Educational Attainment and Financial Well-being in Romania

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Abstract: In contemporary societies, education facilitates social mobility and well-being of individuals. According to human capital theory, people who invest in themselves through education and training have improved chances of getting better jobs and gaining higher income (Becker et al., 1990; Woodhall, 1987). This paper aims to examine the effects of educational attainment on financial well-being in Romanian context. We analyse statistical data from the World Values Survey Wave 7 (sub-sample for Romania) collected from 1257 subjects. By exploring the relation between educational attainment and financial well-being, our results are relevant for better understanding the mechanisms linking human capital accumulation to monetary benefits and how these mechanisms work in relation to various individual and contextual factors.

Keywords: *Education; financial well-being; social mobility; World Values Survey.*

How to cite: Zamfir, A.-M., Năstasă, A., & Molea, R.M. (2022). Educational Attainment and Financial Well-being in Romania. *Revista Romaneasca pentru Educatie Multidimensionala*, 14(1), 491-503. <https://doi.org/10.18662/rrem/14.1/531>

1. Introduction

Education is both a public and a private investment as it generates benefits at the level of public budgets and individual incomes (Psacharopoulos & Woodhall, 1985). The link between education and private monetary returns is mainly explicated by the enhancement of personal knowledge and skills, as well as by the improved cognitive mechanisms for skills use, problem solving, adapting to new situations and resilience in face of adverse conditions. Education develops the systems of individuals' values and preferences, supporting their decisions and choices within their social worlds. In this perspective, the agency of individuals is central, highlighting the socialisation function of education (Pallas, 2000).

Another important perspective argues that education provides to the individuals access to desired social positions characterised by higher monetary and non-monetary benefits. Such positions are not available for low educated persons, regardless of their abilities. This perspective highlights the allocation role of education (Kerckhoff, 1974; 1976). On the other hand, according with the institutional theory of education (Meyer, 1977; 1985), the earnings premium from education is due to the social organisation that favours the effects of education at the level of financial benefits.

The separation between various functions of education is not facile in empirical research. So, building on the above stated theoretical perspectives, we analyse statistical data from the World Values Survey in order to assess the influence of education on financial well-being along with other relevant factors for the Romanian context.

2. Literature review

As is well-known from the theory of human capital, education is the main factor that influences an individual's future income. As Becker (1994) noted, education and training are the most important form of investments in human capital. The more educated and well trained a person is, the bigger are the chances to have a higher income level. As the author discusses, the "earnings of more educated people are almost always well above average, although the gains are generally larger in less-developed countries" (Becker, 1994, p. 17). The human capital theory specifies that more schooling increases the earnings and productivity of a person by providing knowledge, skills, and the capacity of solving problems (Becker, 1994).

Education improves the knowledge and skills of individuals. For this reason, they are prone to find a job suitable for their training, which will eventually provide them with a corresponding income (Doru, 2018).

Educational capital comes in two distinct forms: on the one hand, are the skills acquired through participation in formal education systems, knowledge attested by diplomas, on the other hand, are any other type of knowledge and skills acquired during life by an individual, through his/her efforts (Voicu, 2004). On the other hand, Voicu (2004) claims that the more educated and healthy people are, the more benefits for the labour market (higher productivity and higher incomes, and better organisation of the activity).

From a historical point of view, research conducted in the United States has concluded that more than 40% of the increase in per capita income in the country is the result of investment in education (Doru, 2018). According to the analysis conducted by Voicu (2004), there is a relation of covariance between education and income, and these results suggest that well-educated Europeans tend to earn more money. So, there is a strong association between educational attainment and the income level of a person. Moreover, these findings are also valid for the Romanian context, where a high level of education is associated with a higher income. Voicu (2004) concluded in his study that human capital investment is lower in Romania than in other European countries.

While human capital is one of the main drivers for individual well-being, it is also important for the social and community level. Hence, the investment of individuals in higher education is low in Romania, and "a strategy focused on developing educational capital is both an attitude of active adaptation, growth-oriented, as well as a risky act" (Voicu, 2004, p. 20). So, in his research, Voicu (2004) observed that education, income, and health are strongly correlated, both at the individual and aggregate level. Doru (2018) reached the same conclusions, specifically that a person who graduated high school or higher education will have for the entire life a higher wage than a person who accomplished only secondary education. He also concludes that the person without higher education will not have the necessary financial resources to educate his/her children in the same extent (Doru, 2018). Hence, parental education will affect the social mobility of the children, who will not afford to climb in the social hierarchy further. Parents with higher incomes make great efforts to ensure their children's academic success, while children from poor families and minorities are less prepared for an academic future (Haveman & Smeeding, 2006) in terms of money. So, we can infer that a "higher education influences social mobility not only because family income affects schooling but also because schooling affects the income of adult children" (Haveman & Smeeding, 2006, p. 135).

In another research, Ion (2013) confirms that education is a key determinant of someone earning in the case of Romania. She tested the hypothesis that there is a statistically significant relationship between the level of education and income levels. Accordingly, education will have a positive impact on individual income. Her results confirmed the hypothesis, indicating that the most important predictor for the level of income is education (Ion, 2013). More precisely, in Romania, an additional year of education increases the logarithm of income by 11, 29%. Also, her study showed that income levels are influenced not only by education levels but also by the sector in which the person works. Moreover, she found that there are statistically significant wage differences between women and men according to the characteristics of the local labour market, the area of residence (rural or urban) and the region of development (Ion, 2013).

Next, we will discuss the concept of financial well-being to provide a better comprehension and how it is linked with our research. Financial well-being is defined as "the perception of being able to sustain current and anticipated desired living standards and financial freedom" (Brüggen et al., 2017, p. 229). It is treated as subjective because it is based on how an individual perceives it rather than how it is objectively observed. This suggests that only the individual can evaluate his/her financial well-being. According to the same authors, individuals with the same income can have different evaluations of their financial well-being depending on their values and preferences. The way an individual evaluates his/her financial well-being is predicted by some factors, for example, demographic characteristics, such as gender, age, education, marital status and family structure (Brüggen et al., 2017). From the list above, we can observe that the way people evaluate their financial well-being is influenced by an important factor that plays a focal role in our research, namely education. Accordingly, the present paper aims to determine how education impacts the income and the financial well-being of individuals from Romania.

3. Data and methods

In order to explore the link between education and financial well-being in Romania, we analyse data collected through the World Values Survey (Wave 7) (Haerpfer et al., 2020). The survey has been carried out in 2018 and the subsample for Romania included 1257 subjects.

We focus our study on two target variables: subjective (self-assessed) level of income (recoded in three categories: low, medium and high) and satisfaction with financial situation of household (similarly, recoded in three

categories: low, medium and high). For the level of education, we use the variable reporting highest educational level of the respondent according with ISCED11, grouped in four classes: primary, secondary, post-secondary and tertiary education.

In order to explore the relation between education and the two variables used as proxies for financial well-being, we first examine the Chi-Square test and crosstabs. Next, we explore the influence of education on the independent variables by employing multinomial regression method as it allows to control for other relevant predictors such as age, sex, area of residence, employment status and dimension of the household. The obtained multinomial regression models show how various factors influence individual financial well-being, which is represented by the self-assessed level of income and satisfaction with the financial situation. As we will discuss in the next subsections, the results are consistent with previous findings in the literature. The Pearson and Deviance goodness-of-fit in both regression models indicate that they fit the data well because the significance score of these tests is higher than 0.05.

4. Results

4.1. *Income level*

Distribution of Romanian respondents indicates that 17.5% reported a low level of income, 72.1% a medium level and 10.4% a high level of income. Table 1 presents the association between the educational level of respondents and their level of income. Based on the Pearson Chi-Square test (Table 2), we can conclude that there is a significant association between our variables, rejecting the H_0 hypothesis that presumes that the two variables are independent. The value of chi-square is 94.569, with 6 degrees of freedom. Based on the analyzed data, the higher the educational level, the higher the income level.

Results show that 42.8% of people with primary educational level report low-income level, where this assumption is confirmed by the value of the residual (34.6) that indicates that people with a primary educational level have a low-income level, and similarly from the residual value of -10.3 we observe that people with primary education don't have a high level of income. Also, we find that 78% of people with tertiary education have a medium level of income, while 16% of people with tertiary education have a high level of income. So, only people with primary education have a low level of income. People with secondary education have a medium level of

income, and people with post-secondary and tertiary education have a medium and high level of income.

Table 1. Cross-tab between highest educational level of the respondent and the income level

Highest educational level		Income level			Total
		Low	Medium	High	
Primary		42.8%	54.3%	2.9%	100.0%
	Residual	34.6	-24.4	-10.3	
Secondary		17.4%	72.5%	10.1%	100.0%
	Residual	-2.1	3.8	-1.7	
Postsecondary		3.9%	81.6%	14.5%	100.0%
	Residual	-20.9	14.6	6.3	
Tertiary		6.0%	78.0%	16.0%	100.0%
	Residual	-11.7	6.0	5.7	
Total		17.7%	72.0%	10.3%	100.0%

Table 2. Chi-square Test for table 1

Chi-Square Tests	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	94.569 ^a	6	.000
Likelihood Ratio	93.361	6	.000
Linear-by-Linear Association	63.748	1	.000
N of Valid Cases	1132		

^a0 cells (.0%) have expected count less than 5. The minimum expected count is 10.34.

Controlling for differences in sex, age, family dimension, area of residence, and occupational status, the estimates in the first regression model show a significant relationship between the level of education and income level (Table 3). Individuals with primary education have a much lower probability to have a medium-income or a higher income level, than people with a tertiary level of education. In other words, people with primary education have a greater probability of earning a lower income, than a medium or a higher income, than those individuals holding tertiary

education. Furthermore, similarly with those with primary education, having a secondary level of education degree is associated with a lower probability of having a medium level of income or a higher level of income, therefore, a higher probability of having a lower income. On the other hand, compared with the reference category of holding a tertiary level of education, holding post-secondary education does not influence significantly the probability of having a medium level of income or a higher level of income. So, both primary and secondary education significantly reduces the chances of people to gain medium or high levels of income later in life as against those with tertiary education, while controlling for other relevant factors. Also, the occupational status of individuals is significantly correlated with their level of income. When controlling for the effects of sex, age, family structure, area of residence, and education, being employed, rather than unemployed is positively associated with a greater probability of having a medium-income, or a higher income than a lower income. It is not surprising that those who are in the labour market are more likely to gain higher economic capital than those who are unemployed. A job provides financial resources necessary for a living, and unemployed persons often struggle because of scarce material resources.

Table 3. Results of multinomial regression on income level as a dependent variable.

Predictors	Dependent variable: Income level (Reference category: Low income)			
	Medium income		High income	
	Exp (B)	Sig.	Exp (B)	Sig.
Age	.996	.469	.967	.000
Number of people in household	1.059	.362	.853	.114
Sex (Male, Female=Ref.)	1.190	.327	.992	.974
Area of residence (Urban, Rural=Ref)	1.256	.201	.667	.127
Employment status (Ref=Unemployed)				
Employed	4.494	.000	3.564	.028

Inactive	1.712	.139	1.564	.440
Education level (Tertiary level=Ref.)				
Primary level	.210	.001	.049	.000
Secondary level	.464	.079	.262	.010
Post-secondary level	1.531	.468	1.141	.843
Intercept		.091		.014

Notes: Pseudo R-Square: Cox and Snell=.134; Nagelkerke= .169; McFadden= .092, Goodness-of-Fit: Pearson: Chi-Square=1800.888, df= 1730; Sig=.115; Deviance: Chi-Square=1296.340, df= 1730; Sig=1.000; N=1070

On the other hand, among socio-demographic variables, it is noticeable that age has a negative influence on the probability of having a high income, as compared with a low income. If the age increases by one year, the likelihood of having a higher income decrease by .967 times. Age does not influence the probability of having a medium income. On the other hand, sex, number of people in the household and area of residence have no significantly influence on the probability of having a medium-income, or a high income, compared to a lower income.

4.2. Satisfaction with the financial situation

Data show that 18.2% of Romanian respondents report a low satisfaction with the financial situation, 24.9% a medium satisfaction and 57% a high level of satisfaction. According to Table 4, the highest the educational level is, the highest the satisfaction with the financial situation is. Our hypothesis suggests that people with a high level of education will have greater satisfaction with their financial situation. According to the Person Chi-Square test from Table 5, there is a statistical significance (0.00) that is lower than the threshold of 0.05, suggesting that we can reject the Ho (null hypothesis) saying that there is no relation between our variables. The value of chi-square is 66.087, with 6 degrees of freedom.

Also, one can examine the values of residuals that show a significant relationship at the cell level. So, the residual of 29.0 indicate that people with primary education have low satisfaction with their financial situation, while the -5,8 residual indicate that people with tertiary education don't have a low satisfaction with their financial situation. Similarly, one can notice the -27.3

residual that indicate that people with primary education don't have high satisfaction with their financial situation.

So, the data confirm our hypothesis that people with the highest level of education have a high level of satisfaction with their financial situation as they are able to earn more money than people with low levels of education. Additionally, data distribution shows that people with secondary education don't have low satisfaction with the financial situation (-4.8 residual), neither high satisfaction (-8.3 residual), but medium satisfaction with their financial situation (13.2 residual).

Table 4. Cross-tab between highest educational level of the respondent and the income level

Highest educational level		Income level			Total
		Low	Medium	High	
Primary		38.1%	23.8%	38.1%	100.0%
	Residual	29.0	-1.7	-27.3	
Secondary		17.8%	26.6%	55.6%	100.0%
	Residual	-4.8	13.2	-8.3	
Postsecondary		6.5%	22.7%	70.8%	100.0%
	Residual	-18.3	-3.5	21.8	
Tertiary		13.0%	17.6%	69.4%	100.0%
	Residual	-5.8	-8.0	13.8	
Total		18.4%	25.0%	56.6%	100.0%

Table 5. Chi-square Test for table 4

Chi-Square Tests	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	66.087 ^a	6	.000
Likelihood Ratio	63.656	6	.000
Linear-by-Linear Association	44.053	1	.000
N of Valid Cases	1197		

^a0 cells (.0%) have expected count less than 5. The minimum expected count is 19.85.

The second logistic model depicts the factors that have an influence on financial satisfaction (Table 6). Controlling for differences in sex, age,

area of residence and occupational status, we find that the number of people in the household and having a postsecondary level of education significantly influence the probability of having a medium satisfaction with financial situation. Hence, if the number of people increases by one member, the likelihood of having a medium satisfaction with the financial well-being increases by one time, compared to the category of reference of having low financial wellbeing. This result is consistent with other findings (Brüggen et al., 2017). Individuals who graduated from a secondary education level are more likely by 2.4 times than people with a tertiary diploma of having medium financial wellbeing.

Additionally, the level of education significantly predicts high financial well-being. People with tertiary education are more likely to be highly satisfied with their financial well-being compared with people with lower education. From the estimated model, one can infer that people with primary and secondary education are less likely to have high satisfaction with their financial well-being than people with tertiary education. The results confirm the findings of other authors (Brüggen et al., 2017; Ion, 2013; Voicu, 2004) and at the same time, they are consistent with the theory of human capital that states that educational investments positively influence financial outcomes.

As in the case of the income level, the occupational status of a person is significantly associated with his/her subjective financial well-being. Employed and inactive individuals are more likely than unemployed individuals to have a high satisfaction regarding their material situation. Employed people can make their ends meet through their monthly wage, but inactive people, such as students can be independent on their family income. Hence, unemployed individuals can be the most vulnerable group concerning financial well-being.

A closer look at the influence of socio-demographic variables indicates that men are more likely to be highly satisfied with their financial situation than women. In Romania and other countries, women are more likely than men to have lower incomes and to be employed in positions with less occupational prestige. Consequently, it is not surprising that women are more likely to be unsatisfied with their financial situation. On the other hand, age has a negative impact on the probability of having a high satisfaction with the financial situation. If the age increases by one year, the likelihood of being satisfied with the financial situation decreases by .978 times. As in the case with income level, older individuals may struggle more to make their ends meet and consequently, they are more likely than young individuals to be unsatisfied with their financial situation.

On the other hand, the area of residence does not have a significant impact on the probability of being highly satisfied with the financial situation.

Table 6. Results of multinomial regression with satisfaction with the financial situation as a dependent variable

Predictors	Dependent variable: Satisfaction with the financial situation			
	Reference category: Low satisfaction			
	Medium satisfaction		High satisfaction	
	Exp (B)	Sig.	Exp (B)	Sig.
Age	1.004	.568	.978	.000
Number of people in household	1.178	.018	1.055	.404
Sex (Male, Female=Ref.)	1.114	.572	1.385	.056
Area of residence (Urban, Rural=Ref)	1.116	.573	1.045	.802
Employment status (Ref=Unemployed)				
Employed	1.316	.508	2.400	.022
Inactive	1.013	.976	1.882	.100
Education level (Tertiary level=Ref.)				
Primary level	.259	.597	.301	.002
Secondary level	1.141	.739	.567	.086
Post-secondary level	2.433	.085	1.579	.310
Intercept		.339		.007

Notes: Pseudo R-Square: Cox and Snell=.099; Nagelkerke= .116; McFadden= .053, Goodness-of-Fit: Pearson: Chi-Square=1859.772, df= 1812; Sig=.213; Deviance: Chi-Square=1762.348, df= 1812; Sig=.794; N=1127

5. Conclusions

This paper examined the influence of education along with other explanatory factors on the financial well-being of individuals in Romania,

considering both the subjective level of income, as well as the satisfaction with the financial situation. Our results are consistent with previous findings confirming that higher education of individuals significantly improves the financial benefits obtained later in life.

We found that in Romania, graduating at most secondary education significantly reduces the chances of people to gain medium or high levels of income and satisfaction with financial situation later in life as against those with tertiary education, while controlling for other relevant factors. Additionally, employed and younger persons have higher chances of reporting high income and satisfaction.

Our results confirm that greater investments in human capital are positively associated with financial well-being. The findings from the present paper are consistent with the theory of human capital discussed by Becker et al. (1990) and Woodhall (1987) as well as with results of other studies for Romania (Doru, 2018; Ion, 2013; Voicu, 2003).

Acknowledgement

Article funded under NUCLEU Project PN 19130301

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