

DISCUSSION

HIGHER EDUCATION IN CENTRAL EUROPE AND ITS IMPACT ON COUNTRIES' COMPETITIVENESS

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Introduction

In the beginning of 1990s, after the fall of the iron curtain, the rapid change of higher education was the sine qua non condition for the success of the transformation in Central European Countries (CEE). The most problematic was the transformation of education in social sciences, business and law, which had been most affected by the communist philosophy. On the other hand, the quality of general education was high and for example, the technical higher education and natural sciences were on a similar level to western countries. The big change occurred in education governance, from the state directive administration to a democratic system based on the autonomy of public universities and other higher education institutions (in all countries, many private schools and several private universities have been created). The process of rapid transformation and internationalization of the higher education was supported by developed countries by many programs like European Tempus and Phare or U.S. Support for East European Democracy program SEED.

Today, twenty-six years after the fall of the iron curtain, we can see the success of CEE universities in prestigious international rankings like QS or Financial Times in the case of business education. The main obstacle for international competitiveness remains the underfunding of higher education. The donation culture still does not exist, the taxation systems do not encourage sponsoring of companies enough and the public expenditures are not sufficient. As for private schools, in most of cases, they have not yet succeeded in building an image of excellence, and that is why public universities belong to the key elements of higher education in all CEE countries. Thus, there is a big challenge for the CEE higher education to compete on the global market and to become a place to study for excellent international students.

Higher Education as a Pillar of Competitiveness

The quality of higher education is crucial for countries that want to succeed in the global market and move up the value chain beyond simple production processes and products. It is also one of the key indicators in international countries rankings such as World Economic Forum (WEF) Competitiveness Ranking (WEF, 2015).

The WEF Global Competitiveness Index (GCI) combines 114 indicators that capture concepts that matter for productivity. These indicators are grouped into 12 pillars (WEF, 2015): institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training, goods market efficiency, labor market efficiency, financial market development, technological readiness, market size, business sophistication, and innovation. Scale ranges from 1 to 7.

Table 1 | Global Competitiveness Index 2015-2016 Ranking – Selected Countries

Rank	Country	Score	Higher education and training pillar	
			Rank	Score
1	Switzerland	5.76	4	6.0
2	Singapore	5.68	1	6.2
3	United States	5.61	6	5.9
31	Czech Republic	4.69	29	5.1
41	Poland	4.49	31	5.1
63	Hungary	4.25	57	4.6
67	Slovakia	4.22	53	4.6

Source: WEF (2015)

According to the Global Competitiveness Index 2015-2016 Ranking, European countries' higher education is very competitive. Among the “top ten” countries, we may find six European countries: Finland, Netherlands, Switzerland, Belgium, Norway and Denmark. The Visegrad Group's results show that their higher education is contributing to the countries' competitiveness, because both rank and score are better than the total results (table 1 illustrates). The best performing country is the Czech Republic, in the 29th place in the world (WEF, 2015).

The expansion of higher education in EU Member States in the last 15 years has been massive. For example, the rate of tertiary education attainment amongst 30 to 34 years-olds stood at 23.6% in 2002 and, in twelve years, it increased by no less than 14.3 percentage points to 37.9% (European Commission, 2015). But the situation differs a lot among countries (see table 2). In 17 EU Member States, the proportion of the population aged 30-34 with a tertiary education was 40% or more in 2014 and only 4 countries did not reach 30%. This was the case of the Czech Republic (28.2%), Slovakia (26.9%), Malta (26.6%) and Romania (25%). Among V4 countries, only in Poland was the rate high with 42.1%. Hungary was in the middle with 34.1% of attainment.

Even though there is a big gap among V4 countries, the trend is the growth of the rate of tertiary education attainment. By 2020, the EU target rate is 40% (European Commission, 2014), but there are also national rate objectives which could be easily fulfilled by the Czech Republic, Hungary and Poland. The Slovak target rate of 40% does not seem to be realistic in today's situation.

Table 2 | Tertiary education attainment in V4 countries

	2011	2014	2020 target
Czech Republic (CZ)	23.7%	28.2%	32%
Hungary (HU)	28.2%	34.1%	34%
Poland (PL)	36.5%	42.1%	45%
Slovak Republic (SK)	23.2%	26.9%	40%

Source: European Commission (2015)

The competitiveness of the higher education in V4 countries depends on public expenditure on education mainly as the number of students enrolled in private institutions is still relatively low (see table 3).

Table 3 | Students enrolled in tertiary education by sector (2013) and public expenditure on tertiary education

		CZ	HU	PL	SK
Public institutions	Number of students	370 577	297 298	1 369 296	172 561
	% of total	86.8%	82.8%	72%	82.4%
Private institutions	Number of students	56 864	61 742	533 422	36 982
	% of total	13.2%	17.2%	28%	17.6%
Total		427 488	359 040	1 902 718	209 543
Public expenditure (% GDP)		1.05%	0.82%	1.15%	NA

Source: Eurostat (2015)

Compared to the most successful European countries, the public expenditure on education (as expressed in percentage of GDP) is low. For example, in Finland the percentage in 2012 was 2.13%, in Sweden 2.1 % and in the Netherlands 1.7% (Eurostat, 2015).

For the country's competitiveness, the total number of students is surely important, but even more important is if the structure of the tertiary education meets the needs of the labor market. V4 countries' GDP composition by sector of origin (see table 4) is created by services (in all countries more than 55%) and industry with the share of 30-40% in the analyzed countries (Eurostat, 2015).

Table 4 | Students in tertiary education (2012)

Total number of students (1,000)		CZ	HU	PL	SK
		440	381	2007	221
Domain (%)	Humanities and arts	9.3	9.1	9	7.5
	Social sciences, business and law	31.9	39.4	36.9	30.6
	Science, mathematics and computing	11.4	7.4	8	8.4
	Engineering, manufacturing and construction	13.5	15.2	14.7	14.8
	Agriculture and veterinary	3.8	2.5	1.7	2.2
	Health and welfare	11.1	9.7	8.5	17.8
	Services	5.2	10	8.1	6.2

Source: Eurostat (2015)

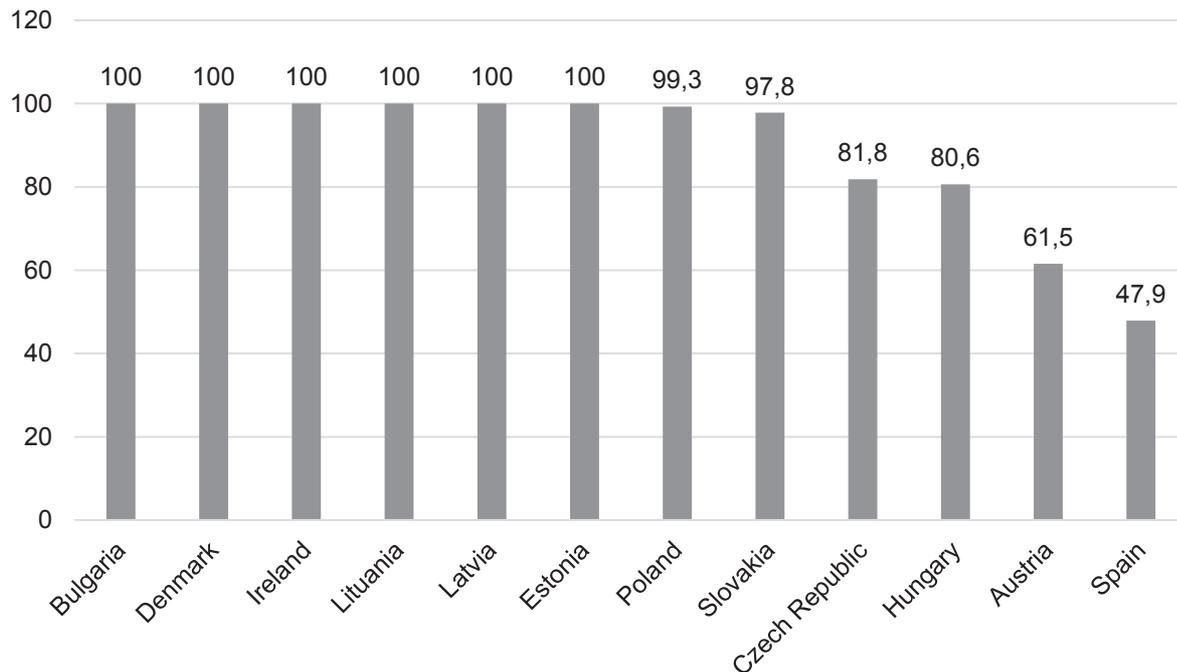
The European Higher Education Area in 2015: Bologna Process Implementation Report (EACEA, 2015) shows that the three years or less unemployment ratio of graduates aged 24-30 years was, in 2013, the lowest in the Czech Republic (4.8%) as well as the unemployment more than 3 years (1.7%). In Hungary, it was 8.8% and 3.1%. In Poland and Slovakia, the situation was similar and not very optimistic. Three years or less unemployment was higher than 11% and more than 3 years unemployment ratio was almost 5%. In the case of Poland, the unemployment rate of graduates was even higher than the average unemployment rate of 10.3%. The question is if the Polish market of higher education graduates is not oversaturated. Slovakia is suffering of one of the highest unemployment rates in EU countries. Since 2010, this rate has been about 14%. This is probably one of the reasons for the highest share of tertiary students enrolled abroad (13.4% in 2012 for example). The majority of those Slovak students are choosing Czech universities, not only because of the language and geographic proximity but also because of the better job opportunities in the Czech Republic, where the unemployment rate is one of the lowest (6.1% in 2014) in the EU.

European Higher Education Area

Czech Republic, Hungary, Poland and Slovakia are a part of the European Higher Education Area (EHEA). EHEA's main task is to ensure more comparable, compatible and coherent systems of higher education in Europe (EHEA, 2016). European countries are making a big effort to harmonize their higher education systems, but this is a very complicated process due to the different social, cultural, historical and economic background. The most significant changes occurred after the signature of the Bologna Declaration in 1999 by ministers responsible for higher education from 29 countries. Implementation of the Bologna Declaration had a big impact on the evolution of higher educational system of Visegrad Group countries as well as their EU membership since 2004.

The core action of the Bologna Declaration is the adaption of a system of easily readable and comparable degrees with the aim of promoting employability of European graduates and the international competitiveness of higher education. The system is implemented in all 47 EHEA member states, but the stage of implementation varies a lot. The three-cycle structure sets credit ranges for Bachelor's programs (180-240 ECTS), Master's programs (90-120 ECTS, with at least 60 credits at the second-cycle level) and Ph.D. programs. The implementation of the third cycle, e.g. doctoral studies was introduced later, in 2003 (Berlin Communiqué).

Figure 1 | Percentage of students enrolled in programs following the Bologna three-cycle structure in selected countries (2012)



Source: EACEA (2015), p. 49

With the exception of Spain, the majority of students were enrolled in programs following the Bologna structure in 2012 (see figure 1). Thirteen countries had 100% Bologna structure, namely in the northern part of Europe the implementation was successful. Poland and Slovakia were close to the full implementation, while Hungary and Czech Republic passed 80%.

Table 6 | Distribution of students by cycle, 2012

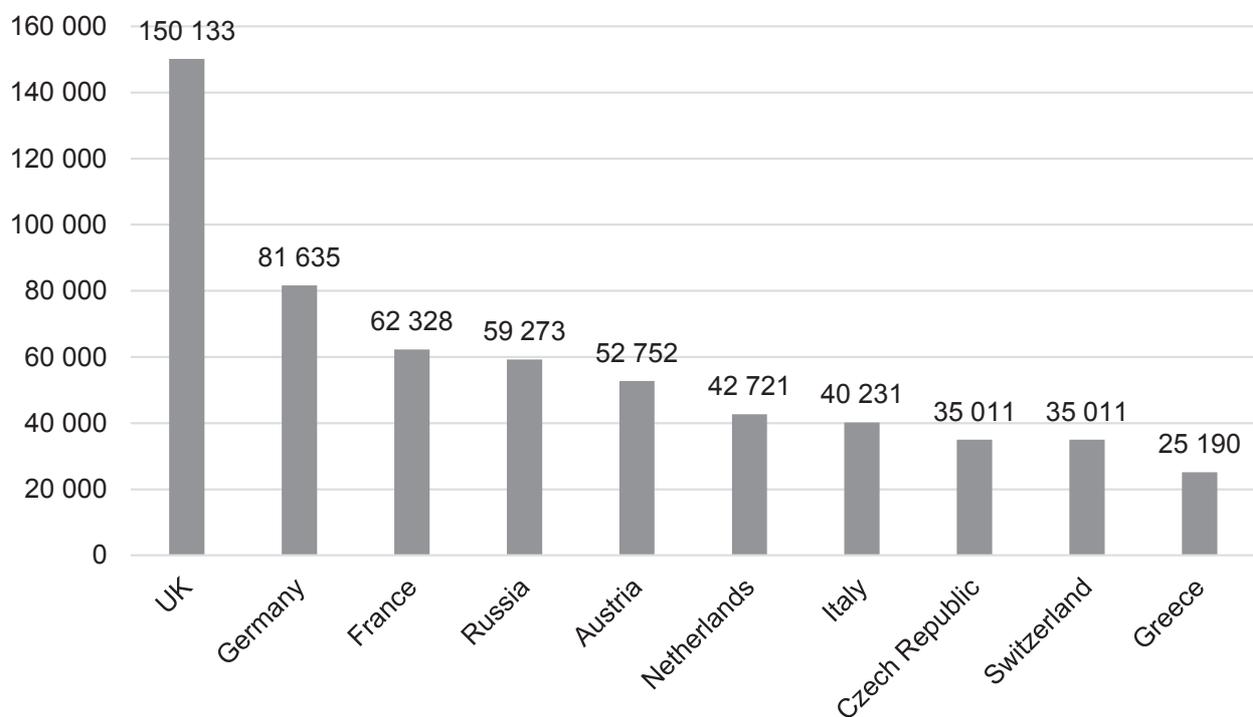
	CZ	SK	HU	PL
Bachelor (3 years)	55.3%	58.4%	59.6%	59.8%
Master (2 years)	20.5%	29.3%	10.3%	30.1%
PhD	5.9%	5.5%	1.9%	2%
Outside Bologna	18.2%	6.8%	28.3%	8.1%

Source: EACEA (2015), p. 51

Programs outside of the Bologna structure are including both first and second cycles and leading to a second cycle qualification, mostly in regulated professions such as medicine or architecture.

Developed countries struggle in the global educational higher market. Countries' perception is very important for partnership programs (exchange, joint degree, double degree) as well as for long- or short-term mobility of students searching for study experience abroad. To compete with English speaking countries or with other EHEA developed countries such as Germany or France is very difficult for V4 countries. Despite this fact, the Czech Republic is starting to be an interesting location for both degree mobility program (long-term enrolment in a degree program in the country of destination) as well as for credit mobility (short-term form); figure 2 illustrates.

Figure 2 | Number of incoming degree tertiary education mobile students from the EHAE, by country of destination, 2011/2012 – TOP 10 countries



Source: EACEA (2015), p. 231

Poland scored in 14th place (15 156 students), Hungary in 17th place (13 116 students) and Slovakia in 21st position (8 480). For Czech universities, for instance, the accredited programs in English or another foreign language are an important source of funding. These are the only tuition programs allowed by the Czech law in public higher education institutions. Studies in Czech language are without tuition even for foreigners outside EU countries.

The ECTS system contributes a lot to the growth of international student mobility. Credits are allocated on the basis of learning outcomes, student workload and teacher-student contact hours and are used for both accumulation and credit transfer.

Study abroad experience allows students to acquire valuable experience and skills to live and work in the international labor market. It is very demanded by employers and is one of the key elements, together with working experience for graduates' competitiveness when entering the labor market. International cooperation is also crucial for

the competitiveness of higher education institutions. It helps with institutional capacity building and openness of the tertiary sector.

Conclusion

The aim of this discussion paper was to compare trends in higher educational systems in the Czech Republic, Hungary, Poland and Slovakia, the so-called Visegrad Group (V4), and to explain the contribution of higher education to countries' competitiveness.

Higher education represents one of the most important factors that determines competitiveness of countries worldwide. The EU Commission estimates that by 2020, 20% more jobs will require higher level skills and the proportion of the population aged 30-34 with tertiary educational attainment should be at least 40%. Education needs to drive up both standards and levels of achievement to match this demand, as well as encourage the transversal skills needed to ensure young people are able to be entrepreneurial and adapt to the increasingly inevitable changes in the labor market during their career (European Commission, 2015). It is evident that higher education will play an even more important role in the innovation-driven economies to fulfill this task.

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