

Comparison Of The Effect Of Social Background On The Wages Of Spanish Graduates Before And During A Crisis Context

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Abstract

The economic context may have modified the relationship between higher education and the labour market. The rise in university fees, the labour market situation and the behaviour of employers, families and students could activate social background as a differentiating factor in post-higher education occupational status. The objective of the present study is to analyze if the social origin affects the labor insertion of the graduates, measured through their income. The labor insertion of graduates is analyzed in 2011 (crisis period) and compared with 2005 (period of economic expansion). Two Spanish databases are used in this analysis: the 2005 and 2011 Living Conditions Survey. The results presented show no income inequality related to social class of graduates. Between 2005 and 2011 most unskilled occupations suffered job destruction, thus homogenizing to some extent the graduates who were working in 2011 and reducing the internal differences.

Keywords: *higher education, labour market, inequality, salary wage differentials.*



A. INTRODUCTION

Spain has undergone dramatic economic and social changes since 2008 in the context of the period commonly known as the economic crisis. Current social scientific production has increasingly focused on analysing and assessing this period, which still has unknown outcomes, since budgetary adjustments, contextual expectations and the role of social agents may have modified the behaviour of individuals and consequently the function of social institutions such as universities. Education is the main tool for reducing and tackling the effects of the crisis, since it represents the main social mobility factor in our societies (Associació Catalana d'Universitats Públiques 2011; Martínez-Celorrio & Marín-Salado 2012; Martínez-Celorrio, 2013; Planas & Fachelli, 2010; Subirats, 2012). It is generally agreed that university graduates have better socio-economic positions than those who choose other educational pathways. Having a degree almost guaranteed avoiding unskilled manual jobs, which are related to lower salaries and worse working conditions (Carabaña 2004; Soler, Serracant, Salvado, & Miret, 2008).

B. METHOD

Our starting point is a classical view in which parents' occupation and education effect their children's occupation, which in turn depends on the children's own educational attainment (Warren & Hauser 2002; Shavit, Yaish Bar-Haim 2007).

According to this model, occupation is directly and indirectly affected by both the educational level attained and the social background, similarly to the primary and secondary effects explained by Boudon (1974). We apply a simple model of relationship between family, education and occupation to a specific group: university graduates (Cachón, 2001).

Table 1
Graduate and total unemployment rate in Spain in 2008, 2011 and 2014

Graduate unemployment rate				Total unemployment			
2008	2011	2014	2017	2008	2011	2014	2017
5.4	10.78	15.7	10.5	9.6	21.3	25.9	16.7

When higher education and its graduates are considered as a whole, their labour insertion does not seem to depend on social background (Planas et al., 2010), and nor do salaries after higher education (Fachelli, Torrents, & Navarro-Cendejas, 2014; Torrents & Fachelli, 2015). These findings indicate a certain universality in the social function of universities, although we find an important bias in access (De Pablos and Gil, 2007; Torrents, 2015). On other context, for similar cohort of graduates and particularly in the UK, Anders (2015) found no evidence of a pay growth differential by parents' occupational status.

The economic context may have modified the relationship between higher education and the labour market, and social mobility derived from having studied at university could be affected by factors such as social background. The rise in university fees, the labour market situation, and the behaviour of employers, families and students could activate social origin as a differentiating factor in occupational status after higher education. Social background could also affect graduate employment because of the employment polarization in Spain, which has shown a decline in average-wage jobs characterized by routine manual tasks (Anghel, De La Rica & Lacuesta, 2014). The aim of this study is to analyze if the social origin affects the labor insertion of the graduates, measured through their income. In this sense our hypothesis is that the crisis context can produce that Spanish higher education attainment were differentiate by social background. We focus on a specific aspect: earned income.

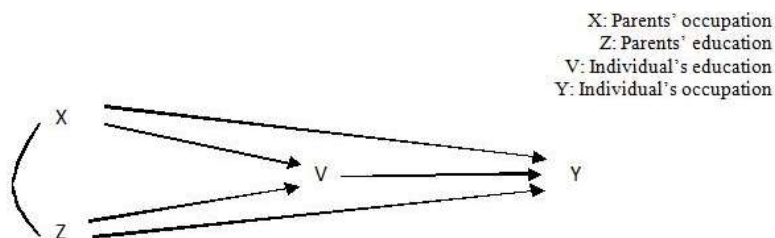


Figure 1. Simple model for social status attainment

This model (figure 1) represents the basis for applying most social attainment analysis that has been done since the 1960s by authors such as Duncan (1966), Blau

and Duncan (1967) and Duncan and Featherman (1972). It has also been recently applied to studies in Spain and other countries (Gil Hernández et al. 2017, Maqués Perales & Gil Hernández, 2015, Fachelli y Navarro-Cendejas, 2015; Torrents y Fachelli, 2015; Ballarino, Bernardi & Panichella, 2013; Torche, 2011).

Opheim (2007) explains the relationship between social origin and occupational insertion through factors such as the difference in information among social classes, which results in a differential access to better-paid occupations, or the availability of a specific social capital (social network) with a variable number of contacts to find better jobs (Hansen, 2001).

Gambetta (1987) goes further and distinguishes between economic and cultural determinants. Economic factors—parents' occupation in our case— are grouped into two kinds of influence. First, there are influences related to the economic resources available for the student to finance the direct investment of opportunity and irreversibility of a higher educational level according to the Human Capital Theory (Albert, 1998; Becker, 1975; Merino Garcia, 2007), i.e. a higher occupational category of a family means more economic resources and therefore a greater capacity to afford to pay for a higher educational level or wait for a better job. Second, there are influences of status expectations related to what is known as relative risk aversion (Breen Goldthorpe, 1997; Goldthorpe, 2007), i.e. aversion to failing to equal or surpass the parents' social position. Graduates from higher social backgrounds will therefore have higher expectations to obtain occupations with higher salaries or promotion prospects than graduates from lower social backgrounds. It is an economic determinant because is derived from the economic status of parents.

Cultural factors—parents' educational level in our case— can affect the obtaining of status in two ways: a) skills and abilities of the individual influence the academic performance and the educational attainment, giving access to more skilled occupations (Bernstein, 1988; Bourdieu & Passeron, 1990; Casillas, Chain & Jácome, 2007) and cultural codes derived from social class can give an advantage to graduates with higher social backgrounds when they are looking for employment (Bourdieu, 1984); and b) more cultural aspirations related to significant influences from others or social norms introduce differences in occupational ambitions between people from different social backgrounds, despite of economic wellness.

The phenomenon of educational expansion allows the occupation of a significant part of a more qualified workforce in technologically advanced sectors of the economy (Bernardi & Garrido, 2008; Molina & López-Roldán, 2015; Fachelli & López-Roldán, 2017), even though the skills demands are more polarised in Spain than in many other OECD countries: high share of jobs requiring either very low levels of education or very high levels of education (OECD, 2017). There is also evidence that educational expansion helped to reduce inequality in educational attainment by social origins (Bernardi & Abade, 2017; Fernández Mellizo-Soto & Martínez-García, 2016; Fachelli & Planas, 2016; Carabaña & de la Fuente, 2015; Carabaña, 2013, Maqués Perales & Gil_Hernández, 2015; Bernardi & Ballarino, 2014; Ballarino et al., 2009; Bernardi & Requena, 2010).

Contextual changes derived from the socio-economic crisis may have been able to mitigate the influence of educational expansion and may have increased some parents cultural or economic influences and activated social background as a determining factor in the transition to employment of graduates. Individuals have less money due to destruction of employment, especially in the construction and service sector (Anghel et al., 2014; Miguélez & López-Roldán, 2014), and the loss of relative economic capacity of the more disadvantaged students. Furthermore, risk aversion and occupational ambitions may be lower because the labour market is in a worse situation and more difficulties are perceived. Other elements such as social capital and cultural codes may have increased their determining importance in the transition to work of graduates due to the reduced employment demand.

From the elements outlined in the previous section, we built a model that relates social background to graduates' current occupation. This model analyses the employment attainment of graduates and is used in two different years: 2005, in the pre-crisis period, and 2011, at the peak of the crisis. To obtain comparable populations between these two years and observe an occupational situation less linked to the disparity of paths in the transition from education to employment, the same time interval of 3 to 10 years from graduation was maintained. This interval allows us to work with a suitable sample. Therefore, the analysed cohorts of graduates are those from 1995-02 for 2005 and those from 2001-08 for 2011.

The chosen indicator of occupational attainment is earned income per hour¹. This variable is a indicator of transition to employment of our target population, since it is highly comparable between occupations. In Spain it is also a relevant indicator for defining employment success (Mora, 2008), although we are aware that it is not the only indicator of transition to employment to take into account. It allows us to analyse post-university income inequalities in order to observe whether the Spanish higher education system blurs the class difference of its students.

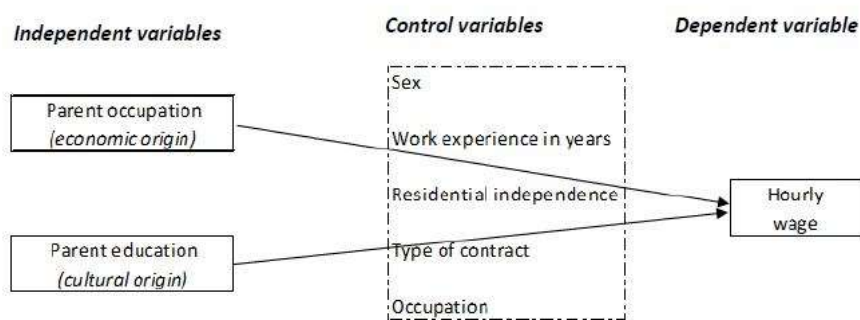


Figure 2. Model of analysis of the hourly wage for university graduates

The model in Figure 2 is applied for both 2005 and 2011. It places social background as an explanatory variable of earned income, controlled by different variables related to the latter. Through these control variables we try to evaluate the net effect of social background on the individuals' income, without the possible effects

related to the individuals' characteristics (experience, gender, level of emancipation) and the nature of their occupation (type of contract and occupation).

Many studies of income inequalities place gender as the explanans (De Cabo and Garzón, 2007), including differences related to the glass ceiling (a social barrier to women's promotion), labour market segmentation and social division, among many other causes. Work experience as a prerequisite of promotion and broadening of choices and information networks is also clearly related to earned income (Galassi & Andrada, 2009). Emancipation (late in our population) can also be a factor in choosing/needing a higher income, and can lead to a redefinition of individual's aspirations and motivations to get a better-paid job.

Among the employment characteristics, the type of contract and the occupation are clearly related to earned income, as is shown in the literature on labour market segmentation, which integrates the economic analysis with the sociological view of discrimination among various social groups (López-Roldán, 1994). This set of personal and labour characteristics allows us to isolate the effect of social background on income and to satisfy the main objective of this analysis. It is important to note that the relation between social background and the labour market could depend on the subject studied or the type of higher education institution. The database used does not collect this information, so we will have to consider the situation of graduates as a whole. Our research questions is people who study at university obtain a similar income level at labour market or there are inequalities depending on their social background?. We considered whether the crisis has increased the effects of social background in labour market through a comparison with the pre-crisis context, to take into account any effects related to destruction of employment and worse economic expectations.

C. RESULTS AND DISCUSSION

Two national databases were used in this analysis: Encuesta de Condiciones de Vida (ECV, Living Conditions Survey) for 2005 and 2011 from the Spanish National Statistics Institute (INE)³. These databases are relevant not only because they illustrate a pre-crisis situation and a situation at the peak of the crisis but also because with these two particular editions we can identify social background for the whole population, whether they live with their parents or not, which enables us to include about 50% of the graduates that would be missing in other household surveys.

The sample from the ECV 2005 consisted of 1043 graduates between 1995 and 2002, and the sample from the ECV 2011 consisted of 730 graduates between 2001 and 2008, all of them in employment at the time of the survey⁴. Regression analysis decreased the available cases to 782 and 592, respectively. At the time of the analysis, these databases were the only ones with national representation of graduates and the most appropriate for analysing the relationship between social background and labour market for Spanish graduates. Other databases cover only one region or do not take into account graduates' social background⁵. Finally, we took the precaution of overlaying at least two years (2001 and 2002) in the analysis, in order to explore the

differences in results between the databases. However, as we will see below, the results were coincident and the contrast was not necessary.

The empirical counterpart to the research questions can be expressed as follows:

$$Y_i = \alpha + \beta_1 \sum X_i + \beta_2 \sum Z_i + \varepsilon_i$$

Where *i* refers to the individuals in our dataset and *Y* is our dependent variable accounting for the individual hourly wage received per month. *X* is the vector containing the two main variables of the present study, that is, economic background and cultural background of students. *Z* is a set of individual control variables such as sex, work experience, residential independence, type of contract and occupation of graduates. Finally, ε is an error term that ideally should be iid distributed. Equation (1) will be estimated using a traditional ordinary least squares technique. These qualitative variables in our model will be codified as dummy variables. The R2 will inform us about the goodness-of-fit of each of the estimated models (López-Roldán & Fachelli, 2015). This method enables us to refine the analysis of incomes beyond the methods used in other analyses, in which we dichotomized between low and high incomes (Fachelli et al., 2014),, and it is more sensitive to differences. The explanatory variables used are shown in Table 2.

Table 2
Categories of the independent variables. Descriptive estimations of hourly wage and ANOVA/Pearson test of associations

Independent variables	2005		2011	
	Mean	sd	Mea n	sd
Family occupational status	ns		ns	
Service class and self-employed	9.2	5.9	11.0	6.8
Routine non-manual	9.1	5.1	11.0	6.6
Manual employees	8,6	5.5	10,7	6.3
Family educational level	ns		ns	
University	9.3	7.0	11.2	7.1
Secondary education	8.4	5.1	10.9	6,6
Primary education or less	9.2	5.3	10.6	6.5
Control variables				
Occupational level of ego	**		**	
Service class and self-employed	10.0	6.0	11.7	7.1
Routine non-manual	6,6	3.7	8.2	4.7
Manual	5,7	3.4	8,6	4.0
Type of contract	**		**	
Open-ended	9.6	6.0	11.6	6.9
Temporary	7.7	4.6	9.9	5,9
Sex	*		*	
Female	8.5	5.1	10.2	6.4
Male	9.4	6.3	11.3	7.1

Work experience	**		**	
Years in paid work				
(numerical)	.23	-	.20	-
Residential status	**		**	
Emancipated	10.4	5.8	11.8	7.3
Unemancipated	7.2	5.0	9.3	5.6

The occupational classification was developed using the social class scheme used by Erikson, Goldthorpe and Portocarero (1979). This scheme was updated by Ganzeboom and Treiman (2010) and reworked several times, allowing the changes to the International Standard Classification of Occupation (ISCO) to be taken into account. This classification was adapted to the 2005 and 2011 ECV. We collapsed the nine categories obtained into three grouped as follows: a) service class and self-employees (I+II+IVab), b) routine non-manual employees (III), and c) manual employees (V+VI+VII+IVc). As we were working with small samples, we were unable to use more disaggregated classifications.

In discussing the family background, taking into account both men and women, we followed the criteria for dominance or dominant position (Erikson, 1984, p. 501; Salido 2001, p. 65; Korupp, Ganzeboom, & Van Der Lippe, 2002, p. 19), in which the respondents' social position taken was that resulting from the highest status of either the mother or the father, in this case, the highest occupational category. This provides a model in which the highest position of the father or mother sets a sociocultural context and a standard of living that is reached and shared by all members of the family unit (Fachelli & López-Roldán, 2015). Consequently, education of graduates' parents was built into three categories (up to primary education, secondary education and higher education).

Sex and professional categories of respondents were used as control variables. We used professional category, type of contract and labour market experience, which is shown in the numbers of years working. Finally, the variable related to residential situation includes only emancipation, since we were unable to elucidate whether this situation also implied economic independence. However, we understand that this factor of the individuals' personal situation might create variations in transition to employment, since the need for income increases with emancipation, so it may affect the behaviour of the graduates. The biographical dimension is important in youth trajectories and situations, as observed by Torrents (2015).

Table 2 shows descriptive estimations of wage for each independent variable. No difference in hourly wage by social background was found for any year, so family status does not affect this indicator. The factors that show a bivariate association with earnings are the graduates' occupation, job experience, residential status, kind of contract and sex. Service class occupations, which generally require higher education qualifications, are better paid than the others. A change is observed between 2005 and 2011 in manual jobs, which in 2011 had a higher mean remuneration than routine non-manual jobs. The destruction of worse-paid jobs for this occupational status during

the crisis could be an explanation. Greater work experience is also related to higher pay in for both years, with no change between contexts. Finally, type of contract is also related to pay: workers on open-ended contracts earned higher wages.

Tables 3 and 4 show the regression built for the pre-crisis period (2005) and the peak of the crisis (2011).

Model Regression: Year	Non-standardized coefficients		Standardized coefficients	t	Sig.	Collinearity statistics	Tolerance	Distribution. Var. FIV
	B	SE						
2005								
(Constant)	2.649	.072		36.66	.000			
Parents: Service Class*								
Routine manual	.021	.038	.018	.539	.590	.817	1.224	0.17
Manual	.013	.038	.013	.351	.726	.719	1.391	0.06
Parents: Higher Education*								
Primary Education or less	-.011	.038	-.012	-.287	.774	.550	1.818	-0.17
Secondary Education	-.007	.041	-.006	-.161	.872	.645	1.551	0.03
Control variables								
Occupation: Service Class*								
Routine manual	-.326	.034	-.300	-9.51	.000	.956	1.046	35.44
Manual employees	-.449	.065	-.218	-6.91	.000	.953	1.050	15.23
Type of Contract: Indefinite duration*	.152	.031	.160	4.96	.000	.914	1.094	15.37
Sex: Men*	.080	.030	.085	2.66	.008	.929	1.077	4.46
Work experience in years (numerical)	.009	.002	.130	3.71	.000	.770	1.299	13.75
Residential independence: NO*	-.141	.032	-.152	-4.36	.000	.784	1.275	15.62

Regarding the cohort of graduates between 1995 and 2002 (Table 3), in a pre-crisis context, we observe that the indicators of social background (economic and educational) did not affect earned income. The significant factors in the model are the occupation itself (routine non-manual and manual employees earn less than service class employees), the type of contract (open-ended contracts have higher pay than temporary contracts), sex (men earn more), labour market experience (workers with more experience earn slightly more) and finally residential status (graduates who do not live with their parents have higher incomes).

The explanatory capacity of the model is 24.9%. The calculation of the distributed variance is determined by multiplying the beta standardized by the Pearson r (correlation between each category and the dependent variable) and tells us how much of that 24.9% (transformed into 100%) is explained by each category of the variable. Thus, it is observed that the occupation is the most important variable, with 50% of explanation, followed by type of contract, residential independence and labour experience, and finally, a very low influence of sex.

At the peak of the crisis in 2011 (Table 4), as in the pre-crisis period, social background (educational and occupational) did not affect earned income. This finding was contrary to our expectations because this was a period of great job destruction and it seemed to be the ideal context in which social differentiation and the network of contacts would be important for finding a job. Overall, the variables showed the same performance as in 2005 except sex, which lost its capacity of differentiation, indicating that during the crisis male and female graduates earned similar wages. One explanation for this fact is that some researchers (Miguélez et al., 2014; Anghel et al., 2014) have found that less qualified low-pay jobs were eliminated during the crisis, whereas qualified jobs, in which sex differences are lower, were less affected.

The explanatory capacity of the model (25.8%) is similar to that of the previous model and shows the same performance of variables in terms of variance distribution. We could conclude that Spanish higher education and the labour market have managed to face the economic crisis and have been able to employ graduates successfully and without inequalities regardless of their social background. Taking the labour indicator of earned income, this statement is supported by our data, but in fact the proportion of graduates working was not the same before and during the crisis. As is shown in Table 5, the percentage of graduates with a job fell from 78.6% in 2005 to 66.6% in 2011. Moreover, in 2011 a higher percentage of graduate employees were working as non-manual (more skilled) employees and a slight increase in the proportion of open-ended contracts was observed; the percentage of graduates emancipated from their family home increased from 37% to 41%, and the average labour market experience was higher than in 2005. The explanatory capacity of the model is 24.9%. The calculation of the distributed variance is determined by multiplying the beta standardized by the Pearson r (correlation between each category and the dependent variable) and tells us how much of that 24.9% (transformed into 100%) is explained by each category of the variable. Thus, it is observed that the occupation is the most important variable, with 50% of explanation, followed by type

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Table 5

Description of 1995-02 and 2001-08 University graduates in their respective years of analysis

	2005	2011
Percentage employed	78.6	66.6
Percentage salaried	77.2	64.4
Sex		
Female	59.3	56.7
Male	40.7	43.3
Type of contract		
Temporary	42.4	35.3
Open-ended	57.6	64.7
Occupation		
Service class	68.7	73.2
Routine non-manual	25.5	23.0
Manual	5.9	3.8
Residential status		
Emancipated	52.0	55.8
Unemancipated	48.0	44.2

Years in paid work (mean)	6.7	8.2
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Note: data from ECV.

In 2011 fewer graduates found a job, but those who did had better occupations than those working in 2005. That is to say, the number of jobs fell in general but not all occupations were affected. The fact that in 2011 we found a higher percentage of graduates working as non-manual employees with open-ended contracts is an indicator that the jobs destroyed between 2005 and 2011 were the most unstable and least skilled. Moreover, the profile of graduates who were working in 2011 had also changed in comparison with 2005: there were a higher percentage of emancipated graduates and they had more labour market experience. The fact that there were fewer graduates with jobs in 2011 than in 2005 could explain the lack of effect of social background on income in 2011: because unskilled jobs had been destroyed and a higher percentage of graduates were working as skilled employees, the inequalities between social backgrounds were not noticeable for earned income. In other words, fewer graduates found jobs and those who did worked in more skilled occupations, so the internal differences were reduced.

These same results were found in a study of Catalan data (Planas et al., 2010; Fachelli & Planas, 2013), which shows that in 2008, before the crisis, 48.6% of graduates who were full-time employees had high-level technical occupations, whereas in 2011 this percentage had increased to 53.9%. On the other hand, graduate occupation in less skilled occupations decreased from 8% in 2008 to 1.5% in 2011. The results support the conclusion that the income of graduates who entered the labour market in a crisis context shows no inequalities related to social background. The results are consistent with those of other studies carried out in a pre-crisis situation⁶ (Fachelli et al., 2014; Torrents et al., 2015).

D. CONCLUSION

The aim of the present study is to analyze if the social origin affects the labor insertion of the graduates, measured through their income. We analysed earned income some years after graduation of cohorts from two different periods in order to observe the effects of the economic crisis. We tried to check specifically the effect of social background on income inequalities of graduates, considering that previous studies have observed little class inequality in the employment results among those who study at university in Spain. The explanation of the slight influence of graduates' social background on the labor market has been considered by other researchers, who indicate the existence of a previous selection in access to higher education, in which social background plays a more significant role (Carabaña 2004). Therefore, once students have managed to enter university the importance of their social background is minimized, i.e. there is a selection that homogenizes students in their employment opportunities.

The results presented in this article support these findings and rule out income inequality related to graduates' social background, even for a cohort insert in labor

market during the economic crisis (2011). Compared with a pre-crisis situation we observed that social background does not influence the income of graduates. Then our hypothesis has been not corroborated.

There may still be some income equality during the crisis as a result of the decrease in the number of graduates who were working after graduation (unemployment), and also a process of greater selection of them. At the peak of the crisis, social class inequality is probably not found among those who are working in terms of income per hour, but may be could be found between those who are working and those who are not. In order to analyse the extent to which Spanish higher education represents a universal tool for social mobility, we therefore need to continue analysing the labor insertion of Spanish graduates using more labour indicators, more suitable databases, more comparisons with other economic periods and different moments after graduating as well as including graduates who had a job abroad. Comparative research should include common topics such as previous European experiences and time taken to obtain the first job.

In general, the results show that universities as social institutions are able to transform students and give them tools to reduce the effects of social background in terms of earned income per hour.

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