THE INVESTMENT IN HUMAN CAPITAL – MORE THAN AN IDEA IN PRESENT AND FUTURE REALITIES

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Abstract: *The essence of the idea of human capital is of "investment in people" in order to improve their productivity. Education and health costs are generated in the hope of future benefits, hence the term "human capital investment". In general, the human capital is treated as an investment. Moreover, the investment is a continuous one, targeting either the development (training or continuous education courses, for example) or to maintain the capital stock (regular medical appointments, for example). Accepting numerous studies published in the last decades regarding the human capital, we will mention education as a main factor contributing to the training and development of individuals. The costs of education are investments in the human capital, investments that assure the accumulation and avoidance of its depreciation.*
In countries, there is a consensus, that parts of the level of government investment include also the need for investment in educational services, governments undoubtedly playing a central role in directing the formation and development of human capital. We need to invest in human capital, doubly so as that the investment in education is a profitable one, the rate of capitalization of the investment in education ranging from 5-30%, according to OECD statistics.

Keywords*: human capital, investment in human capital, education, professional training*

JEL classification**:** *I 20, I 21, 0 11*

1. Introduction

We agree that the present shows an increase in the importance of human capital for the economic progress and the way governments and society can intervene for a future development, development that will depend largely on the individuals' skills and knowledge; that, finally, the new society, makes from *the human capital one of its cornerstones.*
The idea that the human society has known certain development levels, each bringing it on higher levels of organization and operation, is real and sustained. James Michaels, in his work "How new is the new economy" points the ages that mankind passed and passes: stone age, iron age, agriculture age , industry age, (information) technology age, knowledge age (Michaels, 1999 4). Commonly known as revolutions, they made an imperceptible transition from an economy based on material resources to a knowledge-based economy, focusing on the intangible assets and less on the financial and fixed assets. If in the classical economy, the ability to compete depended more on the availability or quantity of classic production factors, now it is more important to use them effectively and to considerate some influencing factors such as: *human capital, investment in human capital, macroeconomic stability and quality of institutions.*
Therefore, the analysis of human capital and the investment in human capital is a complex and actual problem, which can be treated both at international / national level and at the company level. Multiple studies reflect the close correlation between the accumulation of human capital, economic growth and competitive advantage, as well as direct and indirect impact on the economic system.

The attempt to transpose in a single article all these trajectories is difficult and undoubtedly impeachable of omissions. The work aims to highlight the positive relationship between the investment in human capital and economic growth; the magic of human capital results from the increased efficiency of specific investments as its stock increases.

2. Human capital - some considerations about the origin of the concept

We want to preface our study indicating that human capital has captured the attention of a large number of economists who believed that human beings and their skills as a capital, well known names in the history of economic thought such as Petty, Smith, Say, Roscher , Bagehot, Ernest Engel, Walras and Fisher. However, the foundations of this theory were created by A. Smith, culminating with the 60's, when the modern theory of human capital developed around the University of Chicago, led by T. Shultz, president of the American Economics Association. Among the promoters of human capital we also mention G. Becker (Nobel Prize in 1992) and J. Mincer.

Regarding the classical economists, as M. Blaug notes they have failed to explore the implications of human capital in the labor market. Adam Smith started, JS Mill went a little further and A. Marshall certainly started to shed light on the human capital theory stating that "the most valuable capital is invested in human beings". No more, no less, Smith, Mill and Marshall have only opened the way for studies of Becker, Schultz, Mincer etc.

Adam Smith (1776) was the first classical economist that included human capital in the definition of capital. Without offering a way to estimate the value of human capital (the size of quantitative analysis is missing), Adam Smith in "Wealth of Nations" defined as elements of capital in general skills and knowledge "useful" of the human being, regarded as a machine associated with both costs and the ability to produce income instead.

Th. R. Malthus developed a theory *"The theory of population"* that analyzes in dynamic the population, its growth and the ability to feed (the population increases in geometrical progression and consumer goods in arithmetic progression), the human capital being in this model cause and effect. Unlike Smith who analyzed the human capital in terms of quality, Malthus failed precisely this qualitative side, but was the first author who has speculated on demographic issues.

From K. Marx, who built the worker "collective productive", we learn how not to think on the subject of human capital (Popescu, CC, Pohoaţă, I., 2007.5). Marx placed the human capital analysis outside the qualitative parameters, the qualitative side of the workforce being reduced to zero. From his work "Capital" results that the simple and complex work have a historical character changing from one stage to another, along with the scientific progress. Such an interpretation is far from the truth.

The economists after Smith neglected to study this particular type of capital considering what contributes decisively to the production of goods and services are installations, lands, buildings, etc. and their corresponding investments. Economics needed almost two centuries to return to Smith's remark that investments in knowledge and skills of individuals bring profit and participate directly in the enrichment of a nation. The explanation is given by the quantitative tint, which characterized the neoclassical analysis.

The late 50s and the whole 7th decade brought the human capital to the attention of the academic world, especially under the impetus of the works of Theodore Schultz *"Investment in Human Capital*", Jacob Mincer "*Investment in Human Capital and Personal Income Distribution"* and Gary Becker, *"Human Capital"* .

Initially, the modern theory of human capital developed in the group around the University of Chicago led by Theodore Shultz, president of the American Economics Association. Postulating the rationality of individuals, Schultz and his collaborators have treated the educational and health expenses as investments in order to increase labor productivity and hence economic growth.

Jacob Mincer, Gary Becker, and those who followed them were more focused on the study of relations between the human capital and the income from labor, specifically on the study of variations in income in terms of the individuals' education level. This is the subject of the human capital theory, whose outstanding exposure is performed by Becker. The essence of the theory is simple: the individual incomes increase substantially depending on the level of his education. Mincer and Becker have generally restricted their approaches of the human capital to the analysis of the educational capital, highlighting the costs related with the investing in training, and the relationship between school and post-school investments.
In the recent decades, the analysis on human capital has begun to define it, especially as educational capital, as a result of the impact of the human capital theory. Blaug (1976) shows that *education is in fact the essence of human capital*, its importance is superior to the health related components.

3. The investment in human capital - between theory and observation

Undoubtedly, humans accumulate useful knowledge and skills and the sizing of this "capital", as well as the conventional capital, are covered by investments. Therefore, the efficiency in the allocation of rare resources comes from the investments made to achieve substantially improved quality and quantity effects. Among the efforts made, *"education and professional training are the most important investments in the human capital*" (Becker, 1997.1) but not the only. For Schultz, "the investment in man" (Schultz, 1981, 7) could mean the amount of resources required for a normal diet or funds allocated to ensure a good health. Through it, we can also understand the striving to protect the environment and, in principle, any activity that can improve the quality of life. But, underlying all, there are undoubtedly, the resources invested in education and research. Schultz stated that such investments have increased in Western societies in more accelerated paces than those in the "conventional capital"; moreover this increase can be considered an important feature of the economic system, on which the national product growth and the productive superiority of the technologically advanced countries may be explained (Bundă. RN, 2008, 2).
Both the expenses on education and on health can be seen as an investment and as an input (Schultz, 1981, 7). In general, the treatment of the human capital as an investment was imposed, moreover this investment must be a continuous one, targeting either the development or the maintenance of the capital stock.
Accepting numerous studies published in the last decades on human capital, we will discuss about education as a main factor contributing to the training and development of individuals. The expenses on education are investments in the human capital, investments that assure the accumulation and avoidance of its depreciation. Romer in his work *Human Capital: Theory and Evidence* (1989, June) focuses on education, arguing that its role is manifested at three levels:
 by forming physical abilities (strength and physical endurance, formation of fast reflexes);
 by educational skills obtained through primary and secondary education;
 by the "scientific talent" developed through post secondary education.
One of the most important motivations of the individuals to invest in education is linked to the accumulation of a human capital stock - embodied in knowledge and skills, leading to an increase of productivity and, hence, of the potential earnings that the individual hopes to obtain - expressed both in monetary and non-monetary terms.
OECD has confirmed the importance of investing in education as a determinant of economic growth, education being associated with various benefits. In the countries, there is a consensus, that a part of the level of government investments include the need for

investment in educational services, governments undoubtedly playing a central role in directing the formation and development of human capital. All OECD countries should provide young people with a minimum of capital accumulated during compulsory education, as a major part of knowledge, skills, qualifications are learned in school through the educational process. Thus, there was recognized the crucial role of education in the acquisition and development of human capital and ,therefore, in the economic development of a country.

The Center for the Study of Living Standards (CSLS), Ontario (2001, 9) has defined the concept of education indicators in indicators of inputs (inputs) showing the size and quality of investments in the human capital and of results (outcome). Education is the most important component of the human capital and therefore its determination indicators are closely correlated with: the investments in the capital stock, the training programs provided by the government, the expansion of opportunities for secondary education, the enrollment rates for specific programs and the importance of lifelong learning.

As to maximize the effects of education on the development of human and economic capital, some conditions must be observed:

- the quantity and quality of education measured in number of years of study, the percentage of GDP allocated to education, the school participation rates, the results, the school performances, to be high and the educational offer to meet the current and future demands of the labor market;
- the existence of a socio-economically and politically stable environment and fast economic growth rate;
- the income differences at the individual level, remuneration must correspond to the level of education and professional development of the individual.

The public budgets are generally the major paymasters, but private expenditures must be also considered. The beneficiaries of human capital development are alike the individuals, the companies and the society. Investing in the human capital, as a political decision with important distributional and growth effects involves five major types of options (OECD 1998, 10):

- the decision for the level of investment, optimal for the company in question and its members;
- the costs sharing between the public budget, companies / organizations and individuals, all parts benefiting from the investment;
- the optimal allocation of rare resources (such as the access to higher education or pre-school, the access to medical care, etc..), taking into account the unequal distribution of benefits;
- ensuring equity in the distribution of the benefits of investing in the human capital;
- establishing the procedures for monitoring, measuring, evaluation and accountability for the results of investment in the short, medium and long term.

From this point of view, the role of the government in education should be reduced to financing primary education (which produces strong positive externalities as Friedman suggests) or lending students during the university courses.

4. Investing in education - a few considerations about Romania

Investing in the human capital (particularly in education) has long-term effects, appearing first as a cost element (cost based approach). *The cost-based approach (cost-based)* estimates the human capital stock by adding the education costs (including the opportunity cost) and other elements defined as investments in the human capital.

In general, education is financed by the public sector, by funds allocated directly to the educational institutions (direct expenses for the educational institutions) or by supporting students and their families with scholarships and public loans as well as by transferring

public subsidies for educational activities; all types of transactions are reported as total public expenses on education.

Table 1: Provides a summary analysis of these costs across countries. Public spending on education, total (% of GDP)

Country	% of GDP							
	2006	2007	2008	2009	2010	2011	2012	Average
EU-27	5,16	5,07	5,16	5,55	5,51	5,33	5,26	
EU-28	:	:	:	:	:	:	5,26	
EA-17	4,82	4,74	4,81	5,22	5,18	5,05	5,01	
EA-18	4,82	4,75	4,82	5,23	5,18	5,06	5,02	
DK	7,05	6,75	6,93	7,97	8,06	7,76	7,88	7,48
SE	6,90	6,68	6,84	7,23	6,90	6,80	6,82	6,88
CY	6,37	6,32	6,80	7,24	7,45	7,18	6,69	6,87
SI	6,36	5,93	6,10	6,53	6,60	6,62	6,41	6,37
EE	5,97	5,88	6,72	7,11	6,70	6,34	6,40	6,44
FI	5,99	5,75	5,89	6,58	6,57	6,40	6,35	6,22
BE	5,82	5,73	5,90	6,23	6,14	6,26	6,32	6,06
FR	5,76	5,57	5,66	6,16	6,16	6,05	6,14	5,93
UK	6,09	6,04	6,32	6,85	6,83	6,21	6,02	6,34
MT	5,51	5,31	5,22	5,39	5,67	5,74	5,91	5,54
NL	5,35	5,33	5,45	5,90	5,84	5,78	5,81	5,64
PT	6,60	6,15	6,25	6,80	7,07	6,57	5,66	6,44
LT	5,33	5,17	5,78	6,83	6,09	5,79	5,60	5,80
AT	5,24	5,17	5,37	5,74	5,73	5,59	5,57	5,49
LV	6,03	5,85	6,58	6,78	6,09	5,73	5,48	6,08
PL	5,95	5,67	5,74	5,58	5,65	5,54	5,46	5,66
LU	4,38	4,24	4,64	5,30	5,23	5,13	5,43	4,91
IE	4,57	4,76	5,29	5,40	5,40	5,19	5,21	5,12
CZ	4,73	4,49	4,47	4,81	4,82	4,92	4,84	4,73
HU	5,82	5,45	5,23	5,32	5,65	5,20	4,80	5,35
ES	4,29	4,38	4,61	5,05	4,94	4,81	4,47	4,65
DE	4,04	3,94	3,97	4,40	4,43	4,36	4,34	4,21
IT	4,56	4,56	4,40	4,64	4,46	4,19	4,15	4,42
EL	3,88	3,87	4,12	4,26	4,01	4,11	4,10	4,05
SK	3,74	3,86	3,48	4,35	4,47	4,08	3,85	3,98
BG	3,74	3,79	4,12	4,32	3,79	3,63	3,52	3,84
RO	**4,12**	**3,94**	**4,47**	**4,09**	**3,35**	**4,13**	**3,01**	**3,87**
IS	8,30	8,11	8,35	8,55	8,34	8,08	8,00	8,25
NO	5,36	5,38	5,19	6,04	5,87	5,56	5,47	5,55
CH	5,74	5,56	5,65	6,12	6,13	6,11	6,14	5,92

Sources:http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/main_tables

We may conclude that countries like Denmark or Iceland allocate over 8% of GDP for education, while the EU average is of 5.26% of GDP; in the case of Romania, the

percentage of GDP for education ranged from 3.28% in 2001 to reach 4.47% in 2009; the same percentage value reached 3.01% in 2012 (hence important conclusions can be drawn concerning the attitude of political decision-makers towards education). We must emphasize that, in 2012, the lowest ratios were recorded in Romania (3.0% of GDP), Bulgaria (3.5% of GDP) and Slovakia (3.9% of GDP).
It should be noted that during 2001-2012, the proportion of the global GDP allocated to education remains stable around 5.3%, while in Romania the average is 3.87%. However, this value hides large disparities between countries. In Ireland and Iceland the proportion of GDP allocated to education increased by over 20% between 2000 and 2012; also, this increase was over 10% in the Czech Republic, the Netherlands and Great Britain.
Therefore, the increased financing of education exclusively on public funds is an issue that may raise questions; in theory, the states should pay at least 6% of GDP for education, as other sources will be attracted from the private sector of the economy; the accumulation of both financing sources could provide the education and the qualification of human capital needed in the global competition.
In addition to public financing intended for education, a particular importance is given to private resources (table no. 2), which is why Romania should provide more alternatives (to attract private sources, a more intense public-private cooperation) and equal opportunities for the development of private education, especially in higher education. There are states that have created such systems, relevant in this respect being the way of allocation of resources.

Table 2: Expenditure on education for all levels of education

COUNTRIES	Public expenditure on education % of GDP		Private expenditure on education % of GDP		Annual expenditure on public and private educational institutions per pupil/student By level of education (PPS based on full-time equivalents)	
	2002	2010	2002	2010	2002	2010
UE -28	-	-	-	-	-	-
UE – 27	5,10	5,44	0,6	0,82	5307,1	6900,1
Belgium	6,10	6,57	0,36	0,34	6573,2	8036,5
Bulgaria	4,03	4,1	0,69	0,63	1574,9	2639,7
Czech Republic	4,32	4,25	0,24	0,57	2947,3	4600,4
Denmark	8,44	8,8	0,28	0,44	7378,5	9604,8
Germany	4,70	5,08	0,87	0,74	6057,9	7737,9
Ireland	4,29	6,41	0,28	0,48	4939,5	-
Greece	3,57	-	0,17	-	3548,6	-
Spain	4,25	4,98	0,54	0,82	4850,3	6831,5
France	5,88	5,86	0,56	0,64	6160,7	7337,4
Italy	4,62	4,5	0,35	0,46	5735,9	6097,3
Cyprus	6,55	7,92	1,4	1,61	5495,4	9144,6

Latvia	5,71	5,01	0,82	0,57	2267,1	3628,6
Lithuania	5,84	5,36	:	0,68	2012,4	3738,3
Hungary	5,38	4,88	0,55	-	:	-
Malta	4,38	6,74	0,61	1,31	3447,9	7645,4
Netherlands	5,15	5,98	0,89	1,04	6779,9	8522,5
Austria	5,72	5,89	0,38	0,52	7691,5	9217,8
Poland	5,41	5,17	0,64	0,8	2506,5	4483,6
Portugal	5,54	5,62	0,09	0,43	4190,7	-
Romania	**3,51**	3,53	**0,16**	0,12	**:**	2132,5
Slovenia	5,78	5,66	0,83	0,68	4930,3	6633,9
Slovakia	4,30	4,22	0,2	0,73	2032,2	4173,1
Finland	6,21	6,85	0,13	0,15	5707,2	7419,6
Sweden	7,43	6,98	0,17	0,16	6742,8	8311,7
United Kingdom	5,11	6,22	0,89	2,01	5707,5	8334,6
Iceland	6,79	7,6	0,57	0,75	13162,4	7226,7
Liechtenstein	2,96	2,68	0,26	-	8470,3	-
Norway	7,58	6,87	0,61	0,1	8554,7	10403,9
Croatia	3,72	4,27	0,13	0,26	:	3796,1
United States	5,58	5,49	1,9	2,25	9334,6	11508,7
Japan	3,65	3,85	1,21	1,54	6445,6	7747,3

Sursa:http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/main_tables

The analysis of the summarized above data clearly highlights the fact that, in general, the education expenses are financed to a very large extent from public funds. Indeed, in all countries, public funds are at least 75% of the costs on education at all levels; the share of private financing is low, it varies significantly from country to country. The position is, probably, similar in the countries for which we don't have all the data on private financing. No doubt, the share of private financing attracted by education depends, among other factors, on issues such as: whether the access to preschool and primary education is free or not and whether the registration and tuition fees are paid by students in tertiary education; if so, private financing depends on the amount of these fees. The relative shares of funding for education (public and private) are also linked to the institutional autonomy.

In conclusion, the basic idea that we want to emphasize is that the allocation of resources in education should be made after the criterion of economic and social efficiency taking into account the fact that the investment in education should be continuous and that the results become visible only in the medium and long term.

 Therefore, education is by far the number 1 project in Romania in the coming years. The complex and long-term focus of our country on profound transformation of education at all levels, in an unprecedented manner, represents the critical condition of success of the new Romania.

Whether we like it or not, whether we agree or not, the data place Romania in the world and in Europe on a lower level. Romania is mediocre because the public system of education in Romania is mediocre, unworkable and ineffective. The conclusion we have reached is especially true as the aboriginal potential is clearly underutilized by neglecting

the private or public investments in education and research. The preparation and exploitation of knowledge, skills, professional skills and cultural values depend on the public awareness that only the transformation in priority of the investments in human capital can bring the necessary competitiveness to face the new circumstances of the dynamic of modern economy.

5. Conclusions

Overall, taking into account these aspects, as different, as interconnected, the hope is to have justified the consistency of the idea of "human capital investment", that beyond a simple title that "sounds good", remains an idea deeply rooted in reality, for the following reasons:

- the human capital (the man) has always underlied achievements and progress;
- the access to knowledge tends not to depend anymore on getting a predetermined education, specific to a certain age, the process of accumulation of the individual human capital being of "life long learning";
- the human capital is, at the same time, resource that, usually, is assessed by use and intrinsic good of individuals - the same kind; in addition, its limiting seems to depend less on its physical side and this can cause radical effects;
- the human capital and the investment in human capital has become a visible condition of economic and social existence.

For Romania, there is a clear difference in the investments in education (in highly developed countries the average is 5.33% of total government expenses, while Romania, according to the data, is among the countries with a low percentage of expenses for education, the average is 3.87%). Taking into account the comparison Romania – EU, it shows significant differences on the category of allocated expenditures, Romania being too far from the European maximum achieved by Denmark and Iceland. A brief assessment of the investment in the human capital (particularly in education) reveals underinvestment in this area and hence, consequently, its effects on the economic performance of the labor force.

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