	79	83	85	168	222	168	175
J	83	130	77	82	69	71	75	77	152	202	152	159
K	88	138	82	87	73	76	79	82	161	214	161	169
M	185	291	172	183	154	159	167	172	339	450	339	355
O	273	429	254	270	228	235	246	253	500	663	500	523
P	276	434	257	273	230	238	250	257	507	672	507	530
Q	114	178	106	112	95	98	103	105	208	276	208	218
R	41	65	38	41	34	36	37	38	76	100	76	79
S	41	65	39	41	35	36	37	39	76	101	76	80
Total	1,637	2,572	1,524	1,619	1,365	1,409	1,479	1,520	3,002	3,981	3,003	3,139

Source: Table 8 and estimate of replacement demand for graduates. Note: C = Manufacturing; D = Electricity, gas, steam and air conditioning supply; E = Water supply; F = Construction; G = Wholesale and retail trade; H = Transportation and storage; I = Accommodation and food service activities; J = Information and communication; K = Financial and insurance activities; M = Professional, scientific and technical activities; O = Public administration and defence; P = Education; Q = Health and social work activities; R = Arts, entertainment and recreation; S = Other services. Note: Last digits may not always add up due to rounding.

Change in the demand for graduates at sector level has implications for the pattern of recruitment that the HE system should anticipate. In order to address this issue we use the data from the graduate survey to estimate a transformation matrix that connects the sector in which graduates are employed to their field of study⁴⁷. This provides forecasts of the demand for graduates by field of study. This is contrasted with the supply of graduates, which we derive from the HE provision database.

⁴⁷ In order to obtain reliable estimates the entire graduate survey for the Western Balkan countries is used to create the transition matrix. This is justified on the grounds that the technological level in each country is rather similar and so it can be expected that an average measure of inputs of graduates per unit of output can be a good approximation to the country coefficients.

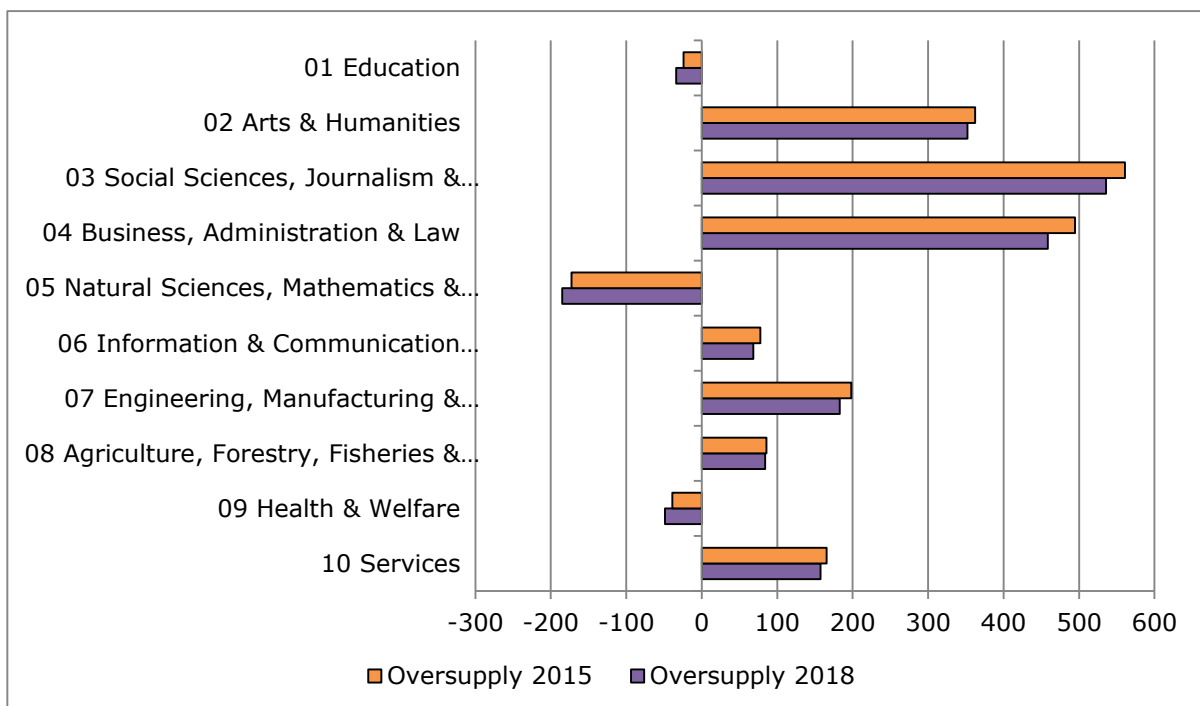
Table 10: Annual new demand and supply of graduates by field of study

Field of study	Demand				Supply	Oversupply & Shortage
	2015	2016	2017	2018	2014	2018
01 Education	214	284	214	224	190	-34
02 Arts & Humanities	218	289	218	228	580	352
03 Social Sciences, Journalism and Information	546	724	546	571	1,107	536
04 Business, Administration & Law	794	1,053	795	830	1,289	459
05 Natural Sciences, Mathematics & Statistics	272	361	273	285	100	-185
06 Information & Communication Technologies	213	283	213	223	291	68
07 Engineering, Manufacturing & Construction	330	438	330	345	528	183
08 Agriculture, Forestry, Fisheries & Veterinary	38	51	38	40	124	84
09 Health & Welfare	211	280	211	221	172	-49
10 Services	165	219	165	172	330	158
Total	3,002	3,982	3,003	3,139	4,711	1,572

Source: Graduate survey for the transformation from sector estimates to field of study estimates, and the HE provision database data on completions from HEIs in 2014.

Table 10 shows the projected demand for graduates by field of study from 2015 to 2018 against the actual supply of graduates in 2014, which is used as a benchmark. Each year there is expected to be an oversupply of graduates in relation to demand of about 1,500 new graduates. If current levels of supply are held constant, the supply of graduates will be more than adequate to meet projected demand in 2018.

Figure 8: Surpluses and shortages of graduates by field of study, 2015 and 2018

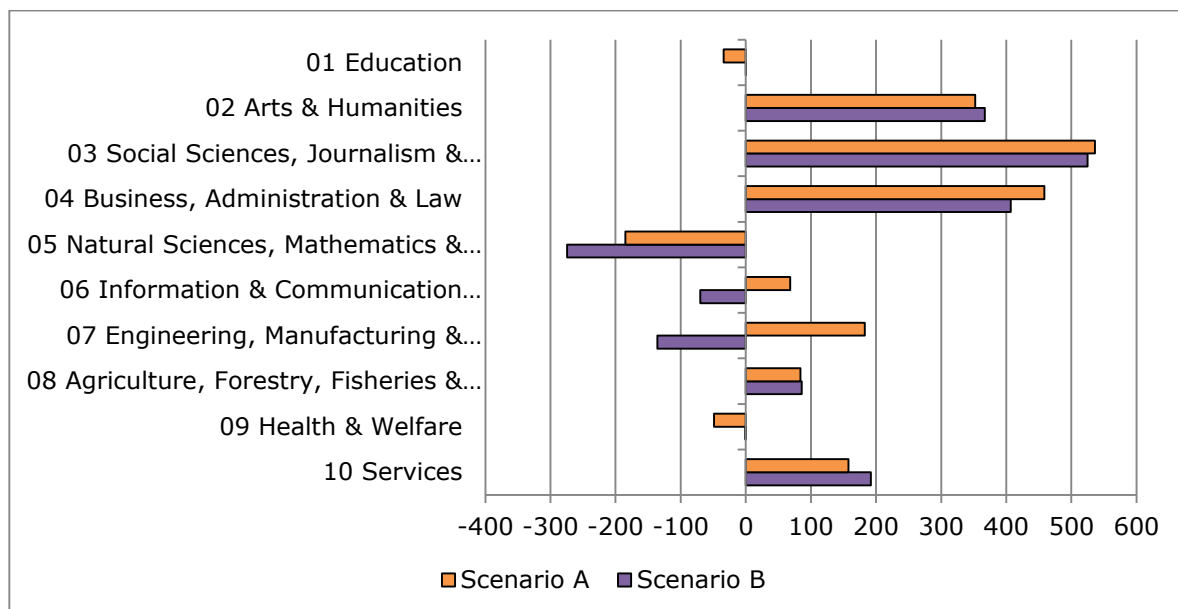


Source: Table 10. Note: Positive bars represent oversupplies; negative bars represent shortages.

Figure 8 shows the oversupplies and shortages of graduates by broad fields of study in 2015 and 2018. The forecast by field of study for 2018 gives a picture of what oversupplies and shortages would look like if there were no changes in supply patterns from current levels. The analysis provides a guide to adjustments that could be made to the HE system to achieve a better balance between supply and demand. Figure 8 also reveals a large and continuing surplus of graduates in *Arts & Humanities; Social Sciences, Journalism & Information, and Business, Administration & Law* (i.e. the HSS subjects). The current surplus in most fields of study is expected to diminish over time as economic growth creates an increased demand for graduate employees. The small shortage in the vocational fields of study, *Education, and Health & Welfare* is expected to increase unless supply is expanded. The largest potential emerging shortages are in the fields of *Natural Sciences, Mathematics & Statistics*, a STEM field of study. In the absence of further expansion in the number of students graduating in this field of study, shortages of science graduates will persist over time. This suggests that it will be important to expand the supply of graduates in this field in the future, while reducing the proportion of students graduating in HSS subjects.

The above analysis is based upon the absence of structural change in the economy. If instead of the status quo, the government were to initiate an industrial policy that supported a more rapid development of knowledge intensive manufacturing sectors, a forecast would emerge. In order to gauge the magnitude of possible changes, we develop a scenario in which the *Manufacturing sector, the Construction sector, the Information & Communication sector, and the Professional, Scientific & Technical sectors* are supported by a set of measures that would support growth at 10% per annum up to 2018, while other sectors are assumed to grow at 1% per annum.⁴⁸ The resulting change in our forecast for oversupply or shortage of graduates by field of study is shown in Figure 9.

Figure 9: Forecast surpluses and shortages of graduates in 2018 comparing scenario A without industrial policy to scenario B with industrial policy



Source: Table 10 and author calculations. Note: Scenario A represents the status quo; scenario B assumes rapid growth in manufacturing, ICT and professional and scientific sectors, and slower growth in other sectors. The horizontal bars show oversupply or shortage by field of study under scenario B compared to scenario A.

⁴⁸ These hypothetical rates of growth preserve the overall total employment in 2018 under both scenarios.

Under the hypothetical industrial policy, the forecasted shortage of graduates in *Natural Sciences, Mathematics & Statistics* increases, the forecasted surplus of graduates in *ICT and in Engineering, Manufacturing & Construction* becomes a shortage. This hypothesis shows that if a new industrial policy that boosted growth in knowledge intensive industrial sectors were to be adopted, it might face constraints due to a shortage of available skills produced by the HE system in STEM fields of study. It would therefore require a change in the HE admissions policies to ensure that a sufficient supply of qualified graduates in STEM subjects would be available to support the increased demand for appropriately skilled labour. This example provides support for the idea that HE policy should be closely integrated with economic policy, and in particular with economic policies that seek to boost competitiveness and productivity of the Montenegrin economy.

3.3 Policy developments and gaps

In recent years, labour market reforms have aimed to increase employment and reduce the unemployment rate. Various strategies have been adopted to improve the knowledge, skills and competencies of the labour force, and thus to increase competitiveness through better education. The Employment Agency of Montenegro (EAM) has implemented various measures to improve labour market trends. The Law on Employment and Exercising Rights Against Unemployment Insurance⁴⁹ and the Labour Law⁵⁰ have specified measures in support of self-employment, education, scholarships, career guidance and other policies to reduce unemployment.

The “National Strategy for Employment and Human Resources Development 2012-2015” set out the strategic framework for reforms in the labour market in line with the EU integrated guidelines for employment policies. The overall objective of the strategy was to increase investment in human capital with a view to increase the level of employment and enhancing the economic competitiveness of Montenegro. In addition the Action Plan aimed to establish a model for introducing career guidance in universities.⁵¹ Within this Strategy and Action Plan the HE system has a rather limited role, as does support for graduates’ transition to the labour market. Moreover, according to the 2014 Screening Report “The 2013 Action Plan for Employment and Human Resource Development... was not fully implemented due to budgetary constraints”.⁵²

The subsequent “National Strategy for Employment and Human Resources Development 2016-2020 - Labour Market on European Way” was drafted in November 2015 as a continuation of the previous strategic framework. The new strategy has four priorities aimed at creating conditions for more jobs and the improvement of human resources. It is in line with the “Economic Reform Programme for Montenegro 2015-2017”, which sets out the macro-economic and fiscal policy framework, and with the “Development Directions of Montenegro 2015-2018” that sets out new measures and projects in sectors such as tourism, energy and agriculture. Part of the activities and measures planned by the strategic documents is implemented by EAM in the form of different programmes such as trainings, internships, workshops, and training for a known employer and different types of courses (IT and foreign languages). Young unemployed graduates are involved in all these programmes. However, despite improvements in the design of

⁴⁹ Official Gazette, no. 14/2010 and 45/2012.

⁵⁰ Official Gazette, no. 49/2008, 26/2009, 59/2011 and 66/2012.

⁵¹ Action 2.2.4 of the Strategy.

⁵² “Screening Report on Montenegro: Chapter 19 – Social Policy and Employment”, 6 February 2014.

ALMPs, monitoring of their implementation and outcomes is weak. The net effects of specific ALMPs are often unknown.⁵³

Within IPA II sector support, the “Employment and Social Reform Programme 2015-2020” addresses the main challenges in the labour market and in education. The “2015-2017 Sectoral Operational Programme for Montenegro on Employment, Education and Social Policies” sets out the main aims of the IPA II in this sector up to 2020. It aims to support self-employment as a means to reducing unemployment of university graduates. Business ideas will be selected on the basis of their sustainability; employment impact; support to development of strategic economic activities; fostering of female participation in self-employment; and fostering of youth self-employment, with a focus on university graduates.⁵⁴ It is planned that this programme will be delivered with financial support for graduates who wish to start and operate a business. It is expected that this will make a significant contribution to reducing graduate unemployment but the outcome remains to be seen. As noted above, in Montenegro, and throughout the region, there is no shortage of policies but their implementation is often a different story.

Overall, with the expectation of the IPA II sector support, policy orientation towards the issue of graduate employment is relatively weak. This is especially problematic for recent graduates, since it is they who suffer the greatest difficulties in relation to their transition to the labour market, as we explain in the next section.

4 Transition from higher education to the labour market

Once HE students have completed their studies they face the challenge of finding a job. An unsuccessful transition to the labour market represents a waste of resources that Montenegro can ill afford. Indeed, the success of graduates’ transition to the labour market is crucial for the improvement of economic competitiveness and for the future growth of the economy. However, the high unemployment rate of recent graduates suggests that they face major obstacles in their search for a job after leaving their HEI. This is not an absolute barrier, as employers will often prefer an overqualified recruit to a less qualified one, even if the qualification is above the requirement of the job. However, some HE graduates are reluctant to accept jobs that they feel are below what they deserve. We return to this issue in section 5 below.

HE graduates in Montenegro face a difficult transition to stable employment. The graduate survey shows that currently unemployed graduates have had a precarious entry to the labour market, and have been unemployed on average for over a year (13.5 months). Yet they have also spent on average eleven months in employment, while having spent on average five months to find their first job. This is suggestive of a pattern of unstable attachment to the labour market that lasts for a considerable period of time after graduation. Currently employed graduates do not seem to fare much better. On average, they have spent one year and four months in employment, having taken on average seven months to find their first job after graduating from HE and about two thirds have experienced at least one spell of unemployment. These data reveal that the transition from higher education to the labour market is far from being a smooth process for many graduates.

⁵³ Better design of ALMPs and better use of available sources could be achieved through the higher inclusion of all relevant stakeholders in the system in the policy-making process (ISSP, 2014).

⁵⁴ Ditto, p. 42.

In this section we explore the challenges facing both graduates and employers in the labour market. We begin by exploring the relations between HEIs and employers and emphasising the need for improved cooperation between them. In subsection 4.2 we examine the challenges facing graduates in the labour market including the lack of formal job-search assistance available. In subsection 4.3 we address the problem that employers face in taking on new graduate recruits including the length of time needed to recruit a new graduate, employers' dissatisfaction with the skills of new graduate recruits and the need for them to provide additional training to supplement that which they gained at HEI.

4.1 Limited cooperation between HEIs and employers

A major challenge facing HEIs is to develop cooperative relations with employers. Such cooperation is beneficial for modernising curricula, for placing students in companies for internships, for finding jobs for graduates, and for improving HEI career guidance. However, this issue is problematic in many countries including in the EU, where policies to improve university business cooperation are being introduced and developed. Common forms of such cooperation include collaboration over curriculum design, development and delivery, bespoke course development, exchange and mobility programmes, continuing education and lifelong learning, and entrepreneurial education (Healy et al., 2012: 21).

In order to gauge the level of cooperation between HEIs and employers in Montenegro, the employer survey asked employers to indicate how frequently they discussed changes in study programmes with HEI representatives. The responses indicate that few companies discuss these issues with HEIs: 34% of employers responded "never", 52% responded "rarely", while only 14% responded "often". When asked how frequently they cooperate with a HEI in the recruitment of graduates, 55% responded "not at all", or "a little". These answers suggest that there is low level of cooperation.

However, when asked how much effect cooperation over study programmes would have on increasing the matching of HE graduates with their jobs, 63% employers responded "very much" or "a lot", or "somewhat", while in relation to cooperation over recruitment, 77% answered in the same way. This suggests that while employers believe that such cooperation would improve the outcome of the recruitment process, there are obstacles on both sides (i.e. both HEIs and employers) to taking cooperative action. This is a classical public policy problem, where private actors on their own are unable to achieve mutual benefit and a more efficient social outcome. There is therefore a strong case for the government to play the role of independent catalyst to support the development of cooperative relations to the benefit of both HEIs and employers.

In the EU, cooperation between employers and HEIs is fairly common. Employers participate in decision making or consultative bodies within HEIs in 22 countries, are actively involved in curriculum development in 19 countries and frequently participate in teaching in 15 countries (Eurydice, 2014: 67). In the EU employer cooperation with HEIs is often facilitated through government support for university-business cooperation projects. Such cooperation projects could be a useful means for HEIs in Montenegro to contribute to the labour market success of the HEI graduates.

Box 2: Best practice example of business-university cooperation

In 2016, the University of Donja Gorica (UDG) signed a contract on cooperation with Vatel, a leading French business school in the field of international hospitality. With the financial support of Azmont Investments, a Montenegrin subsidiary of State Oil Company of the Azerbaijan Republic, UDG signed an agreement on opening the International

Hospitality School in Montenegro, as a franchise of Vatel. The French company has strong links throughout the world with leading hotel chains, and following a final year internship 75% of graduates found a permanent job in the hotel industry within a year of graduation.⁵⁵

More cooperation could be developed through initiatives between HEIs and business associations. For example, the Chamber of Commerce promotes various programmes for young graduates and also cooperates with specific types of employers who are willing to hire young people or to help them develop their knowledge and skills.

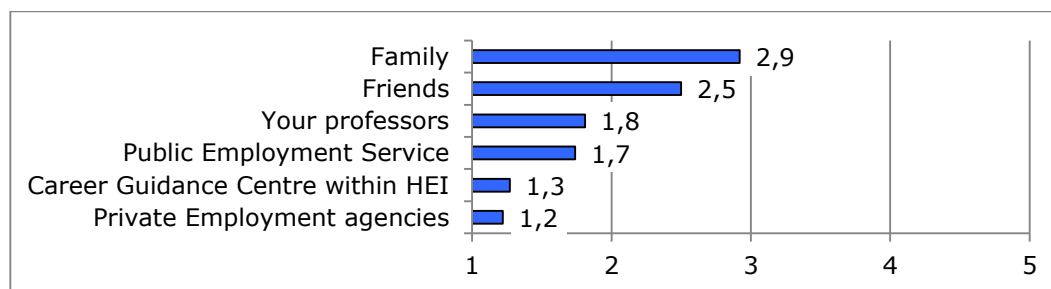
4.2 Challenges facing graduates on entering the labour market

The employability of graduates has emerged as a major challenge facing the Montenegrin HE sector. Since the end of the investment boom in 2008, the number of new jobs available has fallen, while the number of HE graduates has increased. New employment opportunities have come mainly from the replacement of those who left their jobs due to retirement. The result is a large number of HE graduates that the labour market cannot absorb. Additionally, it is widely thought that the skills produced by the HE system do not match labour market needs, and even when graduates hold a paper qualification they do not necessarily have the skills expected from them. Employers usually look for applicants with several years of work experience, which is a hard requirement to fulfil for young graduates searching for their first job.⁵⁶ We return to this issue in section 4.2.2 below.

4.2.1 Lack of assistance in finding a job

In a context of a transition economy and the shift towards a service economy based on tourism, construction and energy production means that simply providing degrees is not enough to improve employability of HE graduates. As elsewhere, graduates need to become more proactive in searching for work and building their career path (Bridgstock, 2009). To do so they also need support and assistance to develop their job search skills. The graduate survey has revealed that very few graduates receive any assistance from career guidance units within their HEI, and that 76% of graduates receive “none” or only “a little” help from the EAM.⁵⁷

Figure 10: Help to find a job after graduation from alternative sources



Source: Graduate survey. Note: Responses are scored on a scale of 1-5, where 1=“no assistance” and 5=“very much assistance”.

⁵⁵ See: <http://www.vatel.in/en/careers/professional-insertion-the-hospitality-industry#emp%20rate> and <http://www.udg.edu.me/en/news/606>.

⁵⁶ Interviews with Ministry of Education, Ministry for Economy, Public HEI, Private HEIs, National Employment Service.

⁵⁷ It should be noted that this is the best performance concerning public employment services in the Western Balkans.

Most graduates turn to their family and friends for help in finding a job (see Figure 10). This shows that, as in other countries in the region, personal connections are more important for finding a job after graduation than the institutional support offered by HEI career guidance centres or the EAM, indicating that nepotism may be a significant factor in graduates' transition to the labour market. Informational and professional counselling centres (CIPs) have recently been established by the EAM to provide information about educational programmes, job opportunities, occupations and scholarships. The CIPs provide assistance through counselling, preparing applications, CVs and other services relevant to career development. However, the number of service users is still rather low.

The Strategy of Development and Financing of Higher Education 2011-2020 and the National Strategy for Lifelong Career Orientation 2011-2015 set out the aim to develop career guidance services, through the establishment of career centres at universities, as well as the introduction of career orientation in the curricula. Despite this strategic orientation, only the UoM has a formally established careers centre. However, other HEIs make efforts to ensure the employability of students through closer cooperation with employers and support for students in establishing their own businesses.

Box 3: Good practice example in career guidance

The University Donja Gorica has adopted an innovative approach that aims at ensuring a successful transition to the labour market. It consists in an integrated set of measures including round tables, debates between students and professors, surveys of students, discussions among professors, teaching assistants, students, employees and business partners regarding improvement of quality of study programmes. The UDG actively communicates with companies and the business sector so that it can adjust its study programs to labour market demand. The UDG sends an annual inquiry to their alumni about their current employment (or unemployment).

4.2.2 Lack of prior work experience

The limited possibility students have to obtain relevant work experience or undertake an internship during their studies is an obstacle to finding employment after graduation, as is widely recognised (European Commission, 2015b: 6).⁵⁸ The graduate survey supports this view. It shows that while 72% of those who had "very much" work experience held a job, only 42% of those who had had "no" work experience held a job ($p < 0.01$).⁵⁹ One reason for this may be that previous work experience is an important factor in employers' recruitment decisions.⁶⁰ The employer survey quantifies this. It shows that 53% of employers attach "a lot" or "very much" importance to having previous work experience when making a decision to recruit a new graduate. It is unfortunate, therefore, that the graduate survey shows that although 62% of students had some form of work experience or an internship during their period of studies at HEI, only 36% of graduates found such experience to be "a lot" or "very much" useful for their learning outcomes. In recognition of the importance of this issue, the Government has developed a comprehensive graduate internship programme for HE graduates (see Box 4).

⁵⁸ Several European comparative studies have shown that students who participated in practical training before graduation are more likely to find jobs than those without relevant work experience (Eurydice, 2014: 69).

⁵⁹ Chi-square=13.6, =0.009, N=504.

⁶⁰ Interview with Montenegro public employment service.

Box 4: Government sponsored internship programme

In order to support the take-up of internships and provide work experience after graduation, the government has adopted a Law on Professional Training of People with Acquired Higher Education,⁶¹ which provides work experience through internships and professional training for HE graduates without prior work experience in their field of study. It aims to provide HE graduates with practical knowledge and skills and to encourage private sector employers to create new graduate jobs. Under this Law, internships last for nine months, but are recognised as twelve months of work experience. In 2013-14 the Programme provided internships for almost 4,000 university graduates with employers in the private and public sector, with the exception of the state administration.⁶² In 2014-15 the Government allocated around €8.5 million for this Programme. The number of participants in this Programme decreased from 4,211 in 2012-13 to 3,744 in 2013-14, and subsequently to 3,458 in 2014-15.⁶³ An employer survey conducted by the EAM⁶⁴ at the end of 2014 found that 77% of employers benefited from the Programme. Despite the impressive outcome of the Programme in providing training places for HE graduates, the employment impact has been limited as continuing employment of participants following an internship has been quite modest, with only 20-25% of interns keeping their jobs on completion of their internship. An EAM survey from 2013-14 shows an even lower job retention rate of 13.4%, and that the mentoring of participants is under-developed. Most employers stated that they do not need additional workers, which suggests that they only apply to the Programme in order to benefit from the subsidy element (under the Programme, unemployed graduates are guaranteed a job for a nine-month period, during which they receive a salary at half the level of the net average wage in Montenegro, paid by EAM). On the positive side, most employers identify an improvement in the skills of HE graduates through this programme.

4.3 Employers' challenges in taking on new graduates

Employers face many challenges in taking on new graduate recruits, including the inadequate skills of HE graduates and the training costs that are incurred due to this. The employer survey shows that many employers consider that graduates lack interactive skills such as decision making skills, adaptability and planning skills, and organisational skills, while being relatively strong in computer skills, numerical skills and reading and writing skills. From the graduate survey, we can confirm that the graduates are indeed weak in interactive skills and are also critical of their abilities with regard to numeracy and reading and writing compared to employers. For employers, the most important skills are sector-specific skills (for which vocational courses are relevant), computer skills, and analytical and problem solving skills (i.e. a mix of cognitive and interactive skills). The relative weakness of such skills (apart from computer skills) among graduates is worrying, and indicates a major challenge facing employers. Many of them solve this problem by providing additional training to their graduate recruits.

In this section we first consider the extent of employers' dissatisfaction with graduate skills, then analyse the nature of the skill gaps that employers face, before turning to a

⁶¹ Official Gazette of Montenegro, no. 38/2012.

⁶² See Montenegro Economic Reform programme 2015-2017, Podgorica: Government of Montenegro, January 2015, p. 58.

⁶³ The number of announced jobs for the programme participants was initially 6,930.

⁶⁴ The EAM regularly conducts an employer survey, which gives information on mid-term business expectations, the knowledge and skills of workers, employers' skills needs, and the impact of skill gaps on business growth.

discussion of the extent of training that employers feel they must provide to make up the deficiencies of the HE system in providing graduates with the required skills.

4.3.1 Dissatisfaction with skills of new graduates

The employer survey shows that half of the employers (53%) believe that graduate employees bring only “a little” or just “some” added value in comparison with the skills of non-graduate employees. Employers on average score their satisfaction with the skills of their graduate employees at just 6.0 out of 10.0, suggesting that they are only moderately satisfied with the graduates’ skills. However, there are substantial differences regarding the degree of satisfaction between different types of employers. Fast growth employers (divokozas) are less satisfied with the skills of their graduate employees (4.5) than other employers (6.2).⁶⁵ Worryingly, private foreign companies are less satisfied with the skills of their graduate employees (4.8) than domestic private employers (6.3) ($p < 0.1$).⁶⁶ This points to a need to upgrade the skills of the workforce in order to attract more productive foreign investment into the country.

There are no significant differences in employers’ perceptions of graduates’ skills on the basis of employer size or technology level, suggesting that a generally modest degree of satisfaction with graduate skills is a general phenomenon. Employers’ satisfaction with graduate skills is strongly related to the level of interactive skills that graduates possess, while it does not vary according to the level of their cognitive skills.⁶⁷ Few other factors are related to employer satisfaction with graduate skills. Rather surprisingly, employers that are located outside the capital city of Podgorica seem to be significantly more satisfied with the skills of their employees, scoring 6.9 in terms of satisfaction, compared to just 5.6 for those located in Podgorica ($p < 0.05$). Perhaps better living conditions in the coastal areas attract more skilled graduates than elsewhere.

4.3.2 Graduate skill gaps

The curricula of many study programmes often fail to reflect the combination of skills that employers seek. Many interviewed stakeholders consider that HEIs equip students mainly with theoretical knowledge, and that graduates lack the specific skills that employers look for. The employer survey measured skill gaps by asking employers about (i) the actual skills of their graduate employees along a range of skill dimensions and (ii) the level of skills they consider necessary to carry out the job. The difference between these two measures is the estimated skill gap. Reducing the skill gaps of graduates would increase their employability.

Graduate skill gaps as reported by employers are displayed in Figure 11. The data shows relatively high skill gaps in interactive skills such as analytical skills (a gap of 23% between actual skill level and required skill level), adaptability (20%) and planning and organisation skills (19%). Among cognitive skills, there is a noticeably large gap in foreign language skills (19%). Employers expect all types of skill gaps to increase in the future (i.e. over the three years following the time of the survey up to 2018), except for

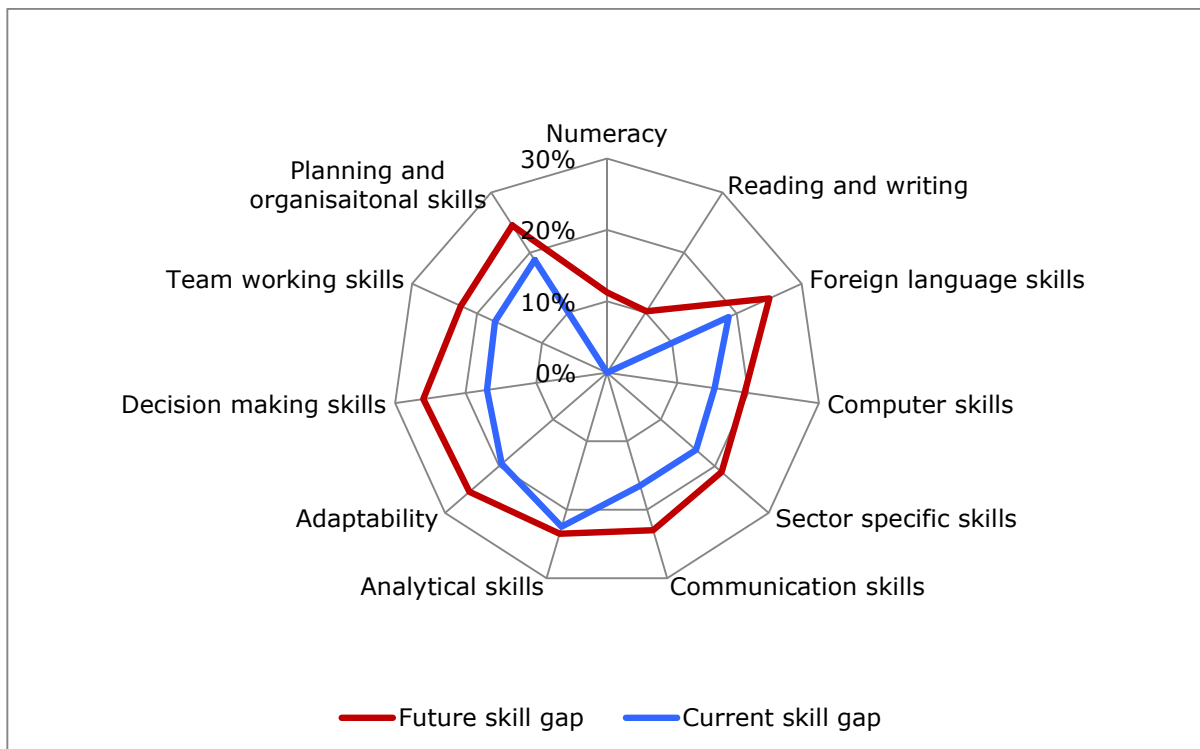
⁶⁵ T-statistic = 1.87, $p = 0.067$, $N = 50$.

⁶⁶ T-statistic = 1.84, $p = 0.073$, $N = 43$.

⁶⁷ Employers were asked about the extent to which their graduate employees possess a range of skills on a scale from 1 = “not at all” to 5 = “very much”. Thus, employers who consider that their graduates have only “a little” communication skills score 5.2 on satisfaction with skills, while those who consider their employees have “very much” communication skill score 7.9 on satisfaction with graduate skills ($p < 0.05$). Similar patterns are found in relation to analytical and problem solving skills ($p < 0.01$), adaptability in new situations ($p < 0.01$), decision-making skills ($p < 0.01$), team working skills ($p < 0.1$) and planning and organisational skills ($p < 0.01$).

analytical skills, whose gap is already high. Future skills gap is foreseen especially in the area of decision-making skills, planning and organisational skills and adaptability (all at 26%) and foreign language skills (25%). The greatest expected increase is expected in decision-making skills, while gaps in reading and writing skills and in numeracy skills are also expected to emerge. Fast growth employers are more likely to be especially concerned about future interactive skills gaps.⁶⁸

Figure 11: Graduate skill gaps – current and future (%)



Source: Employer survey. Note: skill gaps are measured as the difference between actual and desired skills reported by employers, with the underlying scale of skill measurement set at 1 where the respective skill is not important and 5 where it is very important for the performance of the business.

This confirms the view that employers are concerned about the lack of interactive and analytical skills among their graduate recruits⁶⁹. A major reason for skill gaps is the neglect of critical-thinking and problem-solving skills in the HE system. In this perspective it is worrying that HEIs do not sufficiently equip their students with interactive skills, where the skills gaps are felt the most. The lack of attention to interactive skills can be explained by the use of traditional teaching methods that are not centred on student interaction in the classroom. The employer survey asked employers which forms of teaching and learning experience at HEI contributed most to the skills that are needed by the business. The answers are revealing: the most important teaching and learning methods are identified as classes in small groups, problem solving and creative thinking teaching methods, and internships or work placements.⁷⁰ In contrast, lectures in large groups and rote learning of facts are thought to contribute little to the skills that employers need.⁷¹ Moreover, fast-growth employers (gazelles) are

⁶⁸ Fast growth employers (gazelles) significantly higher on all measures of future interactive skills than other employers on a t-test of difference of mean interactive skill gaps, with $p < 0.01$ in all cases.

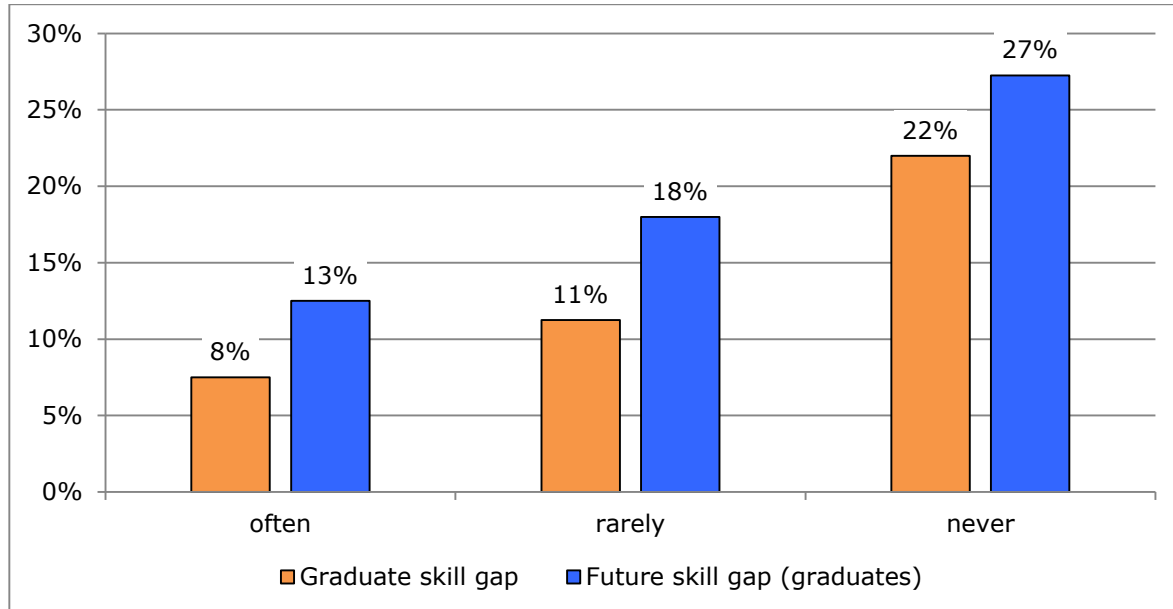
⁶⁹ Interviews with Ministry of the Economy and Association of Trade Unions.

⁷⁰ These methods score between 4.0 and 4.6 on a 1-5 scale where 1 = "not at all" and 5 = "very much".

⁷¹ These methods scored between 1.9 and 2.6 on a 1-5 scale where 1 = "not at all" and 5 = "very much".

uniformly more concerned about lectures in large groups and positive about classes in small groups than other employers.⁷²

Figure 12: Frequency of discussion of curricula with HEIs by skill gaps



Source: Employer survey. Note: skill gaps are measured as the difference between actual and desired skills reported by employers, with the underlying scale of skill measurement set at 1 where the respective skill is not important and 5 where it is very important for the performance of the business. The differences among current skill gaps are statistically significant at 10% level; $p=0.055$; $N=60$.

It is widely thought that curricula taught by HEIs are out of date and do not correspond to the changing technologies and working practices that have been introduced during the period of transition and structural change in the economy. This suggests that employers should engage more with HEIs in the design of appropriate and up-to-date curricula. It could be expected that employers who engage in that activity would reap a benefit in terms of securing graduate employees who have a skill set that is better matched to the job than employers who do not engage with HEIs in this way. The evidence from the employer survey seems to bear out this hypothesis. As can be seen in Figure 12, employers who cooperate “often” with the HEIs over changes to the curricula tend to have lower current and future expected skill gaps than other employers who rarely or never cooperate with HEIs.

4.3.3 Training of new graduate employees

Employers throughout all key sectors complain that graduates need further training by the employer in order to perform tasks that should have been taught during studies. This conclusion is borne out by the findings from the employer survey that 85% of employers provide formal training to their graduate employees, and 79% of employees work for employers that provide formal training. These findings are however not fully supported by the graduate survey, which shows that 44% of graduate employees report that they received formal training paid for by their employer. At the same time, 90% of employers report that they provide informal training, and that 82% of employees work for

⁷² Fast growth employers (gazelles) score 2.0 in relation to lectures in large groups compared to 2.6 for other employers ($t= 3.58$, $p=0.001$, $N=44$), while gazelles score 5.0 in relation to small class teaching compared to 4.0 for other employers ($t=0.08$, $p=1.79$, $N=44$).

employers that claim they provide informal training. From the graduate survey we find that 43% of graduates report they have received informal training. However, the employers and the graduates who reply to the respective surveys are not matched, so the difference in responses should be treated cautiously.

The extent of informal training to their graduate employers is related to the size of the employer. Smaller employers are significantly more likely to provide informal (but not formal) training to their graduate recruits than larger employers ($p < 0.01$), demonstrating the need for additional training beyond the education received at HEI among this group of employers.⁷³ It also suggests that smaller employers are possibly less likely to be willing to pay for formal training, and that this could be supported by appropriate policies such as training vouchers for small employers that could be integrated into the voucher scheme for small business advice supported by the OECD.⁷⁴

The employers' survey also shows that the technological level of an employer is related to the extent of formal training provided to graduate recruits. Among medium to high technology employers, 90% provide formal training compared to 33% of low to medium technology employers. This may be because HEIs are not modernising their educational programmes in line with new technologies that are being introduced in the business sector.

4.4 Summary

The main reasons that graduates have difficulty in finding jobs include the lack of available jobs, a HE system that does not equip graduates with relevant skills, and the reliance on friends and family to find a job leading to nepotism in recruitment. Having some work experience is important in enabling graduates to achieve a successful transition to the labour market in terms of both the probability of finding a job, and of finding a job well matched to the field of study followed at their HEI. In response to this issue, the government has recently introduced a Programme to provide unemployed graduates with internships after leaving university, although the effectiveness of the Programme has been rather low.

Employers also face challenges in employing graduates. Many employers, especially foreign investors, have a poor perception of the quality of graduates' skills.⁷⁵ Although graduates have strong numerical skills and strong reading and writing skills, employers are more concerned with the absence of interactive skills and report serious and growing skill gaps in this area. The low cooperation between HEIs and employers over curriculum design and recruitment makes all of these factors worse than they need be. Such cooperation assists employers to find graduates with the right skills, and should be better supported by government. Many employers are dissatisfied with the skills of new graduate recruits and provide additional training. Training is more likely to be provided by private employers than public employers. Smaller private employers are more likely to provide informal training than larger employers, perhaps for similar reasons.

⁷³ While all micro and small employers in the sample provides some informal training to their graduate employees, only 83% of medium and 64% of large employers do so (Chi-squared = 12.6, $p = 0.006$).

⁷⁴ See OECD (2013).

⁷⁵ Foreign employers rate the skills of their graduate employees at just 4.83 on the 10-point scale used to measure employer satisfaction with skills, compared to a rank score of 6.3 for other employers, a difference between means that is significant at the 5% level (t-statistic = 2.02; $p = 0.043$; $N = 58$).

5 Skill mismatch

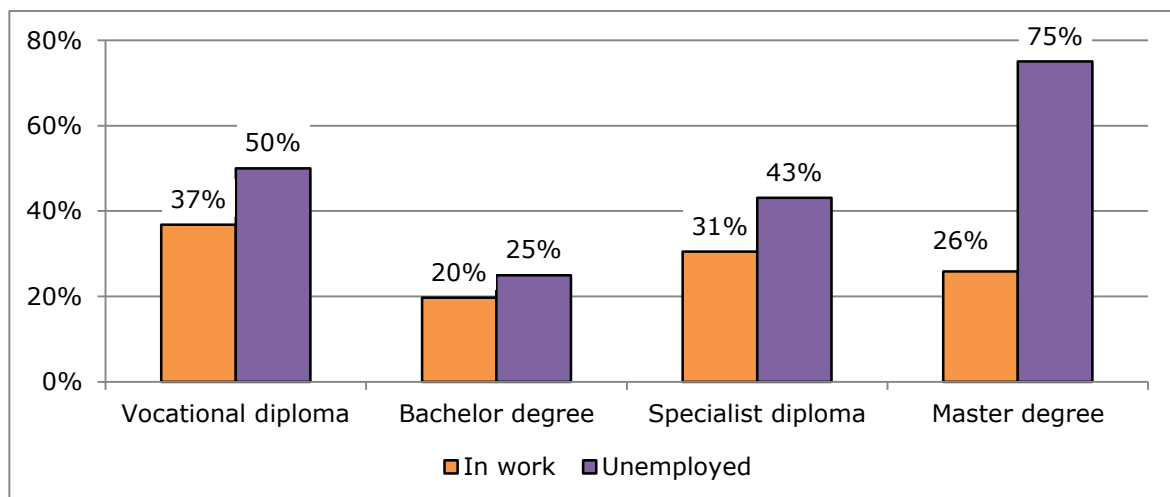
Technological and structural change related to the transition from an industrial to a service economy has brought about large changes in the type of skills that are demanded by employers (ETF, 2007). The HE system has not kept pace with these changes and a significant skill mismatch has developed.⁷⁶ Skill mismatch is widespread in most market economies (McGuinness, 2006; European Commission 2008) but is a particular concern in transition countries where “unless it is addressed, governments in the region will be unable to facilitate either the growth of firms or a reduction in structural unemployment” (Sondergaard and Murthi, 2012: 39-40).

Skill mismatch has two dimensions. The first is *horizontal* skill mismatch, where the employee has a qualification in a field of study that is not required by the job held. The second is *vertical* skill mismatch, where an employee has a qualification either above or below the skill level needed to do the job.

5.1 Horizontal mismatch

Horizontal mismatch affects 30% of graduates who report that they are in a job that is not well matched to their field of study. Horizontal matching is lower for employed graduates than for unemployed graduates in their previous job at all levels of qualification (see Figure 13). This implies that horizontal matching is important for job retention. This effect is particularly strong for Master degree holders and weakest for Bachelor degree holders.

Figure 13: Graduates with a horizontally well-matched job by degree level and labour force status (% within highest degree level)



Source: Graduate survey. Note: for unemployed respondents, matching refers to last job held

Having some prior work experience supports the matching of a graduate’s qualifications to the skill requirements of their job. In the graduate survey, 77% of those who had had at least some work experience (or internship) held a job that was well matched to their field of study, while only 59% of those who had no work experience held a well-matched

⁷⁶ The Economic and Financial Affairs Committee of the European Council has called on Montenegro to “actively continue education reform with a view to better aligning education and skills with labour market needs” (Council of the European Union, 2015).

job ($p < 0.01$).⁷⁷ This emphasises the importance of work experience, which can be attained through internship or work placement during the period of studies, in enabling a smooth transition from HE to the labour market.

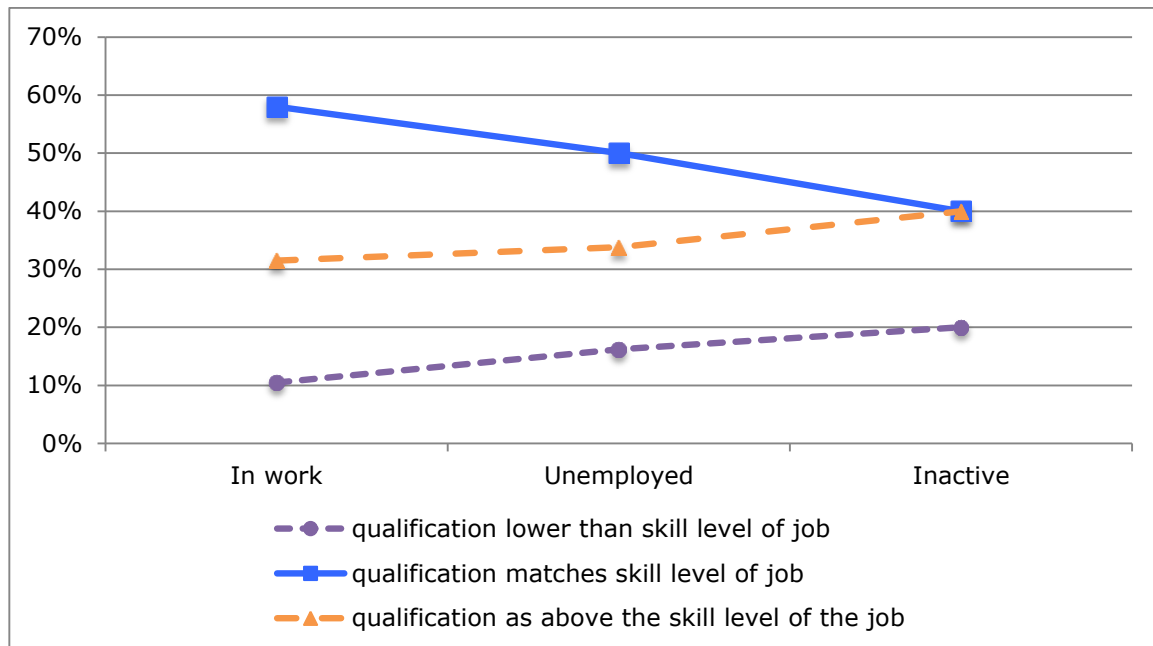
5.2 Vertical mismatch

The graduate survey shows a high degree of vertical mismatch among graduates, as 45% of graduates report that their level of qualification is not matched to the requirements of the job they hold. This is higher than in the EU where, according to the OECD Survey of Adult Skills, the highest level of mismatch is in Italy, at 34% (Adalet McGowan and Andrews, 2015b). The total vertical mismatch for Montenegro is 45%, with 33% of graduates being over-qualified for the job they hold (or did hold if currently inactive or unemployed), and 12% being under-qualified for the job they hold (or held) possibly suggesting nepotism and irregular hiring methods (since it is not likely that employers would want to have less qualified). The graduate survey also shows that graduates who are well matched have the same initial median earnings of €240 per month as those who are poorly matched. If earnings reflect productivity, this suggests that vertically well matched graduates have the same productivity as graduates who are mismatched, indicating that well-matched graduates bring a generally low level of value added to their job and may be evidence that the HE system is not imparting skills that are relevant to the labour market. These differences widen as graduates sort themselves into subsequent jobs. For the current job, well-matched graduates have median monthly earnings of €350, compared to €300 for graduates who are over-qualified or under-qualified.⁷⁸ This widening of differences in earnings may indicate that the labour market is efficiently sorting well-matched graduates into higher paying jobs as they progress in their careers, and of the potential gain from ensuring that the matching process works more efficiently for HE graduates.

⁷⁷ Chi-square = 14.7, $p = 0.000$, $N = 394$.

⁷⁸ Other studies of skill mismatch in transition countries also find a wage penalty associated with over-qualification, see e.g. Lamo and Messina (2010).

Figure 14: Vertical matching by labour force status (% within labour force status)

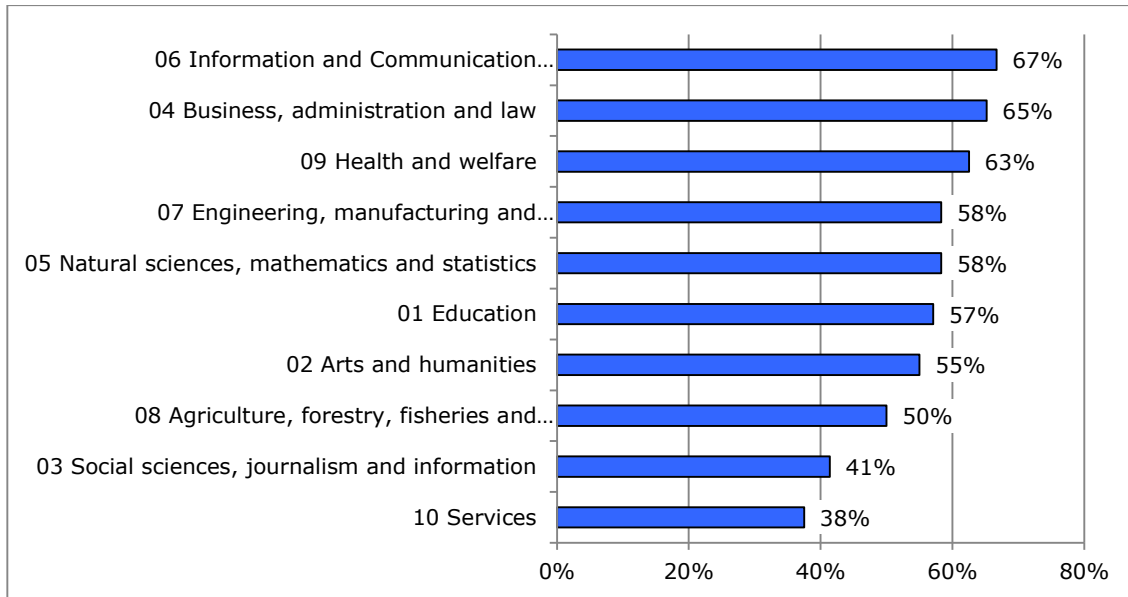


Source: Graduate survey. Note: differences are significant at 5% level; N=401.

Figure 14 shows that graduates who are in work (employed or self-employed) are more likely to be in a well-matched job than unemployed or inactive graduates in their previous job. As with horizontal matching, this implies that skill matching is important for job retention, since poorly matched graduates are more likely to end up either unemployed or inactive than well-matched graduates.

Various other factors predispose graduates to have a well-matched job compared to either being under-qualified or over-qualified for the job held. One set of factors relates to the extent of help received in job search. Graduates who have more help from their HEI ($p < 0.01$) or from their professors ($p < 0.5$) are more likely to be in a well-matched job. This identifies the important role that HEIs can play in assisting their graduates' transition to the labour market. The reputation of the HEI attended ($p < 0.01$) also influences graduates' chances to find a well-matched job, although studying at a public or private HEI does not affect the extent of vertical matching on the labour market.

Figure 15: Proportion of vertically well-matched graduates by field of study



Source: Graduate survey.

The graduate survey shows that some graduates experience difficulty in finding a vertically well-matched job due to the subject studied ($p < 0.05$).⁷⁹ The degree of matching varies by field of study (see Figure 15), with a notable finding that graduates who studied *ICT* subjects are more likely than others to be well matched to the job, i.e. their qualifications are appropriate to the skill level required by the job. Graduates from *Social Science, Journalism and Information*; and *Service* fields of study are less likely to be well matched. The finding that studying some subjects may hinder a graduate from attaining a well-matched job suggests the importance of appropriate career guidance at secondary school level, before entering higher education, to steer graduates into fields of study that are more likely to provide a successful transition to the labour market.

6 Conclusions and policy recommendations

The research reported above shows that the HE system in Montenegro produces too many graduates relative to the needs of the labour market, leading to a high graduate unemployment rate. On the labour market side there is an oversupply of graduates from the broad study fields of *Arts & Humanities*; *Social Sciences, Journalism & Information* and *Business, Administration & Law*. There is also a large and continuing shortage of graduates from the study fields of *Natural Sciences, Mathematics & Statistics*. Many students drop out of studies leading to low completion rates. Of those students who do graduate many face the prospect of unemployment. Of those who do find a job, many are in jobs that are not matched to their field of study or their level of qualification, reducing their wages and job prospects in relation to graduates in well-matched jobs. With an overall completion ratio of 51%, an employment rate of recent graduates of 67% and a rate of (vertically) well-matched graduates of 55%, it could be said that the internal efficiency of the combined HE and labour market systems (the HELM system) is

⁷⁹ Graduates who are in a well-matched job scored 1.48 on a 1-5 scale in relation to difficulty in finding a job due to the subject studied compared to 1.74 for graduates who were not well matched.

just 19%.⁸⁰ In other words, of every hundred new students entering the system in any one year, it can be expected that only nineteen will eventually graduate from the system and find a well-matched job⁸¹. In order for the HE system to make a better contribution to building human capital and to the competitiveness and growth of the Montenegrin economy, significant reforms of the HE system and the graduate labour market are needed, and better cooperation between employers and HEIs should be encouraged.

6.1 The provision of higher education

In 2014-15 about 10,000 students newly enrolled at 12 HEIs organised in 45 faculties. Montenegro has 1.9 HEIs per 100,000 of the population, somewhat more than the regional average of 1.3. More than half of all students enrol each year in Humanities, Social Science, Business, and Law (HSS) subjects, while more than a quarter of students enrol in Science, Technology, Engineering and Mathematics (STEM) subjects. The annual ratio of completions to enrolments is relatively low, averaging just 51%, while the average completion rate across Bachelor and master study programmes is 47%. This is a very low completion rate, lower than the lowest performance in the EU (Hungary at 48%), and should be increased. Possible explanations for this poor performance of the HE system include the tradition of re-taking examinations and the high dropout rate of students.

Accreditation is the responsibility of the Council of Higher Education (appointed by the government), which has appointed a foreign accreditation agency (decided by the Ministry) to carry out reaccreditation of HEIs. However quality assurance measures need to be strengthened and study programmes improved. Teaching methods tend to be outdated and do not provide students with relevant interactive skills. Graduates who studied at private HEIs seem to be more satisfied with the quality of the education they received than those from public HEIs. Skills gaps are high for soft and to lesser extent cognitive skills and could be reduced by providing more teaching of problem-solving, analytical skills, in smaller class sizes and by providing opportunities for work experience or internships during studies. Montenegro is the only country in the region to have completed the referencing of qualifications against the European Qualifications Framework, which puts it in a good position for further integration into the European higher Education Area and supports students' mobility. However, widespread perceptions of corruption in HE suggest that improvement is needed in the quality of HE provision.

6.2 The graduate labour market

While HE graduates have lower unemployment rates and higher employment rates than less educated people, in 2015 recent HE graduates had a higher unemployment rate (25.9%) than the national average (17.5%) (see Table 6 above). Graduates are disproportionately employed in the sectors of *Education*; *Public Administration*; *Wholesale & Retail Trade*; and *Professional Scientific & Technical Activities*, indicating sectors in which job opportunities are likely to persist in the future. The greatest increase in graduate employment has been in *Accommodation & Food Services* and *Construction* reflecting the rapid growth in the tourism and property market, and these are likely to continue to be dynamic sectors for graduate employment over the next few years at

⁸⁰ The efficiency of the HE-LM system can be assessed as the product of these three ratios: $0.51 \times 0.67 \times 0.55 = 0.19$.

⁸¹ This level of efficiency is higher than elsewhere in the region due to the comparatively high employment rate of 67% of recent graduates, and the comparatively high vertical skill matching rate of 55% rather than the effectiveness of the HE system. Notably, the HE completion ratio in Montenegro is lower than in either Albania or Serbia.

least. While most graduates are still employed by large enterprises, SMEs that employ graduates have a greater proportion of graduates within their workforce than large firms. A substantial proportion of the increase in graduate employment is due to the fast growth of a relatively small group of SMEs called “gazelles”. Such fast-growth SMEs may be an important source of graduate employment in the future.

There is an annual surplus of graduates in the broad study fields of *Arts & Humanities*; *Social Science, Journalism & Information*; and *Business, Administration & Law*. This is expected to continue in the future, despite more graduate jobs being created through economic growth. This suggests that prospective students should be dissuaded from enrolling in these subject areas, as the job prospects would be very poor. There is also a large and continuing shortage of graduates from the study fields of *Natural Sciences, Mathematics & Statistics*. The oversupply of graduates from the HSS study fields is substantial and should be corrected by measures to motivate students to follow other fields of study where future shortages are expected to persist on the graduate labour market, especially in the STEM study fields.

6.3 Transition from higher education to the labour market

Graduates face many difficulties in their search for work, not least of which is the limited availability of jobs, especially in the private sector. Few employers cooperate with HEIs on a regular basis in the design of curricula or over recruitment, and graduates receive little assistance in finding a job other than through family and friends. There is also a prevailing view that graduates do not gain enough work experience during their higher education. The government has introduced an internship programme to provide work experience to graduates who do not find a job on their entry to the labour market. However, few participants find a permanent job through this programme.

Employers often find that the skills that graduates have been taught at HEI are insufficient and that further training is needed. Worryingly, foreign companies are less satisfied with the skills of their employees than domestic private companies. Many employers report that their graduate employees have large gaps in interactive skills such as analytical skills, problem-solving skills, team-working skills, and planning and organisational skills. Among cognitive skill gaps, foreign language skill gaps are prominent. Many employers provide additional training to bring graduates up to the level of skill needed to carry out their job. The large skill gaps that have been identified reflect the deficiencies in the HE system and the low quality of much of the education that is provided, resulting from out-dated curricula and poor teaching methods.

6.4 Skill mismatches

Almost one third of recent graduates are in a job that is not well matched to their field of study. In addition, almost a half of recent graduates are vertically mismatched, with one third having a qualification above the needs of the job, and more than one tenth having a qualification below them, which is quite surprising given the low job offer thus implying nepotism has a hand in the selection of job candidates. Graduates in a well-matched job have higher earnings than others, reflecting the important contribution to productivity and competitiveness of the economy that results from effective matching of graduate employees to their jobs. Being either well matched (horizontally or vertically) is important for job retention. Receiving help from the graduate’s HEI increases the likelihood of finding a well-matched job, as does the subject studied. Graduates who studied *Information & Communications Technologies* have the highest probability of finding a vertically well-matched job. Widespread skill mismatches highlight the deficiencies of the HE system in failing to supply the graduates with the right mix, type,

and level of skills to the labour market. The reasons for this include the failure to modernise the curricula in response to changing technologies in the economy and to the changing patterns of production.

6.5 Policy recommendations

Action is needed by the government, HEIs and employers to improve graduate transition to the labour market. A successful skill strategy should focus both on improving the supply of skills by the HE system, and on stimulating the demand for skills and their utilization in the workplace (OECD, 2012). The research findings reported above suggest several key policy measures that could be implemented to improve graduates' prospects when they enter the labour market. The recommendations are presented in order of priority.

Higher education

1. HEIs should **modernise teaching methods and curricula** to emphasise student-centred learning and develop interactive skills. Innovative models of learning should be introduced in order to develop interactive skills such as problem solving, and critical thinking. Teachers should be encouraged to adopt an interdisciplinary approach, with a focus on cooperative, collaborative and supportive models of teaching. An example of good practice can be found at the University of Donja Gorica, which has a student-centred philosophy and has adopted student oriented teaching methods. Teaching methods should be modernised through the introduction of innovative curricula. More practical learning opportunities should be provided in well-equipped laboratories and computer classrooms.
2. **Quality in the HE system should be improved.** Student assessments should be carried out for every lecture course, and teachers who receive low assessments should be given opportunities for retraining. Consideration should be given to initiating a scholarship programme to fund young lecturers to take advanced education abroad on condition that they return to the country to teach for a period of years.
3. The Government should **adjust the budget funding of students** to guide more students to study priority and shortage subjects in fields of study such as *Natural Science, Mathematics & Statistics* by adjusting quotas appropriately and if necessary adjust the number of new entrants that can be enrolled in accordance with the Decision on licensing. Students should be encouraged to choose study programmes that provide appropriate skills for fast growth sectors of the economy.
4. Students who fail to complete their course work on time should be given **additional support and remedial classes**. Students who successfully complete their study programme within the allotted time could be given a partial refund of their examination fee to incentivize on-time completion.
5. The HE system should be internationalised by providing additional resources to attract foreign lecturers to teach on Bachelor, post-graduate Masters and Doctoral programmes and by hiring professors trained abroad.
6. In order to **stem corruption at HEIs**, relevant institutions should strengthen inspections, ensure compliance with assessment and grading regulations and expand the power of ethics committees. The validity of student examinations

should be ensured by anti-corruption rules enforced by the Council for Higher Education. HEIs should obtain the software necessary to prevent plagiarism and copying and make this available to academic staff and anti-plagiarism rules should be fully enforced.

7. **HEI practices and procedures should be made more transparent** through the publication of biographies of academic staff on the HEI websites, along with the number of teaching hours, and external evaluation reports.
8. **Career guidance centres within HEIs should be further developed** to provide professional counselling to students who otherwise lack the social connections needed to support successful job search. Graduates should be provided with more information about steps they can take before and after the transition to the labour market. HEIs should provide more information to potential applicants on the likely labour market demand for various fields of study. Career guidance and counselling services should also be developed at secondary school level to enable new entrants to the HE system to make an informed choice of study programme.

Labour market

1. Priority should be given to raising awareness among employers about the importance of their **cooperation with HEIs**. They should be more involved in curricula development in order to transmit labour market priorities to HEIs. The government should establish a programme to facilitate, but not finance, cooperation between HEIs and employers and should act as a network broker to bring the two sides closer together. More cooperation is also needed over recruitment and developing existing programmes that provide internships for students and graduates.
2. The Government should give more **support to micro, small and medium sized organisations that employ HE graduates**, especially in sectors of the economy with a high potential for the growth of graduate employment such as Information & Communication (ICT), Tourism, and Services. Employers in these sectors should be given **support for training, internship and cooperation between employers and HEIs**.
3. More **support should be given to graduates that aspire to establish their own small business**. HEIs should organise courses where graduates could learn entrepreneurial skills. The Employment Agency of Montenegro (EAM) should provide more information and support to assist graduates to start up their own business including mentoring and consultancy for business development.
4. Employers should be encouraged **to invest more in the training of graduate workers**. The Government should support this through instruments such as training subsidies or vouchers.
5. The current **system of internships after leaving HEIs should be continued and strengthened**. Internships should also be provided for students while still at HEI. Employers who provide internships should participate in the design of study programmes. Employers should nominate mentors who can supervise students during their internship and student learning during such internships should be more reliably assessed.

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Annex – Methodological note

1. Higher education provision database

We collected data on existing study programmes in Montenegro offered by both public and private HEIs. The database covers 13 HEIs and 255 study programmes, based on data provided directly from HEIs. The database provides for *each study programme* several categories of data, e.g. name of HEI, name of faculty, name of qualification, level of qualification (Diploma level, Bachelor level, Master level, field of study (ISCED classification), the number of students beginning studies per year (since the academic year 2012-2013), the number of students completing studies per year (since academic year 2012-2013) and the total number of students registered to study in 2014-2015.

Table A1: HEIs included in the HE provision database

Name of HEI	Ownership status
University of Montenegro	Public
Faculty of Administrative and European Studies, Podgorica	Private
Faculty of Business and Tourism, Budva	Private
Faculty of Business Economics, Bar	Private
Faculty of Management, Herceg Novi	Private
Faculty of Mediterranean Business Studies, Tivat	Private
Maritime Faculty Bar	Private
University "Mediterranean", Podgorica	Private
University of Donja Gorica	Private

2. Surveys

Two questionnaire surveys were administered to recent graduates from Montenegrin higher education institutions (HEIs) and employers located in Montenegro who employ recent higher education graduates among their workforce. These surveys were conducted from May to August 2015.

2.1. Graduate survey

The sample frame consisted of recent graduates from HEIs, i.e. having graduated from higher education since 2010. We designed an online survey questionnaire and managed it through the Qualtrics software platform. An online survey link was sent by a number of Montenegrin HEIs (see list below) directly to their alumni contact lists, as well as by the LSE Qualtrics account where contacts of alumni could be provided outside of the institutions.

Collaboration was established with the representatives of three universities in Montenegro (University of Montenegro, University of Donja Gorica and Mediterranean University). The need for the implementation of the survey among graduates was discussed with the universities' representatives. It was agreed that the most efficient way to implement the survey would be to send the survey to the universities and they would send them directly to the list e-mails of graduates that they have in their databases. This approach was acceptable regarding confidentiality regulations. The same approach was applied in cooperation with additional six out of nine private colleges.

Table A2: HEIs included in the survey

Name of HEI	Ownership status
University of Montenegro	Public
University "Mediterranean"	Private
University of Donja Gorica	Private
Faculty for Mediterranean Business Studies,	Private
Faculty of Administrative and European Studies	Private
Faculty of Business and Tourism,	Private
Faculty of Business Economics	Private
Maritime faculty	Private

HEIs sent a message with a link to the questionnaire to their graduates by e-mail. In each case, follow-up reminders were sent out twice. We collected a total of **613** completed questionnaires (respondents who did not fit the sample frame were ruled out). This gave the desired degree of precision to the estimates.

The representativeness of the sample can be checked by comparing the distribution of the sample of graduates by field of study to the distribution of the underlying population of students by field of study as reported in the database. In Table A3 the distribution of graduates by field of study in the graduate survey is compared to the distribution of students who completed their degree in the academic years 2011-2012 to 2013-2014 taken from the HEI database. We take the average over the three years, since the graduates in the graduate survey have completed their degrees at different points of time in the past. It can be seen that the representation of the sample is fairly close to that of the distribution from the HEI database with a Pearson correlation coefficient of +0.84.

Table A3: Sample distribution (graduate survey) and population distribution of graduates (completions) by broad field of study

	Graduate survey (number)	Graduate survey (%)	HE Provision database (%)
01 Education	19	3.2%	4.2%
02 Arts & Humanities	66	11.3%	12.4%
03 Social Sciences, Journalism & Information	130	22.2%	23.2%
04 Business, Administration & Law	128	21.8%	24.4%
05 Natural Sciences, Mathematics & Statistics	42	7.2%	2.3%
06 Information & Communication Technologies (ICTs)	36	6.1%	6.2%
07 Engineering, Manufacturing & Construction	67	11.4%	10.9%
08 Agriculture, Forestry, Fisheries & Veterinary	8	1.4%	2.5%
09 Health & Welfare	77	13.1%	3.9%
10 Services	13	2.2%	10.0%
Total	586	100.0%	100.0%
Missing values	27		
Total including missing values	613		

Source: Graduate survey and HE provision database.

2.2. Employer survey

The project was presented at joint meeting with Chamber of Commerce, the Montenegrin Employer's Federation and the Montenegro Business Alliance. It was concluded that most efficient way of conducting the survey would be that associations send emails to their members. During the first step of the survey implementation associations sent an email to their members. An additional remainder was also sent few days after the initial e-mail. Due to the low response rate, ISSP asked associations for the database of their members. ISSP have received a contact list of 394 private and public companies from the Chamber of Commerce, the Montenegrin Employer's Federation and the Montenegro Business Alliance. During this phase, the ISSP team send a repeat email to organisations that had not responded to the initial request to participate in the survey. Beside the private companies, the ISSP team also contacted several state services during this phase including municipalities (Municipality of Tivat, Municipality of Danilovgrad, Municipality of Cetinje, Municipality of Mojkovac, Municipality of Bijelo Polje and others) and public agencies (the Directorate for Development of Small and Medium Enterprises, the Bureau for Education Services, and the Agency for Electronic Media). During the last phase of survey implementation, the ISSP team contacted more companies directly by telephone. Those companies included some of those that were in the original databases, while some were selected from the ISSP databases from previous projects as well as the database of all existing (active and inactive) companies in Montenegro.

We designed a questionnaire that was implemented through a mix of online survey and phone interviews. The target sample was composed of public and private organisations of all sizes located in Montenegro and employing HE graduates. We used several channels to distribute the survey (see list below). Most important and far reaching was the distribution of the survey through the Montenegrin Chamber of Commerce.

Table A4: Organisations that distributed the employer survey

Montenegrin Chamber of Commerce
Montenegrin Employers' Federation
Montenegrin Business Alliance
Municipalities
Public Agencies

Altogether, we collected a total of **169** completed questionnaires. Since the survey sample was taken from employers who employ graduates there is no available population distribution for the employers that employ graduates and so the representativeness of the sample cannot be validated; nor can the sample be adjusted by any relevant weighting technique. Second, the sample was by design selected to achieve a balanced distribution of employers across size groups according to the Eurostat definition. This design was chosen to ensure that we had enough medium and large sized employers in the sample to make comparisons across size groups. The achieved sample was broadly balanced: most of the employers surveyed were either micro sized in terms of the number of employees (29%), small sized (26%) or medium sized (29%), while large employers represented a minority (15%). The survey covered the various sectors of the economy, with the largest concentrations in Education (24%) and Retail (10%). For both these reasons we are unable to claim that the survey is representative of the population of employers who employ graduates. The results should be read bearing this caveat in mind.

3. Interviews with key stakeholders

We conducted semi-structured interviews with **12** key stakeholders, with the aim to develop a comprehensive view on the causes of challenges for employers and HE graduates in the labour market. We identified stakeholders at three levels.

- **Policy-making stakeholders** (4 ministries, 1 National Erasmus+ Office)
- **Higher education stakeholders** (3 HEIs, Erasmus alumni focus group)
- **Labour market stakeholders** (1 employers' association, 1 association of trade unions, 1 public employment service, 1 NGO)

We developed an interview guideline containing a set of questions for these semi-structured interviews. One group of questions were of a general nature and are posed to all stakeholders to better confront their views on key issues. The second group of questions were specifically tailored to the various stakeholders, designed to explore further primarily issues within their specific competences. Local experts conducted the interviews and translated the transcripts into English.

We also carried out a focus group discussion with Erasmus Mundus alumni who had studied abroad, to gather their impressions of the contrasts between teaching methods used in their home and host countries.

4. Labour market data

We obtained labour force survey data for the 2011-2014 period from the Statistical Office of Montenegro, Podgorica. This provided information about the sectoral structure of tertiary level employees for the years 2013 and 2014, which were used as a base for the forecast for graduate employment by sector. The sectoral forecast was then converted into a forecast of demand for graduates by field of study using coefficients derived from the graduate survey.

The Labour Force Survey was also used to identify the relevant labour market key statistics for HE graduates (employment rate, unemployment rate), which could be compared to the statistics derived from the graduate survey relating to the employment rate and the unemployment rate of recent graduates.

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From University to Employment:

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Luxembourg: Publications Office of the European Union, 2016

ISBN: 978-92-79-54682-2

doi: 10.2766/573646

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Foreword

Higher education systems in the Western Balkans are facing serious challenges. Growing levels of student enrolment throughout the region are straining the limited resources of public universities. At the same time, the number of private institutions has been increasing rapidly.

Importantly, more needs to be done to ensure that higher education qualifications match labour market needs. Many young people in the region are unemployed – and a number of them have higher education diplomas. This suggests that employers do not hold university degrees in very high esteem.

Whatever the field of study, third-level education is a means of sharpening our intellect and therefore valuable in its own right. However, it should also prepare us for the world of work, and enable us to lead independent lives as confident, engaged citizens. Universities and other higher education institutions need to adapt and modernise to deliver. In rapidly changing job markets, higher education systems should provide graduates with relevant skills and competences. This is not only about finding employment after graduation, but also about being able to adapt to future labour market needs and adjust to career changes.

We all know that a country's human resources are an integral part of its wealth. We say so on many occasions, especially when addressing young people in graduation ceremonies, or in political speeches. Unfortunately, when it comes to following these words with action and giving education the relevance and funding it deserves, we all too often fall short. This is something we have to change.

The skills and qualifications gained in university should help us build our lives and secure our societies' prosperity, competitiveness and progress. This study examines the link between higher education provision and labour market opportunities in the Western Balkans. It also looks at the obstacles facing graduates looking for work and the relevance of their skills for employers. The study is part of the on-going regional policy dialogue under the *Western Balkans Platform on Education and Training*. I am pleased to see that Ministers for Education have been supporting and engaging in this dialogue since the European Commission launched it in 2012.

I hope that the findings of the country reports in this study will contribute to more evidence-based policy-making in each country's higher education and labour sectors. The region's young people deserve nothing less.

Tibor Navracsics
European Commissioner for Education, Culture, Youth and Sport

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List of abbreviations

ALMP	Active Labour Market Policy
BA	Bachelor degree
Cedefop	European Centre for the Development of Vocational Training
ECTS	European Credit Transfer System
EHEA	European Higher Education Area
ENQA	European Association for Quality Assurance in Higher Education
EQAR	European Quality Assurance Register
EQF	European Qualifications Framework
ESA	Employment Service Agency
ETF	European Training Foundation
HE	Higher education
HEAEB	Higher Education Accreditation and Evaluation Board
HEI	Higher education institution
HELM	Combined HE and labour market systems
HSS	Humanities and Social Sciences
IT	Information technology
ICT	Information, Communication and Technology
ILO	International Labour Organization
ISCED	International Standard Classification of Education
LFS	Labour Force Survey
MA	Master's degree
MES	Ministry of Education and Science
MLSP	Ministry of Labour and Social Policy
NGOs	Non-governmental institutions
NQF	National Qualifications Framework
OECD	Organisation for Economic Co-operation and Development
PhD	Doctor of Philosophy
SDA	Skills demand analysis
SME	Small and medium-sized enterprises
STEM	Science, technology, engineering and mathematics

Executive summary

This country report analyses higher education (HE) provision and labour market opportunities in the former Yugoslav Republic of Macedonia by looking into four inter-related issues: the provision of HE, current labour market conditions for graduates, the challenges graduates face in their transition to the labour market, and the challenges employers face in recruiting graduates including graduate skill gaps and skill mismatches. The report concludes with recommendations on measures needed to ensure the right mix of skilled graduates to support robust economic growth in the future, support graduate job search, and encourage employers to create more graduate jobs and take on more skilled graduates.

The data used in the study was collected from March to August 2015. It includes two large-scale surveys: one among recent HE graduates (graduate survey - 442 respondents) and one among organisations that employ HE graduates (employer survey - 227 respondents). Data on occupations and sectors were collected from the State Statistical Office. Semi-structured interviews were carried out with management staff of higher education institutions (HEIs), ministries, employers' associations, trade unions and non-governmental organisations. A focus group was also carried with Erasmus Mundus alumni. The project also assembled a unique database that includes details of most study programmes offered by higher education institutions (HEIs) in recent years.¹

Main findings

For many years the former Yugoslav Republic of Macedonia has had one of the highest unemployment rates in the Western Balkans. Although this is now on a falling trend, unemployment is still extremely high at 26%, creating a difficult context for graduate job prospects. Although the graduate unemployment rate is below the unemployment rate of the whole labour force, the unemployment rate of new graduates is about the same as for all young people, indicating severe challenges facing new graduates in their transition to the labour market. The graduate survey shows that students are fairly satisfied with the quality of education they receive at their HEI, although many graduates consider that their job prospects would have been improved by better teaching methods, a more relevant curriculum and by having better qualified professors.

About 60,000 undergraduate students are registered at HEIs, and about 19,000 new students enrol each year in both public and private HEIs. Each year, about one quarter of new students enrolls for study programmes in the fields of *Business, Administration & Law*. Completion rates are very low – just 47% on three-year Bachelor programmes – as many students drop out or spend more time than needed to complete their degrees. Despite the high dropout from the HE system, each year there are more graduates than can be absorbed by available jobs on the labour market. The greatest surpluses are from the study fields of *Business, Administration & Law, Arts & Humanities* and *Services*. Yet, there are shortages of new graduates in some study fields such as *Natural Sciences, Mathematics & Statistics*. Continuing strong economic growth in a context of a relatively stable supply of graduates will gradually reduce the overall oversupply of graduates, but will not remove these imbalances.

Among graduates who succeed in finding a job, most are employed in the sectors of *Education, Public Administration, Health & Social Work*, and *Retail*. The fastest increase in graduate employment has taken place in the *Information & Communication Technology* (ICT) sector. High technology SMEs operating in ICT and related sectors are

¹ Further details about the methodologies and data used in this study can be found in the Annex.

likely to provide increasing opportunities for HE graduates in the labour market in the future. The government's policy of attracting foreign direct investment in special tax free zones seems to be driving an increase in employment in high technology industries. There is a close inter-relationship between the government's industrial policy, which will influence the demand for graduates, and higher education policy, which will influence the supply. These two policy areas should be better coordinated in the future.

Expansion of the HE system has raised concerns about quality. The graduate survey found that the factors that influence satisfaction with the quality of education include the age of the respondent, having studied a Science, Technology, Engineering and Mathematics (STEM) subjects, and exam performance. Worryingly, students who studied STEM subjects are less satisfied with the quality of their education than others. Two thirds of graduates think that better teaching methods would have improved their job prospects. Graduates who studied at public HEIs are less satisfied with the quality of education they received than those who studied at private HEIs. Some private HEIs are better at delivering classes in small groups, using problem solving and creative teaching methods, and providing a vocational orientation with more employer involvement and practical work experience than public HEIs. Expansion of the HE system has also raised concerns about corruption in higher education, which has a further adverse impact on the quality of education.

In consequence, the HE system often fails to equip graduates with the types of skills that employers need, and many employers perceive large skill gaps among their new graduate recruits, especially in interactive skills (team working, organisation and planning, decision-making, analytical and problem-solving skills). A major cause of skill gaps is the use of traditional teaching methods that do not develop such skills. Practical training and work experience during HE studies can help graduates to obtain these interactive skills. Graduates do not gain enough work experience during their HE studies, and to address this problem the government has introduced a measure to assist HE students to obtain work experience during their studies through mandatory internships. However, the graduate survey shows that more than one third of graduates found their internship experience to be of little use for their learning outcomes, suggesting that internships need to be much more closely supervised by HEIs.

About one third of graduates have a qualification in a field of study that is not well matched to the requirements of their job (horizontal mismatch), while a third are over-educated - and one fifth under-educated - for the job they are in (vertical mismatch). Graduates who followed ICT studies have a relatively high chance of being under-qualified for the skill level of their job, implying that HEIs are systematically failing to provide their students with a sufficiently high level of ICT skills needed by the labour market. Graduates who are well matched tend to have higher current earnings than those who are over-qualified, suggesting that good matching is important to maximise productivity and returns to education. Unsuitable teaching methods contribute to such mismatches, as graduates who were mainly taught through rote learning and lectures in large groups are less likely to find a well-matched job than those taught in small classes using problem solving and creative thinking approaches to learning.

Overall, therefore, HE graduates face a precarious transition to the labour market. Having support from the HEI, whether from individual professors or through a career centre, improves the chances of finding a well-matched job. The HE system often fails to provide effective support to graduates in their search for a job. In the absence of effective career guidance services, graduates mainly rely on personal connections of family and friends. This opens opportunities for nepotism, which is not an efficient way to allocate graduate labour.

Many employers find the need to provide additional training to bring graduates up to the level of skill needed to carry out their job. HEIs and employers seldom cooperate over

developing the curriculum or over recruitment of new graduates although employers who cooperate with HEIs over curricula tend to have lower current and future expected skill gaps than other employers. Policy makers should therefore expand and improve measures to strengthen cooperation between HEIs and the business sector to identify areas of improvement within HEI programmes that could be mutually beneficial.

In summary, the HE system is failing to meet the needs of the labour market. Of all the students that enrol in the system each year, less than half go on to complete their studies. Of those that do complete their studies, only half succeed in finding a job. Of those that do succeed in finding a job, less than half find a job that is well matched to their field of study or level of qualification. On the positive side, the number of available graduate-level jobs is expected to increase over time due to continuing economic growth, especially in the ICT sector and among fast-growth SMEs. Many employers provide additional training to their new recruits, and there is evidence of a positive impact from better cooperation between HEIs and employers, which could be a relatively low-cost way to ease the transition to the labour market for more graduates.

Policy recommendations

Higher Education

1. HEIs should **modernise curricula and teaching methods** to emphasise student-centred learning and development of interactive skills. Applied knowledge and critical thinking skills should be the core focus of teaching. The Ministry of Education and Science should organise training on innovative teaching methods. Financial support for HEIs to attract international staff could be considered.
2. The Government should introduce **measures to improve the quality of the HE system** including (i) scholarships for young lecturers to advance their education abroad conditional on returning to teach for a period of years (ii) opportunities for continuous professional development of teachers and (iii) an incentive programme to attract foreign lecturers to teach on post-graduate courses (iv) **eliminating corrupt practices** from the HE system.
3. **External evaluation of public HEIs** should be carried out in accordance with the European Standards and Guidelines for Quality Assurance.² The Higher Education Accreditation and Evaluation Board should publish scores from teaching evaluations of all HEIs, along with recommendations and roadmaps for implementing necessary reforms.
4. The Government should use the **HE scholarship scheme** to guide prospective students into the fields of study where shortages may emerge in the future such as *Natural Science, Mathematics and Statistics* by adjusting quotas appropriately.
5. HEIs should adopt **stricter criteria for enrolment into HEIs**, establish tutoring clubs, and apply stricter rules for advancement of students through study years in order to improve completion rates. Students who fail to complete their course work on time should be given additional support and remedial classes.
6. **The practice of repeat examinations should be limited**, and a maximum number of years of study for completing a degree should be established. Students who successfully complete within the allotted time could be given a partial refund of their examination fee to incentivise on-time completion.

² See: <http://www.enqa.eu/index.php/home/esg/>.

7. **Career guidance centres within HEIs should be strengthened** to provide independent professional counselling to students to support successful job search.
8. HEIs should provide **more information to potential applicants** on the likely labour market demand for various study programmes through outreach programmes to local schools.
9. **The Employment Service Agency** should be made more effective for graduates by providing more information about services offered to graduates.
10. The current system of one month of **internship during each year of study should be continued and made available to all students**. More attention should be paid to appropriate learning outcomes.
11. Systems for **tracing students after graduation** should be strengthened. Tracer studies would provide information on the success rate of graduates in finding a job and indirectly on the relevance of HE study programmes.
12. We recommend that the **findings of this research study should be fed into the new strategic framework** for education.

Labour Market

1. More could be done to **strengthen HEI links with employers**. The government should establish a programme to facilitate cooperation between HEIs and employers, and should act as a network broker to bring the two sides closer together. The Business Councils within HEIs have a key role to play in this respect (as does the Socio-Economic Council at the central level).
2. More **cooperation between HEIs and employers is needed over the recruitment of graduates** by providing internships for students and recent graduates. Internships should be carefully supervised to provide useful learning outcomes. Sector skill councils should bring employers and HEIs together with local government bodies to identify skill needs and take joint actions.
3. **Stronger links should be established between SMEs that employ HE graduates and foreign investors**, especially those within Technological and Industrial Development Zones. This should assist innovative fast-growth SMEs to create new graduate jobs in high value-added sectors such as ICT. It should also strengthen the government's existing project to link domestic suppliers with FDIs within international value chains.
4. The Government should **support micro, small and medium sized businesses that employ graduates**, and should support graduates that aspire to establish their own small businesses. HEIs should organise courses where graduates could learn entrepreneurial skills.
5. **Employers should be encouraged to invest more in the training of graduate workers** through day release of graduate employees to a college of further education. The government should support this through training subsidies or vouchers.

1 Introduction

The former Yugoslav Republic of Macedonia suffered a recession in 2009 as a consequence of the global financial crisis. Since then, from 2010-2015, real GDP has increased at an average rate of 2.6% per annum. Growth is currently forecast to reach 3.3% in 2016 and 3.5% in 2017 (European Commission, 2016). Living standards are still low with per capita GDP of €4,127 (compared to an average of €4,410 for the rest of the Western Balkan region),³ and there is a high rate of unemployment. Future prosperity will depend upon an upgrading of domestic production capacities and an upskilling of the labour force to raise labour productivity and industrial competitiveness. In pursuing such a strategy, the higher education (HE) sector will have a crucial role to play in supplying skilled graduate workers to the economy. At the same time, the government will need to introduce a smart industrial policy to ensure that there are suitable high value-added jobs available for highly skilled graduates in the private sector. Rapid economic and social change has made former practices in the HE system out-dated. Research studies have pointed to problems in managing skill development systems even in the most advanced economies (McKinsey Centre for Government, 2015; OECD 2015). The former Yugoslav Republic of Macedonia faces similar challenges related to the pace of structural change and a resistance to reform within their HE systems (Kovtun, et al., 2014). Young graduates face a difficult transition to the labour market, and the skills they obtained at their higher education institution (HEI) are often inappropriate for the world of work. Due to intense competition for the few available graduate jobs, many graduates only find a job in a low productivity, low pay workplace.

The report is based on a research project that provides new evidence on the mix of qualifications provided by the HE sector and the students who obtain them, the difficulties and opportunities facing graduates and their employers in the labour market, a forecast of the demand for graduates in the near future, the nature of skill mismatches and skill gaps, and concludes with recommendations on measures needed to ensure a relevant supply of skilled graduates to support economic growth in the future. The report is divided into six sections. Section 2 identifies the structure of HE provision; Section 3 reviews the experience of graduates on the labour market and provides a forecast of expected future demand for graduates by field of study; Section 4 considers the obstacles facing graduates on the labour market and the difficulties facing employers in recruiting new graduates; Section 5 analyses the extent and nature of skill mismatches; Section 6 concludes with a summary of the research findings and a set of related policy recommendations. A special database recording basic data on HE provision was created for this study. In addition two online surveys of recent graduates and of organisations that employ graduates were carried out. Details about the methodologies and data used in the study can be found in the Annex.

2 Mapping the provision of higher education

Total expenditure at all levels of education accounts for 4.2% of GDP.⁴ Expenditure on HE is opaque as little information is available from national statistical sources or online databases of international organisations. Vujačić et al. (2013) estimate that public expenditure on HE amounted to 1.7% of GDP in 2012. Only 25% of the population aged 30-34 holds a graduate degree, compared to 38% in the EU.⁵ The European

³ Based on data from Eurostat variable code [cpc_ecnagdp].

⁴ Data from State Statistical Office online data, Value added in Education divided by total value added.

⁵ Data from Eurostat variable code [cpc_pseduc].

Commission's assessment of the country's Economic Reform Programme noted that the shortcomings of the HE system might adversely affect the supply of skills to the job market (European Commission, 2015) and that structural reforms aimed at enhancing skills and improving employability are being carried out slowly. The European Council has called on the government to improve the employability of workers by better aligning skills with labour demand, notably by developing the education system (Council of the European Union, 2015).

This section takes stock of the situation in both public and private HEIs and analyses the study programmes, qualifications and degrees offered by HEIs differentiating between public or private ownership. The project has compiled a comprehensive database of study programmes offered by all HEIs in the country, which provides a rich resource for the analysis of the extent and structure of HE provision. The data has been collected from the State Statistical Office and public and private HEIs.

2.1 Profile of higher education institutions

Following the acceptance of the Bologna Declaration of 2003, the government passed a Law on Higher Education in 2008 that aimed to improve the quantity and quality of HE provision. Increased demand for higher education has encouraged the entry of new providers and three new public universities and several private universities have been established. Currently, there are 16 HEIs, of which 5 are public⁶ and 11 are private. The number of HE faculties increased from just 38 in 2004 to over 100 by 2015 (SSO, 2015) following a reform of the HE system in which public HEIs were encouraged to establish decentralised units in smaller towns to increase the reach of HE beyond the capital city (EACEA, 2010). There are also two higher vocational colleges that offer HE degrees, one of which is under private ownership and the other under public ownership. The number of such higher vocational colleges has decreased from six in 2010.

Table 1: Accredited HEIs and faculties by ownership, 2016

	HEIs	Faculties	Number of HEIs per 100,000 inhabitants (regional average)	Number of Faculties per 100,000 inhabitants (regional average)
Total number of HEIs	16	126	0.8 (1.3)	6.1 (3.2)
Of which: Public	5	71	0.2 (0.5)	3.4 (1.7)
Private	11	55	0.5 (0.8)	2.6 (1.5)

Source: HE provision database.

There are 0.8 HEIs per 100,000 inhabitants, far fewer than the average for the Western Balkan region, while the number of faculties per 100,000 population is far above the regional average (see Table 1). This implies that both public and private HEIs are more fragmented and have a larger number of faculties on average than is the norm in the region.

⁶ The government plans to establish two more public universities (Dame Gruev and Mother Theresa).

Table 2: Study programmes by type of ownership and degree level, 2014-2015

	Number of study programmes	Percentage of study programmes
Ownership of HEI		
Private	198	37.9%
Public	324	62.1%
Total	522	100.0%
Level of qualification		
Bachelor	431	82.6%
Master	80	15.3%
Doctoral	11	2.1%
Total	522	100.0%

Source: HE provision database.

The 2008 law replaced the former two-cycle system by a three-cycle system. The first cycle of studies includes Bachelor programmes with 180 or 240 European Credit Transfer and Accumulation System (ECTS) credits; the second cycle of studies includes Specialist programmes and Academic Master programmes with 60 or 120 ECTS credits; and the third cycle includes Doctoral studies with 180 ECTS credits. Most public HEIs have maintained the traditional 4-year duration of first-cycle studies, compatible with the Bologna principles. Although the ECTS is widely used, a minority of HEIs and study programmes have not yet adopted it (EHEA, 2015).

The project's HEI database provides information on study programmes provided by the largest public and private HEIs.⁷ It shows that most study programmes are offered by public HEIs, mostly at Bachelor level (see Table 2).⁸ Only accredited HEIs can offer study programmes that lead to a recognised degree. Public HEIs jointly offer all ISCED⁹ (2-digit) broad study fields, including 63 out of a possible 77 accredited study programmes at ISCED (3-digit) level, while private HEIs mostly focus on the least costly fields of study in Humanities and Social Sciences and ICT¹⁰ rather than those that require expensive equipment such as Natural Sciences, which remain the preserve of public HEIs.

Table 3: Study programmes by broad field of study, 2015

Field of study	Number of study programmes	Proportion of study programmes
01 Education	19	3.6%
02 Arts & Humanities	104	19.9%
03 Social Sciences, Journalism & Information	58	11.1%
04 Business, Administration & Law	113	21.7%
05 Natural Sciences, Mathematics & Statistics	21	4.0%
06 Information & Communication Technologies	51	9.8%
07 Engineering, Manufacturing & Construction	82	15.7%
08 Agriculture, Forestry, Fisheries & Veterinary	18	3.5%
09 Health & welfare	32	6.1%
10 Services	24	4.6%

⁷ Data are missing on the number of postgraduate study programmes at the University "Ss Cyril and Methodius" of Skopje, the University "Goce Delcev" of Stip, and University "St. Clement Ohridski" of Bitola. These three universities did not provide administrative data to the project despite many contacts and requests from the project team and the Ministry of Education and Science. Since neither the State Statistical Office nor the Ministry collect data on the basis of study programmes these data were not available, so the database underestimates the number of students enrolled in postgraduate studies.

⁸ Only HEIs that are ranked among the top 5 in the national ranking are eligible to offer doctoral programmes.

⁹ The International Standard Classification of Education (ISCED) developed by UNESCO.

¹⁰ The project's HE provision database records 27 ICT study programmes at private HEIs and 25 at public HEIs.

All fields of study	522	100.0%
<i>HSS subjects (02+03+04)</i>	<i>275</i>	<i>52.7%</i>
<i>STEM subjects (05+06+07)</i>	<i>154</i>	<i>19.5%</i>

Source: HE provision database. Note: HSS= Humanities and Social sciences; STEM = Science, Technology, Engineering and Mathematics.

The broad fields of Humanities and Social Science (including Business and Law) (HSS) make up more than half of all study programmes. Science, Technology, Engineering and Mathematics (STEM) subjects cover only one fifth of all study programmes (see Table 3).

2.2 Students

The Law on Higher Education of 2008 aimed to expand access to higher education. Students at public HEIs are financed by the state under a quota system. Within the quota scholarships are granted to talented students, ordinary students, and to students with low family incomes. Positive discrimination is applied to ensure an equitable representation of students from different ethnic groups through an additional quota for students from ethnic minorities. Most students admitted within the quota pay a tuition fee of €200 per academic year, while students admitted outside the quota pay annual tuition fees between €400 and €700 (EACEA, 2010). The graduate survey shows that fewer than 9% of students receive a full scholarship to support their Bachelor studies, 24% receive a scholarship but have to pay a small tuition fee (co-financed), while 67% receive no scholarship and are fully self-financed. Students from grammar schools (gymnasia) are more likely to receive a scholarship than students from vocational schools.¹¹ The graduate survey shows that the ratio between the tuition fee that graduates would be willing to pay and the actual fee paid (what we might call the “value for money ratio”) is highest for Bachelor degrees at 67% (73% at public HEIs and 62% at a private HEI) and lowest for Master degrees at 65% (64% at a public HEI and 65% at private HEIs). Thus, public HEIs provide better value for money at Bachelor level than do private HEIs, while they provide about the same value for money at Master level.¹² Overall, the value for money is similar to elsewhere in the region.¹³ These value for money ratios suggest that there is substantial scope for improvement of the efficiency and effectiveness of the HE system, especially at Master level.

The creation of new public and private HEIs led to a significant increase in the number of students between 2000 and 2007 but this has subsequently levelled off. The gross enrolment ratio was 39% between 2010 and 2013.¹⁴ This was sufficient to increase the proportion of the working population with a HE degree. The share of the population aged 30-34 with a HE degree increased from 12% in 2006 to 29% in 2015. Although a notable achievement, this is still below the EU average of 39% and the EU 2020 target of 40%.

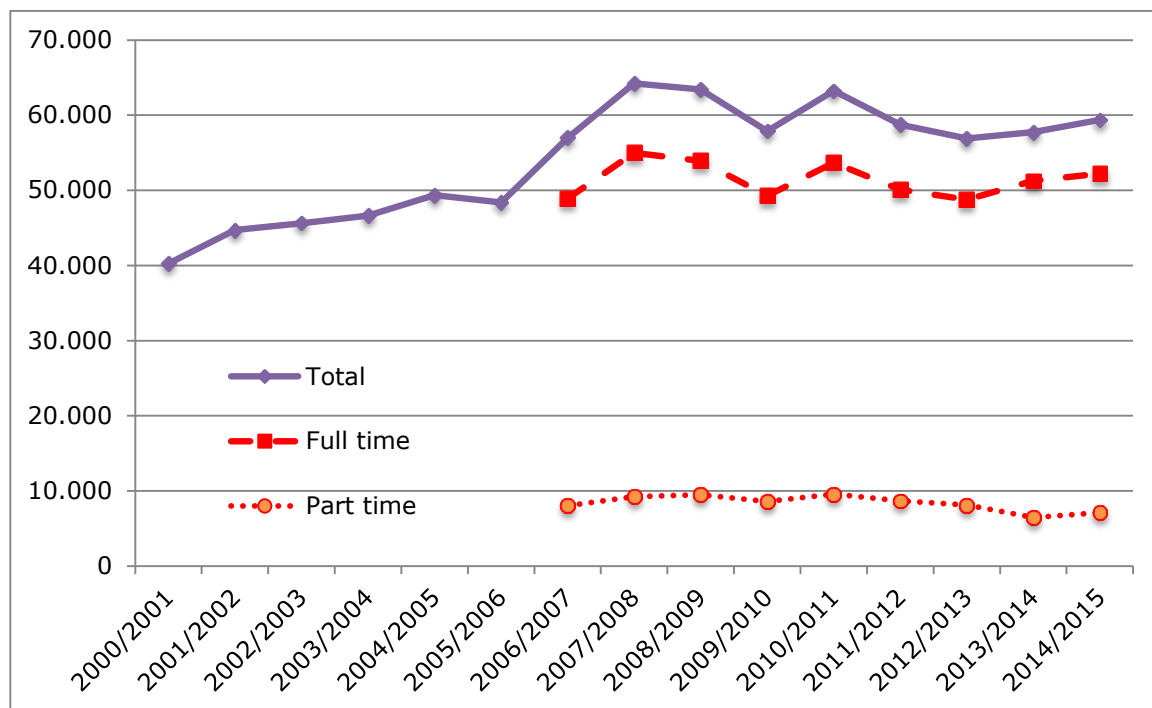
¹¹ 10% of students from grammar schools receive a scholarship compared to just 5% of students from vocational schools (a difference that is significant at 10% level (Chi-square =10.4,p=0.034).

¹² The difference in value for money at Bachelor level is statistically significant at the 5% level (t-statistic = 2.29, p=0.023, N=223), while the difference in value for money at Master level is not statistically significant (t-statistic = 0.186, p=0.85, N=70).

¹³ For the Western Balkan region as a whole, value for money at HEIs is 68% for Bachelor degrees, and 65% for Master degrees. Low value for money is found in EU countries too. In the UK, for example, three out of ten students think the academic experience in HE is poor value (Department for Business Information and Skills, 2016).

¹⁴ These data are taken from the UNESCO Institute of Statistics online database. According to the State Statistical Office, the gross enrolment rate for undergraduate studies was 33% in 2014/2015 academic year (SSO, 2015: Table 02), practically the same as in 2008/2009.

Figure 1: Total number of students registered in undergraduate studies, 2000 - 2015



Source: "Enrolled students in the academic year 2010/11" and "2014/15", State Statistical Office, Skopje.

From 2000 to 2007 the number of registered students studying for a Bachelor degree increased from 40,000 to over 60,000. This increase came to a halt in 2008 and subsequently declined (see Figure 1). In the 2014-15 academic year just over 59,000 students were registered in HEIs at all stages of undergraduate (first cycle) study. In 2014, nearly 52,000 students were registered at public HEIs and 7,000 at private HEIs. A small and diminishing proportion of students are studying for a HE degree at higher vocational schools (about 12% in the 2014-15 academic year). Around 90% of students are registered at public HEIs, and the rest are registered at private HEIs. The share of students at private HEIs has declined from a peak of one fifth of registered students in 2009, probably due to the cost of attending private institutions at a time of difficult economic conditions.

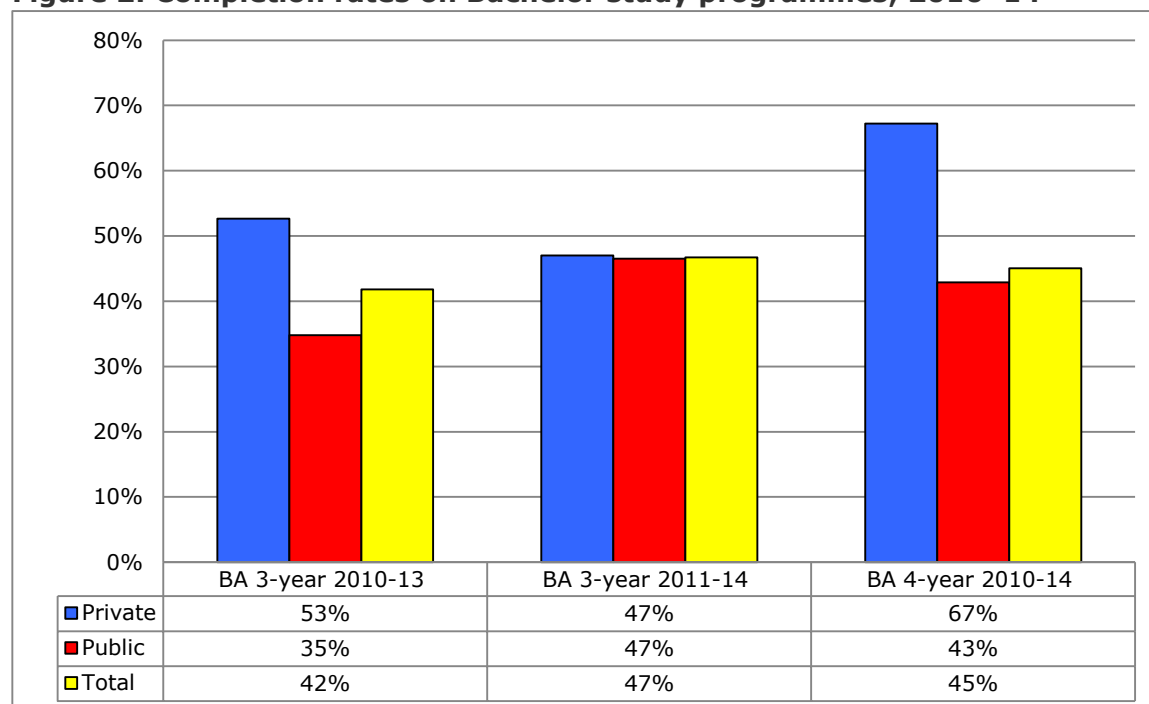
Table 4: Students enrolling and completing studies each year, 2012-2015

	Enrolment			Completion		
	2012-13	2013-14	2014-15	2011-12	2012-13	2013-14
Total number of students	18,509	20,043	19,333	9,768	9,179	9,340
Bachelor	17,961	19,341	18,862	9,627	8,843	9,054
Master	545	646	433	131	216	197
Doctoral	3	56	38	10	120	89
Proportion of students in public HEIs						
% Public HEI	83.9%	83.7%	82.7%	76.8%	75.2%	76.2%
% Private HEI	16.1%	16.3%	17.3%	23.2%	24.8%	23.8%

Source: HE provision database.

Table 4 presents data on the number of students who enrol each year in HEIs and the number of students who complete their studies, at each level of degree. Completion of studies is an important element of a successful higher education system. If many students drop out of higher education before completing their studies this represents a waste of resources and also indicates dissatisfaction with the courses that are on offer. In the academic year 2013-14, the ratio of completions to enrolments was 47% (see data in Table 4). This relatively low completion ratio¹⁵ reflects internal inefficiency in the HE system.

Figure 2: Completion rates on Bachelor study programmes, 2010–14



Source: HE provision database. Note: "BA 3-year 2010-2013" is the completion rate on a 3-year Bachelor degree lasting from 2010-2013 and so on. A few study programmes for which the apparent completion rates are above 100% have not been included as these have problematic data.

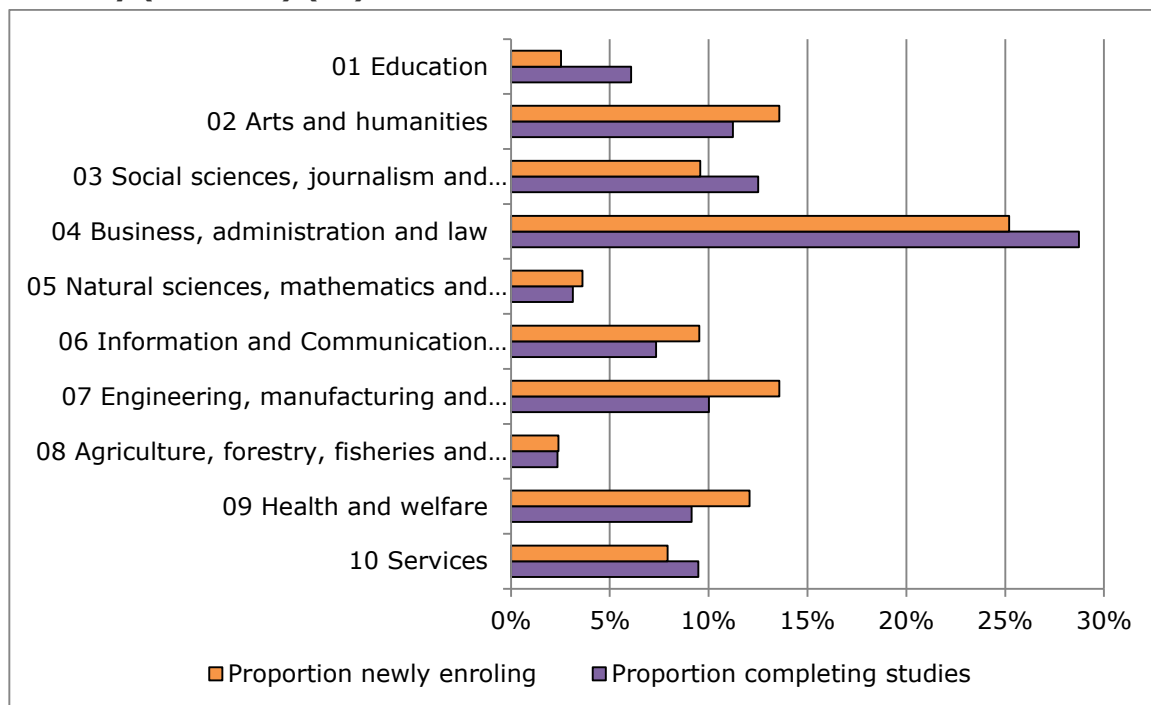
The completion rate¹⁶ is a standard indicator of the effectiveness of an HE system (Eurydice, 2015) as it provides a more accurate picture of the effectiveness of individual HEIs and study programmes than the broad-brush completion ratio discussed in the previous paragraph. The completion rates on Bachelor courses (see Figure 2) were similar for public and private HEIs in the 2011-14 academic year. Completion rates were higher in private HEIs on 4-year programmes, although such study programmes account for only 7% of all Bachelor programmes. The average completion rate of 45% is lower than that in Hungary, which at 48% is the lowest in the European Higher Education Area (EHEA) for which data is available (Eurydice, 2015). In comparison, the average completion rate in the OECD countries was 68% in 2013 (OECD, 2013). Part of the reason for this low completion rate is the practice of allowing students to repeat exams over a number of years until they eventually pass the exam. This is profitable for

¹⁵ The completion ratio is the ratio of the number of students who complete studies in a given year divided by the number of students who complete studies in the same year. It should not be confused with the completion rate, which is analysed below.

¹⁶ The completion rate is calculated using the cross-section method, which takes the ratio of the number of graduates completing studies in year "t" divided by the number of students who enrolled in year "t-x", where "x" is the duration of the study programme.

universities that charge additional fees for repeat exams and therefore have little incentive to change the practice. Another reason is the high dropout rate possibly related to tuition fees. In addition, the selection system permits too many students to enter the HE system, and the low academic ability of many students contributes to the low completion rate and the high level of dropout during the first year of studies.

Figure 3: Proportion of students newly enrolling and completing studies by field of study (2013-14) (%)



Source: HE provision database. Note: Data are available for Bachelor degree (1st cycle) studies only. Data for Master degrees by field of study are not available from the State Statistical Office. Data are missing for postgraduate students at the University "Ss Cyril and Methodius" of Skopje, the University "Goce Delcev" Stip and University "St. Clement Ohridski"- Bitola.

Figure 3 shows the proportion of students who enrolled in and completed Bachelor studies by broad field of study in the 2013-14 academic year. Altogether, 48% of students enrolled and 53% completed their studies in HSS study fields (ISCED 02+03+04). At the same time, 27% enrolled and 21% completed studies in STEM subjects (ISCED 05+06+07). These data can be compared to the situation in the EU-28 where 23% of all graduates hold STEM qualifications (Cedefop, 2015). In this perspective, a rather low proportion of STEM graduates are produced by the HE system. As in the EU, shortages of such graduates are likely to emerge in the future, especially in the fields of Natural Sciences, Mathematics & Statistics (see Figure 8 below) unless more students can be persuaded to take up these fields of study. It is notable that only 3% of students completed studies in *Natural Science, Mathematics & Statistics* and only 7% in *Information & Communication Technologies*. In contrast 29% completed studies in *Business, Administration & Law*. The larger proportion of completions in comparison to enrolments in HSS subjects is likely due to the lower drop-out rate in these subjects compared to STEM subjects such as Engineering. This indicates a need for a fundamental rethink into the nature of HE provision, since the transition to an export-led and high value-added economy would require a greater output of graduates with qualifications in STEM subjects that are most relevant to private sector employers in competitive industries.

Corruption in HE influences the admission and completion processes. A survey carried out by the Anti-Corruption Student Network in South East Europe showed that more than a quarter of students are required to buy their professors' textbooks to pass an exam.¹⁷ To reduce this practice, professors are now required to teach from translated versions of top international textbooks, although they can still require students to purchase these textbooks and receive royalties if they have made the translation themselves (or with the help of an assistant).¹⁸ The study also identified nepotism at entry to HEIs and at exams.

2.3 Quality

Expansion of the HE sector has raised concerns about the quality of the education provided. In this section we first analyse the accreditation system that is designed to ensure quality. In section 2.3.2 we address the issue of programme evaluation and the degree of student satisfaction with the quality of HE provision. In section 2.3.3 we analyse the role of teaching methods in supporting quality education in the HE system, before turning in section 2.3.4 to a discussion of recent policy developments and policy gaps.

2.3.1 Accreditation

Quality assurance is a key mechanism through which governments can encourage HEIs to enhance the employability of their graduates. The Higher Education Accreditation and Evaluation Board (HEAEB) was established in 2011 to manage the accreditation of HEIs. It determines whether HEIs have met accreditation standards, and licenses new HEIs and study programmes. The HEAEB is responsible to the Ministry of Education and Science, and is not an independent agency. It has been an affiliated member of the European Association for Quality Assurance in Higher Education (ENQA) since 2011. The Ministry of Education and Science became member of the General Assembly of the European Quality Assurance Register for Higher Education (EQAR) in 2015. HEAEB is not yet a member of EQAR, but preparations for full membership of ENQA an EQAR are in progress.

HEAEB assesses the activities of the academic staff and study programmes at least once every five years in order to decide whether accreditation should be extended (Vujačić et al, 2013). The key criteria for accreditation of HEIs are the competences of the teaching staff, research activities and the implementation of the ECTS. Several HEIs were closed during the latest round of accreditation because they did not meet these standards - the chief reason being the lack of appropriate academic staff.¹⁹ In order to strengthen the quality assurance process, the law enables students and employers' representatives to participate in HEI governing bodies. Students are also involved in the quality assurance process, and the country is a leader in this aspect of quality assurance in the Western Balkan region (Eurydice, 2015: 101). Employers are also regularly involved in the quality assurance process. In addition, HEIs seek to improve quality assurance by involving international peer reviewers and quality assurance agencies.²⁰ In 2016, the government commissioned the European University Association's Institutional evaluation Programme (IEP) to carry out external evaluations of all five public HEIs. More than half of the HEIs have established internal quality assurance systems (Eurydice, 2015: 87). Thus, although the accreditation system has been well designed, it has not yet been fully implemented in the public sector.

¹⁷ <https://www.opensocietyfoundations.org/voices/world-s-most-corrupt-university-system>.

¹⁸ This obligation was introduced through the Law on Higher Education, Official Gazette No. 41/2014.

¹⁹ Interview with Ministry of Education and Science.

²⁰ This obligation was introduced through the Law on Higher Education, Official Gazette No. 10/2015.

2.3.2 Programme evaluation

HEIs operate on the principle of academic autonomy that ensures their freedom to decide on study rules, teaching methods, methods of examining student's knowledge, selection of study programmes and content of particular subjects, as well as drafting textbooks and other study materials. However, the results are not up to the expectations of recent graduates as suggested by the finding that two thirds of respondents to the graduate survey consider that better teaching methods would have substantially improved their job prospects after graduation.

The expansion in the number of private HEIs has increased access to HE and has opened up a public discussion on the quality of HE and the competences and knowledge of their graduates. There is a widespread perception that public HEIs adopt higher standards and have better quality teaching staff and that private HEIs provide lower quality education. This is based on the view that private HEIs are "diploma factories" where exams are easy and students obtain their degrees with little effort. Private HEIs that apply low admission criteria for students or easier criteria for passing exams in their search for profit have had a negative influence on public perceptions. Yet, other private HEIs are seen as highly successful, offering internationally accredited programmes that deliver the same standards as HEIs in the EU. The most recent ranking of the national HEIs, commissioned by the Ministry and carried out by the Centre for World Class Universities²¹ in 2013-14, shows a mixed picture. Among the top ten HEIs in the country, four are public HEIs and six are private HEIs. Among the top three, two are public HEIs and one is a private HEI. According to the Webometrics ranking, the public university University Goce Delcev in Stip is the top ranked HEI in the former Yugoslav Republic of Macedonia with a global ranking of 3,091st position (208th position in Central and Eastern Europe – CEE), while the public Saint Clement of Ohrid University of Bitola is ranked second, with a global ranking of 4,992nd position (387th in CEE)²². The private South East European University is ranked in third place at 5,290th position globally (420th in CEE).

The graduate survey shows that respondents who had been undergraduates at private HEIs are more satisfied with the quality of the education that they received than undergraduates from public HEIs (see Figure 4); the overall difference in satisfaction with quality is around 8.6 percentage points.²³ The higher degree of autonomy of private HEIs may support greater flexibility and responsiveness to labour market needs, whereas public HEI programmes are relatively inflexible.²⁴ In addition, many young people who completed their postgraduate studies abroad at internationally recognised HEIs have little chance of being admitted to a teaching position at public HEIs since these employ only "home-grown" staff. Consequently, graduates who return from studying abroad often find employment at private HEIs. This may also be a factor that explains the higher level of perceived satisfaction with the quality of education provided by the private HEIs.

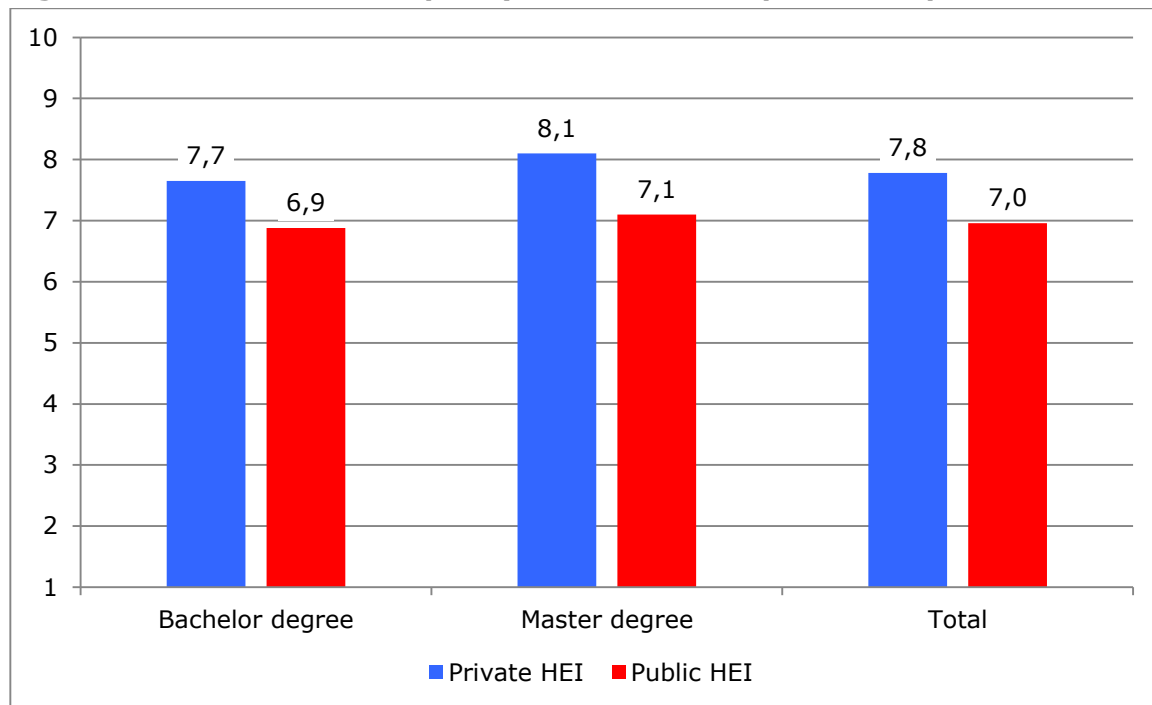
²¹ The Ministry of Education and Science specially commissioned the ranking, which covered twenty HEIs. The ranking used 21 indicators of academic performance and competitiveness, covering major mission aspects of HEIs such as teaching, research and social service. The Shanghai rankings do not cover other countries in the Western Balkans.

²² The data is taken from the Spain-based "Webometrics Ranking of World Universities", an initiative of the Cybermetrics Lab, a research group belonging to the Consejo Superior de Investigaciones Científicas (CSIC), the largest public research body in Spain. It should be noted that the methodology includes only publicly available web links data and does not rank specifically on teaching quality. See "Webometrics Ranking of World Universities", <http://www.webometrics.info/en>.

²³ The difference for Master students is not significantly different from zero, mainly due to the smaller sample size for this group of students.

²⁴ Interviews with Ministry of Education and Science and public HEI.

Figure 4: Satisfaction with quality of education at public and private HEIs



Source: Graduate survey. Note: Satisfaction with quality is assessed in response to the question "How satisfied are you with the quality of the education you received?" on a scale of 1-10 with 1= "very dissatisfied" to 10= "very satisfied". Overall difference between scores for public and private HEIs are significant at 1% level.

The case can also be made that respondents who attended private HEIs have different characteristics (e.g. they may be better students in terms of performance, or following a different field of study) than those that attend public HEIs. In order to explore this hypothesis a regression model has been developed to identify additional possible determinants of graduates' satisfaction with their HE studies, and whether these alternative factors are responsible for the observed differences in satisfaction with the quality of education at public and private HEIs.

Table 5: Regression model for graduate satisfaction with Bachelor level studies

	Coefficients	t-statistic	Significance level
Age of respondent	0.061***	2.928	0.004
Public HEI	-0.609**	-2.517	0.012
Whether self-financed studies	0.182	0.745	0.457
Whether attended gymnasium	-0.297	-1.353	0.177
HSS study programmes	0.177	0.525	0.600
STEM study programmes	-0.745**	-2.135	0.034
Length of studies in years	0.013	0.189	0.850
Exam performance above average	0.807***	3.562	0.000
Constant	6.016***	8.137	0.000
Adjusted R-squared=0.176; F=7.66; N=282			

Source: Graduate survey. Note: Levels of significance are shown as **=5%; ***=1%.

The regression model shows that several factors influence student satisfaction with the quality of education at Bachelor level of studies. Satisfaction increases with the age of the respondent, which may indicate a decrease in quality of education over time. Not surprisingly, respondents whose performance was above average are more satisfied with the quality of the education they received (on average by 8 percentage points above those with average or below average performance). Worryingly, graduates who studied STEM subjects have a significantly lower level of satisfaction with their education, with a 7.5 percentage point lower level of satisfaction than students that followed vocational fields of study. Even accounting for all these factors, respondents who had studied at private HEIs have a higher level of satisfaction with the quality of education than those that studied at public HEIs, with a differential of 6 percentage points. Several other factors have no significant impact on satisfaction with the quality of studies including financial support, the previous school attended, having studied humanities or social science versus vocational fields of study, and the length of time taken to complete HE studies.

Box 1: Example of good practice: evaluation of teachers at the University American College Skopje

Teachers are evaluated regularly by their students at the end of each semester for each course that they taught, either in paper format or electronically. The evaluation is anonymous. Each professor receives feedback from the evaluation, and at the end of the academic year bonuses are given to professors that achieved high levels of student satisfaction (based on the average satisfaction from all courses that they taught in that academic year). Teachers with an average score below 70% (on a scale of 0-100) for two consecutive time periods (semesters) cannot teach any more at the University.

2.3.3 Teaching methods

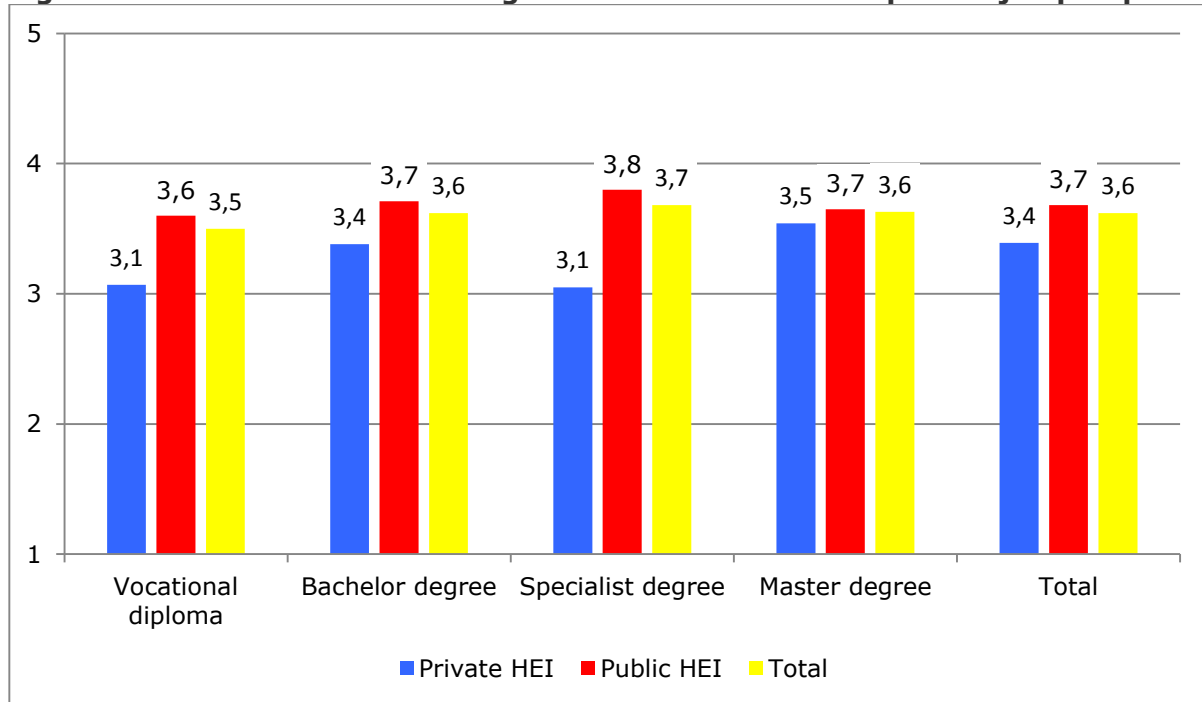
Interviewed stakeholders consider that many HEIs use out-dated curricula and teacher-focused approaches rather than student-centred learning promoted by the Bologna process.²⁵ Students are often expected to memorise material rather than understand it, and few develop strong practical or critical thinking skills.²⁶ There is an overemphasis on theoretical knowledge, while practical exercises are neglected and students' interactive skills (e.g. presentations) and IT skills are not developed.²⁷ Relatively few lecturers are interested in improving their teaching practices or curricula because there are few incentives for improvement. From the graduate survey we find that 67% of respondents consider that better teaching methods would have improved their job prospects after graduation either "a lot" or "very much".

²⁵ In many post-socialist countries, HEIs fail to respond quickly enough to labour market changes by reforming curricula or adopting new teaching methods (Sondergaard and Murthi 2012).

²⁶ Interview with Ministry of Education and Science.

²⁷ Interview with Public Employment Service.

Figure 5: Whether better teaching methods would have improved job prospects



Source: Graduate survey. Note: The question asked was "Regarding the study programme for your LAST degree obtained, to what extent would better teaching methods at your higher education institution have improved your job prospects after graduation? (1=not at all, 2= a little, 3= some; 4=much, 5= very much)". Overall difference between scores for public and private HEIs for are significant at 1% level.

Not only are graduates from public HEIs less satisfied with the quality of education they received than graduates from private HEIs, they are also more likely to think that better teaching methods would have helped them find a job (see Figure 5). Teaching methods in private HEIs are seen as more relevant and better tailored for equipping graduates with the right skills for the labour market. The differences in perception between graduates from private and public HEIs are largest for Specialist degrees and least for Master degrees. Overall, graduates from all institutions and degrees types tend to think that there is room for improvement of teaching methods – especially in comparison with EU countries, as showed our findings from a focus group.

A focus group of Erasmus Mundus alumni from the former Yugoslav Republic of Macedonia identified several differences between European HEIs and those in their country. In important difference is that EU HEIs have more flexible study programmes with a limited number of elective courses and a large number of optional courses to pick from. They have a better administrative infrastructure that makes the student experience more pleasant, and better libraries and access to online resources. Also, their teaching methods give students a more central role, alternating traditional lectures with more interactive methods (e.g. seminars, problem-solving classes).

Some observers consider that private HEIs have advantages over public HEIs (Sondergaard and Murthi, 2012) due to their greater incentives to deliver student-centred learning, use modern equipment, and provide effective faculty services, as their income depends on the continued willingness of students (or their parents) to pay tuition fees (Branković, 2014). Their teaching staff may be more available to students than staff in public HEIs, and they may offer students greater access to internships during their studies. From the graduate survey we find some evidence to support these views. While 51% of graduates who attended private HEIs believe that employers are "very" familiar

with the content of the programme, only 27% of graduates from public HEIs hold this belief ($p < 0.01$). Graduates from private HEIs are more likely to report having had “a lot” or “very much” freedom to compose their own study programme (47% versus 25%; $p < 0.01$); that their programme was vocationally oriented (78% versus 60%; $p < 0.01$); that classes in small groups were used “a lot” or “very much” (73% versus 43%; $p < 0.01$); that problem solving and creative teaching methods were used “a lot” or “very much” (78% versus 54%; $p < 0.01$); and that internships were used “a lot” or “very much” (39% versus 19%; $p < 0.01$). Conversely, graduates who attended public HEIs are more likely to say that teaching was conducted through lectures in large groups and that rote-learning methods were used “a lot” or “very much”. A greater proportion of those who went to public HEIs compared to private HEIs believe that better teaching methods would have improved their job prospects (72% versus 63% respectively).²⁸ All of this supports the view that teaching methods are quite different at public HEIs, compared to private HEIs, with potential adverse consequences for their graduates’ ability to make a smooth transition to the labour market.

2.4 Policy developments and gaps

In January 2015, Parliament adopted amendments to the HE law that introduced state examinations for each study programme at the end of the second and final years of undergraduate studies (students that fail these exams would not be able to continue their studies or graduate) and set stricter criteria for the appointment and promotion of professors. The proposed amendments provoked strikes by students and professors, mainly due to a lack of prior public debate and discussion. It was also seen as a direct interference in the autonomy of HEIs. Following the strikes, the implementation of the amended law was postponed until at least 2017.

Besides this, several initiatives have been adopted in recent years aimed at improving the transition of young people from HE to the labour market. Firstly, an obligation has been introduced for each student to undertake a one-month internship each academic year, to enable students to gain some work experience during their studies, to improve their practical skills, and to ease their transition to the labour market.²⁹ However, the requirement is not easy to implement due to the limited absorption capacity of the economy. In addition, the dense structure of study programmes gives little free time for students to take up internships.

Secondly, HEIs were required to ensure that 30% of the curricula be taught by business people.³⁰ This requirement aimed at introducing more practical learning into the curriculum. It was thought that the involved business people might also offer internships and employment opportunities to students. This measure has only been partly implemented, as employers have been unwilling to devote their time and energy to teaching, and due to weak human resource capacities at HEIs.

Thirdly, a national qualification framework (NQF) was adopted in 2014. Its implementation should contribute to a clearer definition of qualifications, facilitate the recognition of learning outcomes and enable comparability between national qualifications and qualifications acquired abroad improving graduate mobility.³¹ It should also help to reduce skill mismatch by defining qualification standards and by including

²⁸ The difference is significant at 1% level (Chi-square = 22.3, N=380).

²⁹ This obligation was introduced through the Law on Higher Education, Official Gazette No. 15/2013.

³⁰ This obligation was also introduced through the Law on Higher Education, Official Gazette No. 15/2013.

³¹ Encouraging developments had already begun in 2010 with the adoption of the Decree for the National Higher Education Qualifications Framework, following which the study programmes were re-designed by using the concept of learning outcomes and re-accredited by the Higher Education Accreditation and Evaluation Board (2011-2013).

employers in the process. The Law on the National Qualification Framework came into effect in September 2015 and an action plan has been prepared to implement the NQF. The latter includes qualification standards, procedures for professional qualification development, a methodology for the inclusion of qualifications in the NQF, a protocol for the inclusion of stakeholders and training for employers in their role in the NQF process. With the support of the European Training Foundation, a catalogue of existing qualifications has been prepared to reference the NQF with the European Qualifications Framework (EQF). A National Board for NQF has been established and Sectoral Committees for Qualifications are being formed, responsible for approving qualifications. Employers are included in the implementation process and best practices regarding the Sector Committees in the hotel, restaurant, tourism and IT sectors are being identified.

Fourthly, Boards for Cooperation and Public Confidence have been established at public HEIs in 2014 to assist harmonising HE provision with labour demand. These boards have an advisory role and comprise representatives of the business community with experience in the relevant fields of study. Most private HEIs now have business councils, which play a similar role.

Many policy gaps continue to hinder the development of the HE system. While the Bologna process has introduced reforms to some study programmes so that they better correspond to labour market needs, it has not yet led to a genuine reform of HE governance systems or teaching methods. Teaching methods at public HEIs still tend to place more emphasis on theory than practice, and students still have few opportunities to gain applied, practical knowledge and experience. In addition, as evidenced by the replies to both surveys (see section 5 below), graduates' interactive skills are not well developed even though they are vital for adapting to a changing labour market where people are likely to change jobs and careers throughout their professional life. Systems for collecting data on employers' demand for graduates as well as for forecasting the future skill needs of employers are still at an early stage of development. This constrains HE policymaking and efforts to enhance cooperation between HEIs and businesses. Tracer studies are not carried out by HEIs and no alumni networks are active. The funding of public HEIs is "input oriented" in relation to the number of staff employed, which has led to ineffective use of funds, inappropriate governance and weak quality assurance (Stich et al., 2011). The World Bank has argued that HEI funding in transition countries should be changed from an input orientation to "performance-based" funding (Sondergaard and Murthi, 2013).³² It is argued that such a change would improve incentives and the quality of HE provision.

3 Mapping graduate labour markets

For many years the labour market in the former Yugoslav Republic of Macedonia has been characterised by extremely low employment rates and high unemployment, even during the period of the socialist economy (Bartlett, 1991; Woodward, 1995).³³ Following independence and a difficult period of transition unemployment increased, peaking at around 37% in 2005. Since then, it has steadily fallen even during the recent economic crisis period. By 2015, the unemployment rate had fallen to 25.7%, a trend that has been unique within the Western Balkans where unemployment rates have generally been

³² This can be implemented through "per student financing" based on enrolments or more effectively on the number of graduates produced (or the completion rate) as is done in Denmark and the Netherlands (Sondergaard and Murthi, 2013: 159-60). The aim is to improve efficiency by using public finance to introduce an element of competition between HEIs.

³³ In 1988, the unemployment rate in the *Socialist Republic of Macedonia* was 21.4% (Bartlett, 1991).

on a sharp upward trajectory in recent years.³⁴ Moreover, between 2012 and 2014, the employment rate increased from 39% to 41.2%.³⁵ Nevertheless, these labour market indicators are still far worse than in the EU-28, where the average unemployment rate was 9.4% in 2015.³⁶ Moreover, most of the new jobs created in recent years have been low earning, and there has been little indication of structural change towards higher productivity jobs (World Bank, 2014).³⁷

This section maps the graduate labour market on the basis of official data, the findings from the graduate survey, and a survey of employers who employ HE graduates.³⁸ The next section identifies the difficulties faced by graduates in finding a job, the distribution of graduates by sector, and by the size of the enterprise or organisation in which they are employed. Section 3.2 analyses emerging opportunities for graduate employment and provides a forecast of the demand for graduates in 2018 in relation to current levels of supply by field of study. Section 3.3 identifies policy developments and gaps in relation to the graduate labour market.

3.1 Difficulties facing graduates in finding a job

Despite strong recent growth performance, the labour market situation of new HE graduates is difficult due to a high level of unemployment. As this study shows (see section 5 below), among graduates who find employment, many find jobs that require skills that are below their level of qualification. At the same time, employers complain about serious skill gaps among their graduate recruits, and that they have not been properly prepared by the HE system for the world of work.

Table 6: Unemployment and employment rates, 2013-2015 (in %)

	Total			HE graduates			Western Balkans	EU-28 total	EU-28 graduates
	2013	2014	2015	2013	2014	2015	2014	2015	2015
Unemployment rate	29.0	28.0	26.1	24.6	23.1	21.4	24.2	9.4	5.6
Employment rate	40.6	41.2	42.1	63.2	63.7	66.8	48.6	58.1	76.9

Source: State Statistical Office Labour Force Survey 2015 (Table 82 & 86) and Eurostat online data variable [lfsq_urgaed]. Note: data are for age group 15+; and for EU-28 for age group 15-74.

HE graduates generally experience better labour market outcomes than those with lower levels of education (see Table 6). In 2015, the employment rate of HE graduates was higher than the overall employment rate, and the unemployment rate of HE graduates was lower than the overall unemployment rate. However, the unemployment rate of HE graduates is almost four times as high as the EU average; and the employment rate of HE graduates is 10 percentage points lower than in the EU. The graduate survey shows that recent HE graduates do not have an advantage on the labour market, as their

³⁴ Eurostat online data variable code [lfsq_urgaed] (Data refer to the third quarter of 2015).

³⁵ Labour Force Survey, 2014, Skopje: State Statistical Office, Table 81.

³⁶ For 15-75 year olds, the closest point of comparison.

³⁷ It should be noted that the World Bank study refers to the years 2007-2011.

³⁸ The employer survey covered 227 employers that employ HE graduates (see Annex). Although the National Employment Service (NES) is required to keep information about jobseekers with their e-mail address, in practice this is not done and only the phone contacts of graduate job seekers and their employers are retained. Facing such difficulties in carrying out the online survey it is suggested that e-mail contacts should be collected through jobseeker' application forms and through the employers' electronic database created by the NES.

unemployment rate is 37%, the same as for all young people aged 25-29.³⁹ Therefore, in the first few years after graduation, HE graduates face a similar risk of unemployment as young people without a higher education. This is a further indication that the HE system fails to provide sufficient skills to many HE graduates. In addition, the employment rate of recent graduates is 54%, much lower than the employment rate of all graduates but above that of the working population as a whole.

3.1.1 Graduate employment by size of employer

The opportunity for HE graduates to find a job differs across employers of different size in terms of the number of employees. The distribution of graduate employment by employer size group can be identified from the employer survey, which received 227 responses from employers of all sizes, ranging from micro size (employing fewer than 10 workers) to large size (employing 250 or more).

Table 7: Graduate employment by employer size groups

	Distribution of employers in sample	Distribution of graduate employees	Average number of graduate employees	Median number of graduate employees	Density of graduate employment per employer
Micro	28.3%	3.2%	3.4	3.0	66.2%
Small	37.0%	14.6%	11.8	10.0	51.6%
Medium	28.3%	50.0%	52.6	50.5	61.4%
Large	6.3%	32.2%	152.5	76.5	29.9%
Total	100%	100%	29.4	11.0	57.2%

Source: Employer survey. Note: Micro employers are defined as those with fewer than 10 employees; small employers from 10 to 49; medium sized employers from 50 to 249; large employers with 250 or more. This is in accordance with the Eurostat definition of employer size groups.

Table 7 shows the average number of graduate employees in each size group among organisations that employ graduates. In the sample, small and medium sized employers (SMEs) employ about two thirds of all graduate employees. The density of graduate employment (the ratio of graduate employees to all employees) is lower among large employers than among other size groups. Among micro employers, on average two thirds of their respondents are graduates; conversely, among large employers less than one third of respondents are graduates. Thus, although micro firms do not employ more than a small fraction of graduate employees overall, those that do, tend to have a relatively large demand for such employees. The employer survey also shows that SMEs are more likely to be operating with high technology than other employers.⁴⁰ It is also worth noting that 67% of employers in the ICT sector are small sized. Since these may be the fast growth firms of the future, policy-makers who wish to expand graduate employment opportunities should not neglect them.

Most of the growth in employment has taken place among a relatively small proportion of employers. The employer survey reveals that 80% of all jobs created in the past three years have been created by just 24% of employers. Similarly, 80% of graduate jobs created have been created by just 33% of employers. This structure of employment dynamics is typical in market economies (Acs and Mueller, 2008; OECD 2009). The fast-

³⁹ The unemployment rate for 24-29 year olds in 2015 was 37.2% according to the Labour Force Survey, 2015. The graduate survey shows that the employment rate of new graduates is 54%.

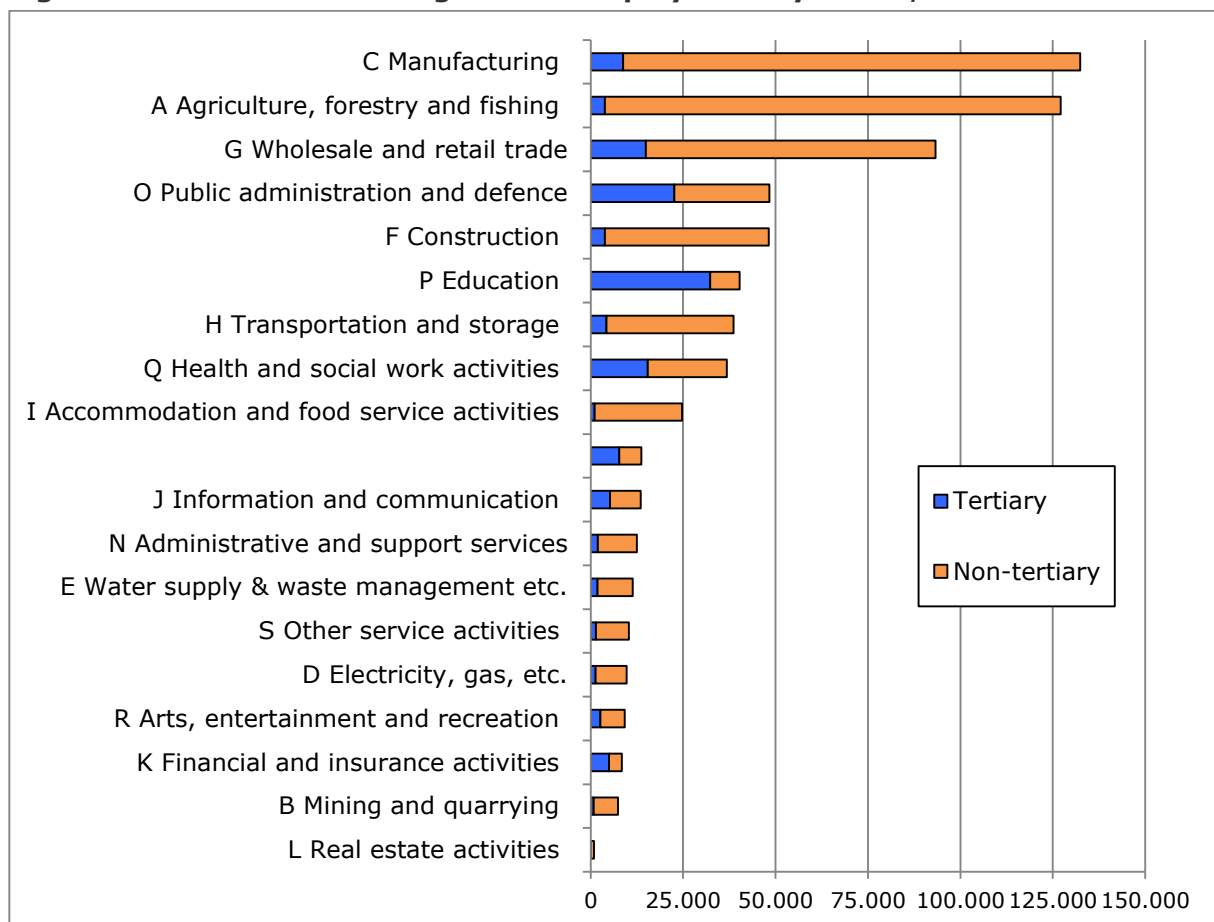
⁴⁰ 64% of medium sized employers are high technology organisations as are 36% of small employers, compared to just 6% of micro employers and 17% of large employers (Chi-square=19.9; p=0.018; N=59).

growth employers involved are sometimes called “gazelles”.⁴¹ The survey reveals that 11% of employers are gazelles. One respondent had started out as a micro enterprise with 5 employees in 2012 and had become a medium sized enterprise by 2015, with 89 employees, 64 of whom were graduates. Comparing the size of gazelles with other employers shows that gazelles on average employ significantly fewer employees than non-gazelles, indicating that gazelles are predominantly micro businesses or SMEs.⁴² However, there is no evidence that the gazelles on average employ proportionately more graduates than slower growing organisations.⁴³

3.1.2 Graduate employment by sector

The opportunity for HE graduates to find a job also differs across sectors. Most graduates are employed in relatively few sectors (see Figure 6).

Figure 6: Graduate and non-graduate employment by sector, 2014



Source: Labour Force Survey, State Statistical Office.

⁴¹ The definition of a gazelle, given by Eurostat, is a company that has been formed within the past three years and is expanding employment by at least 20% per annum over those three years. In Hungary, for example, about 1% businesses in the industrial sector that employ between 5 and 9 employees fall into this category as do 0.45% of businesses with 10 or more employees (Eurostat, variable [eip_pop3]).

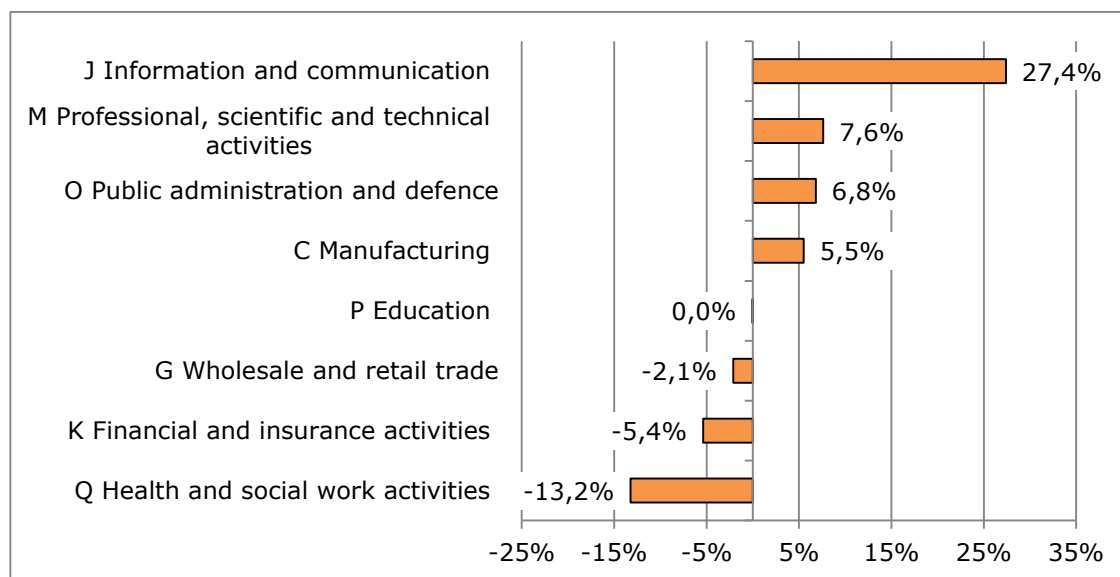
⁴² A t-test of differences in means between gazelles and non-gazelles give a t-statistic of 3.71, $p=0.000$, $N=121$).

⁴³ The density of graduate employment is not significantly different between the two types of employers (t-statistic=0.091, $p=0.927$, $N=121$).

While more than 50% of all employees are employed in the sectors of *Manufacturing, Agriculture, Forestry & Fishing, and Wholesale & Retail Trade*, more than 50% of HE graduates are employed in *Education, Public Administration & Defence, and Health & Social Work Activities*. It is perhaps surprising that only a small proportion of employees in manufacturing are HE graduates, but it does indicate the relatively low level of technology and skills in the manufacturing sector, and the need for technological upgrading to improve productivity and competitiveness of the sector.

Sectors differ markedly in the share of graduates they employ. In 2014, the share of HE graduates was relatively high in *Education (80%), Financial & Insurance Activities (59%)* and *Professional, Scientific & Technical Activities (56%)*. It is, of course, highly desirable that a large proportion of employees in these sectors should hold a HE degree.

Figure 7: Annual % change in graduate employment in major sectors of activity, 2013-14



Source: Labour Force Survey, State Statistical Office. Note: The sectors shown account for over 83% of graduate employment.

From 2013-14, overall graduate employment increased by 2.2%. Figure 7 shows that the fastest increase in demand has been for graduates with ICT skills. The government's policy of attracting foreign direct investment into special tax free zones seems to be driving an increase in employment in high technology industries, which may partly explain these changes. The Directorate for Technological Industrial Development Zones manages four Technological Industrial Development Zones in Skopje, Stip and Tetovo. Foreign investors benefit from 0% tax and customs duties, no labour restrictions, no municipality taxes, a symbolic land lease rate and direct State Aid up to €500,000. The country is among the top performers in the ease of doing business according to the World Bank Ease of Doing Business index.

Box 2: Technology and Industrial Development Zones as a way to create jobs

One recent investment has been made by the German woven fabrics producer in the Stip industrial zone with an investment of €15 million producing insulating materials. In addition, a service center in each zone provides consultation services for investors and customs offices provide fast customs clearance. Domestic companies such as "High-Tech" are also beginning to open factories in these zones and supplying components to the motorcar industry, as well as producing other high technology products for the military

and airline industries. The zones are expected to boost job creation and attract more foreign investment in high value-added and export sectors.⁴⁴

3.2 Forecast of future demand for graduates

In order to identify likely future demand and supply for HE graduates, forecasts are needed to predict future changes in labour market needs. Policy-makers can use such forecasts to adjust education strategies, or as an early warning of impending change.⁴⁵ In this section we set out our own forecasts of the likely demand for HE graduates by field of study in the period up to 2018. The analysis is carried out on the demand side, projecting forward the annual change in demand for graduate labour on the basis of existing information on graduate employment by sector of economic activity taken from national labour force surveys. The methodology of the forecast follows that of Cedefop (2010), which involves identifying “expansion demand” and “replacement demand”. Expansion demand is the extra demand arising from economic growth, while replacement demand is that arising from retirement and migration.

Table 8: Growth of real GDP, total and graduate employment (2015-18)

	GDP growth (%)	Employment growth (%)	Graduate employment growth (%)
2015	3.2	2.2	3.2
2016	3.2	2.3	3.2
2017	3.3	2.4	3.3
2018	3.4	2.5	3.4

Source: Projections for GDP and employment growth from IMF World Economic Outlook database; Employment growth 2014-15 from ECFIN CCEQ 2015 Q4.

Economic growth has been robust since 2015 and is expected to continue at a rate of around 3.3% over the next few years (see Table 8), although political instability may adversely affect this forecast. The strong growth performance has been attributed to double-digit growth in investment driven by activities in the Technological Industrial Development Zones and public infrastructure (IMF, 2015). The IMF forecasts growth of 3.2% in 2015 increasing to 3.4% in 2018.⁴⁶ Growth in total employment is forecast to be below the trend of GDP growth due to expected increases in productivity. Graduate employment growth (demand for HE graduates) is expected to be given a boost due to skill-biased technical progress and so is expected to match the overall rate of economic growth. The forecast for the growth of graduate employment (employment of HE graduates) is made on the basis of assumed employment elasticity with respect to GDP equal to unity.⁴⁷ Given this, and data on employment growth from the Labour Force Survey, we derive an estimate of the likely increase of graduate employment up to 2018 (see Table 9).⁴⁸

⁴⁴ World Bank Press Release: “World Bank supports FYR Macedonia in strengthening its competitiveness”, 13 March 2014, available at <http://www.worldbank.org/en/news/press-release/2014/03/13/world-bank-supports-fyr-macedonia-strengthening-competitiveness>.

⁴⁵ It should be noted that all forecasts are by their nature imprecise and subject to revision as circumstances change. It has been said that every forecast is inevitably incorrect. Nevertheless a forecast provides a framework for policy makers to use as a benchmark against which to make their own judgments and decisions.

⁴⁶ World Economic Outlook, October 2015.

⁴⁷ This is a crucial assumption of the forecast. From a theoretical point of view, one would expect different factors to drive the employment elasticity. First, productivity growth would be expected to give rise to elasticity below 1. Second, skill-biased technical change would be expected to drive the employment elasticity above 1. The assumption of a unitary elasticity balances both these opposing influences.

⁴⁸ Projections for real GDP growth, but not for employment growth, are available for the whole period from the IMF World Economic Outlook database. We take the latest available data on employment growth from ECFIN

Expansion demand for HE graduates is estimated by applying the growth forecasts shown in Table 8 above to the data on the sectoral distribution of graduate employment from the Labour Force Survey for 2014.⁴⁹ Replacement demand is based on the assumption of a 40-year working life giving a baseline 2.5% retirement rate, and on Eurostat data for net migration.⁵⁰ Expansion demand and replacement demand are summed to give an overall estimate of the annual change in demand for graduates by sector (see Table 9).

Table 9: Forecast for expansion, replacement and total demand for new graduates by sector of activity, 2015-18

Sector	Expansion				Replacement				Total demand			
	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018
A	120	128	136	140	108	111	115	119	228	239	251	259
B	25	27	29	30	23	24	24	25	48	51	53	55
C	271	288	307	317	243	251	259	268	514	540	566	585
D	41	44	46	48	37	38	39	41	78	82	86	88
E	57	61	65	67	51	53	55	57	109	114	120	124
F	119	127	135	140	107	111	114	118	227	238	249	258
G	462	492	524	541	415	429	443	457	878	921	966	998
H	131	139	148	153	118	121	125	129	249	261	274	283
I	33	36	38	39	30	31	32	33	63	67	70	72
J	162	172	183	189	145	150	155	160	307	322	338	349
K	153	163	174	179	138	142	147	152	291	305	321	331
M	239	254	271	280	215	222	229	236	454	476	500	516
N	60	64	68	70	54	56	57	59	114	119	125	129
O	701	746	794	820	629	649	671	693	1,330	1,395	1,465	1,513
P	1,001	1,065	1,134	1,171	899	928	958	990	1,900	1,993	2,092	2,161
Q	478	508	541	559	429	443	457	472	907	951	998	1,031
R	81	86	92	95	73	75	78	80	154	161	169	175
S	44	47	50	52	40	41	42	44	84	88	93	96
Total	4,180	4,449	4,735	4,891	3,754	3,874	4,002	4,134	7,934	8,322	8,736	9,024

Source: Table 8 and estimates of replacement demand. Note: A=Agriculture, forestry & fisheries; B=Mining & quarrying; C=Manufacturing; D=Electricity, gas, steam & air conditioning supply; E=Water supply; F=Construction; G=Wholesale & retail trade; H=Transportation & storage; I=Accommodation & food service activities; J=Information & communication; K=Financial & insurance activities; M=Professional, scientific & technical activities; N=Administrative & support service activities; O=Public administration & defence, P=Education; Q=Health & social work activities; R=Arts, entertainment & recreation; S=Other services.

CCEQ 2015 Q4 and project these forward using the historical relation between GDP growth and employment growth.

⁴⁹ The same rate of expansion demand is applied to each sector. Labour Force Survey data are not sufficiently robust to identify differential growth rates per sector, as these are too sensitive to the base year used for calculation. Several experiments were done using various estimated sectoral growth rates, which demonstrated that the forecasts over a period of three years are sensitive to realistic differences in assumed sectoral growth rates. Further analysis should be undertaken to refine the forecasts according to better predictions of sectoral change.

⁵⁰ According to Eurostat data, the net migration rate is 0.2% p.a., and we adjust replacement demand accordingly. This figure is calculated from Eurostat online data "Population change - Demographic balance and crude rates at national level" – variable code [demo_gind] and population data.

On this basis, forecasted total graduate employment is expected to be around 153,000 by 2018, an increase of 14,000 from the position in 2015, or around 4,700 each year. This increase is the expansion demand that results from the net increase in job openings for graduates. To obtain a forecast for the total demand of HE graduates, we add the “replacement demand” arising from the retirement of currently employed graduates and from other demographic reasons for which people leave the labour force. Applying this to our estimates of graduate employment, we derive an overall forecast of the annual demand for new graduates (the sum of expansion demand and replacement demand), which is expected to increase from about 7,900 in 2015 to over 9,000 in 2018 (see Table 10).

Table 10: Annual new demand and supply of graduates by field of study, 2015-2018

Field of study	Demand				Supply	Surplus & shortage
	2015	2016	2017	2018	2014	2018
01 Education	683	717	752	777	579	-198
02 Arts & Humanities	581	609	639	660	1,082	422
03 Social Sciences, Journalism & Information	1,382	1,450	1,522	1,572	1,209	-363
04 Business, Administration & Law	1,978	2,075	2,178	2,250	2,690	440
05 Natural Sciences, Mathematics and Statistics	763	801	841	868	284	-584
06 Information & Communication Technologies	518	544	571	589	677	88
07 Engineering, Manufacturing & Construction	764	801	841	869	916	47
08 Agriculture, Forestry, Fisheries & Veterinary	186	196	205	212	213	1
09 Health & Welfare	798	837	879	908	827	-81
10 Services	280	294	308	319	863	544
Total	7,934	8,322	8,736	9,024	9,340	316

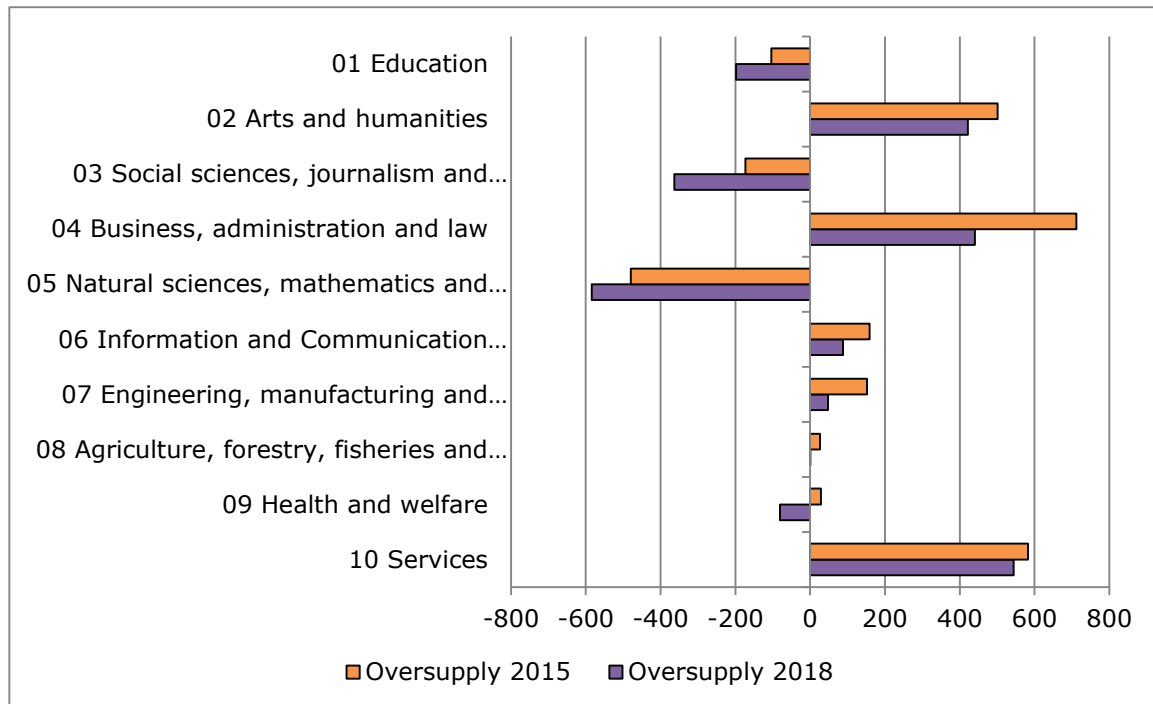
Note: Demand estimates are derived from a matrix of coefficients that relate sector of employment to field of study from the graduate survey; supply estimates are from the HE provision database taking the number of students who completed studies in 2013-14 academic year by field of study.

Changes in the demand for graduates at sector level have implications for the changes in the supply of graduates that should be anticipated by the HE system. In order to address this issue we use data from the graduate survey to estimate a transformation matrix that connects the sector in which graduates are employed to their field of study at the last HEI they attended.⁵¹ This generates forecasts of the demand for graduates by field of study (see Table 10). This is contrasted with the supply of graduates, which we derive from the HE provision database. Contrasting the forecast increase in demand for graduates with current levels of supply of graduates (as a benchmark) gives the

⁵¹ In order to obtain reliable estimates the entire graduate survey for the Western Balkan countries is used to create the transition matrix. This is justified on the grounds that the technological level in each country is rather similar and so it can be expected that an average measure of inputs of graduates per unit of output can be a good approximation to the country coefficients.

projected levels of oversupply or shortage of graduates by field of study in 2018, assuming current levels of supply are held constant.⁵² By 2018 the supply of graduates emerging from the HE sector is expected to be in rough balance with the demand for new graduates due to expected economic growth. It should be emphasised that these are only estimated forecasts and should only be used as a general guide to a likely direction of change *vis à vis* current levels of provision, and should not be taken as accurate figures for planning purposes.

Figure 8: Surpluses and shortages of graduates by field of study, 2015 and 2018



Source: Table 10. Note: Positive bars represent excess supplies. Note: Scenario A assumes no structural change in the economy

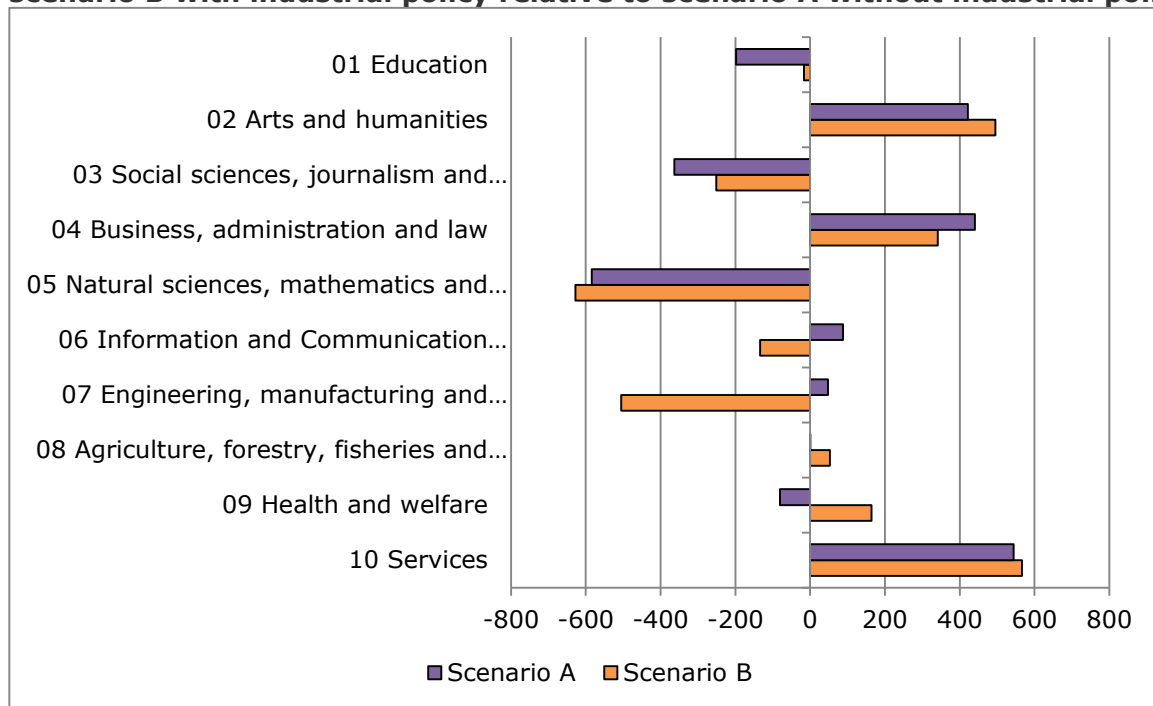
Figure 8 shows the gap between annual new supply and new demand for HE graduates in 2015 and 2018 by broad fields of study. This gives a picture of what the pattern of oversupply would look like if there were no change in supply of HE graduates up to 2018. In doing this, the analysis provides a guide as to where the HE system should look to make adjustments to achieve a better balance between supply and demand. The analysis presented in Figure 8 reveals that there is a large oversupply of graduates in the fields of *Arts & Humanities*, *Business, Administration & Law* and *Services* (i.e. studies in catering, travel, tourism, leisure, and sports). The largest potential emerging imbalances in the form of deficient supply (skill shortages) are expected to be in the fields of *Natural Sciences, Mathematics & Statistics* (one of the STEM fields). In the absence of further expansion in the number of students graduating in this field of study, these skill

⁵² Oversupply is defined here as the difference between the supply of graduates that completed their studies in 2014, which is taken as a benchmark and the projected demand for graduates in a future year (e.g. 2018). It is therefore not to be understood as the difference between the annual demand and annual supply of graduates in the same future year, since we do not model a change in the supply of graduates over time. For policy purposes, it seems more appropriate to measure oversupply in this way, so that policy makers may see the consequences of holding HE output constant at current levels, and on this basis identify the changes that might be needed in the future to achieve a demand-supply balance.

shortages will increase over time. This reinforces the conclusion that it will be important to expand the supply of graduates in STEM fields in the future.

The above analysis is based upon the absence of structural change in the economy. If instead of the status quo, the government were to initiate an industrial policy that supported a more rapid development of the knowledge intensive manufacturing sectors, the forecast would be different. In order to gauge the magnitude of possible changes, we develop a scenario in which the *Manufacturing* sector, the *Construction* sector, the *Information & Communication* sectors, and the *Professional Scientific & Technical* sectors are supported by a range of measures that would increase their growth to a rate of 10% per annum over the period up to 2018, while other sectors are assumed to expand at a more leisurely 1.5% per annum (while maintaining the same overall increase in the demand for graduates as would have occurred without the change in policy). The resulting change in our forecast for deficient supply for graduates by field of study is presented in Figure 9.

Figure 9: Difference in surpluses and shortages of graduates in 2018 under scenario B with industrial policy relative to scenario A without industrial policy



Source: As Figure 8. Note: Scenario A represents the status quo; scenario B assumes rapid growth in manufacturing, ICT, construction, and professional & scientific sectors, and slower growth in other sectors. The horizontal bars show the changes under scenario B compared to scenario A.

This scenario of an industrial policy that focuses on boosting growth in knowledge intensive sectors changes the expected future pattern of excess supply of graduates by field of study from that presented previously in Figure 8. Under the new industrial policy, the proportionate deficient supply (shortage) of graduates increases in several fields of study, including prominently *Engineering, Manufacturing & Construction* and *Information & Communication Technologies* versus the baseline scenario A in which no structural change takes place. The existing shortages in *Natural Science, Mathematics & Statistics* graduates would increase. The scenario shows the close inter-relationship between the government's policies concerning industrial policy, which creates new patterns of demand for skilled workers, and HE policy, which creates new patterns of supply. These two policies should clearly be carefully coordinated to ensure a good matching of graduates with the skills and qualifications that will be required in the future.

3.3 Policy developments and gaps

The National Employment Strategy 2011–2015 and the National Action Plan on Employment 2011–2015 aimed to increase funding for active labour market policy (ALMP) measures, targeting groups that have difficulties accessing the labour market, including long-term unemployed people, women, young people, vulnerable groups such as the Roma minority and disabled people, and older people. The Strategy had a target of raising the youth employment rate for those aged 15–29 years from 26.5% to 29% by 2015. The Strategy uses an unusual definition of the age group for the youth employment rate of 15–29 year olds⁵³, whereas the standard age group used by the Labour Force Survey published by the State Statistical Office (and by Eurostat) is for the 15–24 year old age group, and so it is impossible to judge from published data whether the target has been met. While the employment rate for 15–29 year olds was 26.5% in 2014⁵⁴, the employment rate for 15–24 year olds was only 15.2%. This latter variable increased to 17.3% by 2015 (SSO, 2016), so it appears that some progress has been made for this age group, and hence by implication for the 15–29 year old age group also.

Active employment measures include support for self-employment, formalisation of informal businesses, retraining, public works, internship programmes and employment subsidies for vulnerable groups. Self-employment is promoted through subsidized credits to individuals who establish a business. In March 2014, the Government launched a programme to stimulate youth employment by waiving employers' obligations to pay social security contributions for the first 12 months of employment, provided that they keep the new worker on their payroll for at least two years. Despite the improvements both in the design and financing of ALMPs, spending is still comparatively low relative to the magnitude of unemployment in the country. Spending on ALMPs can be compared to overall unemployment (active jobseekers). In 2013, the authorities spent about €50 per jobseeker, whereas the lowest spenders among the EU countries in 2012 were Romania (€53 per jobseeker), Croatia (€210) and Bulgaria (€214).⁵⁵ The first impact evaluation of the ALMPs was carried out in 2014, covering several active programmes – the wage subsidy programme, the programmes for self-employment, for internship, for training, for advanced IT skills and for shortage occupations – all of which were implemented from 2008 to 2012. Young, unemployed HE graduates are involved in all these programmes. They are the main beneficiary of the internship programme, and are largely represented among the participants in the training for advanced IT skills and the programme for self-employment. Internships and training for a known employer are the most effective measures, followed by self-employment and training in advanced IT skills (Mojsoska-Blazevski and Petreski, 2015). The other ALMPs were not found being effective.

Box 3: Good practice example in active labour market policy: the Internship Programme

The Internship Programme aims at helping young people gain work experience with the private sector employers. It is expected to improve their employment prospects, and is similar to the traineeship programme implemented in the EU. The target group are unemployed young people aged up to 29 years who have completed secondary or tertiary education and are registered at the Employment Service Agency (ESA). The internship lasts three months and participants receive a net amount of 6,200 denars

⁵³ Such age range should reflect the prolonged entry of young people into the labour market, given the increased enrollments into HE.

⁵⁴ According to the Action Plan on Youth Employment 2015.

⁵⁵ Otherwise, the spending on ALMPs is comparable to that in the countries in the Western Balkan region, and to some of the EU member states (for instance, Slovakia and Estonia), although being at a generally low level (below 0.1% of GDP).

(approximately €100) per month, and insurance for health and safety at work. Employers who are interested in receiving interns apply to the ESA and provide a programme of training for them. In 2012, an obligation was introduced that employers employ at least 50% of the interns taken through this programme, which had not been the case previously. In 2015, this programme covered about 1,000 young people.

The size of the programme was increased in 2015 following a positive impact evaluation. The evaluation study, which assessed the internship programme in 2010 and 2012 (Mojsoska-Blazevski and Petreski, 2015), showed that it improves the employment prospects of participants, increasing their employability by 25 to 31 percentage points (in 2010 and 2012, respectively) compared to non-participants (control group). The evaluation found that although few interns were hired at the end of their internship, they gained long-term benefits and that the practical knowledge and skills they gained are important for their future success in the labour market.

The adoption of an Innovation Strategy (2012) and the Law on Innovation Activity (2013) has provided the legislative grounds for the establishment of the Fund for Innovation and Technological Development and is also expected to contribute to the creation of new jobs for HE graduates. In 2015, the Fund for Innovation and Technological Development awarded the first grants for start-ups, transfer of technology and know-how. During 2015-2019 the Fund will award grants in total of €9 million in support to innovations. Most programmes of the Ministry of Economy are focused on general improvements of the business environment. The Ministry of Economy also implements several programmes aimed at improving the situation of young educated people in the labour market. These are mainly programmes related to supporting start-ups and entrepreneurship such as business plan contests with grants for the winners to start their own businesses, although the budget for these measures is small.

The recent increase in the inflow of FDI and the establishment of new foreign-owned companies has created a new demand for specific new skills that were not previously in demand on the labour market (Arias et al., 2014). The demand for new skills is increasing, i.e. for the interactive skills that few graduates have, as they are not developed in the HE system. Such interactive skills cannot be easily automated (World Bank, 2015). However, both employment policies and HEIs are slow to adjust to these new demands.

As a major constraint to better labour market policies, interviewees mentioned the lack of interest and engagement of employers, as well as the existence of a relatively large informal sector. Another constraint is the lack of a skill forecasting system. One source of information is the skills demand analysis (SDA) carried out by the Employment Service Agency (ESA). The SDA has collected information from employers since 2007 about short-term recruitment (over 6-12 months), the need for specific skills, and occupational shortages. The purpose of this survey is to detect short-term occupational shortages leading to the training of unemployed workers in those specific occupations (shortage skills or occupations). However the usefulness of the survey for anticipating future skills needs of HE graduates is limited for several reasons. Firstly, it provides only a short-term prediction, which is not very useful for HE policy. Secondly, it does not provide much information relevant to HE graduates' skills, as it focuses on the demand for those with secondary (vocational) education. Thirdly, the survey is biased towards companies employing less skilled workers.

In recent years there have been some efforts as to build a labour market forecasting system. For instance, through a twinning project⁵⁶, the MLSP developed a long-term labour market forecast (by sectors, occupations) and an analysis of levels of educational mismatch of employees to their jobs. However, the model has had little practical use for HE policy. The Ministry of Education and Science, supported by the World Bank's Skills Development and Innovation Support Project, has established a Skills Observatory Department to regularly monitor and analyse labour market skills needs. It is at the early stage of development and its success is depends on external expertise and capacity building activities. In order to complement these initiatives, employers and their representatives such as Chambers of Commerce should identify skill shortages in the labour market and publicise these to HEIs and to potential students about to embark upon a HE education.

4 Transition from higher education to the labour market

Once HE students have completed their studies they face the challenge of making a successful transition to the labour market. An unsuccessful transition represents a waste of resources that the former Yugoslav Republic of Macedonia cannot well afford. An initial period of unemployment or inactivity after leaving HE can lead to a depreciation of the human capital that has been built up over several years (Mroz and Savage, 2006). An inability to find a job that is well matched to the field of study followed at HEI, or the level of studies undertaken can reduce the return on investment (Robert, 2014). Indeed, the success of graduates' transition to the labour market is crucial for the improvement of economic competitiveness and for the future growth of the economy.

In common with many young people, HE graduates in the former Yugoslav Republic of Macedonia face a difficult transition to stable employment (Elder, et al., 2013) and the high unemployment rate of recent graduates suggests that they face major obstacles in their search for a job. The graduate survey shows that employed graduates have spent on average sixteen months to find their first job after graduating from HE. Although they have been in their current job for an average of two and a half years, about a half have experienced at least one spell of unemployment, after having been in their first job for an average of sixteen months. Currently unemployed graduates have also had a precarious entry to the labour market, having spent on average almost one and a half years in unemployment. They have also spent almost one year as an employee, having taken nine months to find their first job. This is suggestive of a pattern of unstable attachment to the labour market and that the transition from HE to the labour market is far from being a smooth process for many graduates.

It goes without saying that a major contextual reason why graduates have difficulty in finding a stable job is the high level of unemployment in the country, which means that there are too few jobs available for all the new graduates produced each year by the HE system. This is not an absolute barrier, as employers will often prefer an overqualified recruit to a less qualified one, even if the qualification is above the requirement of the job. However, some HE graduates are reluctant to accept jobs that they feel are below what they deserve. We return to this issue in section 5 below.

In this section we explore the challenges facing both graduates and employers in the graduate labour market. In section 4.1 we begin by examining the relations between HEIs and employers and emphasising the need for improved cooperation between them. We then turn in subsection 4.2 to examine the challenges facing graduates in the labour

⁵⁶ A twinning project is an aid programme activity through which a civil servant from an EU donor country is posted to advise within a Ministry in a beneficiary country.

market, including the lack of formal assistance to find a job, which leads many graduates to rely on the support of friends and family, which in turn disadvantages those without suitable connections. In subsection 4.3 we address the problem that employers face in taking on new graduate recruits including their dissatisfaction with the skills and competencies of new graduate recruits, the skill gaps which that their new graduate recruits have in relation to the requirements of the workplace and the consequent need that employers have to provide additional training to their new graduate employees.

4.1 Limited cooperation between HEIs and employers

A major challenge facing HEIs is to develop cooperative relations with employers. Cooperation is needed for the development of appropriate and up-to-date curricula, for placing students in companies for internships, for finding jobs for graduates, and for improving HEI career guidance. This is also a problematic issue in the EU, where many countries are making great efforts to improve university-business cooperation. The most common forms of such cooperation are over curriculum design and delivery, development of individual courses, exchange and mobility programmes, continuing education and lifelong learning, and entrepreneurial education (Healy, 2012: 21). In the EU, cooperation between employers and HEIs is fairly common. Employers participate in decision making or consultative bodies within HEIs in 22 countries, are actively involved in curriculum development in 19 countries and frequently participate in teaching in 15 countries (Eurydice, 2014: 67). Employer cooperation with HEIs is often facilitated through government support for university-business cooperation projects.

In order to gauge the level of such cooperation, the employer survey asked respondents to indicate how frequently they discuss changes in study programmes with HEIs. The responses indicate that 28% of employers responded “never”, 53% responded “rarely”, while only 19% responded “often”. When asked how frequently they cooperate with a HEI in the recruitment of graduates, 46% responded “not at all” or “a little”. Overall, these answers suggest that cooperation between employers and HEIs is rather limited. Yet, most employers believe that such cooperation would improve the recruitment process. Moreover, when it occurs, cooperation over study programmes and recruitment improves the matching of HE graduates to their work activity.⁵⁷

The employer survey shows that cooperation between HEIs and employers in the former Yugoslav Republic of Macedonia is the highest in the Western Balkan region. This may be explained by the fact that, by law, employers’ representatives are required to participate in “boards of cooperation” at public HEIs. Indeed, HEIs are legally required to have a third of curricula taught by practitioners. Employers also actively participate in the formulation of employment policy by participating in committees, working groups and the Socio-Economic Council. In 2014-2016, as part of the activities for implementation of the NQF, numerous workshops with employers in the areas of civil engineering, tourism and ICT raised awareness on employers’ role in the development of qualifications and occupational standards, to increase the relevance of qualifications for the labour market.

4.2 Challenges facing graduates on entering the labour market

A major challenge facing graduates on entry into the labour market is the relative lack of assistance from formal institutions such as the career guidance services within HEIs and the public employment services outside HEIs. Due to this, graduates rely mainly on friends and family to find a suitable job, giving rise to charges of nepotism and corruption

⁵⁷ When asked how much effect such cooperation has on matching graduate employees to the job almost two thirds (65%) responded “very much” or “a lot”, or “somewhat”, while in relation to cooperation over recruitment, four fifths (80%) answered in the same way.

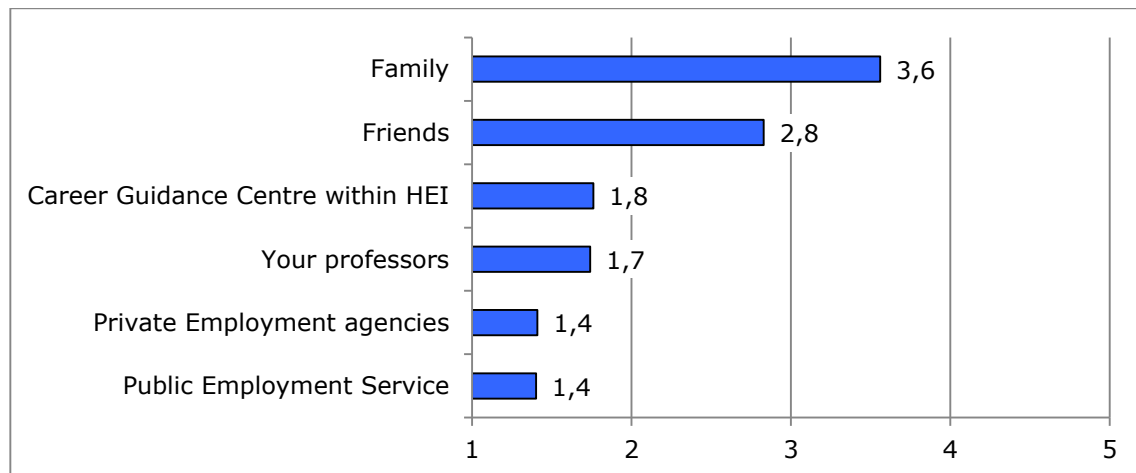
in the graduate labour market. Another key challenge is the lack of work experience that many graduates have when they enter the labour market, as well as the problem that the HE system does not equip them with sufficient and relevant skills, which limits their job prospects. In this section we address these issues in turn.

4.2.1 Lack of assistance in finding a job

In recent years, the ESA has improved and modernised the services it provides to firms and jobseekers. Several programmes and associated measures have been implemented to increase graduate employment. These include job fairs, mobile phone applications that enable access to job adverts published by the ESA, internet access for employers to search the ESA database of job-seekers, small message services for unemployed job seekers, job clubs, and training programmes organised by the ESA for the unemployed. However, insufficient staffing and financial resources limit the effectiveness of ESA. The high ratio of unemployed graduates to the number of ESA staff overburdens the system. Moreover, some local ESA offices have limited equipment, space or other infrastructure. Employers do not view ESA as an effective channel for recruitment, and so few graduates find a job through the mediation of ESA.

Although several HEIs have career guidance offices, they are “not particularly helpful” (OECD, 2016: 126) as students seldom use them, preferring to seek information by other means. In recent years, most HEIs have established career counselling offices, often supported by international donors, but their role and effectiveness is limited. Their activities mainly involve ensuring internships for students, providing training in writing CVs, and organising career days. Career offices provide little assistance to students to find a job, as employers use other recruitment channels rather than contacting HEIs. Alumni associations are few in number and not well organized. They provide networking opportunities for HE alumni, information about internships and job openings, seminars and training.

Figure 10: Help to find a job after graduation from alternative sources



Source: Graduate survey. Note: Responses are scored on a scale of 1-5, where 1=“no assistance” and 5=“very much assistance”.

Figure 10 confirms that family and friends are the most important source of assistance in finding a job after graduation, while HEI career guidance centres and the ESA provide relatively little assistance in finding a job. This suggests that the strength of informal contacts in finding a job is a very important factor in graduates success or otherwise in finding a job. In this situation, nepotism can be an important factor in job search. The

policy implication is that more effort should be made to ensure that all graduates have full information about available jobs, and that they should receive more support in finding a job on an equal basis for all job seekers, irrespective of the extent of their connections or family ties.

Box 4: Comparing the HE transition to the labour market with the EU: findings from a focus group

When it comes to labour market transition, Erasmus Mundus alumni identified a key priority in strengthening the role of the career centres and of student networks (e.g. organisations, clubs) at the HEIs that proved to have significant impact in improving students' employability.

Source: focus group report.

On a more general level, the career guidance and counselling services need to be strengthened at earlier stages of education and not limited to the period of transition to the labour market. Secondary school leavers, as well as HE students and graduates, should be informed about a wide range of professions in order to improve their choices of study programmes at HEI.

4.2.2 Lack of prior work experience

The limited opportunities that students have to engage in practical work during their studies are a major obstacle for skills development and the employment prospects of graduates. The employer survey shows that 74% of employers attach "a lot" or "very much" importance to having previous work experience when making a decision to recruit a new graduate. Many of the job vacancies that employers are obliged to report to the ESA require prior work experience. This excludes many young graduates, as few of them meet this criterion. Employer representatives confirm that a lack of work experience is widespread among HE graduates and that their knowledge is inappropriate for the workplace, often due to out-dated teaching methods and material. Greater financial support for taking on interns could encourage employers to recruit them and this could be one way to build the work experience of both students and graduates.

From the graduate survey we find that, while 72% of respondents had experienced some form of work experience or an internship during their period of studies, only 45% of them found such experience to be "a lot" or "very" useful to their learning outcomes, and 35% found it to be only "a little" or "not at all" useful. This may be because internships are useful only where they are supported by close cooperation between HEIs and employers, and where an element of learning is built in to the internship and closely supervised. Since relatively few employers actively cooperate with HEIs it is not surprising that a substantial proportion of graduates report that their internship experience had not been very effective. Moreover, work experience or internships while studying do not seem to ensure a graduate success in job search as there is no significant relationship between the amount of work experience undertaken at HEI and the subsequent labour force status reported at the time of the survey. Despite that, having engaged in work experience or internship while at HEI improves the chances for a graduate to find a job that is well matched to the level of qualification ($p < 0.1$).⁵⁸

⁵⁸ While three tenths of those who had had no work experience (or internship) held a job that was not well matched to their level of qualification at the time of the graduate survey, only two tenths of those who had no work experience held a well-matched job (Chi-square=13.1, $p=0.107$, $N=190$).

4.3 Employers' challenges in taking on new graduates

Employers face many challenges in taking on new graduate recruits. In this section we first consider the extent of employers' dissatisfaction with graduate skills, then analyse the nature of the skill gaps that employers face, before turning to a discussion of the extent of training that employers feel they must provide to make up the deficiencies of the HE system in providing graduates with the required skills.

4.3.1 Dissatisfaction with skills of new graduates

Employers do not hold very positive views concerning the skills of their new graduate recruits. As one interviewee stated, "employers perceive graduates as having insufficient and inappropriate skills, and are not ready to pay for the initial on-the-job training".⁵⁹ This low perception is backed up by the findings of the employer survey, which shows that employers on average score their satisfaction with the skills of their graduate employees at just 6.4 out of 10 (the maximum degree of satisfaction on a 1-10 scale). Employer satisfaction with the skills of graduates depends upon a variety of factors. Satisfaction with graduate skills is greater among employers in the private sector than the public sector ($p < 0.05$), and greater among high technology employers than low technology employers ($p < 0.01$).⁶⁰ This could reflect the preference of more skilled graduates to work in high technology companies in the private sector. It also suggests that there is a limited supply of skilled graduates who seek employment in high technology sectors. On this interpretation, the remaining graduates with a low level of skills mostly find work in lower technology sectors, but do not satisfy employers with their skill levels. Employer satisfaction with skills is also greater among employers that cooperate with HEIs, demonstrating again the importance of such cooperation for graduates' ability to find a suitable job.⁶¹

In addition, the employer survey shows that 35% of respondents believe that graduate employees bring "no", only "a little" or just "some" added value in comparison with the skills of non-graduate employees. This highlights the importance of improving the quality of the HE system, as it is a costly exercise to spend scarce resources on a HE system that does not deliver improved value added among HE graduates in relation to secondary school leavers. Employers whose graduate recruits bring more value added compared to non-graduates are more likely to be in the private sector ($p < 0.1$), high technology employers ($p < 0.1$) and fast-growth employers ($p < 0.01$).⁶² This suggests that the public sector has become an employer of last resort for those less successful graduates who have not accumulated much human capital in the HE system; and the same can be said for low technology, low productivity employers who do not have much business success. The findings also point to the vital importance of the HE system in delivering additional skills to their graduates, as employers who manage to recruit graduates with higher level of human capital tend to be more successful in terms of growth than other employers. Employers that cooperate with HEIs over recruitment are more likely to say that their graduate recruits bring added value compared to non-graduates ($p < 0.01$).

⁵⁹ Interview with Employers' Association.

⁶⁰ Satisfaction with graduate skills scores 7.3 among private sector employers and 5.9 among public sector employers (t -statistic=2.89; $p=0.005$; $N=82$). Satisfaction with skills scores 8.2 among high technology employers but only 6.6 among other employers (t -statistic = 2.18; $p=0.035$; $N=44$).

⁶¹ Satisfaction with graduate skills scores 7.2 among employers who cooperate with HEIs over recruitment but only 5.3 among employers that do not (t -statistic = 4.05; $p=0.000$; $N=98$).

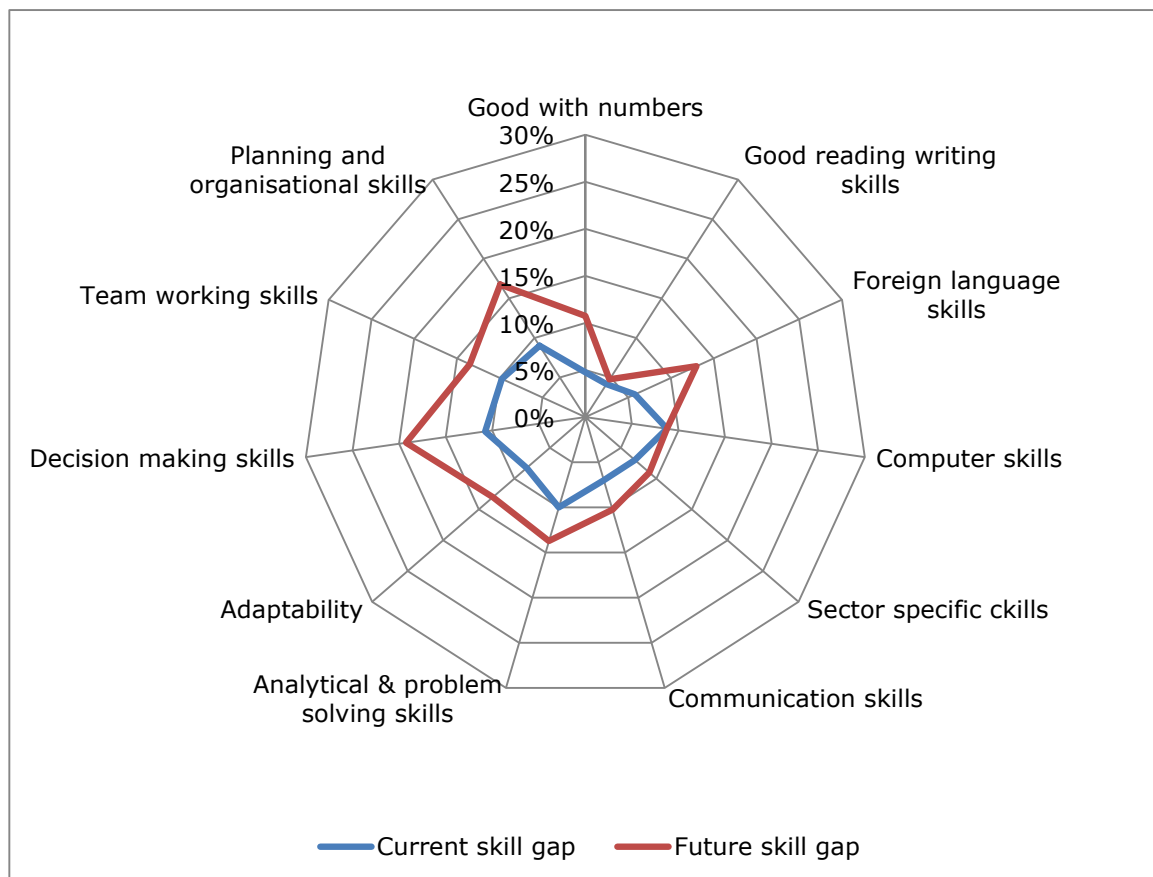
⁶² Fast growth employers are defined as those where the number of employees has increased by more than 10% per annum over the last three years.

4.3.2 Graduate skill gaps

The curricula of many study programmes fail to reflect the combination of skills or competencies that employers seek and it is widely thought that HEIs equip students mainly with theoretical knowledge and that graduates lack both general and specific skills, especially in their first employment.⁶³ The employer survey has measured skill gaps by asking employers about (i) the actual skills of their graduate employees along a range of skill dimensions and (ii) the level of skills they consider necessary to carry out the job. The difference between these two measures is the estimated skill gap.

The employer survey shows that there are gaps in interactive skills, such as decision-making skills (a gap of 11% between actual skill level and required skill level), analytical and problem solving skills (10%), and team working skills (10%) (see Figure 11). Gaps in cognitive skills (on the right hand side) are lower, with the largest gaps in computer skills and sector specific skills. Numeracy, reading and writing skills exhibit very low gaps. All types of skill gaps are expected to increase in the future (i.e. over the three years following the time of the survey up to 2018), with especially prominent future gaps expected in relation to interactive skills, particularly in the area of decision making skills (19%) and planning and organisational skills (17%). Gaps in foreign language skills and numeracy skills are also expected to emerge.

Figure 11: Graduate skill gaps – current and future (%)



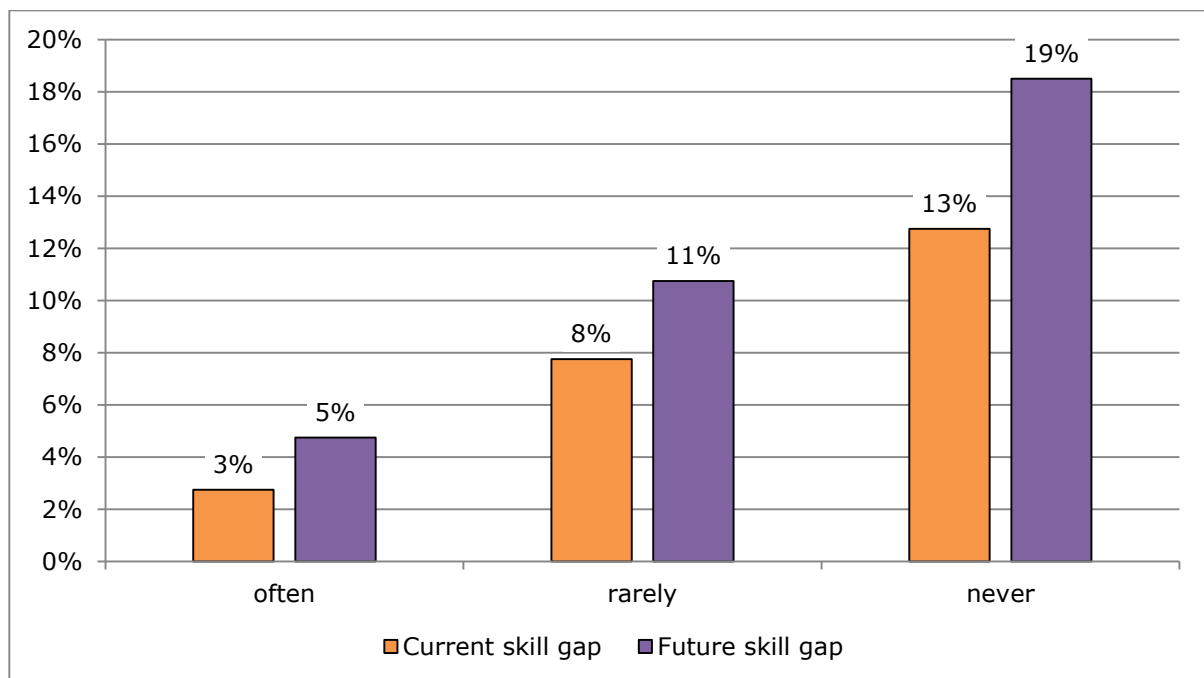
Source: Employer survey. Note: skill gaps are measured as the difference between actual and desired skills reported by employers, with the underlying scale of skill measurement set at 1 where the respective skill is not important and 5 where it is very important for the performance of the business.

⁶³ Interview with Ministry of the Economy and Association of Trade Unions; see also World Bank (2014).

Figure 11 confirms the view that employers complain frequently about the lack of interactive and analytical skills among their graduate recruits. The same issue was highlighted at secondary vocational education level in a recent research study (ETF, 2010). The development of such skills starts at the basic levels of education and is built upon in subsequent levels. The relatively low skill gap in computer skills (which is not expected to grow significantly) can be explained by the high level of knowledge among younger graduates, who are more familiar with information technology than older graduate employees.⁶⁴

A major reason for the observed skill gaps is the neglect of critical-thinking and problem-solving skills in the HE system. From this perspective it is worrying that HEIs do not sufficiently equip their students with interactive skills, where skills gaps are felt the most. The lack of attention to interactive skills can be explained by the use of traditional teaching methods that are not centred on student interaction in the classroom. Such skills are likely to be more in demand in the future when jobs are expected to involve more non-routine interactive skills (World Bank Group, 2015). The graduate survey asked employers about the forms of teaching and learning experience at HEI that contribute most to the skills needed by their businesses. The answers are revealing: the most important teaching methods are identified as classes in small groups, problem solving and creative thinking methods, and internships or work placements.⁶⁵ In contrast, employers believe that lectures in large groups and rote learning of facts contribute little to the skills that their graduate employees need on the job.

Figure 12: Skill gaps and employers' cooperation with HEIs



Source: Employer survey. Note: skill gaps are measured as the difference between actual and desired skills reported by employers, with the underlying scale of skill measurement set at 1 where the respective skill is not important and 5 where it is very important for the performance of the business.

Figure 12 below reveals the positive impact of cooperation between employers and HEIs. It shows that employers who often cooperate with HEIs over curricula tend to have lower

⁶⁴ Interview, Association of Trade Unions.

⁶⁵ These teaching methods score between 4 and 5 on a 1-5 scale where 1 = "not at all" and 5 = "very much".

current and future expected skill gaps than other employers who rarely or never cooperate with HEIs.

4.3.3 Training of new graduate employees

Even if they have studied the subjects that provide them with skills that are in high demand, HE graduates often lack the associated practical and interactive skills that employers expect, which entails a need for further training. The employer survey shows that 37% of employers provide formal training to their graduate employees, while 29% provide informal training.⁶⁶ This is confirmed from the graduate survey, which shows that 42% of respondents stated that they have received some training from their current employer. All this indicates that many employers find it necessary to provide additional training to their graduate recruits beyond the skills that they obtain at their HEIs. That many employers need to provide additional training suggests a substantial skill deficit on graduation from HEIs. The skills deficit, and the need for training are felt across all types of employers, whether by level of technology, size group, or ownership type. There are no significant differences in the proportions of the different categories that feel the need to provide additional training, which is felt across the board. Since this additional training imposes a financial burden on business, it may also be a factor reducing the international competitiveness of the economy.

There is little difference in the proportion of employers from different size groups that provide training. However, employers' provision of training to their graduate employees is related to the level of their cooperation with HEIs. Employers that cooperate often with HEIs over curriculum design and recruitment are significantly more likely than other employers to provide training to their graduate recruits. This shows that some employers have a strong orientation towards skills development and that increasing collaboration with HEIs is an effective way to improve the employer willingness to offer continuing training and skill development to the graduate workforce.

4.4 Summary

The research reported above shows that both graduates and their employers have a difficult time in managing the transition from HE to work. The main reasons why graduates have difficulty in finding a job include the relatively low number of graduate level jobs that are available, the lack of cooperation between HEIs and employers over curricula development and recruitment, a lack of formal career guidance services to support effective job search, and the lack of work experience gained during studies. Few employers cooperate with HEIs on study programmes or recruitment, even though the law requires HEI governing boards to include employer members. Policy-makers could intervene to strengthen cooperation and mutual benefits in this area. For instance they could expand the current internship programme that takes place during the period of studying at HEI. The graduate survey shows that graduates receive more assistance in finding a job from family and friends than they do from HEI career services or the Employment Service Agency, which lacks funds and staff. This enables nepotism to flourish in the allocation of graduates on the labour market. Their lack of work experience is a challenge for many graduates because most employers value some work experience in making recruitment decisions. However, the internships that have been offered to graduates up to now have not been very effective. This may be because they lack the

⁶⁶ These proportions may be understated since they are calculated on the assumption that employers who did not reply to this question do not provide training to their graduate employees (i.e. the "missing values" have been set to 0= "no training provided"). It may be that some of these non-responses do not in fact mean that no training is provided, in which case the proportions of employers providing training would be higher than indicated in the text.

close cooperation between HEIs and employers that would support strong learning outcomes from the internship experience.

On the employer side, dissatisfaction with the skills of new graduate recruits and the need to provide additional training inhibit employers from taking on new graduates. The significant gaps in interactive skills (which are essential in high skill jobs) can be traced to out-dated teaching methods. Most employers that take on new graduate recruits find that the skills that have been taught at HEI are inadequate and that further training is needed. High technology employers are more satisfied with the skills of their graduate employees than others, which indicates that a small group of high-achievers provides enough labour supply to the high technology sector – for now. The need to provide additional training is widespread and points to significant problems of skill mismatch, which we analyse in the next section.

5 Skill mismatch

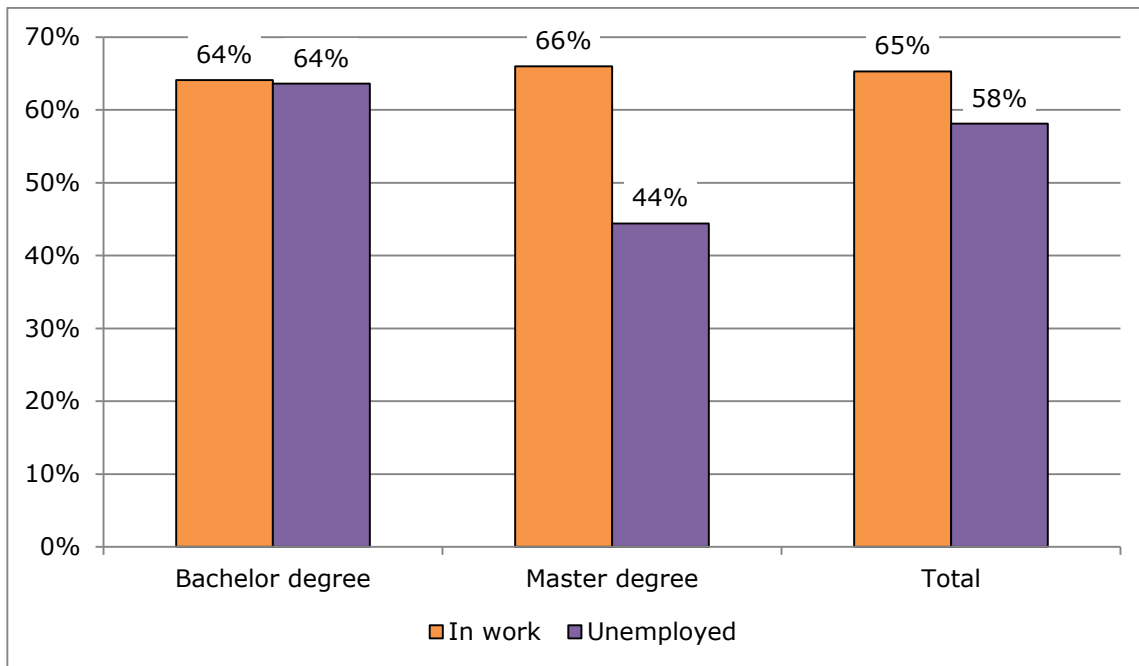
Skill mismatch is a widespread phenomenon in market economies (McGuinness, 2006). It has two dimensions. The first is *horizontal skill mismatch*, which refers to a situation in which the employee has a qualification in a field of study that is not appropriate to the job held (e.g. a graduate in biology holding a job in accountancy that requires a different degree). The second is *vertical skill mismatch*, which refers to a situation in which an employee has qualification either above or below that necessary to carry out the job. Skill mismatch is important for the economy as a whole as well as for the individuals concerned, since there is strong evidence that there is an inverse relationship between skill mismatch and productivity at country level (Adalet McGowan and Andrews, 2015a). Thus, countries with a higher level of skill mismatch are expected to have a lower level of productivity and growth than countries with a lower level of skill mismatch, other factors being equal. At individual level, this is reflected in differences in earnings between matched and mismatched workers.

5.1 Horizontal mismatch

Due to the lack of jobs, many graduates are ready to accept any job offer, irrespective of whether it matches their field of study. Over one third (37%) of graduates report that they are in a job that is not well matched to their qualifications. Among graduates with a Bachelor degree, horizontal matching was the same among employed and unemployed (in their previous job), although there is a substantial difference between employed and unemployed graduates with a Master degree (see Figure 13). Among the latter group, the unemployed were very poorly matched in their previous job. This suggests that horizontal mismatch is a key risk factor in pushing postgraduates into unemployment, and that having a well-matched job is important for job retention.

Having a horizontally well-matched job has significant implications for earnings. The graduate survey shows that in a first job, median monthly earnings of graduates are the same for graduates who are well matched and for those not, at €200 per month. However, as the graduates move along in their careers, differences emerge. For the current job, median earnings rise to €350 per month for those in a well-matched job, but to only €300 per month for graduates who are not well matched. Finding a well-matched job is therefore an important factor in providing a graduate with a more remunerative and productive career path.

Figure 13: Graduates with a horizontally well-matched job by degree level and labour force status (% within highest degree level)



Source: Graduate survey, N=199

5.2 Vertical mismatch

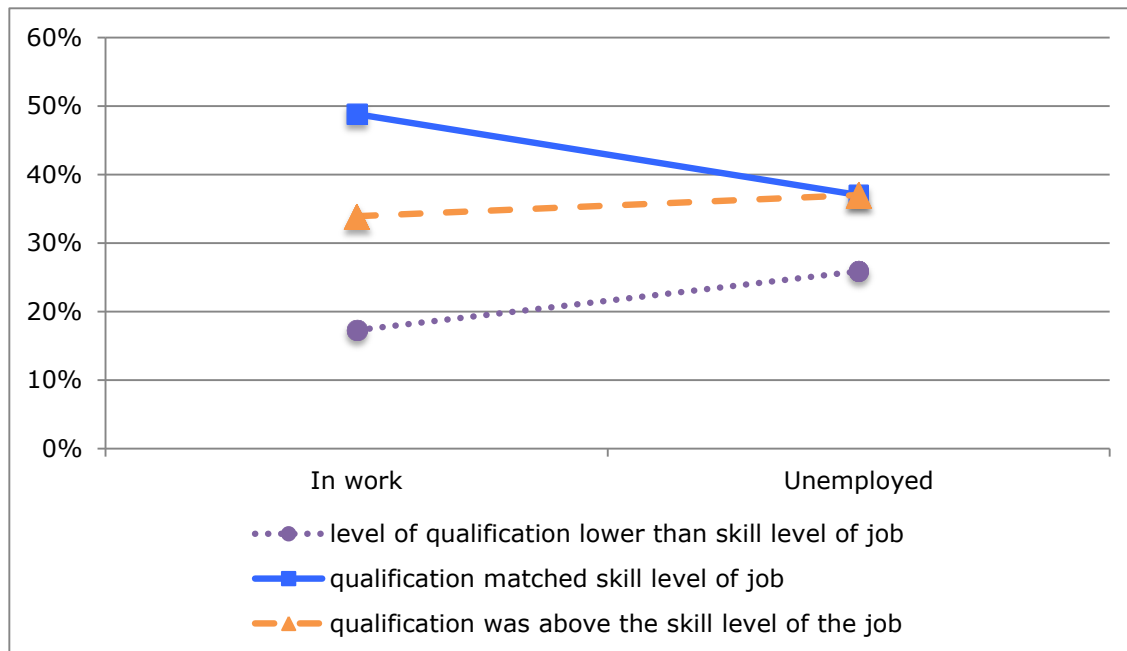
The graduate survey shows a high degree of vertical skill mismatch, as 53% of HE graduates report that their level of qualification is not matched to the skill requirements of the job they hold (34% of graduates hold a job that is above their level of qualification, while 19% hold a job that is below their level of qualification). These proportions of mismatched graduates exceed the level of skill mismatch observed in the EU where, according to the OECD Survey of Adult Skills, the highest level of vertical skill mismatch is in Italy at around 34% (Adalet McGowan and Andrews, 2015).⁶⁷

Having a vertically well-matched job has significant implications for earnings. The graduate survey shows that in a first job, median monthly earnings of graduates are the same for those who are vertically well matched and for those who are over-qualified, at €200 per month. However, for the current job, median earnings rise to €350 per month for those in a well-matched job, but to only €300 per month for graduates who are overqualified. Finding a well-matched job is therefore an important factor in providing a graduate with a more productive career path.

There is a relationship between the proportion of graduates who are in well-matched jobs and their labour force status. While 49% of employed graduates have a well-matched job, only 39% of unemployed graduates had a well-matched job in their previous employment (see Figure 14). This suggests that having a well-matched job is important for job retention. Another labour market issue that may affect the ability of a graduate to find a well-matched job is discrimination. For example, graduates who report having experienced difficulty in finding a job on the basis of their gender are significantly less likely to find a well-matched job than graduates who have not experienced such a difficulty. Similar issues relate to ethnicity.

⁶⁷ The methodology used in this report is different to that used by Adelet McGown and Andrews (2015), so this comparison should not be taken too literally.

Figure 14 Vertical matching by labour force status (% within labour force status)



Source: Graduate survey. Note: there are no observations for inactive graduates.

Various other factors have a significant influence over whether a graduate finds a well-matched job. Firstly, some graduates encounter difficulties in finding a job due to the subject they studied at HEI, and having “very much” difficulty in this respect seems to be a barrier to finding a well-matched job.⁶⁸ The degree of matching varies by field of study (see Figure 15). Graduates who studied *Engineering, Manufacturing & Construction* subjects are more likely than others to be vertically well matched to the job, while graduates from *Education* and *ICT* fields of study are less likely to be well matched. The nature of the skills learned at HEI also affects success in finding a well-matched job. While half (54%) of those who report that they mainly learned subject specific skills had a well-matched job, only two fifths (33%) of those who report they did not learn any subject specific skills had a well-matched job ($p < 0.05$).⁶⁹ This indicates the usefulness of vocational education in achieving a good match on the labour market. Also, learning decision-making skills contributes strongly to achieving a well-matched job ($p < 0.1$).⁷⁰ This may indicate that graduates with these skills are favoured by employers and have greater success in their job search than graduates who learn more traditional cognitive skills at their HEI. Similar results are found in relation to computer skills ($p < 0.1$).⁷¹ Teaching methods had little influence on whether a graduate found a well-matched job or was overqualified.

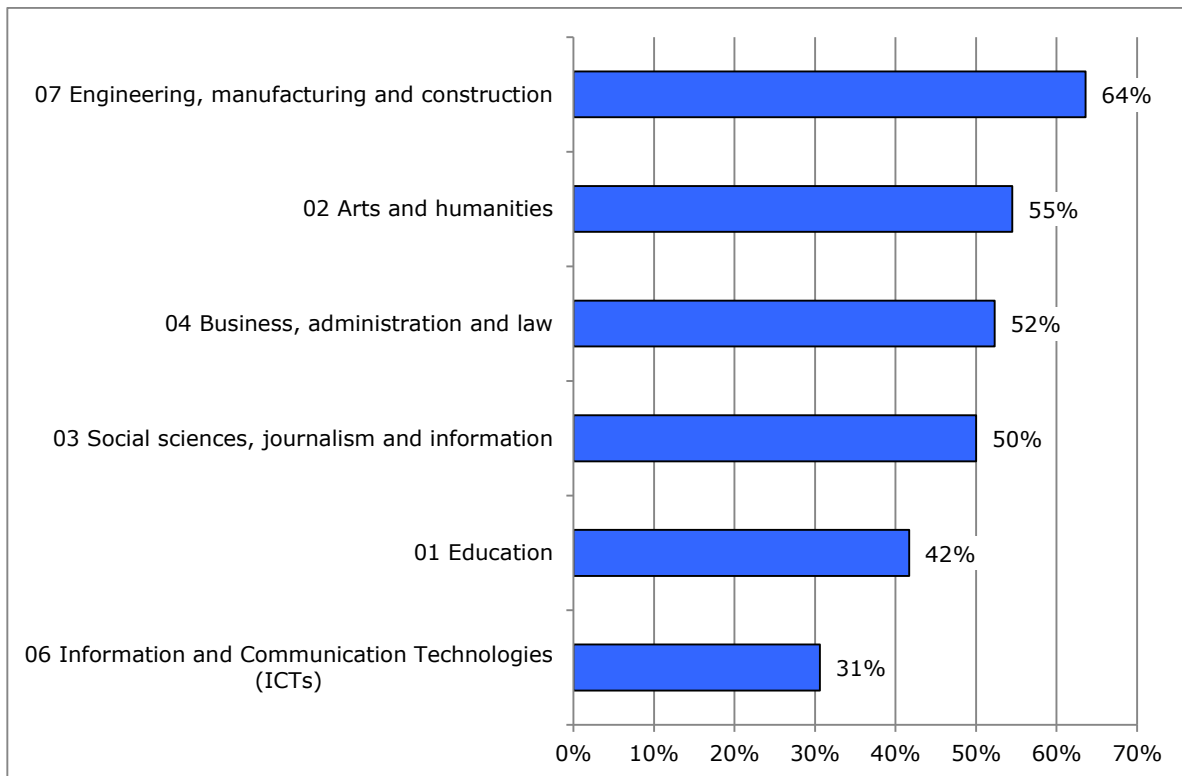
Figure 15: Proportion of vertically well-matched graduates by field of study

⁶⁸ 53% of graduates who have not experienced any difficulty in seeking employment owing to the subject they studied at HEI have a well-matched job, compared to only one tenth of those who have experienced “very much” gender discrimination (Chi-square=18.7, $p=0.16$, $N=219$) significant at 5% level.

⁶⁹ Pearson Chi-square = 16.44, $p=0.036$, $N=394$.

⁷⁰ 52% of those with very good decision-making skills have a well matched job compared to just 24% with no computer skills (Chi-square=13.79; $p=0.088$; $N=391$).

⁷¹ 41% of those with very good computer skills have a well matched job compared to just 32% with no computer skills (Chi-square=14.44; $p=0.071$; $N=390$).



Source: Graduate survey. Note: fields of study not shown had too few observations.

Students who report that they have freedom in designing their own programme of studies are significantly more likely to find a well-matched job than others.⁷² Perhaps not surprisingly, graduates who attended a vocationally oriented programme also had a greater likelihood of finding a well-matched job.⁷³ The mode of teaching also appears to have an impact. Graduates who report that their study programme was delivered predominantly through lectures in large groups and on the basis of rote learning of facts have a significantly lower likelihood of finding a well-matched job compared to those who were not taught by such methods.⁷⁴ Conversely, graduates who had been predominantly taught in classes with small groups and on the basis of problem solving and creative thinking were significantly more likely than others to find a well-matched job.⁷⁵ A further important factor in supporting graduates to find a well-matched job is the type of skills that they learn at HEIs. For example, interactive skills such as adaptability, and planning

⁷² 67% of students who had “very much” freedom in in composing their own programme had a well-matched job, compared to only one third of graduates who had no such freedom (Chi-square = 15.3, $p=0.054$, $N=220$) significant at the 10% level.

⁷³ 66% of students who agreed “very much” that they had attended a vocational programme had a well-matched job, compared to only 14% of graduates who had not (Chi-square = 28.2, $p=0.000$, $N=219$) significant at the 1% level.

⁷⁴ Less than one third (30%) of students who agreed “very much” that they had been taught through lectures in large groups had a well-matched job, compared to over two thirds (68%) of graduates who had not (Chi-square = 17.5, $p=0.025$, $N=218$) significant at the 5% level. Similarly, less than two fifths (39%) of students who agreed “very much” that they had been taught on the basis of rote learning of facts had a well-matched job, compared to more than one half (58%) of graduates who had not (Chi-square = 16.1, $p=0.041$, $N=217$) significant at the 5% level.

⁷⁵ 56% of students who agreed “very much” that they had been taught through classes in small groups had a well-matched job, compared to only one 33% of graduates who had not (Chi-square = 18.9, $p=0.016$, $N=218$) significant at the 5% level. 63% of students who agreed “very much” that they had been taught on the basis of problem solving and creative thinking had a well-matched job, compared to only 25% of graduates who had not (Chi-square = 15.1, $p=0.057$, $N=217$) significant at the 10% level.

and organisational skills are all associated with a greater likelihood of finding a well-matched job.⁷⁶

The graduate survey also finds that assistance from the family is very important in helping a graduate find a vertically well-matched job. While 62% of graduates who received “very much” assistance from their family found a well-matched job, only 35% of those who received no family assistance did so. This may suggest the importance of family connections and nepotism in finding a job after graduation. The extent of vertical mismatch is also related to the amount of assistance received from HEIs in finding a job, since graduates who received a lot of help from their HEI are significantly more likely to be well matched to the job they hold.⁷⁷ The reason for this seems to lie in the role of individual professors in assisting graduates to find a well-matched job. While 76% of graduates who received “very much” assistance from their professors found a well-matched job, only 36% of those who received no support from their professors did so.⁷⁸ Graduates who attended private HEIs are more likely to be well matched than graduates from public HEIs. Graduates from public HEIs have a higher risk of being either over-qualified or under-qualified for their job ($p < 0.01$).⁷⁹ Private HEIs are able to provide more assistance to their students to find a well-matched job because they tend to have better connections to employers than public HEIs ($p < 0.01$).⁸⁰

Additional training after leaving a HEI can make a positive contribution to a graduate’s ability to find a well-matched job. This applies whether it is received through on-the-job training, at a training centre, at a college of further education or at a university. The most effective of these forms of training for the matching process is additional training at a college of further education while the least effective (though still important) is through on-the-job training. This suggests that formal vocational post-graduate training may be an important step in a graduate’s transition to the labour market and an effective means of supporting sustainable and productive career paths.

6 Conclusions and policy recommendations

The research reported above shows that the HE system in the former Yugoslav Republic of Macedonia produces too many graduates relative to the needs of the labour market, leading to a high graduate unemployment rate. On the labour market there is an oversupply of graduates from the broad study fields of *Arts & Humanities*, from *Business, Administration & Law*, and *Services*. There is also a large and continuing shortage of graduates from the study fields of *Natural Sciences, Mathematics & Statistics*. Many students drop out of studies leading to a low completion rate. Of those students who do graduate many face the prospect of unemployment. Of those who do find a job, many are in jobs that are not matched to their field of study or their level of qualification, reducing their wages and job prospects in relation to graduates in well-matched jobs.

⁷⁶ 56% of graduates who stated that they “very much” learned adaptability skills at HEI have a well-matched job, compared to just 14% of those who did not learn such skills (Chi-square=18.1, $p=0.02$, $N=219$) significant at 5% level. Similarly more than half (53%) of graduates who stated that they “very much” learned planning and organisational skills at HEI have a well-matched job, compared to just 29% of those only learned “a little” of such skills (Chi-square=13.6, $p=0.09$, $N=219$) significant at 10% level.

⁷⁷ Differences are significant at 5% level (Chi-square=14.9, $p=0.06$, $N=221$).

⁷⁸ The difference is significant at the 1% level (Chi-square = 20.6, $p=0.008$, $N=221$).

⁷⁹ Two fifths (41%) of graduates who attended public HEIs were overqualified for the job held, and one-fifth (20%) are under-qualified. The cross-tabulation of the proportion of graduates who are well matched or mismatched with the ownership status of the HEI they attended gives a Pearson Chi-square on 30.32 ($p=0.000$), significant at the 1% level.

⁸⁰ While 51% of graduates who attended private HEIs say that employers are familiar with the contents of the study programmes, only 27% of graduates from public HEIs make this claim (Chi-square=22.79; $p=0.000$; $N=346$).

With a completion ratio of 47%, an employment rate of 54% and a rate of (vertically) well-matched graduates at 47%, it could be said that the internal efficiency of the combined HE and labour market systems (the HELM system) is just 12%. In other words, of every hundred new students entering the system in any one year, it can be expected that only twelve will eventually graduate from the system and find a well-matched job. In order for the HE system to make a better contribution to building human capital and to the competitiveness and growth of the economy, significant reforms of the HE system and the graduate labour market are needed, and better cooperation between employers and HEIs should be encouraged.

6.1 The provision of higher education

The HE system in the former Yugoslav Republic of Macedonia does not have a long tradition, with the first universities only established after the end of World War II. Despite recent expansion of the sector, in 2015, only 25% of the population aged 30-34 holds a HE degree. In response to increased demand, the number of HEIs has increased with the entry of several private HEIs and the creation of additional capacity within the public HE system by establishing local branch faculties of the major universities. In the 2014-15 academic year, some 60,000 undergraduate students were registered at HEIs. Each year around 19,000 students enrol in more than 500 study programmes, while around 9,000 complete their studies. The most popular broad field of study is *Business, Administration & Law*, which attracts about a quarter of all students, while only one quarter of new students enrol in STEM subjects each year. The completion *ratio* for all study programmes is around 47%, as is the completion *rate* on three-year Bachelor programmes. This is a cause for concern, since it indicates that the HE system is characterised by a high level of internal inefficiency.

Expansion of the HE sector has raised concerns about the quality of higher education. Despite efforts to improve quality standards, two thirds of graduates believe that better teaching methods would improve their job prospects after graduation. Teaching methods tend to be based on out-dated curricula and traditional methods such as rote learning and teaching large numbers of students in large lecture rooms, rather than in small classes using problem solving approaches and practical examples. Two thirds of graduates think that an improvement in teaching methods would have substantially improved their job prospects in the labour market. The graduate survey shows that private HEIs are better at delivering classes in small groups, in using problem solving and creative teaching methods, and in providing a vocational orientation with more employer involvement and practical work experience than public HEIs.

Recent reforms have introduced an obligation for HEIs to provide work experience through internships, but there are too few employers able or willing to offer such opportunities. A portion of the curricula is supposed to be delivered by business people, but while the intention is good, limited take-up by employers constrains the implementation of the policy. An NQF was adopted in 2014, and referenced to the EQF, aiming to ease graduates' entry to the labour market. Employers participate in its implementation through sector committees in the hotel, restaurant, tourism and ICT sectors. Most private HEIs have established business councils that enable a deeper cooperation with the business sector.

6.2 The graduate labour market

The overall unemployment rate is high in the former Yugoslav Republic of Macedonia, at 26%. While graduates have a better labour market performance than non-graduates, the graduate survey shows that the unemployment rate of new graduates is not very

different to that of other young people of the same age group. In recent years, graduate employment has increased fastest in the *ICT* sector. The employer survey shows that most graduates are employed in SMEs; that SMEs have a higher growth rate of graduates than other size groups; that SMEs are more likely to be high technology employers; and that most employers in the *ICT* sector (the fastest growing sector) are small sized. Taken together these findings suggest that the high technology SMEs operating in the *ICT* and related sectors are likely to provide increasing opportunities for HE graduates in the labour market in the future. Continuing economic growth in a context of a relatively stable supply of graduates may lead to shortages of HE graduates in the future, in specific areas such as *Natural Sciences, Mathematics & Statistics*. There is a surplus of graduates from the study field of *Business, Administration & Law* and *Services* which should be corrected by measures to incentivise students to follow other fields of study (e.g. scholarships), especially those where future shortages are expected, mainly in the STEM subjects.

Employment policy has focused on active employment measures including a wage subsidy implemented by waiving employers' social security contributions for the first 12 months of employment, through training, and internships and a programme to subsidise credit to business start-ups. However, these measures have been underfunded in relation to comparable countries such as Bulgaria and Croatia. A recent evaluation has shown that internships, training and business start-up programmes have been the most effective of such measures.

6.3 Transition from higher education to the labour market

The HE system mostly fails to provide effective support to graduates in their search for a job and graduates face a precarious transition to the labour market. In the absence of effective career guidance services, graduates mainly rely on personal connections of family and friends. This opens opportunities for nepotism, which is an inefficient way to allocate graduate labour. Practical training and work experience during HE studies can help graduates to obtain the interactive skills that employers value in their graduate recruits. The government has introduced measures in recent years to assist graduates to obtain work experience by introducing a compulsory internship during the studies. However, the graduate survey shows that 35% of graduates found their internship experience to be of little use for their learning outcomes, suggesting that internships need to be much more closely supervised by HEIs.

Employers also face substantial challenges in taking on new graduate recruits, and often find that the skills that graduates have been taught at HEI are insufficient and that further training is needed. Many employers report that their graduate employees have serious gaps in relation to interactive skills such as team-working skills, decision-making skills, analytical and problem solving skills. One cause of skill gaps is the use of traditional teaching methods that often fail to develop such skills. Many employers find a need to provide additional training to bring graduates up to the level of skill needed to carry out their job. Employers who cooperate with HEIs over curricula tend to have lower current and future expected skill gaps than other employers. Policy makers should therefore further introduce measures to strengthen cooperation between HEIs and the business sector and encourage them to identify areas of improvement within HEI programmes that could be mutually beneficial.

6.4 Skill mismatches

Almost one third of recent graduates are in a job that is not well matched to their field of study. The graduate survey shows that such horizontal mismatch is a barrier to career retention for postgraduate students with a Master degree. In addition, more than half of

recent graduates are vertically mismatched, with one third having a qualification above the needs of the job, and one fifth having a qualification below the needs of the job. Graduates who followed *ICT* studies have a relatively high chance of being under-qualified for the skill level of their job, implying that HEIs often fail to provide their students with the level of *ICT* skills needed by employers. Graduates who are well matched tend to have higher current earnings than those who are over-qualified, suggesting that good matching is important to maximise productivity and returns to education.

Teaching methods also have a role in creating such mismatches, as graduates who were mainly taught through rote learning and in lectures in large groups are less likely to find a well matched job than those taught in small classes through problem solving and creative thinking approaches to learning. Graduates whose study programmes focused more on teaching interactive skills are better matched than others. Having support from the HEI improves the chances of finding a job that is well matched to the level of qualification, whether from individual professors or through a career centre. Graduates who attended private HEIs have a greater chance of finding a well-matched job than those from public HEIs, because private HEIs are better connected to employers than public HEIs. Assistance from the family is also important to find a well-matched job, which points to the importance of nepotism on the graduate labour market.

6.5 Policy recommendations

As the conclusions set out above demonstrate, action is needed both on the part of HEIs and on the part of employers, government, and public employment services to produce a more effective outcome for graduate job seekers. This is in line with the OECD skills strategy, which proposes that policy should not only focus on improving the supply of skills through education and training systems, but also on stimulating the demand for high level skills in the market and their utilisation in the workplace (OECD, 2012; Valiente, 2015). The research findings reported above suggest several key policy measures that should be implemented to improve the prospects for graduates when they enter the labour market. The recommendations are presented in order of priority.

Higher Education

1. HEIs should **modernise curricula and teaching methods** to emphasise student-centred learning and development of interactive skills. Applied knowledge and critical thinking skills should be the core focus of teaching, rather than memorisation of material from textbooks.
2. The Government should introduce **measures to improve the quality of the HE system** including (i) a scholarship programme to fund young lecturers to advance their education abroad on condition that they return to the country to teach for a period of years (ii) provide opportunities for continuous professional development of teachers and (iii) set up a financial incentive programme to attract foreign lecturers to teach on post-graduate courses (Masters and Doctoral programmes) (iv) **eliminate corrupt practices from the HE system**.
3. **External evaluation of all public HEIs** should be carried out in accordance with the European Standards and Guidelines for Quality Assurance. The Higher Education Accreditation and Evaluation Board should publish scores from teaching evaluations of all HEIs. This should include recommendations and roadmaps for implementing the necessary reforms.
4. The Government should improve the **HE scholarship scheme** to guide students who enter HE courses into the shortage fields of study such as *Natural Science, Mathematics and Statistics* by adjusting quotas appropriately.

5. In order to improve graduate completion rates, HEIs should adopt **stricter criteria for enrolment into HEIs**, establish tutoring clubs, and apply stricter rules for advancement of students through study years. Students who fail to complete their course work on time should be given additional support and remedial classes.
6. **The practice of repeat examinations should be limited** to a maximum number of repeat examinations, and a maximum number of years of study for the completion of a degree should be established. Students who successfully complete their study programme within the allotted time could be given a partial refund of their examination fee to incentivise on-time completion.
7. **Career guidance centres within HEIs should be strengthened** to provide independent professional counselling to students to support successful job search.
8. HEIs should provide **more information to potential applicants** on the likely labour market demand for various study programmes through outreach programmes to local schools.
9. **The Employment Service Agency** should be made more effective for graduates by providing more information about services offered to graduates.
10. The current system of one month of **internship during each year of study should be continued and made available to all students**. More attention should be paid to appropriate learning outcomes.
11. Systems for **tracing students after graduation** should be strengthened. Tracer studies would provide information on the success rate of graduates in finding a job and indirectly the relevance of HE.
12. The government is currently developing a new strategic framework for education. We recommend that the **findings of this research study should be fed into the new strategy**.

Labour Market

1. More could be done to **strengthen HEI links with employers**. This would support more effective graduate transitions to the labour market through better skill matching. The government should establish a programme to facilitate, but not finance, cooperation between HEIs and employers and should act as a network broker to bring the two sides closer together. The Business Councils that have been established within HEIs have a key role to play in this respect (as does the Socio-Economic Council at the central level).
2. More **cooperation between HEIs and employers is also needed over recruitment of graduates** by employers, through partnerships to provide internships for students and graduates. These should be carefully supervised to ensure that they provide useful learning outcomes. Institutional arrangements such as sector skills councils should be supported to bring employers and HEIs together with local government bodies to identify skill needs and take joint actions.
3. **Stronger links should be established between SMEs that employ HE graduates and foreign investors** attracted to Technological and Industrial Development Zones. This should involve investment support for innovative fast-growth SMEs to create new graduate jobs in high value-added sectors such as ICT. It should also strengthen the government's existing project to link domestic suppliers with FDIs to support them entering international value chains.

4. The Government should give **more support to micro, small and medium sized businesses that employ graduates**, and to graduates that aspire to establish their own small business. HEIs should organise courses where graduates could learn entrepreneurial skills.
5. **Employers should be encouraged to invest more in the training of graduate workers** through day release to a college of further education. The government should support this through instruments such as training subsidies or vouchers.

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Employment Service Agency, www.avrm.gov.mk

State Statistical Office, www.stat.gov.mk

Fund for innovation and technological development, www.fitr.mk

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Public HEIs

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- University "Goce Delcev" - Stip, www.ugd.edu.mk
- University "St. Clement Ohridski"- Bitola, www.uklo.edu.mk
- State University of Tetovo, www.unite.edu.mk
- University for Information Science and Technology "St. Paul the Apostle" of Ohrid, www.uist.edu.mk
- University of Tourism and Management, www.utms.edu.mk

Private HEIs

- University American College Skopje, www.uacs.edu.mk
- South East European University, www.seeu.edu.mk
- European University, www.eurm.edu.mk
- FON University, www.fon.edu.mk
- MIT University, www.mit.edu.mk
- International Balkan University, www.ibu.edu.mk
- University of Audiovisual Arts, European Film Academy, ESRA, www.esra.edu.mk
- International Slavic University "Gavrila Romanovic", www.msu.edu.mk
- Euro College University, Kumanovo, www.eurocollege.edu.mk
- Business Academy Smilevski, www.bas.edu.mk

Annex – Methodological note

1. Higher education provision database

We collected data on existing study programmes in the former Yugoslav Republic of Macedonia offered by both public and private HEIs. The database covers 16 HEIs and 522 study programmes, based on data provided mainly by the State Statistical Office and individual HEIs. The database provides for *each study programme* several categories of data, e.g. name of HEI, name of faculty, name of qualification, level of qualification (Diploma level, Bachelor level, Master level), field of study by ISCED classification, the number of students beginning studies per year (for the academic years 2010-11 up to 2013-14), the number of students completing studies per year (for the academic years 2011-12 to 2013-14) and the total number of students registered at each study programme for all years of study in 2013-14. A few HEIs failed to provide complete data on the number of students beginning or completing their studies.

The State Statistical Office collects the data on study programmes based on the name of the study programme as provided by the HEIs. The data is not broken down by the ISCED 2013 (4-digit). Therefore, the study programmes have been specially classified into a 4-digit framework based on ISCED 2013 guidelines for the purpose of this project. HEIs offer Bachelor, Master or PhD programmes. There is one Higher School ("visa škola") in Bitola that offers study programmes in medicine leading to a Bachelor degree (180 ECTS) and students can obtain a further 60 ECTS leading to a Specialist Diploma.

Table A1: HEIs included in the HE provision database

Name of HEI	Ownership status
State University of Tetovo	Public
University "Goce Delcev", Štip	Public
University "Ss Cyril and Methodius", Skopje	Public
University "St. Clement Ohridski", Bitola	Public
University for Information Science and Technology "St. Paul The Apostle", Ohrid	Public
University of Tourism and Management	Public
Business Academy Smilevski, Skopje	Private
Euro College University, Kumanovo	Private
European University, Skopje	Private
FON University, Skopje	Private
International Balkan University, Skopje	Private
International Slavic University "Gavrila Romanovic Derzavin", Sveti Nikole, Bitola	Private
MIT University, Skopje	Private
South East European University, Tetovo	Private
University American College, Skopje	Private
University of Audiovisual Arts, European Film Academy, Skopje	Private

The main difficulty in compiling the database was at the level of Master studies, for which data are not available from the State Statistical Office. The project therefore made a special effort to collect this data directly from HEIs. This exercise was only partly successful mainly due to lack of cooperation from the largest and oldest HEI, the

University of St. Cyril and Methodius, which was contacted more than ten times with a request to take part in the study but did not respond to any of these requests for data. The Ministry of Education and Science also contacted the university more than five times with a request for the data, but without any success. Data are also missing on the number of postgraduate study programmes at the University "Goce Delcev" of Stip, and University "St. Clement Ohridski" of Bitola. These universities did not provide their administrative data to the project despite many contacts and requests from the project team and the Ministry of Education and Science. Since neither the State Statistical Office nor the Ministry collect data on the basis of study programmes, these data were not available, so the database underestimates the number of students enrolled in postgraduate studies.

2. Surveys

Two questionnaire surveys were administered to recent graduates from HEIs and organisations located in the former Yugoslav Republic of Macedonia that employ HE graduates among their workforce. These surveys were conducted from May to August 2015.

2.1. Graduate survey

The sample frame consisted of recent graduates from HEIs, i.e. having graduated from higher education since 2010. We designed an online survey questionnaire and managed it through the Qualtrics software platform. An online survey link was sent by a number of HEIs (see list below) directly to their alumni contact lists, as well as by the LSE Qualtrics account where contacts of alumni could be provided outside of the institutions. The strategy was to increase the coverage of alumni as much as possible within the limits of weak alumni databases and networks at most universities. In addition, some students' organisations disseminated the survey to their members, such as the "US Work and Travel" alumni association. Most of these universities could not differentiate alumni by year of graduation, so the survey was sent to the overall alumni database.

Table A2: HEIs included in the survey

Name of HEI	Ownership status
South East European University, Tetovo	Private
Ss. Cyril and Methodius University, Skopje	Public
St Kliment Ohridski University, Bitola	Public
University of Information Science and Technology "St. Paul the Apostle", Ohrid	Public
University American College, Skopje	Private
University Goce Delcev, Štip	Public

The required sample size was assessed on the basis of the desired level of precision. Among other issues, we were interested in the experience of graduates from different types of HEI, public and private, and across three categories of labour force status: in work, unemployed, or inactive. We collected a total of **442** complete questionnaires (respondents who did not fit the sample frame were ruled out). This gave the desired degree of precision to the estimates.

The representativeness of the sample can be checked by comparing the distribution of the sample of graduates by field of study to the distribution of the underlying population of students by field of study as reported in the HE provision database. In Table A3 the distribution of graduates by field of study in the graduate survey is compared to the distribution of students who completed their degree in the academic years 2011-12 to 2013-14 taken from the HEI database. We take the average over the three years, since the graduates in the graduate survey have completed their degrees at different points of time in the past. It can be seen that the representation of the sample is fairly close to that of the distribution from the HEI database with a Pearson correlation coefficient of +0.89.

Table A3: Sample distribution (graduate survey) and population distribution of graduates (completions) by broad field of study

	Graduate survey (number)	Graduate survey (%)	HE Provision database (%)
01 Education	23	5.4%	6.4%
02 Arts & Humanities	22	5.2%	13.0%
03 Social Sciences, Journalism & Information	58	13.7%	11.2%
04 Business, Administration & Law	176	41.5%	29.6%
05 Natural Sciences, Mathematics & Statistics	4	0.9%	3.5%
06 Information & Communication Technologies (ICTs)	75	17.7%	7.7%
07 Engineering, Manufacturing & Construction	36	8.5%	9.3%
08 Agriculture, Forestry, Fisheries & Veterinary	3	0.7%	2.0%
09 Health & Welfare	18	4.2%	8.2%
10 Services	9	2.1%	9.1%
Total	424	100.0%	100.0%
Missing values	18		
Total including missing values	442		

Source: Graduate survey and HE provision database.

Although the National Employment Service (NES) is required to keep information about jobseekers with their e-mail address, in practice this is not done and only the phone contacts of graduate job seekers and their employers are retained. Facing such difficulties in carrying out the online survey it is suggested that e-mail contacts should be collected through jobseeker' application forms and through the employers' electronic database created by the NES.

2.2. Employer survey

We designed a questionnaire that was implemented through a mix of online surveys and phone interviews. The sample frame consisted of public and private organisations of all sizes located in the former Yugoslav Republic of Macedonia and employing HE graduates. We used several channels to distribute the survey (see list below).

Table A4: Organisations that distributed the employer survey

<i>Macedonian Chamber of Commerce</i>
<i>Macedonian Foundation for Enterprise Development</i>
<i>Economic Chamber of North-West Macedonia</i>
Ministry of Information Society and Public Administration
University American College Skopje - business council database

We collected a total of **227** completed questionnaires. The sample was balanced: most of the employers surveyed were either micro sized in terms of the number of employees (28%), small sized (36%) or medium sized (29%), while large employers represented a minority (7%). The survey covered the various sectors of the economy, with the largest concentrations in education (24%) and retail (10%).

3. Interviews with key stakeholders

We conducted semi-structured interviews with **16** key stakeholders, with the aim to develop a comprehensive view on the causes of challenges for employers and HE graduates in labour market. We identified stakeholders at three levels.

- **Policy-making stakeholders** (5 ministries, 2 at EU delegation offices)
- **Higher education stakeholders** (4 HEIs, Erasmus alumni focus group)
- **Labour market stakeholders** (1 employers' associations, 1 association of trade unions, 1 public employment service, 2 NGOs)

We developed an interview guideline containing a set of questions for these semi-structured interviews. One group of questions were of a general nature and are posed to all stakeholders, to better confront their views on key issues. The second group of questions were specifically tailored to the various stakeholders, designed to explore further primarily issues within their specific competences. Local experts conducted the interviews and translated the transcripts into English.

We also carried out a focus group discussion with Erasmus Mundus alumni who had studied abroad, to gather their impressions of the contrasts between teaching methods used in their home and host countries.

4. Labour market data

We obtained labour force survey data for the 2011-2014 period from the State Statistical Office. This provided information about the sectoral structure of graduate level employees for the years 2013 and 2014, which were used as a base for the forecast for graduate employment by sector. The sectoral forecast was then converted into a forecast of demand for graduates by field of study using coefficients derived from the graduate survey. The Labour Force Survey was also used to identify the relevant labour market key statistics for HE graduates (employment rate, unemployment rate), which could be compared to the statistics derived from the graduate survey relating to the employment rate and the unemployment rate of recent graduates.

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From University to Employment:

*Higher Education Provision and Labour Market Needs
in Serbia*

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From University to Employment:

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Luxembourg: Publications Office of the European Union, 2016

ISBN 978-92-79-54671-6

doi: 10.2766/62653

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Foreword

Higher education systems in the Western Balkans are facing serious challenges. Growing levels of student enrolment throughout the region are straining the limited resources of public universities. At the same time, the number of private institutions has been increasing rapidly.

Importantly, more needs to be done to ensure that higher education qualifications match labour market needs. Many young people in the region are unemployed – and a number of them have higher education diplomas. This suggests that employers do not hold university degrees in very high esteem.

Whatever the field of study, third-level education is a means of sharpening our intellect and therefore valuable in its own right. However, it should also prepare us for the world of work, and enable us to lead independent lives as confident, engaged citizens. Universities and other higher education institutions need to adapt and modernise to deliver. In rapidly changing job markets, higher education systems should provide graduates with relevant skills and competences. This is not only about finding employment after graduation, but also about being able to adapt to future labour market needs and adjust to career changes.

We all know that a country's human resources are an integral part of its wealth. We say so on many occasions, especially when addressing young people in graduation ceremonies, or in political speeches. Unfortunately, when it comes to following these words with action and giving education the relevance and funding it deserves, we all too often fall short. This is something we have to change.

The skills and qualifications gained in university should help us build our lives and secure our societies' prosperity, competitiveness and progress. This study examines the link between higher education provision and labour market opportunities in the Western Balkans. It also looks at the obstacles facing graduates looking for work and the relevance of their skills for employers. The study is part of the on-going regional policy dialogue under the *Western Balkans Platform on Education and Training*. I am pleased to see that Ministers for Education have been supporting and engaging in this dialogue since the European Commission launched it in 2012.

I hope that the findings of the country reports in this study will contribute to more evidence-based policy-making in each country's higher education and labour sectors. The region's young people deserve nothing less.

Tibor Navracsics
European Commissioner for Education, Culture, Youth and Sport

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List of abbreviations

BA	Bachelor degree
CAQA	Commission for Accreditation and Quality Assurance
Cedefop	European Centre for the Development of Vocational Training
CV	Curricula Vitae
ENQA	European Association for Quality Assurance in Higher Education
ECTS	European Credit Transfer System
EHEA	European Higher Education Area
EQF	European Qualifications Framework
EU	European Union
GDP	Gross Domestic Product
GoRS	Government of the Republic Srpska
HE	Higher education
HEI	Higher education institution
HELM	combined HE and labour market systems
HRM	Human resource management
HSS	Humanities and Social Sciences
ICT	Information and Communication Technologies
IMF	International Monetary Fund
IPA	Instrument for Pre-Accession Assistance
ISCED	International Standard Classification of Education
LFS	Labour Force Survey
MA	Master degree
MESTD	Serbian Ministry of Education, Science and Technological Development
NCHE	National Council for Higher Education
NES	National Employment Service
NQF	National Qualifications Framework
OECD	Organisation for Economic Co-operation and Development
PES	Public Employment Services
PhD	Doctor of Philosophy
RSD	Serbian Dinar
SORS	Statistical Office of the Republic of Serbia
STEM	Science, Technology, Engineering and Mathematics
UNESCO	United Nations Educational, Scientific and Cultural Organization
VET	Vocational education and training

Executive summary

This report analyses higher education (HE) provision and labour market opportunities in Serbia by looking into four inter-related issues: the provision of HE, the current situation of the graduate labour market, the challenges facing graduates and employers on the labour market, and the skill gaps and skill mismatches that hinder graduate labour market integration. The report concludes with a set of recommendations on measures needed to ease graduates' transition to the labour market.

The data used in the study was collected from March to August 2015. It includes two large-scale surveys: one among recent HE graduates (1,438 respondents) and one among organisations that employ HE graduates (177 respondents). Semi-structured interviews were carried out with management staff of higher education institutions (HEIs), ministries, employers' associations, and trade unions. A focus group was also carried out with Erasmus Mundus alumni. The project has assembled a unique database that covers details of most study programmes offered by HEIs in the country in recent years¹.

Main findings

The number of HEIs has increased over the last two decades in response to an increase in student demand. Our database shows that there are now 85 HEIs in Serbia, of which 16 are universities and 69 are professional or vocational colleges. About a quarter of a million students are registered to study, mostly at public HEIs although each year 15% of students enroll at private HEIs. The most frequently followed fields of study are *Business, Administration & Law* and *Engineering, Construction & Manufacturing*. The graduate survey shows that students are fairly satisfied with the quality of education they receive at their HEI, although many graduates consider that their job prospects would have been improved by better teaching methods, a more relevant curriculum and by having better qualified professors. Serbia has an effective system of accreditation of HEIs in place, and along with Montenegro, is the only country in the region in which all HEIs and their study programmes have been accredited.

Graduates face a difficult transition to the labour market. Many experience periods of unemployment before they find a permanent job. While the overall unemployment rate of HE graduates in 2015 was 15.9%, the graduate survey shows that the unemployment rate of recent graduates is 41.5%, similar to the rate of youth unemployment as a whole. The institutional framework that supports graduates' job search is weak, and many graduates rely on their personal connections of family and friends to find a job, an inefficient way to allocate graduate labour. A major barrier facing graduates in their transition to the labour market is a lack of work experience; graduates without any work experience are less likely to find a job that is well matched to their HE qualifications than those who have some work experience. The government supports some graduates to gain work experience through an internship programme, and several large international companies operating in Serbia provide internships to HE graduates, and this approach should be further developed. Employers' cooperation with HEIs is important in supporting improved curricula and in easing graduates' transition to the labour market. Yet, such cooperation is rare, even though many employers consider that it would enable them to recruit graduates with appropriate skills more easily. More than half of graduates are employed in four sectors of the economy: *Education, Public Administration, Wholesale & Retail Trade, and Manufacturing*. The fastest increase in graduate employment in recent

¹ Further details about the methodologies and data used in this study can be found in the Annex.

years has been in the *ICT* sector. Graduate employment has also grown relatively fast in a small number of high-growth enterprises known as “gazelles” which tend to be small and medium sized enterprises (SMEs). Economic growth is expected to accelerate over the next three years as economic reforms begin to bear fruit, and the annual oversupply of new graduates is expected to fall from about 33,000 in 2015 to about 14,000 in 2018.

Among the graduates who find a job, their skills and competences gained in the HE system are not always suitable for the workplace. The employer survey shows that employers are only moderately satisfied with the skills of their graduate recruits, and more than half of employers believe that their graduate recruits do not bring much value added in comparison with non-graduates. Employers report that graduates lack interactive skills such as team working, decision-making, adaptability, and analytical and problem solving skills. Such skills are often neglected at HEIs where traditional teaching methods are more often used than student-centred approaches. Employers consider that HEIs could support the development of graduates’ interactive skills by modernising teaching methods, by delivering teaching in small class groups rather than in large anonymous lecture rooms, and by adopting practical problem-solving approaches to teaching. In response to the weak skill-sets of graduates, many employers provide additional training to their graduate recruits. However, human resource management (HRM) practices are under-developed, and few employers follow up on training programmes with employee development plans that would maximise the benefits of the training provided.

Efficient matching of graduates to the requirements of the job is important for making the best use of the human capital created by the HE system, and is reflected in improved job retention and higher pay for well-matched graduates. Yet, more than one third of graduates experience “horizontal” mismatch by field of study. Graduates are more likely to be well matched horizontally if they had good academic performance at HEI, if they had a high level of support from their HEI to find a job, and if they have strong interactive skills. However, having help from friends in finding a job (i.e. making use of informal networks and social connections) is not conducive to good matching and is more likely to lead to a mismatched job and a lower level of pay. Measures to improve horizontal matching should include improved career guidance services and better collaboration between HEIs and employers.

The study also confirmed a substantial amount of “vertical” skill mismatch. Overall, fewer than half of graduates are well matched to a job by their level of education; almost two fifths are over-qualified for the job they hold. Being well matched by level of qualification assists graduates to retain their job and avoid unemployment. Factors that assist graduates in finding a vertically well-matched job include the help received from the HEI in job search, having studied an appropriate subject at HEI, studying in an HEI with a good reputation, having some work experience, and the overall economic situation. Vertically well-matched graduates have higher pay than mismatched graduates, although differences in initial salary diminish as graduates sort themselves into jobs more appropriate to their qualification level.

Policy recommendations

As the conclusions set out above demonstrate, action is needed both on the part of HEIs and on the part of employers, government, and public employment services to produce a more effective outcome for graduate job seekers. The research findings reported above suggest several key policy measures that should be implemented to improve the prospects for graduates when they enter the labour market. The recommendations are presented in order of priority.

Higher education

1. HEIs should **modernise curricula** to enable students to develop better interactive skills (such as adaptability, analytical and problem-solving skills, and team working skills). They should also introduce more practical work into their courses to ensure that graduates have a range of skills that can be used in the workplace.
2. HEIs should improve their **teaching methods** in order to increase the quality of education provided, by promoting a student-centred approach to learning based on small discussion classes, student presentations, teamwork assignments, and analytical and practical problem solving exercises.
3. The **quality assurance system** should be improved based on student evaluations and a strengthened Commission for Accreditation and Quality Assurance (CAQA). Publishing of student assessment scores could create incentives for better results in teaching (as happens at many HEIs throughout the EU). External peer-reviews should assess institutions according to the quality of their teaching.
4. The Government should promote the **internationalisation of HEIs** by attracting professors educated abroad into Serbian HEIs, and promoting greater involvement of HEIs in international exchange programmes such as Erasmus+.
5. HEIs should deliver **entrepreneurship learning courses** to all interested students, based on strong links with the local business community. Such courses should aim to support students with the relevant abilities in establishing their own business after graduation.
6. HEIs should provide prospective students with **information on labour market prospects** associated with different study programmes. To support this, HEIs should carry out tracer studies to identify the final destinations of HE graduates. Enhanced career guidance is also needed at secondary school level to support better informed decisions for entry to HE.
7. **The quality of data collected about the HE sector should be improved.** HEIs should provide better information about their study programmes to the Serbian Ministry of Education, Science and Technological Development, and the Statistical Office of the Republic of Serbia (SORS) should revise its classification of study programmes by degree level. More accurate information is needed on student enrolments, completion rates, and duration of study programmes. It would be desirable to develop a unique database on HE provision based on a common methodology of data collection, which would include the most important internationally recognised indicators as defined by Eurostat, UNESCO and OECD. The database developed in this study could serve as a basis.
8. **The National Qualifications Framework (NQF) should be finalised** and carefully explained to employers. A precondition for achieving a better alignment of HEI policies with labour market needs would be to complete the NQF with the involvement of all social partners.

Labour market

1. Policy makers should **support better cooperation between employers and HEIs** through active programmes to organise meetings, round-tables, discussions, and sharing of information. The recently created sectoral councils can provide a step in that direction.
2. **More effective institutional support should be offered to graduates during their transition to the labour market.** Formal career guidance services within HEIs should provide more support graduates in their search for a job. The National Employment Service should be encouraged to improve its services for graduate job seekers, and should exchange information with HEIs about the supply and demand for graduates in specific fields of study and specific sectors of the economy.
3. HEIs and employers should be encouraged to negotiate **more work experience placements with local businesses**, so that graduates enter the labour market with some prior work experience, which should be counted towards the completion of a study programme. To maximise learning outcomes, work placements should be closely supervised by HEIs, and specialised staff of employers should be supported to offer structured learning opportunities in the workplace. The Government should expand its existing internship programmes following graduation.
4. Policy makers should **support employers' continuing training of graduates.** Although many employers provide supplementary training, this is often not supported by effective human resource management (HRM) practices such as career development plans. HEIs could support employers by assisting them in drafting career development plans for graduate employees, by providing training to employers in HRM techniques, and by providing continuing education opportunities for graduate employees at HEIs throughout their career.

1 Introduction

Even during the period of rapid economic growth from 2001 to 2008, the Serbian labour market was characterised by relatively high unemployment, low employment rates, a large informal sector, and a continuous brain drain, with young people being among the most affected (Uvalić, 2010). Since 2009, six years of stalled GDP growth have revealed a number of structural problems, including a dysfunctional labour market. Living standards are still relatively low, with per capita GDP of €4, 635 in 2014 (similar to the average of €4, 596 for the Western Balkan region, and equivalent to 37% of real GDP per capita in the EU-28).² Reversing such trends will require an upskilling of the labour force to raise labour productivity and industrial competitiveness. In pursuing such a strategy, the higher education (HE) system will have a crucial role to play in supplying highly qualified graduate workers to the economy. Research studies have shown that the skills and competences of new graduates are often not well aligned to labour market needs (Ristić and Pavlović, 2012; Arandarenko, 2013). The HE system often provides graduates with theoretical knowledge rather than with the practical skills needed by employers (Radović-Marković, 2011). Since only 27.2% of the population of 30-34 year olds hold a tertiary degree, compared to 38% in the EU28, there is room to further expand the HE system, as long as there are a sufficient number of job opportunities for HE graduates.³ Along with economic recovery, achieving a better alignment of HE study programmes with labour market needs could improve graduates' employability and contribute to a better use of human capital.

This report aims to understand the extent and type of qualifications and skills that are produced by the HE system, the difficulties and opportunities that graduates face in the labour market, and the skill gaps and skill mismatches experienced by employers. It also provides a forecast of the demand for graduates in the near future and concludes with recommendations on measures needed to ensure improved performance of the HE system and the graduate labour market. The report is divided into six sections. Section 2 identifies the structure of HE provision; Section 3 reviews the graduates labour market and provides a forecast of the expected future demand for graduates by field of study; Section 4 identifies the obstacles graduates face in their transition to the labour market, and the difficulties employers face with their new graduate recruits; Section 5 analyses the extent and nature of graduate skill mismatches. Section 6 concludes with a summary of research findings and a set of related policy recommendations. A special database recording basic data on HE provision was created for this study. In addition, two online surveys of recent graduates and of the organisations that employ graduates were carried out. Details about the methodologies and data used in the study can be found in the Annex.

² Gross Domestic Product per capita for 2014 taken from Eurostat, variable code [cpc_ecnagdp]. The authors have calculated an unweighted average for the Western Balkans, including an estimate for Kosovo*. The relative real expenditure on GDP in purchasing power parity terms compared to the EU-28 is taken from Eurostat [prc_ppp_ind].

³ Data on tertiary participation in Serbia are for 2014, and are taken from Eurostat [cpc_pseduc], for the EU28 data are from Eurostat [edat_lfse_03].

2 Mapping the provision of higher education

In recent years, public expenditure on HE in Serbia has declined from 0.96% of GDP in 2009 to 0.86% of GDP in 2014.⁴ Public expenditure on HE is above the level achieved in Bulgaria (0.66% of GDP) and Romania (0.78% of GDP), but below the level in Slovenia (1.23% of GDP) and Austria (1.88% of GDP).⁵ The strategic goal established by the “Strategy for the Development of Education until 2020” is to reach the EU average by gradually increasing public expenditure on HE to 1.25% by 2020. However, this may be difficult to achieve given that the macroeconomic policy set out in the Economic Reform Programme for 2015-17 envisages an expenditure-based fiscal consolidation aimed at stabilising government debt (European Commission, 2015b). Over the period between 2014 and 2017 the government aims to reduce primary expenditure by 7.9% of GDP, in order to achieve a reduction in the budget deficit to 3.8% of GDP. As part of the fiscal consolidation, salaries of public employees in excess of 25, 000 RSD were cut by 10% in 2015 (including public employees in the HE sector), although there has been a pay increase in 2016 amounting to 2% for public employees in the HE sector (GoRS, 2016).

2.1 Profile of higher education institutions

After Serbia signed the Bologna Declaration in 2003, a new Law on Higher Education was adopted in 2005 distinguishing between academic and vocational studies (Vujačić et al, 2013). The main types of HEIs are universities (*univerzitet*), colleges of academic studies (*visoka škola akademskih studija*) and colleges of vocational studies (*visoka škola strukovnih studija*). There are also faculties (*fakultet*) and art academies (*umetnička akademija*) within a university.⁶ Faculties within public universities are independent legal entities. They have substantial autonomy in taking decisions regarding professional, managerial and financial matters (Vujačić et al., 2013).⁷ Universities have a dual governance structure consisting of an administrative body, the Council, and an academic body, the Senate. Serbia is one of the few countries in the region to have a substantial post-secondary vocational system provided by a large number of specialised colleges, which provide degree-level qualifications.⁸ The largest HEI is the University of Belgrade, a public university with 31 faculties and more than 82, 000 registered students in the 2014-2015 academic year (over a third of the total in all HEIs).⁹ Some private HEIs have been established in response to increased demand for higher education (Branković, 2014). The project has compiled a HE provision database covering all HEIs in Serbia (see Table 1). The relative number of private HEIs is below the average in the region in relation to population size.

⁴ Data on public expenditure on higher education are available in the laws on the government budget for each respective year (“Zakon o budžetu” and “Zakon o rebalansu budžeta”).

⁵ Eurostat online data for 2012, variable code [educ_uoe_fine06].

⁶ European Commission (2011) *Higher Education in Serbia*, Brussels: TEMPUS Programme

⁷ A Law on Higher Education was passed in 2002 that reinstated the autonomy of HEIs that had been eroded under the authoritarian regime.

⁸ These organisations were developed in former Yugoslavia as high Colleges (*visoka škola*). These were specialised post-secondary non-tertiary institutions providing four- or five-year study programmes, similar to a *Fachhochschule* in Germany. Since 2005 they belong to HE but only offer study programmes of 180 and 240 ECTS. Similar colleges are also found in Kosovo.

⁹ Data from University of Belgrade website and project HE provision database.

Table 1: Accredited HEIs by ownership and type of organisation, 2016

	HEIs	Faculties	Number of HEIs per 100, 000 inhabitants (regional average)	Number of faculties per 100, 000 inhabitants (regional average)
Total number of HEIs	85	128	1.2 (1.3)	1.8 (3.2)
<i>By type of HEI</i>				
Universities	16		0.2 (0.5)	
Colleges of vocational studies	65		1.1 (0.9)	
Colleges of academic studies	4			
<i>By ownership of HEI</i>				
Public	51	67	0.7 (0.5)	0.94 (1.7)
Private	34	61	0.5 (0.8)	0.86 (1.5)

Source: CAQA (2014) and HEI provision database created for this study.

The 2005 Law on Higher Education introduced three cycles of studies in accordance with the Bologna principles and the corresponding European Credit Transfer System (ECTS). Bachelor studies provide either 180 ECTS (three-year programme) or 240 ECTS (four-year programme), and Master studies provide either 60 ECTS (one year programme) or 120 ECTS (two-year programme). After completing Master studies, a student ought to have a total of 300 ECTS (180+120 in the case of 3+2 years, or 240+60 in the case of 4+1 years).

Table 2: Study programmes by type of ownership and degree level, 2014-2015

	Number of study programmes	Proportion of study programmes
Ownership of HEI		
Public	1, 108	73.7%
Private	410	26.3%
Total	1, 518	100.0%
Level of qualification		
Bachelor	664	43.7%
Master	605	39.9%
Doctoral	249	16.4%
Total	1, 518	100.0%

Source: HE provision database.

Typically, Bachelor studies last four years, Master studies last one year and PhD studies three years. In practice, however, both models of organising HE studies (3+2 and 4+1) have been adopted. Most HEIs have opted for the 4+1 model (GoRS, 2012: 103).¹⁰ Of 664 Bachelor level study programmes identified in the HEI provision database, 37% are three-year programmes, while of 605 Master level programmes only 8% are two-year programmes (aligned with three-year bachelor programmes). Almost all doctoral study programmes (with two exceptions) last for three years. This variety of solutions complicates the HE system. Students who complete a 3-year Bachelor degree (obtaining 180 ECTS) but wish to continue studying at a HEI that offers a 1-year Master degree (60

¹⁰ After the adoption of the Law on HE in 2005, there was uncertainty about the financial resources that would be available for the new MA study programmes at public HEIs. This led many HEIs to adopt the 4+1 model to be on the safe side (Interview, public HEI).

ECTS) have to pass additional exams to obtain a full set of ECTS credits.¹¹ The different ways of organising studies also create difficulties in having reliable statistics on student enrolments and completion rates at different levels of HE (as discussed further below).

Table 3: Study programmes by broad field of study, 2014-2015

Field of study	Number of study programmes	Proportion of study programmes
01 Education	154	10.1%
02 Arts & Humanities	148	9.7%
03 Social Sciences, Journalism & Information	145	9.6%
04 Business, Administration & Law	294	19.4%
05 Natural Sciences, Mathematics & Statistics	114	7.5%
06 Information & Communication Technologies	129	8.5%
07 Engineering, Manufacturing & Construction	308	20.3%
08 Agriculture, Forestry, Fisheries & Veterinary	42	2.8%
09 Health & Welfare	78	5.1%
10 Services	106	7.0%
Total	1,518	100%
<i>HSS subjects (02+03+04)</i>	<i>587</i>	<i>38.7%</i>
<i>STEM subjects (05+06 +07)</i>	<i>551</i>	<i>36.3%</i>

Source: HE provision database. Note: Fields of study are presented according to the International Standard Classification of Education (ISCED), the statistical framework for organising information on education maintained by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Almost two-fifths (39%) of study programmes are in the Humanities and Social Sciences (HSS) fields,¹² while 36% are in STEM subjects (*Science, Technology, Engineering & Mathematics*) (see Table 3).¹³ Public HEIs tend to focus on STEM subjects (which account for 43% of their study programmes¹⁴). Private HEIs focus more on HSS study fields (which account for 65% of their study programmes¹⁵). The Serbian HE system is notable for its strong focus on the broad fields of *Engineering, Manufacturing & Construction* in comparison to elsewhere in the region, where only 14% of study programmes are devoted to this field of study.¹⁶ This is a cause for concern, since there is an oversupply of graduates from these study fields on the labour market (see Figure 8 below).

2.2 Students

One of the main aims of the Law on Higher Education of 2005 was to increase the proportion of adults with a HE degree. The "Strategy for the Development of Education until 2020" aims to increase the proportion of 30-34 year olds with HE from 23% in 2012 to 38.5% by 2020 (GoRS, 2012: 130). It is also envisaged that 70% of students entering

¹¹ This problem is recognised in the *Strategy for the Development of Education in Serbia until 2020* (2012, p. 103): "Having various possibilities for organising studies hampers the continuation of studies at the Master's level when students move from the 3+2 model to 4+1 and vice versa".

¹² HSS is here defined as ISCED 02+03+04, i.e. *Arts & Humanities, Social Science, Journalism & Information and Business, Administration & Law*.

¹³ Within these broad categories, *Business, Administration & Law* account for 19.4% of all study programmes, as does *Engineering, Manufacturing & Construction*.

¹⁴ At public HEIs, the main concentration of study programmes is in the broad field of *Engineering, Manufacturing & Construction*, (which accounts for 26% of all study programmes).

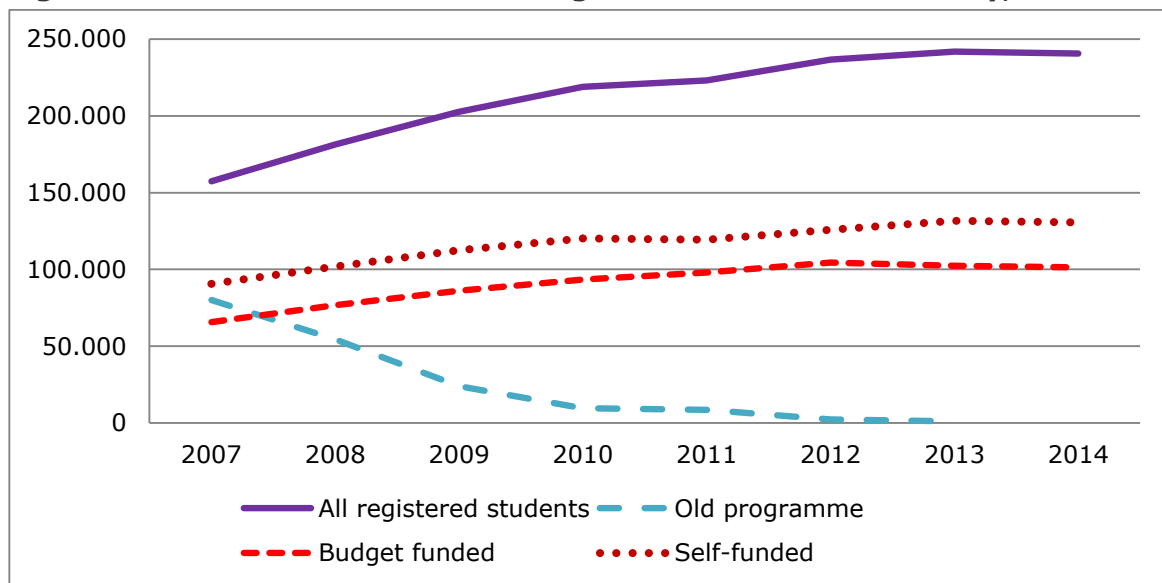
¹⁵ Including *Business, Administration & Law* subjects, which account for 38% of study programmes at private HEIs.

¹⁶ This is reported in the accompanying synthesis report.

the first year of studies opt for academic rather than vocational studies, and that 50% of students who complete academic studies should enrol in Master studies.

Tuition fees for about two fifths of students at public HEIs are covered by the state (*budget-funded students*),¹⁷ while others finance their own studies (*self-financed students*).¹⁸ Students in receipt of budget funding are selected on a competitive merit-based process through a combination of entrance examination and school performance. Unfortunately, the procedures used are not always transparent (OECD, 2012), which enables fraudulent practices in gaining budget-funded places at public HEIs.¹⁹ Tuition fees differ at public and private HEIs. For Bachelor studies, the median annual fee is €600 at public HEIs and €1,500 at private HEIs, and at Master level the respective fees are €740 and €1,550.²⁰ Students in receipt of a state scholarship are exempted from the fees at public HEIs. The graduate survey shows that the ratio between the tuition fee that graduates would be willing to pay and the actual fee paid (what we might call the “value for money ratio”) is highest for Bachelor degrees at 70% (66% at public HEIs and 81% at private HEIs) and lowest for Master degrees at 67% (65% at a public HEI and 85% at private HEIs). This suggests that public HEIs provide lower value for money at both Bachelor level and Master level compared to private HEIs.²¹ Overall, the value for money provided by HEIs is just above the average observed elsewhere in the region.²²

Figure 1: Total number of students registered in all levels of study, 2007-2014



Source: Statistical Office of the Republic of Serbia database.

¹⁷ These students have additional privileges for housing, extra allowances and other facilities.

¹⁸ In the academic year 2014-15, from 242,848 tertiary level students, 104,433 were budget financed (43% of the total) and 138,415 were self-financed. See SORS (2015a) Table 5-12).

¹⁹ The formal entrance competition is bypassed by various means including the addition of a student to the ranked list after it is finalised; fraudulent changes to the quotas of budget financed students; advance receipt of entrance exam questions or purchase of entrance exams; fraudulent changes of test scores; and cheating during the entrance exam (OECD, 2012).

²⁰ These data are derived from the project’s HEI provision database.

²¹ The difference in the mean value for money between public and private HEIs is statistically significant at the 1% level at Bachelor level (t-statistic = 4.05, p=0.000, N=428) and at Master level (t-statistic = 3.95, p=0.000, N=400).

²² For the Western Balkan region as a whole, value for money at HEIs is 68% for Bachelor degrees, and 65% for Master degrees. Low value for money is found in EU countries too. In the UK, for example, three out of ten students think the academic experience in HE is poor value (Department for Business Information and Skills, 2016).

Following the adoption of the 2005 Law on Higher Education the number of registered students increased by 50% between the 2007-08 and the 2012-13 academic years, but has since levelled off to 240,500 in 2014 (see Figure 1).²³ Most students (86%)²⁴ are registered at public HEIs; in the 2014-15 academic year, over 100,000 students were budget-financed and over 130,000 were self-financed.²⁵ Until 2007, student enrolment at Bachelor level was carried out according to the old curriculum of the former Law on Higher Education.²⁶ Over time, the number of students studying under the pre-Bologna “old programmes” has diminished, almost vanishing by the 2013-14 academic year. Some study programmes enrol a large number of students. For example, the Faculty of Law at the University of Belgrade enrolls more than 1,500 students each year for its BA in Law, the Faculty of Economics enrolls more than 1,400 students each year for its BA in Economics, and the Faculty of Philology enrolls more than 1,000 students in its BA in Language Acquisition.²⁷

Table 4: Students enrolling and completing studies each year, 2012-15

	Enrolment			Completion		
	2011-12	2012-13	2013-14	2011-12	2012-13	2013-14
Bachelor	50, 474	51, 195	51, 098	15, 621	16, 596	18, 363
Master	4, 715	6, 077	6, 303	30, 955	30, 231	31, 422
Doctoral	1, 882	2, 053	2, 096	580	759	750
Total number of students	57, 071	59, 325	59, 497	47, 156	47, 586	50, 535
Proportion of students in public HEIs						
% Public HEIs	85.5%	83.8%	84.6%	80.8%	81.3%	80.9%
% Private HEIs	14.5%	16.2%	15.4%	19.2%	18.7%	19.1%

Source: HEI provision database.

Table 4 presents data on the number of students who enrol each year in HEIs and the number of students who complete their studies, at each level of degree. In the academic year 2013-14, the ratio of completions to enrolments was 85%.²⁸ This is a very high completion ratio compared to other countries of the region.²⁹ At Bachelor level however, the completion ratio was only 36%, while at Master level the completion ratio was over 100%.³⁰ An explanation for this apparent anomaly can be found by inspecting the

²³ By “registered” students we mean the number of students who are currently registered to study at all HEIs at all levels of study, i.e. the stock of students. Further on we analyse the enrolment of students, i.e. the annual inflow of students.

²⁴ Statistical Yearbook of the Republic of Serbia 2015, Belgrade: SORS.

²⁵ The proportion of students self-financed at Bachelor level fell from 59% in 2007/08 academic year to 57% in the 2013/14 academic year, while the proportion that were self-financed at Master level increased from 47% to 52% over the same period.

²⁶ In 2013, 1,044 students were registered under the old curriculum (SORS online data base).

²⁷ The “Strategy for the Development of Education in Serbia until 2020” notes that “[t]he current funding system encourages all HEIs to enroll as many students as possible, and, implicitly, to let them pass as many exams as possible” (MESTD, 2012: 218).

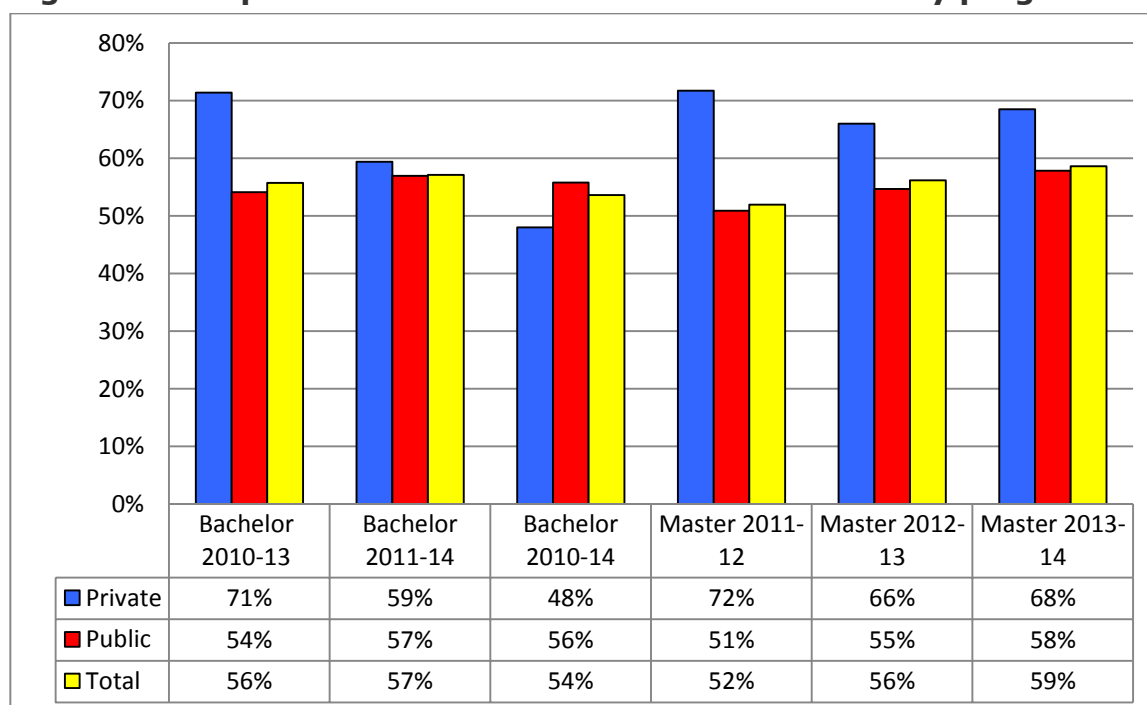
²⁸ These data are calculated from the Project HEI provision database.

²⁹ The completion ratio is the ratio of the number of students who complete studies in a given year divided by the number of students who complete studies in the same year. It should not be confused with the completion rate, which is analysed below.

³⁰ The phenomenon seems to be associated with a few HEIs, including Megatrend University, which had a completion ratio for second cycle studies of 1,378% in the academic year 2011/12, Union University (858% in 2011/12), University of Arts (1, 921% in 2013/14), University of Belgrade (456% in 2013/14) and University of Kragujevac (811% in 2013/14).

Statistical Office of the Republic of Serbia (SORS) statistical release “AS20”, which lists the number of graduating students by type of degree. In 2013, within the second cycle of studies alongside the Master degree certificates, we find a group of “Bachelor with Honours” certificates. Altogether 18,467 such degrees were awarded, among which 4,736 were “Bachelors with Honours in Economics” and 2,474 “Bachelor with Honours in Law”.³¹ These “Bachelor with Honours” certificates are awarded to students from four-year Bachelor programmes, which have been classified as second-cycle graduates (because of the higher number of ECTS they earn).³² However, such students have only completed 4 years of study, not 4+1 or 3+2, which should not really justify their classification among the group of second cycle studies.³³ Reclassifying these degrees as first cycle Bachelor programmes indicates that about 30,000 graduates completed their studies with a Bachelor degree in 2013. The Statistical Office ought to review the classification protocol in order to provide a more accurate picture of the completions at different levels of study in the HE system in Serbia.

Figure 2: Completion rates on Bachelor and Master study programmes



Source: HE provision database. Note: Only study programmes with completion rates equal to or less than 100% are included. The cross-section method is used to calculate completion rates.

The completion rate (rather than the ratio) is a standard indicator of the effectiveness of a HE system (Eurydice, 2015). It provides a more accurate picture of the effectiveness of

³¹ In addition to the certificates of “Bachelor with Honours in Economics”, there were 568 first cycle “Bachelors in Economics” and 957 “Masters In Economics”, giving a total of 6, 288 graduates at both first and second cycles of study with certificates in Economics in 2013/14.

³² According to the undergraduate prospectus of the University of Belgrade, students who follow a four-year study programme are awarded Bachelor with Honours degree, which carries 240 ECTS, and is clearly identified as belonging to the first cycle of studies, not to the second cycle as reported in the SORS AS20 Statistical Release (see “Undergraduate and Integrated Studies”, Belgrade: University of Belgrade).

³³ If the SORS AS20 data are recalculated for the academic year 2013-14 by placing “Bachelor with Honours” graduates among the group of first cycle graduates we find a total of 29, 823 graduates from first cycle studies, and 18, 496 graduates from second cycle studies. This is still only a partial correction, as it does not fully adjust for misclassification of the data.

individual HEIs and study programmes than the broad-brush completion ratio discussed above. It is calculated by the so-called “cross-section” method from the project’s HEI provision database.³⁴ Ignoring study programmes with completion rates in excess of 100% for which data is unreliable, we find that the overall completion rate for first-cycle Bachelor programmes is between 56% and 57% for three-year programmes, and is 54% for the (majority) four-year study programmes.³⁵ Completion rates are higher at private HEIs than public HEIs for three-year programmes, but lower than at public HEIs for four-year programmes. The better performance of private HEIs on Bologna-compliant three-year programmes may suggest that these HEIs have adapted better to the Bologna reforms. However the performance of both types of HEI seems to be converging as indicated by the similarity of the completion rates for the 2011-14 programmes compared to programmes that began in 2010. Completion rates on Master programmes vary from 52% to 59%. These completion rates are among the highest in the region, and are above the lowest completion rates in the EHEA, which are found in Hungary at 48% (Eurydice, 2015), although below the average completion rate in the OECD countries of 68% in 2013.³⁶

Figure 3 shows the proportion of students who enrolled in and completed studies by broad field of study in the 2013-14 academic year. Taking broad groups of study fields into account, 40% of students enrolled and 45% completed their studies in HSS study fields (ISCED 02+03+04).³⁷ At the same time, 30% of students enrolled and 28% completed their studies in STEM subjects (ISCED 05+06+07).³⁸ These data can be compared to the situation in the EU-28 where 23% of all graduates hold STEM qualifications (Cedefop, 2015). In this perspective, Serbia appears to be doing rather well in the proportion of STEM graduates that are being produced by its HE system, especially in the large number of graduates produced in the fields of *Engineering, Manufacturing & Construction*. Yet, as in the EU, shortages of such graduates are likely to emerge in the future, especially in the fields of *Natural Sciences, Mathematics & Statistics* (see Figure 8 below) unless more students can be persuaded to take up these fields of study. It is notable that only 5% of students completed studies in this study field in the 2013-2014 academic year.

³⁴ The data available from the HE provision database permit the computation of completion rates for two cohorts following two-year programmes. The completion rates are calculated as the ratio of the number of graduates completing studies in year “t” divided by the number of students who enrolled in year “t-x”, where “x” is the duration of the study programme. This method of calculating completion rates, known as the “cross section” method, is clearly more robust than taking the ratio of completions and enrolments in a single year, as it seeks to track the performance of a given cohort through time, although it is less accurate than the so-called “true cohort” method based upon individual level administrative registers or surveys.

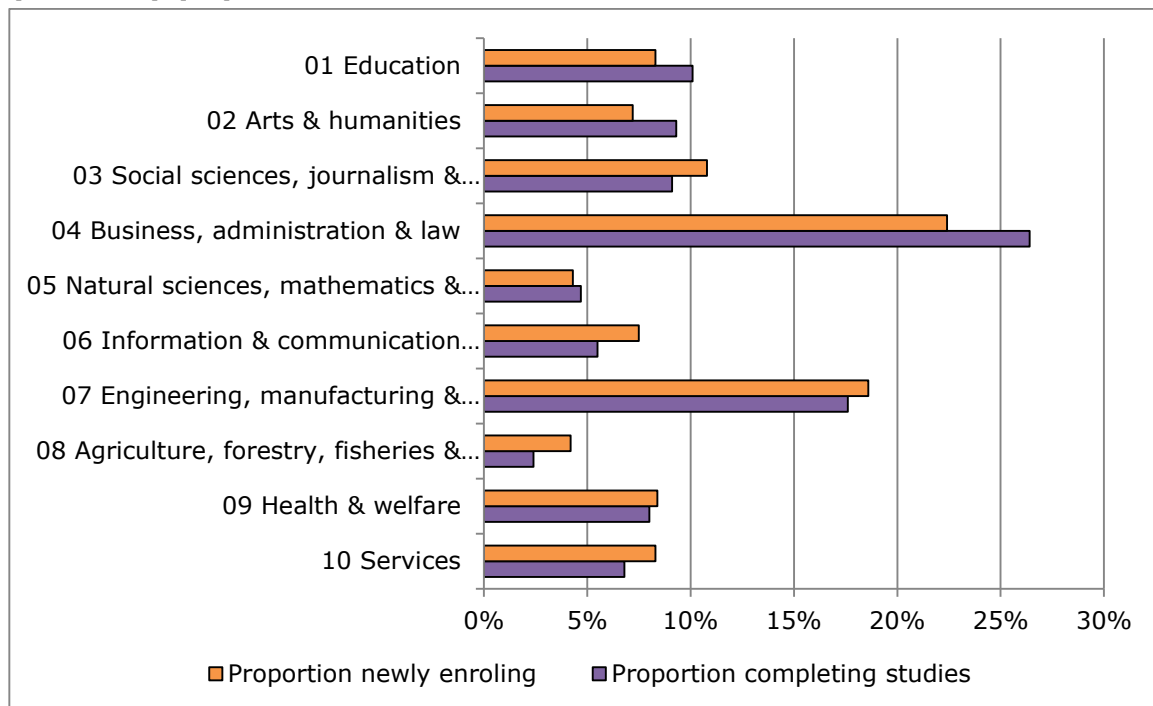
³⁵ Inclusion of study programmes with completion rates over 100% gives rise to anomalous results. In addition to the issue of misclassification noted in the text, some students who enrolled many years ago under the pre-Bologna programme may have rushed to complete their studies after the MESTD declared their right to a degree would be revoked if they did not complete their studies by a set date. This explanation fits with the swings in completion rates that have taken place on Master programmes, which increased at public HEIs from 286% in the 2011-12 academic year to 573% in 2013-14, while completion rates on Master programmes at private HEIs fell from 666% in the 2011-12 academic year to 71% in 2013-14.

³⁶ See OECD (2013) *Education at a Glance*, and the data appendix available at: <http://dx.doi.org/10.1787/888932848495>.

³⁷ Within this total, 83% of students completed HSS study fields at private HEIs, compared to 36% at public HEIs.

³⁸ Within this total, 6% of students completed STEM study fields at private HEIs, compared to 33% at public HEIs.

Figure 3: Students newly enrolling and completing studies by field of study (2013-14) (%)



Source: HE provision database.

2.3 Quality

Expansion of the HE system has raised concerns about the quality of the education provided. In this section we first analyse the accreditation system designed to ensure quality before moving to the issue of programme evaluation and student satisfaction with the quality of HE provision and the role of teaching methods in supporting quality, before turning to a discussion of recent policy developments and gaps.

2.3.1 Accreditation

The Commission for Accreditation and Quality Assurance (CAQA) was established in 2005 under the Law on Higher Education. It is composed of fifteen university professors from all scientific fields and is in charge of accreditation and external evaluation of HEIs as institutions and individual study programmes. CAQA has been subject to international evaluation by ENQA, and became a member of ENQA in 2013. Having accreditation is a condition for a HEI to receive an operating licence from the Ministry of Education, Science and Technological Development (MESTD) and for issuing HE degrees. Both public and private HEIs are obliged to implement an internal evaluation of their teaching staff and teaching methods (which are assessed by students). The external evaluation function of the CAQA relies on both quantitative (e.g. number of teachers and support staff) and qualitative indicators (e.g. existence of a quality assurance system). It reports to the National Council for Higher Education (NCHE). Following reports from reviewers' on-site visits, the CAQA can propose to the NCHE to withdraw accreditation from an HEI or study programme (Vujačić et al., 2013).

The first round of the accreditation process, implemented by CAQA, began in 2007 and the eighth cycle of accreditation was completed in 2011. By law, accreditation must be repeated every five years, and so a second round of accreditation was begun in 2012. By

2014, 88 HEIs and 807 study programmes had been accredited for the second time (CAQA, 2014). The accreditation process has been broadly effective in monitoring quality within the HE system and several HEIs have lost their license as a result of the accreditation process. Currently, all HEIs and study programmes are accredited.

Despite this success, some concerns have been raised regarding the implementation of the accreditation process. According to recent research, while some HEIs have fully accepted and implemented accreditation standards required by CAQA, others have implemented only modified versions of the standards, some have only partially or symbolically implemented them, and a few have simply rejected them (Janičijević, 2015).³⁹ Consequently, none of the accreditation standards have been implemented by all the HEIs while none of the HEIs has implemented all the accreditation standards (Janičijević, 2015). However, Serbia, along with Montenegro, are the only countries in the region to have had all HEIs and their programmes undergo accreditation, and another round will be repeated in 2017.

2.3.2 Programme evaluation

According to the 2005 Law on Higher Education, HEIs are free to determine the contents of their study programmes and teaching methods. Since the HE system treats public and private HEIs equally, they are expected to respect the same quality standards. However, private HEIs have received a bad press. In the words of one recent study “public institutions are actively involved in campaigning against the legitimacy of private higher education...[and] ...private HEIs are often perceived to be motivated primarily by profit, which is considered outside the norms of legitimate practice in education provision” (Branković, 2014: 128).⁴⁰ However, private providers may play a crucial role, because they are motivated by a financial incentive to increase their quality in order to attract students. They may be less constrained by a top-heavy bureaucracy and may respond more rapidly to changing labour markets (Sondergaard and Murthi et al., 2012: 151).

A widespread public perception is that private HEIs provide a lower quality education than public HEIs. This perception is partly supported by international university rankings, one of which shows that among the top ten HEIs in Serbia, eight are public HEIs and only two are private HEIs.⁴¹ The public University of Belgrade is the top ranked HEI in Serbia with a global ranking of 536th position (ranked in 17th position in Central and Eastern Europe – CEE), while the public University of Novi Sad is second ranked, with a global ranking of 886th position (ranked 38th in CEE). The top private university is Singidunum University with a global ranking of 3,222nd (ranked 220th in CEE). However, these rankings are only indirectly connected to teaching quality, as the metrics are mainly research-based. Private HEIs often perceived to have fewer high performing students

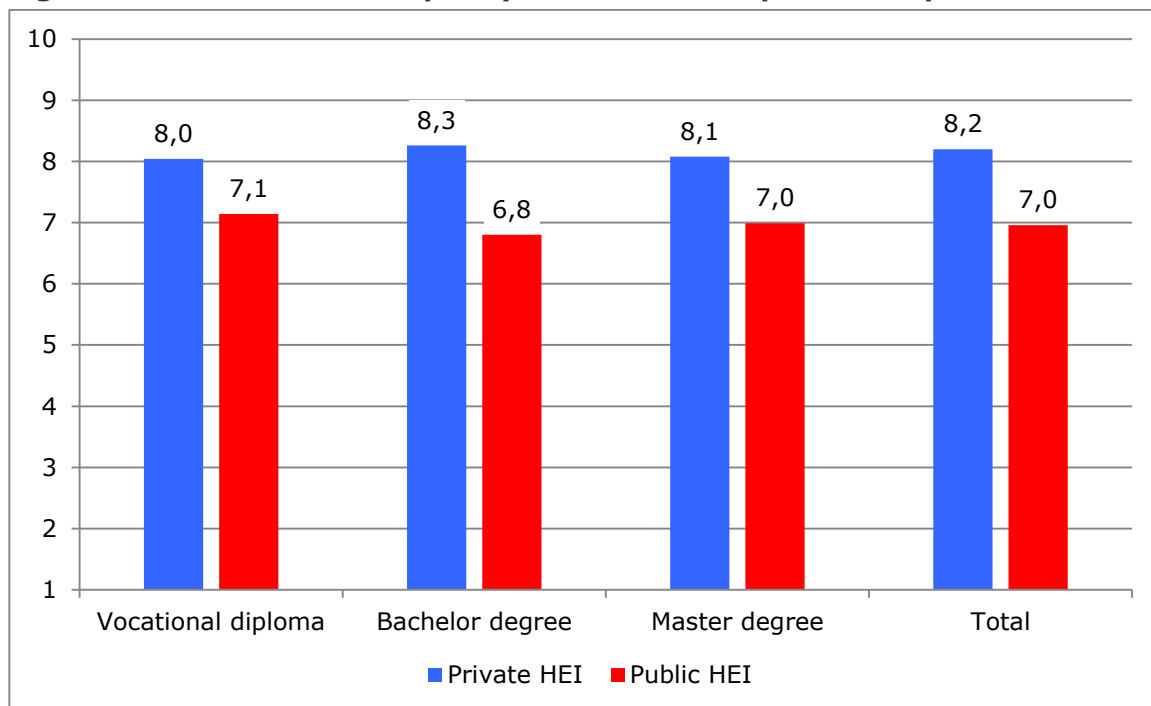
³⁹ Some HEIs have implemented the accreditation standards only symbolically e.g. “by performing the ritual of preparing and publishing self-evaluation reports with no actual consequences or results of any kind. Some Faculties conducted the process of self-evaluation reporting only in the year of their application for accreditation, and ceased to do so since” while “rejection...is only possible in the case when the university has gained the greatest autonomy with respect to institutional environment...[and] ... uses this autonomy in order to block the changes that are being imposed on them” (Janičijević, 2015: 1557).

⁴⁰ The “Strategy for the Development of Education in Serbia until 2020” states “The emergence of private education institutions, publicly explained as a contribution to improving the quality of education by strengthening the mechanisms of competition, is ... managed in many cases by the interests of profit and lack of public and other demands regarding the quality of education. In the education system, a significant opposition emerged between the short-term economic interests on one hand and the development mission of education on the other” (MESTD, 2012: 12).

⁴¹ This data is taken from the Spain-based “Webometrics Ranking of World Universities”, a publication of the Cybermetrics Lab, a research group of the Consejo Superior de Investigaciones Científicas (CSIC), the largest public research body in Spain. It should be noted that the methodology includes only publicly available web links data and does not rank specifically on teaching quality. See “Webometrics Ranking of World Universities”, <http://www.webometrics.info/en>.

compared to the leading public HEIs, since the best students apply to public HEIs with the support of scholarships that are awarded on merit. A main difference between private and public HEIs is managerial flexibility. Having a smaller number of students and a clear hierarchy in decision-making may enable private HEIs to better respond to the demands of the labour market, whereas decision-making in public HEIs may be more complex due to their larger size and more complex administrative procedures (Branković, 2014). Curricula at some private HEIs tend to be more in line with international trends and local needs than those in public HEIs, where academic staff often resist reforms to established teaching methods. Being relatively young institutions, private HEIs do not suffer from such a “path dependency” effect and may be institutionally more flexible in adopting changes in their curricula.

Figure 4: Satisfaction with quality of education at public and private HEIs



Source: Graduate survey. Note: Satisfaction with quality is assessed in response to the question “How satisfied are you with the quality of the education you received?” on a scale of 1-10 with 1= “very dissatisfied” to 10= “very satisfied”.

The graduate survey shows that students rate their satisfaction with the quality of education they received at HEI quite highly, with an average score of 7.2 out of 10.⁴² Graduates are more satisfied with the quality of education they received at private HEIs than at public HEIs, with a score of 8.2 at the former and 7.0 at the latter (see Figure 4). This does not necessarily imply that the quality of education is actually higher at private HEIs than at public HEIs (for example, students may be more satisfied with the education they receive if it is easier to pass exams at a private HEI).⁴³ The difference in satisfaction

⁴² This is slightly above the average for the Western Balkans as a whole (7.05) but only statistically significantly above satisfaction with quality in Albania ($p < 0.01$) and Bosnia ($p < 0.05$). It is also slightly higher than the average level of satisfaction of 6.6 found in the CONGRAD study of 2013 (TEMPUS, 2014), two years before the present study, which may indicate some improvement since then.

⁴³ The “Strategy for the Development of Education in Serbia until 2020” provides a clue about the problems facing public HEIs due to budgetary restrictions when it comments that “For several years now, the state has not been paying material costs at the level defined by the formula in the Decree. This creates major

with quality is around 12 percentage points, with a difference of 15 percentage points for Bachelor studies. The results are surprising, as private HEIs tend to have a worse reputation than public HEIs. It may be that students who attended private HEIs have different characteristics than those who attend public HEIs. In order to explore this hypothesis a regression model has been developed to identify whether such additional possible determinants of graduate satisfaction with their HEI studies have an effect, and if so whether it is these alternative factors that are responsible for the observed differences.

Table 5: Regression model for graduate satisfaction with quality of education

	Coefficient	t-statistic
Public HEI	-1.160	-7.78***
Whether internship was used	1.086	9.67***
Above average performance	0.668	6.20***
Classes in small groups	0.737	7.01***
Education	0.501	2.86***
Natural Sciences, Mathematics & Statistics	0.325	2.52**
Specialist degree	0.571	1.92*
Doctoral degree	0.875	2.20**
Constant	6.535	37.38***
Adj. R-Squared= 0.209; F=40.1; p=0.000; N=1, 187		

Source: Graduate survey. Note: Significance level ***=1%, **=5%, *=10%. Model estimated using SPSS.

The regression analysis shows that several factors in addition to ownership status of the HEI determine graduate satisfaction (see Table 5).⁴⁴ Several factors have a positive impact on satisfaction including whether the graduate had experienced internship or other form of work experience during studies, whether study performance was above average, whether teaching methods involved classes in small groups. Graduates who studied *Education* or *Natural Sciences, Mathematics & Statistics* have a higher level of satisfaction with quality of their education (compared to those who studied *Social Sciences, Journalism & Information* – the baseline study field for this analysis). Even when these factors are taken into account, the ownership status of the HEI still has a significant influence on perceived satisfaction with HE quality. The results indicate that graduates who studied at public HEIs have a level of satisfaction with their education that is 11.6 percentage points lower than those who studied at private HEIs, slightly less than the 12.0 percentage point gap identified in Figure 4 which does not control for other relevant factors identified in this study.

It should be emphasised that this difference between public and private HEIs could be offset by public HEIs offering internship or work experience to their students or by more frequent use of teaching in small class groups. The former increases student satisfaction with quality by 10.9 percentage points and the latter by 7.4 percentage points. It is important to note also that graduates from *Natural Sciences, Mathematics & Statistics* fields of study have a higher level of satisfaction with the quality of studies compared to other fields of study by 3.3 percentage points, irrespective of whether they studied at

problems to the state HEIs when they need to provide funds for covering the heating and other operating costs, and the consequence is the violation of the delivery and the quality of teaching.” (MESTD, 2012: 216).

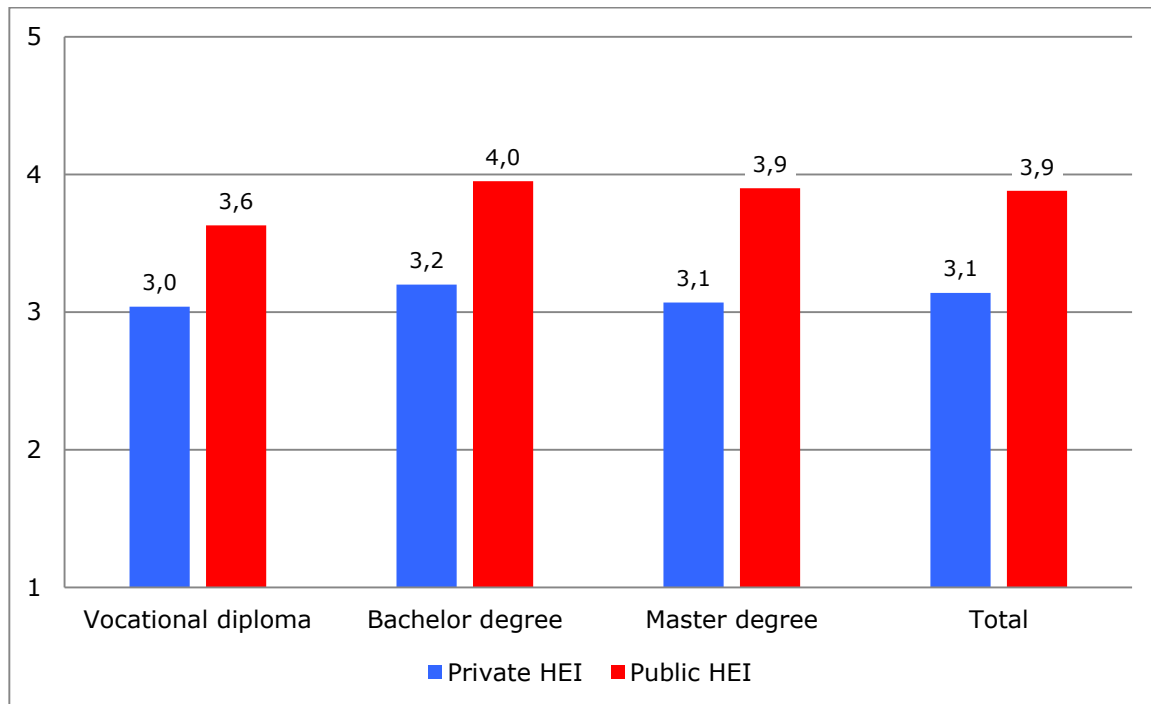
⁴⁴ Other factors such as age, gender, and level of degree were taken into account but were not found to be significant influences on perceptions of quality of education at HEIs in the regression analysis, and so are not reported in Table 5.

public or private HEIs. This is an encouraging finding since these fields of study are likely to be increasingly important in supporting future competitiveness of the Serbian economy in the future.

2.3.3 Teaching methods

It is often stated that HEIs in post-socialist countries are insufficiently flexible in responding to labour market changes through curricula reform and the adoption of new teaching methods (Sondergaard and Murthi, 2012). Despite the changes triggered by the Bologna Process, studying in Serbian HEIs is still based on a pre-determined curriculum with most subjects being mandatory (Smirnov, 2008). Some examinations are still taken orally, and most have a strong focus on memorising definitions, theories, concepts, and less on an analytical approach to knowledge. Most university staff were educated in the previous century with few acquiring experience or obtaining PhD degrees abroad. These observations are supported by the graduate survey from which we find that 64% of respondents consider that better teaching methods would have improved their job prospects after graduation either “a lot” or “very much”. Two fifths (40%) also thought that better qualified professors would have contributed to their job prospects, while 66% thought that a more relevant curriculum would achieve this goal.

Figure 5: Whether better teaching methods would have improved job prospects



Source: Graduate survey. Note: Differences between public and private HEIs are statistically significant at the 1% level (N=1, 213). The question asked was “Regarding the study programme for your LAST degree obtained, to what extent would better teaching methods at your higher education institution have improved your job prospects after graduation?” (1=not at all, 2= a little, 3= some; 4=much, 5= very much).

According to the graduate survey, graduates consider that while all HEIs need to make improvements, public HEIs have a greater need to improve their teaching methods and curricula to make them more relevant to the labour market than do private HEIs (see

Figure 5). The differences are observable at all levels of study ($p < 0.01$).⁴⁵ Having better curriculum and better-qualified professors would also make a substantial improvement to graduates' job prospects, especially at public HEIs.

Although many HEIs have made efforts to change teaching practices and curricula by translating textbooks used internationally, teaching methods frequently use rote-learning methods. From the graduate survey we find that 52% of respondents report that rote learning methods were used "somewhat", "a lot" or "very much". While 72% of graduates who report that rote learning was used consider that "very much" improvement is needed in teaching methods, only 23% who report that their professors did *not* use these teaching methods consider that "very much" improvement is needed in teaching methods ($p < 0.01$).⁴⁶

Box 1: HE experience in Serbia and the EU: findings from a focus group

Erasmus Mundus alumni from Serbia found the main difference between the HE experience in Serbia and that in EU HEIs to be the relationship between students and lecturers. In EU countries, students feel closer to lecturers, which results in a system that is perceived as more supportive to students. The delivery of lectures in smaller groups was also found as an important feature for most Erasmus Mundus alumni. Furthermore, assessment methods in European HEIs were less reliant on single exams but rather based on a variety of methods throughout the year. A final point regarding the teaching and learning environment in EU HEIs was more emphasis on solving practical problems, which also contributed to students taking a more active role.

Source: Focus group report, Serbia.

2.4 Policy developments and gaps

Over the last decade, while several HE reforms have been introduced many remain to be fully implemented.⁴⁷ Some key challenges are set out in the "Strategy for the Development of Education 2020" (hereafter the 2020 Strategy).⁴⁸ The objectives are to increase the proportion of 30-34 year olds in HE as mentioned above, increase the quality of HE, raise the efficiency of studies, and improve completion rates and mobility of students. Other objectives are to increase enrolments in technical and natural sciences, and to ensure access to HE for socially disadvantaged groups.

A related issue is HE financing. The 2020 Strategy argues that some HEIs, driven by short-term financial interests, have enrolled too many students and opened departments in an uncontrolled way, endangering quality and efficiency. The Strategy proposes that HEIs should identify the cost of each field of study, in order to rationalise the system of student fees. A new model of financing HE would eliminate some of the negative consequences for the private HE sector of the existing system of financing public HEIs and would require an increase in HE expenditure to 1.25% of GDP by 2020. Although the 2005 Law proposed new arrangements for HE funding based on financial agreements between the Serbian Ministry of Education, Science and Technological Development and each HEI, this has not been implemented. Public HEIs continue to rely on direct funding

⁴⁵ Differences between public and private HEIs are significant at 1% level (t-statistic= 8.14, $p=0.000$, $N=1, 238$).

⁴⁶ The test of statistical significance used is the Pearson Chi-square, with $F=172.8$, $p=0.000$ and $F=149.7$ and $p=0.000$ for the two examples reported.

⁴⁷ "Even though higher education in Serbia is being aligned to the Bologna process, many reforms are still to be fully or properly implemented" (Indicative Strategy Paper for Serbia 2014-2020, Brussels: European Commission, 2014, p. 33).

⁴⁸ The accompanying Action Plans were prepared in early 2015.

from the state budget, which encourages maximising the number of students. Public HEIs are also allowed to generate additional funds from tuition fees, donations, teaching, consultancy, administrative services or other sources (Vujačić et al., 2013).

Another set of problems relates to the fragmentation of public universities into autonomous faculties. The 2005 Law on Higher Education restricted the role of universities to a few overall co-ordination functions, such as strategic planning, creating enrolment policies, selecting teachers, upholding quality assurance and control, issuing diplomas, and managing investment planning. This fragmentation has delayed the implementation of reforms and has hindered cooperation between universities and the business sector (Zgaga et al., 2013). It has made it difficult to introduce enrolment policies based on priority study programmes to ensure better correspondence between the supply of HE graduates and labour market demand. It has also hindered uniformity in the degree structure and organisation of studies that could promote student mobility. In recognition of these problems, the 2005 Law envisages the gradual integration of universities, which however has still not been fully implemented despite positive steps in this direction. The *2020 Strategy* also advocates integrating university faculties, and establishing national and regional centres for Doctoral studies. The autonomy of faculties however makes it difficult to collect reliable data to form a comprehensive picture of how the sector functions. Also, the diversity of criteria used to regulate student admissions from one faculty to another may distort the selection process (OECD, 2012).⁴⁹

Serbia still lacks a National Qualification Framework (NQF), a fundamental tool of the Bologna process. The current qualification classification is out-dated and no longer provides adequate information about graduate skills and competences (Arandarenko and Ognjanov, 2012; Gradjanske Inicijative, 2010; Ubović, 2014). Although separate NQFs have been developed covering the European Qualifications Framework (EQF) levels 6-8, and for Lifelong Learning covering levels 1-5, they have not yet been implemented. In 2015, a national NQF working group began to prepare a unified NQF that would take into account existing qualifications in vocational Colleges and HEIs. A major issue is that employers lack an understanding of the new HE qualifications system brought about by the Bologna process. Some employers do not recognise the new terminology and degree levels, or understand why a BA can now be completed in three years instead of four years under the old system.⁵⁰ This suggests that the NQF should be completed as soon as possible and adapted to new occupations and current HE qualifications. At the time of writing the NQF has not been completed.⁵¹

Weak statistical information on HE is also a major challenge. The methods of collection and analysis of HE statistics of the two main institutions in charge, SORS and the Serbian Ministry of Education, Science and Technological Development, are not coordinated, so the two sources give different information (in this study we use data from the SORS).⁵² This is a general obstacle to policy making, which affects data in other sectors as well as the HE sector (Uvalić-Trumbić, 2016).

A new Law on Higher Education has been prepared that aims to reform HEI enrolment policy (including funding arrangements), bring study programmes more in line with labour market needs, raise teaching quality, and encourage the mobility of teachers and students. However, the law had not been adopted at the time of writing.

⁴⁹ For example, as part of ongoing reforms of the HE system in Italy aimed at rationalising human and financial resources, faculties were abolished in early 2013 at all state universities, which were transformed into departments as integral components of the universities.

⁵⁰ Interviews public HEIs and MESTD.

⁵¹ Various working groups have been established, but due to the complexity of the methodology that has been adopted, the process is unlikely to be completed in the foreseeable future.

⁵² The problem of lack of uniformity in reporting HE statistics is recognised and addressed in Appendix 2 of the *2012 Strategy for the Development of Education in Serbia until 2020* (p. 204).

3 Mapping graduate labour markets

This section maps the graduate labour market on the basis of official data, the findings from our survey of HE graduates who graduated since 2010, and our survey of employers who employ HE graduates. Section 3.1 identifies the difficulties faced by graduates in finding a job, the distribution of graduates by sector, and by the size of the enterprise or organisation in which they are employed. Section 3.2 analyses emerging opportunities for graduate employment and provides a forecast of the demand for graduates in 2018 in relation to current levels of supply by field of study. Section 3.3 identifies policy developments and gaps in relation to the graduate labour market.

3.1 Difficulties facing graduates in finding a job

The economy has experienced a turbulent period since the 2009 recession, with repeated downturns in 2009, 2012 and 2014 (Prisca, 2013). Over the period from 2008 to 2012, as a consequence of the economic crisis, total employment fell by 60,000 (SORS, 2016). This masked a fall in formal employment of 325,000, compensated by a (smaller) increase in informal employment. By 2014, there were 2, 544, 188 employed persons in Serbia, of which 451, 850 (17.8%) had a HE degree.⁵³ Due to a modest recovery of economic growth, by the fourth quarter of 2015 total employment had increased to 2, 558, 347 (SORS, 2016).⁵⁴

Table 6: Unemployment rate and employment rate, 2013-15 (%)

	Total			HE graduates			Western Balkans	EU-28 total	EU-28 graduates
	2013	2014	2015	2013	2014	2015	2014	2015	2015
Unemployment rate	22.1	18.9 (19.4)	17.7	18.3	15.0	15.9	24.2	9.4	5.6
Employment rate	37.7	39.7 (41.7)	42.5	51.8	55.0	58.5	48.6	58.1	76.9

Source: Statistical Office of the Republic of Serbia (SORS) Labour Force Survey and Eurostat online data. Note: The Labour Force Survey methodology was changed in 2015 and SORS revised the data for 2014 (shown in brackets). The new data are not directly comparable to the old data, but are more accurate. Total unemployment and employment rates are for the 15+ age group.

The SORS has recently revised the methodology for carrying out the Labour Force Survey to harmonise with EU standards, making comparisons with previous years unreliable. However, the data for 2014 have been reworked by the SORS (as shown in Table 6) and have resulted in an upward revision of the unemployment rate in 2014 to 19.4%. In 2015, the unemployment rate, on the basis of the revised methodology, fell to 17.7%, reflecting an improvement in the economic situation. Yet, this was only about two percentage points below the overall unemployment rate, and almost three times as high as the EU average.⁵⁵ The situation is worse for recent graduates. According to the data from the graduate survey, the unemployment rate of recent graduates (since 2010) is 41.5%, rather similar to the 43.1% overall youth unemployment rate,⁵⁶ while the employment rate of recent graduates is just 49%.

⁵³ Statistical Yearbook of the Republic of Serbia, 2014, Table 3.7.

⁵⁴ Of these, it was estimated that about 500,000 work in the informal sector (SORS, 2016).

⁵⁵ Similar conclusions can be drawn regarding employment rates, which are below the EU average.

⁵⁶ See Statistical Office of the Republic of Serbia, Labour Force Survey (SORS 2015b). Data refer to the age group 15-24. The latest EU Progress Report on Serbia comments that "[t]he ongoing reform of higher education needs to put particular emphasis on the relevance of its study programmes, as the unemployment rate for graduates with tertiary education (aged 19-24) stands at 40% and emigration of young and skilled people is high" (European Commission, 2015a: 65).

3.1.1 Graduate employment by size of employer

The employer survey conducted in this project covered a total of 177 employers.⁵⁷ The sample included both public and private enterprises and includes all firm sizes, from micro (employing fewer than 10 workers) to large firms (employing 250 or more). While the majority of employers in Serbia are small or micro-sized, only a relatively few employ graduates, and so the size distribution of employers that do employ graduates is different from the overall population distribution. In the sample, two fifths of the employers that employ graduates are micro sized, and a similar proportion are small sized. Table 7 shows the average number of graduate employees in each size group. The ratio of the number of graduate employees to the number of all employees for each employer (the density of graduate employment) is shown in the final column.

Table 7: Graduate employment by employer size groups

	Distribution of employers in sample	Distribution of graduate employees	Average number of graduate employees	Median number of graduate employees	Density of graduate employment per employer
Micro	23.1%	0.3%	2.6	2.5	72%
Small	21.2%	3.5%	12.5	12.0	53%
Medium	30.8%	20.9%	52.3	33.5	42%
Large	25.0%	75.2%	297.0	237.0	35%
Total	100%	100%	82.4	21.5	47%

Source: Employer survey. Note: Micro employers are those with fewer than 10 employees; small employers from 10 to 49; medium sized employers from 50 to 249; large employers with 250 or more. This is in accordance with the Eurostat definition of employer size groups.

Table 7 shows that the density of graduate employment per employer is inversely related to the size of employers that employ graduates. Thus, among micro employers, almost three quarters of their employees are graduates. Conversely, among large employers that employ graduates, only 33% of their employees are graduates. Thus, although micro and small firms employ a relatively small share of graduate employees overall, those that do tend to have a large demand for such employees. Most of the growth in employment has taken place in a relatively small proportion of employers. The employer survey⁵⁸ reveals that 80% of all jobs created in the past three years have been created by just 10% of employers, and that 82% of graduate jobs created have been created by just 16% of employers. Such employment dynamics are typical in most market economies, where fast-growth employers involved are sometimes called “gazelles” (Acs and Mueller, 2008; OECD 2009).⁵⁹ In Serbia, 12.5% of employers are gazelles (according to the Eurostat definition), growing at 20% per annum in terms of employment, while 21% of employers are growing at 10% or more per annum in terms of employment. The latter type of employer could be called “divokoza”, a type of Balkan gazelle.⁶⁰ Both gazelles and “divokoza” tend to be smaller sized than other employers, typically being

⁵⁷ For comparison, the latest EBRD BEEPS survey in Serbia had a sample size of 360 enterprises (EBRD 2015).

⁵⁸ Further details about the employer survey methodology can be found in the Annex.

⁵⁹ The definition of a gazelle, given by Eurostat, is a company that has been formed within the past three years and is expanding employment by at least 20% per annum over those three years. In Hungary, for example, about 1% businesses in the industrial sector that employ between 5 and 9 employees fall into this category as do 0.45% of businesses with 10 or more employees (Eurostat, variable [eip_pop3]).

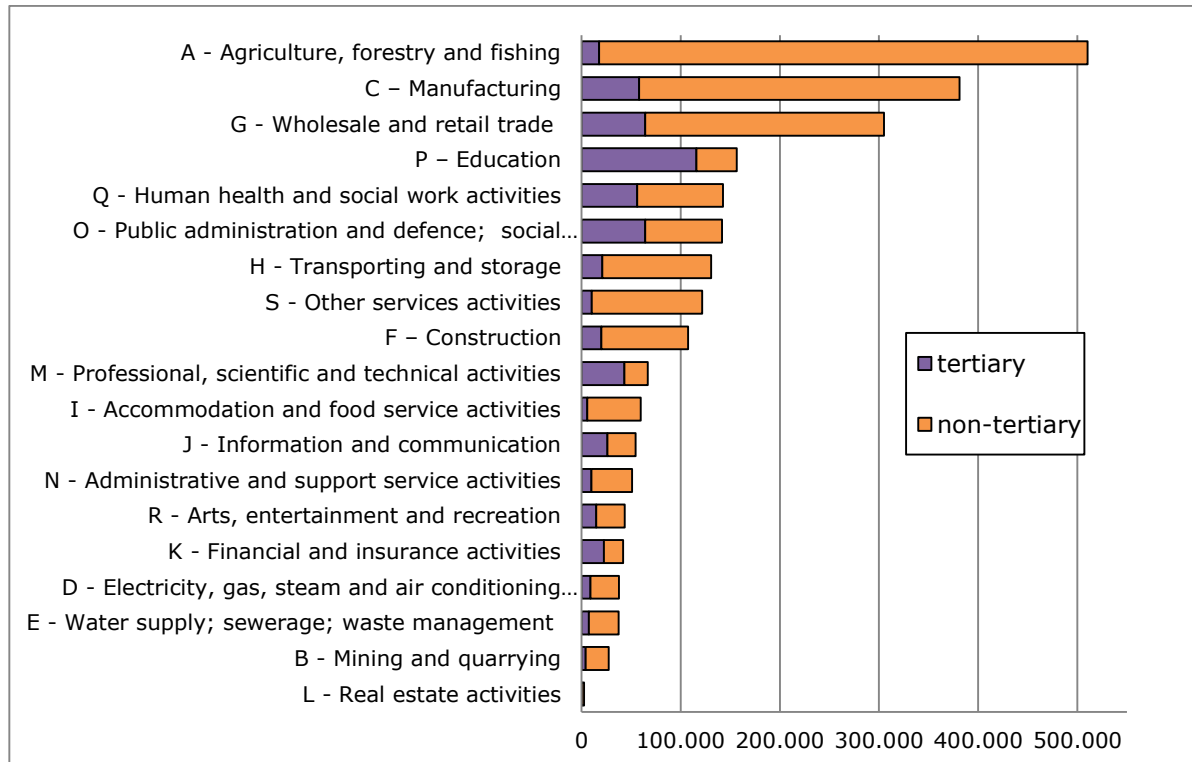
⁶⁰ “Divokoza”, or Balkan Chamois, is speedy, but not as fast as a gazelle. The top speed of a chamois is about 50 kilometres per hour that of a gazelle is about 100 kilometres per hour.

medium sized rather than large employers.⁶¹ The growth rate of graduate employees is much higher among such fast-growth employer organisations ($p < 0.01$).⁶²

3.1.2 Graduate employment by sector

The opportunity for graduates to find a job differs across sectors and across employers of different size. Most graduates are employed in relatively few sectors (see Figure 6).

Figure 6: Graduate (tertiary) and non-graduate employment by sector of activity, 2014



Source: SORS, Labour Force Survey.

Serbia stands out among Western Balkan countries in having a large agricultural sector, which accounts for about one fifth of all employees.⁶³ Not surprisingly however, relatively few graduates work in this sector. More than half (53%) of all graduates are employed in *Education, Public Administration, Defence & Compulsory Social Security, Wholesale & Retail Trade, and Manufacturing*.⁶⁴ About one quarter (24%) of all employed persons are HE graduates. Some sectors have a larger share of graduate employees than others. Thus, the share of graduates is especially high in *Education* (74% of all employees in the sector are graduates), *Professional, Scientific & Technical Activities* (65% are graduates),

⁶¹ A t-test of the difference in current size of divokoza versus other firms gave a t-statistic of 2.2, $p = 0.029$, $N = 80$. For gazelles the t-test was only statistically significant for the size difference three years ago, not for the current size difference, suggesting that the recent economic recovery is spread across all size groups.

⁶² The average annual growth rate of graduates at gazelle employers is 47% compared to just 3% at other employers ($t = 4.27$, $p = 0.003$, $N = 69$), while for divokoza the average annual growth rate of graduates is 34% per annum compared to just 1% per annum in other employer organisations ($t = 7.38$, $p = 0.000$, $N = 69$).

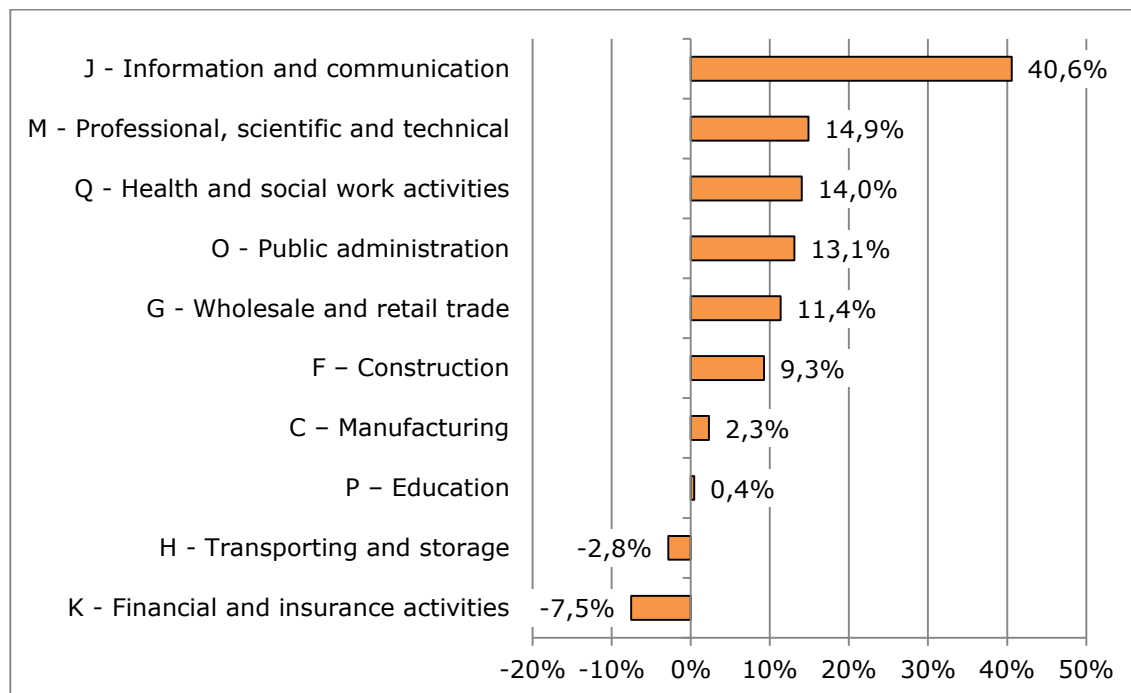
⁶³ According to one study, Serbia has the highest share of employment in agriculture among all countries in Europe, apart from Romania (Arandarenko, 2011: 25).

⁶⁴ Based on Labour Force Survey data provided by SORS.

Financial & Insurance Activities (54% are graduates) and *Information & Communication Technologies* (ICT) (48% are graduates).

The employer survey shows that 47% of the employees of foreign owned companies are HE graduates. About 20% of all persons employed in the Business (private) sector are employed by foreign investor companies,⁶⁵ accounting for 80% of the value added in manufacturing. In 2014, there were 2, 624 foreign affiliate companies in Serbia (foreign investors), 78% of which originate from EU countries.⁶⁶ About four fifths of their employees were employed in *Manufacturing* (48.1%), *Wholesale & Retail Trade* (25.4%) and *Administrative & Support Service Activities* (7.7%).

Figure 7: Annual % change in graduate employment in major sectors of activity, 2012-14



Source: SORS, Labour Force Survey.

Over the past decade many HE graduates have found employment in the public sector, frequently in the public administration given that administrative reforms have required the restructuring of the government ministries with many openings for young educated people. Despite the new wave of privatisations since 2001, the private sector has expanded slowly, offering limited employment opportunities. Consequently, finding a more secure and better-paid job in one of the government agencies (and the state sector in general) has been a good option for many graduates (Arandarenko, 2015).

Figure 7 shows the ten sectors that account for 85% of total graduate employment. Over the period from 2012-14, the fastest growing sector for graduate employment was *Information & Communication Technologies*, which employs 5% of all graduate employees. Indeed, according to a recent study by the World Bank, Serbia has a strong comparative advantage in communication services, which comprise about half of all

⁶⁵ For comparison, 14% of employees in the Business sector in the EU-28 are employed in foreign affiliates ("Foreign affiliate statistics – FATS, Brussels: Eurostat, 2015).

⁶⁶ See "Foreign affiliates in the Republic of Serbia in 2014 (inward FATS)", Belgrade: Statistical Office of the Republic of Serbia.

services exports (World Bank, 2014). This puts Serbia in a leadership position in this sector in the whole South East European region. The World Bank study estimated that in total the ICT industry employs 50,000 IT specialists (more than the actual recorded number). About 40% are employed at micro-companies, 28% in small companies, 23% in medium-sized companies and 10% in large companies (World Bank, 2014).

Four other sectors have grown at a rate above 10% per annum, including *Professional, Scientific & Technical Activities* (employing 8% of all graduate employees), *Health & Social Work* (employing 10% of all graduate employees), *Public Administration* (employing 11% of all graduate employees), *Wholesale & Retail Trade* (employing 11% of all graduate employees). If past trends continue, it can be expected that these will also be sectors that will experience fast growth of graduate employment in the future.

3.2 Forecast of future demand for graduates

In order to identify likely future demand and supply for HE graduates, forecasts are needed to predict future changes in labour market needs. Policy makers can use such forecasts to adjust education strategies, or as an early warning of impending change.⁶⁷ In this section we set out our own forecasts of the likely demand for HE graduates by field of study in the period up to 2018. The analysis is carried out on the demand side, projecting forward the annual change in demand for graduate labour on the basis of existing information on graduate employment by sector of economic activity taken from national labour force surveys. The methodology of the forecast follows that of Cedefop (2010), which involves identifying “expansion demand” and “replacement demand”. Expansion demand is the extra demand arising from economic growth, while replacement demand is that arising from retirement and migration. Expansion demand is estimated on the basis of Labour Force Survey data of SORS revised estimates of graduate employment for 2014 and 2015, projected forward to 2018 on the basis of GDP forecasts derived from the IMF World Economic Outlook database.⁶⁸ The replacement demand is calculated using a standard estimate of the retirement rate based on the assumption of a 40-year working life, giving a baseline 2.5% retirement rate and an estimation of net migration.⁶⁹ Expansion demand and replacement demand are summed to give an overall estimate of the annual change in demand for graduates by sector. Contrasting the forecast increase in demand for graduates with current levels of supply of graduates (as a benchmark) gives the projected levels of oversupply of graduates by field of study in 2018, assuming current levels of supply are held constant.⁷⁰ It should be emphasised that these forecasts are only estimates and should be used only as a general guide to likely direction of change vis à vis current levels of provision, rather than accurate figures for planning purposes.

⁶⁷ It should be noted that all forecasts are by their nature imprecise and subject to both error and revision as circumstances change. Nevertheless a forecast provides a framework for policy makers to use as a benchmark against which to make their own judgements and decisions.

⁶⁸ The same rate of expansion demand is applied to each sector. Labour Force Survey data are not sufficiently robust to identify differential growth rates per sector, as these are too sensitive to the base year used for calculation.

⁶⁹ According to Eurostat data, the net migration rate from Serbia is 0.0% per annum, see Eurostat online data variable code [demo_gind].

⁷⁰ Oversupply is defined here as the difference between the projected demand for graduates in a future year (e.g. 2018) and the supply of graduates that completed their studies in 2014, which is taken as a benchmark. For policy purposes, it is appropriate to measure oversupply in this way so that policy makers may see the consequences of holding the HE output constant at current levels, and can identify changes that might be needed to achieve future demand-supply balance.

Table 8: Annual growth of real GDP, total and tertiary employment, 2015-18

	GDP growth (%)	Employment growth (%)	Tertiary employment growth (%)
2015	0.5	0.6	0.5
2016	1.5	0.7	1.5
2017	2.0	1.2	2.0
2018	3.5	2.7	3.5

Source: Projections for GDP growth from IMF World Economic Outlook database; projections for employment are from European Commission EU Candidate and Potential Candidate Countries' Economic Quarterly, Q1 2016, projected forward to 2018 on the basis of the GDP growth rate.

The IMF expects that economic growth will improve over the next few years on the basis of the structural reforms that are currently being implemented (see Table 8). Growth in total employment is forecast to be below this trend due to expected productivity growth, but tertiary employment growth (i.e. growth in demand for HE graduates) is expected to be given a boost due to skill-biased technical progress, and so is expected to match the overall rate of economic growth.⁷¹

Table 9: Forecast for expansion, replacement and total demand for new graduates by sector of activity, 2015-18

Sector	Expansion				Replacement				Total demand			
	2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018
A	90	270	366	653	450	457	466	483	540	727	832	1,136
B	21	64	86	154	106	108	110	114	127	171	196	267
C	291	878	1,188	2,121	1,464	1,486	1,515	1,568	1,755	2,364	2,704	3,690
D	46	140	190	339	234	237	242	250	280	377	432	589
E	38	116	157	279	193	196	200	207	231	311	356	486
F	100	302	408	729	503	510	520	539	603	812	929	1,267
G	321	969	1,311	2,340	1,614	1,638	1,671	1,730	1,936	2,607	2,982	4,069
H	106	319	432	772	532	540	551	570	638	860	983	1,342
I	30	92	124	222	153	155	158	164	183	247	283	386
J	132	397	537	959	661	671	685	709	793	1,068	1,222	1,667
K	114	343	465	830	572	581	593	613	686	924	1,057	1,443
L	2	6	8	14	10	10	10	11	12	16	18	25
M	217	655	886	1,582	1,091	1,108	1,130	1,169	1,309	1,763	2,016	2,751
N	51	154	208	372	256	260	266	275	308	414	474	647
O	322	970	1,313	2,344	1,617	1,642	1,674	1,733	1,939	2,612	2,988	4,077
P	580	1,749	2,366	4,224	2,914	2,958	3,017	3,123	3,494	4,707	5,384	7,347
Q	282	850	1,150	2,053	1,416	1,438	1,466	1,518	1,698	2,287	2,617	3,571
R	74	224	303	541	373	379	386	400	447	603	689	941
S	53	160	216	386	267	271	276	286	320	430	492	672
Total	2,871	8,657	11,716	20,912	14,428	14,644	14,937	15,460	17,299	23,301	26,653	36,372

⁷¹ Moreover, due to the proposed privatisation of state-owned enterprises, it is expected that there will be large-scale layoffs, and "it is most likely that the number of employees going into 2018 will be equal to that from the end of 2015" (Petrović et al., 2016: 19). SORS responded to the critique from the Fiscal Council with a vigorous defense of the Labour Force Survey data (SORS, 2016).

Source: Table 8 and estimates of replacement demand. Note: A=Agriculture, forestry & fisheries; B=Mining & quarrying; C=Manufacturing; D=Electricity, gas, steam & air conditioning supply; E=Water supply; F=Construction; G=Wholesale & retail trade; H=Transportation & storage; I=Accommodation & food service activities; J=Information & communication; K=Financial & insurance activities; L=Real estate; M=Professional, scientific & technical activities; N=Administrative & support service activities; O=Public administration & defence, P=Education; Q=Health & social work activities; R=Arts, entertainment & recreation; S=Other services.

On the basis of the GDP growth forecasts of the IMF, the forecast of total graduate employment is expected to be around 618,000 by 2018, an increase of about 41,000 from 2015. This is the expansion demand due to the expected net increase in job openings for graduates. To obtain a forecast for the actual numbers of graduates that will be demanded from the HE system, we add the "replacement demand" arising from the retirement of currently employed persons with a HE degree. Applying this to our estimates of graduate employment, we derive an overall forecast of the annual increase in demand for graduates, which is the sum of expansion demand and replacement demand. Taking account of both expansion and replacement demand, the total annual demand for new graduates is expected to increase from about 17,000 in 2015 to about 36,000 in 2018 (see Table 9).

Change in the demand for graduates at sector level has implications for the pattern of recruitment that the HE system should anticipate. In order to address this issue we use the data from the graduate survey to estimate a transformation matrix that connects the sector in which graduates are employed to their field of study.⁷² This provides forecasts of the demand for graduates by field of study. This is contrasted with the supply of graduates, which we derive from the HE provision database.

Table 10: Annual new demand and supply of graduates by field of study

Field of study	New demand				New supply	Surplus & shortage
	2015	2016	2017	2018	2014	2018
01 Education	1,325	1,785	2,041	2,786	5,319	2,533
02 Arts & Humanities	1,245	1,677	1,918	2,617	4,707	2,090
03 Social Sciences, Journalism & Information	2,867	3,862	4,417	6,028	4,619	-1,409
04 Business, Administration & Law	4,438	5,978	6,838	9,332	13,328	3,996
05 Natural Sciences, Mathematics & Statistics	1,657	2,232	2,553	3,484	2,372	-1,112
06 Information & Communication Technologies	1,163	1,567	1,792	2,446	2,774	328
07 Engineering, Manufacturing & Construction	1,953	2,631	3,009	4,107	8,905	4,798
08 Agriculture, Forestry, Fisheries & Veterinary	416	560	641	874	1,206	332
09 Health & Welfare	1,571	2,116	2,420	3,303	4,049	746
10 Services	664	895	1,023	1,397	3,449	2,052
Total	17,299	23,301	26,653	36,372	50,728	14,356

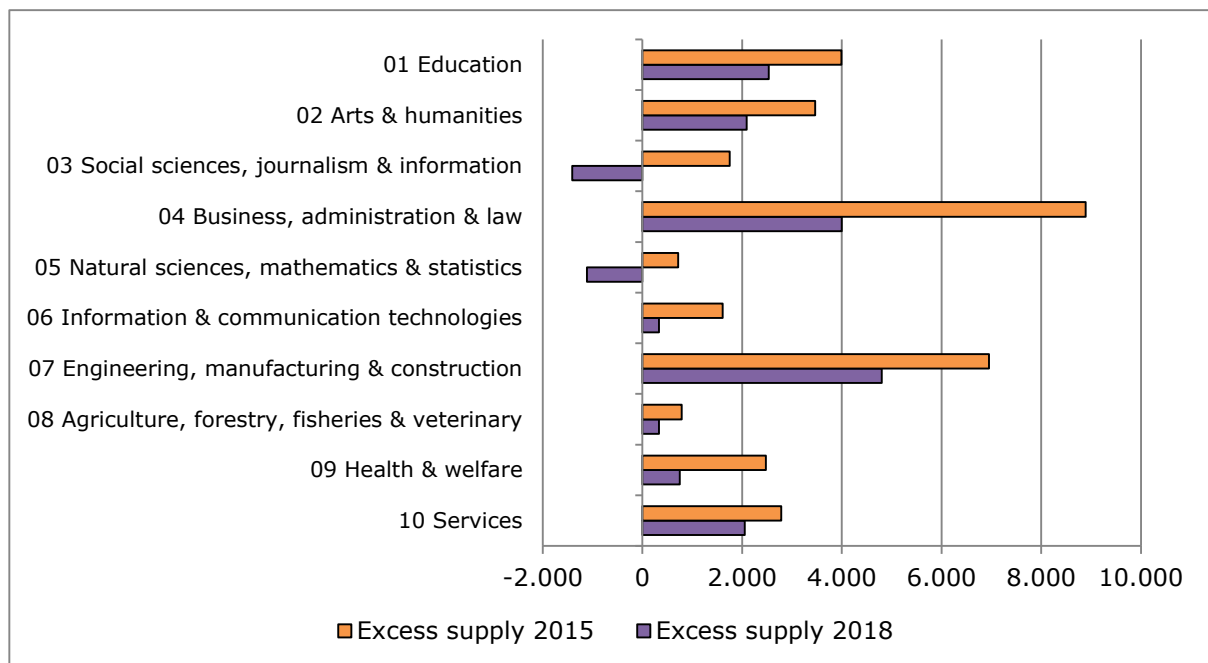
Source: Graduate survey and project HEI database: Demand is the employer demand for graduate workers; Supply is the number of students graduating from HEIs at all degree levels.

⁷² In order to obtain reliable estimates the entire graduate survey for the Western Balkan countries is used to create the transition matrix. This is justified on the grounds that the technological level in each country is rather similar and so it can be expected that an average measure of inputs of graduates per unit of output can be a good approximation to the country coefficients.

Table 10 shows the projected demand for graduates by field of study from 2015 to 2018 against the actual supply of graduates by field of study in 2014 derived from the HEI provision database. On the assumption of unchanged supply of new graduates, the oversupply (surplus) is expected to fall from about 33, 000 in 2015 to about 14, 000 in 2018. On this basis, the supply of graduates will still be more than adequate to meet projected demand in 2018, and there will still not be enough jobs available to absorb the whole supply of graduates emerging from the HE system.

Figure 8 below shows the gap between supply and demand for graduates from the labour market for 2015 and 2018, identifying the broad fields of study from which there is expected to be shortages or surpluses of HE graduates in relation to expected demand. The projection by field of study for 2018 is intended to give a picture of what the pattern of shortages and surpluses would look like if there were no change in supply patterns from current levels. In doing this, the analysis provides a guide as to where the HEI system should look to make adjustments, which in doing so will change the pattern of supply, hopefully in the direction of achieving a greater balance between supply and demand. Surpluses are found in most fields of study, especially in *Business, Administration & Law* and *Engineering, Manufacturing & Construction*. Due to expected economic growth, these annual surpluses are expected to diminish over time. Shortages are expected to emerge most strongly in *Social Science, Journalism & Information*⁷³ and *Natural Sciences, Mathematics & Statistics*. In the absence of further expansion in the number of students graduating in these fields of study, these skill shortages are likely to increase over time. This suggests that it will be important to expand the supply of graduates from these fields of study in the future.

Figure 8: Surpluses and shortages of graduates by field of study, 2015 and 2018



Source: Table 10.

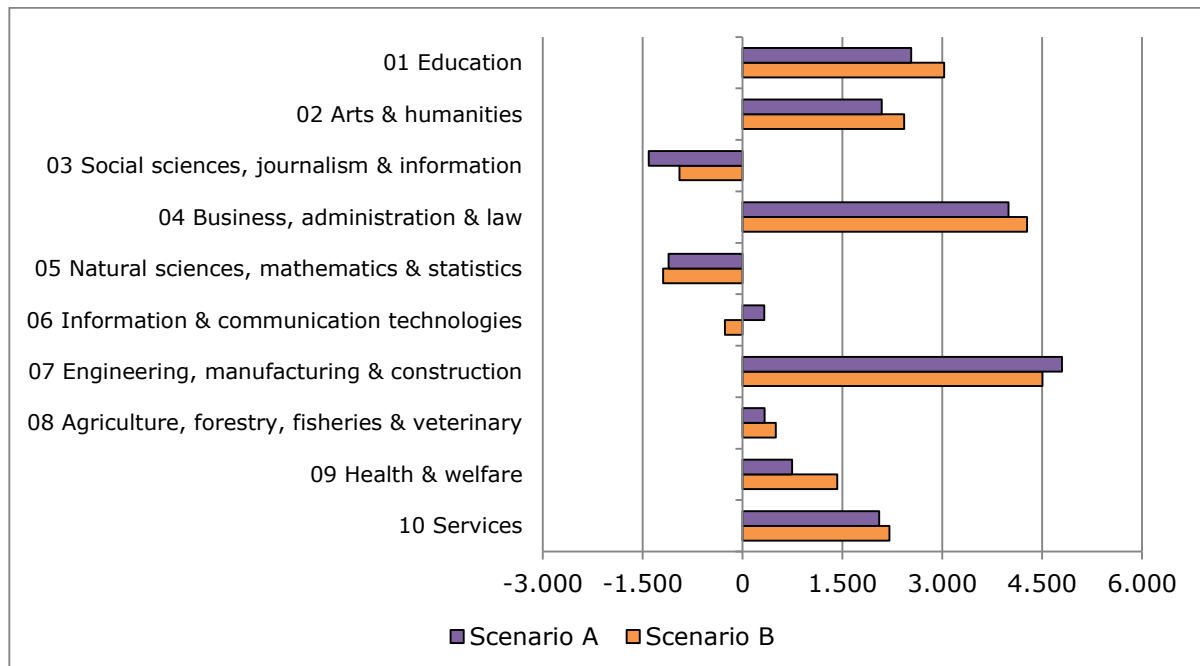
The above analysis is based upon the assumption of an absence of structural change in the economy. If instead of the status quo, the government were to initiate an industrial

⁷³ Social Sciences include Economics, Political Science, Psychology and Sociology.

policy that supported a more rapid development of the knowledge intensive manufacturing sectors, the forecast would be different. In order to gauge the magnitude of possible changes, we develop a scenario in which the *Manufacturing* sector, the *Construction* sector, the *Information & Communication* sector, and the *Professional, Scientific & Technical* sectors are supported by a range of measures that lead to the growth of graduate employment at a rate of 8% per annum over the period up to 2018, while other sectors are assumed to grow 2% per annum (to maintain the same overall demand for graduates in 2018 as would have occurred without the change in policy). The resulting change in our forecast for excess demand for graduates by field of study is presented in Figure 9.

Under Scenario B with an industrial policy that supports faster growth of some technology-intensive sectors, there is an increased shortage of graduates with qualifications in *Natural Sciences, Mathematics & Statistics*, and a shortage emerges for *Information & Communication Technology (ICT)* graduates compared to the status quo. There is also a reduced oversupply of graduates from *Engineering, Manufacturing & Construction* fields of study. This is not surprising, since the hypothetical industrial policy should be expected to lead to a greater demand for these graduates. Overall, the changes are not huge, illustrating that the overall pace of growth is a more important determinant of the demand for graduate labour than inter-sectoral shifts in the structure of demand. This scenario-building exercise illustrates how the forecast methodology can be used to enable policy makers to reflect upon the consequences of industrial policy decisions for the consequent changes in requirements for qualified graduates. Of course, such scenarios rely upon a number of restrictive assumptions that may not hold up in practice and so can only be a rough guide to policy makers who should also apply their own judgements about the significance of any outcomes, bearing in mind the full range of policy goals.

Figure 9: Difference in oversupply of graduates in 2018 under scenario B with industrial policy relative to scenario A without industrial policy



Source: Table 10 and authors' calculations. Note: Scenario A represents the status quo; scenario B assumes rapid growth in manufacturing, ICT and professional and scientific sectors, and slower growth in other sectors.

3.3 Policy developments and gaps

Over the past decade, the government has prepared several employment strategies and undertaken various measures to influence labour market trends. The “National Economic Programme” prepared in April 2015 includes measures regarding human capital. One of the priority areas is to improve the effectiveness of active labour market policies with special emphasis on youth, redundant workers and the long-term unemployed. Although youth are targeted, the main focus is on young people in general rather than the specific needs of HE graduates. In addition, the “National Employment Strategy 2011-2020” and the “National Employment Action Plan for 2016” (adopted in 2015) envisage a set of measures aimed at helping young people find employment. These include services for young people who have registered with the Public Employment Service, such as the assessment of employability, preparation of individual employment plans, mediation in finding a job, and active labour market policies that can contribute to finding a job. However, these programmes are insufficient in scope and are not specially focused on HE graduates. An “Employment and Social Reform Programme”, adopted in May 2016, will guide employment policy during the process of EU accession. While it offers one of the best overall analyses of the situation on the labour market, it lists too many priority objectives, the recommended measures are often too general, there are few indications on how they are to be implemented, and the suggested reforms are insufficiently linked to other policies, such as the Strategy for the Development of Education until 2020. A “Strategy for support of SMEs, entrepreneurial skills and competitiveness 2015-2020” has also been adopted together with an Action Plan. Its main goal is to support entry of SMEs and promote the business results of entrepreneurs, the development of human resources and better connections between education programmes and the economy. In addition, the 2014 Labour Law provisions were partly designed to facilitate the employment of young graduates. The law extends the period of fixed-term employment contracts, which can now last for 24 months based on one or more consecutive fixed-term contracts (instead of 12 months, as was previously the case) or even longer in exceptional cases. This change is designed to ease the hiring of young graduates.

Box 2: Best practice example: sector skills councils

In 2012 four sector councils were established to identify labour market needs in specific sectors: Information and Communication Technologies, Agriculture, Food Industry and Tourism.⁷⁴ These sector councils were established on a pilot basis for nine months. The government has recently announced their continuation and the creation of two more sector councils by the end of 2015.⁷⁵ These could provide a suitable institutional structure for more intense cooperation and dialogue between representatives from HEIs and employers. However, at the time of writing little further progress seems to have taken place.

An important gap is lack of coordination between labour market policies and HE policies. Some progress has been made in this area, but not enough to address the main problems facing graduates on the labour market.⁷⁶ The “Strategy for the Development of Education until 2020” (2020 Strategy) (MESTD, 2012) recognises the problem from the education side, and aims to promote cooperation between HEIs and employers to ensure

⁷⁴ The setting up of these four Councils was supported through two IPA projects: “Support to Quality Assurance, Examination system in primary and secondary education” (IPA 08); and “Modernisation of vocational education and training” (IPA 7).

⁷⁵ Action plan for the implementation of the Strategy for the Development of Education of Serbia until 2020.

⁷⁶ Interview, Employers Union Association.

that the planning of HE enrolment policy will be more in line with the priorities of economic and social development.

Another policy gap includes the lack of well-organised support to assist HE graduates to find a job when they enter the labour market so that they do not have to rely on personal and family connections. In addition, there is an absence of measures to support graduates in obtaining relevant work experience during their period of HE studies, or immediately afterwards, through appropriate work placement and internship programmes. On the side of employers, the main policy gap includes the lack of support for employers in providing additional training to HE graduates to make up for the gaps in graduates' skills, especially practical and interactive skills which, as demonstrated below, the HE system is not well placed to provide.

4 Transition from HE to the labour market

The transition from HEI to the labour market is an important stage in a graduate's career. A smooth transition ensures that the investment made in education at HEI is put to good use and not wasted. An initial period of unemployment or inactivity after leaving HEI can lead to a depreciation of the human capital that has been built up over several years (Mroz and Savage, 2006; Bell and Blanchflower, 2011). An inability to find a job that is well matched to the field of study followed at HEI or the level of studies undertaken can reduce the return on investment (Robert, 2014). We return to this issue in section 5 below.

HE graduates in Serbia face a precarious transition to stable employment.⁷⁷ There is a general agreement among interviewees that limited job opportunities represent the major obstacle to the employment of higher education graduates, at least into well-matched jobs.⁷⁸ This is not an absolute barrier, as employers will often prefer an overqualified recruit to a less qualified one, even if the qualification is above the requirement of the job. The graduate survey shows that employed graduates on average spent nine months to find their first job after graduating from HEI, and three months to find their current job. Although they have been employed for an average of two years and two months, 58% have experienced at least one spell of unemployment. Currently unemployed graduates have also had a precarious entry to the labour market, having spent on average 17 months in unemployment. On average, they have also spent ten months as an employee, having taken eight months to find their first job (similar to the employed graduates mentioned above). This is suggestive of a pattern of unstable attachment to the labour market and that the transition from HE to the labour market is far from being a smooth process for many graduates.

In this section we explore the challenges facing both graduates and employers in the labour market. We begin by exploring the relations between HEIs and employers and emphasising the need for improved cooperation between them. In subsection 4.2 we examine the challenges facing graduates in the labour market including the lack of formal job-search assistance available and lack of work experience during studies. In subsection 4.3 we address the problem that employers face in taking on new graduate recruits, including employers' dissatisfaction with the skills of new graduate recruits, the skill gaps they face and their need to provide additional training to fill these gaps.

⁷⁷ This is even more so for those with only primary or secondary education compared to those with tertiary education (Mujanović, 2016).

⁷⁸ Interview, MESTD; interview, Ministry of Economy; interview, Ministry of Labour, Employment, Veteran and Social Affairs; interview, NGO.

4.1 Limited cooperation between HEIs and employers

A major challenge facing HEIs is to develop cooperative relations with employers. Such cooperation is needed for the development of curricula, for placing students in companies for internships, for finding jobs for graduates, and for improving HEI career guidance. In the EU, the most common forms of such cooperation are over curriculum design, development of courses, exchange and mobility programmes, continuing education and lifelong learning, and entrepreneurial education (Healy, 2012: 21). In the EU, cooperation between employers and HEIs is fairly common and is often facilitated through government support for university-business cooperation projects. Employers participate in decision-making or consultative bodies within HEIs in 22 countries, are actively involved in curriculum development in 19 countries, and frequently participate in teaching in 15 countries (Eurydice, 2014: 67). Such cooperation projects could be a useful means for HEIs in Serbia to contribute to the labour market success of their graduates.

In order to gauge the level of cooperation between HEIs and employers in Serbia, the employer survey asked respondents to indicate how frequently they discussed changes in study programmes with HEI representatives. The survey responses indicate that few companies discuss these issues with HEIs: almost one half of employers (47%) responded “never”, over one third (36%) responded “rarely”, while less than one sixth (17%) responded “often”. When asked how frequently they cooperate with a HEI in the recruitment of graduates, two thirds (60%) responded “not at all”, or “a little”. These answers suggest that there is little cooperation between enterprises and HEIs. However, when asked how much effect cooperation over study programmes has on increasing the matching of HE graduates with their jobs, 71% responded “very much”, “a lot” or “somewhat”, while in relation to cooperation over recruitment, 80% answered in the same way. This suggests that while employers believe that such cooperation would improve the outcome of the recruitment process, there are obstacles on both sides to taking cooperative action. There is therefore a strong case for the government to support the development of cooperative relations to benefit both HEIs and employers. These findings are backed up by interviews with stakeholders, who argued that insufficient cooperation and communication between the HEIs and employers is one of the main reasons why HEIs do not know which skills employers require from their graduates.⁷⁹

The National Council for Higher Education’s initiative to include employers’ representatives in the CAQA and the development of sectoral councils may assist stronger cooperation between HEIs and employers. Closer cooperation of HEIs and employers has been promoted by some EU-funded projects through the development of centres for technology transfer and business incubators.

Box 3: Best practice example of University-Business Cooperation

For example, the University of Belgrade has developed a Centre for Technology Transfer, (CTT) which was founded by the decision of the University Council on October 26th 2010, to identify, protect and commercialise the results of scientific research work and the protection of intellectual property of the University of Belgrade. It aims to encourage knowledge transfer between the University and the economy. In doing so it aims to create educational opportunities for students, and link students with future job opportunities. The benefits to industry in addition to the transfer of technology include the opportunity to find suitable highly skilled staff. Business incubators have also been

⁷⁹ Interview, MESTD.

developed by the University of Novi Sad and by some faculties of the University of Belgrade. However, these are the exceptions and not the rule.

4.2 Challenges facing graduates on entering the labour market

A major challenge facing graduates on entry into the labour market is the relative lack of assistance from formal institutions such as the career guidance services within HEIs and the public employment services outside HEIs. Due to this, graduates rely mainly on friends and family to find a suitable job, giving rise to charges of nepotism and corruption in the graduate labour market. Another key challenge is the lack of work experience that many graduates have when they enter the labour market, as well as the problem that the HE system does not equip them with sufficient and relevant skills, which limits their job prospects. In this section we address these issues in turn.

4.2.1 Lack of assistance in finding a job

Unlike other HEIs in the region, most public universities in Serbia have had career centres for almost a decade, such as the Centre for Career Development at the University of Belgrade which was established in 2006, the Centre for Career Development and Student Counselling that was established at the University of Kragujevac in 2007, while a career centre with the same name was established at the University of Novi Sad also in 2007.⁸⁰ The practice of career centres at Serbian HEIs is the most advanced and developed in the region. Alumni associations are also becoming more important in assisting students find connections to the labour market (Babić and Kordić, 2012). After completing their studies, graduates can also approach the National Employment Service (NES) for assistance in finding employment and other types of services. The NES provides information on available positions and offers training and guidance to the unemployed, although it does not have a specific programme for graduates.⁸¹

Despite these institutional developments, the graduate survey shows that the NES and HEI career centres play only a limited role in helping graduates find a job after graduation (see Figure 10). Family and friends are the most important source of assistance, much more so than the NES or HEI career centres or even private employment agencies. In this situation, nepotism can play a role in job search, and graduates who are less well connected on a personal basis may have lower chances of finding a job. This is supported by evidence from the graduate survey, which shows that graduates who held a job had received significantly more assistance from their family than those that were out of work ($p < 0.05$).⁸² Assistance from friends and professors is even more strongly associated with a graduate having a job rather than being unemployed.⁸³ Assistance from professors seems to be especially important for those graduates who studied STEM subjects ($p < 0.01$).⁸⁴ It can also be observed that graduates from private HEIs receive more support from career guidance services within their HEI than do graduates from public HEIs ($p < 0.01$).⁸⁵

⁸⁰ Careers centres can also be found at many other HEIs throughout Serbia.

⁸¹ Interview, National Employment Service.

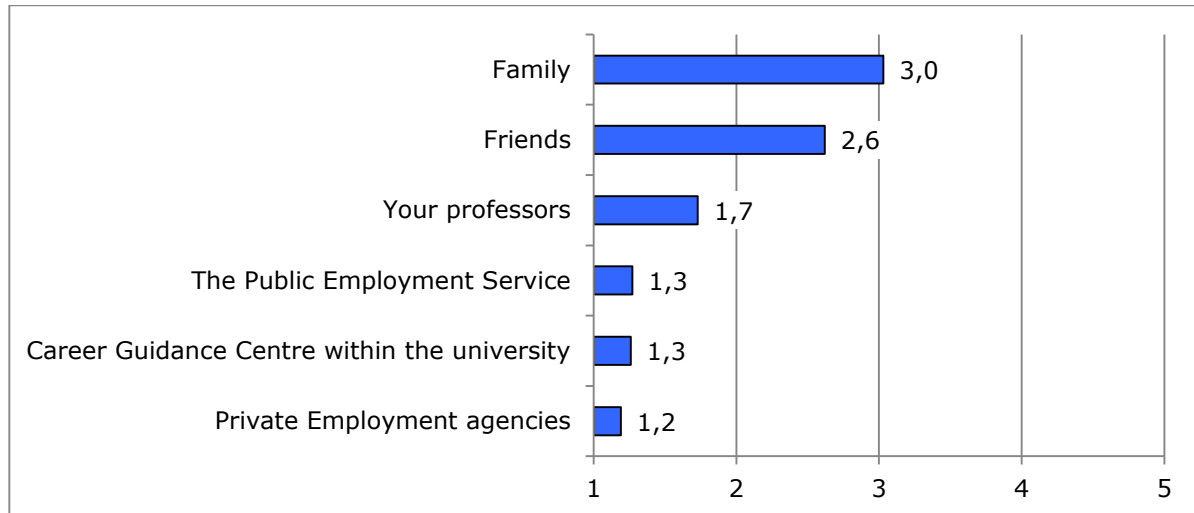
⁸² Graduates in employment score 3.1 (on a 1-5 scale) on the extent of assistance received from their family compared to 3.0 for unemployed graduates ($F=3.05$, $p=0.048$).

⁸³ Graduates in employment score 2.7 (on a 1-5 scale) on the extent of assistance received from their friends compared to 2.5 for unemployed graduates ($F=3.81$, $p=0.022$), and 1.9 versus 1.4 on the extent of assistance from professors ($F=29.7$, $p=0.000$).

⁸⁴ Graduates who studied STEM subjects score 2.0 (on a 1-5 scale) on the extent of assistance received from their professors compared to 1.5 for other graduates ($F=43.08$, $p=0.000$).

⁸⁵ Graduates who studied at private HEIs score 1.5 (on a 1-5 scale) on the extent of assistance received from a career centre at their HEI compared to 1.2 for graduates who studied at public HEI ($F=17.97$, $p=0.000$).

Figure 10: Help to find a job after graduation from alternative sources



Source: Graduate survey. Note: Responses are scored on a scale of 1-5, where 1="no assistance" and 5="very much assistance".

In view of these findings, more efforts should be made at public HEIs and through the NES to ensure that all graduates have full information about available jobs, and receive support in finding a job on an equal basis irrespective of the extent of their connections or family ties, as this would improve the prospects for graduates to find a job.⁸⁶ On a more general level, career guidance and counselling services should be strengthened at earlier stages of education and not limited to the period of transition to the labour market. Secondary school leavers should be informed about a wide range of professions in order to improve their choices of study programmes at HEI.

4.2.2 Lack of prior work experience

Most HE students have limited opportunities to engage in internships or relevant work experience during their studies, a factor that may limit their chance of finding a job.⁸⁷ As a representative from the Serbian Association of Employers put it:

"Employers... are not satisfied with practical skills and competences. There are many young people that have never visited any company or have never seen how business operations function in reality."⁸⁸

The employer survey shows that almost three quarters (72%) of employers attach at least some importance to previous work experience when making a decision to recruit a new graduate.⁸⁹ Graduates that have had at least some work experience while studying are therefore likely to be more successful in their job search. Some evidence in support of this proposition is found from the graduate survey, which shows that 57% of those who had "very much" work experience held a job, compared to just 42% of those who

⁸⁶ Assistance from the family can have a negative effect on earnings of graduates, if it channels a graduate into a mismatched job with lower pay. Professional networks are more effective at channelling graduates into appropriate jobs (Tatsiramos (2015).

⁸⁷ Several European comparative studies have shown that students who participated in practical training before graduation are more likely to find jobs than those without relevant work experience (Eurydice, 2014: 69). Motivation may be a common underlying factor, but it is generally thought that there is a direct link between work experience and the likelihood of gaining a job, since these studies show that employers place a value on work experience as such.

⁸⁸ Interview, Association of Employers.

⁸⁹ On a scale of 1-5 72% of employers give a score of 3 "somewhat", 4 "a lot" or 5 "very much" to the importance of previous work experience.

had had no work experience ($p < 0.01$).⁹⁰ Work experience also supports the efficient matching of graduate qualifications to their job requirements. While 48% of those who had had at least a little work experience or an internship held a job that was well matched to their field of study at the time of the graduate survey, only 39% of those who had no work experience held a well-matched job ($p < 0.01$).⁹¹

Erasmus Mundus alumni in our focus group observed that enhancing 'practical' learning could improve teaching at Serbian HEIs. Based on their EU experience, they believe that this could be achieved by introducing internships as part of a study programme, through project-work carried out in a company, or by carrying out a research project related to the final dissertation within a company. However, from the graduate survey we find that although 63% of students had experienced some form of work experience or internship during their studies at HEI, only 36% of students found such experience to be "a lot" or "very much" use for their learning outcomes. This suggests that where internships are used as part of a study programme, more effort should be made to ensure that they are well supervised and are connected to an organised learning experience.

Since 2011 a programme of internships has been aimed at graduates designed to assist them to acquire their first work experience. In 2015, about 5, 000 graduates were involved in this programme, which is designed to enable the acquisition of practical knowledge and skills for independent work in the occupation for which the graduates have an appropriate qualification. The programme lasts 6-12 months and is also available for unemployed persons without professional experience and with at least secondary education.⁹² Various large international companies operating in Serbia offer internships to university graduates, including NIS, HTEC, Adidas, Proctor and Gamble, Coca Cola and others. Studies of the experience of internships in Serbia suggest that they are more successful where there is close collaboration between the HEI and the employer on the educational and learning content of the internship, accompanied by supervision, which should be regulated by a formal agreement between the parties (Radišić et al., 2011).

4.3 Employers' challenges in taking on new graduates

Employers face many challenges in taking on new graduate recruits. In this section we first consider the extent of employers' dissatisfaction with graduate skills, then analyse the nature of the skill gaps that employers face, before turning to a discussion of the extent of training that employers feel they must provide to make up the deficiencies of the HE system in providing graduates with the required skills.

4.3.1 Dissatisfaction with skills of new graduates

Employers on average score their satisfaction with the skills of their graduate employees at just 5.9 (on a scale of 1= "not at all satisfied" to 10 = "very satisfied"), indicating only a moderate degree of satisfaction with the skills of their graduate employees. Encouragingly, foreign employers are more satisfied with the skills of their graduate employees, scoring 7.0 compared to 5.5 for other (domestic) employers ($p < 0.01$).⁹³ This is the opposite trend to other countries in the region where foreign employers are less or equally satisfied with the skills of graduates than domestic employers. This suggests that, in Serbia, foreign employers are able to attract the most skilled graduates, perhaps by paying them higher salaries. Perhaps also this is a reflection of the high level of skills of

⁹⁰ Chi-square =28.8, $p=0.000$, $N=1, 191$.

⁹¹ Chi-square =18.3, $p=0.001$, $N=394$.

⁹² Interview, Ministry of Labour, Employment, Veteran and Social Affairs.

⁹³ A t-test of difference in mean scores gives $t=3.48$, $p=0.001$.

the best Serbian graduates, since foreign employers rank the satisfaction with skills of their graduate employees higher than almost all other countries in the region, with the exception of Albania where the foreign employers' scores are similar to Serbia.

However, the employer survey also shows many graduates do not have such a high level of skills as the best graduates since 55% of employers consider that graduate recruits bring only "some" or "a little" or "no" value added in comparison with their non-graduate employees.⁹⁴ This highlights the importance of improving the quality of the HE system in Serbia, as it is a costly exercise to spend scarce resources on a HE system that fails to deliver improved value added among more than half of HE graduates in relation to secondary school leavers. Many employers take the view that graduates especially lack interactive skills: they are poor in decision making skills, scoring just 3.2 (on a scale of 1 to 5, where 1 = "no skill", and 5 = "very much skill" in the relevant dimension), and in planning and organisational skills (3.3) and ability to adapt and act in new situations (3.2).

Worryingly, employers in high technology sectors are significantly less satisfied with their graduate employees' interactive skills than other employers.⁹⁵ Since these are sectors where interactive skills are likely to be especially important for competitiveness, this points to a strong need to improve the interactive skills taught at HEIs in Serbia. Perhaps not surprisingly, foreign employers' perceptions of graduates' language skills are significantly higher than the perceptions of domestic employers ($p < 0.1$), suggesting that graduates with good language skills are more likely to be recruited by foreign employers. There is also some evidence that employers that cooperate with HEIs over recruitment have a better perception of their graduate employees' interactive skills.⁹⁶ This emphasises the importance of such cooperation for employers, as such cooperation enables them to select graduates with interactive skills that they consider important to their business success.

While there is generally no difference in graduate skills by the size of the employer organisation, both micro and small employers perceive their graduate employees' analytical and problem solving skills to be significantly higher than employers in medium and large organisations ($p < 0.05$). This suggests that graduates with these skills are attracted to work in smaller companies perhaps because of their greater flexibility, lesser bureaucracy, and more welcoming attitude to graduates with such skills. In addition, interactive skills appear to be important for the growth of graduate employment, as fast-growth "gazelle" employers regard good reading and writing skills more highly than other employers, and "divokoza" employers regard both these and also good numerical skills more highly than other employers ($p < 0.05$).⁹⁷

⁹⁴ On average, graduate employees in Serbia earned 99,554 dinars per month in 2015, while graduates from vocational secondary schools earned 65,076 dinars per month (SORS, 2015: Table 7), which suggest that HE graduates *do* provide value added compared to secondary school leavers. However, this data refers to all employers, not just those who employ graduates, and so is not conclusive evidence on the matter.

⁹⁵ Just to give one example, employers in high technology sectors give a score of just 2.7 for their graduate employees communication skills compared to 3.7 for other employers ($F = 11.07$, $p = 0.002$). Similar differences in mean scores are found in other dimensions of interactive skills (decision making skills, problem solving skills and so on).

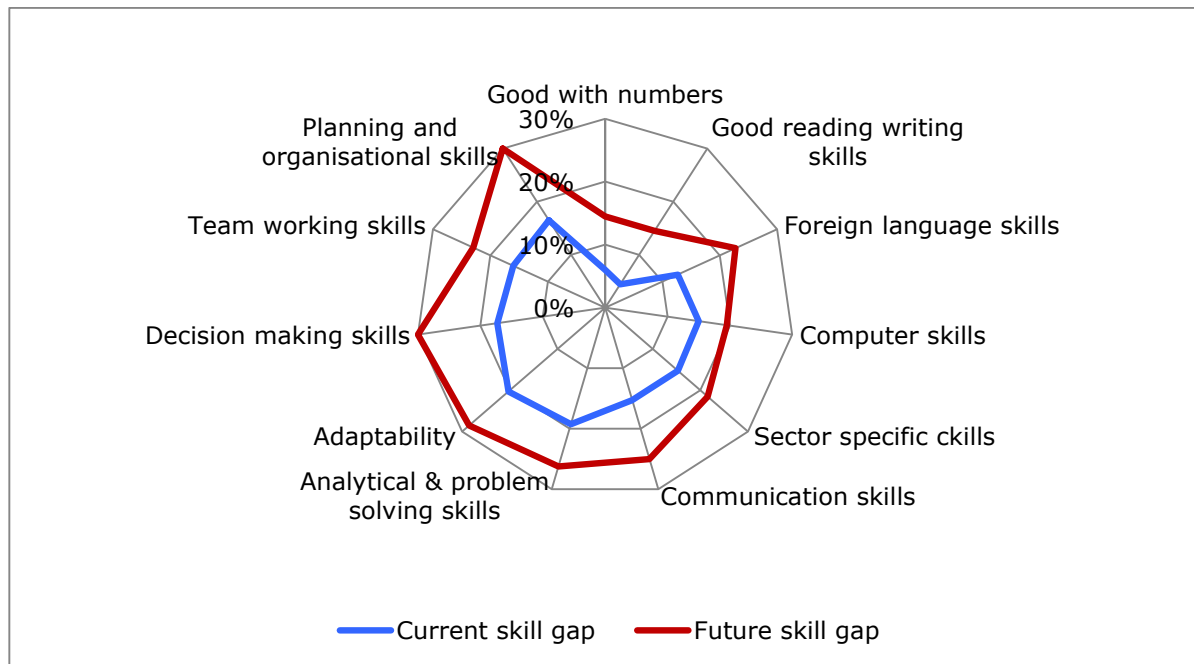
⁹⁶ Employers that cooperate with HEIs score 3.6 on the 1-5 scale that measures extent to which graduate employees have planning and organisational skills compared to 3.1 for other employers ($F = 3.33$, $p = 0.073$); they score 3.5 on the extent to which graduate employees have decision making skills compared to 2.9 for other employers ($F = 4.4$, $p = 0.039$); and 3.7 on adaptability skills compared to 3.2 for other employers ($F = 4.0$, $p = 0.05$).

⁹⁷ "Gazelle" employers score the degree of importance of good reading and writing skills at 3.9 (on a 1-5 scale from less to more important) compared to an average score of 3.0 for other employers (t -statistic = 2.82, $p = 0.024$).

4.3.2 Graduate skill gaps

Employers' dissatisfaction with graduate skills reflects gaps in the skills that graduates bring with them to the labour market. Students are poorly prepared for a rapidly changing labour market. We analyse these skill gaps through the employer survey, which asks employers about (i) the actual skills of their graduate employees along various dimensions and (ii) the level of skills they consider necessary to carry out the job. The difference between these two measures is the estimated skill gap. Reducing the skill gaps of graduates would potentially improve their employability and productivity.

Figure 11: Graduate skill gaps – current and future (%)



Source: Employer survey. Note: skill gaps are measured as the difference between actual and desired skills reported by employers, with the underlying scale of skill measurement set at 1 where the respective skill is not important and 5 where it is very important for the performance of the business.

Graduate skill gaps as reported by employers are shown in Figure 11. The data show relatively high current skill gaps in interactive skills such as adaptability, analytical and problem solving skills, decision-making skills, and planning and organisational skills. Skill gaps are lower among cognitive skills such as computer skills and sector specific skills. Numeracy, reading, and writing skills exhibit relatively low skill gaps. All types of skill gaps are expected to increase in the future (i.e. over the three years following the survey up to 2018) with prominent future skill gaps expected for interactive skills, especially in the area of decision making skills and planning and organisational skills. Gaps in foreign language skills are also expected to emerge. The interviews confirm that graduates lack interactive skills; while employers perceive that graduates are relatively well equipped with theoretical knowledge, they are generally not satisfied with their communication skills, team work, foreign language skills,⁹⁸ corporate culture and other interactive skills that are not emphasised in the HE system.

A major reason for interactive skill gaps is the neglect of critical-thinking and problem-solving skills in the HE system. Curricula are still too theoretical and focused more on

⁹⁸ Studying abroad was considered to give a valuable advantage in terms of employability because of better language skills, according to the focus group with Erasmus Mundus alumni.

memorising facts than in developing interactive skills, regardless of the field of study. The graduate survey asked employers about which forms of teaching and learning experience at HEI contributed most to the skills that are needed by their businesses. The answers are revealing: employers identify the most important teaching and learning methods to be classes in small groups, problem-solving and creative-thinking teaching methods, and internships or work placements. In contrast, lectures in large groups and rote learning of facts are thought to contribute little to the skills that employers need.⁹⁹ Perceptions from the focus group with Erasmus Mundus alumni suggest that in comparison with EU countries, HE lecturers in Serbia put less emphasis on problem solving and student interaction in the classroom. All this provides some evidence that teaching methods ought to be modernised to develop interactive skills such as planning and organisational skills, decision-making skills and analytical and problem solving skills.

However, despite the high gaps in interactive skills among graduate employees, policy makers should not neglect basic cognitive skills, as these are essential building blocks of business productivity and competitiveness. In evidence of this, the employer survey shows that neither “gazelles” nor the “divokoza” type of fast-growth employer experience gaps in respect of graduates’ reading and writing skills, while other employers do report having skill gaps in these dimensions. “Divokoza” employers additionally do not have gaps in relation to graduates’ numeracy skills.¹⁰⁰ This suggests that employers that recruit graduates with sufficient competencies in these cognitive skills tend to grow significantly faster in terms of both total and graduate employment than other employers.

Reforms to teaching methods are difficult to introduce because HEIs lack incentives to promote innovation in teaching methods. In public HEIs, there is little rotation of teaching staff, and some staff teach the same course material for years until they retire. In addition, foreign staff cannot be hired to teach at public HEIs, which may limit opportunities for importing good practices although they may be appointed as visiting professors.¹⁰¹ Reforms to teaching methods could start by better linking staff promotion of to course evaluations by students. Smaller classrooms emphasising interaction between students and teachers, and the use of more practice-based teaching should also be promoted.

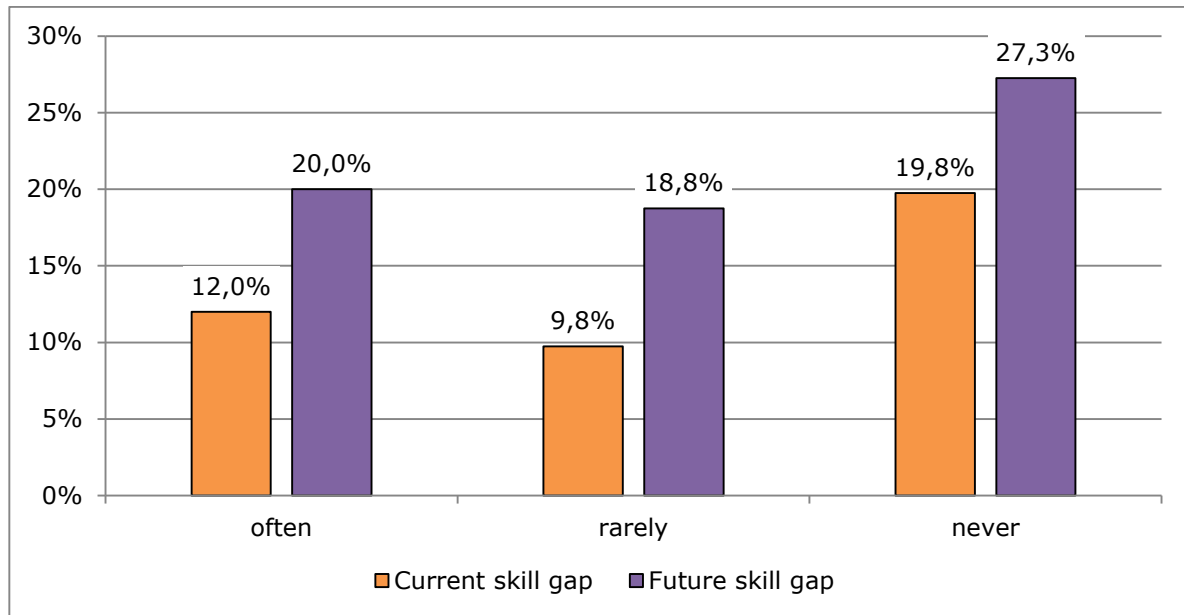
Cooperation between employers and HEIs can increase the likelihood that graduate recruits will have the skills needed to do the job for which they have been recruited. Figure 12 shows that employers who often cooperate with the HEIs over curricula tend to have lower current and future expected skill gaps than other employers who rarely or never cooperate with HEIs. This is due to the exchange of information about employers’ skill needs that accompanies such cooperation, and the associated adjustments to curricula that this enables HEIs to undertake. It also enables employers to improve their selection of the graduates who have skills that are most suited to their requirements.

⁹⁹ Small groups, problem solving and creative thinking teaching methods score between 4.0 and 4.5 on a 1-5 scale where 1 = “not at all” and 5 = “very much”, while lectures in large groups and rote learning of facts score between 1.7 and 2.4 on a 1-5 scale where 1 = “not at all” and 5 = “very much”.

¹⁰⁰ Graduate employees of fast growth employers (“divokoza” i.e. with employment growth > 10% per annum) have significantly lower gaps (-9%) for reading and writing skills than other employers (+6%) on a t-test of difference of mean interactive skill gaps, with $t=1.90$, $p=0.063$. $N=56$; and for numeracy (-4% for divokoza versus +8% for other employers) ($t=1.74$, $p=0.088$, $N=56$).

¹⁰¹ Interview, public HEI.

Figure 12: Skill gaps by cooperation with HEI over curricula, current and future skill gaps

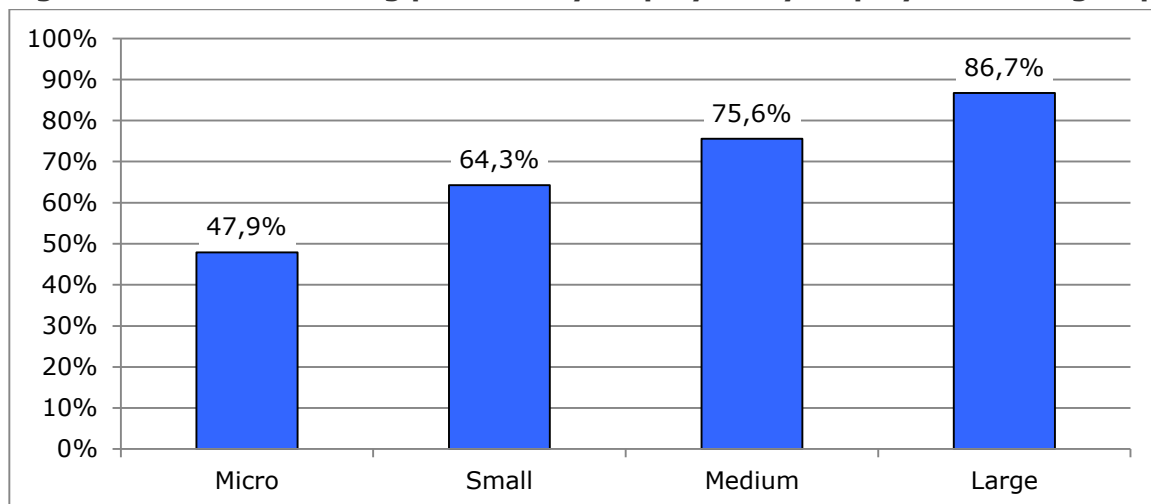


Source: Employer survey. Note: skill gaps are measured as the difference between actual and desired skills reported by employers, with the underlying scale of skill measurement set at 1 where the respective skill is not important and 5 where it is very important for the performance of the business.

4.3.3 Training of new graduate employees

Due to the inadequacies of the practical skills provided to students at HEIs in Serbia, many employers find it necessary to provide additional training to their graduate recruits. More than four fifths (82%) of employers provide formal training to their graduate employees, while almost all (89%) provide informal on-the-job training. Large and medium sized employers are more likely to provide formal training than small and micro employers (see Figure 13).

Figure 13: Formal training provided by employers by employment size group



Source: Employer survey.

As shown above, employers in high technology sectors are significantly less satisfied with their graduate employees' interactive skills than other employers. It is not surprising, therefore, that employers in high technology sectors provide significantly more formal training to their new graduate employees than do other employers. While on average two thirds of employers provide formal training to their new graduate recruits, among high technology employers almost all (93%) provide formal training. This is further evidence that HEIs are failing to provide an appropriate level or type of skills that are required by employers, especially in high technology industries.

Employers also need to make improvements in the training they deliver to graduate recruits. Several studies have found that the practices of human resources management are weakly developed in Serbian businesses and rely mainly on traditional rather than modern methods of organisation (Bogičević Milikić et al., 2012). Consequently, few employers carry out a systematic skills need assessment, and many fail to monitor the effectiveness of the training that is provided (Bogičević Milikić et al., 2008). Moreover, few employers follow up the training that is provided with an employee development plan that would include career plans for progression and promotion based on formal appraisal schemes. Thus, although many employers provide training, the quality of the training and its effectiveness for progression of graduate employees is not always sufficient to fill the perceived gaps in graduate skills.

4.4 Summary

The research reported above shows that both graduates and their employers have a difficult time in managing the transition from HE to work. The main reasons for this are the lack of available jobs, but also a higher education system that does not equip graduates with appropriate skills. Few employers actively cooperate with HEIs over curricula development and recruitment, even though they report that this would improve the matching of graduates to the jobs that are available. The government could provide additional support to promote collaboration between HEIs and employers. Graduates lack effective formal career guidance and counselling services to support effective job search. Instead, they turn to family and friends, or their professors, to provide informal routes to the labour market based on contacts and connections. This increases the likelihood that nepotism can play an important role in a graduate's success in searching for a job. In addition, most graduates lack work experience, which reduces their chances of success on the labour market. While many larger companies offer internships and there is a government programme to support them, such internships need to be carefully supervised to ensure that they provide an even more useful learning experience to the graduates who participate in them.

Employers believe that graduates lack interactive skills, a perception held especially strongly by employers in high technology sectors. Employers that cooperate with HEIs over curricula and recruitment have less of a problem with graduate skill gaps. Employers also believe that all forms of skill gaps are likely to increase in the future, presumably because technology is advancing while the skills taught at HEIs seem to be standing still. In addition to interactive skill gaps, basic cognitive skills, especially reading and writing skills remain key to strong company performance; companies with low cognitive skill gaps are more likely to be fast growth "gazelles" than companies with high skill gaps in these areas. In the context of such skill gaps among their graduate recruits, most employers find the need to provide additional training for their new graduates. However, most employers use traditional human resource management procedures that have not been modernised. Consequently, graduate training should be supplemented by effective employee development programmes and efficient methods of promotion appraisal.

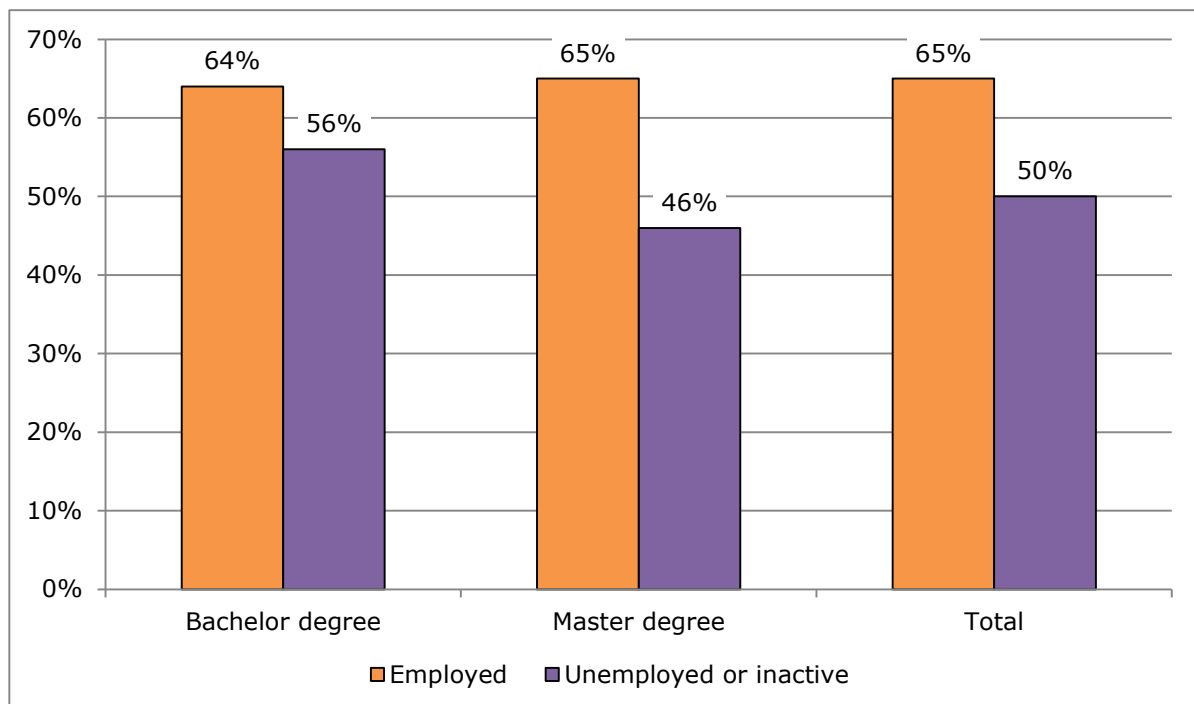
5 Skill mismatch

Skill mismatch is widespread in market economies (McGuinness, 2006). It has two dimensions. The first is *horizontal* skill mismatch, which refers to a situation in which the employee has a qualification in a field of study that is not required by the job held. The second is *vertical* skill mismatch, which refers to a situation in which an employee has a qualification either above or below the level of skill necessary to carry out the job. There is strong evidence that there is an inverse relationship between skill mismatch and productivity levels (Adalet McGowan and Andrews, 2015a). Thus, countries with a higher level of skill mismatch are expected to have a lower level of productivity and growth than countries with a lower level of skill mismatch, other factors being equal.

5.1 Horizontal mismatch

More than one third (34%) of employed graduates who responded to the survey say that they are in a job that is not well matched to their field of study, a little higher than the average for the region (32%). However, the proportion of such horizontal mismatch varies according to labour force status. The graduate survey shows that employed graduates are more likely to be well matched than those that are unemployed or inactive in the last job that they held (See Figure 14). While two thirds of graduates in employment are well matched, only half of those currently unemployed or inactive are well matched in their previous job. Therefore, being well matched seems to be a positive factor in assisting graduates to keep hold of the job that they have, and avoid falling into unemployment. The graduate survey shows that good horizontal matching is also associated with higher pay with an average difference of €50 per month (a gap of about 14% in relation to current salaries at the time of the survey).

Figure 14: Graduates with a horizontally well-matched job by degree level and labour force status (% within degree level)



Source: Graduate survey. Note: for unemployed and inactive respondents, matching refers to last job held.

Various factors influence the degree of horizontal mismatch among graduates. Graduates who performed better at their HEI are less likely to experience this type of mismatch than others, since they have more human capital to offer employers and therefore are more likely to be able to choose a job that matches their field of study at HEI ($p < 0.01$).¹⁰² Graduates who learned better skills, especially numeracy skills, computer skills ($p < 0.05$), subject-specific skills ($p < 0.01$), communication skills ($p < 0.01$), analytical and problem solving skills ($p < 0.01$), adaptability skills ($p < 0.01$), decision making skills ($p < 0.01$), team working skills ($p < 0.01$), planning and organisational skills ($p < 0.01$), at their HEI are more likely to find a well-matched job ($p < 0.01$).¹⁰³ This is also the consequence of a greater level of human capital being attractive to employers. It confirms that the form of human capital based around interactive skills, in addition to sector specific (vocational) skills and numeracy/computer skills are the most important type of skills to employers. The form of support received is also an important determinant of matching success, with 60% of well-matched graduates having received at least some support from their HEI, compared to just 38% of mismatched graduates ($p < 0.01$).¹⁰⁴ However, support from friends does not lead to better matching, rather to a worse match, as 66% of those who have a well matched job received at least some support from friends in finding it compared to 74% of those with a mismatched job ($p < 0.1$).¹⁰⁵ This points to the inefficiency of nepotistic practices in job search which may lead graduates into mismatched jobs that tend to pay less and create vulnerabilities to job retention.

5.2 Vertical mismatch

Graduates are vertically mismatched if their level of qualification provides a set of skills that is either above or below the skills needed to carry out the job. If the graduate's degree level is above the level of required skills, this situation is often referred to as over-education. This problem seems to be significant in Serbia. Overall, less than one half of graduates are vertically well matched to the level of their qualification.

The graduate survey shows that there is a high degree of vertical mismatch, as 54% of recent HE graduates report that their level of qualification is not well matched to the skill requirements of the job they hold (or held in the past if unemployed or inactive). This is far higher than the level of skill mismatch observed in the EU where, according to the OECD Survey of Adult Skills, the highest level of mismatch is in Italy at around 34% (Adalet McGowan and Andrews, 2015b). Within this total, 39% of graduates in Serbia are over-qualified for the job they hold (or did hold if currently inactive or unemployed) and 15% are under-qualified for the job they hold (possibly due to the effects of nepotism as it is difficult to see why an employer would otherwise hire an underqualified graduate). Correspondingly, only 46% of all recent graduates hold (or have held) a vertically well-matched job (a proportion which rises to 50% of currently employed recent graduates – see Figure 15).

Having a well-matched job has some implications for earnings. The graduate survey shows that graduates who are well matched have higher initial earnings than those who are mismatched, with median monthly earnings of €250, compared to €200 for those

¹⁰² From the graduate survey, 59% of Bachelor level graduates who have a horizontally well matched job performed above or far above average compared to just 37% of those who were not in a well-matched job (Chi-square=13.5; $p = 0.009$, $N = 264$).

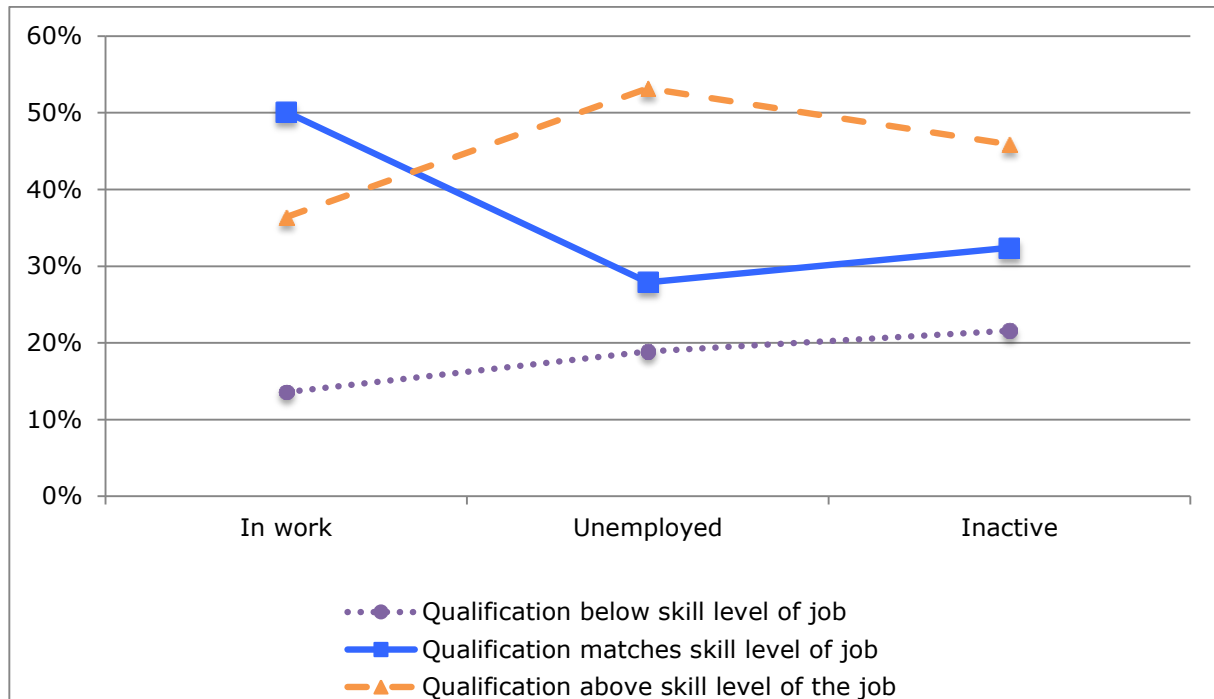
¹⁰³ Almost half (45%) of those who have a well matched job had learnt "a lot" or "very much" numeracy skill at their HEI compared to just 35% with a mismatched job (Chi-square=14.9; $p = 0.005$; $N = 721$). Similar results are obtained for the other skills mentioned in the text.

¹⁰⁴ From the graduate survey, Chi-square=41.6; $p = 0.000$, $N = 709$.

¹⁰⁵ From the graduate survey, Chi-square=9.2, $p = 0.057$, $N = 705$.

who are over-qualified or under-qualified.¹⁰⁶ The differences persist as graduates progress in their careers. For the current job, the graduate survey shows that both well-matched graduates and underqualified graduates have median monthly earnings of €400, compared to €360 for graduates who are over-qualified.¹⁰⁷ The differences in earnings is a measure of the productivity gap between well-matched and poorly matched graduates, and therefore of the potential gain from ensuring that the matching process works more efficiently for recent HE graduates.

Figure 15: Vertical matching by labour force status (% within labour force status)



Source: Graduate survey.

Figure 15 shows that graduates that are in work (employed or self-employed) are more likely to be in a well-matched job by level of qualification than unemployed or inactive graduates (in their previous job). Graduates who are unemployed are more likely to have been overqualified in their previous job than are employed graduates. As with horizontal matching, this implies that matching is important for job retention.

Various other factors seem to predispose graduates to have a well-matched job compared to either being under-qualified or over-qualified. The graduate survey shows that graduates who are well matched received more help from their HEI ($p < 0.01$) or from their professors ($p < 0.01$).¹⁰⁸ This identifies the important role that HEIs can play in assisting their graduates in having a successful transition to the labour market. A range of specific difficulties in finding a job, including the subject studied ($p < 0.1$) and the

¹⁰⁶ Other studies of skill mismatch in transition countries also find a wage penalty associated with over-qualification, see e.g. Lamo and Messina (2010).

¹⁰⁷ It should be noted that these data refer to the median salaries. Mean salaries of university graduates reported by SORS were RSD 94,944 in 2015, equivalent to €771, and RSD 65,781 for college graduates, equivalent to €535 (Statistical Yearbook of the Republic of Serbia, 2016, Table 3.14). Mean salaries are higher than median salaries due to the highly skewed income distribution.

¹⁰⁸ While 27% of those who have a well matched job had "a lot" or "very much" assistance from their HEI to find a job, only 16% of those who were in a job where the skills needed were below their level of qualification had such assistance (Chi-square=22.7, $p=0.004$; $N=709$).

reputation of the HEI attended ($p < 0.01$) and the economic situation ($p < 0.01$) are all associated with a higher probability of being in a job that is not well matched to the level of qualification. That the subject studied may prevent a graduate from attaining a well-matched job reinforces the general finding of the importance of early career guidance to steer graduates into fields of study that are more likely to provide a successful transition to the labour market. The influence of the reputation of the HEI is also an important finding that suggests that HEIs that have poor reputations should make further efforts to improve their standing in the community. Finally, having some work experience ($p < 0.05$) or an internship ($p < 0.05$) during the period of studies improves the chance of finding a well-matched job.¹⁰⁹ This confirms the importance of work experience during studies in easing the graduates' paths to the labour market.

6 Conclusions and policy recommendations

The research reported above shows that the HE system in Serbia produces too many graduates relative to the needs of the labour market, leading to a high graduate unemployment rate.¹¹⁰ On the labour market side there is an oversupply of graduates from most study fields but especially from *Business, Administration & Law*, and *Engineering, Manufacturing & Construction*. Many students drop out of studies leading to a low completion rate. Of those students who do graduate many face the prospect of unemployment. Of those who do find a job, many are in jobs that are not matched to their field of study or their level of qualification, reducing their wages and job prospects in relation to graduates in well-matched jobs. With an overall completion rate at 4-year Bachelor level of 54%, an employment rate of 49% and a rate of (vertically) well-matched graduates at 46%, it could be said that the internal efficiency of the combined HE and labour market systems (the HE-LM system) is just 12%.¹¹¹ In other words, of every hundred new students entering the system in any one year, it can be expected that only twelve of every hundred entrants to the HE system will eventually graduate and find a well-matched job. In order for the HE system to make a better contribution to building human capital and to the competitiveness and growth of the economy, significant reforms of the HE system and the graduate labour market are needed, and better cooperation between employers and HEIs should be encouraged.

6.1 The provision of higher education

The number of HEIs has increased over the last two decades in response to an increase in student demand especially in the 2000s as the economy recovered and new graduate level jobs were being created. There are now 85 HEIs in Serbia, of which 16 are universities and 69 are professional or vocational colleges. The country has 1.2 HEIs per 100,000 of the population, about the same as the regional average of 1.3. Substantial reforms have been introduced into the HE system, principally following the 2005 Law on Higher Education which introduced the Bologna principles, introducing three cycle studies and the European Credit Transfer System (ECTS). However, while many further HE reforms have been introduced, many remain to be fully implemented. For example, public HEIs remain fragmented into numerous independent faculties, which inhibits the restructuring of the sector, with each faculty having a financial incentive to admit as

¹⁰⁹ While 49% of those who had used an internship during studies had a well-matched job, only 38% of those who were overqualified had such an experience (Chi-square=5.5; $p=0.063$; $N=722$); similar results were found for graduates who had some prior work experience during their studies.

¹¹⁰ The "difficult employment situation" of HE graduates in Serbia has also been identified in the CONGRAD survey of HE graduates in Serbia (TEMPUS, 2014: 103).

¹¹¹ The efficiency of the HE-LM system can be assessed as the product of these three ratios: $0.54 \times 0.49 \times 0.46 = 0.12$.

many students as possible. This has led to an excessive entry of new students with little regard for the ability of the labour market to absorb them. In particular, study fields such as *Business, Administration & Law* and *Engineering, Manufacturing & Construction* produce more graduates than the labour market can absorb. The excessive enrolment of students into the HE system is combined with a low teaching quality and low completion rates. Students are dissatisfied with the quality of teaching, especially at public HEIs, due to overcrowded lecture theatres, a lack of attention to teaching in small classes, and a lack of practical course content and work experience.

6.2 The graduate labour market

Holding a higher education degree confers some protection against unemployment since the unemployment rate of HE graduates is lower than for the working population as a whole; the graduate unemployment rate is 15.9% compared to 17.7% for the working population. However, the graduate survey shows that the unemployment rate of recent graduates is much higher at 41.5%, similar to the overall rate of youth unemployment. More than half of graduates are employed in four sectors: *Education, Public Administration, Wholesale & Retail Trade, and Manufacturing*, while the fastest increase in graduate employment in recent years has been in the ICT sector. Graduate employment has also grown relatively fast in a small number of high-growth enterprises known as “gazelles” which tend to be SMEs. Economic growth is expected to accelerate over the next three years as economic reforms begin to bear fruit and the oversupply of new graduates is expected to fall from about 33,000 in 2015 to about 14,000 in 2018. On this basis, there will still not be enough jobs available to absorb the whole supply of graduates emerging from the HE system. This forecast is based on the assumption that current levels of graduate supply do not change (as appears likely as the growth in graduate numbers has come to a halt in recent years, and the number of graduate completions is fairly stable). The oversupply of graduates in 2015 is estimated to have been largest in *Business, Administration & Law* and in *Engineering, Manufacturing & Construction*. By 2018, shortages are expected to emerge in *Social Sciences, Journalism & Information* and in *Natural Sciences, Mathematics & Statistics*. This suggests that there enrolment policies should be adjusted to encourage more students to enrol in study fields where shortages are likely to emerge on the labour market in the future, and correspondingly to limit enrolment in study fields where there is an oversupply that is expected to be persistent without some offsetting policy action. More importantly there is a need to support the creation of additional high-skilled high-wage jobs in certain sectors. Combined action is needed on both sides of the graduate labour market – on the supply of graduates through appropriate HE reforms and on the demand for graduates through appropriate labour market reforms. These policies need to be coordinated in order to maximise their effectiveness.

6.3 Transition from higher education to the labour market

Many graduates experience periods of unemployment before they find a stable employment position. The formal institutional framework that supports graduates’ job search is relatively weak so many graduates rely on personal connections of family and friends. This opens opportunities for nepotism, which is an inefficient way to allocate graduate labour. A major barrier facing students in their transition to the labour market beyond the lack of graduate jobs is their lack of work experience. Graduates with some work experience are more likely to find employment, and work experience supports the efficient matching of graduates to appropriate jobs by field of study. The government supports graduates to gain work experience through an internship programme, and many large international companies operating in Serbia provide internships. An expanded internship programme to improve the skills of graduates and provide them with work

experience would depend on the willingness of employers to increase the number of internships they offer. Employer cooperation with HEIs can support improved curricula and ease graduates' transition to the labour market. Yet, such cooperation is rare, even though many employers consider that it would enable them to recruit graduates with appropriate skills more easily. Graduate employment opportunities are also affected by the lack of a finalised National Qualifications Framework, as the list of qualifications is not up-to-date.

Employers are only moderately satisfied with the skills of their graduate recruits; domestic employers are less satisfied than foreign employers, while employers in high technology sectors are less satisfied than other employers. More than half of employers believe that their graduate recruits do not bring much value added in comparison with their non-graduate employees. Employers report that graduates lack interactive skills such as team working, decision-making, adaptability and analytical and problem solving skills. These skills are neglected at HEIs where traditional teaching methods emphasise rote learning rather than student-centred approaches. The employer survey shows that HEIs can support the development of interactive skills among graduates by modernising teaching methods, delivering teaching in small interactive class groups rather than in large anonymous lecture rooms, and adopting practical problem solving approaches rather than theoretical and rote learning. Due to the weak skills sets that many graduates bring to the job, most employers provide additional training. However, human resources management practices are under-developed, and few employers follow up their training programmes with an employee development plan to maximise the benefits of the training provided.

6.4 Skill mismatches

Efficient matching of graduates to the requirements of the job is important for making the best use of the human capital created through studying at HEI, and its benefits are reflected in higher levels of job retention and in higher pay for well-matched graduates. Yet, more than one third of graduates experience horizontal mismatch by field of study. Graduates are more likely to be well matched by field of study if they had good academic performance at HEI, if they have strong interactive skills, and if they had a high level of support from their HEI in finding a job. However, having help from friends in finding a job (i.e. making use of informal networks and social connections) is not conducive to good matching and is more likely to lead to a mismatched job and a lower level of pay. Measures to improve horizontal matching should include improved career guidance services and better collaboration between HEIs and employers.

The study also confirmed substantial vertical skill mismatch. Overall, less than one half of graduates are well matched to their level of education; almost two fifths are over-qualified for the job they hold and surprisingly, despite the relatively low offer for graduate jobs, 15% are under-qualified. Being well matched by level of qualification assists graduates to keep hold of their job and avoid unemployment. Factors that assist graduates find a vertically well-matched job include the help received from the HEI in finding a job, having studied an appropriate subject at HEI, studying in an HEI with a good reputation, having some work experience, and the overall economic situation. Well-matched graduates have higher pay than mismatched graduates, although differences in initial salary diminish as graduates sort themselves into jobs more appropriate to their qualification level.

6.5 Policy recommendations

As the conclusions set out above demonstrate, action is needed both on the part of HEIs and on the part of employers, the government, and public employment services to

produce a more effective outcome for graduate job seekers. This is in line with the OECD skills strategy, which proposes that policy should not only focus on improving the supply of skills through education and training systems, but also on stimulating the demand for high level skills in the market and their utilisation in the workplace (OECD, 2012; Valiente, 2015). The research findings reported above suggest several key policy measures that should be implemented to improve the prospects for graduates when they enter the labour market. The recommendations are presented in order of priority.

Higher education

1. The study provides evidence of large skill gaps among HE graduates that are expected to increase in the future, especially in the area of interactive skills. HEIs should therefore take steps to **modernise the curricula** to enable students to develop improved interactive skills (such as adaptability, analytical and problem-solving skills, and team working skills). HEIs should also introduce more practical work into their courses to ensure that graduates have a range of skills that can be used in the workplace.
2. **Teaching methods should be modernised** in order to increase the quality of education provided, by promoting a student-centred approach to learning based on small discussion classes, student presentations, teamwork assignments, and analytical and practical problem solving exercises.
3. The **quality assurance system** should be improved to enable the scrutiny of various aspects of professors' work, based on student evaluations and a strengthened CAQA. Professors whose quality of teaching is judged unsatisfactory through student and peer assessment should be requested to attend refresher courses on teaching methods. Publishing of student assessment scores could create incentives for better results in teaching, working with students, and in research and publications (as happens at many HEIs throughout the EU). External peer-reviews should be conducted for both public and private HEIs, and institutions should be assessed according to the quality of their teaching and the ranked scores should be published.
4. The Government should promote the **internationalisation of HEIs**. Greater effort should be made to attract professors educated abroad into Serbian HEIs, and to continue to take advantage of participation in international exchange programmes and in particular to establish a National Agency for full participation in Erasmus+.
5. **HEIs should deliver entrepreneurship learning courses** to all interested students. Such courses should be based on strong links with the local business community and could involve invited lectures from business practitioners. Such courses should aim to support a proportion of students with the relevant abilities and an interest in establishing their own business after graduation.
6. HEIs should provide prospective students with **information on labour market prospects** associated with different study programmes should be a responsibility of HEIs. To support this, HEIs should carry out tracer studies to identify the final destinations of HE graduates. Enhanced career guidance is also needed at secondary College level to support better decisions at entry to HE.
7. **The quality of data collected about the HE sector should be improved**. HEIs should provide better information about their study programmes to the Serbian Ministry of Education, Science and Technological Development, and the Statistical Office of the Republic of Serbia (SORS) should revise its classification of study programmes by degree level. More accurate information is needed on student enrolments, completion rates, and duration of study programmes. It

would be desirable to develop a unique database on HE provision based on a common methodology of data collection, which would include the most important internationally recognised indicators as defined by Eurostat, UNESCO and OECD. The database developed in this study could serve as a basis.

8. Independent faculties in the public sector are formally grouped into universities and the 2020 Strategy advocates deeper integration at all levels. However, faculties retain substantial autonomy in many important financial, organisational and professional areas. **HEIs should be further integrated and centralised** and the funding model of public faculties should be revised to focus on learning outcomes, completion rates, and graduate employment rates rather than student enrolments. This should improve the focus of HEIs more on supporting successful transitions to the labour market.
9. **The National Qualifications Framework (NQF) should be finalised** and explained to employers. An essential precondition for achieving some of the most important objectives of the on-going HE reforms, including better alignment of HEI policies with labour market needs is to finalise the new NQF with the involvement of all social partners.

Labour market

1. Many graduates experience a precarious entry to the labour market and require more support in finding their first job. Matching of graduates to appropriate jobs by field of study and by level of qualification provides substantial benefits in terms of improved productivity, improved pay, and improved attachment to the labour market. Yet, graduates receive most support in their job search from family and friends, which diminishes the chances of finding a well-matched job. **More effective institutional support should be offered to graduates during their transition to the labour market.** Formal career guidance services within HEIs should gather more information on labour market opportunities to support graduates in their search for a job. HEIs that do not have such centres should establish them. The National Employment Service should be supported to improve its services for graduate job seekers, both financially and institutionally, and should exchange information with HEIs about the supply and demand for graduates in specific fields of study and specific sectors of the economy.
2. Relatively few employers cooperate with HEIs over the development of curricula or the recruitment of graduates. Yet such cooperation improves the prospects that employers will find suitably qualified and skilled graduates to fill their vacancies. Policy makers should support **better cooperation between employers and HEIs** through active programmes to organise meetings, round-tables, discussions, and sharing of information. The recently created sectoral councils can provide a step in that direction.
3. Graduates with some work experience are more likely than those without work experience to be employed in a well-matched job. An optional period of practical work experience should therefore be counted towards the completion of a study programme. HEIs and employers should be encouraged to negotiate more **work experience placements with local businesses** so that graduates enter the labour market with some prior work experience. HEIs should integrate such practical work experience placements into the study programmes. Employers should be provided with support to take on students for work placement experience with the support of HEIs. To maximise the learning outcomes, work placements should be closely supervised by HEIs, and specialised staff of employers should be supported to offer structured learning opportunities in the

workplace. The Government should expand its existing internship programmes following graduation.

4. Many employers provide training to their graduate recruits to compensate for the skill gaps that graduates bring with them from the HE sector. Policy makers should support **employers' continuing training of graduates**. Although many employers provide supplementary training, this is often not supported by effective human resource management (HRM) practices such as career development plans. HEIs could support employers by assisting them in developing career development plans for graduate employees, by providing training to employers in HRM techniques, and by providing continuing education opportunities for graduate employees at HEIs throughout their career.

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Annex – Methodological note

1. Higher education provision database

We collected data on existing study programmes in Serbia offered by both public and private HEIs. The database covers 13 HEIs and 255 study programmes, based on data provided directly mainly from the Statistical Office of the Republic of Serbia (SORS). The database provides for *each study programme* several categories of data, e.g. name of HEI, name of faculty, name of qualification, level of qualification (Diploma level, Bachelor level, Master level, field of study (ISCED classification), the number of students beginning studies per year (since the academic year 2012-2013), the number of students completing studies per year (since academic year 2012-2013) and the total number of students registered to study in 2014-2015. Data on accreditation was collected from the Commission for Accreditation and Quality Assurance (CAQA). Data on the number of years to obtain a qualification and the number of ECTS credits associated with each qualification was based on information gained from stakeholders (i.e. HEIs). Data on annual tuition fees was derived from HEI websites. When information was not available for a particular study programme, the information for a similar study programme and the same HEI for which data was available was used. The SORS uses an older ISCED classification, and in some cases this had to be updated to the newer classification used in this study (ISCED 2013). The list of HEIs included in the project's HE provisions database is as follows.

Table A1: HEIs included in the HE provision database

Name of HEI	Ownership status
Agricultural College of Vocational Studies, Sabac	Public
Agriculture and Food Business College of Vocational Studies, Prokuplje	Public
Belgrade Business College, Belgrade	Public
Business and Technical College of Vocational Studies, Uzice	Public
Business College of Vocational Studies, Leskovac	Public
Business College of Vocational Studies, Novi Sad	Public
Business College of Vocational Studies, Blace	Public
Business College of Vocational Studies, Valjevo	Public
Civil Engineering and Geodesy College of Vocational Studies, Belgrade	Public
Electrical Engineering and Computers College of Vocational Studies, Belgrade	Public
Engineering College of Vocational Studies, Belgrade	Public
Fine and Applied Arts College of Vocational Studies, Belgrade	Public
Hotel Management College of Vocational Studies, Belgrade	Public
Information and Communication Technologies College of Vocational Studies, Belgrade	Public
Medical College of Vocational Studies, Cuprija	Public
Nursing College of Vocational Studies, Belgrade	Public
Police Academy, Belgrade	Public
Railway College of Vocational Studies, Belgrade	Public
College of Applied Vocational Studies, Vranje	Public
College of Vocational Studies, Belgrade Polytechnic	Public
College of Vocational Studies for Teacher Education, Pirot	Public

College of Vocational Studies for Teacher Education, Sabac	Public
College of Vocational Studies for Teacher Education, Aleksinac	Public
College of Vocational Studies for Teacher Education, Kikinda	Public
College of Vocational Studies for Teacher Education, Krusevac	Public
College of Vocational Studies for Teacher Education, Novi Sad	Public
College of Vocational Studies for Teacher Education, Sremska Mitrovica	Public
College of Vocational Studies for Teacher Education, Subotica	Public
College of Vocational Studies for Teacher Education, Vrsac	Public
State University of Novi Pazar	Public
Technology and Chemistry College of Vocational Studies, Krusevac	Public
Technology and Mechanical Engineering College of Vocational Studies, Trstenik	Public
Technology College of Vocational Studies, Arandjelovac	Public
Technology College of Vocational Studies, Belgrade	Public
Technology College of Vocational Studies, Cacak	Public
Technology College of Vocational Studies, Kragujevac	Public
Technology College of Vocational Studies, Nis	Public
Technology College of Vocational Studies, Novi Sad	Public
Technology College of Vocational Studies, Pozarevac	Public
Technology College of Vocational Studies, Sabac	Public
Technology College of Vocational Studies, Subotica	Public
Technology College of Vocational Studies, Zrenjanin	Public
Textile College of Vocational Studies, Leskovac	Public
Textile Design, Technology and Management College of Vocational Studies, Belgrade	Public
Touristic College of Vocational Studies, Belgrade	Public
University of Arts, Belgrade	Public
University of Belgrade	Public
University of Kragujevac	Public
University of Nis	Public
University of Novi Sad	Public
Basketball College, Belgrade	Private
Business College of Vocational Studies, Zemun	Private
Information Technology College of Vocational Studies, Belgrade	Private
Management and Business Communication College of Vocational Studies, Sremski Karlovac	Private
Management and Business College of Vocational Studies, Zajecar	Private
Sports Academy, Belgrade	Private
Sports and Health College of Vocational Studies, Belgrade	Private
Academy of Diplomacy and Security, Belgrade	Private
Academy of Football College of Vocational Studies, Belgrade	Private
Accounting College of Vocational Studies, Belgrade	Private
Advertising and Public Relations College of Vocational Studies, Belgrade	Private

Business College of Vocational Studies, Cacak	Private
Modern Business College of Vocational Studies, Belgrade	Private
Project Management College of Vocational Studies, Belgrade	Private
Traffic Management College of Vocational Studies, Nis	Private
Business Economics and Entrepreneurship College of Vocational Studies, Belgrade	Private
Medical College of Vocational Studies, Belgrade	Private
Sports College of Vocational Studies, Belgrade	Private
Business and Industrial Management College of Vocational Studies, Krusevac	Private
Business College, Belgrade	Private
Entrepreneurship College of Vocational Studies, Belgrade	Private
Academy of Fine Arts, Belgrade	Private
Health and Sanitary College of Vocational Studies VISAN, Belgrade	Private
Union University, Nikola Tesla, Belgrade	Private
European University, Belgrade	Private
International University Novi Pazar	Private
Educons University	Private
Metropolitan University	Private
Union University	Private
Economics Academy, Novi Sad	Private
Alpha University, Belgrade	Private
Megatrend University of Applied Sciences, Belgrade	Private
Singidunum University, Belgrade	Private

Source: HE provision database

2. Surveys

Two surveys were carried out in the framework of this study: one that was administered to recent graduates from higher education institutions (HEIs) and one that surveyed employers located in Serbia who employ recent higher education graduates among their workforce. These surveys were carried out from May to August 2015.

2.1. Graduate survey

The sample frame consisted of recent graduates from HEIs, i.e. having graduated from higher education since 2010. We designed an online survey questionnaire and managed it through the Qualtrics software platform. An online survey link was sent by a number of HEIs (see list below) directly to their alumni contact lists, as well as by the LSE Qualtrics account where contacts of alumni could be provided outside of the institutions. Due to the *Law on Personal Data* only HEIs themselves were able to directly contact their graduates via their personal email addresses, hence the implementation of the graduate survey had to rely on the cooperation of HEIs. A letter explaining the project was sent to all HEIs in Serbia, signed by the Minister of Education, Science and Technological Development, dr. Srđan Verbić. It requested HEIs to take part by inviting their recent graduates to complete the online survey. With the assistance of the ERASMUS+ office, 456 emails were sent to all HEIs in Serbia targeting rectors, vice-rectors, and deans and vice deans. Graduates were, in most cases, sent personalised emails by the respective HEIs that invited them to complete the survey, and to pass it on to friends and

colleagues from their HEI. HEIs that were not able to directly contact their graduates published an invitation letter on their institutional websites, Facebook pages and elsewhere. Graduates were also contacted through the ERASMUS Mundus alumni group. A list of institutions that formally confirmed that they would send the survey invitation to their graduates is provided in Table A2. None of the institutions that confirmed their participation reported any obstacles in inviting graduates to take part in the survey.

Table A2: HEIs included in the survey

Name of HEI	Ownership status
College of Vocational Studies for Teacher Education, Aleksinac	Public
College of Applied Vocational Studies, Vranje	Public
College of Professional Studies Cacak	Public
College of Professional Studies for Educators and Business, Sirmium	Public
College of Vocational Studies for Teacher Education, Pirot	Public
College of Professional Studies MPK Srmska Karlovci	Public
College of Professional Studies, Novi Sad	Public
College of Sports and Health	Public
College of Textile Design, Technology and Management	Public
EDUCONS University	Private
High Medical College of Professional Studies Cuprija	Public
Technology College of Vocational Studies, Nis	Public
Entrepreneurship College of Vocational Studies, Belgrade	Private
College of Dental Medicine in Pancevo	Private
Singidunum University, Belgrade	Private
State University of Novi Pazar	Public
The Conference of Vocational Academies Serbia	Public
Union University, Belgrade	Private
Economics Academy, Novi Sad	Private
University of Arts, Belgrade	Public
University of Belgrade	Public
University of Kragujevac	Public
University of Nis	Public
University of Novi Sad	Public

The required sample size was assessed on the basis of the desired level of precision. Among other issues, we were interested in the experience of graduates from different types of HEI, public and private, and across three categories of labour force status: in work, unemployed, or inactive. We collected a total of **1,438** complete questionnaires from recent graduates of Serbian HEIs who graduated in or after 2010. This gave the desired degree of precision to the estimates. Most respondents (92%) graduated in 2012 or later. Of these, 17.1% graduated in 2012, 23.9% graduated in 2013, 40.9% graduated in 2014 and 10.1% graduated in 2015.

The representativeness of the sample can be checked by comparing the distribution of the sample of graduates by field of study to the distribution of the underlying population of students by field of study as reported in the HE provision database. In Table A3 the distribution of graduates by field of study in the graduate survey is compared to the

distribution of students who completed their degree in the academic years 2011-2012 to 2013-2014 taken from the HEI database. We take the average over the three years, since the graduates in the graduate survey have completed their degrees at different points of time in the past. It can be seen that the representation of the sample is not close to that of the distribution from the HEI database due to an over-representation of graduates from study programmes in *Natural Sciences, Mathematics & Statistics* and an under-representation of graduates from *Business, Administration & Law* and *Health & Welfare* giving a Pearson correlation coefficient of just +0.17. The correlation coefficient between sample and population data for other fields of study is very high at +0.94. This should be taken into account when interpreting the results of the survey.¹¹²

Table A3: Sample distribution (graduate survey) and population distribution of graduates (completions) by broad field of study

	Graduate survey (number)	Graduate survey (%)	HE Provision database (%)
01 Education	156	11.1%	9.9%
02 Arts & Humanities	137	9.8%	9.1%
03 Social Sciences, Journalism & Information	158	11.2%	8.7%
04 Business, Administration & Law	162	11.5%	26.9%
05 Natural Sciences, Mathematics & Statistics	352	25.1%	4.1%
06 Information & Communication Technologies	88	6.3%	5.6%
07 Engineering, Manufacturing & Construction	213	15.2%	17.4%
08 Agriculture, Forestry, Fisheries & Veterinary	13	0.9%	2.4%
09 Health & Welfare	16	1.1%	8.8%
10 Services	110	7.8%	7.3%
Total	1,405	100.0%	100.0%
Missing values	33		
Total including missing values	1,438		

Source: Graduate survey and HE provision database.

2.2. Employer survey

We designed a questionnaire that was implemented through a mix of online surveys and phone interviews. The sample frame consisted of public and private organisations of all sizes located in Serbia and employing HE graduates. We used several channels to distribute the survey (see Table A4). The Chamber of Commerce and Industry of Serbia invited employers to take part in the survey by circulating the invitation letter provided by the Project core team through their sectorial branches. The American Chamber of Commerce also invited their members to participate in the survey. The Serbian Association of Employers invited employers via their website. In addition around 1,500 email addresses of employers in Serbia were collected from different websites¹¹³ and forwarded to LSE to be invited to complete the online survey.

¹¹² In practice the application of weights makes little difference to the results. For example the weighted score for the variable "satisfaction with quality of education" is 7.18 using unweighted data and 7.07 using weighted data. Similar small differences are found in other variables of interest.

¹¹³ Mainly from the following websites:

The National market of goods and services in Serbia <http://trzistesrbije.com/>
Serbian Association of Employers <http://www.poslodavci.org.rs/>

Table A4: Organisations that distributed the employer survey

Chamber of Commerce and Industry of Serbia
American Chamber of Commerce (AmCham)
Serbian Association of Employers
Ministry of Economy
Ministry of Labour, Employment, Veteran and Social Affairs

Altogether, we collected a total of **177** completed questionnaires. Since the survey sample was taken from the population of employers who employ graduates, there is no available population distribution, and so the representativeness of the sample cannot be validated; nor can the sample be adjusted by any relevant weighting technique. Also, the sample was by design adjusted (using additional telephone interviews) to ensure that we had a similar distribution of employers across all enterprise size groups according to the Eurostat definition. The sample was balanced: in terms of the number of employees most of the employers surveyed were either micro sized (23%), small sized (21%) or medium sized (31%) and large employers (25%). This design was chosen to ensure that we had enough medium and large sized employers in the sample to make comparisons across size groups. The survey covered the various sectors of the economy, with the largest concentrations in *Manufacturing* (19%). Since the population distribution is not known we are unable to claim that the survey is representative of the population of employers who employ graduates. The results should be read bearing this caveat in mind. However, this does not preclude us from drawing inferences from within the sample about statistically significant differences between employer size categories for variables of interest (such as extent of employer-provided training).

3. Interviews with key stakeholders

We conducted semi-structured interviews with **15** key stakeholders, with the aim to develop a comprehensive view on the causes of challenges for employers and HE graduates in the labour market. We identified stakeholders at three levels.

- **Policy-making stakeholders** (4 ministries, EU Delegation office)
- **Higher education stakeholders** (5 HEIs, Erasmus alumni focus group)
- **Labour market stakeholders** (the Serbian Chamber of Commerce, 1 trade union, 1 public employment service representative, and 1 NGO)

We developed an interview guideline containing a set of questions for these semi-structured interviews. One group of questions were of a general nature and were posed to all stakeholders, to better confront their views on key issues. The second group of questions were specifically tailored to the various stakeholders, designed to explore further primarily issues within their specific competences. Local experts conducted the interviews and translated them into English.

We also carried out a focus group discussion with Erasmus Mundus alumni who had studied abroad, to gather their impressions of the contrasts between teaching methods used in their home and host countries.

4. Labour market data

We obtained Labour Force Survey (LFS) data for the period 2011-2014 from the SORS. This provided information about the sectoral structure of tertiary level employees for the years 2013 and 2014, which were used as a base for the forecast for graduate

employment by sector. The sectoral forecast was then converted into a forecast of demand for graduates by field of study using coefficients derived from the graduate survey. The LFS was also used to identify the relevant labour market key statistics for HE graduates (employment rate, unemployment rate), which could be compared to the statistics derived from the graduate survey relating to the employment rate and the unemployment rate of recent graduates.

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