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The potential of education: Poland compared to selected OECD countries

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The potential of education: Poland compared to selected OECD countries

Abstract: The objective of this paper is to examine the state of higher education in Poland compared to selected OECD countries with special focus on the countries of Central and Eastern Europe (CEE). Education is a multifaceted process. For the sake of the discussion here, emphasis will be given to higher education because of its particular significance for the development of knowledge-based economy (KBE). In this view, particular attention in the analysis will be paid to the structure of education spending, cooperation of higher education institutions with the business sector, trends in higher education and its level of internationalization.
Keywords: education, higher education, Poland, Central and Eastern Europe, OECD

Introduction

The most important factor of a country's competitiveness is the potential of its human capital, i.e. its ability to create innovative solutions that contribute to the development of knowledge-based economy (KBE). The education system, especially higher education, is an important pillar of building KBE and, as a result, of creating the prospect of sustainable socio-economic development of a country. The objective of this paper is to examine the potential of higher education in Poland compared to selected countries members of the Organization for Economic Co-operation and Development (OECD), especially the Central and Eastern European countries (CEEs). In this view, particular attention in the analysis will be paid to the OECD member states

from the CEE region, due to their similarity with regard to recent history and paths of economic development, including Poland, the Czech Republic, Estonia, Hungary, Slovakia and Slovenia[1]. The argument is structured as follows. In the first section, the relationship between education and socio-economic development is discussed. In the next part, the OECD's engagement in the field of education is explored. In the following sections, the state of higher education in Poland is examined and compared to selected OECD countries. To this end, the discussion addresses the following factors: the structure of education spending, cooperation of higher education institutions with the business sector, trends in higher education and degree of its internationalisation. Against this background, the paper explores the impact of the economic crisis on public education spending as well as the question of how well a given education system meets the needs of a competitive economy.

1. Exploring the relationship between education, growth and socio-economic development

For centuries, education (Latin *Educatio*) has been associated with the processes of knowledge transfer, training and skills' acquisition. From the perspective of today's dynamic socio-economic development, the importance of education has increased. Today, the EU faces a variety of challenges that, if unaddressed, will affect its future development. The three most important of these challenges include: the need for continued economic growth in the face of decreasing importance of traditional factors of production (e.g. land), scarcity of natural resources, the need to adapt to the societal implications of increased mobility of people, growing life expectancy and/or the ageing of the society, the need to adjust socio-economic life in the face of digitalisation (information society) and technology development (especially information and communication technologies – ICT) to the extent unseen before. On account of that, socio-economic development is determined mainly by the potential of education, which is crucial to handle contemporary challenges.

The potential of education is multi-faceted. It seems that thanks to the development of education, it is not only possible to match a society's needs to what education systems can offer, but also economic

development can be accelerated by highly skilled workers (appropriate human resources) and their ability to boost innovation. With reference to competitiveness, access to knowledge and the ability to use it are of particular importance. It is worth mentioning that from a social point of view, the need for the implementation of social innovation is particularly important. The dynamics of socio-economic changes determine the need for continuous improvement and increase in qualifications, i.e. what in the literature is termed as Lifelong learning (LLL). It is also worth mentioning that the concept of the knowledge-based economy (KBE) is characterised by a growing role of knowledge, information and advanced skills, as well as an increasing need for easy access to them both in a private and public sector (OECD/European Communities, 2008). A key resource in the KBE is knowledge, the ability to use it and the transfer of knowledge. ICT, human capital, social capital (co-operation, social networks and a relationship of trust), and knowledge management (at the level of an organization) constitute, among other factors, the mainstays of KBE (Skrzypek, 2011: 279). Piech (2009) notes that, apart from ICT and human capital, innovation system and institutional and legal environment should be also pointed out. Olszak and Ziemba (2011) stress a particular importance of four areas, including innovation system, education, institutional and economic environment and ICT. It should be emphasised that education has a significant impact on the development of the knowledge-based economy.

Lisý (2011) notes that long-term growth could be reliant on investment in human capital, the accumulation of knowledge, and people's skills (qualifications). However, countries in which people do not have enough access to information, do not make the most of the latest developments in science and technology and therefore are forced to stay behind the more developed countries. Kukliński (2010: 324) emphasises that "education is a very important source of sustainable development in terms of individual, social and economic dynamics (…)". He also argues that "education contributes to development of talent, enhances innovative thinking, creates value systems and confidence that allow to consider a man a medium of development processes" (Kukliński, 2010: 324).

In the context of socio-economic development, higher education is of a particular significance. OECD (2008: 13) emphasises that higher

education is a driving force of economic competitiveness of the global economy, which today is based on knowledge. In this view, high standard of higher education is more important nowadays than ever before. It is also argued that the contribution of higher education to socio-economic development may be significant in the fields of human capital development through teaching, research and development as well as knowledge accumulation and intergenerational transfer of knowledge. It should be noted that modern university plays an increasingly important role in economic development, because it creates not only theoretical knowledge but also commercial expertise. For these reasons, it needs to provide high quality teaching and science and business cooperation. Internationalization of education is also important as it contributes to an increase of knowledge transfer at an international level.

2. The OECD and its influence on the design of education policies in its member states

The EU significantly affects the development of education systems in its member states, through the Bologna process, lifelong learning initiatives and the European Commission's direct involvement. Here the following communications should be mentioned: *The Role of Universities in the Europe of Knowledge* (European Commission, 2005) or *Modernization of Higher Education* (European Commission/EACEA/Eurydice, 2014). The EU is also active in monitoring the evolution of higher education systems in the member states. Internationalization of higher education, research and development, the establishment of institutionalized networks between science and business should be mentioned among especially important directions of education development.

It should be noted that also the OECD has been influencing the development of education and education systems in its member states. The main goal of the OECD is to promote policies that aim at achieving sustainable economic growth, higher employment and improved living standards. When cooperating with the member states' governments, the OECD seeks to indicate the preferred directions of socio-economic growth. One of the key OECD bodies engaged with education is the Education Policy Committee (EDPC) that supervises the work of the Directorate for Education and Skills (DES) and offers

direct advice to member states' governments on developing effective education policies. The DES on its part supports countries in identifying directions of education system development. Its goal is to adjust the design of education systems and curricula in such a way that the acquired skills provide the citizens with abilities and employment opportunities that give prospect of a better future life, but also contribute to socio-economic growth.

The OECD's DES cooperates with other international organizations such as the United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Bank, the United Nations Children's Fund (UNICEF) and the European Training Foundation. It also works with the European Commission (OECD 2016a). The DES aims to achieve two overarching goals in order to introduce reform in education system ("Strengthen employability, social participation and inclusive growth and strengthen the effectiveness and efficiency of Institutions to make reform happen" (OECD 2016a: 4)). Therefore, the OECD not only coordinates the free movement of information and takes care of cohesive actions which have taken place, but also encourages Member States to cooperate in the field of education (MNiSW, 2016). In 1969, the OECD launched the Institutional Management in Higher Education (IMHE) programme. Since then it has served as an international forum for the exchange of information among institutions working in the field of higher education. The IMHE will cease its operation at the end of 2016. The OECD continues to work on higher education through a variety of new initiatives, for instance, *Enhancing Higher Education System Performance* (OECD, 2016b). Future actions will concentrate on: benchmarking of higher education system performance and an in-depth analysis of higher education topics, for instance the labour market relevance and outcomes of higher education systems (OECD, 2016c).

It is worth mentioning that there are a number of bodies which operate in the fields of science. These include: the Committee for Scientific and Technological Policy (CSTP) (responsible for cooperation in the fields of science, technology and innovation), the Global Science Forum (development of international cooperation in the field of research), the Directorate for Science, Technology and Innovation. The OECD's actions seem to be focused on: creating a platform for cooperation between member states, exchanging information and experience, supporting countries in the implementation of reforms in

education. Representatives of Poland, mainly from relevant departments from the Ministry of National Education and Ministry of Science and Higher Education, participate in the work of these bodies.

The OECD has also been active in monitoring the development of education in its member states. The well-known and respected Programme for International Student Assessment (PISA) is a good case in point. The Survey of Adult Skills, an initiative of the OECD Programme for the International Assessment of Adult Competencies (PIAAC) is another good example. The OECD actions in the field of education policy also concentrate on examining, monitoring education policies in its member states and, subsequently, publishing of review reports, e.g. *Education at a Glance: OECD Indicators*. Also, the OECD publishes diverse manuals designed to spread best practice with regard to data collection and interpretation[2] of methodological manuals, with regard to the rules of collection and interpretation of data on education and explanations of some definitions and methodology. Notably, the OECD manuals tend to be written in cooperation with the European Commission, Eurostat and UNESCO, e.g. 'The *Oslo Manual*'. What is important, the manuals are updated regularly so as to be in line with ongoing changes and emerging socio-economic challenges and to respond to contemporary needs. In other words, the OECD actions focus not only on the activities of its bodies or committees, but also on monitoring respective developments in each member state. The OECD supports its member states in conducting reforms as well. The OECD's considerable objective (mainly through its manuals) is to identify the direction of developments, systematize many issues and to give a new impetus to education. In that case, the OECD's activity is not limited only to economic issues, but also includes the area of education.

3. The state of higher education in Poland compared to selected OECD countries

In this section, the discussion will focus on the following factors: the educational attainment, the structure of education spending, unemployment rate among adults with higher education, cooperation with business, trends in higher education and degree of internationalization. In recent years, all OECD countries have seen a significant increase in educational attainment of their populations. Over the

period 2000-2012, the proportion of young adults (25-34 year-olds) with tertiary qualification has grown by more than 3% per year on average (OECD, 2015a). In Poland about 25% of adults held a tertiary qualification in 2012, compared to 11% in 2000 (Table 1). In addition, this positive trend is also noticeable between generations in Poland (there are 28 percentage points more tertiary-educated 25-34 year-olds than 55-64 year-olds). This is the second largest difference of the OECD countries (OECD, 2014). It is worth mentioning that, not only in Poland, but also in France, Ireland, Japan, Korea, Luxembourg and Spain, tertiary attainment rates for younger adults (25-34 year-olds) are more than 20 percentage points higher than those for older adults (55-64 year-olds) (OECD, 2015b).

Table 1. Poland: Tertiary education attainment [as share of the population]

Indicator	Poland		OECD average		EU 21 average		Rank among OECD countries and partner countries*
	2012	2000	2012	2000	2012	2000	
25-64 year-olds	25%	11%	33%	22%	29%	20%	27 of 37
25-34 year-olds	41%	14%	40%	26%	37%	24%	17 of 36
55-64 year-olds	13%	10%	25%	15%	22%	14%	31 of 36

* Countries are ranked in the descending order.
Sources: Author's own compilation based on: OECD (2014) *Education at a Glance 2014 – Poland*. Paris: OECD Publishing.

Today, the view prevails that higher education is one of the most important factors in view of promoting socio-economic development. Indeed, one of the objectives in the EU's strategy Europe 2020 concerns tertiary educational attainment. In line with the goals of that strategy, the share of 30-34 year-old people who have attained tertiary education should increase to at least 40% by 2020 (European Commission, 2010). Notably, a sizeable increase in the share of the CEEs' population that has attained tertiary education has been recorded over the recent years (Table 2). More specifically, in 2015, Estonia, Poland and Slovenia surpassed the threshold of 40% (in 30-34 year-olds) indicated in Europe 2020, placing these countries well above the EU average.

Apart from the tertiary education attainment, another factor that weighs in on the quality of education is the degree of internationalisation of educational systems. Among OECD member states, the number of foreign students enrolled in tertiary education increased over the

last decades from 1.3 million in 1990 to nearly 4.3 million in 2011, recording an impressive annual growth rate of almost 6%. The benefits of studying abroad are countless. Students are offered the opportunity to expand their language skills and knowledge in many areas. Due to that experience, students have a chance to obtain a better job. The largest numbers of foreign students across the OECD countries originate from China, India and Korea as Asian students represent 53% of foreign students enrolled in tertiary education worldwide. The second largest group of foreign students is that of European students (23%), particularly EU citizens originating from EU/OECD member states (21%) (OECD, 2013a). With regard to tertiary education attainment, the 2013 OECD average in the share of international and foreign students in tertiary education reached 9%. Across the CEEs, except the Czech Republic, that value is the same (9%, see Table 2 for details). Poland achieved one of the worst results in this respect (only 1%) among the CEEs. Other European OECD countries (from Europe) have recorded much better results, e.g. Austria (17%), Denmark (10%), France (10%), the Netherlands (10%), the United Kingdom (17%) (OECD, 2015c).

Table 2. Tertiary education – population and international students

Country	Population by educational attainment level (tertiary education – level 5-8) (%)				International and foreign students enrolled (a percentage of all students) – 2013
	Age group: 15-64 year old		Age group: 30-34 year old		
	2005	2015	2005	2015	
Czech Republic*	11.0	19,8	13,0	30,1	9
Estonia	27.7	33.3	31.7	45.3	3
Hungary	14.5	20.9	17.9	34.3	6
Poland	13.9	24.4	22.7	43.4	1
Slovak Republic	11.4	18.9	14.3	28.4	5
Slovenia	16.7	26.6	24.6	43.4	3
OECD average	N/A	N/A	N/A	N/A	9
EU 28	19.6	26.7	28.1	38.7	N/A

*Foreign students are defined on the basis of their country of citizenship, these data are not comparable with the data on international students.
Source: Author's own compilation based on: Eurostat data [edat_lfse_03] (accessed 2016-06-11) and OECD (2015) *Education at a Glance 2015: OECD Indicators*. Paris: OECD Publishing.

Another interesting aspect of the data concerns expenditure on education. Across the CEEs, the average total public expenditure on education is more than 4% of GDP. However, spending on tertiary education does not exceed 1.4% of GDP (Table 3). Compared to other

EU members, these are rather mediocre results. For instance, in Finland and Sweden, the total public expenditure on education is above 7% GDP out of which more than 2% of GDP is spent on tertiary education (Eurostat, 2016). Notably, the World Bank's indicators suggest that these two countries take the lead in the ranking of the knowledge-based economies (World Bank, 2012). Among the OECD countries, tertiary level expenditure ranges from USD 2,000 per student in Indonesia, USD 8000 per student in Estonia, to more than USD 30,000 in Luxembourg (OECD, 2015c). In Poland, annual tertiary education spending per student is lower than the OECD average of USD 15,028 and amounts to USD 9,799 per student (Table 3).

Currently, global economic and social transformation requires a highly-skilled workforce. At the same time, due to the economic crisis, the need to implement fiscal consolidation strategies creates pressures to limit public spending on tertiary education. Countries which invest more on each student than the OECD average might expect to secure high-quality tertiary education, and hence a higher percentage of graduates among young workers than in lower-spending countries. The differences between countries are huge. For instance, the Czech Republic and the Slovak Republic spend around USD 10,000 per student, and less than 30% of their 25-34 year-olds are tertiary graduates. From the global perspective, with an expenditure per student of more than USD 25,000, the United States is less efficient than most of the European countries. The latter manage to produce a similarly qualified young labour force while spending approximately USD 10,000 less. It seems that "there is only a weak relationship between the amount invested per student and tertiary attainment rates" (OECD, 2013b: 1).

It is worth mentioning that in terms of the amount invested per tertiary education students per head per year, the CEEs do not fare well, i.e. they are below the average of both the OECD and the EU members of OECD. Tertiary education in OECD countries tends to be publicly funded. Across OECD countries on average almost 70% of all funds for tertiary educational institutions come directly from public sources; 30% come from private sources (Table 3). Among the CEEs, Hungary has recorded the most significant increase in private funding at the tertiary level of education. Over the period 2002-2012, an increase from 21% to 45% was observed. In contrast, Poland is the only country where public funding of education increased. Overall, however,

the share of private sector education in these countries does not seem to be sufficient enough, particularly as in other OECD members, the share of private sector education is much higher, for instance, in the US 62% and in Japan – 65%. (OECD, 2015c).

Table 3. Expenditure on education – tertiary education in selected OECD countries

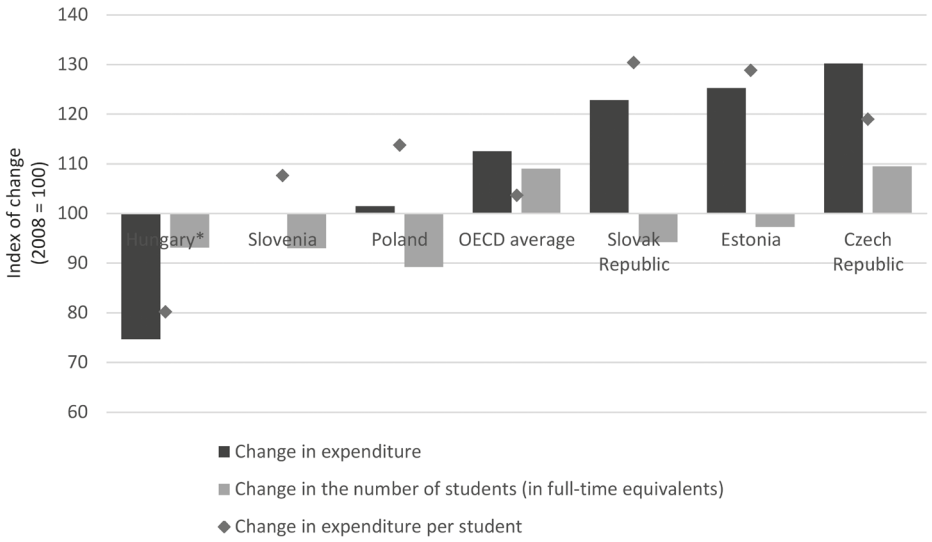
Country	Total public expenditure on education by education level – as % of GDP (2013)		Annual expenditure per student (in equivalent USD converted using PPPs for GDP) (2012)		Relative proportions of public and private expenditure on educational institutions, for tertiary education (%)			
	All ISCED 2011 levels excluding early childhood educational development	Tertiary education (levels 5-8)	All tertiary	All tertiary excluding R&D activities	Public		Private	
					2002	2012	2002	2012
Czech Republic	4.16	0.93	10319	6807	87.5	79.2	12.5	20.7
Estonia	4.92	1.39	8206	4690	N/A	78.2	N/A	21.8
Hungary	4.13	0.93	8876	7405	78.7	54.4	21.3	45.6
Poland	5.00	1.22	9799	7692	69.7	77.6	30.3	22.4
Slovak Republic	4.12	0.99	9022	6191	85.2	73.8	14.8	26.2
Slovenia	5.22	1.15	11002	8888	N/A	86.1	N/A	13.9
OECD average	N/A	N/A	15028	10309	78.1	69.7	21.9	30.3
EU21 average	N/A	N/A	149555	9963	N/A	78.1	N/A	21.9

Sources: Author's own compilation based on: Eurostat data [educ_uoe_fine06] (accessed 2016-06-11); OECD (2015) *Education at a Glance 2015: OECD Indicators*. Paris: OECD Publishing; OECD (2005) *Education at a Glance 2005: OECD Indicators*, Paris: OECD Publishing.

Since the beginning of the economic crisis in 2008, expenditure on tertiary education institutions has decreased in 7 of 32 OECD countries, including Hungary, Iceland, Ireland, Italy, Portugal, and Spain (OECD, 2015c). Hungary is the CEE country where spending on tertiary education has decreased (Figure 1). From the OECD perspective, expenditure per student decreased in one third of its members over the period 2008-2012. This tendency suggests that to a great extent, the global financial crisis had not affected the overall investment in education. In fact, in Poland, over the period 2008-2012, spending on tertiary edu-

cation and expenditure per student increased. However, as the number of students dropped, the data may require careful interpretation.

Figure 1. Changes in the number of students, expenditure on tertiary education and expenditure per student – tertiary education (2008-2012)



Source: Author's own arrangement, based on: OECD (2015) *Education at a Glance 2015: OECD Indicators*. Paris: OECD Publishing.

An analysis of employment conditions is also of great importance. The percentage of employed adults with higher education is on average over 80% in OECD countries. Employment rates among those with education lower than secondary education are less than 60%. Higher education does not constitute any protection against unemployment, especially among young adults, yet it may create greater opportunities to find a work place. In the OECD countries, an average unemployment rate among adults with higher education reached 5.0% in 2012 (OECD, 2015d). In the CEEs, the situation was comparable. The data for 2015 suggest that there were more unemployed among people with secondary education than higher education (Table 4). In Poland, a positive trend of reducing an unemployment rate among people with tertiary education has been observed, especially among young people

(25-29 year-olds). Still, the fact that Slovenia and Slovakia have a meaningful percentage of the unemployed among young people, 15% and 11% respectively, is a source of concern.

Table 4. Indicators in tertiary education and labour market – selected countries

Country	Unemployment rates by age and educational attainment level – tertiary education (%)											
	Tertiary education						All ISCED 2011 levels (Age group: 25-64)			Upper secondary and post-secondary non-tertiary education (Age group: 25-64)		
	Age group: 25-64			Age group: 25-29								
	2005	2010	2015	2005	2010	2015	2005	2010	2015	2005	2010	2015
Czech Republic	2.0	2.5	2.2	3.6	5.7	4.5	6.9	6.5	4.6	6.2	6.2	4.4
Estonia*	4.0	9.2	3.8	N/A	5.6	6.4	7.4	15.3	5.6	8.8	17.8	6.2
Hungary	2.3	4.0	2.2	3.9	8.5	4.2	6.1	10.1	6.0	5.9	9.5	5.7
Poland	5.8	4.2	3.5	12.0	8.7	7.5	15.3	8.1	6.4	16.4	8.9	7.2
Slovenia	3.0	4.1	5.7	7.4	13.0	15.1	5.5	6.7	8.5	5.7	6.9	9.4
Slovak Republic	4.4	4.9	5.6	6.8	10.1	11.0	14.4	12.5	10.3	12.8	12.3	9.9
EU28 average	4.5	4.9	5.2	8.0	9.0	9.2	7.7	8.3	8.4	8.1	7.8	7.5

* Year of reference 2009 and 2014 (Age group: 25-29).

Source: Author's own compilation based on: Eurostat data [lfsa_urgaed] (accessed 2016-06-17).

Salary data show that the differences between the better and the less educated have increased recently. In OECD countries, earnings of people with higher education are on average about 70% higher than those of people with upper secondary level education (OECD, 2015d). In Poland, adults (25-64 year-olds) who attained tertiary education earn on average 71% more than adults with upper secondary education. From the gender perspective, this advantage is slightly higher for men (87%) than for women (70%) (OECD, 2015e).

4. Exploring the link between education and a country's competitiveness

The Global Competitiveness Report (GCR) is an annual report published by the World Economic Forum. The GCR "series has shed light on the key factors and their interrelations that determine economic growth and a country's level of present and future prosperity" (Schwab, 2015: XII). There are twelve pillars of competitiveness, one of them being

higher education and training. According to the Global Competitiveness Index 2015-2016, rankings for 140 countries, the CEEs are ranked as follows: Estonia (30), Czech Republic (31), Poland (41), Slovenia (59), Hungary (63), Slovak Republic (67). Interestingly, Poland and Hungary are among the top 10 most competitive emerging and developing European economies (Schwab, 2015: 7). The ranking for quality of education system is equally interesting (Table 5). It shows how well an education system meets the needs of a competitive economy. In the ranking, the best result was achieved by Estonia (position 34). This is also the only country from the CEE region which improved its results compared to the 2009-2010 ranking. Poland ranked in the middle (73) whereas Slovakia achieved relatively bad results (see Table 5 for details).

Table 5. Quality of an education system – the Central-Eastern European countries

Country	Quality of the education system*			
	2009-2010		2015-2016	
	value	Rank (139 countries)	value	Rank (140 countries)
Czech Republic	4.5	34	3.8	60
Estonia	4.3	42	4.4	34
Hungary	3.6	75	3.2	99
Poland	3.8	62	3.6	73
Slovenia	4.2	47	4.1	50
Slovak Republic	3.1	111	2.8	121

* Quality of the education system in a country. How well does an education system meet the needs of a competitive economy?

[1 = not well at all; 7 = extremely well] weighted average.

Sources: Author's own compilation based on: Schwab, K. (ed.) (2015) *The Global Competitiveness Report 2015-2016*. Geneva: World Economic Forum; Schwab, K. (ed.) (2010) *The Global Competitiveness Report 2010-2011*. Geneva: World Economic Forum.

Knowledge transfer and cooperation between universities and business are important in view of the development of knowledge-based economy. According to rankings, the best situation is currently in Estonia, the worst in Slovakia (Table 6). Unfortunately, in recent years, all countries' position (except Estonia) in the rankings has dropped. As a result, the CEEs have been characterized as having a relatively moderate (or rather low) level of cooperation between universities and business.

Table 6. University–business collaboration in R&D

Country	University-industry collaboration in R&D*			
	2009-2010		2014-2015	
	value	Rank (139 countries)	value	Rank (140 countries)
Czech Republic	4.5	29	4.0	42
Estonia	4.2	36	4.4	34
Hungary	4.3	32	4.3	36
Poland	3.6	64	3.5	73
Slovenia	4.2	37	4.0	44
Slovak Republic	3.3	87	3.4	84

* To what extent do business and universities collaborate on research and development (R&D) in your country? [1 = do not collaborate at all; 7 = collaborate extensively], weighted average

Source: Author's own compilation based on: Schwab, K. (ed.) (2015) *The Global Competitiveness Report 2015-2016*. Geneva: World Economic Forum; Schwab, K. (ed.) (2010) *The Global Competitiveness Report 2010-2011*. Geneva: World Economic Forum.

Conclusions

With regard to the indicators mentioned in the article (e.g. annual expenditure per student, unemployment rates – from 25-29 year-olds with higher education, quality of education system, university–business collaboration in R&D), Poland has a rather moderate position compared to other CEE OECD members. In line with the data presented in this paper, Estonia achieved the best results in the quality of the education system and university–business collaboration in R&D, while Slovakia the worst. The fact that there are positive changes in Poland (particularly between generations) which concern an increasing number of people with higher education, is very optimistic. There seems to be an urgent need for changes in expenditure on tertiary education in Poland, because expenses are insufficient compared with OECD's average and an average of the EU. Despite the economic crisis, there was an increase of expenditures on higher education, which is a very optimistic trend. There is also an urgent need for paying attention to a level of internationalization. However, closer cooperation between business and universities as well as attentiveness to adjust higher education to the needs of economy, seem to be necessary to enhance further development.

It should be emphasised that higher education has a significant impact on the development of the knowledge-based economy. An educa-

tion system affects the creation of human capital which is a medium of KBE. For these reasons, the high standard of higher education is more important nowadays than ever before. It seems that higher education should play a significant role in building economic competitiveness in Poland. Taking into consideration the importance of education in a socio-economic development, one can only hope that cooperation and information exchange at the OECD level will contribute to further development of higher education in Poland.

ENDNOTES

1 The Czech Republic joined the OECD in 1995, Poland – in 1996, Slovak Republic – in 2000, Estonia and Slovenia – in 2010. It is worth mentioning that on 11 May 2016, Latvia will become a member of the Organization once it has taken the appropriate steps at the national level to accede to the OECD Convention.

2 Some of acknowledged textbooks on the survey of research belong to the Frascati Family (for instance: Frascati Manual: Proposed Standard Practice for Surveys of Research and Experimental Development, OECD Proposed Guidelines for Collecting and Interpreting Technological Innovation Data – Oslo Manual, Using Patent Data as Science and Technology Indicators – Patent Manual) (OECD, 2002). Other examples are the statistical manuals in the field of classification of education (e.g. ISCED 2011 Operational Manual: Guidelines for Classifying National Education Programmes and Related Qualifications).

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