

Education and Labour Market Outcomes: Empirical Evidence in Romania

Teodora Andreea Găinaru (Olah)¹

¹ University of Craiova, Doctoral School of Economics, Craiova, Romania; andreea_gainaru@yahoo.ro

Abstract: Education and vocational training provide the correct skill mix for economic growth in a globalized economy that demands more specialized labour markets, being decisively important among young people and adults, both from the urban and especially the rural environment. Emphasis on education and vocational training can play a strategic role in the process of economic development since it enhances knowledge-based and skills-based instruction. The research objective of this work consists in evaluating the effects of the representative factors that influence education in Romania in close relation to the coordinates of the labour market, infrastructure and personnel in education. Thus, we consider as endogenous variables the number of graduates, but also the degree of participation of the population in the labour force, highlighted through the lens of the employment rate and the unemployment rate, for the period 2000-2020. The research methodology consists in the application of structural equation modelling (SEM). In order to capture the differences between urban and rural areas, two other specific coordinates will be introduced, namely the employment gap and people at risk of poverty or social exclusion according to the degree of urbanization. The results obtained illustrate the importance of human capital (school population and teaching staff), educational infrastructure (school facilities, school laboratories, school workshops) and related endowments with sports equipment and main influencing factors of the number of graduates and drivers of labour market performance. Therefore, proper strategies and measures are needed for improving the quality of education in Romania in accordance with labour market.

Keywords: education; labour market; urban-rural; Romania; poverty.

1. Introduction

Education means the connection between the individual and society, which influences the entire social life. This represents an uninterrupted exchange of information from society to the individual, which is carried out for the proper functioning of the community. Thus, through education, a transfer of values is produced from society to individuals, and what sets it apart from the other phenomena that involve this transfer is the very accentuation of its characteristics. In this sense, education is a very important and decisive factor for the sustainable development of all countries of the world.

Education is not only a human right, but it is also a starting point in the process of achieving sustainable development, and it also represents the fundamental tool for the administration and promotion of democracy. Thus, it can improve people's mentality, developing their ability to create a much better and more prosperous world, thus influencing the quality of life [1, 2].

Romania faces great deficiencies in the field of education, even if it is a necessary criterion for the good development of citizens and society [3]. Over time, several measures have been tried to improve this situation, but the education of the people in Romania has become more and more precarious and, in some situations is even absent. What is worrisome is the fact that in this situation there are more and more young people who come from the countryside, hindering in this way the sustainable development of Romania, in the idea that without a quality education for its citizens, a country cannot aspire to development [4-6].

Education is important both for the present and for the future, providing people with knowledge, skills, and abilities to effectively participate in economic and social life, to develop

Citation: Găinaru, T.A.; (2023) Education and Labour Market Outcomes: Empirical Evidence in Romania. *Journal Of Economic and Business Issues*, 3(2), 49-61.

Received: 26/06/2023

Accepted: 26/07/2023

Published: 31/07/2023

current knowledge, and to activate, integrate or reintegrate successfully into the labour market. The role of education in providing access to the labour market is reflected in the increased employment opportunities for the educated population, people with high levels of education have better chances in the labour market. The correlation between education and the labour force is neither independent of the conditions on the labour market, nor limited only to the level of education of individuals. An educated person has more chances to integrate into the labour market, to find a job according to his level of competence, with greater mobility, higher openness to long-life learning, to professional reorientation or diversification. The relationship between education and the labour market is continuous throughout the entire active life period of people. Therefore, the education system and the labour market must support each other. Moreover, rural education has a number of problems, a number of major difficulties regarding the number of qualified teaching staff, staff turnover due to the high degree of isolation of certain localities, as well as their development, limited access to professional training or continuing education programs, of the rural population, but also of poor investment in physical infrastructure. Thus, the rural environment remains a disadvantaged environment, where the turnover of teaching staff is high, in contradiction with the proportion of qualified staff, which is low. One of the main risk factors regarding children's access to education in rural areas is the poor socio-economic situation of a family. This reduces the educational chances of the children who come from this type of family, and the lack of education, school training, and then professional training, reduces their opportunities to integrate into society, thus increasing the chances that they will still end up in poverty in the future [7].

On this framework, the research objective of this work consists in evaluating the effects of the representative factors that influence general education and vocational training in Romania in close relation to the coordinates of the labour market, infrastructure and personnel in education. Thus, we consider as endogenous variable the number of graduates, but also the degree of participation of the population in the labour force, highlighted by the employment and the unemployment rates, for the period 2000-2020. The research methodology consists of structural equation modelling (SEM), which captures the direct, indirect and aggregate effects of the variables considered in the analysis specific to the educational system and the labour market in Romania. The research hypotheses (that are detailed in the Methodology section) are oriented to assess the synergy among education and labour market, namely in which way: (i) the number of graduates is influenced by human capital (school population and teaching staff), educational infrastructure (school units, school laboratories, school workshops, sports equipment and related spaces), labour market and the standard of living, on the one hand; and (ii) how the labour market is influenced by the selected dimensions of the educational system and the standard of living, on the other hand.

The novelty of the research lies in the fact that, although it is a topic that is quite addressed in the literature, the analysis through the lens of the education infrastructure and the labour market has been less addressed. In addition, to capture the differences between urban and rural areas, two other specific coordinates will be introduced, namely the employment gap according to the degree of urbanization and people at risk of poverty or social exclusion according to the degree of urbanization.

After a brief introduction regarding the importance of the topic addressed, Section 2 consists of a review of the literature, where various related studies carried out in this field are presented. Section 3 presents the data and the research methodology, consisting of structural equation modelling (SEM) which sought to capture the effects of the variables considered in the analysis specific to the educational system and the labour market in Romania. Then, Section 4 contains the analyses, results and discussions, which illustrate the importance of human capital (school population and teaching staff), educational infrastructure (school units, school laboratories, school workshops) and related endowments with sports equipment and related spaces as factors of the influence of the number of graduates and drivers of the labour market performance, in the perspective of the appropriate professional insertion in the labour market of young people after graduation. Finally, Section 5, respectively the conclusions, draws the benchmarks regarding the improvement of education in Romania, in correlation with the labour market.

2. Literature review

Studies in the literature show a direct link between investment in education and economic, social and human development, with education being an important factor to ensure sustainable development. There are many studies that have focused their research on finding the reasons for the factors that lead to economic growth, one of them representing the level of education [1, 5-10].

Thus, we can say that, thanks to education, the standard of living among young people can increase, especially by gaining entrepreneurial skills, thus education is related to the development of society and labor market [8].

Education for sustainable development tends to increase young people's interest in acquiring the skills and competencies necessary for employment in the labour market, in accordance with its requirements, as well as assuming a way of life supported by a future alongside responsible and competent citizens [5, 9].

In this sense, promoting the principles of sustainable development induces effects on the labor market, by involving many categories of actors. The contribution of educational institutions is particularly important considering their multiple functions in the didactic, research and entrepreneurial fields [10]. Higher education institutions (HEIs) play an important role in providing the right mix of skills tailored to professional profiles and matched to the needs of and opportunities offered by the labour market, particularly in the current globalized digital economy. Entrepreneurship education and training, as „the process of teaching students entrepreneurial, which involves identifying viable business opportunities and turn them into successful commercial ventures”[11], at the university level, enhances students' entrepreneurial intentions, as it encourages the acquisition of advanced knowledge and skills. Therefore, higher education institutions have an essential role in providing advanced knowledge and necessary skills linked to the needs of the labor market, thus increasing students' innovation and their entrepreneurial intentions [12], while also strengthening the economic system/development through the creation of new businesses in knowledge-intensive sectors [13].

Related to Romania, the literature underpinnings [3-6, 14-16] in the field of education, revealed that there are many deficiencies, although it represents one of the most important factors for the good development of society and citizens.

One of these deficiencies is highlighted by the poor financing of education [3]. Thus, due to the low degree of budgetary allocations to the educational system, a poor performance of young people in this sector is evident, which subsequently contributed to the creation of several major discrepancies and inequalities in terms of their employment opportunities. Therefore, we can say that the delay in the modernization of the school infrastructure can lead to affecting the quality of education, and thus it is expected that the school population will decrease considerably.

Another deficiency is represented by regional disparities, especially between rural and urban areas [5, 6], with low performance in terms of rural education and labor market integration.

As regards the standard of living, monetary child poverty has decreased, but there has been no progress on access to services for children in vulnerable situations [14-16]. Thus, children in villages and vulnerable groups have low access to many things, including pre-school education, schooling, proper nutrition, healthcare and housing. The process of deinstitutionalization of children has reached satisfactory progress, with particularly important measures being taken in this regard, especially about the relevant legislative framework. High child poverty rates predict inequality of opportunity in the future. Considering this, the most disadvantaged are children who have parents with a low level of education, but also those from households with a very low work intensity [14].

The decrease in the schooling rate and the increase in the school dropout rate for these groups show a polarization of education that could contribute to a higher rate of poverty among future adults. Poverty reduction is not only related to economic conditions, but is an integrated process that includes, also environmental, social, ethical, legal and other issues depending on the international sphere [15]. Thus, a country that wants to achieve sustainable development can easily strike the right balance and achieve the best results in terms of poverty reduction and other conditions [16].

3. Data and methodology

The data used in the analysis are annually and were extracted for the period 2000-2020, including indicators specific to the educational system in Romania, but also indicators of the labour market (employment rate and unemployment rate), thus configuring the data panel at the level of Romania.

The name of the indicators used in the empirical analysis, along with the acronym of the variables used in the econometric modelling and the source of the data [17, 18], are presented in Table 1.

Table 1. List of indicators used in the analysis, period 2000-2020

Indicator (name, unit of measure - UM)	Acronym	Data source
School units/institutions (UM: number)	<i>SchInst</i>	Eurostat, INS
Share of school population/total average residence population (calculated)	<i>Sch/Pop</i>	Eurostat, INS
Share of teaching staff/school population (% , calculated)	<i>Tch/Sch</i>	Eurostat, INS
School laboratories (UM: number)	<i>LabSch</i>	Eurostat, INS
Gym classes (UM: number)	<i>Gym</i>	Eurostat, INS
School workshops (UM: number)	<i>Wks</i>	Eurostat, INS
Sports fields (UM: number)	<i>SpF</i>	Eurostat, INS
Gender employment gap according to the degree of urbanization (UM: percentages)	<i>GndGap</i>	Eurostat, INS
People at risk of poverty or social exclusion depending on the degree of urbanization (UM: percentages)	<i>Pov</i>	Eurostat, INS
Graduates (UM: number)	<i>GRS</i>	Eurostat, INS
Participation of the population in the labour force - Employment rate, 15-64 years (UM: percentage)	<i>ER</i>	Eurostat, INS
Population participation in the labour force - Unemployment rate (UM: percentage)	<i>UR</i>	Eurostat, INS

Source: author contribution

To carry out the research, we applied structural equation modelling (SEM) to capture the direct, indirect and total links between the representative factors that influence education in Romania.

The general configuration of the SEM model is shown in Figure 1, which reveals in which way: (i) the number of graduates is influenced by the stock of human capital (school population and teaching staff), educational infrastructure (school units, school laboratories, school workshops, sports equipment and related spaces), labour market dimensions (employment rate and the gender employment gap according to the degree of urbanization) and standard of living (poverty), on the one hand (Figure 1(a)); and (ii) how the labour market outcomes (employment and unemployment rates) are influenced by the selected dimensions of the educational system and the standard of living, on the other hand (Figure 1(b)).

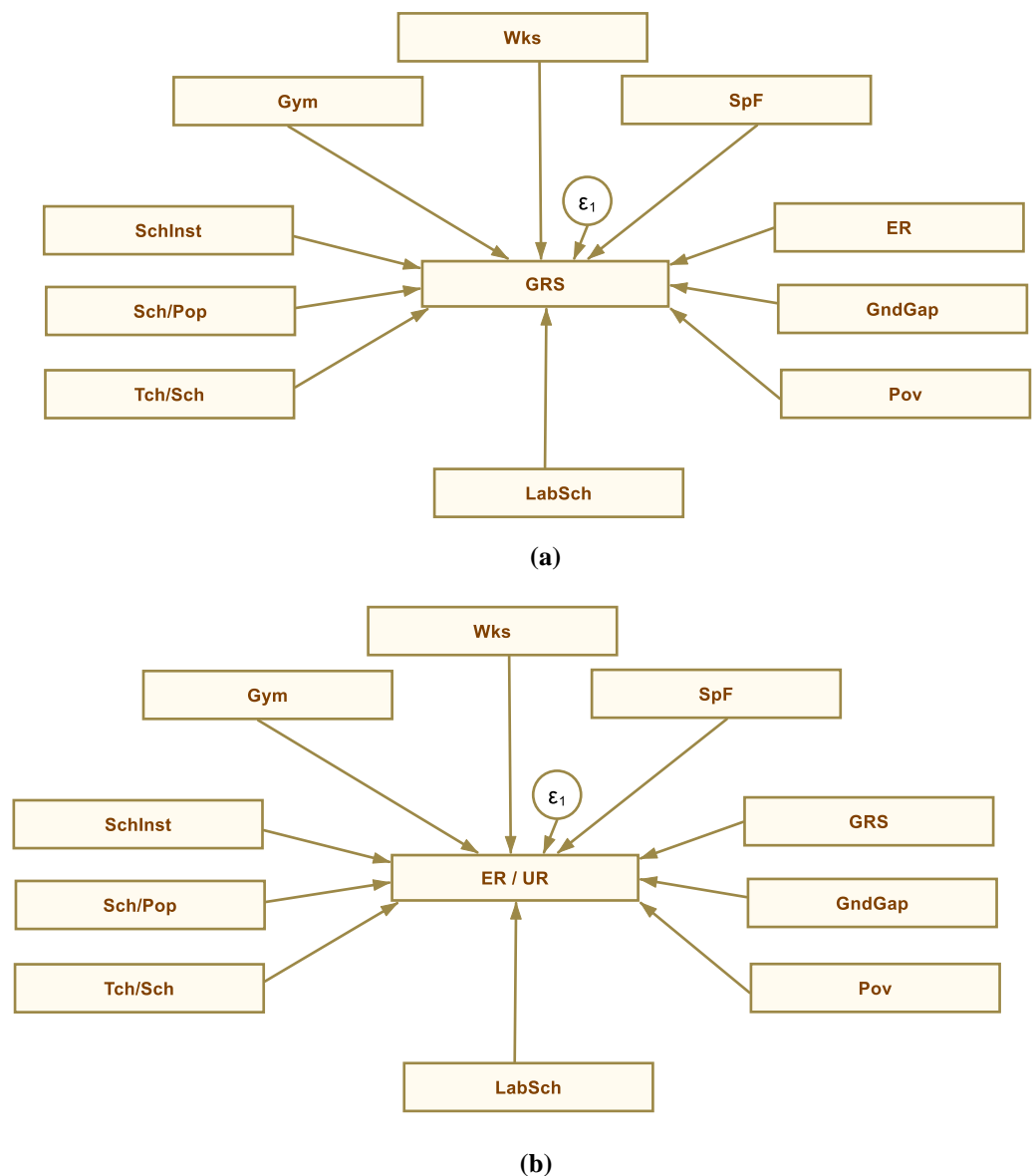


Figure 1. General graphical configuration of the structural equation model, considering as endogenous variables the number of graduates (*GRS*) (a) and the dimensions of the labour market (alternatively, employment rate – *ER* and unemployment rate – *UR*) (b) and as exogenous variables the school units/institutions (*SchInst*), share of school population/total average residence population (*Sch/Pop*), share of teaching staff/school population (*Tch/Sch*), school laboratories (*LabSch*), gym classes (*Gym*), school workshops (*Wks*), sports fields (*SpF*), gender employment gap according to the degree of urbanization (*GndGap*), people at risk of poverty or social exclusion depending on the degree of urbanization (*Pov*)

Source: author's design in Stata 16

Structural equation modelling has the advantage of allowing the estimation of several relations/hypotheses simultaneously, but also of ensuring the storage and reporting of the direct, indirect and total effects of the exogenous variables considered on the *endogenous* one (graduates - *GRS*, employment rate - *ER*, unemployment rate - *UR*).

The research hypotheses are:

- H1. There is a direct, positive and significant linkage between the number of graduates and the human capital stock (school population and teaching staff);

- H2. There is a direct, positive and significant connection between the number of graduates and the educational infrastructure (school units, school laboratories, school workshops, sports equipment and related spaces);
- H3. The number of graduates is positively influenced by the dimensions of the labour market;
- H4. The number of graduates is positively influenced by the standard of living;
- H5. The dimensions of the labour market are favorably influenced by the human capital credentials (school population and teaching staff);
- H6. The dimensions of the labour market are favorably influenced by the educational infrastructure;
- H7. The dimensions of the labour market are favorably influenced by the standard of living.

4. Results

The descriptive statistics of the indicators used in our research are detailed in Table 2.

Table 2. Descriptive statistics - panel data at the level of Romania, 2000-2020

Variables	N	Mean	Standard deviation (Sd)	Minimum	Maximum
SchInst	20	11058.2	6327.209	7001	24481
Sch/Pop	20	17.9725	1.596802	15.88	20
Tch/Sch	20	6.486	0.1344149	6.28	6.79
LabSch	20	24692.15	2126.912	20620	26923
Gym	20	4729.1	108.6186	4479	4851
Wks	20	6536.3	1625.756	4690	9551
SpF	19	4926.895	412.9989	4068	5577
GndGap	15	15.9	1.938335	12.7	19
Pov	13	39.81539	4.587818	31.2	47
GRS	19	620538.5	98460.33	495128	784958
ER	20	61.3	2.153578	57.8	65.8
UR	20	6.505	1.130661	3.9	8.4
<i>N total</i>	20				

Source: author's processing in Stata 16

Descriptive statistics grasp a better view of the dataset, by reporting the mean values, standard deviation and minimum and maximum values per each indicator/variable, thus highlighting the distinctive features of the Romanian labour market and educational system. There can be noted a significant drawback in terms of the number of school units that have reached a minimum of 7001 compared to 24481, while the educational investments remain relatively constant as reflected by a slight increase in the number of classrooms, school laboratories, gym classes and sports fields, yet with a significant reduction of the school workshop rooms in the latest years. Accordingly, some differences are noted in terms of the number of graduates that has significantly reduced over time ranging between 495128 and 784958, with an average of 620538. Moreover, the Romanian labour market performance has slightly improved, as reflected by a small increase in the employment rate and a slight decrease in the unemployment rate over the analyzed lapse of time.

In applying the models, 20 observations were used for most variables, except for certain variables that had missing values, namely sports fields (19 observations), employment gap (15 observations), people at risk of poverty (13 observations) and graduates (19 observations), so as shown in Table 2.

Reliability of the SEM results was assessed by goodness-of-fit indices for each endogenous variable, respectively graduates (*GRS*) (Appendix, Table A1), employment rate (*ER*) (Appendix, Table A2) and unemployment rate (*UR*) (Appendix, Table A3).

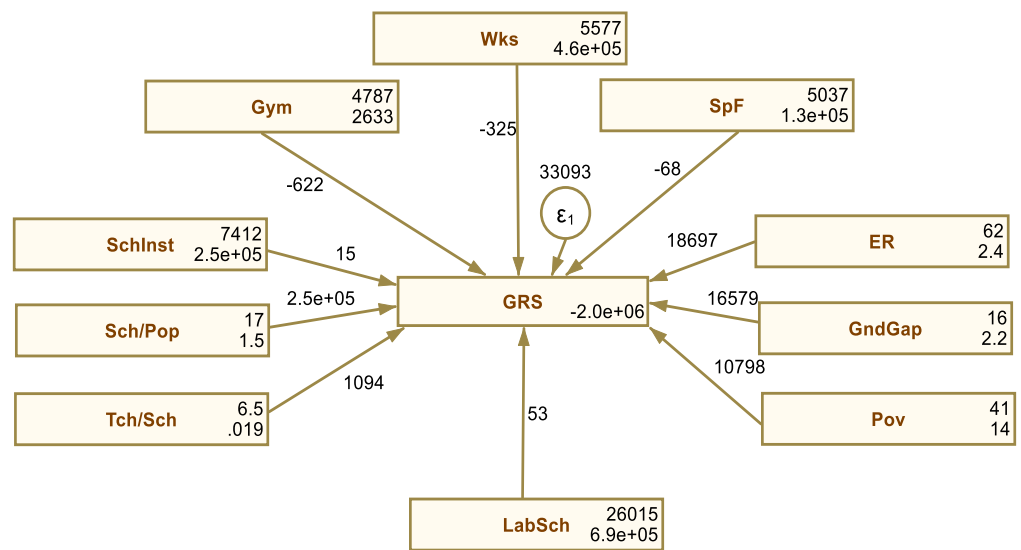
The results obtained by applying SEM are presented in Figure 2 and detailed in Table 3.

A first set of influences (Figure 2(a) and Table 3) revealed favorable effects induced by the number of school units, school laboratories and the share of the school population on the number of graduates (positive and statistically significant coefficients at the 0.1% threshold), on the one hand, and unfavorable impacts induced by the number of gymnasiums, school workshops, sports fields (negative and statistically significant coefficients at the 0.1% threshold), the employment gap as regards urbanization (positive and statistically significant coefficient at the 0.1% threshold) on the number of graduates, on the other hand.

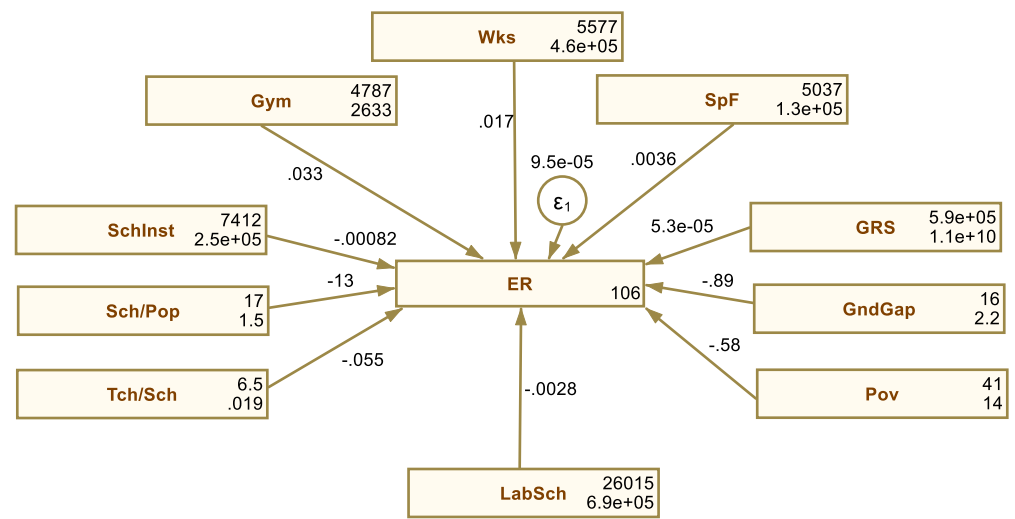
Thus, hypothesis H1 "There is a direct, positive and significant linkage between the number of graduates and the human capital stock (school population and teaching staff)" is fulfilled, while hypothesis H2 "There is a direct, positive and significant connection between the number of graduates and the educational infrastructure (school units, school laboratories, school workshops, sports equipment and related spaces)" is not fulfilled.

Likewise, adequate professional insertion in the labour market, reflected by an increase in the employment rate, also determines the increase in the number of graduates (the estimator related to this variable is positive and statistically significant at the 0.1% threshold). On the other hand, increasing the number of graduates by increasing the poverty rate would not determine a favorable influence on the educational system and the labour market, considering these interdependencies.

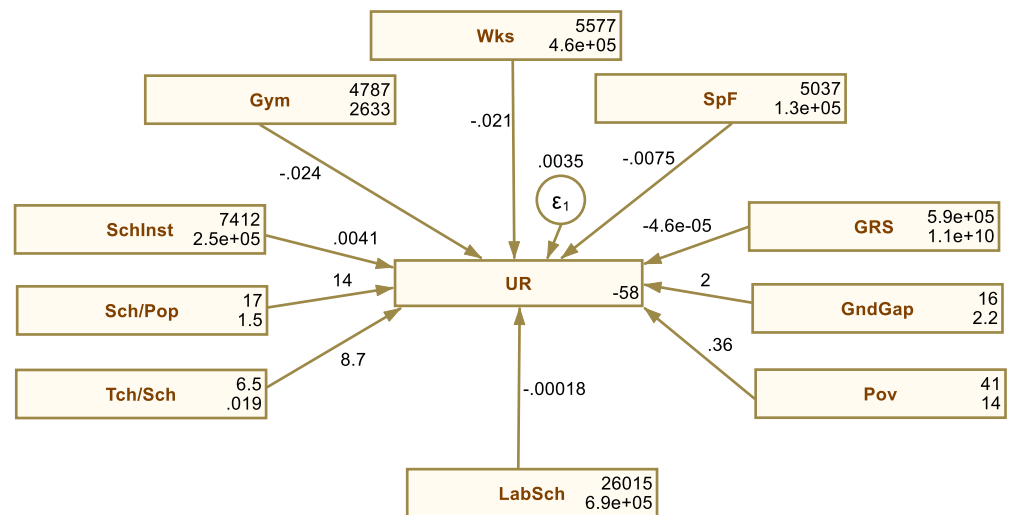
Therefore, hypothesis H3 "The number of graduates is positively influenced by the dimensions of the labour market" is fulfilled, while hypothesis H4 "The number of graduates is positively influenced by the standard of living" is not fulfilled.



(a)



(b)



(c)

Figure 2. The results of the models with structural equations, considering as endogenous variables the number of graduates (*GRS*) (a), the employment rate (*ER*) (b) and the unemployment rate (*UR*) (c)

Source: author’s contribution in Stata 16

The impact of the explanatory variables on the labour market performance indicators (Figure 2(b) and (c) and Table 3) is less significant, with the estimated coefficients having values close to 0. However, a significant negative impact of the schooling population share is observed and of the share of teaching staff in terms of the increase in unemployment (positive and highly statistically significant coefficients at the 0.1% threshold) and the reduction in the employment rate (negative estimated coefficients).

Therefore, hypotheses H5 “*The dimensions of the labour market are favorably influenced by the human capital credentials (school population and teaching staff);*” is not fulfilled.

Positive effects in this regard are induced by improving the school infrastructure by increasing the number of gymnasiums, school workshops and sports fields. Graduates tend to be integrated into the labour market, contributing to its performance by slightly increasing employment (estimated positive coefficient, statistically significant at the 0.1% level) (Figure 2(b) and Table 3) and

reducing unemployment (estimated negative coefficient, statistically significant at the 0.1% level) (Figure 2(c) and Table 3).

Thus, the hypothesis H6 "The dimensions of the labour market are favorably influenced by the educational infrastructure;" is fulfilled.

Table 3. Detailed results of SEM models (centralized from Figure 2)

Variables	(1)	(2)	(3)
	<i>Graduates (GRS)</i>	<i>Employment rate (ER)</i>	<i>Unemployment rate (UR)</i>
main			
SchInst	15.28*** (1.229)	-0.000816*** (0.0000670)	0.00406*** (0.000405)
Sch/Pop	252366.5*** (1135.6)	-13.49*** (0.105)	13.78*** (0.634)
Tch/Sch	1094.0 (3224.9)	-0.0545 (0.173)	8.721*** (1.045)
ER	18697.4*** (127.3)		
Gym	-621.6*** (3.476)	0.0332*** (0.000205)	-0.0243*** (0.00124)
Wks	-324.9*** (2.624)	0.0174*** (0.00171)	-0.0213*** (0.00104)
SpF	-67.99*** (2.090)	0.00363*** (0.000114)	-0.00753*** (0.000693)
LabSch	52.87*** (1.017)	-0.00283*** (0.000508)	-0.00178 (0.00308)
GndGap	16578.5*** (457.1)	-0.886*** (0.0263)	1.956*** (0.159)
Pov	10797.7*** (81.19)	-0.577*** (0.00245)	0.361*** (0.0148)
GRS		0.00535*** (0.0000364)	-0.00462*** (0.000220)
_cons	-1974467.0*** (14198.5)	105.6*** (0.953)	-58.34*** (5.773)
/			
var(e.GRS)	33092.9* (13510.1)		
var(e.ER)		0.0000946* (0.0000386)	
var(e.UR)			0.00347* (0.00142)

Note: Standard errors are shown in parentheses, *** $p < 0.05$, ** $p < 0.01$, * $p < 0.001$

Source: author's contribution in Stata 16

Regarding the standard of living in Romania, measured by the level of poverty, we observe a reduction in the employment rate (negative estimated coefficients) and an increase in the unemployment rate (positive estimated coefficients) along with the increase in the poverty rate. Thus, hypothesis H7. "*The dimensions of the labour market are favorably influenced by the standard of living*" is not fulfilled.

5. Discussions

The results obtained, related to the research hypotheses illustrate the importance of human capital, reflected by school population and teaching staff, for the number of graduates in Romania, as revealed by hypothesis H1. These results are in line with those obtained by Özen and Ersoy [19], which emphasized the role of the quality of education personnel.

As regards the educational infrastructure (school units, school laboratories, school workshops, sports equipment and related spaces), this does not support the number of graduates (as revealed by hypothesis H2), but acts as a driver of labor market performance, by raising employment rate and decreasing the unemployment rate (as revealed by hypothesis H6), in the perspective of the appropriate professional insertion on the labour market of young people after graduation, all these aspects having a significant impact on the economic growth and long-term development of Romania, as revealed by Cristea et al. [5]. The number of graduates in Romania is attracted by the labour market capacity to integrate them into proper jobs (as shown by hypotheses H3), based on entrepreneurship skills, as Drăgoi et al [7], Trif et al. [12] and Ulman and Dibay [15] have, also, underlined. The results obtained underpin that labour market in Romania is not sustained by human capital - school population and teaching staff (as revealed by hypothesis H5). These results are in line with those obtained by Cristea et al. [5], which assessed, in a comparative approach, the gap between education in rural and urban areas.

As for standard of living in Romania, poverty does not act as main driver for education (hypothesis H4) and labour market capacity for new jobs (hypothesis H7), with repercussions on Romania's sustainable development, as Panait et al. [10] and Mansi et al. [16] concluded.

6. Conclusions

In full accordance with the main objective of the research undertaken, structural equation modelling (SEM) sought to capture the direct, indirect and aggregate effects of the variables considered in the analysis specific to the educational system in Romania on the number of graduates, but also on the degree of participation of the population in labour force, highlighted through the lens of the employment and the unemployment rates. Thus, we have outlined the connections between education, labour market and standard of living (measured by the poverty level) in Romania.

Education should be one of Romania's priorities, because it is the basis of a prosperous and sustainable society. Emphasis on education and vocational training can play a strategic role in the process of economic development. Vocational education and training are very important among young people and adults, both from the urban environment and, especially, from the rural one.

Based on the results obtained, I propose the following solutions for improving the quality of education in Romania that will also be beneficial for the labour market: the development of improvement or reintegration programs in education and professional training for adults; the development of professional training systems within the workplace; anticipating labour market needs; providing incentives for businesses to hire young people or graduates of vocational schools; insertion bonus for graduates of rural vocational schools; developing the education infrastructure and increasing the quality of education personnel.

The SEM econometric modelling results must be viewed subject to a lower level of statistical significance, taking into account the relatively low number of observations used in the econometric processing, this being a limitation of the empirical research undertaken. Thus, in order to increase the level of robustness of the estimates, but also in order to identify the gaps between the urban and rural environment, the future research approach will be focused on analysing the education pillar for sustainable development of Romania, but also an advanced comparative approach between urban-rural environments, since education in the rural environment encounters many difficulties among school infrastructure, human capital.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Diebolt, C., Hippe, R., The long-run impact of human capital on innovation and economic development in the regions of Europe. *Applied Economics* 2019, 51, pp.542-563. <https://doi.org/10.1080/00036846.2018.1495820>
2. Noja, G.G., Cristea, M., Sirghi, N., Vădăsan, I., The Role of Digitalisation in Reducing Risks and Bridging Regional Economic Welfare Gaps within a Sustainable Development Framework: The Case of Romania. In Grima, S., Özen, E. and Romănova, I. (Eds.) *Managing Risk and Decision Making in Times of Economic Distress, Part B (Contemporary Studies in Economic and Financial Analysis, Vol. 108B)*, Emerald Publishing Limited, Bingley 2022, pp. 131-142. <https://doi.org/10.1108/S1569-37592022000108B037>
3. Dracea, R., Cristea, M., Mitu, N., Contribution of education funding to economic growth in Romania. *Annals of University of Craiova - Economic Sciences Series* 2010, 2, pp.1-11. <https://feaa.ucv.ro/AUCSSE/0038v2-018.pdf>
4. Buta, A., Neculiță, M., Cristea, D., Petrea, Ș., Mogodan, A. and Simionov, I., Opportunities of sustainable development in the rural area at the level of Galati County, Romania. *Scientific Papers Series-Management, Economic Engineering in Agriculture and Rural Development* 2020, 20, pp.101-108;
5. Cristea, M., Noja, G.G., Găinaru, T.A., Education and labour market performance in Romania. An empirical analysis of the urban-rural gap. *Journal of Financial Studies* 2022, 12, pp.89-104. https://revista.isfin.ro/wp-content/uploads/2022/05/12.-Cristea-Mirela_.pdf
6. Mitrică, B., Șerban, P., Mocanu, I., Grigorescu, I., Damian, N., Dumitrașcu, M., Social development and regional disparities in the rural areas of Romania: Focus on the social disadvantaged areas. *Social Indicators Research* 2020, 152, pp.67-89.
7. Drăgoi, M.C., Iamandi, I.E., Munteanu, S.M., Ciobanu, R., Țarțavulea, R.I., Lădaru, R.G., Incentives for developing resilient agritourism entrepreneurship in rural communities in Romania in a European context. *Sustainability* 2017, 9, p.2205.
8. Apostu, S.A.; Mukli, L.; Panait, M.; Gigauri, I.; Hysa, E. Economic growth through the lenses of education, entrepreneurship, and innovation. *Administrative Sciences* 2022, 12, 74. <https://doi.org/10.3390/admsci12030074>
9. Gül, H. İbrahim, The Relationship of Labor, Capital, Balance and Benefit with The Evolution of The Labor Factor in Economic Thought, and Society's Conceptualization of Labor. *Journal of Economics and Business Issues* 2022, 2, pp. 1-13. Retrieved from <https://www.jebi-academic.org/index.php/jebi/article/view/19>
10. Panait, M., Hysa, E., Petrescu, M. G., & Fu, H., Universities—Players in the Race for Sustainable Development. In *Higher Education for Sustainable Development Goals 2022*, pp. 23-42. River Publishers. <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003333036-2/universities-players-race-sustainable-development-panait-hysa-petrescu-fu>
11. Lv Y, Chen Y, Sha Y, Wang J, An L, Chen T, Huang X, Huang Y and Huang L (2021) How Entrepreneurship Education at Universities Influences Entrepreneurial Intention: Mediating Effect Based on Entrepreneurial Competence. *Front. Psychol.* 12:655868. doi: 10.3389/fpsyg.2021.655868
12. Trif, S.M., Noja, G.G., Cristea, M., Enache, C., Didraga, O., Modelers of students' entrepreneurial intention during the COVID-19 pandemic and post-pandemic times: The role of entrepreneurial university environment. *Frontiers in Psychology* 2022, 13, 976675. <https://doi.org/10.3389/fpsyg.2022.976675>
13. Donato Iacobucci & Alessandra Micozzi, 2010. "[Entrepreneurship education in Italian universities: trend, situation and opportunities](#)," *Working Papers* 1006, c.MET-05 - Centro Interuniversitario di Economia Applicata alle Politiche per L'industria, lo Sviluppo locale e l'Internazionalizzazione.
14. Panait, M., Erokhin, V., Andre, J. V., & Gao, T., Implication of TNCs in agri-food sector: Challenges, constraints and limits: Profit or CSR?. *Strategic Management*, 2020, 25, pp. 33-43. <https://doi.org/10.5937/StraMan2004033P>
15. Ulman, S.R., Dobay, K.M., Potential solutions for rural poverty in Romania through educational and entrepreneurial improvements. *Journal of Public Administration, Finance and Law* 2020, 17, pp.320-329.
16. Mansi, E., Hysa, E., Panait, M., & Voica, M. C., Poverty—A challenge for economic development? Evidences from Western Balkan countries and the European Union. *Sustainability* 2020, 12, 7754. <https://doi.org/10.3390/su12187754>
17. European Commission, Eurostat Database, 2022. Available at <https://ec.europa.eu/eurostat/data/database>
18. National Institute of Statistics in Romania (INS). Database. 2022. Available at <http://statistici.insse.ro:8077/tempo-online/>

19. Özen, E., Ersoy, G., Behavioral Finance and Financial Literacy: An Evaluation for Teachers. *Journal of Economics and Business Issues*, 2022, pp. 33-56. Retrieved from <https://www.jebi-academic.org/index.php/jebi/article/view/33>

Appendix

Table A1. Results of goodness-of-fit indices for SEM considering as endogenous variable the number of graduates (GRS)

Fit statistic	Value	Description
Likelihood ratio		
chi2_ms(0)	0.000	model vs. saturated
p > chi2	.	
chi2_bs(10)	152.328	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.000	Root mean squared error of approximation
90% CI, lower bound	0.000	
upper bound	0.000	
Pclose	0.998	Probability RMSEA <= 0.05
Information criteria		
AIC	929.959	Akaike's information criterion
BIC	935.778	Bayesian information criterion
Baseline comparison		
CFI	0.998	Comparative fit index
TLI	0.998	Tucker-Lewis index
Size of residuals		
SRMR	0.000	Standardized root mean squared residual
CD	0.998	Coefficient of determination

Source: Author's processing in Stata 16

Table A2. Results of goodness-of-fit indices for SEM considering as endogenous variable the employment rate (ER)

Fit statistic	Value	Description
Likelihood ratio		
chi2_ms(0)	.	model vs. saturated
p > chi2	.	
chi2_bs(10)	121.497	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.000	Root mean squared error of approximation
90% CI, lower bound	0.000	
upper bound	0.000	
pclose	0.998	Probability RMSEA <= 0.05
Information criteria		
AIC	927.959	Akaike's information criterion
BIC	933.293	Bayesian information criterion
Baseline comparison		
CFI	0.998	Comparative fit index
TLI	.	Tucker-Lewis index
Size of residuals		
SRMR	0.000	Standardized root mean squared residual
CD	0.997	Coefficient of determination

Table A3. Results of goodness-of-fit indices for SEM considering as endogenous variable the unemployment rate (UR)

Fit statistic	Value	Description
Likelihood ratio		
chi2_ms(0)	.	model vs. saturated
p > chi2	.	
chi2_bs(10)	65.473	baseline vs. saturated
p > chi2	0.000	
Population error		
RMSEA	0.000	Root mean squared error of approximation
90% CI, lower bound	0.000	
upper bound	0.000	
pclose	0.998	Probability RMSEA <= 0.05
Information criteria		
AIC	971.180	Akaike's information criterion
BIC	976.514	Bayesian information criterion
Baseline comparison		
CFI	0.997	Comparative fit index
TLI	.	Tucker-Lewis index
Size of residuals		
SRMR	0.000	Standardized root mean squared residual
CD	0.996	Coefficient of determination