

# Human capital investment

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**Abstract:** Once with the development of the human capital theory, the education received an economic value. Leading theorists and specialists in the field have shown that the remarkable economic effects of the investments in education influence the chances of acquiring a job and earnings, demonstrating how the theory justifies such an investment. At the hand, the allocation of resources in human capital brings performance and benefits to companies investing in their employees. Also, the investment in human capital is strategic for any country that seeks to create a knowledge economy. Considering the above arguments, the aim of this paper is to highlight the characteristics of investment in human capital, the types of investment, the factors of education investment and the entities interested in investing and their benefits.

**Key words:** human capital, education, health, development, investment

## Introduction

Human capital consists of those skills which are characteristic of individuals and remain the same in their entire social environment. Human capital can be sold on market labor in exchange for economic resources of any kind. Basically, human capital arrives

at 9am and leaves at 5pm. On the other hand, the investment in human capital represents the investing in education or some form of on-the job training to improve workforce quality which provides returns to the individual as well as to the economy as a whole. Individuals benefit from higher earnings,

and the economy as a whole benefits from higher productivity. Thus, the importance of investment in human capital was proven by nations who are concerned about growth and development (e.g. Japan). At European Union level are obvious concerns noted for human capital, especially after the 80's when the European Union Member States have proposed to obtain a high level of employment, productivity and social cohesion. Actually, the EUROPA 2020 strategy has the following objectives: smart growth based on developing a knowledge-based economy, sustainable growth; inclusive growth which is based on an economy with high labor employment, ensuring social and territorial cohesion.

### Literature review

The concept of human capital is attributed to Theodore Schultz, theoretical developments around this concept dates from the 60s and are related connected to the author contributions above mentioned to which it is added the contribution of Gary Becker and Jacob Mincer. Theodore Schultz has seen education and health expenditures as investments into increase labor productivity and thus economic growth. Gary Becker theory shows that "The individual income increases substantially depending on the level of education" (Becker, 1997). Nowadays, the theory of Economy considers Human capital being a major factor in generating future growth and prosperity. Naisbitt affirms that in transition from industrialized economy based on high-tech economy, skilled labor is required for high technology. Therefore, the issue of investment in human capital today is a concern for all countries competing for progress and prosperity, but more so, for the countries

in transition to market economy. Given the general trend of increasing demand for more educated labor in all industries and highly qualified staff, the investment in human capital is strategic for any country that seeks to create a knowledge economy. Thus, growth can be seen in contemporary societies, besides the existence of other traditional factors, as being directly conditioned by the public education. At the macroeconomic level, in recent decades, no country has achieved a sustained period of development without having invested substantial amounts in the labor force and the quantitative evaluation of its contribution to economic growth and development, the most important role was assigned to the investment in human capital (Becker).

### Investment in human capital

The human capital and the investment in human capital - particularly the investment in education - determine the ability of individuals to earn as well as his perspectives of employment. Since most of the knowledge and skills are acquired in school, through the educational process, education has been recognized as the decisive part in the accumulation and development of the human capital and therefore in the economic development of a country. Another component of human capital is the status of health. The health of the population is an essential resource for individual development, produces a strong impact both on the quality of labor resources and human welfare and on the efficiency of economic and social activities. In summary, we can say that human capital owned by a person is organized as follows:

- Knowledge

- Skills
- Health status

The theory of Economy in general and especially human capital theory states that human capital consists of: educational capital (skills acquired by individuals in school, on the training and off site) and biological capital (individuals' physical skills synthesized most often by health).

The educational capital is acquired through formal education, training and off site. In Romania, formal education is structured into:

- Preschool Education,
- Compulsory general education,
- Upper secondary education,
- Schools of arts and crafts,
- Post-secondary education,
- Higher education (Bachelor Degree Studies -3 years; Master Studies - 2 years; Doctoral studies – 3 years).

The types of training consist of:

- Specific training - can be used only at the present job. Specific training has the greatest impact by raising the productivity of the employee within the firm providing the training.
- General training - can be used in other organizations also. General training, which can be used by all companies, is still beneficial, but it tends to have less impact on company performance, although it may have important benefits for the individual and for society at large.

The person is not a simple final consumer, but a true manufacturer, which by education and training invests in human capital. The human capital theory demonstrates that the income of the individuals increase substantially depending on the degree of their education. E.g. "studies show that a young

18 years old person who ends the faculty will win until age of 65 around 3 600 000\$ (price levels and revenues 1993, USA). A member of the same generation who graduates only the high school will win around 2 400 000 \$. Who fails to finish even a high school will win in average only 1 700 000 \$" (G. Becker).

Health capital stock comes from hereditary initial stock and acquired Health capital stock.

Likewise, the gross investment in health capital involves the acquisition and maintenance costs. Stock depreciates over time and the depreciation rate is increasing rapidly towards the end of life when human health is degraded more than in youth. The health care of workers develops human capital through better physical and mental human capacities and influences the productivity by reducing time lost because of illnesses. In terms of the health system in Romania, it is characterized by 3.6% of GDP which is allocated to health, below the European average of 8.6%. The life expectancy of women in Romania is 75 years and Romanian male life expectancy is among the shortest in Europe, 68.2 years. The reason why life expectancy is lower for men is related to areas of their professional activity. The data above shows that the health situation is quite difficult and the situation could worsen, especially for beneficiaries because it is in discussion a system of co-payment for medical services (from 6-12Euro/ person for a medical consultation).

The characteristic of investment in human capital can be summarized as follow:

- The effect will appear with a large gap in time, duration of payback is high;
- Investments in human resources, on the long term, are most effective;
- Human capital is an intangible asset

as it is not owned by the firm that employs it.

- It enhances the ability of agents to adapt to change and to respond to new opportunities.

The Economists Paul Samuelson and William Nordhaus (Samuelson and Nordhaus, 2001) highlight the differences between the salaries of professional categories. Therefore, these differences are due to:

- The work seen as compensation differentiators. Labor is different in terms of its attractiveness, therefore it should be paid more to attract those people to work. Jobs requiring great physical effort, fatigue and low social prestige, with periods of inactivity, or seasonal work involving risks tend to be less attractive.

- Differences between people: quality of work. One of the main determinants of the salaries gap is between the qualitative differences between people, differences that can result from psychic or physical capacities, education acquired in the family and at school, training and experience.

Also, the Nobel Laureates in Economics - Schultz and Becker explain that the existence of higher salaries to graduates of higher education, bringing the example of doctors, lawyers, engineers, as they invest money in training and their professional development, and the money they receive as income should be considered as the return of investment made in the accumulation of human capital - education revenue is derived from making them a high-ranking workers. Categories with a high degree of training begin their careers with higher salaries; revenue is growing faster than the income of the categories with a lower degree of preparedness. But it should be noted that, in general, at the beginning of participation in the workforce the

income is increasing with advancing age until they reach a common peak within 45-54 years and decline in the last age group. Since work occupation is amended along with age, most able to work down the hierarchy at a time. The earnings for different work occupations could indicate reaching a peak earlier for unskilled workers, mainly because unskilled older are less able than younger people. Higher education capital implies a higher value of the workforce due to increased productivity, implying a higher payment if it is sold (salary reflects, in general, the marginal productivity of labor, which increases with education level, as illustrated by the human capital). Human capital theory implies that salary differences reflect different productivity of employees. Experienced employees have higher productivity and receive a higher salary. The salary of a specialist includes a reward for hard work and reward for the work invested in education spending.

Briefly, we can mention that the beginning and ending of investment in human capital can be summarizing in:

- The investment in human capital begins when parents decide to make a baby and it ends with the withdrawal from the labor market (approximately 65-70 years).

- The return of investment (ROI) is made after the person becomes active in the labor market and start earning a salary.

- The salary of a specialist includes reward for his work and a reward for the investment in education.

- Eg. For a person who graduated at 22 years, earnings are lower in early career and bigger around the age of 45 years.

Over the life of the owner of human capital, the investments in human capital can be made by the:

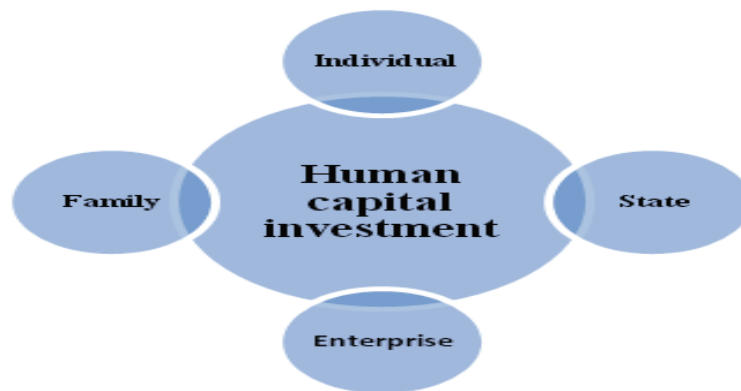


Figure 1. Who makes the investment in human capital?

**Individual investment.** The cost of higher education is the income that person would have won if he would entered in the labor market immediately after compulsory education, plus any other costs, such as fees, equipment, without grants and other allowances to students. The profit is the difference between the income which that person would have been won if he/she had left school and income that it will result as a result of graduating the higher education.

**Family investment.** The children's abilities and their skills would determine the effectiveness of these investments. On the budget level, there are some constraints derived from the total revenue available and also from the total number of children, which results in a decrease in resources and therefore the resources available for each child.

Families with fewer children invest more in human capital development of their children.

**Enterprise decision of investment.** The company is interested in increasing the quality of work, acting for it in the following areas:

- a) Increase the general level of education and training of human resources;
- b) Ensuring a high level of health;
- c) Promote an effective system to

motivate employees.

The Human capital investments involve an initial cost tuition and training course fees, forgone earnings while at school and reduced wages and productivity during the training period) which the individual or firm hopes to gain a return in the future. In other words, only employees possessing value and uniqueness are qualified as human capital. The qualities of employees with core skills are the fountain source for a company to raise competence and profits. The studies provide evidence that training generates substantial gains for employers. Innovation and IT not only cause firms to invest more in trainings but are also highly dependent on education, skills and training in generating profit from these investments.

Firm's Investment in Human capital has positive effect on:

- **Productivity.** The impact on productivity of training undertaken with a previous worker's initial productivity by 9.5 percent. Previous on-the-job training has more long-lasting benefits and increases current productivity by 16 percent.

- **Profitability.** The productivity increase is over twice the size of the wage increase caused by training. On-the-job

firm-provides training sometimes generates considerable third-party externalities when trainees do not stay with the employer who trained them.

- Long term competitiveness. More highly-educated and more highly skilled workers have been found not only to be able to adapt more rapidly and efficiently to new tasks and technologies, but also to be direct source of innovation.

State investment. The Scientist G. Becker explains the extraordinary economic success of Japan and Taiwan and other Asian countries through massive investment in human capital. Having lack of natural resources, Asian countries have developed rapidly, building on a well-trained workforce, educated and hard working class. Also, education and training are helpful to keep the pace with technological change and productivity in advanced manufacturing and services sectors. The recent studies show that industries which progresses more rapidly in particular attract better educated workers and offer education in the workplace.

It is important to note that the investment in education is influenced by several complex factors such as:

- a) The time of the investment;
- b) The costs involved;
- c) The general state of economy;
- d) Differences between the profits expected to achieve.

The time of the investment. There is an idea that for a late investment in education there will be a lower net present value and a low yield because there will remain less years for that person to benefit from this investment and to recover lost income while it was in high school. It is very important that the investment to be made at the early age.

One of the reasons supporting this factor is considered to be the large share of students in university-age population, between 18 and 22 years.

The costs. If other factors are constant, at least in principle, then, as costs are lower, the more the number of people who will find profitable educational investment will be higher. Research conducted in Western European countries have shown that increased education fees by \$ 100 annually, resulting in fewer student candidates with 0, 5-0, 8%.

General state of the economy. It was noted that in periods of recession the income is reduced which the high school graduates in the labor market are expecting to obtain or, worse, it narrows the scope possibilities of obtaining a job. For example, in Romania, in 2010, the number of college applicants has decreased because of economic crisis. Basically, from 2007 until today, the number of students which finance their education has decreased constantly by 10% every year. The most relevant example is about the specialization of Public Administration has registered a sharp decrease in 2010. The candidates' number to the Public Administration specialization declined by 50% in 2010 compared to 2008. The explanation for the shortage of candidates may be: public sector layoffs, blocking positions in the public sector, salary reduction (25-40%) in Public Administration sector.

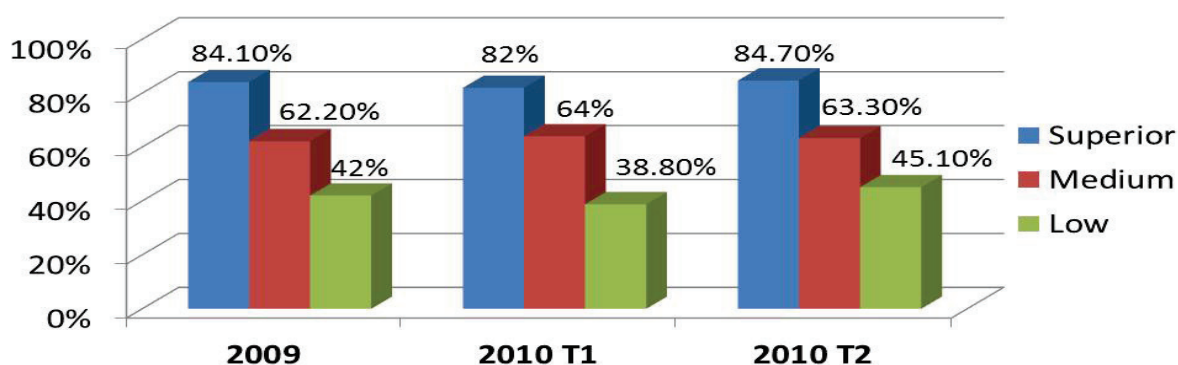
The differences in the size of income. The more will be the difference between the incomes obtained by graduates of secondary and university level, the more will be also the number of those who will invest in human capital.

Table 1. The minimum gross salary/according to the education (Romania)

The minimum gross salary/according to the education (Romania)							
No. of worked hours	Higher education	Higher education -short term	Post - Secondary Studies	Secondary Studies	Primary Studies qualified	Primary Studies nonqualified	
8h	Aprox. 293 Euro	Aprox. 222 Euro	Aprox. 222 Euro	Aprox. 197 Euro	Aprox. 188 Euro	Aprox. 171 Euro	

Source: Data collected by Author

Figure 2. Employment rate by the level of education



Source: National Employment Agency

In present, Romanian labor market analysis shows that those most affected by unemployment are individuals with modest education while university-educated people suffer less from this phenomenon.

One of the most important human capital theorists has demonstrated a direct link between investment in human capital - poverty and migration (Becker, 1997). Poverty can cause degradation of the human capital stock; obstructing its costs of maintenance and its development (the lack of economic resources is associated with the impossibility of purchasing health and education services). The gap between the wages of more educated workers and less educated employees is increasing, resulting in increasing levels of high inequality, with negative effects in

terms of chronic poverty.

The link between human capital and migration consists in portability of human capital, as:

- The portability of human capital explained by Becker, is a migratory behavior of those who feel threatened its own stock of human capital. Individuals, who make decisions to migrate, are generally richer in human capital, and their migratory movement is from the poorer to the developed areas.

- Massive departure of young and educated people (with a superior work force) may lead to the dissolution of poor communities, while migrants can gain access to superior social and natural environmental conditions.

The current economic crisis affects the

investment in human capital also. The effects consist in a substantial reduction in financial resources for investment in human capital formation and a partial loss of capital human because of massive layoffs, high unemployment and lack of jobs for young graduates. Also, the status quo in the health system induces effects apparent and obvious risks for human capital in that the system has some characteristics: taxpayers are encouraged not to pay insurance under full unused amounts for which they were intended to be collected; unequal and difficult access to health services of the patients, doctors are the subject to financial constraints, sometimes incompatible with the proper conduct of the medical act.

### Conclusion

The literature and analyzed data show that there are reasonably strong evidences to show that the infusion of human capital at the individual level depends on the degree to

which it contributes to the creation of a competitive advantage. Investment in human capital does not aim only individual level but also at organizational and state level (in policies). From an economic point of view, transaction-costs indicate that firm gains a competitive advantage when they own firm-specific resources that cannot be copied by rivals. Thus, as the uniqueness of human capital increases, firm have incentives to invest resources into its management and the aim to reduce risks and capitalize on productive potentials. In the same time, individuals need to enhance their competency skills in order to be competitive in their organizations. Studies also clearly substantiate the fact that financial performance is positively impacted through the consideration of human capitals. This approach will be a starting point for other studies in the field of human capital and economic development, especially for a further investigation approaching the situation of human capital in Romania

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