

## Connection between the Education Strategies and Economic Development

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### Abstract

*The education strategy implies the development of an accessible, attractive and competitive system that provides high quality education and training services to respond appropriately and quickly to people and the economy's needs by efficiently managing the available resources. The objectives, principles and directions of action of the strategy are based on an analysis of the education and training system and are developed taking into account the major role that training has for the economic and social development of Romania. In this analysis we will establish the link that exists in the economic development of Romania and education and we will propose some strategic measures for education.*

**Key words:** education, economic development

**J.E.L. classification:** F63 I25

### 1. Introduction

The Europe 2020 Strategy defines the following main objectives: to increase the employment rate of the population aged 20 to 64 to at least 75%; the allocation of 3% of GDP for research and development; the 20/20/20 target: a 20% reduction in greenhouse gas emissions or 30%, if there are favorable conditions, 20% increase in the share of renewable energy in final energy consumption, 20% of energy efficiency compared to 1990; reducing the school dropout rate to a maximum of 10% and increasing the percentage of people aged 30 to 34 with tertiary education to at least 40% in 2020; EU-28 reduction in the number of people at risk of social degradation and exclusion by 20 million persons by 2020 compared to 2008 (Eurostat, code: t2020\_40).

Compared to the European average and Romania's 2020 targets, the following findings are apparent: the rate of early school leaving in Romania, 18.1% in 2014, up 0.8 percentage points over the previous year and 7 percentage points above the average European level of 11.1% is one of the highest in Europe with a sinuous evolution, with no significant progress towards the national target of 11.3% for 2020; the share of tertiary education graduates has made good progress towards the national target of 26.7% for 2020, rising from 16.8% in 2009 to 25% in 2014 (Achimescu, Balica et al., 2010).

The statistical data highlights the low share of investments made by Romanian enterprises for the continuous training of the total labor costs, as the absence of the company-sponsored training activities for 41% of the employees over the age of 40 and with a low level of skills, this rate rising to 50% for people aged 18-24 and low levels of education and skills (Eurostat code:t2020\_10).

Research conducted by the employers and managers forecasting method in Romania revealed that in 2013 all employers considered employee training to be important and beneficial, mainly in terms of increasing work productivity, adapting products / services to requirements market and motivation of employees at work. At the same time, employers / managers claim the lack of own funds for professional training courses, lack of information or the difficulty in accessing the funds for such activities, as well as the costs involved in the total or partial cessation of employees' activity. In addition, in the field of agriculture there is a reluctance on the part of employers to take

part in such courses; in the fields of industry and construction, there is fear that employees will be looking for another better job; and in services there are fears about raising wage expectations. Most of the firms surveyed said they had a professional training plan, which in most cases accounts for about 60%, is the responsibility of managers. (NCSMPS, 2014).

The main characteristics of the European and Romanian economic environment are:

- technological innovation: the accumulation of an impressive volume of knowledge in all fields, the increase of competition on the market requires the adoption of the latest technologies;
- occupational instability: employees are forced to change not only their job, but also their profession.
- reduction of taxation: in the long run, as competition increases, the pressures of economic agents on governments will be higher and higher in order to reduce taxation.

This means that in the future the state will either have to withdraw more and more from supporting public services, including education, or to identify other sources of funding for them. The slow pace of economic growth and the difficulty of creating new jobs lead to a low demand for labor, and therefore human capital.

The volume of education expenditures differs not only from one country to another but also from one individual to another and are able to provide an insight into both a country's ability to sustain human capital development as well as on its place in long-term development strategies.

The fact that, at the individual level, the expenditures allocated to education are uncertain and variable, has led to the accentuation of the role of the state, of the governments in the financing of education, either totally or partially.

In Romania, access to education is guaranteed by law to all persons regardless of sex, nationality, religion or socio-familial background.

However, it has become obvious that, in the conditions of a deficient economic situation, the existence of only a favorable legislation for education remains insufficient.

Romania has entered a vicious circle: a low level of development has the effect of limiting investments in education, and therefore in human capital, and diminishes the quality and productivity of work, the main factors of economic growth.

Another aspect related to the financing of education is the one related to the distribution of expenses on educational levels.

It was found that the total financing of primary and secondary education is much more advantageous for society than for the individual: a high level of literacy, increasing the degree of social and economic participation of the population, improving the quality of family life and health, etc.

Therefore, in many countries, primary and secondary education is free, the compulsory duration of schooling being very long.

## **2. Literature review**

The contribution of education institutions to economic development has been the subject of a vast research over the last decades (Bourguignon F., Morrison C., 1990; Dension E.F., 1962; Deraniyagala S., 1995; Grossman G., Helpmen E., 1989).

The returns to primary schooling tend to be greater than returns to secondary and tertiary education according to Psacharopoulos, 1994.

In agriculture some proofs suggest positive effects of education strategies on productivity among farmers using modern technologies and small impact, as should be expected among those using traditional methods. In Thailand, peasantry with four or more years of schooling were three times more likely to adopt fertilizer and other modern inputs than less educated peasantry (Birdsall, N., 1993). Similarly, in Nepal, the completion of at least seven years of schooling increased productivity in wheat by over a quarter, and in rice by 13% according to authors Jamison and Moock, 1994.

Education is also an important helper to technological capability and technical change in industry. Statistical analysis of the clothing and engineering industries in Sri Lanka, according to Deraniyagala, 1995 that showed that the skill and education levels of workers and entrepreneurs were positively related to the rate of technical change of the firm.

Education and abilities and powers of a developing country's labor force influence the nature of its factor endowment and consequently the composition of its trade. Wood in 1994 argued that even 'unskilled' workers in a modern factory normally need the literacy, numeracy, and discipline, which are acquired in primary and lower secondary school.

Advances in education and longer schooling have helped reduce poverty in developing countries. In 1990, a six-year-old child in a developing country should expect to attend school for 8.5 years, up from 7.6 years in 1980 (Ozturk I., 2008).

Many studies have conflicting results regarding the link between education and economic development. E.g Sunde and Vischer (2015) find that there is a weak empirical effect of human capital on economic growth in existing cross-country studies, which is partly due to inappropriate specifications. Previously authors Kalaitzidakis et al. (2001) found a nonlinear effect of human capital on economic growth and Krueger et al. (2001) point out that their evidence "is consistent with the theoretical suggestion that there exist threshold levels of human capital and the growth experience of a country may well differ according to which side of the threshold it finds itself in".

### 3. Research methodology

Considering the strategies for education as a key resource for the economic development of Romania, I used the following objectives for the analysis.

The objectives of this methodology are:

O1: Determining the link and the percentage in which education strategies determine economic development at national level;

O2: Determining strategies for the development of education in Romania.

Taking into account our scientific approach, we have resorted to the following assumptions:

General hypothesis: GDP at national level is influenced by education

Hypothesis 1: There is a significant link between GDP and Gross domestic expenditure on R & D;

Hypothesis 2: There is a significant link between GDP and Number of patents.

The study is based on data from 2017-2020, taken from the European Institute of Statistics Eurostat. The nature and characteristics of variables used in the model are summarized in Table 1.

On these data the observation method and the statistical analysis were applied in order to confirm or not confirm the hypotheses of the research.

*Table no. 1: The variables used in the econometric model*

NO.CRT.	VARIABLE	STATISTICAL EXPRESSION	DESCRIPTION
1	GDP	direct variable	It is defined as the value of all goods and services produced less the value of any goods or services used in their creation.
2	R&D	Indirect variable	The indicator measures gross domestic expenditure on R& as a percentage of the gross domestic product.
3	Number of patents NP	Indirect variable	The indicator measures claims for the protection of an invention

Source: conducted by author

#### 4. Results

Table no. 2 shows that there is a significant link between the variables studied. An increase with a percentage of R & D leads to an economic growth in Romania of 67%.

*Table no. 2: Systematization of regression coefficients and Pearson coefficients*

GDP	PEARSON COEFFICIENTS	REGRESSION COEFFICIENTS
	Romanian Level	Romanian Level
R&D	0,712	67,431
NP	0,538	52,462

*Source:* own processing using the SPSS statistical program.19

Certification hypotheses are validated.

In table no. 3 we have proposed several strategic measures for the development of education in Romania.

*Table no. 3. Education strategies*

STRATEGIES FOR EDUCATION	SPECIFIC MEASURES	ADMINISTRATIVE INDICATORS
IMPROVING PUBLIC AND PRIVATE FINANCING MECHANISMS OF EDUCATIONAL FORMATION	Developing and implementing national strategic projects to provide student support by funding practical training	Number of students supported
IMPROVING PROFESSIONAL ORIENTATION AND CAREER CONSULTING	Developing a coherent national information system, counseling and professional guidance at national / regional / local level, covering both initial and continuing vocational training Campaigns to inform people able to work in link to existing guidance and counseling services at the level national / regional / local	Network of information, counseling and vocational guidance centers in education secondary and non-tertiary tertiary education Number of people
FACILITATION OF ACCESS TO VOCATIONAL TRAINING PROGRAMS FROM YOUTH EDUCATION SYSTEM WITH ACCESS TO THOSE OF VULNERABLE GROUPS	Development and provision of professional guidance services for 8th grade students Provide financial support for housing and boarding needs of young people from rural and underprivileged backgrounds, the Roma population, including people with disabilities or deficiencies enrolled in vocational training through vocational education in school / vocational and technical education establishments	Number of students in the 8th grade Number of students
DEVELOPMENT OF INNOVATION, CREATIVITY COMPONENTS AND THE ENTREPRENEURIAL SPIRIT FROM THE PROFESSIONAL TRAINING PROGRAMS	Expanding learning methods that develop the entrepreneurial skills of participants in training programs through the exercise firm	Number of Exercise Companies

*Source:* conducted by author

The education and training system must adapt and update its education and training offer, to respond effectively to society's needs and to be oriented towards creativity and innovation, to develop skills to enable, on the one hand, the exercise of active citizenship and personal development and, on the other hand, the integration of graduates into the ever-changing labor market.

## 5. Conclusions

Economic development is a form of manifestation of macroeconomic dynamics that implies a set of qualitative, quantitative and structural transformations, both in economics and in scientific and technological research, in the organizational mechanisms and structures of the economy, in the way of thinking and behaving people.

Therefore, there can be no economic development without fulfilling social conditions without changing the institutional framework.

The results of the research concur with those of the authors McClelland, Inkeles, Winter, who have demonstrated that the historical periods of economic and social development have been accompanied by an increase in the "need to accumulate" population, which can only be satisfied by education.

There is a significant link between GDP and Gross domestic expenditure on R & D and Number of patents.

As a consequence of the negative effect of lack of education, individuals may face various problems at work: job insecurity, delays in paying for work performed, permanent suspicion of the employer towards them, the obligation to submit a guarantee to employment that often exceeds the income obtained in a few months of work, etc.

In conclusion the individuals without education are affected to a much greater extent by the phenomenon of exclusion from the labor market than those who have received education.

Migration and urbanization have positive effects on a nation's economic development, and any attempt to artificially restrict their influence is ineffective.

In particular, the attempt to control migration to the urban environment through a reform of the rural education system has not been successful in any country, although in some less developed countries the idea is still in vogue. In conclusion,

Therefore we can say that education improves the knowledge and skills of individuals. For this reason, they are inclined to find a job suitable for their training, which will provide them with an adequate income.

To the extent that they find these job opportunities in the environment in which they live, they will work there, contributing to the economic development of the area.

If they do not find these opportunities, then they will migrate to other areas (usually from rural to urban areas), generating the negative effects presented above.

## 6. References

- Anderson, C.A., Bowman, M.J., 1963. Concerning the Role of Education in Development, London: Collier Macmillan.
- Angelescu, C., 2005. *Economy*, Bucharest: Economic Publishing House.
- Becker, S., 2007. *Human capital. A theoretical and empirical analysis with special reference to Education*. Bucharest: ALL Publishing House.
- Birdsall, N., 1993. *Social Development in Economic Development*, World Bank Policy research working Papers, Washington DC, Series 1123, pp. 8-13.
- Bourguignon, F., Morrison, C., 1990. Income Distribution, Development and Foreign Trade: A Cross-sectional Analysis, *European Economic Review*, 34(6), pp. 1113-1132.
- Burchardt, T.T., Le Grand, J., Piachaud, D., 1998. Social Exclusion in Britain 1991-1995, *Social Policy and Administration*, 33(3), pp. 227-244.
- Cicea, C., Dobrin, C., 2005. The contribution of education to economic development, *Management*, 8(1), pages 44-53.

- EU 2020. *The role of education and training in the implementation of the Europe 2020 Strategy*, [online]. Available at: <https://www.cedefop.europa.eu/en/news-and-press/news/council-conclusions-role-education-and-training-implementation-europe-2020-strategy> [Accessed 23 February 2020].
- Deraniyagala, S., 1995. Technical Change and Efficiency in Sri Lanka's Manufacturing Industry, *Journal of International Development*, 8(3), pp.8-17.
- Denson, E.F., 1962. *Sources of Economic Growth in the United States and alternative Before Us*, New York: Committee for Economic development publisher, ISBN 978-1258421335.
- Deraniyagala, S., 1995. Technical Change and Efficiency in Sri Lanka's Manufacturing Industry, *D. Phil, Oxford*, 13(1), pp. 59-71.
- Georgescu, D. 2009. *Education reform a chance for a change of mentality*. Bucharest: Three Publishing House.
- Goody, J.R., Watt, I., 1968. *The Consequences of Literacy*, Cambridge: Cambridge University Press.
- Grossman, G.M., Elhanan, H., 1989. *Growth and Welfare in a Small Open Economy*, NBER working paper, 2970 [online] Available at: <https://ideas.repec.org/p/nbr/nberwo/2970.html> [Accessed 4 January 2021].
- Harbison, F.H., Myers, C.A., 1964, *Education, Manpower and Economic Growth: Strategies for Human Resource Development*, New York: McGraw-Hill Publisher.
- Inkeles, A., Holsinger, D.B., 1974. *Education and Individual Modernity in Developing Countries*, Leiden: Brill Publisher.
- INSSE, 2014. *The educational system*, [www.insse.ro/Sistemul\\_educational\\_2014](http://www.insse.ro/Sistemul_educational_2014) [online] Available at: [https://insse.ro/cms/sites/default/files/field/publicatii/sistemul\\_educational\\_in\\_romania\\_2014\\_2015.pdf](https://insse.ro/cms/sites/default/files/field/publicatii/sistemul_educational_in_romania_2014_2015.pdf) [Accessed 4 March 2021].
- Jamison, D., Moock, P., 1994. Farmer Education and Farmer Efficiency in the Nepal: The Role of Schooling, *World Development*, 12(1), pp. 67-86.
- Kalaitzidakis, P., Mamuneas, T.P., Savvides, A., Stengos, T., 2001. Measures of human capital and nonlinearities in economic growth, *Journal of Economic Growth*, 6(3), pp. 229-54.
- Krueger, AB., Lidahl, M., 2001. Education for growth: why and for whom?, *Journal of Economic Literature* 39(4), pp. 1101-1136.
- Marinescu, C., 2011. *Education-economic perspective*, Bucharest: Didactic and Pedagogical Publishing House.
- Mourshed, M., Chijioke, C., Barber, M., 2009. *How the worlds most improved school sytems keep getting better*, McKinsey&Company, [online] Available at: <http://mckinseysociety.com/downloads/reports/> [Accessed 3 March 2021].
- Mandela, N., 2014. *Education is the most powerful weapon which you can use to change the world*, [online] Available at: <http://mandelamadiba.wordpress.com/2014/01/31/education-is-t/> [Accessed 9 December 2020].
- Ozturk, I., 2008. *The Role of Education in Economic Development: A Theoretical Perspective* [online] Available at <https://ssrn.com/abstract=1137541> [Accessed 10 December 2020].
- Panfilii, A., 2012. *Do we need education in the spirit of sustainable development?* [online] Available at: <https://www.gcetclearinghouse.org/sites/default/files/resources/%5BENG%5D%20%EC%A7%80%E C%86%8D%EA%B0%80%EB%8A%A5%EB%B0%9C%EC%A0%84%EA%B5%90%EC%9C%A1 %20%EA%B8%B8%EC%9E%A1%EC%9D%B4.pdf> [Accessed 15 January 2021].
- Psacharopoulos, G., 1984. *The Contribution of Education to Economic Growth: International Comparisons*, Cambridge: Ballinger Publishing Co.
- Stanef, M.R., 2013. *The educational system in Romania, disparities between urban and rural areas*, Bucharest: Academy of Economic Studies Publisher.
- Sunde, U., Vischer, T., 2015. Human capital and growth: specifican matters, *Economica publisher*, 82(326), pp. 368-390.
- Wood, A., 1994. *North-South Trade, Employment and Inequality: Changing Fortunes in a Skill-Driven World*, IDS Development Studies Series, Oxford: Oxford University Press.