



ORIGINAL PAPER

Identification of Educational Externalities. The Importance of Investing in Human Capital

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Abstract:

The approach to education in our research is based on the contributions made to the formation of human capital, social capital and externalities, capable of boosting the economic growth of countries. Investing in human capital by increasing the level of training and quality is what economists today call investment in education, because in the past, many economists believed that only investing in factories and machines contributed to economic growth. The value of education is increasingly recognized, which is no longer considered a cost, but a long-term investment, as long as it is recovered. Investing in education will generate income for the economy, for businesses and for individual workers. The article studies education as a key ingredient in the process of creating human capital, concluding that it is a precondition for future economic development, but at the same time a consequence of previous economic development, as raising the standard of living as economic growth continues and the increasingly complex social and economic environment is leading to an increase in demand for adequate human capital.

Keywords: *investment; level of training; human resources; labor resources; human capital; education.*

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Introduction

Considered a “social springboard” (Zamciuc, 2013), education contributes to establishing social balance, reducing social inequities, promoting equal opportunities, minimizing social exclusion. The role of education in the social position of young people, and not only, is essential. At the time of employment, young people and adults are not only offered a source of income, but their daily routine is structured, their self-esteem increases, they become more responsible (Farrall, 2002). Education helps the social development of each state. Educated citizens behave differently from less educated ones, contributing to the sustainable social development of the community they belong to.

It is not possible to specify which level of education is most important, as each level has its role in the intellectual, personal and professional development of young people, even if higher education is considered by many as "the foundation of real and sustained human development" (Cicea, 2005: 51). This idea was also supported by Bowen (1977), who stated that: "The primary goal of higher education is to change people in the ways they want. In turn, these changes can have profound effects on the economy and society and even on history. But, in the first instance, the goal is to change the qualities and behaviors of human beings" (Cicea, 2005: 52).

In preschool and primary education, skills, competencies, behaviors are formed, which are then modeled with the help of knowledge. Education plays a key role in character formation, social development and the social position of each individual who is educated. Higher education is a supplement to the pre-university ones, only those who want to improve in a certain professional field, those who know exactly what they want from life, enrolling in them.

Education has an essential role in the formation of "human capital" and in determining human chance from an economic point of view (Berdule-Grigoruță, 2006). It can be said that the economic progress of a state is achieved by investing in people by investing in knowledge, skills and abilities. A very important component of investing in human resources is considered investing in education.

Activities that increase people's theoretical and practical knowledge, their intellectual, mental and physical skills, involve both financial expenses and human learning efforts; they qualitatively enhance human resources and are called human investments. The result of the efforts to increase the quality of human resources is incorporated into the living personality of the human being, allowing the obtaining in the future, of additional income, over the expenses made by those who are trained. The whole process - investments in man, the qualitative amplification of human knowledge and skills and the creation of additional flows of future income - manifests itself as a capital, called by the science of economics human capital (Pîrvu, 2011: 114; Jianu, et al, 2021:3). Investments in human capital are numerous, and can be grouped into expenses related to schooling, on-the-job training, health care, culture, job change (labor migration), the search for information on the labor market, etc.

In the circumstances in which the transition from the industrial society to the information society, dominated mainly by computers, the success depends on the chosen strategy regarding the use of efficient policies in the field of quality assurance, marketing and human resources (Dragomir, Tănăsie, 2010: 837). Thus, investments in human capital play an essential role in the development of society, being creators of knowledge, applicable in society and economy, but also generating the process of economic and social evolution. The government and educational institutions seek to

ensure superior environmental conditions conducive to economic development. The exchange of experience can be decisive both in the implementation of the elements of national policies in the field of education and in the policies of economic growth and development. The economic return on investment in human capital, in economic development, as shown by specialized studies, brings benefits to individuals and society after a relatively long time since the completion of any project.

Investment in Education

Investment in education influences the process of economic development in a specific way, the way in which the educational factor is integrated in the development of the economic process is a holistic one, it cannot be specified that a certain volume of education (seen as number of years of schooling or money for the training of individuals involved in active process) is necessary for the development of an economic act, the same volume of education has differentiated manifestations from individual, to individual, from one economic process to another. Some of the benefits of this investment can be measured, but some are not. The increasing share of services in the economy, the pace of technological change, the growing contribution of information and knowledge to the creation of added value of production, but also the level of economic and structural restructuring, have raised, more often in recent years, the acute need for investment in continuing education and training. A European Commission report concludes that investing in human capital contributes significantly to productivity growth and is an attractive investment in alternative spending, both micro-economically and socially. " There is evidence that social investment in human capital are responsible for a significant increase in overall productivity. "(European Commission, 2016).

Education becomes essential for any economy, because on the one hand through education the relations between man and society are diversified and, on the other hand, the current economy needs a well-prepared workforce, in the conditions of globalization, which requires the development of skills, creativity. solid knowledge, increased responsibility.

Education has positive effects on the existence of man, but also of society. The more educated a person is, the more adaptable and therefore the more productive in the long run that person is in the face of new and changing challenges. Ongoing training involves certain costs which are borne, first and foremost, by a large proportion of the individual (family), both directly and indirectly, and to a different extent by one country to another by society. These costs of investing in human resources are having an effect on the future. Milton Fridman appreciates that investing in human capital has the function of increasing the productivity of the human being, and whenever this goal is achieved, the individual, in a society based on free initiative, is rewarded because he will earn more than the one who did not benefit. of such an investment.

Education produces two types of effects in economics: qualitative effects and quantitative / qualitative effects.

The qualitative effects are closer to the social side, they come to ensure and increase the efficiency of economic processes. The individual himself becomes much more competent, being able to manage the economic act and to elaborate / implement complex, interdisciplinary decisions, in a clearly differentiated way from the past through speed of work and accuracy in execution. The existence of intelligent economic agents (high-performance educational product) ensures the democracy of economic processes, the development of the activity on the basis of a high quality competition. A

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properly educated manager will be able to see the best solutions and opportunities to achieve the best return on money spent.

Quantitative / qualitative effects refer to the number of qualitative transformations that occur (for example, the number of higher educated individuals). The orientation of considerable financial resources towards the educational system has led to a quantitative and qualitative increase of the human factor. Competent individuals have emerged, capable, at a high quality level, of exploiting high technologies and creating hi-tech themselves.

Investing in education as a way to build human capital - skills and abilities - is a vital element in ensuring economic development, raising living standards and improving social inequalities and inequities. It is an important element in combating unemployment and social exclusivism.

Although considered highly influential, the theory of human capital has been severely criticized, with extreme criticism coming from signaling theory or selection (Stiglitz, Boadway, 1994) which focuses on two key ideas:

- Learning by doing - education itself does not increase productivity. The general knowledge and skills acquired in educational institutions are often not applied in the later career of the individual, and the special skills needed in the professional activity are formed in the workplace.

- Screening or selection, - it is difficult for employers to predict the future performance of job seekers, respectively they use qualifications and diplomas as a system of selection of skills, motivation, social framework and personal inclinations to training, training starting, in fact, with the beginning of the professional activity.

The theory of selection is also criticized by a number of economists, according to whom: the most important contribution of formal education is the formation of the ability to learn, the cognitive skills of reading, writing and counting are the fundamental requirements to be able to learn in the future; training in the higher levels of education the skills to think analytically and to evaluate information independently is an important precondition in the formation of the competence to learn during the professional activity; inherited talents and belonging to the upper social strata are not sufficient conditions for success in contemporary society, education being one of the few social institutions that make possible the transition to higher levels in the social hierarchy. Individual or institutional decisions to invest in education generate both private and social benefits. Respectively, investments in education will bring income not only to the human capital bearer, but also to the whole society, which will benefit from the increase of the labor supply and the number of citizens with a high level of education, the latter being called externalities. The externalities of education are social effects that benefit current and future generations from the education that the population of a country possesses at a given time.

In the knowledge economy, in relation to theoretical approaches, there is an abundance of resources rather than a rarity of them and there is an orientation towards human resources, and the key form of capital is represented by intellectual capital. "Intellectual capital is the currency of the new millennium. Its wise use is the key to success in the age of knowledge (Bontis, 2000: 85-100)."

The development of the knowledge-based economy has led to a new general concept, that of intellectual capital. Intellectual capital or its components cannot act individually, but only in tandem with other resources of the company that allow the creation of sustainable value in the future (Simion, Tobă, 2009).

Intellectual capital is the sum of human and structural capital. Intellectual capital refers to applied experience, organizational experience, organizational technology, customer relations, and professional qualifications that give the company a competitive edge in the marketplace. Intellectual capital is the source of wealth for both individuals and organizations. The new economy focuses mainly on a portfolio of intangible and intellectual assets that will need to be managed.

In the knowledge economy, the inventive and creative capacities of people will generate an increasingly high economic productivity in terms of reducing costs, especially in areas such as energy, natural resources and environmental protection. Current knowledge can lead man to reconcile with nature if the advantages of knowledge are also used in the direction of nature protection, not only for exclusively economic purposes. Science, technology, knowledge should not be used as weapons against nature, the problem is not to have a winner and a loser but to find a compatibility between the two.

The acquisition of other knowledge results not only through schooling and training at work, but also through the personal request for information paid by the applicant, on the evolution of the labor market: information on salaries paid by different companies, on consumption and production possibilities, socio-political system, favorable employment opportunities, etc. One can find a better job by spending money for advertising agencies, visiting some companies, etc., so looking for the new job. These expenses are an investment in information on the favorable chances of getting a job, leading to a significant increase in the income obtained by gaining a new job, which covers the expenses with "acquiring other knowledge" and will be profitable. If companies are looking for new jobs for their workers who have become available, they will recover the costs of search and collect, in addition, a corresponding profit.

Investing in health care is a form of investing in human capital that improves the physical and emotional well-being of workers. Workers' health can be improved by several means, such as: reducing mortality during the working life (increasing the period during which they benefit from earnings), improving the diet (adding strength and vigor, increasing people's earning capacity) , improving working conditions (affects workers' morale and productivity), investing companies in employee care, providing lunches, avoiding activities with high accident and mortality rates, family investments and state investments in healthcare, etc. Improving the physical and mental condition of workers, through investments in health, increases the average and marginal productivity of workers, companies earn higher incomes and can afford to pay employees better.

An investment in health, which leads to increased productivity, simultaneously in several firms, is a general investment, having the same effect as general training (training), while an investment in health that has led to increased productivity only within companies that have done it is a specific investment and has the same effect as specific training. At the same time, investments in the field of health are made simultaneously by each company, manifesting itself as internal investments in human capital, as well as by families, non-governmental organizations, etc., appearing as external investments in human capital.

As intangible assets and especially knowledge have become the most important factors of production, their management is essential for the organization. Structural capital refers to hardware, software, databases, organizational structure, patents, and anything else that defines the organizational capability that can help increase employee productivity - all that is left behind when the employee goes home. An extremely

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important role in such a society has the financial support of the formation and accumulation of human capital which aims not only at the expenses intended for education, but also for the training of human capital. In this direction, financial efforts include: government spending on the supply of public goods, protection of public health, ensuring public order and national defense, social protection, environmental protection, combating pollution, etc., all of which are exercised by virtue of a certain public option. As the supply of public goods is dependent on the state budget, and it is conditioned by revenues obtained by the state as a result of the application of the fiscal code, it results that, depending on the tax rates of incomes, goods and property, which do not belong to the state, Ultimately, the amount of public financial resources distributed in favor of investments for human capital.

Beyond this separation, studies based on investment in human capital, applied in some countries with a high demographic rate have shown that financial efforts are likely to become vulnerable compared to the results obtained, for the following reasons: - the existence of a low value of investments in the labor resources that belong to a schooled person who risks to produce more often frustrations than positive training effects on the labor market; - the existence of increased taxation in social and economic environments, in which the majority of the population has a low standard of living, as well as in business environments in which labor productivity is low and risks inhibiting the accumulation and investment of profits; - the aggregate orientation of investments in favor of human capital and education risks to create an imbalance between the structural-qualitative accumulation of human capital, especially in the short term, which creates new distortions in the labor market, involving new costs of professional retraining of workers.

A recent study by the OECD (2014) confirmed the importance of investing in education as a key determinant of contemporary economic growth and development. It came to the attention of specialists, especially those in the economic field, when it was found, both individually and at the country level, that the highest profits are due to investments in knowledge, skills, qualifications and less physical capital (machinery, constructions, machines, equipment, etc.). Given the fact that most of the knowledge, skills, qualifications are acquired in school, through the instructional-educational process, education has been recognized the decisive role it has in the accumulation and development of human capital and, consequently, in the economic development of a country.

In order for the effects of education on the development of human and economic capital to be maximum, certain conditions must be observed:

- the quantity and quality of education measured in the number of years of study, the percentage of GDP allocated to education, the school participation rate, results, school performance to be high and the educational offer to correspond to the current and prospective requirements of the labor market;
- the existence of a stable socio-economic and political environment and an accelerated pace of economic growth;
- the differences between the incomes at individual level, the salary to correspond to the level of school and professional training of the individual.

Under-education and over-education

A few decades ago, the Romanian education system was a successful one, Romania being among the top 10 countries in terms of Olympics. The poor performance

and efficiency of Romanian education is reflected in the percentage of 0.003% of Olympic students registered in recent years (Romaniuc, 2015). The decline of education is observed in the social problems that Romania faces in recent years: the relatively large number of unemployed, lack of jobs, failure to adapt school curricula to the needs of employers, increasing the number of migrants, especially those with a high level of education, the large number of cases of domestic violence, the decrease in the birth rate, etc. These social problems stem from a lack of education or its poor quality. For example, educated people do not resort to violence and do not agree to be victims of domestic violence

Over time, education has been found to play a defining role in the social position of each individual, creating a crucial link between the social environment of individuals and their social position, which positively influences social inequalities and social mobility (Iannelli and Paterson, 2005, p. 2; Sdrobiş, 2015). Those with higher education are more likely to hold key positions in organizations, which gives them advantages such as: a higher standard of living, a work environment conducive to professional development, attending certain social circles with high standards, more opportunities for them and their families etc.

Regarding the socio-economic effects of under-education and over-education, we can bring into question the fact that the education system of each country goes through, over time, through a series of changes, most of them generated by economic development. At the same time, the education system is the one that contributes to the economic development, between economy and education there is a relationship of interdependence. Considered the “catalyst of economic development”, education influences economic development by satisfying the “need for population accumulation, which can only be satisfied through education” (Cicea and Dobrin, 2005: 48).

The education of individuals is a concern of all traditional and modern societies, its purpose being to create human values that contribute to the development of society, to the smooth running of things, to the elimination of all existing social barriers between communities / societies / states. For the economy, education is a vital factor, especially if we consider that "the development of education has been the consequence of economic changes that have taken place in society, and then education becomes the catalyst for economic development" (Cicea and Dobrin, 2005: 46).

In 1963, Anderson and Bowman were of the opinion that economic development is influenced more by primary than secondary or tertiary education, but their hypothesis proved erroneous, because for harmonious economic development much information is needed, not enough. literacy (Cicea and Dobrin, 2005: 46). Giving more attention to early and primary education certainly contributes to Romania's economic growth, with one condition, that of focusing on the weakest students, in order to increase the average quality of Romanian education (Varly et al., 2014: 25). Poor students need to be motivated to learn, to be educated, so that they can find a decent paid job, which would allow them to start a family, contributing not only to the increase in the birth rate, but also to the economic and social development. of the country.

Given the many changes taking place in the labor market, experts conclude that “the education system has to face the challenges posed by the possible emergence of educational disparities: over-education / under-education, over-qualification / under-qualification, skills above or below those required by the job, the deficit / surplus of qualifications, the mismatch of qualifications with the requirements of the jobs” (Dimian, Roman and Mureşan, 2012: 54). The mentioned disparities are repercussions

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of the current education system, implicitly contributing to the future of Romanian education, which must be constantly adapted to economic and social changes.

Under-education could be defined as the education of individuals below the average level of knowledge of the population. This phenomenon has many negative effects: income discrepancy, social exclusion, exclusion from the labor market, etc. Individuals whose level of education is quite low do not have the ability to cope with economic and social change, they often face problems of an economic and social nature. Without education, individuals cannot have a qualification, cannot have a legal service (with a work card), cannot have an average income that allows them a decent standard of living. At the same time, they do not have a level of culture that allows them to distinguish between good and evil, good and bad, and so on.

The opposite phenomenon of under-education, over-education, consists in the accumulation of a very high level of knowledge, which can be useful or useless in a society that has economic and social gaps. Over-education has negative effects: difficulty in employment (people with a high level of knowledge, graduates of higher education, are avoided by employers so as not to offer them high salaries), removal of those with lower levels of knowledge and less education from the labor market, the decline of the rural economy (those with higher education no longer want to return to rural areas to earn a living, preferring professional development in a multinational company that allows them to assert themselves and use their studies).

Both over-education and under-education contribute to the positive and negative fluctuations of the unemployment rate, as both can nuance or reduce the number of unemployed, being in full accordance with the requirements of the labor market. For example, those with higher education, considered over-educated, will find it difficult to accept to work in fields below the level of acquired qualification, thus increasing the number of unemployed young people, if they want to register at AJOFM, and those under-educated people are often unable to find a job due to unskilled employment, which also contributes to rising unemployment. At the same time, both categories of people (over-educated and under-educated) can accept any job, which would positively influence the unemployment rate.

A major effect of over-education is brain migration. Talented young people, graduates of higher education, decide to leave their country of origin and settle temporarily or permanently in a more developed country, which allows them to work in the field of graduation, receiving much higher salaries than in their country of origin, without worrying about losing a job (Mergeani, 2016). Migration can also be found in the case of individuals who fall into the category of under-education, who usually leave temporarily to work in agriculture, construction or other fields that do not require a professional qualification.

Conclusions

Based on the above, we can say that the educational system has its core role in the processes of development of human civilization. It will depend on how the development problems of the society as a whole and of each country will be understood and solved. And how changes in individual consciousness and social, cultural, moral and other categories that define human society and man, recognized as the main element of the knowledge economy, show a greater degree of inertia than economic, technological changes, etc., it is necessary to take them into account when modifying and adapting the educational system to the imperatives of the moment crossed by society, when planning

and carrying out reforms in education, when calculating the necessary and attracting investments, etc.

Education plays a key role in shaping "human capital" and in determining the individual's economic chances. Beyond the exceptions, the higher and better the quality of a person's education, the greater his chances and prospects of economic success. Certain government policies, such as fiscal policies, may discourage individuals from pursuing higher education, which reduces the productive capacity of the national workforce. Education generally increases an individual's anticipated earnings over his or her lifetime and is perceived as a long-term endeavor. However, if the individual's taxes and fees increase as his income increases, fiscal policy discourages him from using the time and resources necessary to obtain a higher level of education.

Education often affects the quality of life in ways that are rarely perceived as such. Highly educated individuals can adapt much better to the various conditions of life, and they can better adapt these conditions to suit individual preferences. Having a higher income they manage to invest in themselves, the access to a better quality medical care, to certain methods of psycho-physical maintenance, to certain services (housekeeping and tourism) resides in a better health, we can consider that we are dealing with a maintenance of human capital.

Frederick Harbison (1964) once said that "a country that is incapable of developing skills and knowledge for its people and using them effectively in the national economy will be incapable of developing anything else." Emphasis on the quality of education in the context of increasing participation in lifelong learning and using all known means is an issue that needs further clarification. However, the question remains: how much is being invested in education in general, in the public and private system, whether education should be a priority objective of public policy.

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Authors' Contributions

The authors contributed equally to this work.

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