

THE INFLUENCE OF HUMAN CAPITAL ON EDUCATIONAL SYSTEM EFFICIENCY

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ABSTRACT

Every national economy and its long-term development depends great deal on the quality of human capital. The quality of human capital has been determined by the quality of educational system, investments in education and participation in education. Backwardness in development of educational system and insufficient investments in human capital can become limiting factor of long term sustainable development of every country. Croatian system of upbringing and education has been faced with great challenges such as decreased number of inhabitants, global and national changes in economy. Contemporary labour market demands fast acquisition of knowledge and skills, fast changes in economy and society, the application of knowledge and lifelong learning. Social challenges require available, adaptable and vertically connected educational and scientific system which is continuously being adjusted to the needs of the economy socially sensitive and based on the principle of lifelong learning. In order to ensure the sustainable establishment of such system considerable financial resources and competent human capital are necessary in the whole region of Croatia. Motivating environment for sustainable innovative scientific- technological activities aimed at acquiring and developing of competences needed for competitive markets should be also taken into consideration. Educational resources, for the insurance of mentioned needs, have been reduced recently and such fact indicates that there is a specific crisis of the education in Croatia and the necessity of its reform.

JEL Classification: H52, I25

Keywords: quality of human capital, quality of educational system, financial decentralisation, lifelong learning, investments in education

1. Preliminary considerations

Human capital is one of the most significant global development resources which is influenced by the quality of the educational system in the acquisition of competence necessary for the labor market. Quality educational system must be based on high-quality funding. One of the problems that occur is the disparity between the educational needs and capabilities of their financing. Special emphasis is on decentralized financing (primary and secondary education), the amount of which is determined by the Croatian Government each year, by its Resolution on standards and criteria, to ensure the minimum financial standards in education, and that is due functioning of the system. The amount of funds for the improvement of working conditions of schools established by the Resolution has not been changed since 2001. In such conditions it is not possible to additionally improve the competence and competitiveness of human capital, which affects not only the quality but also the educational output that does not meet the needs of the labor market.

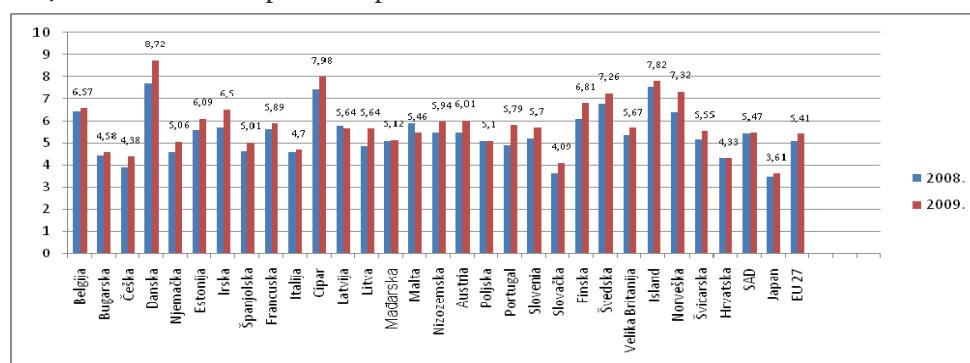
The latest research conducted in elementary schools of Brod-Posavina County in the school year 2012./2013. presented in this paper, indicates the necessity of significant investments in the development of human capital through education, continuing education and the continuing education system. This would contribute an increase of efficiency and competitiveness in the educational system.

2. International experiences - decentralization of education and investments in education

The International Institute for Education Planning discussed the decentralization of education by three basic principles: political legitimacy, the expertise and market efficiency. Each of these principles has special reasons for granting different levels of authority. Comparison between countries showed the existence of large differences in the way that the educational system is organized. For example, the difference in the levels at which the responsibility for certain decisions related to education in fourteen OECD countries (Austria, Belgium, Denmark, Finland, France, Germany, Ireland, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, USA) indicates the existence of different types of decentralization leading to excellent results. Educational systems in these countries are examples of well-organized and efficient systems, and provide high quality education. The budget and funding for education affect the educational efficiency and academic achievement. According to data from the United Nations Educational, Scientific and Cultural

Organization (UNESCO), Cuba, with 12,9% of the total consumption of GDP for the educational sector, takes first place in the world. Until now it has been thought that the primacy belongs to the Scandinavian countries and New Zealand, however, they had to cede that position to the country which deals with the problems caused by the financial and economic sanctions. I am noting here that Iceland allocates 7,8% of the total GDP (Gross Domestic Product), Sweden 7,3%, New Zealand 7,2%, Norway 7,3%, and Finland 6,8%.

Graph1: The share of public expenditure for education in GDP



Source: Eurostat, author's processing, available at <http://appsso.eurostat.ec.europa.eu/nui/> accessed March 5, 2013.

School culture also affects the quality of academic achievement. According to Moos et. al.; (2005, 563-572) schools that take care about the dignity and the rights of individuals in school, "common good", achieve better results in the development of pupils' personal and social competences. School principals and other professional experts at school show a great confidence in the teachers' competences and expertise, and democratically make decisions in order to improve teaching and learning (Ikoyi, 2006, 190-203). The important role in knowledge management is that the school has all necessary ICT support and access to information, to professional domestic and foreign literature, but also the required level of teacher education (Cevat Celep bouquet, Çetin, 2005, 102-117).

3. The problem of financial decentralization of education in Croatia

Decentralization of the primary and secondary educational system should contribute to increasing its efficiency. The fact that local and regional governments do not have equable capacities, the discrepancy between regions is a serious problem in the educational decentralization (Ikoyi, 2006, 190-203). That is why; the role

of the central government in providing adequate assistance (increased distribution from the fund), is very important. Some authors consider that one of the reasons for the decentralization of education, specific to developing countries, is precisely the problem of funding education at the central level. Namely, the central government transfers to lower levels of authority to conduct activities related to education because it alone cannot finance their implementation. Decentralized funding should allow more rational use of financial resources from the state budget with the help of funds raised locally through various forms of local taxation.

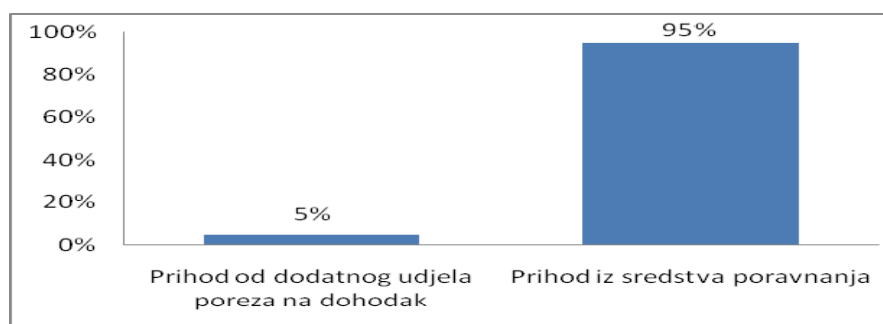
Table 1: Shares for decentralized functions in percentage of income tax.

Shares for decentralized functions	Cities and Municipalities	City of Zagreb	Counties
Primary schooling	3,1%	3,1%	3,1%
Secondary schooling		2,2%	2,2%

Source: Ministry of Finance, available at: <http://www.mfin.hr/hr/raspodjela-poreza-na-dohodak-temeljem-zakona-o-financiranju-jlprs>, accessed March 10, 2013.

There is a lack of positive effects if the units of local self-government have no resources to implement them and if they are not prepared to take over the new tasks, such as is the case in the Brod-Posavina County due to the very low GDP per capita and fiscal capacity. 95% of revenue, to ensure minimum of financial standard in elementary schools, is generated from the income reconciliation (25.523.095,00 kn), and only 5% of the revenue from the additional share of income tax (1.375.412,00 kn). So, the original revenue budget of Brod-Posavina County does not contribute to the improvement of the educational system in its area, but its mere survival.

Graph 2: Decentralized functions of primary schooling of Brod-Posavina County in 2012.- revenue structure

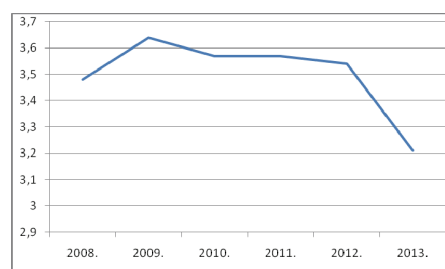


Source: Budget Brod-Posavina County in 2012.

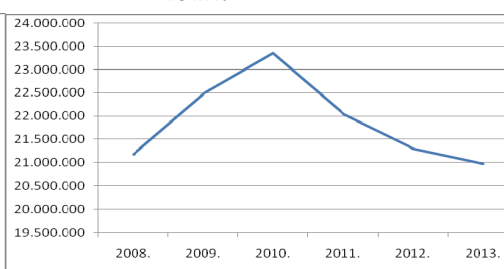
3.1. Budget allocations for education, investments in human capital

The Ministry of Science, Education and Sport in the Draft budget for 2013 has the most significantly reduced budget expenditure from the beginning of the decentralization process in the educational system. The budget for the MSES in 2011, in total, was 11,906 bkn, in 2012-11,963 bkn, in 2013 it plans to spend 11,297 bkn, a decrease of 666 million kn compared to the year 2012. Reducing expenses for employees is the main cause of the decrease in the total allocation for MSES. The share of budgetary allocations for the Ministry of Science out of GDP is decreasing, and not just in the next year, according to the Government projections, it will also be the same in the coming years. If that happens, there will be a reduction in the share of the budget for the Ministry of Science out of GDP, from 3,6% in 2011 to 3,2% in 2013, 3,05% in 2014 and in 2015. as low as 2,95%.

Graph 3: Budget allocations for the MSES



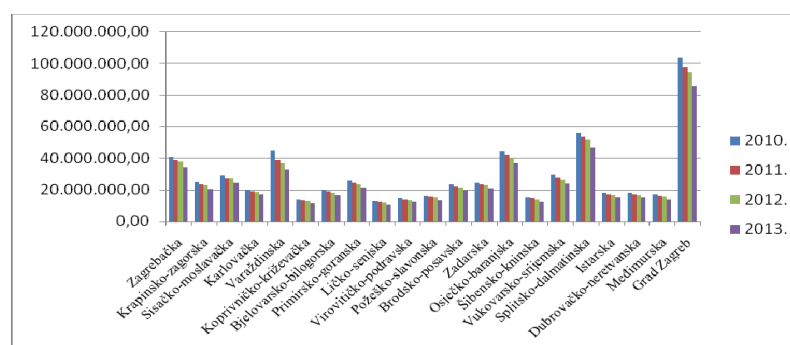
Graph 4: Material and financial expenses, prim.ed.BPCounty in 2012.



Source: Ministry of Finance, 2013.

Source: MSES, author's processing

Graph 5: On-balance calculation of material and financial expenditure in primary education in Counties and in the City of Zagreb (in kunas)



Source: MSES, author's processing

As indicated, fund reductions include allocations for material and financial expenditures of the decentralized school system functions. It is the same with allocations for employees by reducing their substantive rights (tenure compensation, reduced compensation for transport, reduced jubilee awards and reduced per diem for official travels). Here, we cannot talk about the additional investment in human capital in education in the frame of so far secured funding, such as professional training and further education of employees.

4. The results of research of investments in human resources in primary schooling in Brod-Posavina County

The indicators of current investments in human resources in education tell us about the efficiency of the education system that should enable us to enter into the society of knowledge. We are presenting the state of investments in human resources in primary education of Brod-Posavina County, in the part that is responsible for the educational process in general. This is results of research of investment to the development of human resources in the school system conducted in all elementary schools (years 1- 8) in the County in the year 2012.

Table 2: Professional development of class teachers (years1-4) in the institutions of primary schooling in Brod-Posavina County in 2012

Class teachers	Seminars organized by MSES	Professional meetings organized by B-P County	Professional in-trainings organized in schools	Professional developments organized abroad
Not participated	103	13	5	0
Participated in one	82	48	20	0
Participated in more than 1	54	136	144	0
Participated in all	46	253	251	0

Source: author's processing

- 27, 9% class teachers didn't take part in any form of professional development
- 34,6% class teachers took part in one professional development training during the year, of which 18,93% organized by the MSES, 11,8% organized by the County and 4,6% organized by the schools.

- 77% class teachers took part in more than one professional development training during the year, mostly organized by the schools 33,25%, then 31,4% organized by the County and 12,47% organized by the MSES.
- 78, 72% class teachers took part in all forms of professional trainings, most organized by the County 58,4%, and by the schools 57,97%.
- Class teachers in the primary schools of Brod-Posavina County didn't participate in professional development trainings organized abroad in the year 2012.

Table 3: Professional teacher development of school subject teachers (years 5-8) in primary schooling of Brod-Posavina County in the year 2012

School subject teachers	Seminars organized by MSES	Professional meetings organized by the B-P County	Professional in-trainings organized in schools	Professional development organized abroad
Not participated	229	83	12	0
Participated in one	153	87	27	4
Participated in more than one	130	399	278	0
Participated in all	49	213	358	0

Source: author's processing

- 26,4% subject school teachers didn't participate at all in any professional development training of which 18,7% organized by the MSES, 6,78% organized by the B-P County, 0,98% organized by the schools.
- 22,12% subject school teachers took part in one professional development training during the year, mostly organized by the MSES 12,49%, 7,10% organized by the B-P County, 2,20% organized by the schools, and 0,32% organized abroad.
- 65,88% subject school teachers took part in more than one professional development trainings mostly organized by the B-P County 32,57%, 22,69% professional in-trainings in schools, 10,61% organized by the MSES.
- 50,5% teachers took part in all organized forms of professional development trainings mostly organized by professional councils in schools 29,22%, then 17,39% organized by B-P County and 4% organized by the MSES.

Due to such data, it is evident that more class teaching staff participated in all forms of organized training, 78,72%, which is certainly a good indicator. However, the participation of the subject teachers in all forms of professional development is much smaller, 50,5%; the same as those teachers who participated in professional development training only once during the year, and that is a matter of concern. Increased presence of teachers would enable the adoption of new knowledge and skills in teaching and therefore the results would be at a higher level. The reason for lower participation of teachers in professional development trainings can be found in many years of reduced allocations for education in Croatia.

The results of educational output were recorded by PISA 2009 (Eurodice, 2011), the world's biggest educational research, in which Croatia was among 65 countries ranked between positions 36 and 40. More than 20% of Croatian students did not meet the basic level of reading, mathematical and scientific literacy, and average competence in all three areas of Croatia is placed well below the average of OECD countries and countries in the region such as the Czech Republic, Slovakia and Slovenia. Leading positions belong to the Eastern Asian countries. They took part in the PISA survey for the first time. Finland is still at the top as the most successful country in Europe. For this study, Croatian students showed significantly poorer performance compared to the last PISA survey, conducted in the year 2006. In reading literacy we fell from 30th to 36th rank, in mathematics from 36th to 40th rank, and in natural science from 26th to 37th rank.

5. CONCLUSION

Since education is the foundation of social progress, the future of our society depends on the generations we educate today. Therefore, the concern justified by the PISA survey is vindicated in every respect. Overall trend of reduced fund in education in Croatia (decentralization and the budgets of local and regional government), have a direct effect on the quality of human capital, and hence the quality of the education system. In the society of knowledge, the access to opportunities to acquire the required knowledge, skills and competencies, is essential for social progress and economic growth within the country. Additional investments in the acquisition of new knowledge through education represent welfare for the individual and for the national economy. Raising educational standards and better motivation of teachers are important for a successful and competitive education system.

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