

## THE ROLE OF EDUCATION ON ECONOMIC GROWTH AND COMPETITIVENESS IN ROMANIA

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**Abstract.** *The causal link that is created between the fields of science, education and economic development appears to be a seemingly straightforward subject, as the continuous accumulation of knowledge, skills and abilities is one of the fundamental pillars of a nation's long-term prosperity. In the European context, the significance of educational issues seems to take precedence over any other policy initiative dedicated to development, and in Romania the attention paid to education and research reflects this direction. This paper focuses on the idea that education contributes in subtle but essential ways to promoting competitiveness and socio-economic development. Understanding the complexity of the interdependencies that arise in the wider economic context, particularly in relation to demographics, is key to developing effective science and education policies tailored to specific development needs.*

**Keywords:** *Competitiveness, economic growth, education, human capital, controversy*

### INTRODUCTION

Education stands as a cornerstone for economic progress and competitiveness in any nation, serving as a catalyst for innovation, productivity, and socio-economic development. In the case of Romania, the transformative power of education has been instrumental in shaping its economic landscape and positioning the country within the global arena. This material delves into the multifaceted role of education in fostering economic growth and enhancing competitiveness in Romania.

Education plays a pivotal role in nurturing human capital, which serves as the foundation for economic growth and prosperity. In Romania, investments in education have led to the development of a skilled workforce equipped with knowledge, expertise, and adaptability. The country's education system, comprising schools, universities, and vocational training centers, has been instrumental in honing the talents of its populace and preparing them for the demands of the modern economy.

A well-educated populace fosters innovation and drives technological advancement, key drivers of economic growth and competitiveness. In Romania, the emphasis on education has cultivated a culture of innovation, leading to breakthroughs in various fields such as IT, engineering, and biotechnology. The country's skilled workforce serves as a catalyst for research and development, attracting investment and fostering entrepreneurship in emerging sectors.

Education enhances productivity by equipping individuals with the skills and knowledge necessary to perform tasks effectively and efficiently. In Romania, investments in education have led to higher levels of productivity across sectors, contributing to overall economic growth. Skilled workers are better equipped to adapt to technological advancements, adopt best practices, and drive organizational efficiency, thereby enhancing the competitiveness of Romanian industries in the global market. [15,16]

Education promotes social inclusion by providing equal opportunities for all individuals to access quality education and pursue their aspirations. In Romania, efforts to improve educational access and quality have contributed to reducing disparities and fostering social cohesion. Education serves as a vehicle for upward mobility, empowering individuals from diverse backgrounds to contribute to the country's economic development and societal progress.

## MATERIALS AND METHODS

The researched was accomplished by correlating a variety of references in order to emphasize the role of education on economic growth and competitiveness in Romania. The most used information were those provided by OECD database and publications.

The results of this paper were mainly a result of qualitative analysis of the literature in the area and statistical data available at the level of the specialized institutions.

## RESEARCH RESULTS

Education is a driving force in Romania's economic development, contributing to an educated and competitive society. In a world of constant change and innovation, investment in education is an essential pillar for sustainable economic growth and societal progress.

By promoting universal access to quality education, Romania can ensure the availability of a skilled workforce capable of meeting the demands of an increasingly complex and dynamic economic environment. Well-trained graduates are essential for key economic sectors, contributing to innovation, productivity and competitiveness in the internal and external market. [6]

Education fosters creativity and entrepreneurship, cultivating skills and competences essential for the modern economy. Educated young people drive innovation and technological adoption, generating innovative ideas and solutions that fuel economic growth and improve national competitiveness.

Education also promotes a culture of efficiency and performance, preparing individuals to become productive members of the workforce and contributing to the competitiveness of businesses and the economy as a whole. By improving the quality of human resources and their skill levels, Romania can attract foreign investment and strengthen its position in the global economy. [2,3]

Education contributes to development in multiple ways, having a profound impact on individuals, communities and societies as a whole. Here are some significant ways in which education supports and promotes development:

- ✓ *Economic growth:* Education provides the knowledge and skills needed to drive innovation, productivity and efficiency in different sectors of the economy. A well-educated and trained workforce is essential for economic growth and competitiveness in the global marketplace.

- ✓ *Reducing poverty and inequality:* Access to education provides opportunities for improving quality of life and social advancement. By increasing educational attainment, social and economic inequalities can be reduced, giving all individuals equal opportunities to realize their potential.

- ✓ *Promoting health and well-being:* Education contributes to improving health and well-being by informing individuals about healthy practices and access to health and medical services. More educated people tend to have better health and adopt healthier behaviors.

- ✓ *Strengthening democracy and civil society:* Education promotes democratic values such as respect for human rights, freedom of expression and active civic participation. Educated people are more likely to be involved in democratic processes and to contribute to building a fairer and more democratic society.

- ✓ *Innovation and technological progress:* Education encourages critical thinking, creativity and innovation, stimulating technological progress and societal development. Educated people are able to identify and solve complex problems, adapt new technologies and contribute to the advancement of knowledge and technology.

These are just a few examples of the ways in which education contributes to the development of individuals and society as a whole. By investing in education and promoting

universal access to quality education, significant progress can be made towards a more prosperous and equitable future for all. [1,13-14]

In this context we think it is important to mention also the negative effects of under-education and over-education.

Under-education can have serious and lasting consequences for individuals and society as a whole, generating negative effects on multiple levels. Here are some of them:

✓ *Poverty and social exclusion:* Undereducation can perpetuate the cycle of poverty, limiting individuals' access to well-paid employment opportunities and social advancement. Undereducated people are often excluded from key economic sectors and are at increased risk of social marginalization.

✓ *Poor health and well-being:* Lack of access to education can have negative consequences for individual health and well-being. Undereducated people are more likely to experience mental and physical health problems, as well as reduced access to health and medical services.

✓ *Increased social and economic inequalities:* Undereducation can fuel social and economic inequalities, creating deep divisions in society. Undereducated people are less likely to have access to well-paid employment opportunities and to earn adequate incomes, contributing to widening income and wealth gaps.

✓ *Decreasing a nation's economic potential:* Undereducation can compromise a nation's economic potential by reducing its productivity and competitiveness in the global marketplace. A poorly educated workforce can limit innovation and technological progress, ultimately affecting economic growth and sustainable development.

✓ *Welfare dependency:* Undereducated people are often dependent on welfare programs and government benefits because they have difficulty getting well-paying jobs and making a decent living. This dependency can perpetuate the cycle of poverty and hinder social mobility.

In its turn, overeducation can bring with it some negative consequences, which can affect both individuals and society as a whole. Although education is essential for personal and professional development, over-education can have the following adverse effects:

✓ *Overloading the education system:* Excessive over-specialization can lead to overloading the education system, putting additional pressure on educational institutions and teachers. This can lead to lower quality of education and increased competition for scarce resources.

✓ *Depreciation of the value of the degree:* An increase in the number of degrees and qualifications in a specific field can lead to a devaluation of their value in the labor market. Thus, overeducated people may find it difficult to find suitable jobs or to earn competitive wages, despite having invested considerable time and resources in education.

✓ *Increased low-skilled unemployment:* If labor supply exceeds demand in a given field, the overeducated may have to take on low-skilled jobs or work in fields that are not in line with their level of education. This can lead to under-utilization of human resources and increase under-qualified unemployment.

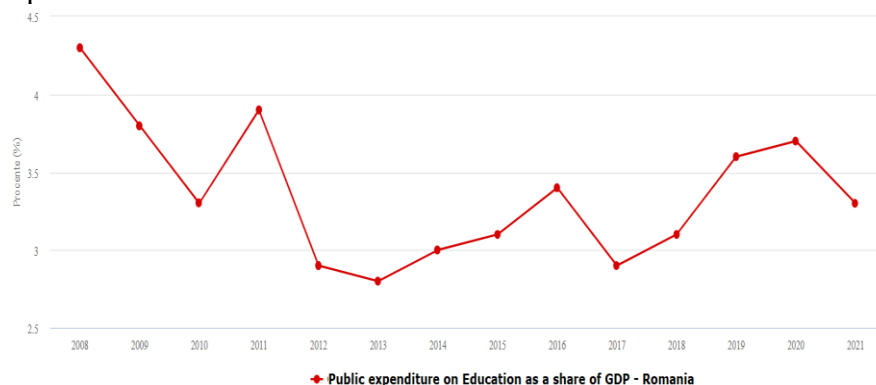
✓ *Rising student debt:* Higher education can be expensive, and many students find themselves having to borrow significant amounts to finance their studies. Overeducation can lead to excessive debt accumulation for students and difficulty repaying it, which can affect the financial stability and personal well-being of graduates.

✓ *Discouraging innovation and entrepreneurship:* An excessive focus on obtaining academic degrees and qualifications could discourage innovation and entrepreneurship, as individuals may be more concerned with obtaining academic qualifications than developing practical skills and creative thinking.

***The relationship between education and economic development. The quantitative measure of the importance of education***

The interconnection between education and economic development is key to fostering progress and sustainable growth. Quantitative measurement of the importance of education can be achieved by looking at various indicators such as:

✓ Share in public expenditure: A quantitative measure of the importance of education is the share of public expenditure allocated to the education sector in the total government budget. The higher the share, the higher the prioritisation of education in government policies.



**Figure 1. Education expenditure as a share of GDP**

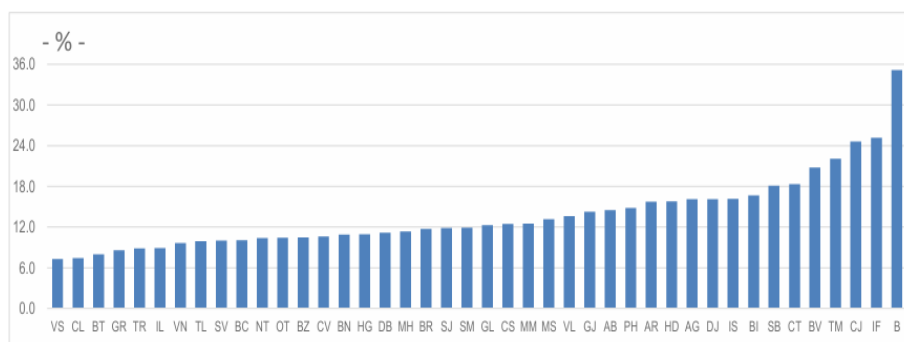
Source: made by the author based on CULIȚĂ, G., 2023, *Public expenditures for education in Romania and The European Union, The Journal Contemporary Economy, Volume 8, Issue 1, 81-85.*

As we can see in this picture, the education expenditure in Romania between 2008 and 2021 had ups and downs but still the share is very low compared to the needs of the system and the percentage of the other countries in the world.

✓ Percentage of population with formal education: By looking at the percentage of the adult population that has received formal education (primary, secondary, tertiary), it is possible to assess the degree of access to education and the literacy level of a society. This indicator reflects the extent to which education is accessible and accessed by members of a community.

Regarding the distribution of population by share of people with higher education by county we can observe from figure 2 that the area with the higher percentage of people with high education is Bucharest followed by Ilfov, Cluj, Timisoara, Brasov, Constanta and Sibiu.

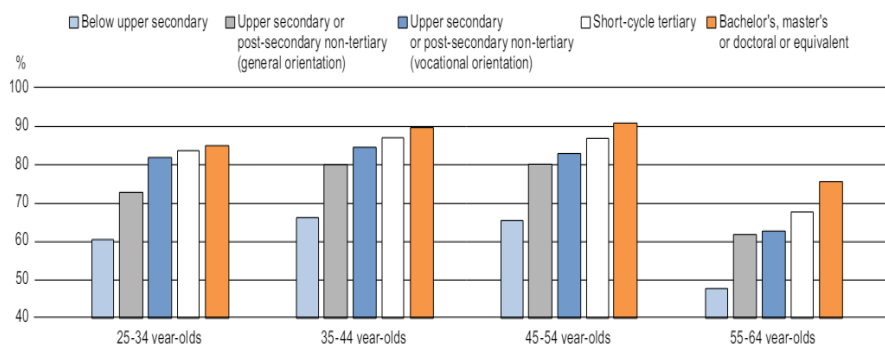
The lowest percentage of education people is in Vaslui, Calarasi, Bistrita Nasaud, Giurgiu, Teleorman and Ialomita.



**Figure 2. Distribution of population by share of people with higher education, by county**

Source: <https://www.recensamantromania.ro/rezultate-rpl-2021/rezultate-definitive/>

✓ Connection to the labor market: Another quantitative measure of the importance of education is the degree of labor market integration of graduates and their earnings compared to people without formal education. A higher level of integration and higher pay of educated workers reflects the importance of education in obtaining and maintaining a stable and well-paid job. [9,10,11]

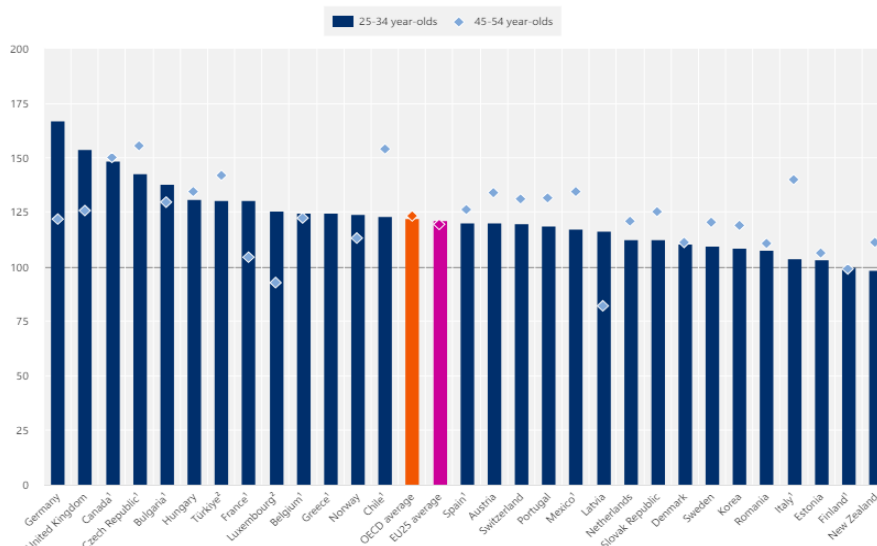


**Figure 3. Employment rates, by age group, educational attainment and program orientation**

Source: OCDE, *Education at a glance 2020*, 2020, p. 71.

Regarding the employment rates, by age group, educational attainment and program orientation in the OCDE countries we can see that the people with bachelor's, master's and doctoral degree has the highest employment rates at all age categories. [12]

Also from the figure no. 4 we can see that the highest earning of workers with vocational upper secondary or post-secondary nontertiary attainment compared to those with below upper secondary attainment, by age group for the people between 25 and 34 years old are in Germany, United Kingdom, Canada, Czech Republic, Bulgaria, Hungary, Turkey, France and Luxembourg.



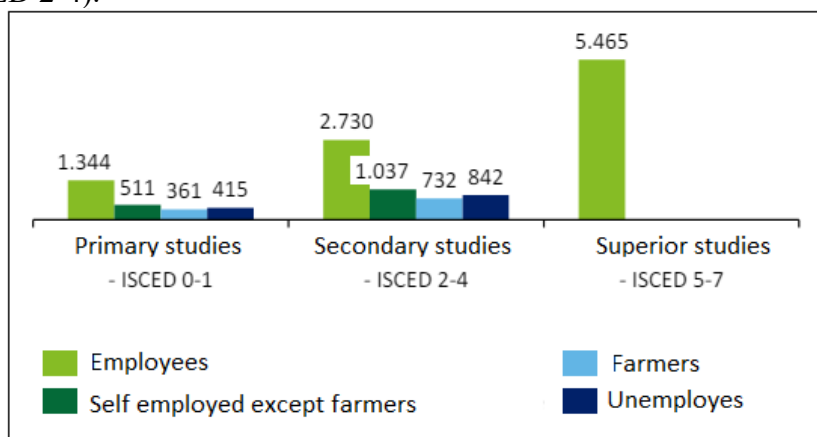
**Figure 4. Relative earnings of workers with vocational upper secondary or post-secondary nontertiary attainment compared to those with below upper secondary attainment, by age group (2021)**

Source: OCDE, *Education at a glance 2023*, 2023, p. 94.

Note: There are cross-country differences in the inclusion/exclusion of zero and negative earners. See Definitions and Methodology sections for more information. 1. Year of reference differs from 2021. Refer to the source table for more details. 2. Earnings net of income tax

For the people between 45 and 54 year old, the highest earning of workers with vocational upper secondary or post-secondary nontertiary attainment compared to those with below upper secondary attainment are in Chile, Czech Republic, Canada, Italy and Turkey.

At the level of Romania, from the figure no.5 we can observe very clearly that the level of income is much higher for the adult persons wit superior studies. The annual cash income of employees is ~62% higher than of self-employed workers in non-agricultural activities and respectively by ~73% compared to farmers for both types of education (ISCED 0-1 and ISCED 2-4).

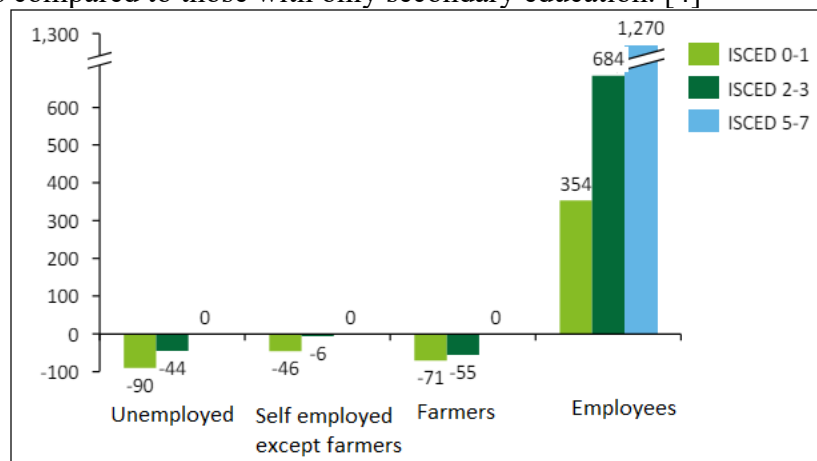


**Figure 5. The monetary income of an adult depending on occupational status and level of education (gross monthly averages, RON)**

Source: Deloitte Romania, Cost of education: investment, efficiency, impact, 2021, p. 25

✓ Contribution to GDP: Assessing the contribution of education to gross domestic product (GDP) can provide a quantitative measure of the economic impact of investment in education. Studies show that an educated and skilled workforce contributes significantly to economic growth and improved national competitiveness in the global market. [5, 7, 8]

In Romania, as we can see from the figure 6, completion of secondary education (ISCED 2-3) brings a significant increase in the return on investment in education by reducing state expenditure and increasing income. This translates into an improvement of 22% for farmers, 51% for the unemployed and over 86% for the self-employed in non-agricultural activities. For employees, state revenues increase by approximately 93%. Completion of higher education (ISCED 5-7) leads to an increase of about 86% in the income of employees compared to those with only secondary education. [4]



**Figure 6. The yield brought by each status category occupational according to the training level accessed (thousand RON)**

Source: Deloitte Romania, Cost of education: investment, efficiency, impact, 2021, p. 25

By analysing these and similar indicators, a deeper understanding of the relationship between education and economic development and a quantitative measure of the importance of education within a society can be gained.

## CONCLUSIONS

Education stands as a linchpin for economic growth and competitiveness in Romania, driving innovation, productivity, and social progress. Continued investments in education, coupled with reforms aimed at enhancing quality and relevance, will further propel Romania's economic development and position the country as a key player in the global arena. By harnessing the transformative power of education, Romania can unlock its full potential and create a prosperous future for its citizens.

By prioritizing education and investing in human capital development, nations can unlock new opportunities for growth, innovation, and prosperity. As we strive towards a more equitable and sustainable future, let us recognize the transformative power of education in shaping the destiny of nations and building a brighter tomorrow for all.

Under-education can have devastating effects on individuals and society as a whole, exacerbating social and economic inequalities and limiting the potential for development and progress. By promoting equal access to quality education and investing in vocational education and training, this can be countered and a more equitable and prosperous environment created for all members of society.

Overeducation can have negative effects on individuals and society, creating additional pressures on the education system, devaluing the value of degrees, creating difficulties in the labor market and contributing to increased student debt. It is therefore important to strike a balance between getting an education and developing practical skills to avoid the negative consequences of overeducation.

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