



# **Higher Education and the Graduate Labour Market in Montenegro**

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# Context

- Part of a wider study on the Western Balkan region - *Higher Education Provision and Labour Market Needs in the Western Balkans* - commissioned by the EU Commission in 2015
  - Within activities of the Western Balkans Platform on Education and Training, launched in 2012 in cooperation with the Ministers of Education
- Main aim: assist Western Balkans in their EU integration → alignment to the EU acquis on education, provide a regional platform for policy dialogue

## Context

- **Methodology:** same for all Western Balkan countries
- Collection of new information (May – Aug. 2015) through graduate surveys, employers surveys, interviews with key stakeholders
- Unique database on HE in the Western Balkans (type & number of HEIs, study programmes, students enrolment and completion rates ... )
- 6 country studies + Synthesis Report

# Outline

## Report on Montenegro

1. Mapping the provision of Higher Education (HE)
2. Mapping the graduate labour market (LM)
3. Transition from HE to LM (skill gaps)
4. Skill mismatch
5. Conclusions and policy recommendations

# Methodology

- Two internet surveys (May-August 2015)
- Graduate survey: 613 respondents
  - Graduated from HEI since 2010
- Employer survey: 169 respondents
  - Organisations that employ graduates, stratified by four size groups
- In-depth interviews with 12 stakeholders
- Focus groups: Erasmus+ alumni
- Databases: Monstat, Eurostat, LFS
- Literature review

# 1. MAPPING HIGHER EDUCATION

# Higher education institutions

- HE law 2003 implemented Bologna principles
- Expenditure on higher education in Montenegro is 1.1% of GDP compared to 1.5% in OECD
- There is one public university, two private HEIs and 10 individual faculties
  - University of Montenegro is only public university
  - It has 19 faculties and to research institutes
- Montenegro has the highest number of faculties per inhabitant in the region

## Number of HEIs in Montenegro, 2015

	HEIs	Faculties	HEIs/ 100,000 pop (regional average)	Faculties/ 100,000 pop (regional average)
<b><i>Total</i></b>	<b>13</b>	<b>45</b>	<b>1.4 (1.3)</b>	<b>6.3 (2.3)</b>
<b><i>By ownership</i></b>				
Public	2	20	0.2 (0.5)	3.7 (1.5)
Private	11	25	1.3 (0.8)	2.6 (1.4)



# Study programmes (SPs)

- 2005 HE law introduced
  - Three-cycle studies
  - European Credit Transfer System (ECTS)
- Project database lists all study programmes
  - 113 BA programmes (44% last 4-years)
  - 106 MA programmes (42% last 1-year)
- 26% of SPs are offered by private HEIs

# Number of study programmes

	Number of SPs	Proportion SPs
<b>Total</b>	<b>255</b>	<b>100.0%</b>
Public	188	74.0%
Private	67	26.0%
<b>Level of qualification</b>		
Bachelor	113	44.3%
Master	107	42.0%
Doctoral	35	13.7%

Field of study	Number	Proportion
<b>Total</b>	<b>255</b>	<b>100.0%</b>
Humanities, social sciences and business (HSS) (ISCED 02+03+04)	134	53%
Science, technology, engineering and mathematics (STEM) (05+06+07)	73	29%

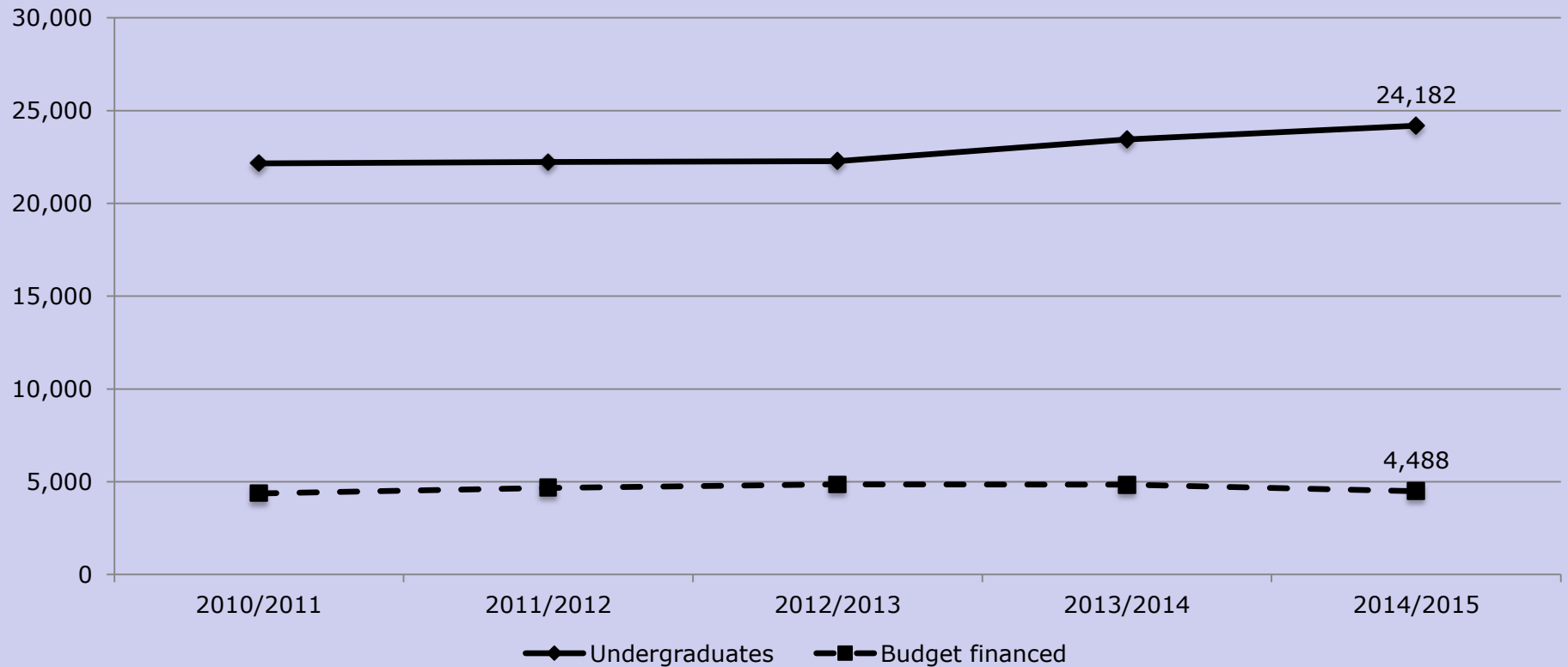
# Tuition fees

- At Bachelor level, median annual fee:
  - €500 at public HEI and €1,500 at private HEI
- Master level:
  - €2,000 vs. €1,990
- Ratio between willingness to pay and actual fees (“value for money”)
  - Bachelor degree: 80% public HEI; 82% private HEI
  - Master degree: 56% public; 71% private

# Full introduction of Bologna system

- 87% of Bachelor degrees are 3-year study programmes
- 66% of Master degrees are 2-year study programmes
  - 34% of Master programmes are 1-year
- All doctoral degrees are 3-year study programmes

# Registered undergraduate students at all years of study (2010-2015)



# Enrolment

- Each year about 10,000 new students enrol at HEI for first cycle studies
  - 69% of these enrol at the public HEI
  - 47% of graduates were budget funded
- Total number of new first-cycle enrolments has increased over last three years
  - 2012-13: 7,705
  - 2014-15: 8,026
- In 2014/15, 1,903 enrolled for Specialist studies (2nd cycle professional), 443 for Master studies, and 50 for PhD studies

## Enrolment by field of study (ISCED)

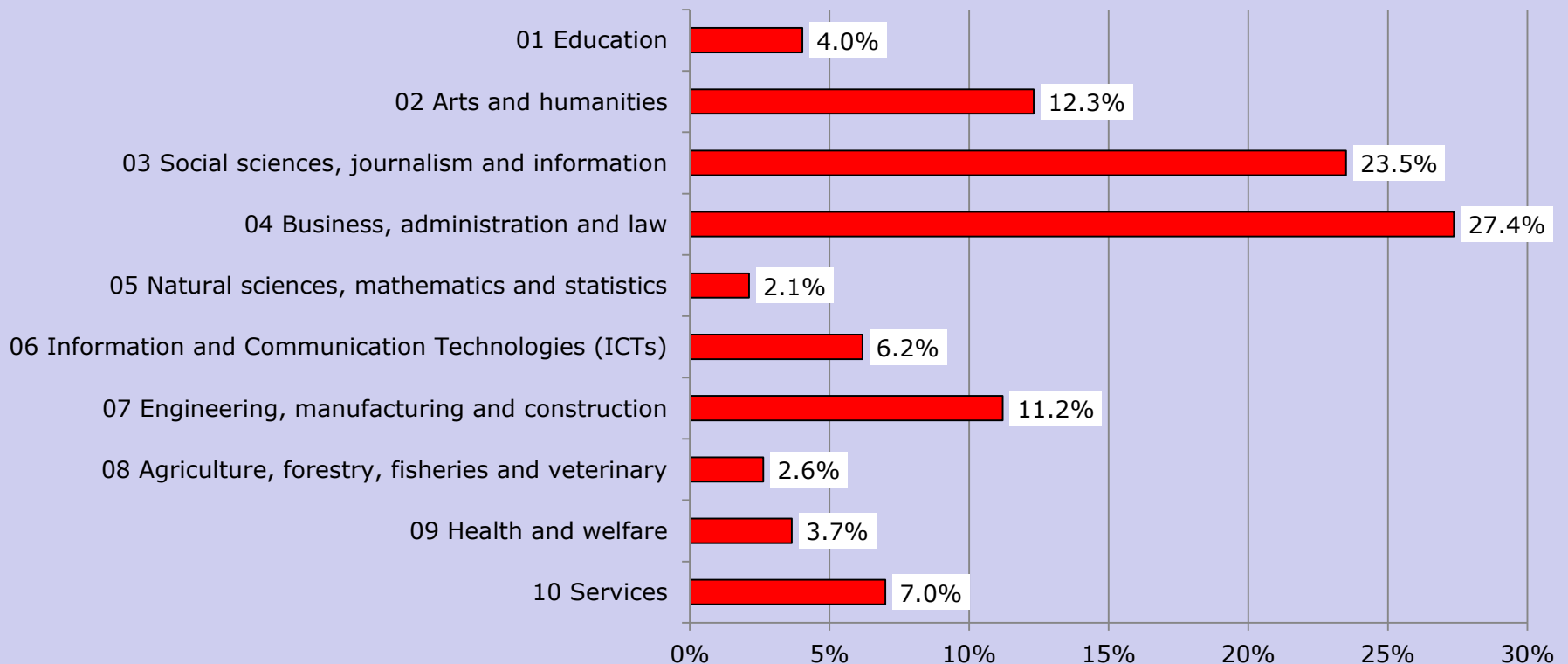
	Total	Public HEI	Private HEI
Social science, journalism and information	19.2%	17.3%	23.5%
Business, administration and law	21.8%	16.9%	32.7%
Engineering, construction and manufacturing	17.3%	22.5%	6.2%
<b>HSS (02+03+04)</b>	<b>52.6%</b>	<b>46.9%</b>	<b>65.2%</b>
<b>STEM (05+06+07)</b>	<b>27.5%</b>	<b>33.0%</b>	<b>15.5%</b>



# Student completions

- In 2013/14, completion **ratio** was 51%
  - A relatively low completion ratio which implies inefficiency of the HE system
- Completion **rates** are calculated using the “cross-section” method
  - Overall completion rate (2010-14) = 49%
  - Similar to Hungary at 48% (Eurydice, 2015)
  - Average in OECD countries was 68% in 2013
- Widespread perception of corruption in completion of studies

## Proportion of students completing studies (graduating) by broad field of study 2013/14



# Quality issues - Accreditation

- Council of Higher Education issues certificates of accreditation of study programmes
- Montenegro does not have a quality assurance agency
  - Accreditation of institutions is performed by external agency registered with EQAR
- Montenegro is the only country in the region in which NQF is harmonised with EQF

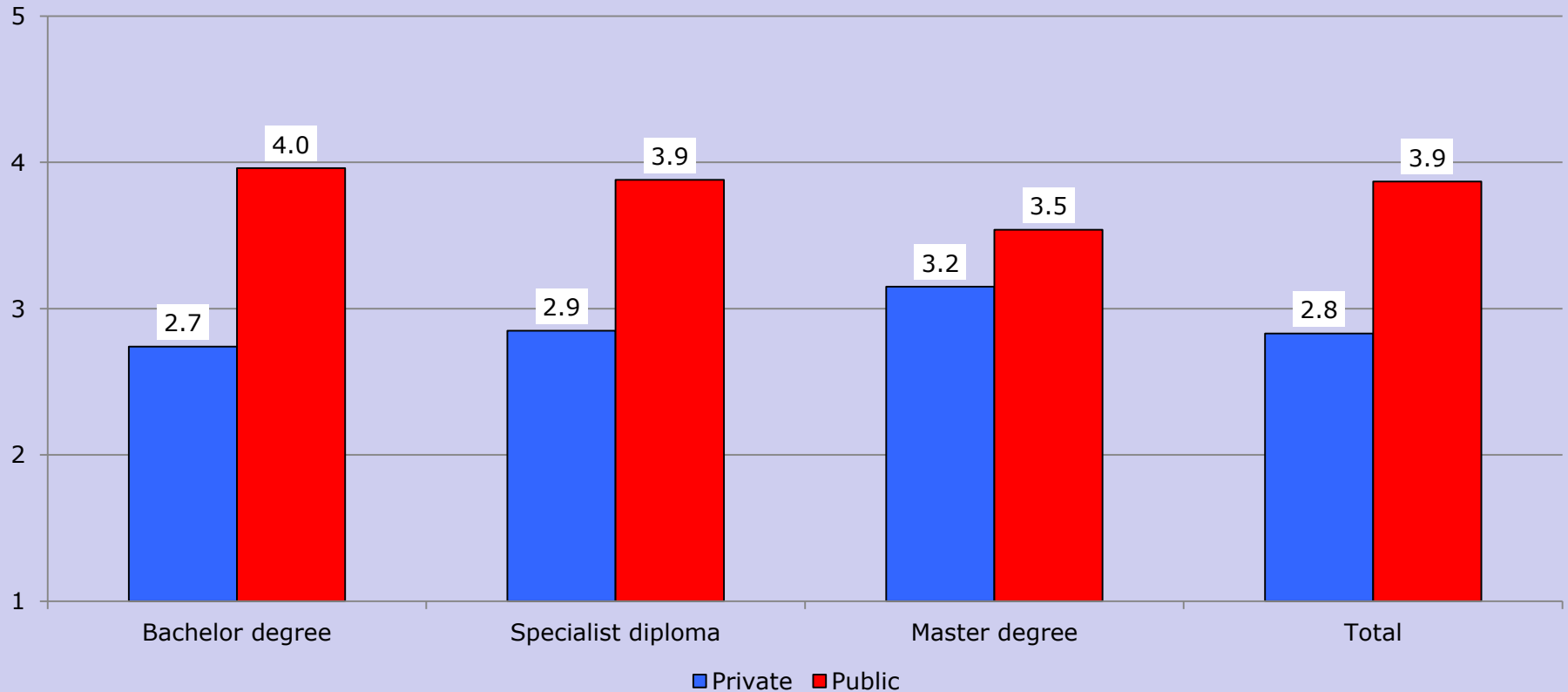
# Quality issues - Evaluation

- Average score for graduate satisfaction with HE education = 7.1 out of 10 on a 1-10 scale.
- Graduates evaluate quality of education higher at private HEIs than public HEIs by 13 percentage points
  - Debate over whether profit motive stimulates or undermines quality in private HEIs
  - Student characteristics may differ across types of HEI
- “Webometrics” shows the public universities at the top Montenegrin HEIs
  - Public HEI world rank = 2362
  - Private HEIs world rank at 12,011 and 16,824
  - But mainly based on observable research metrics

# Quality – teaching methods

- Teaching methods follow traditional patterns
  - Too many subjects taught
  - Rote learning
  - Oral examinations
- Job prospects would be improved by:
  - Better teaching methods (64% of respondents)
  - More relevant curriculum (66% of respondents)
  - Better qualified professors (40% of respondents)

## Whether better teaching methods would have improved job prospects



## **2. MAPPING THE GRADUATE LABOUR MARKET**

# The graduate labour market

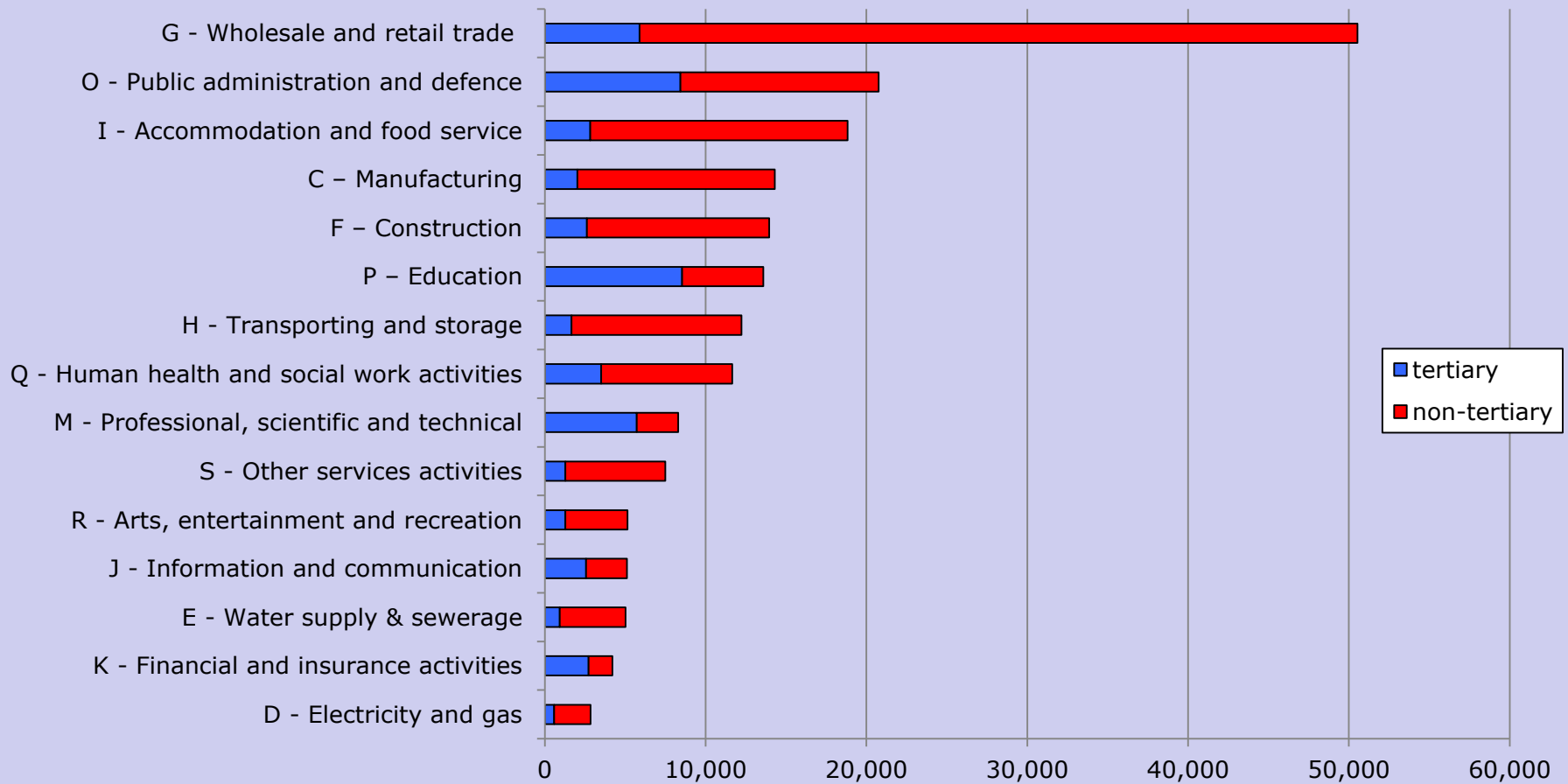
- Graduates have a lower unemployment rate than non-graduates
  - But graduate unemployment rate is higher than in the EU-28 (10.5% vs 5.5%)
- New graduates have a higher unemployment rate than all graduates
  - At 26% it is similar to 37.6% overall youth unemployment rate



# Graduate labour market, 2015

	Montenegro	Montenegro HE graduates	Western Balkans	EU-28	EU-28 HE graduates
Unemployment rate	17.6%	<b>10.5%</b>	24.2%	9.4%	<b>5.6%</b>
Employment rate	44.3%	<b>78.2%</b>	48.6%	58.1%	<b>76.9%</b>

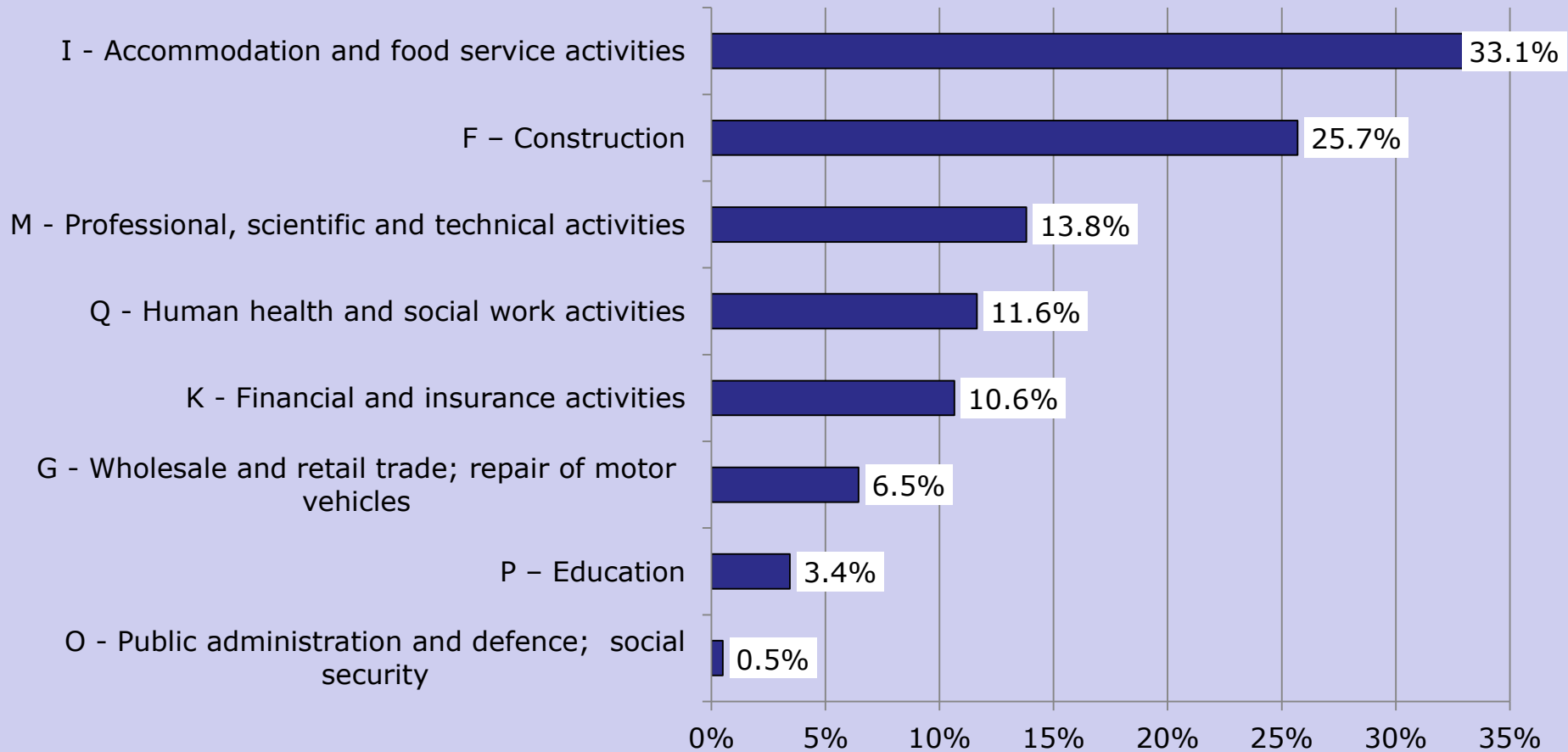
# Graduate employees by sector



# Most dynamic sectors for graduate employment

- Fastest increase in graduate employment has been in *Accommodation and Food Services* sector (33% p.a.) and *Construction*
  - Reflects growth of tourism and construction
- Graduate employment growth is faster in micro and large employers than others
  - Faster in “Gazelles” than others, which tend to be SMEs

## Annual % change in graduate employment (major sectors) 2012-14



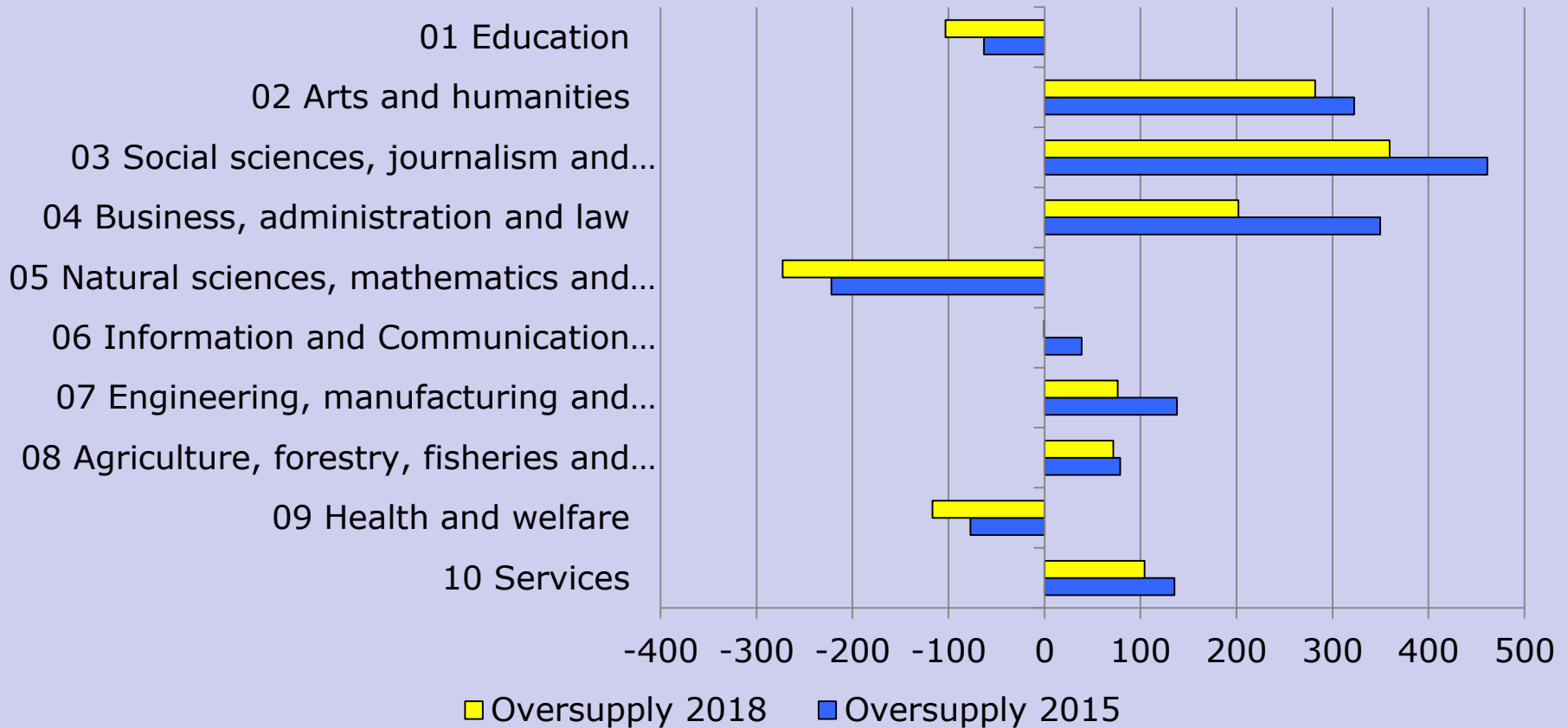
# Graduate employees by size group

- 53% graduates employed in large organisations
  - But smaller employers have higher graduate density
- Most employment growth has taken place among a small proportion of employers:
  - 82% of graduate jobs have been created in 14% of enterprises (employers)
  - 7% of employers are “Gazelles” (employment growth > 20% p.a.)
  - Fastest growth of graduate employment is in SMEs (10% p.a.)
- SME gazelles may be source of most future increase in graduate employment

## Distribution of graduates by size of employer

	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	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%
<b>Total</b>	<b>100.0%</b>	<b>100%</b>	<b>34.4</b>	<b>10.5</b>	<b>48.5%</b>

# Forecast of supply and demand for graduates



# 3. TRANSITION FROM HE TO LM



# Precarious entry to the labour market for recent graduates

- Employed:
  - Employment: 1 years and 4 months
  - Initial job search: 7 months
  - 66% have been unemployed at least once
- Unemployed:
  - Unemployment duration: 14 months
  - Employment duration: 11 months
  - Initial job search: 5 months

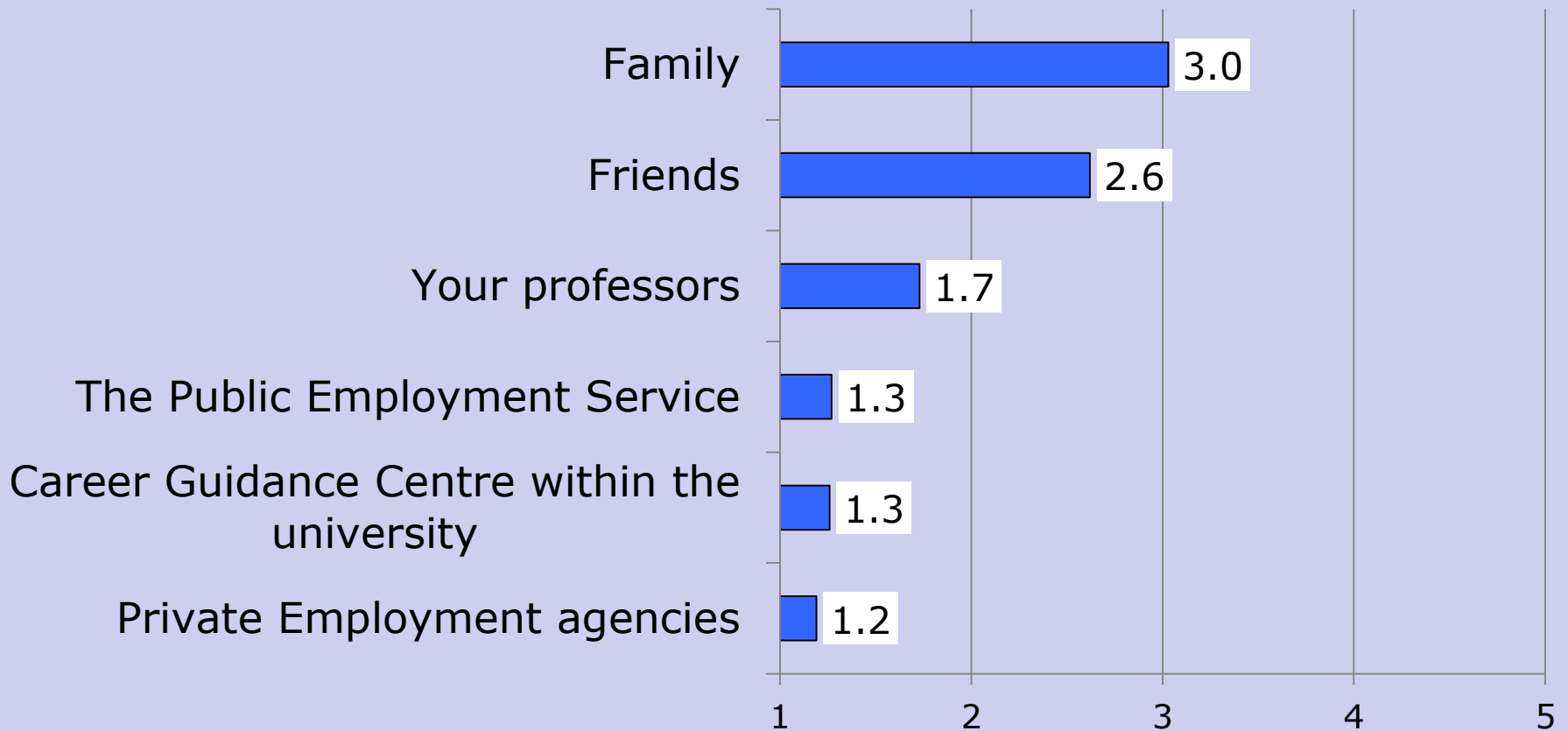
## Lack of cooperation between HEIs and employers

- HEI-employer cooperation common in most EU countries
- In Montenegro, 34% of employers have “never” cooperated over curricula with HEI, 52% “rarely”, only 14% “often”
  - Yet, 63% say that such cooperation would be desirable and would improve matching of graduates to the needs of the employer
- Good example of opportunity for state support to bring about social improvement

# Lack of assistance in finding a job

- Graduates more likely to turn to friends and family to find a job than to formal institutions such as HEI career centre or National Employment Service

## Help to find a job from alternative sources



## Lack of prior work experience

- 53% of employers attach at least some importance to graduate recruits having prior work experience
  - 72% of graduates with “very much” work experience have a job vs 42% of those with “no” work experience ( $p < 0.01$ )
- 62% of graduates had some form of work experience or internship during studies
  - However, only 36% of graduates found this to be v“a lot” or “very” useful for their learning outcomes

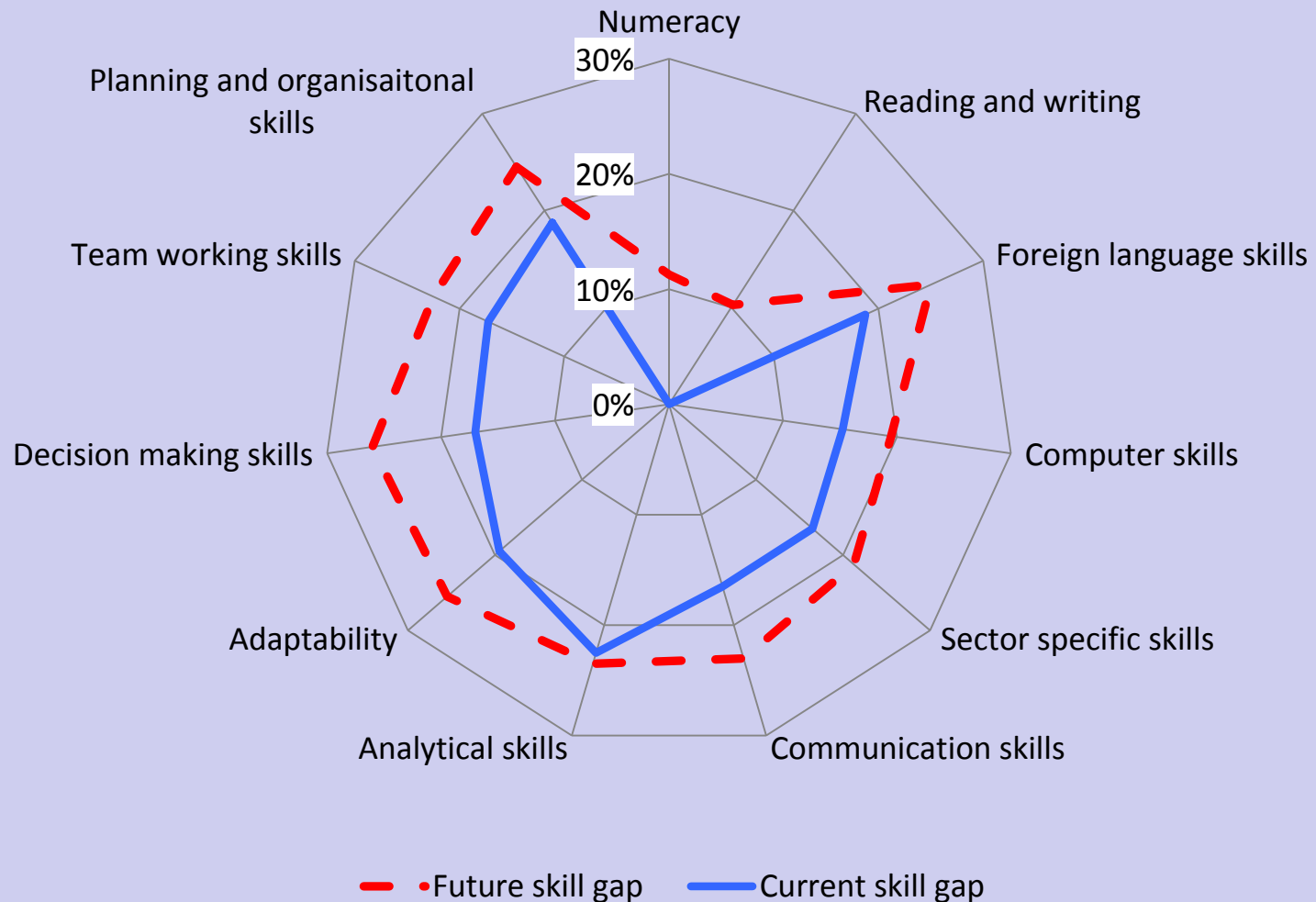
## Employers' challenges in taking on graduates – dissatisfaction with skills

- Average score 6.0 on 1-10 scale of satisfaction with skills of new graduates
  - Foreign employers score 4.8, domestic employers 6.3
- 53% employers think HE graduates only bring “some” value-added compared to non-graduates
- Employers think graduates lack interactive skills
- Employers in Podgorica less satisfied with skills of new graduates than others
  - May reflect growth of graduate employment opportunities in coastal areas

# Employer challenges – skill gaps

- Rapid economic change in transition has led to new demands for skills
- HEIs have not adapted fast enough, so employers perceive graduates have skill gaps
- Skill gaps measured by difference between skills that graduates need, and skills that graduates possess, on a range of skill dimensions (employer survey)
  - Cognitive skills (e.g. reading, writing, numeracy)
  - Interactive skills (e.g. team working, adaptability, analytical and problem solving skills)

# Graduate skill gaps – current and future

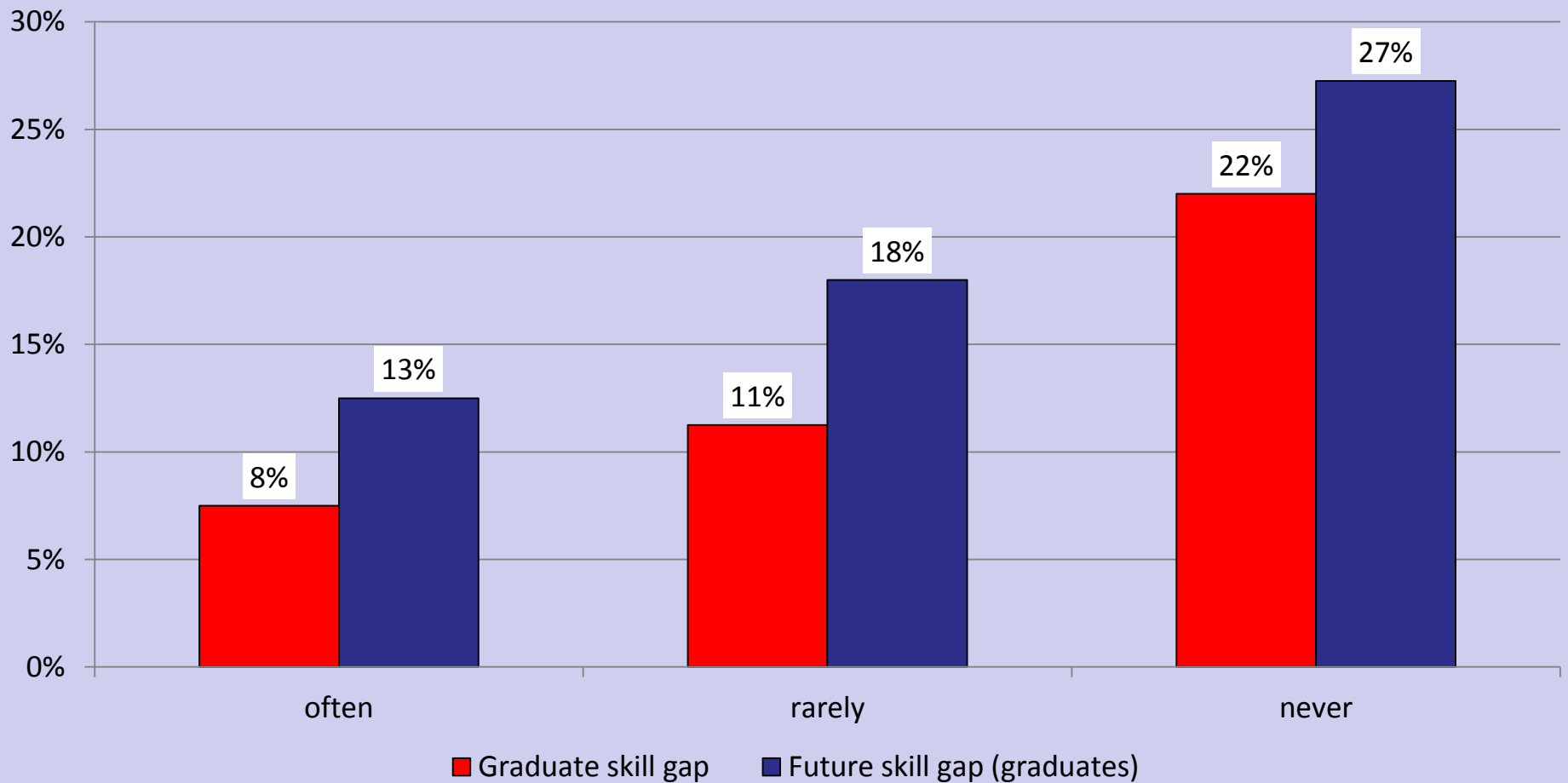




# Skill gaps

- Skill gaps mainly in interactive skills
  - This may be due to use of traditional teaching methods by HEIs
  - Employers identify classes in small groups and problem-solving teaching methods as most useful
  - Reform of teaching methods may be important to resolve skill gaps
- Skill gaps expected to increase in the future (next three years)

# Skill gaps and cooperation with HEI



# Training

- In the face of extensive skill gaps, many employers provide additional training to their graduates
  - 28% of graduates receive additional training paid for by their employer
- Private enterprises are more willing to provide training to their graduate employees than public enterprises
  - Public sector should do more to provide additional training to graduate recruits
- Smaller employers provide more training than larger employers
  - This could be supported by training vouchers or subsidies

# 4. SKILL MISMATCH

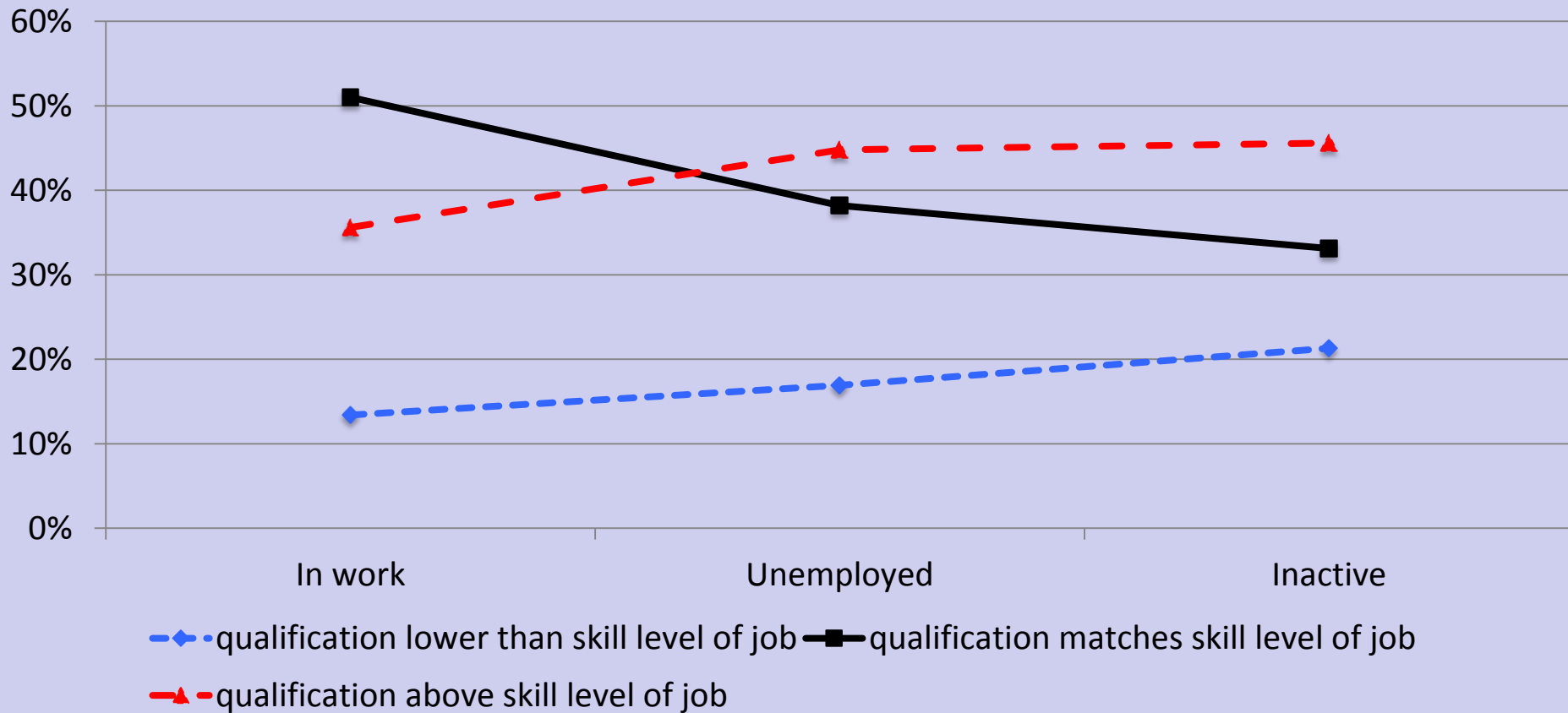
# Horizontal mismatch

- Horizontal mismatch – field of study does not correspond to the requirements of the job
  - 30% of graduates are mismatched in this way
- Factors associated with good horizontal matching
  - Internship or work placement ( $p < 0.01$ )
  - Help from HEI in finding a job ( $p < 0.01$ )

# Vertical mismatch

- 55% of graduates are mismatched in this sense
  - 33% are overqualified
  - 12% are under-qualified
  - 45% are well matched
- Well matched graduates have higher earnings
  - Median monthly earnings of well matched graduates €350 compared to €300 for mismatched graduates

# Vertical matching (% within labour force status)



# Factors associated with vertical matching

- Extent of help received from HEI in job search  
=> good match ( $p < 0.01$ )
  - Important role that HEI can play in assisting transition to the labour market
- Subject studied
  - ICT graduates are best matched
  - Social Sciences and Services students are worst matched



# **5. CONCLUSIONS AND POLICY RECOMMENDATIONS**

# 1) HE provision

- *Business, Administration and Law* has largest number of students; followed by *Engineering, Construction and Manufacturing*
- There is an oversupply of graduates to the labour market in *Arts and Humanities, Social Science,* and *Business, Administration and Law* subjects
  - But there is a shortage of graduates from *Natural Sciences, Mathematics and Statistics*
- Completion rates are low: 45% at Bachelor level
  - Similar to Hungary and Italy

## 2) Quality of education and teaching methods

- Graduates from private HEIs are more satisfied with quality of education than those from public HEIs
- Graduates are dissatisfied with teaching methods, and think better teaching would improve job prospects.

## 3) Graduate labour market

- Graduate unemployment rate is 7 percentage points lower than of working population
  - For new graduates it is 8 percentage points higher (26%)
- Graduate employment has grown fastest in SMEs:
  - Most jobs created in accommodation and food services and construction
  - Reflects growth of tourism and construction sectors
  - Most growth takes place among a small proportion of employers

## 4) Transition to the labour market

- Graduates have a difficult entry to the labour market
  - Graduates rely more on family and friends than on formal institutions to find a job
  - Lack of work experience makes finding a job difficult
- Few employers cooperate with HEIs over curricula or recruitment
- Many employers are dissatisfied with graduates' skills
  - Mostly consider that graduates lack interactive skills
  - Many employers provide additional training to fill skill gaps

## 5) Skill mismatch

- Both horizontal (HM) and vertical (VM) skill mismatch are widespread
  - Almost one third graduates are horizontally mismatched
  - One third are “overqualified” for their job
  - Mismatched graduates have lower pay and weaker job retention
- HM: improved by
  - Internship or work experience
  - Support from HEI in finding a job
- VM: improved by
  - subject studied, especially ICT
  - support from HEI in finding a job

## Summing up

- The completion ratio at HEI is **51%**
- Among those who complete their studies, the employment rate of recent graduates is **66%**
- Among those who find a job, the proportion of graduates who find a well matched job is **55%**
- *Bringing all this together, the efficiency of the HE-LM system =  $51\% \times 66\% \times 55\% = 19\%$* 
  - **i.e. for every 10 students that enter the system only 2 find a well matched job**

## Policy recommendations for HE sector

1. Modernise curricula and teaching methods
2. Improve quality at HEIs by providing retraining courses and attracting foreign lecturers
3. Carry out external quality assurance
4. Use scholarships to guide new students in shortage and growth subjects (e.g. science, ICT)
5. Improve career guidance services both at secondary schools (for prospective students) and at HEIs (for final year students) to reduce mismatch



# Policy recommendations for graduate labour market

1. Support improved cooperation between employers and HEIs
2. Support fast growth micro and small firms in ICT sector that employ graduates
3. Support employer training programmes to enhance career development
4. Give graduates more work experience in study programmes and expand the existing internship scheme for graduates



**Thank you for your attention!!!**