

A Capability Perspective on Employability of Higher Education Graduates in Bulgaria

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1 Introduction

Recently, there has been growing emphasis on the issue of graduate employability. Interest in the concept has grown especially in the context of educational expansion and the changing employment opportunities of graduates. In 2012 the European Union’s Council of Ministers even has approved a new employability benchmark which focuses on the increase of the employment rates of the graduates, 20-34 year olds, (incl. these with at least upper-secondary or post-secondary, non-tertiary or tertiary qualifications) soon (up to 3 years) after having left education and training. However, so far there is no unanimous opinion as to the influence of the expansion of higher education (HE) on graduate employability. On the one hand, at intergovernmental (Bologna Process), supranational (Lisbon strategy 2000; Europe 2020) and national levels, HE expansion is recognised as a mechanism for enhancing graduates’ employability and economic growth. But on the other hand, there are serious concerns that the expansion of HE leads to problems with graduate employability (Moreau & Leathwood 2006; Teichler 2011) and, in a more global aspect, to “broken promises of education, jobs and incomes” (Brown et al. 2011) for many tertiary degree holders.

Given this, the present study aims to shed more light on the problem of employability of Bulgarian graduates in the context of HE expansion and economic crisis. It looks at the problem in a comparative perspective by placing Bulgaria among other post-communist countries – Estonia, Hungary, Poland, Slovakia and Slovenia. It focuses on graduates aged 25-34 years, and covers the period between 2006 and 2010.

Bulgaria provides a unique case for investigating graduate employability for at least two main reasons. First, in contrast to the Socialist period, when employment was more or less guaranteed and there was central distribution of employment for people after graduation, a practice that aimed to provide a match between the number of graduates and the number of jobs (Boyadjieva 2010), the collapse of Communism in 1989 freed young people from coercive state institutions and planning. However, the larger freedom people thereby obtained to manage their personal careers came in a period of economic model transformation in all public spheres, unfavourable privatisation, and restructuring of employment opportunities. All of this contributed to growing social inequalities, uncertainty and insecurity of people’s working lives. However, to the best of my knowledge, Bulgaria has not participated in any of the comparative studies on graduate employment or school-to-work transitions (Shavit & Müller 1998; CHEERs; REFLEX; Kogan et al. 2011).

Second, despite the expansion of HE, the share of 30-34-year-olds with tertiary educational attainment in Bulgaria still lags behind other European countries and is far from achieving the

ET 2020 benchmark, according to which by 2020 the share should be at least 40%, or its national target of 36% (Eurostat).

This paper argues that in the context of HE expansion and economic crisis the high employment rates among graduates mask the problems that they are currently experiencing in the labour market (LM). In this regard I consider that the theoretical framework of capability approach (CA) could enable us to identify these problems.

The remainder of the paper discusses the concepts of graduate employability and capability as well as the potential of the CA to explore graduate employability; the research methods and data used; the results of the study; and the main conclusions drawn from the research.

2 Theory and hypotheses

There is a growing body of literature on graduate employability. Despite that, yet, the concept of employability is not explicitly defined (Gazier 1998; Tomlinson 2012). One of the dominant theories which are usually used to explain graduate employability is the human capital theory (Schultz 1961; Becker 1964). It postulates that by investing in education people acquire new skills and improve their LM productivity. Given this, education is seen as a tool which people may use to improve their chances to find employment as well as their future LM gains. Therefore, it is assumed that highly educated people are more successful on the LM and thus, more employable than less educated people. Employability is also often understood as an individual phenomenon and as equating with employment. Thus, J. Hillage and E. Pollard (1998: 1) define it in absolute terms as “the capability to gain initial employment, maintain employment and obtain new employment if required”. However, in the context of HE, and especially of its massification and diversification, and quickly changing employment opportunities there are concerns that this view on employability hides a potential risk for “blaming the victim” since it focuses only on the supply-side of the problem. In this regard, Philip Brown, Anthony Hesketh and Sara Williams (2003) emphasise that the high participation rates in HE weakened the differentiating power of knowledge in the legitimization of LM and created possibility graduates to be employable but unemployed due to the oversupply of suitably qualified candidates. This view is in line with the positional good and credential theories (Hirsch 1976; Collins 1979). In other words, from this perspective, employability should not be seen only in absolute terms since it has also a relative dimension and depends also on the employability on others.

Taking into account these perspectives, the present paper opens a space for wider discussion on graduate employability, a discussion which incorporates more explicitly dimensions such as quality, context and social justice which are to a great extent neglected in the above-discussed perspectives to employability. Thus, this study will pay attention to the plurality of types of graduate employment and LM outcomes, which may be qualitatively different, and to the variety of different contexts in which graduate employability may be embedded. Specifically, it will be assumed that graduate employability is embedded in the national context and, as such, may vary across countries and economic sectors. This assumption is consistent with Ronald McQuaid and Colin Lindsay’s understanding (2005) according to which employability may be best understood as a multifaceted notion encompassing a variety of factors: individual ones (such as different skills, attributes and demographic characteristics), personal circumstances (such as household circumstances and access to resources) and external ones (such as demand factors and enabling support factors). It is in line also with Leonard Holmes’ (2013) insights regarding the interactional nature of the education-employment trajectories and with his claim that these trajectories may differ.

Given this, I consider that the framework of the CA could contribute to conceptualisation of graduate employability and to its evaluation across various contexts. The CA is identified as appropriate for this research for several reasons. First, it goes beyond the human capital theory and adopts a wider and much more demanding view of education as having wider range of benefits than just the private ones and respectively on the relationship between education and employability. Second, because the approach is very sensitive to the diversity of groups and settings. This sensitivity is due to the so-called conversion factors, which influence the ways a person can be, or is, free to convert the characteristics of goods or services into achievement (Crocker & Robeyns 2009), and which play a central role in this framework. Thus, it accounts for the context and is useful for comparative studies. Third, CA is concerned with social justice. It makes the approach very relevant since employability is recognised as being a term that encompasses significant social justice issues and might mask social inequalities (Furlong & Cartmel 2009; Tomlinson 2012). Furthermore, as Holmes (2013) has noted governments and HE institutions that espouse a concern for greater social equity will have further concern for the employment outcomes of HE, namely because of the investments in HE made by governments, largely on the basis of a human capital investment rationale and with the increasing of the burden on students (and their families) who take loans to finance their studies and who should return these loans after graduation.

More specifically, the CA is a social justice theoretical framework for conceptualizing and evaluating phenomena such as inequalities, well-being and human development. It is first introduced as such by the Nobel Prize-winning economist Amartya Sen and then developed by the political philosopher Martha Nussbaum and applied by many other scholars. Within this framework a person's life is conceived as a combination of various things that a person can be or can do (called 'functionings') and her freedom to choose between these 'beings' and 'doings' (capability). The concept of 'functionings' reflects the various things that a person may value being of doing (eg. being well-nourished or being happy) (Sen 1992: 39). According to Amartya Sen's understanding, *capability is a specific kind of freedom* and as such refers to "our ability to achieve various combinations of functionings that we can compare and judge against each other in terms of what we have reason to value" (Sen 2009: 233).

If we apply these concepts to the case of graduate employment as a particular being of the graduate, then the graduate employability may be conceptualized in a broader sense as a *capability* which would refer to *graduates's ability to achieve various combinations of employment that could compare against each other in terms of what he/she has reason to value*. In so saying, this understanding of graduate employability goes beyond the narrow visions of employability as employment understood as inclusion in the LM irrespective of the type of employment which a graduate could obtain and to the understanding of employability as an individual responsibility related to acquiring new skills. Specifically, it questions the quality of employment and also the choice of employment through the lenses of the correspondence between graduates' values and the available opportunities for employment.

It is important to note, that the potential of the CA in conceptualising and broadening the concept of employability has been widely discussed (Bonvin & Farvaque 2006; Schneider & Otto 2009, Bonvin & Galster 2010 etc.). Thus, Jean-Michel Bonvin and Nicolas Farvaque (2006) criticise it by introducing the concept of capability for work understood as "the real freedom to choose the work one has reason to value" (p. 126). According to them this specific capability implies *either capability not to work if one so chooses* (via a valuable exit option); or *capability to participate effectively in the definition of the work content, organisation,*

conditions, modes of remuneration, etc. (the voice option). The concept of capability for work is used as a yardstick for assessment of the normative foundations of various meanings given to the concept of employability in activation programmes on the LM (Bonvin & Galster 2010).

Nevertheless, the CA is applied in a smaller share of conceptual writings on graduate employability (Hinchliffe & Jolly 2011; Bergström 2012; Hinchliffe 2013). In their study, Geoffrey Hinchliffe and Adrienne Jolly (2011) explore the perceptions and expectations of employers regarding the employability of graduates and construct a conceptual model of graduate identity consisting of four main strands: social engagement, performance, values and intellect. The authors conceptualise this model in using the CA lens, as a complex capability-set which enables every individual with respect to a range of functionings. The model goes beyond the idea that employers base their decisions solely on an assessment of graduates' skills. The authors also suggest that student employability could be promoted indirectly through the promotion of graduate identity and well-being rather than directly through employability skills.

In fact, my interpretation of graduate employability focuses only on the opportunity aspect of freedom and thus differs substantially from the understanding of capability for work, which takes note of the process aspect of freedom alongside its opportunity aspect, and also attaches importance to the process of choice itself. In other words, the interpretation of graduate employability in the present study may be seen in a broader perspective as a capability for work in which employability through HE processes would be only one element. Sen himself also focuses only on the opportunity aspect of freedom. As he puts it (2009: 235): "the focus of the capability approach is thus not just on what a person actually ends up doing, but also on what she is in fact able to do, whether or not she chooses to make use of that opportunity". It also differs from the understanding proposed by Hinchliffe and Jolly (2011), which relies on the employers' subjective perceptions of graduates' identity. However, it points to the importance of quality, context and social justice dimensions of graduate employability.

In this regard it is worth-mentioning the study of Gunilla Bergström (2012) captures the problem of the qualitative dimension of employability. It focuses on perceptions of "less employable" young Swedish graduates who are defined as those who are not yet employed in a job commensurate their educational qualifications within a reasonable time after graduation. It explores whether the graduates appreciate their education as a capability enhancing experience and identifies a variety of constraining conversion factors related to their professional realization going beyond personal characteristics including shortcomings of the educational system in providing measures facilitating graduate's transition between education and work; lack of knowledge of employers about the skills acquired through their specific education; and low confidence in the employment office services. These findings also point to the importance of external factors and the context when graduate employability is analysed.

Following Martha Nussbaum's classification of capabilities (2011: 20-25), graduate employability may be also understood as a "combined capability". In her perspective, combined capabilities are the set of opportunities from which a person can choose and act. These are not just abilities residing inside a person, but also the freedoms or opportunities created by a combination of personal abilities and the political, social and economic environment.

Thus, taking into account Sen and Nussbaum understandings of capability, I assume that graduate employability may be extendedly described through the CA lens as ‘*being able to be employed*’. This conceptualisation implies that graduate employability may be analysed as a *space* determined by the combination of two parts: an *internal* part which comprises skill sets and value sets developed as a segment of HE studies, in most cases, in interaction with the familial and educational environment; and an *external* part that refers to opportunities provided for graduates’ employment by the economic development and needs of the country, the quality of jobs, the demand for workforce in different economic sectors, as well as the development of the educational system (e.g., its level of massification, the structure and quantity of specialists with different types of degrees, etc.).

Given this, the present study will address the following two *research questions*. The first one refers to the *internal* part of employability; the second refers to its *external* part. Specifically, they are:

- What is the influence of different types of tertiary programmes on graduate employability?
- Are there differences in graduate employability which are due to the context where they live?

In order to address the above-mentioned research questions, I have formulated several hypotheses that will be tested in the following sections.

1. Graduates from different degree programmes have different employability.
2. Graduates from different fields of study have different employability.
3. The graduate employability varies across industries.
4. The graduate employability varies across countries.

3 Data, methods and variables

The following analyses are based on data from three rounds of the European Social Survey (ESS) - 2006-2010. The ESS is a biannual cross-national survey, representative for the population aged 15 or over. It is appropriate for this study because of the richness of data it provides regarding the educational level of the respondents, their field of study, occupation, parents’ educational level, etc. The analyses will be restricted only to individuals aged 25-64 who reported they had attained some form of tertiary education and to those in employment. Thus, in total the accumulated analytical data file contains 3,902 cases.

It is important to note, that one of the particularities of capability as being an evaluative space, is that it is not directly observable. Because of this, most studies focus on analysis of functionings. Sen (1992: 50) underlines that “a functioning combination is a point in such a space, whereas capability is a set of such points”. Given this, in the further analyses on graduate employability it is made an attempt to take into account the plurality of options for employment and LM outcomes available for graduates which may be qualitatively different. As there is no undisputable yardstick for measuring LM outcomes, the analysis will be limited to two indicators which reveal the range of employment options available for graduates: *occupational status* and *vertical education-job mismatch*.

In order to measure graduates' *occupational status*, Ganzeboom and Treimen's (1996) Standard International Socio-Economic Index (ISEI) is used. This is a continuous measure of occupational attainment that is comparable across countries. Specifically, ISEI scores are derived from ISCO88 (com) four digit-level classification. The index ranges between 16 and 90, where a score of 16 refers to the lowest status jobs, such as forestry labourers, and 90 is a score given, for instance, to judges.

The second indicator - the *vertical education-job mismatch* - is only one of the possible forms of qualification mismatch which may be observed in graduate employment. More specifically, it "refers to the lack of correspondence between the level of the education acquired and the level required in the job" (Støren & Arnesen 2011: 200). To measure its incidence, the ISCO 88 classification is used again. Thus, the graduates that are not employed in the first three categories of ISCO 88 are classified as vertically mismatched.

In the following section I present the results from descriptive statistics and multivariate analyses.

More specifically, for the analysis of occupational status, two models are employed. They both use OLS regression. Model 1 includes, as a main independent variable, a variable that distinguishes between different fields of study. To account for the context a variable distinguishing between different economic activities and a variable differentiating between all six studied countries are included. I add several control variables such as age, sex and socioeconomic background. Age enters the models as four age groups. Socioeconomic background is measured as a dummy variable referring to graduates whose parents have not attained a tertiary degree and those who have at least one parent with a tertiary degree. Sex is also included as a dummy variable by distinguishing men and women. I also add a variable distinguishing the rounds of the survey.

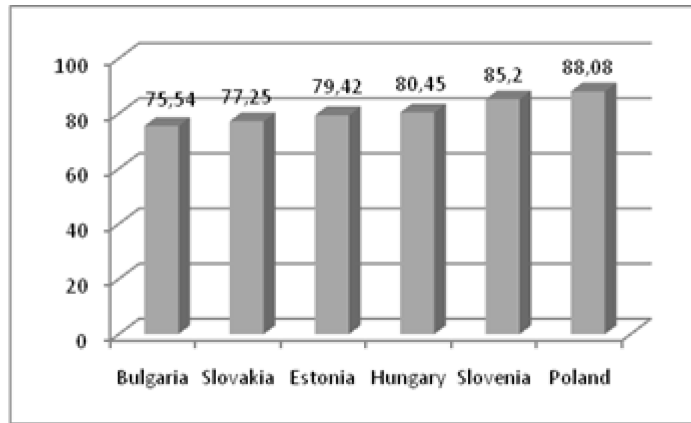
Model 2 includes as a main independent variable one that refers to different types of tertiary education. I distinguish between two groups of tertiary programmes based on their duration: 1) short and medium and 2) long. Short duration refers to ISCED 5A, short and ISCED 5B, short; medium refers to ISCED 5A, Bachelor; and long, to ISCED 5A, Master and ISCED 6, Doctor (ISCED 2011). The results are controlled for socioeconomic background, gender, and age. In order to account for the context a variable differentiating the economic sectors and a variable differentiating between all six countries studied are included.

Models 3 and 4 use the same explanatory variables as Model 1 and 2, respectively. They apply binary logistic regression analysis. The dependent variable in this model is whether a graduate is vertically mismatched or not.

4 Results

In this section I focus mainly on the employed young graduates. The results reveal that the proportions of those who are in employment among young HE graduates are relatively high (Figure 1). At the same time there are considerable differences in these shares between countries, the lowest share being in Bulgaria (75.54%), and the highest, in Poland (88.08%).

Figure 1. Graduates, aged 25-34 years, who were in paid work in the last 7 days, aged 25-34 years. (%)



Source: ESS, 2006-2010 (own calculations), weighted data (dweight), No. of observations 1404.

As regards the occupational status, descriptive statistics show that, in the studied countries, the differences in the mean scores for the occupational status gained by the young graduates are not very large (Table 1). The highest average ISEI score is observed in Poland (60.63), while young graduates in Estonia gain, on average, only a score of 56.38.

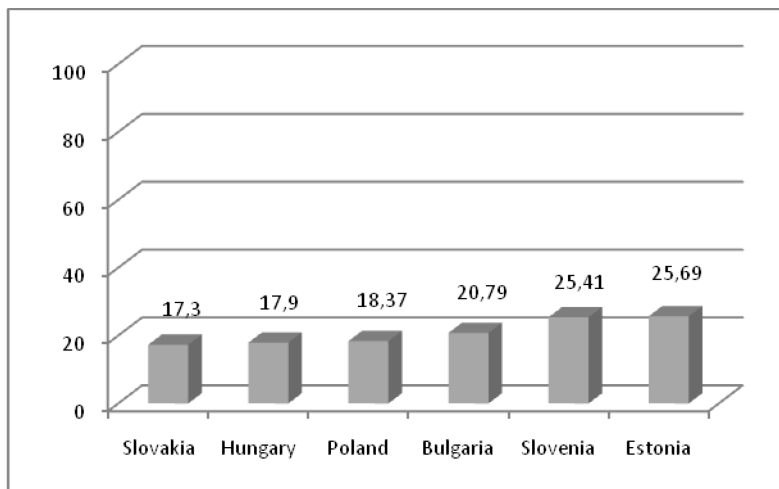
Table 1. Occupational status of employed graduates, aged 25-34 years

	Bulgaria	Estonia	Hungary	Poland	Slovenia	Slovakia
<i>Average ISEI score (st.dev.)</i>	59.09(13.68)	56.38(15.17)	58.66(12.99)	60.63(13.21)	57.72(14.37)	60.05(12.82)

Source: ESS, 2006-2010 (own calculations), weighted data (dweight), No. of observations 1125.

As regards the vertical education-job mismatch among young graduates the results show differences on this indicator between the countries studied (Figure 2). Thus, the lowest shares of graduates aged 25-34 who were employed below their level of education, among all who are employed and at the same age, are observed in Slovakia (17.3%) and Hungary (17.9%), whereas the highest are in Estonia (25.69%) and Slovenia (25.41%).

Figure 2. Vertical education-job mismatch among employed graduates aged 25-34 years (%)



Source: ESS, 2006-2010 (own calculations), weighted data (dweight), No. of observations 1132.

I now turn to multivariate analyses to test my hypotheses.

Due to the low number of graduates in the age group 25-34, in the consequent models all employed people aged 25-64 are included, and this age group is used as a reference category. The full descriptive statistics of the included dependent and independent variables is provided in the Appendix (Table A).

Model 1 tests whether there are significant differences in the occupational status attained by people who studied in different fields (Table 2). The estimates provide support that there are such differences. Thus, graduates with a qualification in law, education, humanities, sciences, engineering, health, social sciences and art attain on average much higher occupational status in comparison with graduates who having a degree in services. These scores are on average higher between 6.25 for graduates with a qualification in agriculture to 18.79 for graduates with a degree in law in comparison with graduates who having a degree in services, given the other covariates. In line with the specificity of the ISEI index, people who have a degree in law attain on average the highest level of prestige.

Socioeconomic background significantly raises a graduate's occupational status above the field of study he/she has completed. The results of regression analysis also reveal that there are no differences in the occupational status gained by women and men, holding all other variables constant. Age is not a significant factor for determining the occupational status of graduates. The only exception are graduates, aged 35-44 years, who gain higher occupational status score in comparison to those aged 25-34 years, given the other covariates. The estimates also indicate that in 2008 the graduates had significantly lower occupational status in comparison with the prestige of graduates in 2006, holding all other variables constant.

Table 2. Occupational status of employed graduates aged 25-64 years

	<i>Model 1</i>		<i>Model 2</i>	
	Coeff.	S.E.	Coeff.	S.E.
<i>Field or subject Ref.: Services</i>				
Education	7.188***	1.758		
Art	7.463**	2.866		
Social sciences & business	9.063***	1.665		
Science	10.95***	1.958		
Engineering	6.949***	1.683		
Agriculture	6.245*	2.442		
Health	6.536***	1.866		
Law	18.79***	2.174		
Humanities	9.402***	1.866		
<i>Duration of the tertiary programme Ref.: Short & Medium</i>				
Long			9.299***	0.817
<i>Gender Ref.: Male</i>				
Female	-0.199	0.659	-1.227	0.757
<i>Age Ref.: 25-34</i>				
35-44	1.376 ⁺	0.784	0.0116	0.924
45-54	1.071	0.810	-1.701 ⁺	0.993
55-64	1.265	0.935	-0.140	1.110
<i>Socioeconomic background Ref.: None of the parents with HE</i>				
At least one of the parents with HE	3.723***	0.642	2.626***	0.736
<i>Economic activities (industry) Ref.: Construction</i>				
Agriculture, forestry and fishing	-8.887***	2.588	-17.97***	3.759
Manufacturing, mining and quarrying and other industry	-3.421*	1.649	-3.649	2.329
Wholesale and retail trade transportation and storage accommodation and good service activities & Information and communication	-5.115**	1.644	-4.718*	2.274
Financial and insurance activities	4.157*	1.989	0.344	2.585
Real estate activities & Professional, scientific, technical, administration and support service activities	3.762*	1.746	2.039	2.345
Public administration, defense, education, human health and social work activities	4.492**	1.626	0.635	2.234
Other services	-2.630	1.874	-5.834*	2.644
<i>Round. Ref.: Round 3 (2006)</i>				
Round 4 (2008)	-1.170*	0.592		
<i>Country Ref.: Bulgaria</i>				
Estonia	-2.158*	0.908	1.685	1.103
Hungary	-2.067 ⁺	1.095	5.080***	1.275
Poland	2.139*	1.018	2.882*	1.130
Slovenia	0.138	0.997	5.689***	1.313
Slovakia	1.893 ⁺	1.074	-3.351**	1.238
<i>Constant</i>	48.87***	2.385	54.18***	2.394
No. of observations	2175		1341	
R-squared	0.169		0.186	

Source: ESS, Model 1 (2006-2008), Model2 (2010), (own calculations)

Note: Significance at: ⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Furthermore, the results indicate country differences between the occupational status of HE graduates. Thus, graduates from Estonia and Hungary attain on average lower occupational status than Bulgarian graduates, given the other covariates. In contrast, Polish graduates and those from Slovakia attain on average higher occupational status than Bulgarian graduates. The estimates reveal no significant differences between the occupational status that may be gained by Bulgarian and Slovenian graduates.

Model 2 shows there are significant differences in the occupational status between people who studied in tertiary programmes of different durations. Thus, the occupational status of graduates who attained a degree in programmes of short and medium durations is significantly lower than that gained by graduates in long programmes, given the other covariates. The results also reveal that high socioeconomic background contributes to a higher occupational status score. As regards the other control variables, with some exceptions, they are insignificant. Age does not generally prove to be a significant factor in explaining the variability in occupational status. There is one exception: graduates aged 45-54 have attained on average lower occupational status in comparison with the reference category, given the other covariates.

Regarding the country differences, the estimates of this model reveal that the occupational statuses of graduates from Hungary, Poland and Slovenia are significantly higher than that attained by Bulgarian graduates. There are no significant differences in occupational statuses gained by graduates in Bulgaria and Estonia. In the case of Slovakia, though, the estimates reveal that graduates from this country attained on average lower occupational status in comparison to Bulgarian graduates. Nevertheless, it is not possible to assess whether these are due to the effects of the economic downturn in 2008 or to the fact the duration of the tertiary programme as an independent variable is included, instead of fields of study.

The estimates of Model 3 reveal that the odds of being employed in jobs that do not correspond to their level of education among graduates differ tremendously by fields of study, holding all other covariates constant (Table 3). Thus, graduates with degrees in social sciences and business, engineering, agriculture, law, arts, science, education, humanities and agriculture are less likely to be vertically mismatched than those with a degree in services.

Based on the estimates in Model 3, the odds of being vertically mismatched are 36.3% lower for graduates with high socioeconomic background than for graduates with low socioeconomic background. Furthermore, the odds of being vertically mismatched are estimated to be lower for older graduates than the young ones. In fact, model 3 is the only model where the influence of age is so explicit. It also seems that, in the period 2006-2008, the odds of being employed in a job which is below graduates' level of education were higher for graduates from Estonia, Hungary and Slovenia than for Bulgarian ones. In the case of Poland and Slovakia no significant difference in comparison with the reference category are observed.

Table 3. Vertical education-job mismatch among employed graduates (25-64) in six countries

	<i>Model 3</i>		<i>Model 4</i>	
	OR	C.I.	OR	C.I.
<i>Field or subject Ref.: Services</i>				
Education	0.245**	0.128,0.467		
Art	0.192**	0.057,0.643		
Social sciences & business	0.292**	0.167,0.511		
Science	0.200**	0.095,0.421		
Engineering	0.327**	0.186,0.573		
Agriculture	0.406*	0.179,0.921		
Health	0.227**	0.111,0.463		
Law	0.132**	0.049,0.359		
Humanities	0.228**	0.114,0.455		
<i>Duration of the tertiary programme Ref.: Short+Medium</i>				
Long			0.332**	0.229,0.482
<i>Gender Ref. Male</i>				
Female	1.171	0.896,1.530	1.462*	1.035,2.066
<i>Age Ref. 25-34</i>				
35-44	0.645**	0.469,0.887	0.701	0.457,1.076
45-54	0.701*	0.506,0.969	0.995	0.637,1.554
55-64	0.689*	0.476,0.997	1.130	0.694,1.838
<i>Socioeconomic background Ref.: None of the parents with HE</i>				
At least one of the parents with HE	0.637**	0.485,0.836	0.610**	0.428,0.871
<i>Economic activities (industry) Ref.: Construction</i>				
Agriculture, forestry and fishing	3.086*	1.297,7.340	4.202*	1.024,17.246
Manufacturing, mining and quarrying and other industry	2.193*	1.192,4.036	1.567	0.552,4.450
Wholesale and retail trade transportation and storage accommodation and good service activities & Information and communication	2.642**	1.436,4.861	1.895	0.683,5.255
Financial and insurance activities	0.611	0.263,1.419	0.800	0.236,2.711
Real estate activities & Professional, scientific, technical, administration and support service activities	0.536+	0.256,1.122	0.815	0.277,2.397
Public administration, defense, education, human health and social work activities	0.450*	0.234,0.864	0.347*	0.121,0.996
Other services	1.476	0.731,2.979	2.271	0.737,6.991
<i>Round. Ref.: Round 3 (2006)</i>				
Round 4 (2008)	1.106	0.870,1.406		
<i>Country Ref.: Bulgaria</i>				
Estonia	2.114**	1.444,3.095	1.225	0.775,1.936
Hungary	1.835*	1.153,2.920	0.204**	0.097,0.430
Poland	1.123	0.711,1.774	0.522*	0.294,0.925
Slovenia	1.768**	1.158,2.698	0.506*	0.290,0.885
Slovakia	1.238	0.761,2.013	1.599+	0.932,2.742
Constant	0.572	0.236,1.389	0.401+	0.137,1.179
No. of observations		2183		1358
LR chi2		298.100**		168.461**
Nagelkerke R Squared		0.209		0.202

Source: ESS, Model 3 (2006-2008), Model 4 (2010), (own calculations)

Note: Significance at: +p<0.10,*p<0.05,**p<0.01

Another interesting feature is that the graduates' odds of being vertically mismatched differ by industries. Thus, the odds of being vertically mismatched are respectively 3.09, 2.19 and 2.64 times higher for graduates who are working in agriculture, manufacturing, and those working in wholesale and retail trade transportation than for those employed in construction, holding all other variables constant. In the case of graduates who work in public administration, defense, education, human health and social work activities, or whose job is related to real estate activities, their chances of being vertically mismatched are smaller than

the chances of graduates who work in the construction sector. This implies that different sectors of the economies offer different opportunities for graduate employment.

The estimates derived from Model 4 reveal that graduates who studied in tertiary programmes of shorter durations are more likely to experience vertical education-job mismatch than those who studied in long programmes, such as Master and PhD. The estimates also reveal that, if at least one of the parents has been in HE, graduates' odds of being vertically mismatched are lower than for graduates with no parents having been to HE. In this model, age is not a significant factor determining the likelihood if a graduate will be vertically mismatched or not.

To the contrary, gender acquires significance: the odds of being employed in a job that requires a lower level of education are 1.462 times larger for female graduates than for male graduates, after controlling the other variables.

The estimates derived through this model indicate that graduates who are employed in agriculture, forestry and fishing are more likely to be vertically mismatched than graduates employed in the construction sector, holding all other variables constant. On the contrary, the odds of being vertically mismatched for graduates who are employed in public administration are estimated to be much lower than the odds of those employed in the construction sector. In contrast to Model 3, in this model, based on ESS data collected in 2010, in no other countries, but Slovakia, are graduates more likely to be vertically mismatched than in Bulgaria.

Indeed, graduates from Hungary, Poland and Slovenia are less likely to be vertically mismatched than Bulgarians, holding all other variables constant. However, one cannot make direct comparisons across models regarding this likelihood. Thus, it is not possible to assess with certainty whether these changes in the odds ratios are results of the crisis or are due to the fact that the results are controlled for the duration of the graduates' tertiary programme.

5 Conclusions and discussion

The aim of this paper was to shed more light on the problem of employability of Bulgarian graduates in the context of HE expansion and economic crisis. It was done by placing Bulgaria among other post-communist countries – Estonia, Hungary, Poland, Slovakia and Slovenia and by giving a capability perspective on the study of graduate employability.

In summary, the following trends were identified within this research:

- There is a clear status hierarchy in terms of occupational status that may be gained by graduates from tertiary programmes of different durations.
- There are considerable differences in the occupational status by fields of study.
- Vertical education-job mismatch is a widespread phenomenon, in all countries studied, among the group of graduates aged 25-34 years. As such, it seems to be more common than the problem of graduate unemployment.
- Graduates who received Master and PhD degrees are less likely to be vertically mismatched in comparison with those who completed shorter tertiary programmes.

- Graduates who have completed different fields of study have different chances of being vertically mismatched.

These results allow corroborating the hypotheses which were formulated: namely that graduates from different HE programmes and fields of study have different employability, and that graduate employability varies across industries and countries. Thus, the empirical evidence in this article demonstrates the usefulness of conceptualising graduate employability as a *capability* and of evaluating it as a *space* determined by the combination of two parts: *internal* and *external*. Furthermore, the application of CA allowed taking into account in the analyses of graduate employability dimensions such as quality, social justice and context.

To a great extent, the identified trends are consistent with the conclusions from a recent study on school-to-work transitions in transition countries (Kogan et al. 2011), which state that treating tertiary graduates as a homogenous group in the LM is not appropriate in the case of expanded and diversified systems, and that HE differentiation has introduced new forms of social (LM) inequality. Furthermore, the results are in line with the conclusions of another comparative study, which provides evidence that educational expansion also affects return to fields of study (Reimer et al. 2008). Thus, consistent with previous research, the study results suggest that the problem of differences of LM outcomes of people who graduated different tertiary programmes should be taken into account in the discussion about graduate employability, since these differences may signal problems for the most highly qualified – either on the supply side, related to the lack of particular skills and enough specialists from a particular professional field; or on the demand side, related to lack of opportunities for graduate employment.

The results of another comparative study which have clearly demonstrated that Western countries tend to have much higher average levels of occupational status than the countries of Central and Eastern Europe (CEE) (Andersen and van de Werfhorst 2010), for HE in CEE countries tends to have a much stronger impact on occupational status. In addition, the present study has shown significant differences in the occupational status and the chances of graduates to be vertically mismatched within the six CEE countries which were studied. Unfortunately, due to insufficiency of data, it was not possible to estimate these differences in controlling simultaneously for the field of study and the duration of the tertiary programme. Thus, it is not quite clear if the differences in the patterns of occupational status and vertical education-mismatch observed in 2006 and 2008, and those observed in 2010, are due to the effects of the economic crisis, or to the educational expansion, or to the fact that different variables to capture the variety of tertiary programmes in which people graduated are used. Nonetheless, having in mind that the proportion of people with HE credentials has been expanding for the period of the study in all six countries, the findings are in line with the conclusions that “while common trends are evident across national context, the HE–labour market relationship is also subject to national variability” (Tomlinson 2012: 408). Thus, the study results suggest that graduate employability may also be context-specific. The analysis also provides evidence that the occupational status and chances of graduates to be vertically mismatched may also vary across industries.

The study results clearly show that high socioeconomic background adds an advantage for graduates in terms of higher occupational status score or in terms of decreasing the likelihood of being employed in a job below one’s level of education. It suggests that, among graduates of different socioeconomic background, there are huge differences with respect to the ability to be employed. These differences show that, in these six countries, there are inequalities in

graduate employability due to socioeconomic background. These inequalities seem to be hidden behind the high employment rates among the most qualified, especially when these rates are compared with those of the people with lower levels of education. The study demonstrates that the graduates of lower socioeconomic background are more vulnerable as regards having jobs below their level of education or occupations of low occupational status. Thus, their opportunities and chances for graduate employment and high occupational status are constrained to a limited range of employment possibilities. Thus, socioeconomic background may be conceptualized via the CA lens as a conversion factor. It may act as an enabling factor for higher occupational status and higher chances for graduates to be employed in a job that is commensurate with their level of education in cases where they come from a high socioeconomic background, and as a constraint one when graduates are from a lower socioeconomic background. This finding raises the question whether graduates with lower socioeconomic background have really chosen their jobs because they have reason to value them or because the jobs in question are the only options they have and also touch upon social justice aspect of graduate employability.

In this respect, it should be noted that a study on job quality across Europe has revealed that the overall job quality in CEE countries is very low (Davoine et al. 2008). This may be one of the reasons why HE graduates accept jobs that require lower levels of education, especially in times of crisis. Furthermore, a recent comparative study has demonstrated that, despite the crisis, the levels of job quality in these six countries, although very low, have been stable and even slightly increased between 2005 and 2010 (Leschke et al. 2012). Slovenia is the only country among the studied countries with a job quality index higher than the EU27 average.

Another layer of explanation for the current differences in graduate employability is the substantial inequalities that exist in access to HE in these six countries (Ilieva-Trichkova & Boyadjieva 2014), inequalities that the expansion of HE has evidently not been able to eliminate. Furthermore, it should be acknowledged that graduates received their degrees from HE institutions of different levels of prestige. Thus, as evidenced by the data of the Bulgarian Universities Ranking System, there are large differences in LM outcomes for HE, as regards unemployment rates, insurance income and applicability of the degree acquired, among graduates in the same professional field but who graduated in different universities in the last five academic years.

As regards the limitations of the study it should be noted that the list of variables in the employed models is far from exhaustive. Therefore, the work on specifying the models and collecting data should continue, including the expansion of the analysis to a wider range of countries. It remains a task for the future to further identify the characteristics of the context that might potentially explain the differences in the levels of graduate employability across countries, but also to identify the mechanisms explaining these differences. Thus, although the CA is very helpful in identifying the problems which graduates encounter in the LM, it does not provide clear guidelines for solving these problems. The CA advocates, though, that the solutions should be derived from public reasoning. Therefore, it is a matter of further discussions to develop particular policy recommendations for addressing the problem of graduate employability taking into account its full complexity in all of its dimensions.

Finally, despite that the article has focused on graduate employability analysed with regards to the LM outcomes of graduates, it does not mean that I perceive HE only in instrumental terms and that HE should be subordinated (not only related) to the LM demands. I also think that the CA perspective towards graduate employability may go beyond the LM outcomes and

encompass particular intrinsic benefits as well as social effects that graduate employability might have for the society.

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Database

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Appendix

Table A. Descriptive statistics

	Description	Obs.	Mean	Std. Dev.	Min	Max
<i>Dependent variables</i>						
Occupational status	ISEI	3819	59.104	14.582	16	90
Vertical education-job mismatch	Whether a graduate is employed below her level of education	3845	.1737	.3789	0	1
<i>Independent variables</i>						
Duration of tertiary programme	Duration of tertiary programme, Whether it is long	1442	.5631	.4962	0	1
Field of study	Field of study, Base: Services	2413	.0418	.2003	0	1
	Education	2413	.1546	.3616	0	1
	Art	2413	.0157	.1245	0	1
	Social sciences & business	2413	.2719	.4450	0	1
	Science	2413	.0634	.2437	0	1
	Engineering	2413	.2109	.4081	0	1
	Agriculture	2413	.0311	.1736	0	1
	Health	2413	.0891	.2849	0	1
	Law	2413	.0377	.1905	0	1
	Humanities	2413	.0837	.2770	0	1
Gender	Whether the graduate is a female	3900	.5972	.4905	0	1
Age	Age of the graduates, Base: 25-34 years	3902	.2947	.4560	0	1
	35-44	3902	.2822	.4501	0	1
	45-54	3902	.2581	.4376	0	1
	55-64	3902	.1650	.3713	0	1
Socioeconomic background	Whether at least one parent has attained tertiary education	3770	.3467	.4760	0	1
Economic activities	NACE, Base: Construction	3731	.0359	.1861	0	1
	Agriculture, forestry and fishing	3731	.0190	.1366	0	1
	Manufacturing, mining and quarrying and other industry	3731	.1351	.3419	0	1
	Wholesale and retail trade transportation and storage accommodation and good service activities & information and communication	3731	.1774	.3821	0	1
	Financial and insurance activities	3731	.0544	.2269	0	1
	Real estate activities & Professional, scientific, technical, administration and support service activities	3731	.1225	.3279	0	1
	Public administration, defense, education, human health and social work activities	3731	.3902	.4879	0	1
	Other services	3731	.0654	.2473	0	1
ESS Round	Whether it is Round 3 (2006) or Round 4 (2008)	2460	.5439	.4982	0	1
Countries	Base: Bulgaria	3902	.1966	.3975	0	1
	Estonia	3902	.2440	.4295	0	1
	Hungary	3902	.1169	.3213	0	1
	Poland	3902	.1625	.3689	0	1
	Slovenia	3902	.1550	.3620	0	1
	Slovakia	3902	.1251	.3308	0	1

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