

Higher education as one of the factors that influence regional performance

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Abstract. The author considered it necessary to carry out a global comparative study on the contribution of higher education to the regional performance opinion, due to some controversial facts in the socio-economic reality of the Latvian higher education area. Despite the fact that financial investment into higher education produces high quantitative indicators of population's involvement into higher education, the efficiency of this highly educated and skilled labour force in Latvia is relatively low.

Key words: Higher education, regional economic performance, stages of economic development

The world's higher education is almost 1000 years old. The first universities (the base of modern system of higher education) appeared in the 11th–12th centuries (University of Bologna (1088), Cambridge University (1209), University of Paris (1215), etc.). Since their foundation these universities have introduced slight changes into their content and principles of work, though they have always provided various education and other services. However, the modern system of higher education (as the mass education (widely accessible), when, in many countries, the number of students covers 30–45% of the relevant age group) developed in the late 20th century (the 1980s–1990s), having undergone significant quantitative and qualitative changes (Шпаковская, 2007).

As it is noted by E. Caune, a researcher in philosophy of education, it is significant to agree with the opinion of R.A. Pring that, at present, in education there are two strikingly marked traditions, which demonstrate its necessity and need for it: liberal educational tradition, which focuses on the development of intellectual abilities, and justification of economic benefits, which focuses on a certain intellectual gain (Caune, 2008). These tendencies vividly complement the process of democratization in education, which encompasses liberalization and extension (diversification) of the aim and the content of education, its secular character and applicability to practical life, educational institutions' openness and accessibility for various, gradual involvement of society into the activities of education system, in its development and management, and in a number of international and national legislation acts, including Article 112 of the Constitution of the Republic of Latvia (Satversme), where the right of a person to education is enshrined. At the same time, the increasing attention is attached to the civic, peace, environmental, intercultural, multicultural, global, value aspects in education, consistently introducing the principles of diversity into education (JUMC, pp. 26–30).

In the last two decades, the world global development trends of political and economical character have become a cause of meaningful institutional reforms as well as reforms in the content of education, considering higher education as an essential basic element of knowledge society and knowledge economy, which are based on four pillars (backbones) – information

and infrastructure, economic and institutional regimes (politics), knowledge and innovation system, knowledge, skills and lifelong learning (Robertson et al., 2007). In addition, the route was chosen voluntarily on the initiative of universities themselves.

Already on September 18, 1988, in Bologna The Magna Charta of European Universities was signed. In its turn, on April 11, 1997, continuing the initiated processes aimed at creation of common education area, the Convention on the Recognition of Qualifications concerning Higher Education in the European region was signed. Thus, at the national level, the first step was taken to facilitate the further jobs and learning opportunities in Europe for graduates from higher educational institutions, and the system of unified requirements to higher education studies and evidences of formal qualifications was introduced.

L. Shpakovskaya (Шпаковская Лариса Леонидовна), a researcher into Education policy, sociologist, reasonably substantiates her belief that the Bologna Process is a result of the globalization of both the market of educational services and knowledge, which is much more flexible and less bureaucratic than education policy in the EU. In comparison with the education policy in the EU, the Bologna process appears to be an element of intergovernmental cooperation; it develops and functions without special institutions for “implementation and monitoring” (Шпаковская, 2007, pp. 107–109). It should be noted that if the global processes have resulted in the similarity of products, services, companies, countries, then systems of national higher education need to become similar because “it is getting more and more difficult to produce something special and unique” (Volkova, 2007, p. 252).

It should be emphasized that, at present, for some other regional institutions of higher education, which want to compete and offer their services in the international education market, it is not possible to completely ignore the Bologna Process, its achievements and requirements. Consequently, the global system of higher education, which is gradually being formed as a result of the global processes, actually adapts (adjusts) to the requirements of time and the labour market, affecting the further life and activity of an individual, constantly offering new services and opportunities, searching for new types of activities for educational institutions, i.e. higher educational institutions are gradually becoming multipurpose service providers. At the same time, the issue connected with the diversity of forms of education and quality of educational services is becoming more topical in the conditions of increased competition among institutions of higher education. In addition, competition in education can be viewed taking into account its different aspects: interstudent competition (for better result, public funding, scholarships, participation in projects, etc.), competition between graduates in the labour market and in the local community, competition between members of academic staff (for positions, funding and grants, possibilities to implement their plans and ideas, etc.), competition between higher educational institutions (for students and attraction of potential students, academic staff, funding, state aid, projects, involvement into cooperation, etc.), national competition (for human resources, attraction of funding and projects, research work, the existence and development of their national education system), regional competition (especially between institutions of higher education in Europe and the USA, including competition for the inclusion into various rankings of higher education) (Dzelme, 2008).

Thus, nowadays, higher education institutions with their intellectual and institutional potential (but sometimes with the financial one as well) and a diversified range of offered services become one of the most influential global players, participating in both decision-making and opinion-making and contributing to the further development of the world and taking part in the development and implementation of this scenario. So, the importance of education stems from at least the following statements:

1. Education as production of qualified workforce that properly reflects the education market orientation and social demands.
2. Education as a preparatory stage for research work, appropriately emphasizing the value of knowledge.
3. Education as a successful and effective learning and study management, which in the long term will be attracting a wider range of customers, appropriately characterising education by nature of the service.
4. Education as an empowerment of life opportunities and improvement of quality of life, which allows to achieve a specific aim (Caune, 2008, pp. 464–466).

Speculations and statements that education is the most important resource of economic development have already taken their place. This thesis has been considered in many works and virtually does not lead to much debate. In 2003 the UNESCO Institute for Statistics released a report on the issues of investments into education and economic effects (UNESCO, 2003). In the report, a wide range of investments into education and their returns are considered. Arthur Maddison, the author of the study “Dynamic Forces of Capitalist Development”, found out that the higher a proportion of educated people among the population of a region is, the higher the economic growth rates are. He also derived the dependence, which proves that 1% increase in allocations for education leads to 0.35% increase in the region’s gross domestic product (Maddison, 1991). In 2004 the Organization for Economic Cooperation and Development came to the conclusion that if for the residents of a particular region the average study period increases by a year, then, in its turn, it increases the gross domestic product of this region by 3–6% (OECD, 2004).

The need in the present exploratory investigation was determined by the scientists of Daugavpils University (Latvia) after an in-depth statistical analysis of Eurostat data related to the correlation of some indicators of education, economic situation and innovativeness of the EU regions. Having examined the correlation of such indicators as public expenditure on education (precise title of the indicator in the Eurostat data base is “Total public expenditure on education as % of GDP, at tertiary level of education (ISCED 5–6)”) and persons with tertiary education (precise title of the indicator in the Eurostat data base is “Population with tertiary education attainment by sex and age, percentage of population of 25 years or over”), the authors found the direct correlation of these two indicators ($r = 0.519$, $p = 0.007$) (see Fig. 1) logically understandable.

Data in the Fig. 1 show that some of the EU regions are placed above the correlation line; it means that the return from public expenditure on education in a number of persons with tertiary education is “above average”. Accordingly, in the regions that are below the correlation line, the above mentioned return from public expenditure on education is “below average”. As for Latvia, this region along with its Baltic neighbours (Lithuania and Estonia) is in the square, where the return from public expenditure on education is particularly high, i.e. where even comparatively little public investment into tertiary education gives a relatively high growth of persons with tertiary education.

The statistics rather persistently shows that the expenditure on tertiary education in Latvia and its neighbouring Baltic countries has an increased return in the number of prepared highly skilled specialists with tertiary education, who then enter the labour market with capacity for high productivity and innovations.

And this is exactly the place, where the Latvian investigators found in Latvia and in other Baltic countries rather illogical correlation between the number of persons with tertiary education and the real Gross Domestic Product (GDP) (the precise title of the indicator in the Eurostat data base is “Real GDP per capita, EUR per inhabitant”) (see Fig. 2).

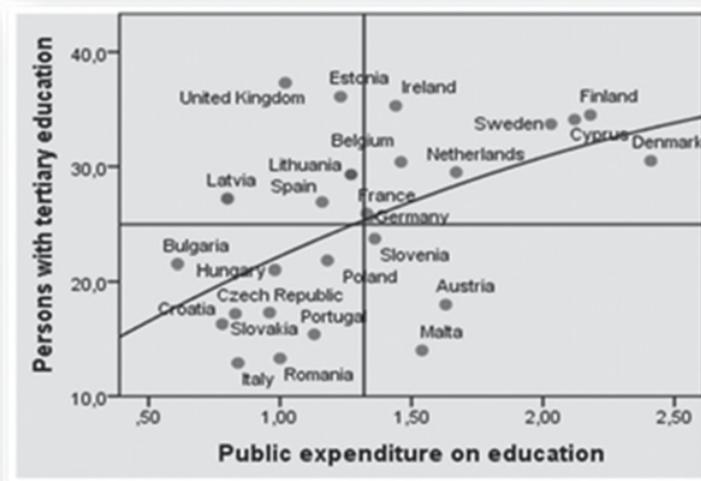


Figure 1. Correlative interconnection between public expenditure on education (2010) and number of persons with tertiary education (2012), Pearson correlation, $n = 28$ regions (elaborated by the authors on the basis of Eurostat data, 2014a, Eurostat, 2014b).

Although there is a general relatively strong and statistically significant correlation between the indicators – persons with tertiary education and the real GDP ($r = 0.623$, $p = 0.001$), Latvia and its Baltic neighbouring region are under the correlated curve, which means that there one additional percent of people with higher education brings less than 1% into the real GDP growth. Thus, the financial investment into tertiary education makes minimum contribution to the economic growth of the Baltic region, but the “return” on the investment materializes only in the number of specialists with higher education, who enter the labour market being rather useless for the economy of these regions.

In order to verify the persistence of this phenomenon in the Baltic regions, the author has also studied the correlation between Summary Innovation Index and the number of persons with higher education. The author concludes that with total statistically significant direct correlation between Summary Innovation Index and number of persons with tertiary education ($r = 0.613$, $p = 0.001$) the Baltic region (especially Latvia and Lithuania) once again is found in the square, where the investment of number of persons with higher education made into the innovations of the region is minimal. Thus, the results of the carried correlation analysis of some statistical indicators for the EU regions allow the author to assert the existence of:

1. Social economic problem, which reflects that the financial aid to the system of higher education of the Baltic region (namely, in Latvia) promotes “production” of highly skilled, but economically and innovatively unprofitable labour force;
2. Research problem, which shows that the theoretical paradigm of the economy of knowledge concerning the significance of general knowledge and tertiary education for economic performance and innovativeness of regions is not empirically confirmed in the Baltic region (namely, in Latvia) and, thus, it needs additional conceptualization and econometric analytical reflection.

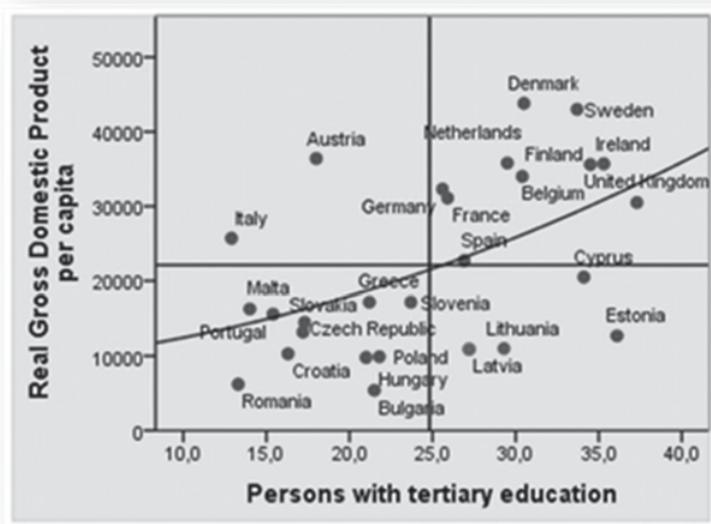


Figure 2. Correlation between number of persons with tertiary education (2012) and real GDP per capita (2012), Pearson correlation, $n = 28$ regions (elaborated by the authors on the basis of Eurostat data, 2014b, Eurostat, 2014d).

The mismatch of the indicators of higher education and economic performance in some regions or in the world in general was noticed and empirically examined in several noteworthy studies. In this regard, perhaps, the most famous article is the one by E. Hanushek and L. Wobmann, in which they showed that economic growth is affected by the quality of education, rather than its mass character (Hanushek, Wöbmann, 2007).

This study was motivated by the rising doubts about the role of education and human capital in economic development. These doubts come from a variety of vantage points ranging from whether the research has correctly identified the impact of education to whether other institutional aspects of regions might be more important. The analysis made by E. Hanushek and L. Wobmann has produced some remarkably simple, but clear conclusions, for instance: “Educational quality – measured by what people know – has powerful effects on individual earnings, on the distribution of income, and on economic growth. The accumulated evidence from analyses of economic outcomes is that the quality of education – measured on an outcome basis of cognitive skills – has powerful effects. Much of the earlier discussion has concentrated solely on school attainment, or the quantity of schooling. This focus is unfortunate, because it distorts analysis and the policy discussions. Individual earnings are systematically related to cognitive skills. The distribution of skills in society appears closely related to the distribution of income. And, perhaps most importantly, economic growth is strongly affected by the skills of workers. Other factors obviously also enter into growth and may well have stronger effects. For example, having well-functioning economic institutions, such as established property rights, open labour and product markets, and participation in international markets have clear importance for economic development and may also magnify the benefits of quality education. Nonetheless, existing evidence suggests that quality of education independently affects economic outcomes even after allowing for these other factors (Hanushek, Wöbmann, 2007).

Investigations prove that education does not only contribute to economic growth, but it facilitates solutions of social problems, in particular, reduces social and economic inequality. The Gini coefficient is an accepted indicator that characterises social and economic inequality. This indicator is calculated annually for more than 150 regions, and it is published by the UNDP (the United Nations Development Programme) in Human Development Report (UNDP, 2014).

The analysis shows that there is close relationship between the Gini index and such characteristic feature of education system as proportion of people with education that is not lower than complete secondary education (level 3 in international classification). The higher the proportion of people with, at least, complete secondary education there is in a region, the lower the level of social and economic differentiation, measured by the Gini index for incomes (coefficient of correlation 67%), is (Агранович, 2010). Though the author states that the level of differentiation of the incomes of the Russians does not correspond to the high level of their education – in accordance with the identifiable patterns it should be about 30%, but, in fact, it is 37.5%.

Another interesting study in the field of the role of education in the ability of a region to “attract brain” was carried out by E. Vanags, Latvian researcher, on the basis of the data of The Global Competitiveness Reports, collected and published by the World Economic Forum (Vanags, 2013). Having reviewed the data of the Global Competitiveness Report on more than 140 world regions (Schwab K., 2011) that are annually published within the framework of the World Economic Forum, E. Vanags noticed a tendency that many regions with a comparatively well-developed secondary and higher education system, but at the same time having low technological development, do not “attract brain” as actively as the regions, in which the education system is not so well developed but which have well-developed technologies and in which businesses pay enough attention to research and technology development or technology absorption. In order to verify this assumption E. Vanags makes regression analysis by using the Global Competitiveness Rating data (ranks of 142 regions according to 9 indicators) for the year 2008 and 2011. E. Vanags selects the “Brain drain” (or “Brain gain” depending on direction of “migrating brain”) indicator as an dependent variable measured in the Global Competitiveness Report applying statistical data analysis and the expert survey method with a question “Does you region retain and attract talented people?” with the answer range from “1” – “no, the best and brightest normally leave to pursue opportunities in other regions” to “7” – “yes, there are many opportunities for talented people within the region” (Schwab, 2008, 2011). While as independent variables of the regression model are selected indicators which can be divided in two groups – the education system development in the region and the technological development level of the state:

- “Secondary education enrolment rate”;
- “Tertiary education enrolment rate”;
- “Quality of math and science education”;
- “Availability of latest technologies”;
- “Firm-level technology absorption”;
- “Foreign direct investment and technology transfer”;
- “Value chain breadth”;
- “Company spending on R&D (research and development)”.

The assumption by E. Vanags proved to be correct – the ability of the world regions to “attract brain” experiences statistically significant and positive influence of two variables, which relate to the technological development of the referenced groups, namely, “technology absorption at company level” and “company’s R & D costs”. The negative influence of

the higher education system (at least one of its indicators) onto the ability of a region to “attract brain” has been demonstrated empirically; thus, it can be concluded that “the level of involvement into tertiary education” has a statistically significant negative influence onto the dependent variables of a regression model. It means that an empirically supported tendency exists among the world regions – the higher is the level of involvement of the region’s population into the tertiary education, the lower is the ability of this region to “gain brain”. Hence, in order to “gain brain” a region does not have necessarily to train highly qualified professionals on the territory of the region and fully or partly at the expense of the region since much more important is technological development of businesses operating in the region. Though five other variables that according to the previous assumption of E. Vanags could potentially affect the ability of the world regions to “gain brain”, in the process of the regression analysis were excluded from the regression model due to the statistically insignificant link with the dependent variables of the regression model (the p-value of significance is more than 0.05). According to the data summarized on the excluded variables from the regression model (2011) the p-value of two variables, namely, “Availability of latest technologies” and “Foreign direct investment and technology transfer” though is very close to 0.05. It means that these two indicators are close to condition when they could be involved in the regression model and named as factors having positive influence on the ability of the region to “gain brain”.

The previous studies showed that the regional economic performance is influenced strongly enough (stronger than by “the involvement into tertiary education”) by such factor as quality of higher education. But the ability of a region to attract highly educated and talented people is affected, first of all, by the technological development of the companies that are active in the region, rather than by the quantitative and qualitative indicators of the education system.

Thus, the critical remarks on the unequivocally positive significance of education in the area of knowledge economy, presented in the most systematic way in two recently published scientific issues, “The Knowledge Economy and Lifelong Learning: A Critical Reader” (Livingstone, Guile, 2012) and “Educating for the Knowledge Economy: Critical perspectives” (Lauder et al., 2012), in author’s opinion are well substantiated. Regardless the fact that many researchers have argued that investment in formal education leads to economic growth (McKenzie, 2001; David, Foray, 2002; Sannikova, Baltère, 2008; Paņina, 2011; Young, 2012), we have experienced enormous progress of modern formal education along with economic stagnation and high unemployment (Livingstone, Guile, 2012). In author’s opinion, in socio- economic realities of the modern world it happens because a large proportion of the population with formal higher education does not guarantee economic prosperity for a specific region. Moreover, even the quality of received education (as it was discovered in the investigations by E. Hanushek) is gradually ceasing to be a guarantee of high regional economic performance. Other factors move to the foreground: first of all, a high level of technological development of a region, and a completely new factor, an ability of a region not to create, but to attract and retain, talented and highly educated people. In this respect, the author considers the position of the Europe 2020 strategy that “at least 40% of young people should have a tertiary qualification” (European Commission, 2010, p. 5) questionable and inadequately reasoned.

The results of the research showed that, in the globalised and internationalised world, challenges to modern higher education are related to the reorientation of the way of life and standards of the Western society; with the increase of mobility and the reduction in the importance of national boundaries, higher education would become an active social and civic participation of an individual in public and social processes.

The analysis of scientific literature in the field of higher education connected with global research results testifies that there are also other factors, which influence the contribution of higher education into regional performance, for example, the quality of higher education and the level of technological development of a region, which creates a situation when highly skilled specialists potentially can or cannot use their knowledge increasing national incomes.

Carrying out an empirical analysis of the factors that could potentially influence regional performance, the author has concluded that, first, the contribution of higher education into the performance of a region, which is at different stages of its economic development, also varies; secondly, apart from the identified factors of regional performance, which are connected with higher education, an ability of a specific region to attract and retain talented people maintains an increasingly important role in all stages of the economic development of this region.

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