ESTIMATING THE EMPLOYMENT EFFECTS OF EDUCATION IN ALBANIA

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ABSTRACT

Unemployment in Albania is a serious concern, especially amongst women and youngsters. Education plays an important role on the empowerment and welfare of individuals and is considered as an important determinant of the success in the labor market outcomes such as earnings and employment. But, the transition from education to labor market is a decisive moment which gives rise to any of the inequalities encountered in the labor market. Therefore, the issue that we will be addressing at this paper is the effect of education in employment in Albania, using the latest Labor Force Survey data. We specify a probit model, which estimates the probability of being employed based on the level of education and other individual characteristics. The results of the analysis show that an increasing level of education, increases the probability of being employed. However, this effect of education on employment differs among individuals with different characteristics: age, marital status and gender.

Keywords: *education, labor market, employment, Albania*
JEL Classification: *I250, I260, J710, J640*

1. Introduction

The effect of education on the labor market is undoubtable and multidimensional, since it affects several key indicators such as: a) the probability of being employed; b) duration of unemployment; c) the employment sector; d) level of position employed; e) salary level.
Education as a key factor determining the human capital, is considered as one of the most important factors in determining the future of an individual in the labor market. Fasih (2008); Kuepie, (2006); Kostoris and Lupi (2002); Picchio (2008), argue that education has a positive effect on the probability of being employed. However, the literature suggests that different levels of education have different effects on the probability of being employed (Kuepie, 2006; Adjaye 2012), where higher education results in a higher return (Callan and Harmon, 1999).
It has been identified also that education affects the duration of being unemployed, where various studies achieve the same conclusion that with increasing years of education, unemployment period gets reduced (Riddell and Song, 2011; Psacharopoulos, 2007;). One of the biggest problems in the labor market, is working in the informal market and the literature suggests that education can be the key solution. Kuepei (2006); Baah (2007) have concluded that individuals with no or a minimal education are more likely to be employed in the informal market and this probability decreases with increasing levels of education.

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Education is considered as one of the best ways to exit poverty since it impacts positively the chances of being employed, as argued above. However, the return on investment in education is not the same for each level of education (Schultz, 2004). Developing countries exhibit a higher return on salary for elementary education, while return on tertiary education is higher in developed countries (Schultz 2004, Patrinos, 2006). Education level is often considered as an endogenous variable, given that studies have proven a correlation between the education level of an individual and family background and education quality (Mincer, 1974; Denny and Harmon, 2000, Brunello and Checchi, 20005; Checchi, 2008). Also, Di Pietro and Urwin (2003) and Scoppa (2009) concluded that the achievements of children in the labor market are determined by their parents' status.

Education plays an important role on the empowerment and welfare of individuals and is considered as an important determinant of the success in the labor market outcomes such as earnings and employment. But, the transition from education to labor market is a decisive moment which gives rise to any of the inequalities encountered in the labor market. Therefore, the issue that we will be addressing at this paper is the effect of education in employment in Albania, using the latest Labor Force Survey data. We organize the rest of the paper in the following way. In the next section, we realize a brief literature review on factors determining employment. In section 3 we give a background of Albanian labor market. Section 4 describes the methodology used and provides some descriptive statistics on data. Section 5 present estimation results and section 6 summarizes our findings.

2. Determinants of employment

Per Mincer (1974), almost half of variations in the level of employment and working hours are attributable to individual differences in the level of accumulated human capital. The main determinants and best possible proxy for human capital are considered education and experience. Meanwhile, the other part of variation is explained by other individual characteristics.

Productivity approach concentrates on the productivity of workers, workers with less experience are less productive, and thus the probability of being employed decreases (Becker, 1985). Often there are difficulties in measuring work experience. Mincer (1974) proposed that the experience to be calculates as: age minus years of education minus 6; but this proxy might bring problems in the evaluation. The magnitude of the cumulated investment is not observable, but is a concave function of experience. Hence, to expand the schooling model into a more complete earnings function, the linear schooling term must be augmented by a nonlinear, concave, years-of-experience term (Mincer, 1974)

Indicators of employment in almost all countries show that the level of employment in among youngsters is very low and the probability of being unemployed is much higher (Kostoris and Lupi, 2002; Barone and Mocetti, 2001), two or three times higher as estimated from Biagi and Lucifora, 2008.

Several studies have reached different conclusions regarding the effects of being married in the probability of being employed. Kostoris and Lupi (2002) estimations showed a negative relationship, while Picchio's study (2008) showed a positive effect. Effect of being married is expected to differ among women and men. The man being the head of the household and responsible for the economic stability of the family tends to seek work intensively and therefore

the probability of being employed is greater. Instead for a woman being married means more family responsibilities and childcare leaving her out the labor market.
Unequally economic and social development across the country requires the involvement of regional variables in the model. Probability of being employed is much higher in the economically developed regions (Picchio and Mussidda, 2011). In regions where family ties are stronger and traditional, unemployment rate is higher (Alesina and Giuliano, 2007).

3. Albanian labor market background

Employment rates in Albania are the highest among the Western Balkans and higher than that of neighboring countries such as FYR Macedonia (39 percent), and the extremely low employment in Kosovo at 28 percent.
41.7 percent of the working age population in Albania is employed and youth (young male and female) being underrepresented on labor market. Looks that the situation is worse for women and especially for the young ones. Women were also more likely than men to work as an unpaid worker on a household farm or household business – 18.5 percent of female workers in 2012, compared to 9.3 percent of male workers.
Most businesses in Albania are small and medium enterprises, only 17% of the owners or managers are women. In Figure 2 is given the ratio of female to male labor force participation rate. Albania is better compared only with FYROM; while it is worse than other countries in the region and developed countries. From the region, Croatia is the one that has the best performance in the labor market regarding gender gap.

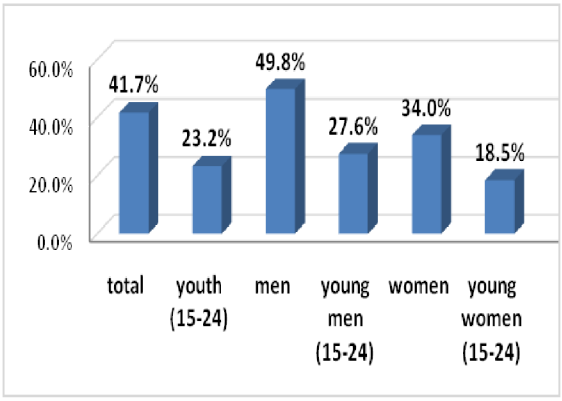

Figure 1: Employment ratio, 2016

Source: ILO, 2016

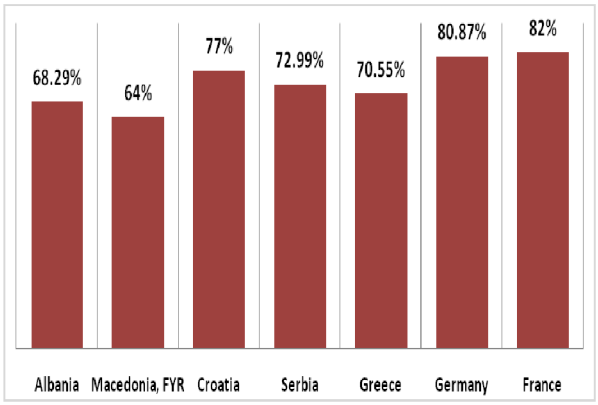

Figure 2: Ratio of female to male labor force participation rate
Source: World Bank, 2015

The differences on employment rate are not only due to gender differences, but also on regional ones. The most economically developed a region is, the higher the employment rate. North Albania is characterized by lower economic activities, lower GDP/capita and stronger family ties. All this factors lay the foundation for a higher unemployment on this region.

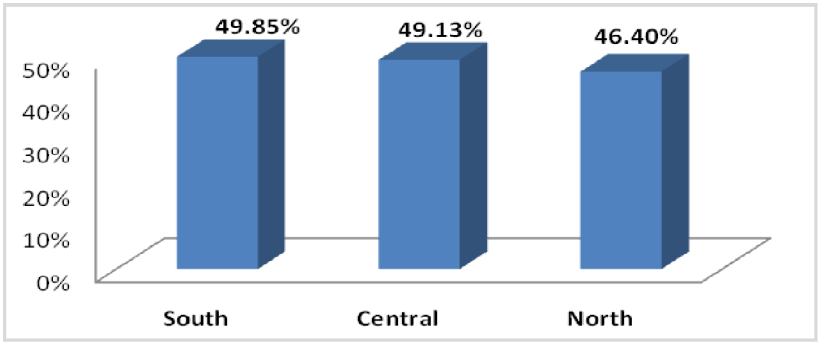

Figure 3: Employment rate by regions, 2016
Source: INSTAT, 2016

As stated earlier, education is one of the main characteristics effecting individual success on labor market. Being the best indicator of human capital, the higher the education level, the higher the probability of being employed, but his effect is gender biased. For the same level of education, there are more male than female employees (see figure 4.). The situation does not change for the years 2008 and 2012, and for each level of education. We can observe that the gender gap in employment is narrower between men and women that have a university degree. So, we can say that the labor market for jobs that require a certain level of education, gender discrimination is lower; while in jobs that do not require a higher education, men seem to be preferred much more than women. The same picture is repeated even if we look at salary rates for men and women with the same education level. For the same level of education, men are paid more than women. This gender gap in wage narrows between men and women that have a university degree.

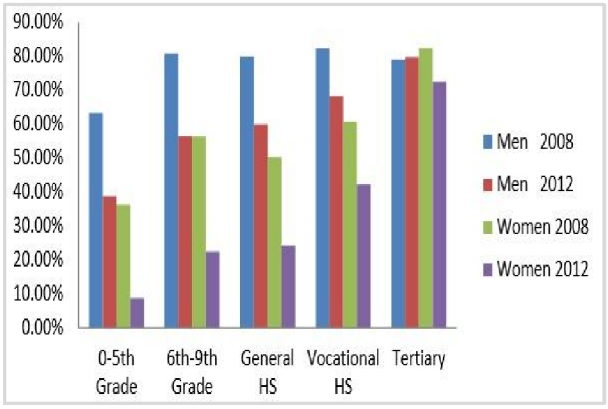

Figure 4: Employment rate by level of education, gender and year
Source: World Bank, 2015

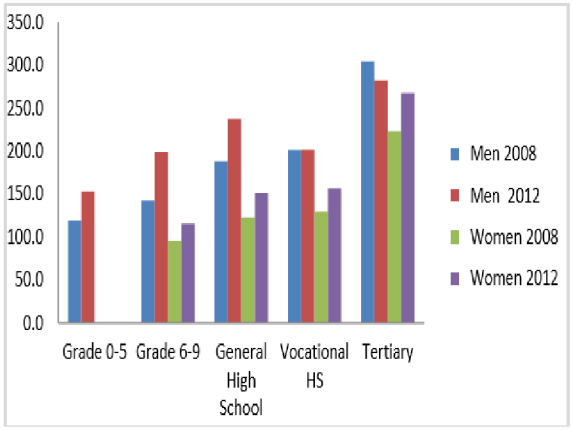

Figure 5: Hourly wages by level of education, gender and year
Source: World Bank, 2015'

4. Methodology and Descriptive Statistics

We aim at modelling the probability of being employed using the individual characteristics mentioned on the literature review. To do so, we will specify a probit model. Probit regression is used to model dichotomous or binary outcome variables. In the probit model, the inverse standard

normal distribution of the probability is modeled as a linear combination of the predictors. The probit link function:

$$\text{Probit}(EY) = \Phi^{-1}(p) = \Phi^{-1}(P[Y=1]);$$

is used to transform the expectation of this 0/1 dependent variable. Then, the probit of the mean is modelled as a linear combination of the covariates (regressors) X, i.e., we have a linear predictor probit(EY)=Xβ, where β is a vector of parameters.

The data used are provided by the Labor Force Survey (LFS) 2013. In table, A1(see appendix) we present all the variables that are used in the model, whereas in table 1 are given some basic descriptive statistics of each variable. The total number of respondents is 40 415, but about 48% of them have stated that they are not looking for work or otherwise are inactive in the labor market. These individuals, as well as those over 65 years are not included in the model, given that our focus is on the labor market. The number of observations to be included in the model is 20059.

The majority of the sample are men, who represent 55.04%, married, 74.6%, the average age is 44.98 and average experience 29.03 years. With respect to education, the majority of the respondent, 51.42%, has accomplished only primary education, about 34.07% have a high school level of education and only 14.51% has a university degree, of which 55.6% are women. 83% of the sample responded that they were employed at the time asked, where 53.4% of the employed respondents are men. Only about 3.2% of the sample has responded about the region where they are living and about half of them, 47.8%, are living in Central Albania, 26.2% in North and 26% in south.

Table 1. Descriptive statistics

Variable Name	**Proportion**
Number of observations = 20059	
Education	
Primary	51.42%
Secondary	34.07%
Tertiary	14.50%
Married	
Single	23.66%
Married	76.34%
Employed	
Unemployed	16.01%
Employed	83.99%
Female	
Male	55.04%
Female	44.96%

Regional Dummies (number of observations = 632)	
North	26.20%
South	26.00%
Central	47.80%
Quantitative Variables (mean and standard deviation in parenthesis)	
Age	44.98 (18.98)
Experience	29.03 (19.5)

Source: Author's calculations

5. Results

In this section, we analyze the results obtained from the empirical analysis. We did not include in the model regional and experience variables. Regional variables cannot be included in the model because there is no variation, all respondents who answered about the region where they live, are employed. The database had no information concerning experience. We generated a proxy of experience, evaluated as: age minus years of education minus 6, proposed by Mincer (1974). This proxy is used in the Albanian labor market analysis from Miluka (2014), but in our analysis, this variable and the square of experience resulted not significant. In table 2 are given the results of our analysis.

Table 2. Estimated coefficients, Employed-depended variable

	Probit 1			Probit 2			Probit 3		
Variables	Coeff	Std. Err	Effect	Coeff	Std. Err	Effect	Coeff	Std. Err	Effect
Age	0.016	0.0069	0.36%	0.013	0.006	0.91%	0.0139	0.006	0.30%
Age2				0	0	0.00%	0	0	0.00%
Edu_primary	0.172	0.024	0.55%	0.167	0.024	3.80%	-0.0603	0.072	-1.38%
Edu_secondary									
Edu_tertiary	0.179	0.034	0.68%	0.623	0.102	11.10%	0.493	0.109	9.30%
Married	0.362	0.028	0.79%	0.459	0.078	11.70%	0.461	0.078	11.90%
Female	0.183	0.022	0.52%	0.273	0.044	6.20%	0.177	0.052	4.00%
EduP_fe							0.166	0.049	3.80%
EduS_fe									
Edu_Fe				-0.296	0.063	-6.80%	-0.199	0.07	-4.50%
Marr_Fe				-0.064	0.05	-1.47%	-0.066	0.05	-1.50%
Cons.	-0.286	0.049					-0.231	0.132	
Log Likelihood	-8282.5585			-8271.4755			-8265.8802		
Observations	20059			20059			20059		

Source: Author's calculations

Initially we estimated the probability of being employed depending on five individual characteristics and then, on Probit models 2 and 3 we added several interacting variables, to

highlight the existence or not of gender differences. Results show that age has a positive effect on employment, which is consistent with evidences of labor market that emphasize the difficulty of youth to enter the labor market. U shaped relationship with age is statistically significant, but age^2 effect is practically zero. Being married seems to increase the probability of being employed, but when control for different effects of this variable between different genders, it turns out that the probability of being employed decreases for a married woman, with increased responsibilities and duties for family care. Marriage turns out to have positive effect on men's employability, possibly because of increased financial responsibilities men become more demanding and insistent in the labor market.

The results of the estimation confirm the theory, education has a positive effect on employment, the higher the level of education the greater the probability of being employed. Our estimations speak about a 11% higher probability of being employed for those with a tertiary education. However, to control the variation of the effect of the level of education among women and men, we should be referred to the results of Probit models 2 and 3. In both these models can be identified gender differences to this effect. It seems that the biggest discrimination is between men and women with a university degree, where women have about 5% less probability to be employed than men with the same education level. This probably is due to the mismatch between the field of study and demand in the labor market since, female students usually choose areas of study which traditionally are considered as "women's work" and not those areas that are required in the labor market.

To evaluate more clearly the effects of education, we estimated a probit model, where the sample is sorted by education levels: primary, secondary, tertiary.

Table 3. Estimated coefficients. Employed-depended variable, sorted by edu3

	Probit 4			
	edu3 =1	**edu3 =2**	**edu3 =3**	**Marg. Eff.**
Variables				
Age	-0.028	0.022	0.227	0.046
Age2	0.0004	0	-0.002	0
Married	0.608	0.623	0.028	0.0059
Female	0.407	0.324	-0.148	-0.03
Marr_Fe	-0.125	-0.263	0.141	0.029
Cons.	0.466	-0.56	-3.7	
Log Likelihood	-3979.8	-3115.99	-1068.17	
Observations	10315	6835	2909	

Source: Author's calculations

The results show that young people have a higher probability to be employed only among individuals with primary education. This result can be explained by the fact that a considerable part of jobs where individuals with primary education are employed, are mostly jobs that require physical strength; therefore, we can expect young people to be preferred. Among individuals with tertiary education, access to the labor market for young people is more difficult.

The result obtained from the above estimations is confirmed at this analysis too. Being female reduces the probability of being employed among individuals with tertiary education and being

married has a positive effect on the probability of employment. Married women with tertiary education have a higher probability to be employed, while married women with primary and secondary have a lower probability of being hired. This phenomenon is explained not only by the increased family responsibilities, but also by the low level of social policies that could vanish this phenomenon: a) the existence of qualitative institutions for child care (nurseries, kindergartens) and b) the adoption and implementation of strong policies against discrimination.

6. Conclusions

Through the above analysis we aimed to evaluate the factors increasing of the probability of being employed. For this analysis, we used the data from the latest labor force survey.
Education proved to have a positive effect on the probability of being employed and this probability increases with education level. Analysis confirmed that the effect of education is different for men and women; the biggest differences are identified among men and women with a university degree, probably because female students usually choose areas of study which traditionally are considered as "women's work" and not those areas that are required in the labor market.
From analysis, we may conclude that age has a positive effect on employment, thus proving one of the biggest problems of the labor market, unemployment among youngsters. However, it turns out that young people have a higher probability to be employed only among individuals with primary education. This result can be explained by the fact that a considerable part of jobs where individuals with primary education are employed, are mostly jobs that require physical strength. This result is very worrying, because young people may be discouraged and do not invest in their education and development if the return on that investment is not satisfactory.
Being a country with strong and traditional family ties, it was not possible the marriage and the creation of the family not to have a strong effect on employment, but in this case, there are gender differences. As a traditional family, man is the head of the household and the main responsible for the family financial security, therefor the need for a job increases with raising a family. This effect affects women differently, since the creation of family increase the responsibilities and obligations inside the house, staving off a part of women from the labor market.
The intervention of the government in the labor market is necessary. This intervention should be multi-dimensional: 1) determining occupations for which there is the labor market demand and orientating student in those fields of study; 2) providing free and qualitative child care services for employed women; 3) Undertake measures and reforms to encourage institutions.

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Appendix

Table A1. Description of the variables

Variable	**Description**
Age	Quantitative continuous variable indicating the age of the individuals
Education dummies: • Edu_primary • Edu_secondary • Edu_tertiary	Dichotomous variable indicating the level of education.
Employed	Dichotomous variable indicating whether the individual is working (1) or not (0)
Experience	Quantitative continuous variable indicating the experience of the individuals
Female	Dichotomous variable indicating whether the individual is female (1) or male (0)
Married	Dichotomous variable indicating whether the individual is married (1) or not (0)
Regional dummies: • North • Central • South	Dichotomous variable indicating whether the individual is living in North, Central or South Albania.
Marr_Fe	Dichotomous variable indicating whether the individual is a married female (1) or not (0)
Edu_Fe	Dichotomous variable indicating whether the individual is a female with tertiary education (1) or not (0)
EduP_Fe	Dichotomous variable indicating whether the individual is a female with primary education (1) or not (0)

Source: Author's notes