THE POTENTIAL OF THE INVESTMENT IN EDUCATION IN CREATING SOCIO-ECONOMIC DEVELOPMENT IN THE NEW ECONOMY AND THE KNOWLEDGE-BASED SOCIETY

Marta-Christina SUCIU*, Remus Marian AVRAM**, Emanuela Maria AVRAM***, Raluca EFTIMIE****

Abstract: Compared with classical economics, the new knowledge economy and learning society gets another new framework for addressing specific facets and therefore is no longer centered on the transfer of information, but becomes a dynamic process in which individuals learn how to continuously learn, how to access new opportunities to explore and exploit effective and timely information in order to transform it into new knowledge. In this new context in which human skills and knowledge are core components of the strategic economic and social system, traditional factors of production lose their centuries supremacy and become secondary. Paraphrasing Quash professor at the London School of Economics, robust growth in investment in intangible assets facilitates the so-called “cognitive domains” in which “ideas are worth billions, while the products still cost less.” (Suciu, 2004). Thus, more investment in education leads to an increased income which leads to wealth and in this way contributing to society development.

Keywords: investment in education, socio-economic development, knowledge. 
JEL Codes: I21, I25

* Marta-Christina SUCIU, PhD, Full Professor, Academy of Economic Studies, Bucharest, Faculty of Economics, Economics & Economic, Policies Department, suciuchristina@yahoo.com
** Remus Marian AVRAM, PhD Candidate, Academy of Economic Studies, Bucharest, remus_aim@yahoo.com
*** Emanuela Maria AVRAM, Junior Assistant, PhD Candidate, Romanian-American University, Bucharest, Management-Marketing Chair, emanuela.maria@yahoo.it
**** Raluca EFTIMIE, PhD Candidate, Academy of Economic Studies, Bucharest, raluca.cristina.eftimie@gmail.com
INTRODUCTION

„Education is one of the sub-systems of the social system, with which it has a strong interdependence relation. It fully indicates the social requirements, having a decisive role in the training of the next generations at higher quality standards”. (Avram E., Neagoe C., Avram R., 2010, p.2)

The investment in education (Suciu, 2001), particularly higher education in the future allows us to gain higher levels of income, facilitates us the access to new job opportunities, reduces our risk of unemployment, forms and perfects our complex beings both as individuals and increases our creative potential and the transmission of moral and civic attitudes, offering a broader perspective, innovative on all aspects of life. But in all this intricate process of learning a crucial role is played by higher education institutions. Thus, through their potential in the creation, exploitation and dissemination of knowledge, as it was appreciated by Sizer (2001) in one of his works, universities are “a critical success factor for the development of competitive knowledge-based economies, countries, regions and cities in an ongoing learning (learning countries) as well as sectors, clusters and innovative activities that focus on lifelong learning.” (Sizer, 2001, p. 228)

This article is structured in two parts, the first part makes an approach to the theoretical framework of the literature, opinions, viewpoints, controversies regarding the role of education in the knowledge society, while the second refers to the potential of the investment in education to generate socio-economic development.

From a methodological point of view in order to achieve this paperwork we have abstracted works of various articles ISI, NURC, articles in international databases and online sources of the national and international literature in order to obtain accurate information referring to the potential of the investment in education to generate socio-economic development within the knowledge based society.

1. THEORETICAL BACKGROUND ON THE ROLE OF EDUCATION WITHIN

Knowledge Based Society

In economists' sense there are two fundamental economic theories designed to capture the role of knowledge acquired largely through education and technology in achieving sustainable economic growth potential: the new theories of economic growth or endogenous growth theory and evolutionary economic theories or system theories.
The new theories of economic growth or endogenous growth theories are concerning on knowledge as a special type of a product and use standard general equilibrium neoclassical models to analyze the production, exchange and use knowledge. These theories focus on two major rescheduling of growth: a) incremental learning literature described primarily by Lucas (1988) and b) investments in research and development (innovation), initially treated by Romer (1986), and Aghion and Howitt (1998). According to the new growth theory, the capacity of a countries to benefit from the knowledge economy depends on how fast the economy can become a 'learning economy'.

Economic theories or theories of evolution encompasses a series of system of thought based on the initial logic of Schumpeter “creative destruction”. The essence of these theories is the perception that innovation with technological and organizational changes along with its associated are the main drivers of long-term growth.. (Sabău, 2010, p.2)

Since the early '60s when were made the educational foundations of the concept of education economy, a series of studies from around the world were preoccupied with studying and quantifying the potential contribution of education to economic growth and development. Among these, in literature circulated the names of some prominent economists who have been involved in studying the relationship between education and economic growth generally, including: Schultz (1961, 1981) and Denison (1962) that published papers on the use of innovative assessment of education in U.S. economic growth, Becker (1964) and Becker and Lewis (1992), Chinoly (1980), Bishop (1989) has created a general index of intellectual creation, Barro (1992) and (2001) compared the Economic contribution rate of education (ECE) from different countries. A common feature is that their research is that they were circumscribed specifically to the economic model of Romer-Lucas. Although the results of these studies have been mixed, in principle it was argued that education, by increasing the stock of human capital of individuals contribute to economic growth with improved productivity. Later Jorgenson and Fraumeni (1992) pointed out that “investment in education will continue to prevail in the needs and investment requirements to ensure faster economic growth” (Jean-Luc de Meulemeester, Denis Rochat, 1995, p. 351)

Other contributions to the development of the field have been made by the Min and Ding (1999) through their work on the economics of education, Lai (1998) by studying the distribution of education in general and of revenue, or Wang (1999) with his research on input and output of education. They have shown through their research that “education can directly support economic development”, but its
contribution to economic development effects can sometimes be hard quantifiable in terms used of the deterministic approaches for their evaluation, as can be manifested indirectly within long periods of time or later. (Guo Haixiang, Diao Fengqin, Zhu Kejun, Li Jinling, Xing Yanmin, 2008, p. 499, 505)

According to David Wilson Schejbal and Davis Wilson, the most relevant public and political recognition of the link between higher education, economic development and national wealth was made after the Second World War. Harry Truman in 1946 appointed a Presidential Commission on Higher Education which has been “responsible for the problem of defining the responsibilities of faculties and universities in American democracy and international relations – and, in particular, review the objectives, methods and facilities of higher education in the U.S. in terms of the role and its social impact.” (Schejbal, Wilson, 2008) The commission concluded that higher education is critical for national security, social welfare and economic growth. So, according to the authors, higher and further education is seen as “an extension of the organization” and it is more than an economic engine as it contributes “directly and in a multivariate manner to the common good.” It generates and makes it accessible to a wide variety of knowledge which is leading and propelling the economy, helping the development of personal, social and human competencies, without which, paraphrasing Thomas Hobbes – life would be poor, immoral, savage and brief. (Schejbal, Wilson, 2008, p. 32)

2. INVESTING IN EDUCATION – A PROCESS LEADING TO SOCIAL AND ECONOMIC DEVELOPMENT

According to experts, the productivity of the years of education of the individuals, incorporated in human capital it is considered to be specific to each country and it is a function of the overall quantity of inputs used by firms and technologies adopted by them in the moment of measuring. (Ahmed Tritad, 2008,p.31) Therefore, a richer country would assume that it will invest more in new technologies, training and education and thus record a higher average of productivity in the years of education of the individuals compared with the poorest countries which will not allow a high level of investment.

Krueger and Lindahl (2001) found out from their research on education and economic growth that “education is statistically significant and positively associated with subsequent growth only for countries with the lowest levels of education.” (Krueger, A. B., Lindahl, M., 2001, p. 1130) Their conclusion we could say that it is supported by other studies undertaken by specialists and an example in this regard is
the position of Kitaura (2009) vis-à-vis the education-growth relationship according to which “education was recognized as a key factor determining economic growth for developing countries”. (Kitaura, Koji, 2009, p. 615) Rumors in literature say that this might be the case that poor countries have a comparative advantage of adopting the existing technologies because the process does not require a force of highly skilled and educated labor. Based on the research results of Krueger and Lindahl (2001), Vandenbussche, Aghion and Meghir (2006) have proposed the development of a theoretical model to analyze the contribution of human capital to technological improvements made throughout the economy through two channels of imitation and innovation. Following their study which has contributed to the development and completion of previous theoretical approaches and empirical link between educational attainment and economic growth, the conclusion was that if in the case of the more competitive developed countries the source of the technological progress is determined both by the adoption of the already existing technologies but especially by the pure innovation that is specific and considerably enhanced in the case of the workers with a high level of education and training. Using a panel data which covered 19 OECD countries between 1960-2000, the authors showed that in the competitive and developed economies the unskilled human capital has a low contribution in improving technology, the major contribution being determined by highly qualified and educated individuals. They also found that differences between the levels of education of the workforce in OECD Member States was an important source of growth of the differences between them. (Vandenbussche, J., Aghion, P., Meghir, C., 2006, p. 97, 99, 121)

Internationally, according to a study made by the World Bank (Psacharopoulos, George; Patrinos, Harry, 2002, World Bank Research Paper, 2881, septembrie), the contribution of education and training in the process of development is widely acknowledged and the estimations show that investment in education and training generates benefits both to individuals (private benefit) and society (social benefits), a result recognized also by other expert opinions such as for example that of Aina Tarabini (2010) in her ISI article: “Education and Poverty in the global development agenda: Emergence, Evolution and Consolidation”, according to which “Clearly education has always played roles that transcend individual Benefits of training.” (Tarabini, Aina, 2010, p. 204)

Approached from a microeconomic perspective, in the context of the new economy and knowledge society, “the essential function of education is to help train the individual as a complete being” In this context, education becomes a complex process conducted over a period of time as, compared with classical economics, it cannot be sized according to the target, being different from one
individual to another. However, education is not an exclusive function of the family or school but through its specific appears to be a process that occurs throughout the life of the individual (lifelong learning) (Suciu, 2008) and is “seen to be both a privilege social and economic necessity” (Anderson, 1999), whereas education can ultimately be seen as a right to social inclusion and ensuring equality of opportunity.

Also at a EU level according to a study on the role of education in the success of Europe, conducted under the aegis of Lisbon – Lisbon Council, it was clear that for every penny invested in acquiring higher qualifications, those who invest receive more and more money through economic growth. Moreover, this investments generate tangible benefits for society as a whole and not just to the individuals which also have more educational opportunities, which confirm the appropriateness of education approach and in terms of “macro”. (Schleicher, Andreas, 2006, p.2) We consider that the social benefits can be explained by the effect of spread of individual investments, comparable with the investments in physical capital which tend to outweigh them in accordance with the developing of the convergence process towards the knowledge economy and society.

To emphasize the positive effect of investment in education from the perspective of higher future income generation and providing different alternatives to choose a job appropriate we consider further to present in table 63 the results of a study conducted by the Bureau of Labor Statistics U.S. the weekly average of the earnings of full-time people according to the level of education in 2010. The data analysis presented in table 63 and in the figure 26 shows a direct and positive link between the level of education (conducted by individual investment in education) and the size and average income obtained after and also the inverse relationship between the level of education and the unemployment rate which determines the reducing of the social costs involved.

<table>
<thead>
<tr>
<th>Unemployment rate in 2010 (%)</th>
<th>Education level</th>
<th>Weekly average earning (2010) in $</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.9 %</td>
<td>Doctoral degrees</td>
<td>1,550 $</td>
</tr>
<tr>
<td>2.4 %</td>
<td>Professional degree</td>
<td>1,610 $</td>
</tr>
<tr>
<td>4.0 %</td>
<td>Master’s degree</td>
<td>1,272 $</td>
</tr>
<tr>
<td>5.4 %</td>
<td>Bachelor’s degree</td>
<td>1,038 $</td>
</tr>
<tr>
<td>7.0 %</td>
<td>Associate degree</td>
<td>767 $</td>
</tr>
<tr>
<td>9.2 %</td>
<td>Some college, no degree</td>
<td>712 $</td>
</tr>
</tbody>
</table>
From the data we can see that the average weekly earnings of a graduate doctoral studies in the U.S. was in 2010 almost three times higher than a high school graduate as a doctor earn on average about 20% more than a master's graduate and about 35% more than a graduate of the undergraduate. From the graph we can see also that the lowest recorded unemployment rate among people with doctoral studies, it is hovering around 1.9%, while for those with high school education or those without a high school diploma is reaching the highest values of 10.3% and 14.9% in the year 2010 in USA. The average unemployment rate in this country in 2010 amounted to 8.2% according to Bureau of Labor Statistics USA for people aged over 25 years while the average earnings for these people regardless the skill level ranged at around $ 782.

The income bonuses related to higher levels of education are revealed and confirmed by the study of Mark C. Long (2009) conducted on three cohorts of students from the '70s until the late '90s. According to the results obtained and outlined in his article: “Changes in the returns to education and college quality”, the later recorded gains on the labor market are influenced by the number of years of quality education and graduate universities, in the case of men the increase in the
income being more pronounced than in those of women. It was also found that the number of years of education has led to delays in marriage and determined the reducing of the divorce rate. (Mark C. Long, 2009, p. 338, 346)

According to data presented, it appears that there is a strong and positive link between the acquisition of education and average earnings levels. In all countries, tertiary education graduates earn more overall than the upper secondary education and post-secondary graduates.

**CONCLUSIONS**

In our view, in the new economy and knowledge society, education cannot be seen simply as a private and individual resource because its social benefits are useful also to other individuals outside of those who adopt and interiorize the educational process. To support our approach and to highlight the beneficial effect propagated to social scale of the education investment we will expose the following statement of RW Connel (1990) which we find particularly relevant in this respect: “My education is, of course, a resource for me. However, my education is both a resource for other people. My education affects the quality of life of individuals who I interact in life. It is therefore a special feature of education which cannot be altered unless it would charge a fee every time you open your mouth.” (R.W. Connel (1990), cited work – Cojocaru, Făuraş, 2006, p. 30)

According to this view, education is itself a positive externality because it is possible that its social marginal income to exceed the private marginal revenue. In other words, because of its beneficial effects to third persons, benefits are that not reflected in the prices and costs and therefore not reflected in market equilibrium. Therefore education is also a range of social benefits that transcend the economic interests in stricto sensu, for example its contribution to training individuals as complex beings, promoting intercultural dialogue and equal opportunities for all staff, which has strong implications for the social development. Also, education complemented by creativity and vice versa, through its contribution to the ongoing development and enhancement of human potential, takes a key role in supporting technological development, economic development, social and human as a whole.

**ACKNOWLEDGEMENTS:**

This article was elaborated as part of the project POSDRU/88/1.5./S/55287 “Ph.D. in Economics from European standards of knowledge (DoEsEC)”, European Social Fund project co-funded by Human Resources Development Operational
Programme 2007-2013 and coordinated by the Academy of Economic Studies of Bucharest in partnership with the University of the West, Timișoara.

REFERENCES


