
Education, the economic development pillar
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Abstract

The theme approached, starts from the idea that the economic value of education is depending on the degree in which school answers to the real life requirements, from the point of view of the quality of human resource, as well as human capital product. The paper proposes a conceptual-theoretical clarification of essential concepts necessary for direct and indirect understanding, between education and socio-economic development, and how it was shaped over time the economic role of education through human capital and how this was reflected in growth theory and economic development. The results we obtain will lead to the issue of strategies, solutions and measures that will contribute to the development of society and the increase in the quality of life for the population. The proposed analysis points out that investment in human capital have a significant impact on the economic growth of every country, thus we consider human capital to be more important than any natural richness that a nation can have.

Keywords: human capital; growth and economic development; education; investment in education; competitiveness

1. Introduction

According to certain opinions, economy, economic approach is accused of intellectual imperialism whereas the economist's approach is becoming increasingly used by researchers to analyse phenomena and behaviours outside of this domain: education, bureaucracy, politics, history. The fact that the economic approach in explanation of human behaviour is extremely fertile is proven by performance in research of Nobel awarded for economy Gary S. Becker.

Building an economic approach, attempt to provide a comprehensive framework for understanding the human behaviour. Integration of education into a model-based approach is now a tradition for the economist. Taking into consideration the empirical nature of studies devoted to education most of them use data selected on the basis of developments in the real world so the observed effects of education should reflect the behaviour of educated

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individuals. All scientific theories are based on, either implicitly or explicitly, concepts about human behaviour. Logical consequence definition of economy as a science of rational action, is that in any social space in which there is rational action can be used method and economic theory.

2. Theories of economic growth

According to certain opinions, economy, economic approach is accused of intellectual imperialism whereas the economist's approach is becoming increasingly used by researchers to analyse phenomena and behaviours outside of this domain: education, bureaucracy, politics, history. The fact that the economic approach in explanation of human behaviour is extremely fertile is proven by performance in research of Nobel awarded for economy Gary S. Becker.

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For classics Adam Smith and David Ricardo economic growth is the result of the capital accumulation (converting a part of plus product in capital) and leads to an increase in wealth per capita by an increase in capital productive per capita. In classic theory, economic growth factors are the classics factors of production: work, nature and capital. According to Keynesian concept, the national income increases in response to modification of aggregates demand. In the model developed by Keynes, income increase is a multiple of investment growth. At the aggregation level of national income, net investment has as a source of financing – saving process, when economy is in equilibrium.

Harrod-Domar model is based on the idea that households and businesses saving is the source of investment, reinvested savings leads to an increase in capital and as an effect - on economic growth. Harrod-Domar model uses three types of growth rates: the natural growth rate, guaranteed rate of growth and the actual rate of economic growth.

Goodwin model highlights influence of proportion in which revenues are allocated to investments as a source of economic growth. In Goodwin's model variables are: employment resources, growth rate of productivity, profits, investment, wage rate and the level of consumption.

Arndt H. V. considers economic growth an increase in the average income per capita (measured in the usual way by reporting GDP to population). [1] Perroux Fr. considers growth as increasing the size of the national economy in terms of total goods and services produced during a period, including depreciation. In his opinion, however, only the increase in quantity constitutes long-term economic growth, the short term constituting the expansion. In conception of classics, the factors of production are limited to employment, land and capital. [2] Kuznets S. (2001) considered the economic growth of a country as an increase in the capacity to provide more and more different economic goods; this capacity is based on the latest technology, as well as on institutional and ideological adjustments, which they require. [3]

Economic growth is defined as the process of increasing the size of the economic results, determined by combining and using factors of production and evidenced by macroeconomic indicators - gross domestic product, gross national product and national income in real terms, both total and per capita.

The concepts of economic growth and economic development are associated with the economic progress. It highlights specificities and development purposes at each stage, compared to previous stages, and support an optimistic perspective on the evolution of society. Economic growth is important because it is the main quantitatively factor for economic development.
3. The investment in human capital - assumptions and limits

At the micro level, human capital theory suggests that education is an investment that increases the productivity of workers that increase income of workers [4]. Mincer included measures of training and experience at the place of work in Mincer's equation [5]. A number of studies have confirmed the positive impact of education on an individual's income, as well as those of Card [6], Amermuller et al. [7], Cohn and Addison [8], Schultz [9], Becker [10], Mincer [5], Arrow [11] and Spence [12]. Temple [13] and Harmon et al. [14] concluded that there are strong evidences that the private profits in education are clearly high. Temple estimated that private profit rate to additional schooling in one year is usually between 5 and 15%. [13]

Xiao found that prior formal education work has a positive impact only on initial wages for employment and that training in the workplace increase wages through an increase in productivity, based on a survey of wages in 1996 over 1023 employees in Shenzhen, China. [15] Mason et al. found that professional skills have a positive impact on increasing the average labour productivity in six from seven countries taken into consideration. Therefore, education can be more than just formal schooling. [16]

There is a doctrine, which suggests that education does not increase productivity; rather, it indicates potential for productivity. Spence developed the model of signalling Job Market which suggests that the people follows courses of universities to show employers that they are more capable than others, even if universities do not increase their productivity. [12] Arrow has developed a mathematical model that shows that higher education helps to identify the persons highly capable and remove those less able. [11] Throw suggested that the companies may instruct workers with a higher education at a lower cost. [17] Harmon et al. showed that the proportion of education does not fully reflect the impact of education on the productivity if it is correlated with unobserved features, as well as the ability, which are also correlated with wages. [14] Therefore, the coefficient of education is much more likely to reflect both the impact of education on productivity, as well as the impact of non-observed variables that are correlated with education. However, Arrow did not consider that higher education serves primarily as a screening device due to the fact that vocational schools and marks at scientific disciplines forms useful skills that are very searched on the market. [11] However, this distinction is less clear for liberal arts courses. Sianesi and Van Reenen have concluded also that education enhances productivity and is not just a device for signalling abilities individuals for employers. From the point of view of the authors, the most plausible answer is that both productivity and signalling effects occur at the same time and it's just a matter of which the effect plays a dominant role in determining the individual’s return to education. [18]

**Fig. 1. Methods of transmission of the impact of education on economic performance through the human capital view [19]**

![Fig. 1. Methods of transmission of the impact of education on economic performance through the human capital view [19]](image)
Figure No. 1. Summarize the following idea: The increase in productivity is due to skills that are trained in the processes of education, thus the more educated a person is, the more he will be better able to assimilate new information, to form his new abilities, to become familiar with new technologies, therefore registering a labor productivity growth trend.

4. Material and methods

Efficiency, economic performance and competitiveness impose with priority investments in human capital with the purpose of creating professional competencies, which are specific to the field of activity and to the capability of adapting to the dynamic of the labor market’s demands. Ensuring the quality of the human capital from the higher education, from the perspective of the formation and the certification of professional competencies, regards two categories of human resources:

a) The graduates – by ensuring the competencies, the skills and the abilities, which can allow an easy entering on the labor market, in accordance with its demands,

b) The academic body – by its formation in the spirit of development and modernization of the initial and continuous formation.

The activity in universities, its goal, must be correlated with the stringencies of the society, with the other levels of organization of the education and with the economic realities.

Specialists think that an educational system which does not develop the pupils’/students’ capability of capitalizing the knowledge in different concrete situations, the creativity and the innovative spirit cannot be considered as being good and efficient education systems.

Through educational capital certified by diplomas, the problem of measuring at an individual level is not very tetchy, even though the different methods of usage can be discussed: measuring by years of school, by degrees of instruction. In exchange, the non-formal education produces stocks of educational capital, which are very difficult to estimate.

The simple measurement of the scholastic participation is “less satisfactory than the direct testing of abilities, but it can be difficult to test all the relevant abilities” OECD [25]. A possible measure is the usage of an indirect measure, as the formal educational capital stock of the parents (expressed for example through the total number or the mean value of school years that parents graduated). An alternative method is the one suggested by International Adult Literacy Survey [25], in which adults are evaluated on three scales of general culture: prose literacy – knowledge and abilities necessary to understand and use the information from newspapers, fiction tests and explicative texts; document literacy – knowledge and abilities necessary to find and use the information contained by official forms; quantitative literacy – knowledge and abilities necessary to apply mathematical operations in lettered materials.

Using practical research methods: comprehensive quests regarding the demand for labor force and the evolution of occupations on the Romanian labor force market in the 2010-2012 perspective; available demographic statistics, methods used in the prognostic analysis of the labor market in the most important EU countries, studies made by the National Institute of Statistics with the pilot inquiry named “The growth of the interest for the higher education”, the sample represented by the adult population (aged between 25 and 64 years), analyzing the degree of participation at any learning activities, the quantitative and the qualitative results obtained after the adaption of the methods, lead to the idea that the education must be seen as a process which needs to show its efficiency and effectiveness in time, a process that invests in human capital in a planned manner, for it to show its productivity in time.

The research of Richard H.M. [28] has shown that there is a more pronounced economic growth in countries where the higher education system is more developed. Some economists analyzed the existing link between different fields of study that higher education provides and economic growth. Their results put technical studies and their positive effects on economic growth first. Observations regarding the effects of higher education on
economic growth strengthen the idea that it can lead to an increase in national, but also individual competition. At the same time, it has the ability to sustain the increase in the quality of life for the entire community, and this is an essential condition for increases in individual income, as well as for finding and keeping a job.

Occupying the workforce remains a priority for Romania as far as strategies and growth measures are concerned. We are keeping in mind the Europa 2020 strategy, which provides a growth in the level of qualification in order to get a better synchronizing between current available skills and the needs of the workforce. At the same time, the increase in employability for youth aged 15 to 24 is a highly discussed topic within the European Committee regarding the workforce; it was proposed in the April 18 Communicate called “For a general recovery of jobs”. In this communicate, the Committee asked for an active mobilization of member states, social partners and other interested parts that are willing to face the actual challenges regarding occupying the workforce in the Union, especially among youth. The committee pointed out the high potential for creating jobs in the field of ecologic economy, in the field of medical and social services, as well as in the field of IT&C. In the same context, they proposed a promotion of entrepreneurship, easier access to aid and micro-financing for newly funded companies, using wage aids to help increase net growth of new jobs and reducing taxation on labor, as well as balanced reforms to the current legislation regarding labor. The purpose of these policies is to help the unemployed youth aged 15 to 24 that have no professional qualifications. The number of such youth NEETs (Not in Education, Employment or Training) rises above 7.5 million, meaning 12.9% of Europe’s youth. A large part of them abandoned school and professional qualifications very early, and another part consists of immigrants or comes from disadvantages areas.

We see that Eurostat’s data on the situation in Romania shows that, for 2011, the percentage of youth aged 15 to 24 that had neither education nor jobs was 20.9%, even larger for women (22.8%) than men (19.2%) and 4.2% larger than the EU average (16.7%). On a regional level, the highest rate was recorded in the Central region (33.5%), followed my South Muntenia with 27.6% and South-East with 25.5%.

Table 1. Youth aged 18 to 24 that have neither jobs nor education, based on NUTS 2 regions (beginning with 2000) – NEET rate

<table>
<thead>
<tr>
<th>GEO/TIME</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>European union- 27</td>
<td>14.1</td>
<td>13.9</td>
<td>16.1</td>
<td>16.5</td>
<td>16.7</td>
</tr>
<tr>
<td>Romania</td>
<td>16.0</td>
<td>13.4</td>
<td>16.5</td>
<td>20.0</td>
<td>20.9</td>
</tr>
<tr>
<td>Macroregion one</td>
<td>13.5</td>
<td>12.1</td>
<td>17.6</td>
<td>22.3</td>
<td>24.4</td>
</tr>
<tr>
<td>North-West</td>
<td>10.8</td>
<td>9.9</td>
<td>13.7</td>
<td>15.5</td>
<td>16.5</td>
</tr>
<tr>
<td>Center</td>
<td>16.4</td>
<td>14.3</td>
<td>21.9</td>
<td>29.8</td>
<td>33.5</td>
</tr>
<tr>
<td>Macroregion two</td>
<td>17.2</td>
<td>13.9</td>
<td>15.4</td>
<td>19.5</td>
<td>20.1</td>
</tr>
<tr>
<td>North-East</td>
<td>13.5</td>
<td>10.7</td>
<td>12.7</td>
<td>16.8</td>
<td>16.3</td>
</tr>
<tr>
<td>South-East</td>
<td>22.4</td>
<td>18.3</td>
<td>19.1</td>
<td>23.2</td>
<td>25.5</td>
</tr>
<tr>
<td>Macroregion three</td>
<td>16.4</td>
<td>14.2</td>
<td>17.4</td>
<td>21.4</td>
<td>22.1</td>
</tr>
<tr>
<td>South-Muntenia</td>
<td>20.3</td>
<td>16.7</td>
<td>21.9</td>
<td>26.3</td>
<td>27.6</td>
</tr>
<tr>
<td>Bucharest-Ilfov</td>
<td>10.6</td>
<td>10.4</td>
<td>10.5</td>
<td>13.5</td>
<td>13.2</td>
</tr>
<tr>
<td>Macroregion four</td>
<td>16.5</td>
<td>13.4</td>
<td>16.0</td>
<td>16.2</td>
<td>16.4</td>
</tr>
<tr>
<td>South-West Oltenia</td>
<td>18.6</td>
<td>15.0</td>
<td>18.1</td>
<td>18.5</td>
<td>17.0</td>
</tr>
</tbody>
</table>

Source: Eurostat

The percentage of youth aged 15 to 24 that have neither a job nor education rose from 13.3% in 2007 to 17.4% in 2011, averaging 4.5% more than the European average of 12.9%. The year 2011 has a percentage of 19.7% for youth aged 15 to 25 that were unemployed and had no education, while the percentage of youth that did not want to work was 5.5%. In the same way, we have the percentages of the ISE study in 2009 on ten grade students for SAM. The results show the growing intention to continue studying after completing the 2006-2007 school year and a very low intention of getting a job. The study also shows that the intention to continue studies varies depending on: the education level, educational branch, home environment. Identifying the opportunities
regarding their possibilities to achieve higher education levels, and also encouraging apprenticeship at the workplace is a must and also an obligation of both public and private institutions. Therefore, the above-mentioned data require that EU member states immediately apply improvement policies for NEET youth and solving unemployment for the European youth.

Romania aims to increase the number of employees aged 20 to 34 that have an education and/or professional formation to at least 82%. This aim comes as a result of the decreasing number of graduates aged 20 to 34 that got a job. (Table no 2)

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU 27</td>
<td>80,0</td>
<td>80,9</td>
<td>77,1</td>
<td>76,4</td>
<td>76,2</td>
</tr>
<tr>
<td>Romania</td>
<td>79,2</td>
<td>84,8</td>
<td>77,6</td>
<td>71,1</td>
<td>70,1</td>
</tr>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU 27</td>
<td>82,8</td>
<td>83,3</td>
<td>78,5</td>
<td>78,6</td>
<td>78,5</td>
</tr>
<tr>
<td>Romania</td>
<td>78,2</td>
<td>87,2</td>
<td>79,1</td>
<td>71,9</td>
<td>72,1</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU 27</td>
<td>77,2</td>
<td>78,5</td>
<td>75,7</td>
<td>74,4</td>
<td>74,0</td>
</tr>
<tr>
<td>Romania</td>
<td>79,6</td>
<td>82,2</td>
<td>76,1</td>
<td>70,4</td>
<td>68,3</td>
</tr>
</tbody>
</table>

Source: Eurostat

There have been studies aimed at getting information regarding the decreasing tendency of graduates’ access to the job market; they showed that employers search for people with job experience in certain fields. These demands led to an increase in graduates’ unemployment in the recent years, which required the creation of new degrees, both BA and Master degrees. All these aspects are added to learning programs that last a lifetime. The results for Romania are far from achieving the objectives (table no 3).

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
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<tbody>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU 27</td>
<td>9,3</td>
<td>9,4</td>
<td>9,3</td>
<td>9,1</td>
<td>8,9</td>
</tr>
<tr>
<td>Romania</td>
<td>1,3</td>
<td>1,5</td>
<td>1,5</td>
<td>1,3</td>
<td>1,6</td>
</tr>
<tr>
<td><strong>Men</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU 27</td>
<td>8,4</td>
<td>8,5</td>
<td>8,4</td>
<td>8,3</td>
<td>8,2</td>
</tr>
<tr>
<td>Romania</td>
<td>1,2</td>
<td>1,3</td>
<td>1,3</td>
<td>1,2</td>
<td>1,6</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU 27</td>
<td>10,2</td>
<td>10,2</td>
<td>10,2</td>
<td>10,0</td>
<td>9,6</td>
</tr>
<tr>
<td>Romania</td>
<td>1,4</td>
<td>1,6</td>
<td>1,6</td>
<td>1,4</td>
<td>1,5</td>
</tr>
</tbody>
</table>

Source: Eurostat

These results confirm the fact that there are some flaws amongst the active population, and these results are shown as low percentages of employment within the educated and professionally trained population. Romania only had a 0.3% increase in these rates in the 2007-2011 period, while the EU average was slightly decreasing.

Fixing these issues requires permanent implication from the various parties in the market. We are talking about the need to increase the number of Romanian and foreign companies that can offer professional training programs to employees in the field; the minimization of the procedures required to organize qualification training programs outside the education system; acquiring relevant qualifications for the labor market and sustainable integration as well as developing key necessary competencies to forming the work attitudes that the employers require.
5. Conclusions

In the last years in Romania, the human capital was affected by the austerity measures, and the effects are hard to quantify. There have been affected fields of national importance – one of them being the education, and the human capital is hard to regenerate implying long cycles and very high costs. But maybe the most eloquent example is Japan, a country that is missing inherent natural resources, but understood that the future is based on education, and on investments in human resources, and has ended up being one of the most developed countries of the world.

It is important to mention the fact that it has formed its educational system even before creating a successful economic system, and has allocated in some periods more than a tierce of its budget for investments in human capital and consolidation of the education.

In Romania, the educational system must be oriented to satisfy the real demands present on the labor market. Taking into consideration the human resources that Romania has and the fact that those resources are underused, the private and public allocations oriented in human investments must become a priority for the economic policies. To be able to develop and aspire to a sustainable growth you need a well-trained and developed human capital.

Among the elements that characterize an educational system in the case of Romania, we can mention transparency, simplicity and difficulty to administer the necessary funds to the investments in education. The tendency of young people to continue their studies contributes to the tout ensemble development of the society – the evaluations are based in general on the high rates of recovery of the investment in education.

In order to maximize the effects of the education on the development of the human capital and on the economic development, certain rules must be followed: the quantity and the quality of the education measured in the number of years of studying; the percentage of the GDP allocated to education; the rate of scholastic participation, the results, the scholar performances must to be high and the educational offer must correspond to the current demands and to the perspective of the labor market; the existence of a social and economic field, politically stable, and of an accelerated economic growth rhythm; the differences between revenues at an individual level need to correspond to the level of scholastic and professional preparation of the individual. The concept of human capital thence reflects the investment in education and the development of some competencies and skills necessary to accomplish a certain economic activity. Today in Romania the achievement of the objective “Investments in the human capital” becomes urgent; it is necessary to get through certain steps not only conceptual, but also regarding the habit of mind.

The formation of the human capital through investing educational processes remains a global responsibility for all individuals and governments.

Acknowledgements

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