

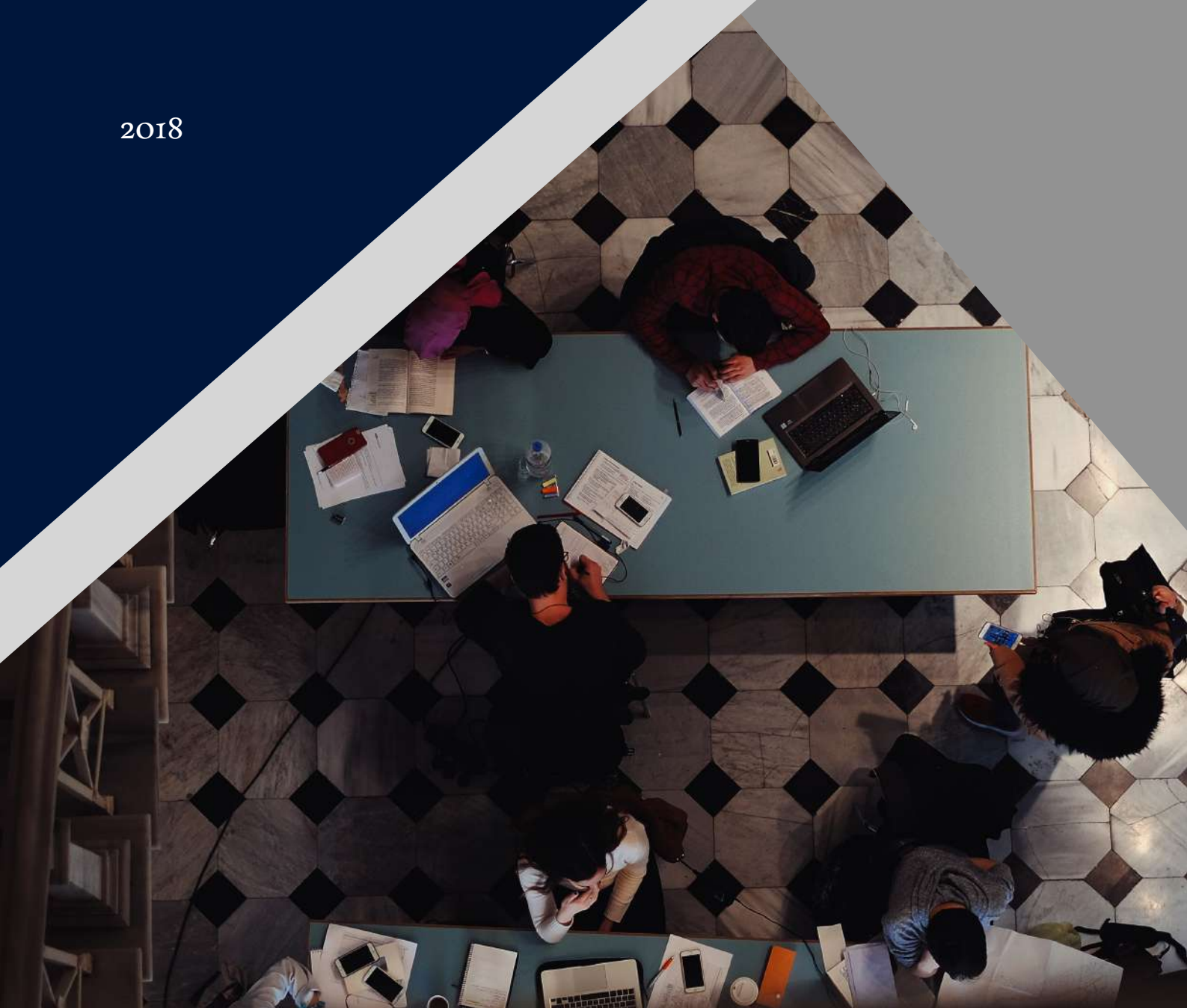
Education and the Non-Financial Employment Commitment in Times of Economic Recession Among the Youth

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Education and the Non-Financial Employment Commitment in Times of Economic Recession Among the Youth*

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Abstract

In this paper, we study the non-financial employment commitment using the so-called “lottery question”, which asks if you would continue working if you won the lottery. This is the first study that reports results using data from a Southern-European country and this is done both before and three years into the recession following the financial crisis of 2008. We find that the willingness to continue working in Spain is shockingly lower than in previous research done in other countries. Additionally, we find two important moderators of the non-financial employment commitment at the individual level. The willingness to work increases by education level and it is negatively correlated with the time spent searching for jobs. We find some regional effects, but in general, we do not find that the non-financial employment commitment is higher during the financial recession.

Keywords: non-financial employment commitment, education, Spain, recession, unemployment.

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1 Introduction

“If you were to get enough money to live as comfortably as you would like for the rest of your life, would you continue to work?” For over six decades, researchers have been studying the answers to this question and have found surprising results—the majority say they would. It clearly indicates that there is more to a job than just the economic benefits. This non-financial motivation for working may be caused by a sense of purpose, making them feel useful, or because they simply enjoy what they do.

This so-called “lottery question” (Morse and Weiss 1955) has been used as a proxy to measure this non-financial employment commitment (which we also call the willingness to continue working in this paper). Up until now, studies have been carried out in seven countries (Paulsen 2008); however, all of these countries have a high willingness to work (generally between 70% - 95%). It is probably not very surprising to learn that in Japan and Germany, the willingness to continue working is high, but we know nothing about countries that are not necessarily known for their high work ethic (MOW 1987). In this paper, we report results, for the first time, from a country that is expected to have a low willingness to work.

Spain is of great interest because it has the third highest unemployment rate among the OECD countries (OECD 2015). The most recent estimate of the unemployment rate in Spain, corresponding to the fourth quarter of 2016, is 18.6% (INE 2016), so the non-financial commitment to work should be of extreme importance. We examine the effects of the recent economic recession on the non-financial employment commitment and we find that for both 2008 and 2011, the willingness to continue working in Spain, overall, was approximately 30%, much lower than in any previous studies. If people have a low non-financial commitment to work in a country that is in the middle of an economic recession, it can have serious repercussions and prove difficult to recuperate from the recession.

We also focus on several moderators. We find that the willingness to continue working increases by level of education. After analysing the effects of several variables, such as age, the total number of jobs the participant has had, the time spent searching for work, and the number of family members working, on the willingness to work, we find that the time spent searching for work has, by far, the largest effect. With each additional month spent searching for work, participants become demoralized and are less likely to continue working.

When comparing the results of 2008 (30.5% would continue working) with 2011 (31.1% would continue working) for Spain as a whole, it appears that the recession had no effect on the non-financial employment commitment. Exploiting regional differences, however, allows us to see that this is not true for all regions. Among the eight regions in the data set, the Catalonia region is the only one that sees an increase in the probability to continue working in 2011, while the rest of the regions either see a decrease or no change at all.¹ This difference between Catalonia and the other regions might be

¹A recent paper might provide an explanation about why, in general, worse economic conditions lead to higher

related to the rise in Catalan nationalism in 2010.

The rest of the paper is organized as follows. In Section 2, we start by reviewing previous literature on the lottery question and list our main hypotheses. Following that, in Section 3, we detail the data and the methodology. Then, in Section 4, we present our results and conclude with a discussion in Section 5.

2 Literature Review and Hypotheses

The first version of the “lottery question” was posed to an adult working male population by Morse and Weiss (1955) in the US. They asked, “Would you continue to work if you inherited enough money to live comfortably without working?”. Their findings show that 80% of the participants said they would. This was followed up by a similar study done in the US by Vecchio (1980), who asked, “If you were to get enough money to live as comfortably as you would like for the rest of your life, would you continue to work or would you stop working?”. He found that 72% would continue to work; although a slight decrease, the majority still chose to continue to work. Highhouse, Zickar and Yankelevich (2010) wanted to test if this non-financial commitment to work continued to decrease, so they conducted a similar experiment. They found that 72.8% would continue working 1980-1993 and 68% would continue to work 1994-2006; a very small decrease but still quite high.

Similar studies have been done in other countries. Paulsen (2008) includes an analysis of many of these studies done up to that date—from 1955 to 2005. The 23 studies he has listed were administered in seven different countries: the US, Great Britain, Israel, Germany, Japan, the Netherlands and Belgium. In all cases, the majority chose to continue to work, with the lowest being 59% among employed females in the US in 1971 and the highest 93.4% among the adult population in Japan in 1987 (Paulsen 2008; Campbell et al. 1976; MOW 1987). The majority of the studies had a non-financial commitment to work of 70% or higher.

The samples used in previous research vary as some only focused on the employed, others on just the unemployed, other samples were limited to only males or only females, and others included the entire working population. Nonetheless, this did not seem to affect the non-financial commitment to work that much, if at all. In all previous studies, the majority of respondents always chose to continue working. In fact, in the US, Kaplan and Tausky (1974) looked at the non-financial commitment to work among the hard-core unemployed and still found that 80% would continue working. Likewise in Great Britain, Warr (1982) found that out of the unemployed men who were actively seeking employment, 73% chose to continue working; for women it was slightly lower at 68%. However, out of the unemployed men who were not seeking work, only 33% said they would continue working; similar results were found

employment commitment. Başevant and Kirmanoğlu (2014) show that job insecurity increases life satisfaction associated with having any job, even a less-desired job.

for women. This is the only time where the majority chose not to continue working. Dunn, Grasso and Saunders (2014) explored work preferences of unemployed and employed participants using the question: “Having almost any job is better than being unemployed”. They found that unemployed people were more likely to strongly disagree with the statement in comparison to employed people.

A relationship between the level of education and the non-financial commitment to work has been found in many studies. Researchers have found that higher-educated workers are more likely to keep working than those with less education (Campbell et al. 1976; Vecchio 1980; Harpaz 2002). Rose (2005) asked the lottery question in Britain in 2000, and established that 78% of those with a degree or a higher degree would continue working, 67% of those with a higher qualification below a degree would continue working, 61% with A levels (the last two years of high school), 64% with a secondary education and 53% with no formal education would continue working. Tausky (1969) and the MOW (1987) have separately identified that less-educated individuals place more importance on the economic and material conditions of working, whereas higher-educated individuals value expressive aspects of working. Furthermore, the MOW (1987) found that people of a low educational level tended to define work negatively, while people of a high educational level defined it positively. Lyman (1955) extends this to the socioeconomic scale. People at the lower end of the scale are more likely to stress the economic aspects of work and people at the upper end typically stress the satisfaction with the work itself. All in all, education appears to have a positive correlation with the willingness to continue working.

Dunn (2011), however, distinguishes between two measures of the non-financial employment commitment. One that focuses on a *moral* principle such as the Protestant Work Ethic (PWE) Scale according to the Mirels & Garrett scale (Mirels and Garrett 1971) and another that emphasize *preferences* about work, such as the lottery question. He argues that when using the moral principle measure, we find a negative relationship between the non-financial commitment to work and level of education, such as in Furnham’s (1982) study where he finds the mean PWE score to be 52 for the university-educated, 55 for the college-educated and 57 for secondary-educated participants. Rose (2005) draws similar conclusions which show that using the lottery question provides the opposite results from using the PWE scale. Dunn (2011) explains this inconsistency by claiming that the more educated score highly on measures of work ethics that focus on preferences instead of morality because their education can secure them enjoyable, “career” jobs. He supports his claim by, once again, using the measure “Having almost any job is better than being unemployed” to analyse the differences by education level. Indeed, he finds that those with the highest level of education score the lowest. Moreover, according to his results, the less educated are more *morally* committed to work, less likely to want to continue working if not financially necessary, and more likely to prefer a “bad” job to unemployment. Even though less educated individuals are the most morally committed to work, it is the more educated individuals

who always score the highest on the work ethic measures which stress preference. According to Dunn (2011), one factor might be that individuals with a lower level of education might be more eager to avoid being dependent on state benefits (due to feelings of low self-esteem and boredom), so they are willing to work low status jobs. Education is what reduces the shame and boredom of unemployment and increases opportunities in the job market. Another factor might be that those with a higher education are reporting a commitment to rewarding jobs that they know they can get with their education, which is not the case for those with a lower level of education. This claim is also supported by Schaufeli (1992) who found that the well-educated can cope well with their unemployment since they have more educational resources which they can make use of. Poorly-educated school-leavers, on the other hand, are negatively affected by unemployment. Furthermore, level of education is positively related to a number of characteristics such as self-esteem, which is key for stress-buffering and a necessary coping characteristic if unemployed.

Highhouse et al. (2010) also noticed a connection between responses to the lottery question and economic conditions. In periods of difficult economic times, more people are willing to continue working. Their results also suggest that when the economy is prosperous, one might feel more comfortable giving up working, but in tougher economic times, the decision is unthinkable.

Given the previous literature, we propose two hypotheses. These two hypotheses will be analysed using two surveys described in the next section.

Hypothesis 1 *Participants with the highest level of education will be the most willing to continue working, whereas those with the lowest level of education will be the least willing to continue working.*

Hypothesis 2 *Since 2011 was a more difficult economic period in Spain than 2008, everyone will be more willing to continue working in 2011 than in 2008.*

3 Method

3.1 Sample

In this study, we report and analyse original data from a series of surveys entitled *Observatory of Young People's Transition to the Labour Market* conducted in 2008 and 2011 by the Valencian Institute of Economic Research. Their target population sample were young people who were searching for or had found their first job within the last 5 years.

The analysed data sets do not have panel data structure. The two samples are similar, but they are not identical. The 2008 survey was conducted in 12 Spanish provinces and used province as a characteristic of the population, whereas the 2011 survey focused on cities and included 34 Spanish cities. In order to homogenize the two samples, we created a common *region* variable and only included

observations from regions common to both samples (eight regions), which consisted of 88.8% of the entire sample.

Table 1: Summary statistics of explanatory variables

Variable	2008		2011		Overall			
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Min.	Max.
Age	22.83	3.61	23.94	3.67	23.22	3.67	16	30
Female (1=yes)	0.57	0.50	0.52	0.50	0.55	0.50	0	1
Primary education (1=yes)	0.12	0.33	0.12	0.32	0.12	0.33	0	1
Secondary or vocational education (1=yes)	0.66	0.47	0.64	0.48	0.65	0.48	0	1
University education (1=yes)	0.21	0.41	0.25	0.43	0.23	0.42	0	1
Total number of jobs respondent has had	2.15	1.34	2.05	1.27	2.12	1.32	1	6
Total number of months searched for jobs since age 16	7.36	13.93	12.94	17.74	9.31	15.60	0	134
Number of family members working (including the respondent)	2.43	1.10	2.07	0.99	2.30	1.07	0	10
Student (1=yes)	0.38	0.49	0.33	0.47	0.37	0.48	0	1
Employed in the public sector (1=yes)	0.09	0.28	0.09	0.29	0.09	0.28	0	1
Employed in the non-public sector* (1=yes)	0.59	0.49	0.47	0.50	0.55	0.50	0	1
Foreign (1=yes)	0.09	0.29	0.07	0.26	0.08	0.28	0	1
Married/in a relationship (1=yes)	0.16	0.37	0.21	0.41	0.18	0.38	0	1
Father's education level:								
Primary education (1=yes)	0.34	0.47	0.32	0.47	0.33	0.47	0	1
Secondary education (1=yes)	0.40	0.49	0.37	0.48	0.39	0.49	0	1
Vocational education (1=yes)	0.09	0.29	0.12	0.32	0.10	0.30	0	1
University education (1=yes)	0.16	0.37	0.19	0.39	0.17	0.38	0	1
Respondent's region:								
Catalonia (1=yes)	0.07	0.25	0.20	0.40	0.11	0.31	0	1
Valencia (1=yes)	0.39	0.49	0.30	0.46	0.36	0.48	0	1
Andalucia (1=yes)	0.13	0.34	0.13	0.33	0.13	0.34	0	1
Basque Country (1=yes)	0.10	0.30	0.07	0.25	0.09	0.28	0	1
Aragon (1=yes)	0.06	0.23	0.04	0.20	0.05	0.22	0	1
Galicia (1=yes)	0.07	0.26	0.08	0.28	0.08	0.27	0	1
Madrid (1=yes)	0.06	0.23	0.13	0.34	0.08	0.27	0	1
Murcia (1=yes)	0.12	0.33	0.05	0.21	0.10	0.30	0	1
Year 2011 (1=yes)	N/A	N/A	N/A	N/A	0.35	0.48	0	1
Lottery question								
	2008		2011					
	Categ.	% of respon.	Categ.	% of respon.				
Would definitely continue working	1	13.4%	1	14.4%				
Would continue working	2	17.1%	2	16.7%				
Indifferent	3	8.9%	3	12.7%				
Would not continue working	4	22.1%	4	25.4%				
Would definitely not continue working	5	38.4%	5	30.7%				

*The "non-public" sector includes the private sector, a cooperative, or self-employed.

In our sample, 2,205 people answered the lottery question in 2008 and 1,184 answered it in 2011. Table 1 displays the summary statistics of the variables used in our analysis.² The comparison of 2008 and 2011 confirm the similarity of the two sub-samples regarding age, gender and education. The interpretation of the mean of the dummy variables is simply the proportion of the sample with those characteristics. We can see that the overall mean age was 23.22 (the survey is only given to participants 16–30 of age) and that 55% of our sample were females. With respect to education, 12% of our sample had a primary education or less, 65% had a secondary or vocational education and 23% had a university education (or less but more than secondary/vocational).

²We also tried including two other job-related variables: contract type and firm size, but neither of the variables were statistically significant at the 5% significance level in both years, so we decided not to include them in the model.

Since we are dealing with a sample of young people, we should ask whether our results can be compared to previous studies. Most researchers have found that younger participants are usually more willing to continue working with respect to older participants. Campbell et al. (1976) noted that the choice to give up their job increases with age and Warr (1982) observed that among younger employees (full-time employed men), 76% would continue working, while only 69% of men of all ages said they would continue to work. He obtained the same result for women; among younger female employees, 80%, rather than 65% for females overall, would continue to work; Highhouse et al. (2010) also support this finding. This suggests that, if anything, the willingness to continue working should be even higher in our sample than in previous studies.

3.2 Methodology

Our dependent variable, which measures the willingness to continue to work, is the lottery question. Participants were asked to agree or disagree with the following statement: “If I won the lottery where I wouldn’t have to work for the rest of my life, I would not work.” Participants chose their answer from one to five: “Very much disagree”, or in other words, the participant chooses to continue working, “Somewhat disagree”, “Indifferent”, “Somewhat agree”, and lastly “Very much agree”, where the participant chooses to stop working.

Since the outcomes of the lottery question have a natural rank to them and are coded using numbers one to five, one being the “very much disagree” response, we used an ordered logit model to analyse the Spanish dataset (Long 1997). In this model, the explained variable has five possible ordered responses, as explained above, and the explanatory variables are those included in Table 1. Apart from the variables listed in Table 1, we also included the interaction terms between all variables and the year dummy variable equal to one for observations included in the 2011 survey, with a total of 43 variables in our ordered logit model.

The observed answer y_i , by individual i , is defined for N individuals in our ordered logit model by the measurement equation:

$$y_i = m \text{ if } \tau_{m-1} \leq y_i^* < \tau_m \text{ for } i = 1, 2, \dots, N \text{ and } m = 1, 2, \dots, 5, \quad (1)$$

where the τ ’s are parameters to be estimated called thresholds, and y_i^* is a latent variable representing the propensity not to work having won the lottery. The structural model for this variable is defined as:

$$y_i^* = x_i' \beta + \varepsilon_i \text{ for } i = 1, 2, \dots, N, \quad (2)$$

where x_i' is a row vector with the i th observation of the explanatory variables (presented in Table 1), β is a column vector of structural coefficients and ε_i is an error term with a logistic distribution. Under simple identification conditions, this model can be estimated by the maximum likelihood method (Long 1997).

In order to evaluate the effect of explanatory variables on the willingness to work, we use the estimated coefficients of the ordered logit model to calculate the predicted probabilities.

The predicted probability that $y_i = m$ ($m = 1, 2, \dots, 5$) given specific values of our explanatory variables x_i^v is:

$$\widehat{Pr}(y_i = 1|x_i^v) = F(\hat{\tau}_1 - x_i^{v'}\hat{\beta}) \quad (3)$$

$$\widehat{Pr}(y_i = m|x_i^v) = F(\hat{\tau}_m - x_i^{v'}\hat{\beta}) - F(\hat{\tau}_{m-1} - x_i^{v'}\hat{\beta}) \text{ for } m = 2, 3, 4 \quad (4)$$

$$\widehat{Pr}(y_i = 5|x_i^v) = 1 - F(\hat{\tau}_4 - x_i^{v'}\hat{\beta}) \quad (5)$$

where F is the cumulative distribution function of the logistic distribution and $\hat{\tau}$, $\hat{\beta}$ are estimated parameters. For continuous explanatory variables, we are not interested in reporting the marginal effect, that is the instantaneous rate of change in the predicted probability. We report, instead, the discrete change in the predicted probability. The discrete change in the predicted probability for a change in one of the explanatory variables x_{k_i} from x_1 to x_2 is defined as:

$$\frac{\Delta\widehat{Pr}(y_i = m | x_i^v)}{\Delta x_k} = \widehat{Pr}(y_i = m | x_i^v, x_{k_i} = x_2) - \widehat{Pr}(y_i = m | x_i^v, x_{k_i} = x_1) \quad (6)$$

where $\widehat{Pr}(y_i = m | x_i^v, x_{k_i})$ is the probability that $y_i = m$ given specific values of our explanatory variables x_i^v except for the k^{th} variable x_{k_i} whose effect is analysed. Its value is set to x_1, x_2 respectively.

4 Results and Discussion

As the two samples corresponding to 2008 and 2011 are similar, we pooled them together to be able to test changes in estimated coefficients between the two years. That is why we created a dummy variable for the year 2011 and interacted it with all the explanatory variables from Table 1 and included it in the model.

Table 2 presents the estimated coefficients β from (2) obtained by maximum likelihood estimation. The first column contains the names of the explanatory variables, the second and third columns display the estimated coefficients and standard errors for the 2008 results, and the last two columns present the estimated coefficients and standard errors of interactions with the 2011 dummy variable.

A direct interpretation of the estimated coefficients presented in Table 2 is not possible. However, it can be seen that the explanatory variables are generally significant at the 5% significance level. Therefore, the probability of choosing a specific response depends on the exact age, gender, education level, number of jobs had, number of months searched for work, whether employed in the public sector or not, father's education level, region and the year. Nevertheless, the effect of gender, education level, number of family members working, being a student or a foreigner and the region on the willingness to continue working changes in 2011 because the corresponding interactions with the 2011 dummy variable are significant at the 10% significance level or better. In order to analyse the effects in more detail, we will use the changes in probabilities defined in (6).

Table 2: Ordered Logit Results

Dependent variable = lottery question				
1. Def. continue working, 2. Continue working, 3. Indifferent 4. Not continue working, 5. Definitely not continue working	2008 Results		Interaction with 2011 dummy variable	
Variable	Coefficient	Std. Err.	Coefficient	Std. Err.
Age	-0.033**	(0.015)	0.012	(0.023)
Female	-0.310***	(0.082)	0.333**	(0.132)
Primary education	0.379***	(0.147)	-0.462**	(0.219)
University education	-0.262**	(0.105)	-0.323*	(0.169)
Total number of jobs respondent has had	-0.111***	(0.032)	0.059	(0.054)
Total number of months searched for jobs since age 16	0.008***	(0.003)	-0.005	(0.004)
Number of family members working (including the respondent)	0.061	(0.041)	-0.117*	(0.070)
Student	-0.083	(0.101)	-0.311*	(0.160)
Employed in the public sector	-0.437***	(0.152)	-0.072	(0.239)
Employed in the non-public sector	-0.074	(0.104)	-0.017	(0.157)
Foreign	0.154	(0.152)	-0.659***	(0.252)
Married/in a relationship	0.162	(0.122)	-0.009	(0.177)
Father's education level:				
Secondary education	-0.279***	(0.100)	0.173	(0.158)
Vocational education	-0.451***	(0.156)	0.234	(0.229)
University education	-0.518***	(0.133)	0.314	(0.205)
Respondent's region:				
Valencia	-0.215	(0.149)	1.210***	(0.222)
Andalucia	-0.802***	(0.187)	1.499***	(0.284)
Basque Country	-0.479***	(0.179)	1.236***	(0.330)
Aragon	-0.744***	(0.206)	1.159***	(0.344)
Galicia	-0.749***	(0.189)	1.347***	(0.268)
Madrid	-0.195	(0.202)	1.437***	(0.271)
Murcia	-0.534***	(0.164)	1.136***	(0.260)
Year 2011	-1.481**	(0.593)	N/A	N/A
Observations				3389
Log pseudolikelihood				-4985.8515
AIC				10069.7
BIC				10369.99

Benchmark categories: male, secondary/vocational education, non-student, unemployed, non-foreign, not in a long-term relationship, father's primary education, Catalonia, year 2008.

Note: ***, **, *: significance at the 1%, 5% and 10% level.

Table 3 displays the discrete change in the predicted probabilities of all the outcome categories from (6), along with their standard errors, based on the estimates from the ordered logit model. According to (3)-(5), the predicted probabilities are computed for specific values of explanatory variables. That is why we define a benchmark individual and analyse changes of all variables with respect to his/her characteristics. The benchmark individual is defined as a woman in 2008 in Madrid, with a secondary/vocational education, whose father's education is at the secondary level, is not a student, employed in the non-public sector, not foreign, not in a long-term relationship, and all continuous control variables are held at the median. These characteristics were chosen because these values were prevalent in each corresponding variable. The second column of Table 3 lists the changes in the explanatory variables we are considering. For binary variables, the discrete change in the probability is shown when the variable changes from 0 to 1. For continuous variables, it is calculated when the variable goes from its minimum to its maximum. The third column presents the average of the absolute values of the changes across all outcome categories (Long, 1997, p.137).

Table 3: Discrete Change in the Probability of Attitudes About Working for the Ordered Logit Model

Variable	Change	$\bar{\Delta}$	Definitely continue working	Continue working	Neutral	Not continue working	Definitely not continue working
Age	Δ Range (16→30)	0.044	0.048** (0.023)	0.046** (0.020)	0.016** (0.008)	-0.002 (0.010)	-0.108** (0.048)
Female	0→1	0.030	0.028*** (0.009)	0.030*** (0.008)	0.012*** (0.004)	0.004 (0.007)	-0.075*** (0.020)
Education	Secun → Pri	0.037	-0.034*** (0.013)	-0.036*** (0.013)	-0.015** (0.007)	-0.007 (0.010)	0.092** (0.036)
Education	Secun → Uni	0.025	0.030** (0.013)	0.026** (0.010)	0.008** (0.004)	-0.005 (0.006)	-0.059** (0.023)
Total Jobs	Δ Range (1→4)	0.032	0.036*** (0.011)	0.033*** (0.009)	0.011*** (0.004)	-0.004 (0.007)	-0.076*** (0.022)
Number of months searched for jobs	Δ Range (0→130)	0.106	-0.076*** (0.020)	-0.091*** (0.026)	-0.047*** (0.017)	-0.052 (0.038)	0.265*** (0.092)
Number of family members working	Δ Range (0→10)	0.058	-0.055 (0.035)	-0.057 (0.037)	-0.024 (0.017)	-0.010 (0.017)	0.146 (0.099)
Student	0→1	0.008	0.009 (0.011)	0.008 (0.010)	0.003 (0.003)	-0.001 (0.002)	-0.019 (0.023)
Employed in the public sector	0→1	0.042	0.050** (0.020)	0.043*** (0.015)	0.013** (0.005)	-0.009 (0.010)	-0.097*** (0.033)
Employed in the non-public sector	0→1	0.007	0.007 (0.010)	0.007 (0.010)	0.003 (0.004)	0.000 (0.002)	-0.017 (0.025)
Foreign	0→1	0.015	-0.015 (0.014)	-0.015 (0.015)	-0.006 (0.006)	-0.001 (0.004)	0.036 (0.037)
Married/in a relationship	0→1	0.015	-0.016 (0.012)	-0.016 (0.012)	-0.006 (0.005)	-0.001 (0.004)	0.038 (0.029)
Father's Education	Secun → Pri	0.070	-0.081*** (0.029)	-0.071*** (0.020)	-0.023*** (0.007)	0.010 (0.016)	0.164*** (0.046)
Father's Education	Secun → Uni	0.021	-0.028 (0.027)	-0.020 (0.018)	-0.004 (0.004)	0.009 (0.010)	0.044 (0.039)
Change in year for each region							
Valencia	2008→2011	0.035	-0.033* (0.018)	-0.035* (0.019)	-0.014* (0.008)	-0.005 (0.006)	0.087* (0.049)
Andalucia	2008→2011	0.064	-0.083** (0.033)	-0.062** (0.026)	-0.015* (0.009)	0.023** (0.010)	0.137** (0.061)
Basque Country	2008→2011	0.037	-0.043 (0.032)	-0.038 (0.030)	-0.012 (0.011)	0.006 (0.006)	0.088 (0.071)
Aragon	2008→2011	0.031	-0.042 (0.043)	-0.029 (0.031)	-0.005 (0.007)	0.015 (0.014)	0.063 (0.068)
Galicia	2008→2011	0.049	-0.064** (0.031)	-0.048** (0.023)	-0.011* (0.006)	0.019* (0.010)	0.104** (0.050)
Madrid	2008→2011	0.058	-0.048** (0.022)	-0.054** (0.023)	-0.025** (0.010)	-0.017* (0.010)	0.144** (0.061)
Murcia	2008→2011	0.028	-0.034 (0.028)	-0.028 (0.024)	-0.008 (0.007)	0.008 (0.006)	0.063 (0.054)
Catalonia	2008→2011	0.082	0.104*** (0.033)	0.081*** (0.022)	0.021*** (0.006)	-0.024* (0.014)	-0.182*** (0.050)

Benchmark categories: female, secondary/vocational education, not a student, employed in the non-public sector, not foreign, not married/in a long-term relationship, father's secondary education, Madrid, year 2008, the rest of the variables held at the median.

Note: ***, **, *: significance at the 1%, 5% and 10% level.

Focusing on the last five columns of Table 3, we find that the predicted probability of choosing to work increases with age. This is contrary to Highhouse et al. (2010), who find that younger people are more likely to choose to continue working. The youngest respondents in Highhouse et al.'s (2010) sample, however, were aged 21, as opposed to 16 used in our sample. Two studies that did include younger respondents were Warr's (1982), who found evidence coinciding with Highhouse et al.'s (2010), and Kaplan and Tausky's (1974) whose results are comparable to ours. Furthermore, Kaplan and Tausky's sample included respondents who were unemployed and quite poor. This indicates that the minimum age considered and the socio-demographic classes included matter. Moreover, cultural differences set by the country also play an important role.

The number of months spent searching for work also has a very strong effect on the attitudes of working. As the variable changes from the minimum to the maximum value, the predicted probability to choose to continue working decreases. This decrease is possibly as a result of individuals feeling demotivated after a very long job search. To the best of our knowledge, nothing in the literature has been reported about the effect the number of months searching for jobs has on one's willingness to work.

Although the average of the changes in predicted probabilities is relatively large for the number of family members working, the discrete changes themselves are not statistically significant at the 5% level. However, working in the public sector has a positive effect on attitudes about working. The change from unemployed to employed in the public sector implies that the predicted probability to choose to continue working increases. This does not come as a real surprise since most jobs in the public sector offer job security and many perks. Lastly, a change in the father's education level, from secondary to primary, decreases the predicted probability to choose to continue working. Interestingly enough, the change from secondary to university in the father's education level, has no statistically significant effect on the attitudes about working. This suggests that fathers with at least a secondary education tend to transmit a more positive work ethic, whether directly or indirectly, to their children. To the best of our knowledge, none of these variables have been previously studied in relation to their effect on the willingness to work.

Three other variables in the upper half of Table 3 have statistically significant results. Firstly, being female increases the predicted probability to choose to continue working. This is contrary to most literature. Highhouse et al. (2010) found that women were more likely to choose to discontinue working, although only a minor effect was found. Campbell et al. (1976) found a slightly larger difference: 59% of women and 74% of men chose to continue working. Warr (1982) found a smaller difference, with 65% of women and 69% of men choosing to continue working. Warr's results with the younger population, however, are in line with ours, with more women (80%) than men (76%) choosing to continue working. Secondly, the predicted probability to choose to continue working

increases with each level of education; secondary-educated respondents are more likely than primary-educated respondents, and the university-educated are more likely than the secondary-educated to choose to continue working. This confirms our first hypothesis that the willingness to work increases with education. Thirdly, the predicted probability to choose to continue working increases with the number of total jobs. It may be the case that working several jobs makes people realize just how important having a job is. Lastly, being foreign, a student or married has no significant effect on attitudes towards working. Not much can be found in the literature regarding the effects of these three variables on the willingness to work. Nevertheless, Warr (1982) found that more single women chose to continue working than married women (78% in comparison to 57%); however, this result was only found for women and not men.

The bottom half of Table 3 displays the changes in predicted probabilities for each region, moving from 2008 to 2011. In Valencia, Andalucia, Galicia and Madrid, the changes in predicted probabilities decrease the willingness to work in 2011. In Catalonia, however, not only are the magnitudes bigger than for the other regions, but it is a positive change, with an increase in choosing to continue working in 2011. Thus, our second hypothesis that the willingness to continue working would increase in 2011 is only valid for Catalonia, and false for the other regions.

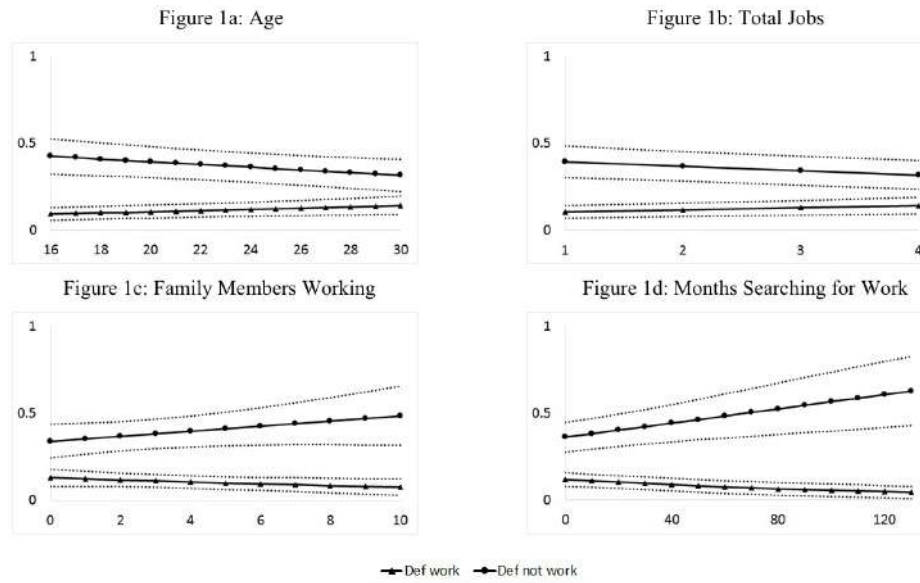
Detailed in Figure 1 are the effects of the continuous explanatory variables on the predicted probabilities of the extreme responses “very much disagree”, interpreted as would definitely continue working, and “very much agree”, interpreted as would definitely *not* continue working, from (3) and (5). We also display 95% confidence intervals of both outcome categories. Once again, the benchmark individual described in Table 3 was used in the estimations for all four graphs in Figure 1.

Figure 1a displays the effect of age on the predicted probability of definitely working or not working. We see that the youngest people have a high probability (around 40%) of choosing that they would definitely not continue working, and have a low probability (around 10%) of choosing they would definitely continue working. Figure 1b shows the effect of the total number of jobs a respondent has had on the predicted probability of definitely working or not working. People who have only had one job have a higher probability, of approximately 40%, of answering they would definitely not continue working than choosing they would definitely continue working (approximately 10%). Figure 1c presents the effect of the number of family members, including the respondent, working on the willingness to continue working. As can be seen from this graph, people with no family members working have a probability of 34% of choosing they would definitely not continue working and a probability of 13% of stating they would definitely continue working. However, as seen in Table 3, the changes in probabilities are not statistically significant when the number of family members working changes.

Lastly, Figure 1d displays the effect of the number of months searching for work on the willingness to work. Respondents not having spent any time searching for work start off with a 36% probability of

choosing to definitely not continue working. On the other hand, there is a 12% chance of respondents choosing to definitely continue working, which then decreases to approximately 4% after 10 years of searching for a job. It may not be clear from the graph, but the 95% confidence intervals at the initial and final values for the outcome to definitely continue working do not overlap: (0.0794, 0.1588) and (0.0081, 0.0793).

Figure 1: The Effect of Four Continuous Variables on the Willingness to Work.



5 Conclusion

When looking at the overall percentage of participants who said they would continue to work if they won the lottery, 30.5% say they would continue working in 2008 and 31.1% in 2011. These values are much lower than what has been found in other countries. It is difficult to say why the results for Spain are so different in comparison to all other countries in previous research. It could be due to cultural or religious differences or due to the volatility of its economy.

If we focus on the two hypotheses we analyse in this paper, the first relating a higher level of education to a higher willingness to work, and the second hypothesis relating tougher economic times to a higher willingness to work, we can say the following. The analysis of the effect of education on predicted probabilities, shows us that the probability to choose to continue working increases with each level of education. Primary-educated respondents had the lowest probability of choosing to continue working and the university-educated respondents had the highest probability of choosing to continue working. It is, of course, not surprising that the university-educated respondents are the most willing to continue working. Saad (2005) states that high levels of education (and income) coincide with a high percentage of people who love their jobs. It is possible that university-educated people enjoy

their jobs more since they have better working conditions and might be working in the field that they studied, and presumably enjoy.

Regarding our second hypothesis which focuses on tougher economic times, we only see evidence of this in Catalonia, which saw an increase in the predicted probability to choose to continue working in 2011 as compared to 2008. The other regions of Spain, however, either show a decrease in the predicted probability to choose to continue working or no change at all. A possible reason for this difference between Catalonia and the other regions of Spain could be attributed to a rise in Catalan nationalism. When, in 2010, a constitutional court rejected a new statute giving Catalonia more autonomy, more than one million people demonstrated in the streets of Barcelona (“Catalan protesters rally for greater autonomy in Spain” 2010). That same year, Artur Mas, the leader of a pro-independence party, was elected president of the Catalan government. To the best of our knowledge, how a sudden increase in nationalism affects the non-financial work commitment has not yet been studied. A strong feeling of building a new state, coupled with tougher economic times, could have a positive effect on the willingness to work. Nonetheless, our results show that, independently, tougher economic times, do not seem to increase the willingness to continue working in Spain.

The explanatory variable that had the biggest impact on the willingness to continue working was the number of months spent searching for work, as can be seen from the third column of Table 3, which displays average changes in predicted probabilities. Furthermore, we can see from Figure 1d that the number of months spent searching for work has a negative effect on the willingness to continue working. This is simply another reason policy makers should focus on decreasing the amount of time people spend searching for work in order to avoid this strong negative impact on the non-financial work commitment.

This paper is a good start to analysing the non-financial commitment to work in a country with a low willingness to work. Further research is necessary to decipher why the non-financial employment commitment did not increase in 2011, apart from in Catalonia. Conducting a similar study in a country with a comparable economic history would be very insightful and future responses to the lottery question in Spain will be of great interest. In fact, the results reported by D’Agostino and Regoli (2013) regarding the similarities in the lack of opportunities of Italian and Spanish youth suggests that our results could be replicated in other Southern European countries like Italy. Finally, our research extends the use of *subjective indicators* (Veenhoven 2002) to a realm that has been scarcely studied with respect to the non-financial employment commitment thus far.

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