How much of an impact did dictatorship have on Greek's educational levels?

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1 Abstract

The article's analysis examines the results of dicatorship (junta) in terms of educational levels in Greece.At that time, compulsory education has been decreased by 3 years (from 9 to 6 years).Bibliography has shown that educational levels have a structural impact on wages, thus, it would be intriguing to examine whether in that specific period of time the variance of wage can be interpreted from the variance of educational levels or not.Turns out just that, it indeed is shown that dictatorship did undermine people's educational level and decreased their wages. .

2 Introduction

This article will present and examine estimates for the returns to education for men and women between the ages of 25 and 64. Then it will be examined whether the difficult conditions of the dictatorship had an impact on the educational levels of Greeks by looking at the respondents who were born during the dictatorship period. The challenging living circumstances are hardly favorable for a commitment to education, so it would be expected to spot a drop in educational levels. This article has been driven of a model which has been created with logarithm of earnings as a function of years of education and years of potential labor market experience (age minus year of schooling minus six) (Mincer, 1974). Bibliography has shown that the aforementioned model has its drawbacks, such as overestimations and underestimations on the effects of the experience and schooling(Lemieux 2003). However, given the passage of time, the model is a crucial foundation in estimating coefficients.

3 Data

Data for this article was obtained from Greek statistical authority (elstat). The database includes numerous qualitative and quantitative factors that correspond to a large sample of respondents. To implement a model that would fit the study question, it was necessary to distinguish the variables we needed. Therefore, the variables (also shown in Table 1) that will be used are as follows:
Hourly wage: Respondent's salary per hour of work.
Years of schooling: Respondent's educational level.
Experience: Respondent's years of work.
Age: Rspondent's age.
Woman: Whether the respondent is woman or not.
Native born: Whether the respondent is Greek or not.
Region: In which region does the respondent belong (1-13).

Table 1: Summary Statistics

Variable	Mean	Standard deviation	Minimum	Maximum	Observations
Hourly wage	5.76	2.24	3.00	14.9	8,764
Years of schooling	12.92	4.56	0	49	8,764
Experience	12.08	9.05	1	46	8,764
Age	42.35	9.17	25	64	8,764
Woman	0.45	0.49	0	1	8,764
Native born	0.99	0.29	0	1	8,764
Region 1	0.74	0.26	0	1	8,764
Region 2	0.18	0.39	0	1	8,764
Region 3	0.03	0.16	0	1	8,764
Region 4	0.06	0.24	0	1	8,764
Region 5	0.05	0.22	0	1	8,764
Region 6	0.02	0.15	0	1	8,764
Region 7	0.05	0.22	0	1	8,764
Region 8	0.06	0.23	0	1	8,764
Region 9	0.28	0.45	0	1	8,764
Region 10	0.07	0.25	0	1	8,764
Region 11	0.02	0.15	0	1	8,764
Region 12	0.02	0.16	0	1	8,764
Region 13	0.07	0.26	0	1	8,764

Source:https://www.statistics.gr

As it is observed in Table 2 the average years of schooling for both men and women had a decline. However, women had almost the same average schooling years on the first two periods (1951-1955/1956-1964) , this may be possible due to the low participation of women in education throughout these times, which is only half that of men.

Table 2: Average years of schooling for cohorts affected and not affected by the Junta's policy to reduce years of compulsory schooling from 9 to 6.

Born in	Year sin compulsory schooling	Total	Men	Women
1951-1955	9	13.53	14.29	11.89
1956-1964 (affected)	6	12.12	12.23	11.93
1965-1990	9	13.08	12.54	13.69

Source:https://www.statistics.gr

4 Empirical model

The models will be estimated with the ordinary least squares regression method as well as the two stage least squares method.(for i: 1 - 8,764)

Ordinary Least Squares method:

Model 1:

$$(1) lnWAGE_i = b_0 + b_1 YEARS.OF.SCHOOLINGi + u_i$$

Model 2:

$$(2) lnWAGE_i = b_0 + b_1 YEARS.OF.SCHOOLINGi$$

$$+ b_2 EXPERIENCEi - b_3 EXPERIENCE^2 i + U_i$$

Model 3:

$$(3) lnWAGE_i = b_0 + b_1 YEARS.OF.SCHOOLINGi$$

$$+ b_2 EXPERIENCEi - b_3 EXPERIENCE^2 i$$

$$- b_4 YEAR.BORNi - b_5 WOMANi - b_6 FOREIGN.BORNi + U_i$$

Two Stage Least Squares method:

First-stage:

$$(4)YEARS.OF.SCHOOLINGi = b_0 + b_1 YEAR.BORNi$$

$$+b_2 WOMANi - b_3 FOREIGN.BORNi$$

$$-b_4(INSTRUMENT)BORN.IN1956 - 1964i + U_i$$

Second-stage:

$$(5)lnWAGEi = b_0 + b_1 YEARS.OF.SCHOOLINGi$$

$$+b_2 EXPERIENCEi - b_3 EXPERIENCE^2 i$$

$$-b_4 YEAR.BORNi - b_5 WOMANi + b_6 FOREIGN.BORNi + U_i$$

5 Estimation results

Ordinary least squares results:

The models stated above have been estimated for both men and women combined (8,764obvs), men only (4,818obvs) and women only (3,946obvs). Out of the three models which have been estimated by the ordinary least squares method, the model (3) seems to be the more accurate since it has the highest R-squared value 37%, this applies to both men and women combined and also separeted. As George Psacharopoulos and Harry Anthony Patrinos had examined in "Returns to investment in education: a decennial review of the global literature(2018)" returns to schooling remain high, with women to set higher returns from schooling than men. Having mentioned that, this article confirms the findings of the aforementioned paper.

Table 3: Wage estimates (OLS)

Variable	Model 1	Model 2	Model 3
Sample: All			
Years of schooling	.029*** (.0008)	.028*** (.0008)	.027*** (.0009)
Experience	-	.025*** (.0011)	.022*** (.0011)
Experience squared	-	-.0002*** (.00003)	-.0003*** (.00003)
Year born	-	-	-.004*** (.0004)
Woman	-	-	-.037*** (.0061)
Foreign-born	-	-	-.141*** (.0099)
Regional dummies	No	No	Yes
R-squared	.140	.339	.370
Observations	8,764	8,764	8,764
Sample: Men			
Years of schooling	.027*** (.0011)	.026*** (.0011)	.024*** (.0011)
Experience	-	.025*** (.0014)	.024*** (.0014)
Experience squared	-	-.0002*** (.00004)	-.0003*** (.00004)
Year born	-	-	-.004*** (.0005)
Woman	-	-	-
Foreign-born	-	-	-.148*** (.013)
Regional dummies	No	No	Yes
R-squared	.134	.352	.389
Observations	4,818	4,818	4,818
Sample: Women			
Years of schooling	.033*** (.0013)	.031*** (.0012)	.032*** (.0013)
Experience	-	.024*** (.0018)	.021*** (.0018)
Experience squared	-	-.0002*** (.00006)	-.0002*** (.00006)
Year born	-	-	-.005*** (.0006)
Woman	-	-	-
Foreign-born	-	-	-.136*** (.015)
Regional dummies	No	No	Yes
R-squared	.160	.331	.356
Observations	3,946	3,946	3,946

Source:https://www.statistics.gr

Notes: The dependent variable is the natural logarithm of hourly wages. Standard errors on parenthesis corrected for heteroskedasticity.

Two stage least squares results:

As for the two stage least squares approach, It has been noted that throughout the dictatorship era, educational levels had significantly reduced. The initial hypothesis "The challenging living circumstances are hardly favorable for a commitment to education, so it would be expected to spot a drop in educational levels" seems to be accurate. It is also stated that increased compulsory education leads to bigger returns (George Psacharopoulos-Harry Anthony Patrinos 2018) which confirms this articles's findings.

Table 4: Wage estimates (IV-2SLS)

Variable	First-stage results (Dependent: years of schooling)	Second-stage results (Dependent: ln wages)
Sample: All		
Years of schooling	-	.813*** (.020)
Experience	-	.020*** (.0021)
Experience squared	-	-.0002*** (.00005)
Year born	.045*** (.008)	-.007*** (.0017)
Woman	.81*** (.093)	-.082*** (.023)
Foreign-born	-2.89*** (.154)	.014 (.078)
Born in 1956-1964 (instrument)	-.571*** (.0030)	-
Regional dummies	Yes	Yes
Observations	8,764	8,764
Sample: Men		
Years of schooling	-	.099*** (.078)
Experience	-	.021*** (.004)
Experience squared	-	-.00030*** (.00008)
Year born	.023*** (.010)	-.006*** (.0025)
Woman	-	-
Foreign-born	-3.28*** (.196)	.098 (.256)
Born in 1956-1964 (instrument)	-.313*** (.258)	-
Regional dummies	Yes	Yes
Observations	4,818	4,818
Sample: Women		
Years of schooling	-	.070*** (.0215)
Experience	-	.017*** (.003)
Experience squared	-	-.00021*** (.00007)
Year born	.080*** (.0113)	-.009*** (.0023)
Woman	-	-
Foreign-born	-2.33*** (.247)	-.048** (.0529)
Born in 1956-1964 (instrument)	-.955*** (.282)	-
Regional dummies	Yes	Yes
Observations	3,946	3,946

Source:https://www.statistics.gr

Notes: Standard errors on parenthesis corrected for heteroskedasticity.

6 Conclusion

The purpose of this article was to examine whether the dictatorship (junta) in Greece had an impact on Greek's educational levels or not. Based on the analysis conveyed, it is possible to draw a conclusion that junta indeed had a negative impact not only to the Greek society but also to its educational levels. In order to determine the proper amount of education's return on investment in terms of wages, the article's subject was very vital to look into. Confirming the results of "George Psacharopoulos - Harry Anthony Patrinos (2018)" and also "Lemieux 2003" educational level indeed have significantly high returns on wages. Thus, a potential decrease on compulsory education leads to decrease on the total educational levels, resulting in lower wages.

References

Psacharopoulos, G, Patrinos, H. A. (2018). Returns to investment in education: a decennial review of the global literature. Education Economics, 26(5), 445-458.
Lemieux, T. (2006). The "Mincer equation" thirty years after schooling, experience, and earnings. In Jacob Mincer a pioneer of modern labor economics (pp. 127-145). Springer, Boston, MA.