

## **KNOWLEDGE AS AN ALTERNATIVE INDICATOR FOR ECONOMIC DEVELOPMENT**

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***Abstract:** The main objective of this research report is to analyze and discuss the importance of knowledge as an alternative indicator of economic development. Understanding of this specific economic resource has its practical dimensions defined by the European and national targets to build a society and knowledge economy. Moreover, the implementation of this problem follows the internal logic of the development of economic science, which today seeks new theoretical models to explain the process also the development visions and programs to using new resources. All these prerequisites themselves as a problem in the very current theme have important empirical weight. The global economy today is extremely dynamic and variable, characterized by strong migration of labour resources, global competition and the constant changes in economic conditions. Knowledge has a key role and become an important resource and source of the highest quality and competitive advantages. The acquisition of new knowledge, the conservation and efficient use of the provision are becoming key factors for economic development.*

***Key words:** Knowledge, alternative indicator, economic development, knowledge economy.*

### **Introduction**

The problem of theoretical characterization of knowledge as a resource for economic development becomes more urgent. This is related to the acceleration of changes in technology and their impact on global socioeconomic processes. Moreover, the implementation of this problem has the internal logic of the development of economic science which today seeks new theoretical models explaining the process and also development of visions and programs using new resources. All of these assumptions turn the problem to highly topical themes with its large empirical weight. Understanding the importance of knowledge as an economic resource has its practical dimensions defined by the European and national targets that aim to build an economy and society of knowledge.

Today, the global economy is extremely dynamic and variable, with strong migration of labour resources, global competition and constant

changes in the situation. Knowledge has a key role and becomes an important resource and competitive advantage. As a result of the above, the organization of modern enterprises cannot effectively compete in the market without the presence of managers and highly skilled employees. It is vital for the competitiveness of individuals and organizations that they are training continuously and they are capable to adapt to changes in their environment quickly<sup>1</sup>. The acquisition of new knowledge, the conservation and efficient use of the provision is an essential factor in economic development. Therefore, knowledge management has been seen as a major challenge for organizations today.

#### **Analysis and evaluation of knowledge as a resource in the new economy**

With the notion „investment in education” we generally mean all types of costs that make economic agents - households, businesses and government - assuming they are used in specific assets. At the macro level, they are measured in absolute terms, as a percentage of GDP or a student. In terms of efficiency of spending and the impact on growth, it is important to be distinguished public sources and private sources of funding than the „burden” of the past is likely to increase given the trend „massification” of secondary and higher education in European countries amid limited possibilities of state budgets for financing<sup>2</sup>. The growth of human capital in the use of time can be measured by non-financial indicators. They concern registered or those who own to a graduate degree in the number or share of the relevant age group. This paragraph also draws attention to two types of indicators to fully and properly assess the flow of human capital in the studied countries.

The funding of the education sector is generally the most „hot” and problematic issues on fiscal policy for several reasons. First, education is often provided as a public good, despite the downward trend in the intervention of the state<sup>3</sup>. Obtaining secondary education is a clear national priority, while the private sector has a significant presence in higher education. The total socio-economic impact of human capital that occurs appears after at least a decade. In addition, the views of experts and scholars disagree on whether „pouring” money into education is a guarantee of quality and productivity of future resources of manpower, and

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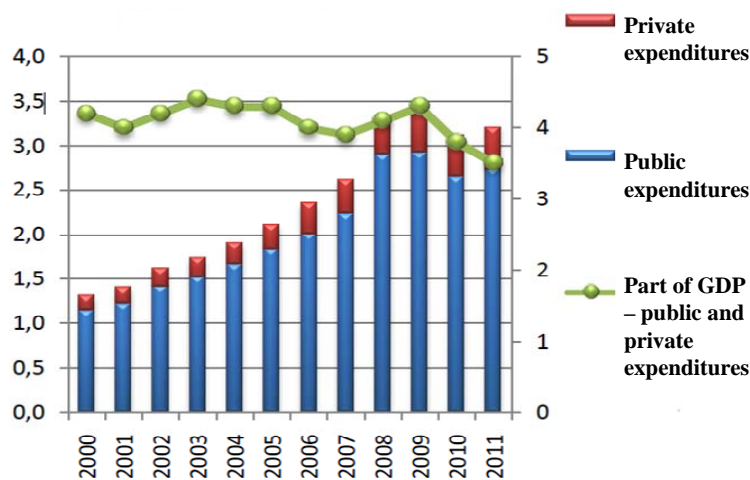
<sup>1</sup> Бонева, Ив. Европейската икономика на знанието, София, 2007.

<sup>2</sup> Гурова, Е., Дулев П., Йотовска К. Управление на знания – същност, основни понятия, процеси и технологии, София, 2013.

<sup>3</sup> Зарева, Ир. Човешкият капитал в България. Формиране, състояние, използване, насоки за развитие.//Издателство „Проф. Марин Дринов”, София, 2011.

growth in the future. Consequently, the sector often falls victim to political interests and tolerates restrictions whose effects go well in the future<sup>4</sup>.

Since 2006, the national program for development of school education and preschool education (2006-2015) began to operate. This program aims to erase the most serious shortcomings of the education system that the limited financial autonomy of schools and the lack of incentives for the efficient management of resources (savings and extra income are often seized by the funding agency)<sup>5</sup>. In 2008, we adopted the system of delegated budgets for schools that actually provides more resources and financial autonomy of schools. Since November 1<sup>st</sup> 2007, salaries in secondary education increased by 18%. Five years after the adoption of the system we can see the effects of the action. The most serious drawback is that the quality of education is not improving. Delegate budgets encourage schools to keep as many students without emphasis on quality. This again raises doubts about the effectiveness of the application model and once again proves the absence of a direct link between the cost of education and its quality<sup>6</sup>.



**Fig. 1.** Expenditures for education.

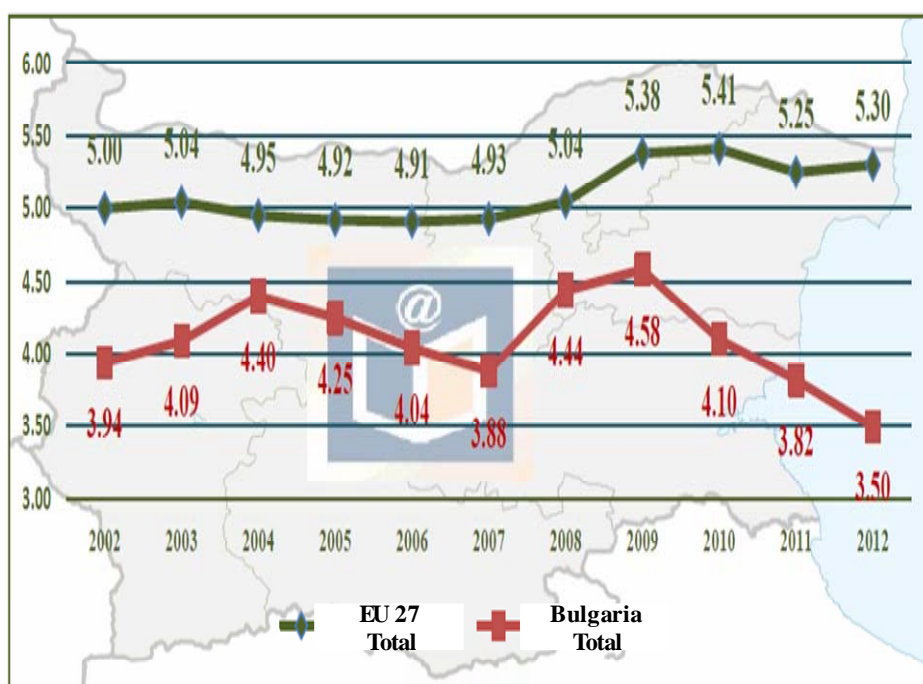
Source: NSI

<sup>4</sup> Матев, М., Зарева, И. Образованието и науката в България. //Издателство „Проф. Марин Дринов”, София, 2010.

<sup>5</sup> Нейчева М. Изследване на образованието на работната сила и влиянието му върху икономическия растеж, Бургас, 2012.

<sup>6</sup> НСИ, <http://www.nsi.bg/>

As the statistics show, the public expenditures on education tend to the sustained increase. A decrease was recorded only in 2010. Public spending almost doubled in 2011 compared to 2000, while private spending increased by almost 3 times (see. Figure 1). The data presented in Figure 2 indicate an increase in the share of public expenditure on education from 3.4% in 2002 to 4% in 2020. The data for 2012 from previous 2011 show that total public expenditure on education, calculated as a percentage of GDP increased from 3.8% to 3.5% for the fifth consecutive year continues to increase the distance of the EU average (27) 0.6 p.p. in 2008 to 1.8 p.p. in 2012<sup>7</sup>.



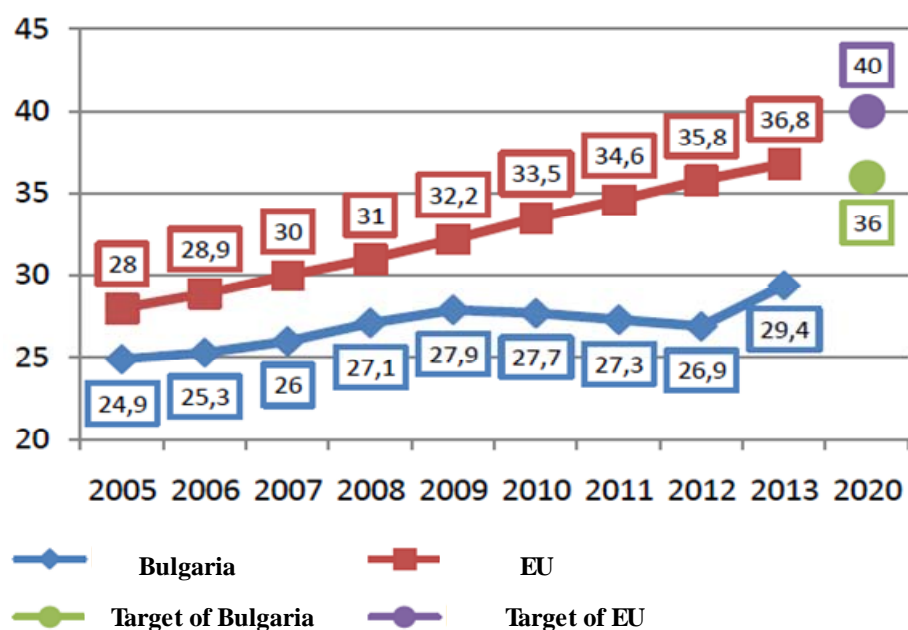
**Fig. 2.** Public expenditures for education in percentage (%) of GDP

Source: Eurostat

Cost allocation degrees shows that Bulgaria gives more for elementary and secondary education. Cost of preschool education and education as well as those that can be attributed to some extent, are also important, even compared to the EU average - 0.6%. The smallest share is the cost for higher education, which is almost 2 times less than the average

<sup>7</sup> НСИ, <http://www.nsi.bg/>

EU (27)<sup>8</sup>. Possible solutions to change the trend in the most skilled human capital is to create conditions and financial and attractive non-financial incentives for training with which to cover the high opportunity cost of PhD students increased opportunities for future career in the corporate sector, improving working conditions and wages in higher education to the extent that at least provide a normal return on tangible and intangible investments in doctoral studies. The EU target for 2020 is the share of university graduates among young people aged 30-34 is 40%. The Bulgarian goal is 36% of Bulgarians in this age group are graduates. Since 2005, the percentage of graduates has increased significantly - for that period - 4.5 p.p. In 2013, the percentage of graduates among 30-34 year olds was 29.4 %. Figure 3 clearly shows that the proportion is still far from the target of 36% (see Figure 3).



**Fig. 3.** Graduated people (% from population aged 30-34)

Source: Eurostat

By the number of graduates in 2013 Bulgaria is in the bottom of the EU ranking. 11 EU countries achieve the target in 2013. While the average growth of the EU for the past five years was 5.8 p.p, Bulgaria has increased

<sup>8</sup> EUROSTAT, <http://ec.europa.eu/eurostat/>

by only 2.3 p.p. In fact, after the crisis, in contrast to the steady upward trend of university graduates in the EU, in Bulgaria the process is exactly the opposite: between 2010 and 2012, the share of university graduates has declined in the general population in the monitored age group and the increase was marked down in 2013. One possible explanation is precisely the crisis of 2009 and the rise in the wake of this opportunity cost of higher education in terms job losses (about 500 000 for the entire period between 2009 and 2013) and lower income workers<sup>9</sup>.

There are also significant differences in the proportion of the higher education for the total population of working age by region. The largest proportion of graduates is in the Southwest region (33% of the population aged 25-64), while the lowest - in the North West region (18.7%). Among the population aged 30-34 was also noticed big differences between regions. Bulgaria conditionally can be divided diagonally into two statistics that have reported - 25% share of graduates in North and South Bulgaria and 33.5% graduates in the Southwest and South-central Bulgaria. These differences are mainly due to the concentration of universities in the capital (and the additional burden of two University District) that attracts those seeking education and youth work. During the school year 2013/2014, in Bulgaria operate a total of 53 state higher education institutions and 16 private. Of these, 24 are in Sofia-city, and last year 37% of all graduates were of metropolitan schools. The net enrolment rate among youth of 19-23 years has increased steadily from 26% in 2000/2001 to 43.7% in 2013/2014 year, an increase of nearly 18 p. p. (see Figure 4)<sup>10</sup>.

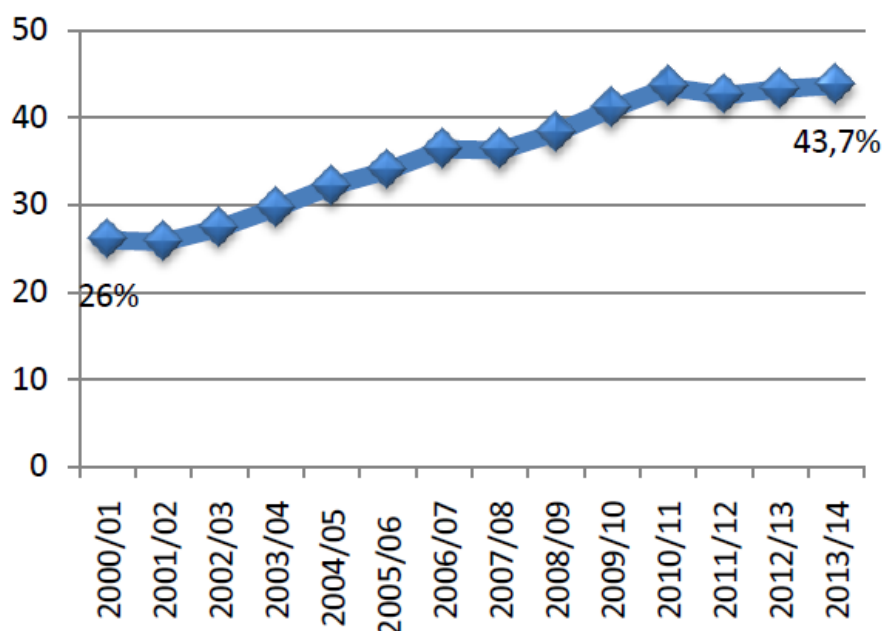
The question here is whether the largest enrolment in higher education and the growing proportion of university graduates means more human capital quality. Although in terms of finest education in the context of the Europe 2020 strategy are not focused on the quality of higher education and quantity of graduates, quality education is what is the incentive for young people to register. Unfortunately, the Bulgarian higher education is often criticized as ineffective, and many graduates do not find work in their field after graduation<sup>11</sup>. Data from the Employment Agency show that if before the crisis the average number registered in labour offices with higher education has declined steadily (for the period 2003-2008, their number reduced by half) and then 2008, the trend is inverse- the average number of unemployed graduates registered doubles.

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<sup>9</sup> EUROSTAT, <http://ec.europa.eu/eurostat/>

<sup>10</sup> НСИ, <http://www.nsi.bg/>

<sup>11</sup> Чобанова, Р. Знанието като икономически ресурс // Академично издателство „проф. Марин Дринов“, 2013.



**Fig. 4.** Net school attendance ratio for the age group 19-23

*Source: NSI*

### Conclusion

Considering the unfavourable image of the educational level of the workforce, it is advisable to finish with optimism. Bulgaria has established traditions in education, the pre qualification and continuing education. The above gives reasons to conclude that taking a direction up a real working process<sup>12</sup>. It is only the will and courage to carry out urgent reforms, including the effective implementation of successful international practices. Their use and the rational operation would lead to an increase in social welfare.

It is necessary to create a set of specific measures to fill gaps in the education of the workforce. It is recommended to be done:

- use of EU funds and aid and financing education programs for the poorest segments of the population;
- coordinated action between government, educational institutions and employers to develop training programs to the specific needs of the labour market for youth employment;

<sup>12</sup> Firestone, J. M., M. W. McElroy Key issues in the new knowledge management, 2003.

- increasing the share of graduates could be achieved by introducing a 3 year bachelor programs more closely profiled courses and majors focusing mainly practical and applied, combined with flexible forms of training: open, remotely, the distance learning;
- flexibility and adaptability training programs - to minimize the number of compulsory subjects and the special choice, and particularly where students are mainly used;
- improvement the learning environment and incentives, including financial learners with excellence in teaching;
- creating conditions to increase the level of education of young people, particularly men aged 20 to 30 years through participation in programs to vocational guidance appropriate to their field of employment or qualification of teaching secondary<sup>13</sup>.

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<sup>13</sup> Чобанова, Р. Знанието като икономически ресурс.//Академично издателство „проф. Марин Дринов”, 2013.