

Considerations Related to the Evolution of the Main Indicators of Human Development in Romania

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Abstract

The paper aims at carrying out an analysis of the human development in Romania in the 2008-2015 periods. In the first part of our research, we presented a few theoretical notions related to education, investments in human capital and human development, and subsequently, in the second part we carried out an analysis of the indicators concerning the schooling in Romania in the analysed period. The most important indicators of human capital are the school enrolment ratio, the average number of schooling years, the literacy rate, and also the ratios of the active population graduating from various types of schooling. Out of these indicators, the schooling years represent the most frequently used variable in determining the human capital stock.

Keywords: human development; school enrolment indicators; human capital; investment in human capital; education.

Introduction

At global level, in the conditions of the contemporary pace of the change, the role and importance of the intellectual component of work is growing significantly, and consequently, in the measurement and assessment of human resources, it is necessary to take into account the skills, level of training and qualification, but also the experience. In the labour market, people come with their own talent, ability, innovative spirit and entrepreneurship, with the capacity to take over and process information and knowledge in such a way as to give them special commercial value (Crețu, 2010). Consequently, human capital is the source of wealth both for individuals and for organizations.

The most important investments in human capital are education and professional training. The level of high school and university education has a significant contribution to the increase of a person's income, even after covering direct and indirect education costs, and even after the adjustments made according to a better familial situation and according to the increased capacities of the people with a high level of education (Becker, 1997).

Literature Review

Education has a very important role in the development of knowledge, skills and attitudes that are determining for economic growth and vitality.

Companies that have employees with a higher intellectual capital will earn significant incomes for a long period of time. Nevertheless, we can notice the competition between large companies in order to attract in their own team employees with a high level of qualification and education, in such a way as to be able to meet the future requirements and demands of the economy and the society (Crețu, 2010).

Almost always, the earnings of people with a high level of education are much higher than the average ones, even if the advantages are usually higher, in less developed countries.

The financial advantages obtained from having a university level of education grew sharply during the 1980s, reaching their highest level of these fifty years. Moreover, the benefits in the form of gains of the high school graduates compared to those who abandon this form of education have also grown. In such a way, the discussion concerning the overeducated Americans ended, and was replaced by the renewed concern whether the United States provide an appropriate, qualitative

and quantitative education, but also other forms of vocational training as well (Staicu, 2013).

Fears are stimulated by the tough economic competition exercised by certain modern European countries, Japan, Korea and other Asian countries, as well as by the slow growth rate of the productivity in the United States of America in the last fifteen years and the poor results obtained by the American high school students at international Mathematics tests (Becker, 1997).

The share of the graduates from high schools who are admitted at universities decreased in the mid-1970s, when the advantages of a university education decreased, and it increased again in the 1980s, when the benefits regarded a big increase. This resulted in an unexpected boom of the faculty enrolments, in the past years, despite the low number of people with an age appropriate for university studies. Investments in human capital tend to respond rationally to advantages and costs, which is clearly indicated by the changes in women's education. In the United States of America, before the 1960s, graduates from high school were mostly women, rather than men, but, at the same time, women attended university to a lesser extent than men. Women studied mathematics, sciences, economy and legal sciences, and after graduation, they oriented themselves towards the teaching career, domestic economy, foreign languages and literatures. Due to the fact that relatively few married women kept working as employees, they chose an education that was useful to them in the household production. But all these took a drastic change. "The enormous increase in the participation of married women is the most important labour force change during the past twenty-five years. Many women now take little time off from their jobs even to have children. As a result, the value to women of market skills has increased enormously, and they are shunning traditional "women's fields" to enter accounting, law, medicine, engineering and other subjects that pay well" (Becker, 1997).

Identical trends in women's education can also be noticed in Great Britain, France, Scandinavia, Taiwan, Japan, Mexico, and also in other countries with significant increases in women's participation to the labour force, despite of the fact that women's attitudes are very different compared to those currently prevailing in Europe and in the United States of America (hdr.undp.org/sites, 2017).

In recent decades, the work opportunities and professions for women have gradually improved, as they started to move up in business. But the trend accelerated sharply after the late 1970s.

Rapid improvements have also taken place in relation to the economic position of black women, and they now earn just about as much as white women.

The analysis of human capital assumes that schooling increases incomes and productivity, especially by providing the knowledge, skills and a manner of analysing problems. An example in this case refers to the earnings of university graduates that exceed those of high school graduates, not because university education contributes to the productivity increase, but due to the fact that an increasing number of students with creative spirit attend a higher education institute (Staicu, 2013).

Research Methodology

The indicator **schooling years** is the most widespread assessing method in the specialised literature for human capital stock and refers to the average number of school years for persons aged between 25 and 64. However, the experience and other forms of learning can have implications on the human capital increase, although they cannot be included in this indicator.

However, the use of this indicator does not take into account considerations related to the quality of the education provided in these countries. The following assumption should be introduced so that the average number of school years could present the differences between countries in relation to human capital: “an education year has the same quality in all the countries”, which is unlikely. Consequently, if we also take into account the quality of the educational process, it is considered that developed countries benefit from more years of education than the ones presented in international comparisons (Staicu, 2013).

Another limitation related to this approach is given by the fact that the average number of school years assumes that one year of education will add a constant quantity of capital, regardless whether a primary or a university education year is analysed. Nevertheless, an important advantage in support of the use of this indicator in international comparisons consists in the fact that the approximation of the human capital stock of a country is made in a unique value, thus facilitating the distinction made between the differences among the countries.

Until now, there is no theoretical consistency in relation to the degree of relevance for the economic growth rate of the absolute or relative change concerning the human capital stock. According to certain studies, “an additional formal education year leads to an increase in the gross domestic product by one percentage in the same way, even if we start from a 4-year or 12-year base” (Staicu, 2013). In other words, a 10% increase of the education years (human capital) has a similar effect on the GDP growth regardless of the education year taken as reference.

The share of graduates from a faculty in the total active population is another indicator which aims to study the distribution of the population aged between 25 and 64, depending on the last level of education attended. This indicator can be viewed as an aggregate tool of the average of the graduation levels of the persons included in the population fit for work. Important information related to the future level of the average number of school years is provided by the size and evolution of this indicator in various countries. An example in this case is related to the fact that an increasing number of young people entering the labour market have attended higher levels of education compared to those who reached the retirement age, and therefore, the human capital of the active population will certainly grow.

At the level of 2005, approximately 40% of the Spanish people aged between 25-34 years acquired an academic degree, but in the 55-64-year age group, only 10% are graduates from a higher education institution. Consequently, in the future an increase in the average number of school years will be noticed, and this increase will generate significant implications in relation to the economic growth pace of the Spanish economy. Such an evolution can also be seen in Korea. In Germany, the situation reveals that the share of graduates from a faculty is approximately the same for all age groups. The increase in the school dropout among young people from 8.1% to 8.9% in 2003 is an effect on the human capital stock in this country, and therefore Germany will not benefit from important increases in the human capital stock in the next period, in the absence of migration (Staicu, 2013).

The completion and certification of a higher level of education recognizes the fact that certain knowledge and skills were obtained at a given moment, and it is unlikely for people to have the same human capital stock after tenths of years spent in the economic activity. The experiences accumulated throughout their life will lead to the increase in the stock obtained in the graduation period, on the one hand, and will

be diminished as a result of the fact that the knowledge was not used, on the other hand.

The enrolment rate is an indicator which provides important information concerning the evolution of the human capital stock existing in an economy, because it determines the share of the school-age population involved in the secondary education, and also in the higher education. Nevertheless, the enrolment rate does not provide information on the human capital stock existing at the level of the population fit to work, but allows for making certain forecasts.

The countries that have a large number of school years need a high enrolment rate in order to maintain their human capital stock. In the countries with a low number of school years, the existence of a modest enrolment rate is sufficient in order to have a substantial increase in the human capital stock.

From the multiple studies carried out by the World Bank or by the Organisation for Economic Cooperation and Development, it can be noticed that countries such as Spain, Portugal or Greece recorded high enrolment rates in the 2000s, indicating a powerful positive evolution of the number of school years in the future, despite the fact that there is a danger of over investing in human capital. The enrolment rate in Germany, Switzerland or Japan is not high enough to allow an essential increase in the human capital stock in the following period. The enrolment rate concerning secondary and higher education for developing countries supply efficient information concerning the dynamics in the educational sector.

Lifelong learning is a fundamental process to increase human capital stock and quality. The educational process is not a process completed upon the graduation from a higher education level. People can complete their human capital stock by acquiring experience, professional training, and also certain seminars, thus replacing certain depreciated knowledge with new one.

There are a few general conclusions resulted after the identification and analysis of the main methods of determining human capital. A first conclusion refers to the various tools used for determining the stock of knowledge, with a specified value that has, nevertheless, certain limitations as well. A second conclusion is related to the fact that the average number of school years remains the best approximation of the human capital of a country. A third conclusion identifies the need to build certain statistical data that will allow for combining the qualitative aspects of human capital with its quantitative aspects.

The need for a remarkable increase in the investments in human capital, either in the form of the expansion of the number of school years, or in the general or specific professional training is important to ensure the economic growth and the prosperity of a society. People invest in their own human capital all their life, and also in the social structures where they work, including here the family or their workplace.

Educational capital, which is part of human capital, is presented under two different forms: the skills acquired as a result of people participation to formal educational systems, knowledge certified by diplomas, on the one hand, and all the other knowledge and skills acquired throughout the entire life, either through own efforts, or by attending courses organized in various fields, on the other hand.

Being a fundamental factor in the promotion of economic development, educational capital should be viewed as an investment. Consequently, if education is a fundamental factor in the promotion of economic development, then economic modernization can mean new opportunities and stimulations for acquiring additional human capital. “Education, professional training, and moreover, in general, learning, continue to have an important role in the economic and social context” (adrvest.ro, 2015).

The quality of education influences not only personal development, but also the position in the society and the future employment opportunities of each person. The quality of education is closely related to the quality of the learning processes, and also to the educational infrastructure.

Table no. 1. Population educational level in Romania
in the 2008 – 2015 period

	2008/ 2009	2009/ 2010	2010/ 2011	2011/ 2012	2012/ 2013	2013/ 2014	2014/ 2015
School population, out of which:	4324992	4401070	4228067	3988996	3887891	3796404	3735552
Preschool education	652855	666123	673736	673641	581144	568659	578177
Primary and secondary education	1752335	1719676	1691441	1629406	1744192	1743254	1732305
High school education	784361	837728	866543	888768	831810	776616	727072
Vocational education	189254	115445	54538	12382	19734	26493	50788
Post-high school education	55089	62575	69967	79466	92854	102677	105557
Tertiary education	891098	999523	871842	705333	618157	578705	541653

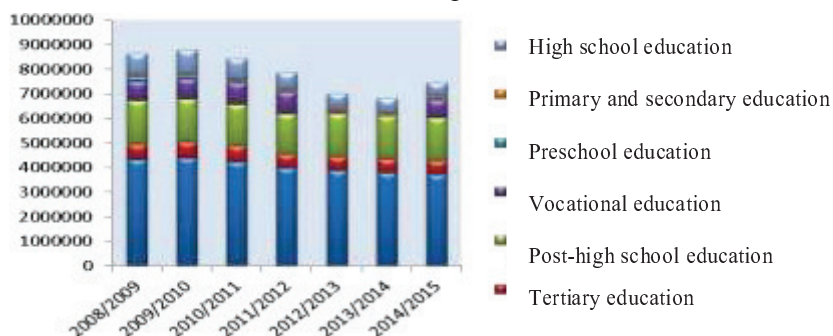
Source: 2014 Romanian Statistical Yearbook, p. 291 – 292
2015 Romanian Statistical Yearbook, p. 296 – 297.

As seen in table no. 1, in Romania, the population educational level can be structured as follows: preschool education, primary and secondary education, high school education, vocational education, post-high school education and tertiary education.

As seen in fig. no. 1, the most comprehensive population category in the analysed period is the primary and secondary education which recorded decreases in the academic year 2008/2009, having only 1,752,335 peoples and reaching, in the academic year 2011/2012, 1,629,406 peoples. The next academic year recorded a slight increase, and in the following period it decreased again. Thus, in the academic year 2014/2014, the school population was around 1,732,305 peoples.

In relation to the tertiary education, we can see a decrease in the number of students in recent years. Thus, in the analysed period the number of students decreased from 891,098 in the academic year 2008/2009, reaching the number of 541,653 students in the academic year 2014/2015.

Fig. no. 1. Population educational level in Romania in the 2008 – 2015 period



Source: Prepared by the author based on the data from Table no. 1.

The decrease in the number of students in the past years has multiple causes. Many young people do not wish to attend a faculty because the labour market does not offer jobs after graduation. Most companies look for people with experience and therefore a newly graduates can hardly find a job, and they are most often employed in another field. Another cause is the high share of high school graduates who fail their baccalaureate examinations and consequently cannot register for admission to a university.

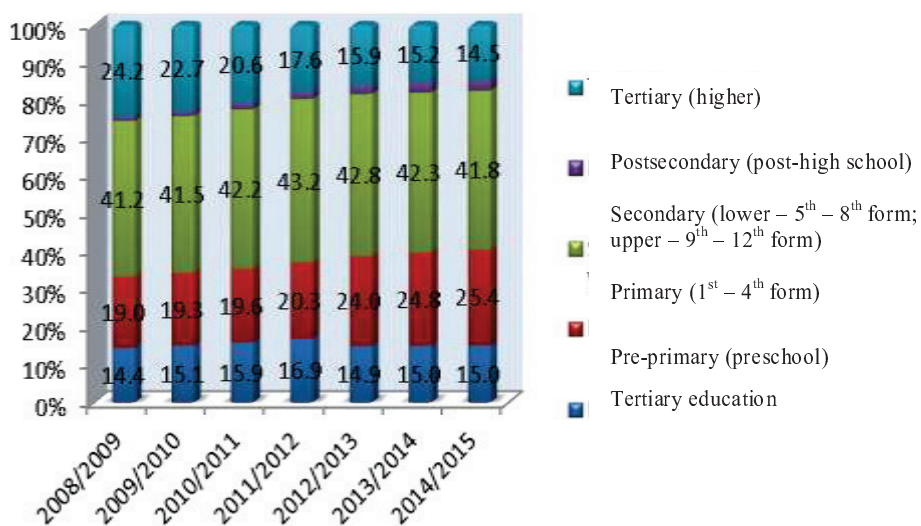
In Table no. 2 is analysed the dynamic of the population educational level in Romania in the 2008 – 2015 period. The school population has the following structure: primary (preschool), primary (1st- 4th form), secondary (lower 5th – 8th form; upper 9th – 12th form), postsecondary (post-high school) and tertiary (higher).

Table no. 2. Fluctuation of the population educational level in Romania in the 2008 – 2015 period

	2008/ 2009	2009/ 2010	2010/ 2011	2011/ 2012	2012/ 2013	2013/ 2014	2014/ 2015
Preschool	14.4	15.1	15.9	16.9	14.9	15.0	15.0
Primary (1 st -4 th form)	19.0	19.3	19.6	20.3	24.0	24.8	25.4
Secondary (lower, higher)	41.2	41.5	42.2	43.2	42.8	42.3	41.8
Post-secondary (post-high school)	1.2	1.4	1.7	2.0	2.4	2.7	2.8
Tertiary (higher)	24.2	22.7	20.6	17.6	15.9	15.2	14.5
Total	100	100	100	100	100	100	100

Source: 2014 Romanian Statistical Yearbook, p. 295
2015 Romanian Statistical Yearbook, p. 300.

Fig. no. 2. Fluctuation of the population educational level in Romania in the 2008 – 2015 period



Source: Prepared by the author based on the data in Table no. 2.

As seen in fig. no. 2. in the analysed period, the secondary level has the highest share in the total. However, this level follows an oscillating trend, with increasing as well as decreasing periods, having,

in the academic year 2008/2009 a school population of 41.2%, the highest school population of 43.2% being recorded in the academic year 2011/2012. In the academic year 2014/2015 the school population had a rate of 41.8%.

Nevertheless, the post-university (post-high school level) throughout the entire analysed period follows an uptrend, having in the academic year 2008/2009 a share of 1.2%, and in the academic year 2014/2015 a share of 2.8%.

The theoretical approach of the investment in education (a person's completion of various education levels) can be viewed as an investment act because it generates costs and also advantages that are distributed on a long period of time. The tuition fees, the school books, the materials, the transport costs to the educational institution are direct costs. Thus, following the decision to invest in education, opportunity cost is generated, which are identified especially in the form of incomes that could be earned by a person under the assumption that he/she did not attend school.

Benefits are presented as being the advantageous elements of increasing the person's current and especially future welfare. The learning process can generate a multitude of consumption advantages. Net incomes earned by a person after graduation from the higher educational levels tend to increase with the chance of finding an enjoyable job accompanied by a small disutility of the work to be carried out.

The rate of return on the investment in education is an indicator which would be perfect for both flows of incomes earned with or without completing the respective level of education to be determined for the same person, but this is not possible due to the fact that in practice, a person cannot be in both situations at the same time. Before making the decision to invest, the respective person cannot know the flow of incomes earned following the investment, because it is influenced by multiple factors. This size is assessed by means of statistical data related to the incomes of groups of people that are homogenous in terms of skills, age, education, the country and region where they live. The analysis carried out in relation to the profile of the incomes corresponding to the active period of the persons indicates that the level of income according to the age factor is growing up around age 45, while it will slightly decrease until the retirement age. Given that the forecasted incomes are the result of combining the knowledge acquired

following the schooling period, and also following the professional training, this model can allow the inclusion of professional training as a factor that influence the income.

An analysis can be carried out both at the level of the individual and of the company, with the difference that in the case of the individual, it represents different levels of income, while in the case of the company it can be seen as a productivity level.

Conclusions

The most important indicators of human capital are the school enrolment ratio, the average number of schooling years, the literacy rate, and also the ratios of the active population graduating from various types of schooling. Out of these indicators, the schooling years represent the most frequently used variable in determining the human capital stock.

If the demographic system intersects the educational system, the result will be a population segment with own characteristics, called school population, and its revolution will show the structure of the population according to the training level, a structure with a multitude of social and economic implications.

As a result of the diversity of schools that characterise the national educational systems, the following education levels can be recommended:

- Education that takes place before the first level, including kindergartens;
- First level of education, that means primary or elementary school;
- Second level of education, secondary or medium school (including secondary schools, high schools, vocational, technical schools, which takes place after at least four previous school years);
- Third level of education or higher/university education;
- Special education (for people with deficiencies).

Education, viewed as an economic growth factor, presented in the form of human capital, led to the emergence of the notion of education stock, through its similitude with the capital stock, defined as the sum of the study years of the entire population.

In the case of the formal educational system in Romania, in recent years, the demographic evolutions led to a decrease in the school population in almost all educational levels.

Another cause of the decrease in the school population is given by the pass rates at the baccalaureate examinations which had very low levels lately as a result of the increase in the severity of their rules, a consequence that had significant effects on the number of students enrolled in the university degree programmes.

Education is an essential objective in the development policies of a country. If a country pays higher importance to education, then it will make economic and technological progress for a long period of time. The quality of education is important for its promotion, and it should not be assessed exclusively from the perspective of the quantity indicators, but also from the perspective of its efficiency indicators. The access to education leads to the acquisition of knowledge, but the quality of education leads to obtaining the skills required for the active participation to the economic and social life.

Education and schooling can be viewed as deliberate investments contributing to the labour training which leads to the enhancement of the individual labour productivity, and also to that of the productivity of organizations, thus encouraging economic growth.

Education is a fundamental factor in the development of the society, contributing, on the one hand, to the fostering progress, stimulating intellectual curiosity, the capacity to adapt, creativity and innovation, and on the other hand, it provides useful and skilled labour force for all the economic sectors of a country, and at the same time it is one of the most powerful elements an individual has in order to shape his or her own future.

Human development is a process of amplifying people's possibilities to choose, because people make a multitude of choices in the economic, social and politic field every day.

However, if people are in the centre of the development policies, these efforts should be adapted to the expansion of the possibilities to choose. From the human development point of view, people's possibilities to choose are comprised in three main fields: lifespan, level of education, and access to useful economic resources for a decent life.

Human development is a process, as well as an ultimate result.

In conclusion, human capital can be viewed as a driver of development, both at individual and social level. Human capital and economic resources are part of the same development area, their levels being largely interdependent.

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