ČLANCI

Job satisfaction in Spain. Analysis of the factors in the economic crisis of 2008

MARÍA CARMEN SÁNCHEZ-SELLERO[*]
Faculty of Economics and Business Administration
Department of Applied Economics
Universidad de La Coruña
La Coruña, Spain

PEDRO SÁNCHEZ-SELLERO
School of Engineering
Department of Business Administration
Universidad de Zaragoza
Zaragoza, Spain

The objective of this paper is to determine the main features of job satisfaction in the Spanish labor market of 2008, which was affected by a deep recession and instability. We differentiate between personal and job-related features to determine which ones explain job satisfaction better. For this purpose, we use the data from the 2007, 2008, 2009 and 2010 Quality of Labor Life Survey by the Ministry of Employment and Social Security in Spain. We show that job-related variables better explain job satisfaction through linear models (ANOVA). We also eliminate interactions between 14 job-related variables through a principal-component analysis. From the obtained factors, we propose a stepwise multiple regression analysis that explains how job-related variables affect job satisfaction. The factor 1 formed by activity, personal development and motivation is the one that better explains job satisfaction every year. We find that personal motivation has the highest influence on job satisfaction; wages affect job satisfaction the least during economic crises and economic growth. We also find that during an economic crisis job satisfaction is higher, whereas stability and wages are not higher, because jobs are less stable and wages are lower.

Key words: job satisfaction, motivation, remuneration, gender, age and economic crisis.

JEL Classification: J21; J22; J28; J30; J81; C13; C25

[*] María Carmen Sánchez-Sellero, Faculty of Economics and Business Administration, Department of Applied Economics, Universidad de La Coruña, La Coruña, Spain, Campus Elviña, 15071, La Coruña, Spain, c.sanchez@udc.es

INTRODUCTION

Many factors affect job satisfaction, as previous literature has shown, and due to its personal nature, job satisfaction affects many aspects of work, the market for labor, and the economy. Although researchers have studied job satisfaction for decades, this paper analyzes the Spanish labor market, which is affected by a very long economic recession.

Gazioglu and Tansel (2006) propose four measures of job satisfaction relating to personal and labor features: autonomy, pay satisfaction, a sense of achievement, and respect from supervisors, for example. This paper contributes to the literature analyzing labor satisfaction with respect to industrial composition and occupations. Van der Meer and Wielers (2013) also model job characteristics that affect job satisfaction or intrinsic motivation and thereby happiness. They include other control variables known to affect happiness. Similarly, Smith and Shields (2013) study motivation among factors related to job satisfaction. They study characteristics related to job satisfaction in a group of workers, based on the motivation definition proposed by Herzberg. Further, Robles-García et al. (2005) show that job satisfaction is strongly associated with positive perceptions of organizational characteristics. The most important and widely considered characteristics were: the environmental plan, the hierarchical relationship, promotion and professional development, and the worst values were retribution, knowledge, identification with objectives, and training. Socio-demographic factors had less influence on satisfaction. Dueñas et al. (2010) find that personal characteristics somewhat explain job satisfaction. They use two ways to study the job quality: one based on job characteristics and the other on the percep-

tion of workers about their job. We try to identify the link between job satisfaction and the main features of job. They estimated models whose data come from *Quality of Labor Life Survey* (QLLS). In order to measure the quality of job, they estimate an index using the information about 12 job characteristics.

Our study has four objectives. First, we study job-related variables that most affect job satisfaction. Second, we segregate these variables into homogeneous groups. Third, we analyze how the economic cycle affects satisfaction variables. Fourth, we establish a hierarchy to determine which independent variables and/or factors obtained in principal-component analysis (PCA) most influence job satisfaction.

We update and extend the analysis of satisfaction in the current job market using independent variables that focus on personal and inherent factors. For this purpose, we use microdata from the 2007, 2008, 2009 and 2010 *Quality of Labor Life Survey* (QLLS) by the Ministry of Employment and Social Security of Spain (2010 is the most recent data available in 2017). We create three different models: one includes only personal features, the second includes only organizational features, and the third includes both personal and organizational features. We want to know which variables best explain job satisfaction. For this purpose, we first use general linear models (ANOVA). After that, we use stepwise multiple linear regression and 14 variables referred to each job to determine which ones affect the dependent variable most. Second, we eliminate the interaction between 14 job-related variables through a principal-component analysis. From the obtained factors, we propose a stepwise multiple regression analysis, which ranks the effects of job-related variables on job satisfaction. The R-squared is 74%, 73%,

51%, and 63% for each year, respectively. Finally, we compare the results of stepwise multiple regression on the original variables, with and without doing principal-component analysis. We contribute to the job satisfaction literature with this combination of methodologies and by using the factors provided by the principal-component analysis. These factors are the explanatory variables of a stepwise multiple regression.

We analyze the Spanish labor market during the economic crisis of 2008, which stimulated a new era of employment relations marked by a higher unemployment and job instability (Laparra et al., 2012). Job instability seems to be an important factor of exclusion. In turn, employment gradually loses its integrative capacity. Accordingly, Sánchez-Sellero et al. (2017) analyze temporary job satisfaction among salaried workers during the Spanish economic crisis of 2008.

Firms have to adjust to the ups and downs of the economic cycle, and that may cause many workers to become unemployed and look for new jobs during downturns. Similarly, the Spanish economic crisis temporarily destroyed jobs, slowed hiring, raised unemployment, and very slightly increased labor inactivity (Fundación FOESSA, 2014). For Merino et al. (2012), the Spanish economy, unlike other countries, is characterized by its cyclical pattern; that is, job creation and destruction are very sensitive to the economic cycle, which carries a high social cost.

We explore whether the economic crisis of 2008 changed the factors that affect job satisfaction by studying 2007 (economic growth) and 2008, 2009 and 2010 (economic crisis). Our theoretical revision includes contributions applied in different European and Western countries. These studies support our empirical study. Thus, we be-

lieve that the factors that affect job satisfaction in Spain are basically the same as in the rest of Europe and other Western countries. One limitation of our study, however, is that there is no microdata after 2010.

Section 2 of this paper reviews the concept of job satisfaction, as well as its variables or determinant factors. Section 3 reviews the data- in this case, the *Quality of Labor Life Survey* (years 2007, 2008, 2009 and 2010), methods and variables. Section 4 provides the methodology, general linear model (ANOVA), principal-component analysis, and stepwise multiple linear regression. In section 5, we develop different models with different variables, we review the results, and we review the suitability of the model. Finally, section 6 provides a conclusion.

THEORETICAL REVISION

Hoppock (1935) analyzes different population groups and finds that worker attitude significantly affects job satisfaction and the development of their labor responsibilities. This is one of the earliest studies about the topic. He conducted his research by comparing workers' perceptions of their jobs with their previous expectations of their jobs. He finds that workers will be unsatisfied if they believe they are disadvantaged in relation to their colleagues or if they feel their previous jobs had better labor conditions. Hoppock also finds that the more satisfied workers are with their jobs, the better they perform.

Influence of Personal Features on Job Satisfaction

Cohrs et al. (2006) show that job satisfaction is a function of situational conditions, personal features, and the interactions between the two. Much research supports the idea that personal characteristics affect

job satisfaction. Job satisfaction is a significant factor in the economic analysis of the labor market (Gamero 2005) because labor expectations play a role in how personal features (age, gender, studies) influence job satisfaction. The lower an employee's labor expectations are, the more likely the employee will be satisfied. Franek and Vecera (2008) test this relationship between job satisfaction and personal variables in a group of people in different occupations. Koustelios (2001) also studies the relationship between personal features and specific issues of job satisfaction. Koustelios (2001) and Okpara (2004, 2006) demonstrated that personal features such as gender and age are significant predictors of job satisfaction.

In general lines, Clark et al. (2011) expose that job satisfaction increases with *age*; nevertheless, there are arguments and empirical evidence that the relation has a U shape, decreasing moderately in the first years of employment and increasing constantly until retirement. Aristovnik and Jaklič (2013) find that older workers are the most satisfied. However, Ghazzawi (2011) concludes that age does not play a role in job satisfaction. Allen and Van der Velden (2001) find that *education* affects wages and other aspects of the labor market; for these authors, skill sets are much better predictors of job satisfaction than the training level.

Donohue and Heywood (2004) analyze job satisfaction in relation to *gender*. That study finds that women tend to express greater job satisfaction, though this is not true for younger workers. It does not find a gender satisfaction gap, but it does find that wage is less of a driver of job satisfaction for women than men. Westover (2012a) establishes that job satisfaction affects a great variety of social areas, and organizations should recognize this. A lot of other

studies show that women have higher levels of job satisfaction than men. Sánchez et al. (2007) confirm this result. To all of this, we incorporate the influence of other organizational, job, and sociodemographic variables of job satisfaction. Gazioglu and Tansel (2006) also conclude that women are more satisfied than men and that there is a U-shaped relationship between job satisfaction and age.

Influence of Job Features on Job Satisfaction

Bòria-Reverter et al. (2012) analyze the connections among wages, intangible actives, and job satisfaction. Their concept of *organizational climate* is based on environmental attributes. They propose that if employees like their working conditions, they propose, then they are more likely to want to help the firm achieve its goals. Strengthening a *labor climate*, therefore, is related to organizational performance, and more specifically the following indicators (Cuadra-Peralta and Veloso-Besio, 2010) work-life balance, social compensation, job satisfaction, and directive quality (leadership). Robles-García et al. (2005) show that job satisfaction is associated with positive perceptions of the organization itself. Chiang et al. (2010) show that job satisfaction is important in the analysis of organizational behavior because for the majority of employees, work is an objective or a way to reach personal satisfaction. Accordingly, job satisfaction and dissatisfaction manifests itself in the quality of execution and performance. Judge et al. (2001) make a quality and quantity revision in relation to job satisfaction and labor performance. The mean true correlation between overall job satisfaction and job performance is 0.30.

Labor motivation is an incitement to act worse or better at work. Pérez (1997) uses a historic-sociologic perspective to study

different approaches to motivation and job satisfaction. Research results (Alnıaçık et al. 2012) show that motivation has a positive correlation with organizational commitment and job satisfaction. Individual respondent characteristics (except gender) do not have any significant association with motivation. Caballero (2002) proposes two motivation theories to explain the behavior of job satisfaction; relations in the labor area and at a motivational level. These theories contribute to the development of two job-satisfaction models.

The first model is "the theory of two factors" by Herzberg et al. (1959). The model indicates that employees have two necessities: an agreeable physical and psychological environmental at work (hygienic necessities) and an agreeable job (motivation necessities).

The second model is "the model of the job satisfaction determinants," proposed by Lawler (1973). It emphasizes the "expectancies-recompenses" relation in different aspects in job. This model is based on the motivation theory of Lawler and Porter (1967) and states that the relation between expectancies and recompenses causes job satisfaction or dissatisfaction. Therefore, if the recompense from job performance is better than expected or better than the employee's last job, then the employee experiences job satisfaction. If the opposite occurs, dissatisfaction appears. The recompense concept refers to compensation as well as *recognitions, promotions, evaluations*, etc.

Petrescu and Simmons (2008) study how *remuneration* affects the relation between human resources management and job satisfaction. Singh and Loncar (2010) examine the relation among satisfaction with wage, satisfaction with employment, and change of employment. Tremblay et al. (2012) demonstrate that family motivation

and professional development motivation have positive effects on satisfaction; good economic conditions are not enough.

Gamero (2007, 2010) considers employment not just a combination of wages and hours; rather, there are other relevant factors. Gamero (2005) affirms that labor *stability* and *promotion possibilities* have a deep impact on job satisfaction. In Spain, job features most likely to affect job satisfaction are, in hierarchical order: day-to-day tasks, employment stability, work-life balance, perception of economic recompense, and relations with immediate supervisors.

Westover and Taylor (2010) explore the differences in job satisfaction among countries and their determinants over time. The global market for labor has become more and more competitive, and organizations ask for more from their employees. Increasing job satisfaction can help achieve that. Job satisfaction is a dynamic concept that changes with personal and environmental conditions (Westover, 2012b).

Therefore, we want to find out if personal or job-related features are more important for explaining job satisfaction. We also want to know if the economic cycle is a relevant determinant of job satisfaction.

DATA, METHODS, AND VARIABLES

Objectives and Hypothesis

We define the following hypotheses to fulfil our initial objectives (section 4).

Hypothesis 1: Job-related variables explain job satisfaction.

We will test different models by changing the independent variables. The independent variables are personal characteristics in group 1 models, the independent variables are job characteristics in group 2

models, and the independent variables are both in group 3 models.

Hypothesis 2: Job-related variables that affect job satisfaction fall into homogeneous groups.

After establishing that job-related variables are the best to explain job satisfaction, we introduce more variables into the model (14), and we made groups between them through the principal component analysis (PCA analysis).

Hypothesis 3: Economic cycles affect job satisfaction variables.

We repeat the previous process (PCA analysis) in different years before and during the economic crisis in order to find out similarities and differences. We also obtain the job satisfaction average of all variables in those years to study the effect of economic cycle on job satisfaction.

Hypothesis 4: Motivation, activity, and personal development most affect job satisfaction.

It is a matter of knowing which variables or groups of variables (factors) are the ones that best explain job satisfaction, using stepwise multiple linear regression, which adds variables step by step. This regression is done in two ways: 1) from the factors (groupings of variables) obtained in PCA analysis, and 2) from the 14 independent variables of the initial model.

Hypothesis 4 does not contradict hypothesis 1 because motivation, activity and personal development (hypothesis 4) are some groups of job-related variables (hypothesis 1) that affect greater on job satisfaction.

Method

The methodologies (ANOVA, principal-component analysis and stepwise multiple linear regression) are appropriate for these variables and the study objective. We test some results, which confirm the competence of the applied methods.

Procedure

We use three methods. We will include personal and job-related variables in order to explain job satisfaction, using linear modeling (ANOVA). ANOVA model is adequate when dependent variable is numerical (job satisfaction) and independent variables are categorical, as in this case. After knowing that job-related variables are the most influential, we will make homogeneous groups among them by means of a principal component analysis (PCA analysis). Finally, we will use a stepwise regression to rank job-related variables according to their relevance. The application of these three methodologies will go with their results interpretation.

Research Sample

We use the data from the 2007, 2008, 2009 and 2010 Quality of Labor Life Survey by the Ministry of Employment and Social Security of Spain. The survey area is the country of Spain, excluding Ceuta and Melilla. Ceuta and Melilla are excluded by the decision of Ministry of Employment and Social Security of Spain who is the owner of Quality of Labor Life Survey. We analyze employed people over the age of 16 who live in family homes.

The QLLS questionnaire has different sections depending on the research objectives, including sociodemographic data (age, gender, and education level), employment situation (variables that describe jobs), and quality of life at work (job satisfaction, job organization, labor environment, labor relations, work time, job safety, academic training, professional training, compensation, attitudes, opinions, collective bargaining, trade unionism, labor mobility, geographical mobility, and work-life balance).

The QLLS sample uses a three-stage stratified sampling. This survey considers in each sampling a stratum of Spanish regions and different municipality sizes. In the first stage, the survey defines a sample of census sections with probabilities in proportion to the size of each section; in the second stage, it selects from each first-stage census section a sample of households (with equal probability for each house in the section). Finally, within each second-stage house it randomly selects an employed resident.

Data Analysis

Our scope of application includes all Spanish workers. The QLLS survey includes 7,782; 8,351; 7,981; and 8,061 people in 2007, 2008, 2009, and 2010, respectively. We remove respondents who did not answer all the questions, leaving 5,656; 6,199; 6,274; and 5,841 people (in the first models). The population is around 18-20 million people. We weigh the elevation factors to extend the population results. We use SPSS Statistics 24.

RESULTS AND DISCUSSION

We propose the following to test hypothesis 1. The dependent variable is the degree of satisfaction with the current job (*DScurrentjob*) and the independent variables are *sex*, *age* (category), *education level* (all of them qualitative variables), the degree of motivation-satisfaction (*DSmotivation*)[1], degree of activity satisfaction (*DSactivity*), degree of satisfaction with the job organization (*DSjoborganization*), and degree of wage satisfaction (*DSwage*) (all of them quantitative, ranging in value between 0 and 10).[2]

Job features include schedule, work hours, the presence of a contract, the sector of activity, etc. The degree of satisfaction with many of these features depends on each person. In turn, it is possible that two people earning the same wage have different degrees of satisfaction with that wage. We do not consider age and gender as personal features. We could consider age and gender as pseudo-labor characteristics because they relate to personal perceptions of certain job features.

The initials models are in Table 1 (general linear model, ANOVA); the variables description is in Table 2. The independent variables are the personal features in the model of group 1, the job features (pseudo-job features) are in the model of the group 2, and both types of variables are in the models of group 3.

---

[1] We replace *DSmotivation* with *DSjobenvironment* in 2007 because *DSmotivation* is not in the 2007 database.

[2] Why do we not include more demographic variables? Personal variables included are the ones most used in most models. The initial idea is to find out which group of variables better explain job satisfaction. Other authors also think that personal features provide scarce explanation of job satisfaction

Table 1
Linear Models and Variables

Models	Variables	2007	2008	2009	2010
		R-squared	R-squared	R-squared	R-squared
Models of group 1	Sex	0.021[a]	0.017[a]	0.007[a]	0.015[a]
	Age (categorical)	0.036[b]	0.034[b]	0.021[b]	0.035[b]
	Education level				
Models of group 2	DSmotivation*				
	DSactivity	0.633	0.648	0.478	0.572
	DSjoborganization				
	DSwage				
Models of group 3	Sex				
	Age (categorical)	0.635[c]	0.651[c]	0.481[c]	0.575[c]
	Education level	0.637[d]	0.653[d]	0.483[d]	0.578[d]
	DSmotivation*	0.641[e]	0.656[e]	0.489[e]	0.587[e]
	DSactivity				
	DSjoborganization				
	DSwage				

a. Personalized model (with principal effects and sex iterations with the rest of qualitative variables).
b. Factorial model (with all iterations).
c. Principal effects model.
d. Personalized model (with principal effects and sex iterations with the rest of qualitative variables).
e. Factorial model (with all iterations).
* We use DSjobenvironment *instead of* DSmotivation *in 2007 because* DSmotivation *does not exist in 2007.*
Source: own elaboration using data from QLLS (Ministry of Employment and Social Security of Spain, 2007, 2008, 2009 and 2010).

Table 2
Model Variables and Their Categories or Values

Variables	Categories or Values
Sex	1. Man
	2. Woman
Age (categorical)	1. 16-25 years old
	2. 26-35 years old
	3. 36-45 years old
	4. 46-55 years old
	5. 56-65 years old
	6. more than 65 years old
Education level	1. People who do not know how to read and write
	2. Less than primary studies
	3. Primary studies
	4. Secondary studies
	5. Formative courses at median level (professional formation)
	6. Formative courses at high level (professional formation)
	7. Secondary school, high school or equivalents
	8. University studies of median degree
	9. University studies of high degree of second or third cycle

DSmotivation*	From 0 to 10
DSactivity	From 0 to 10
DSjoborganization	From 0 to 10
DSwage	From 0 to 10

* We use the variable DSjobenvironment in replacement of the variable DSmotivation in 2007, because DSmotivation does not exist in this year.
Source: own elaboration using data from QLLS (Ministry of Employment and Social Security of Spain, 2007, 2008, 2009 and 2010).

Table 1 shows that the models for group 1 do not explain the variation in job satisfaction for the sample (the R-squared values are 1.5% and 3.5% in 2010). Dueñas et al. (2010) also find that personal characteristics somewhat explain job satisfaction. This suggests that while personal characteristics explain between 1% and 4% of job satisfaction, job characteristics (group 2) explain more than 50% in 2007, 2008 and in 2010.

Similarly, Mpeka (2012) shows that colleagues, remuneration, promotions, supervision, and job duties have a significant influence on job satisfaction; while age and gender do not. Therefore, these factors should improve job performance.

Among the models of group 3, which contains both personal and job characteristics, we develop (see table 3) a model of main effects that has an R-squared of 0.575 in 2010. We choose this model, but it has a little difference with the model validity

with other groups, because in the factorial model the software results are too long. The degree estimations of each factor that affects the dependent variable appear in Table 3. The statistic *partial squared eta* is obtained for an A effect using the following formula 1:

$$(F_A * gl_A) / [(F_A * gl_A) + gl_{error}] \qquad (1)$$

where F_A is the statistic of A and gl the degrees of freedom. It is a proportion of the explained variance, as well as estimated proportion of the variation of the dependent variable explained by each effect. In this case, the highest values of this statistic correspond to *DSmotivation* or *DSjobenvironment*, *DSactivity*, *Sjoborganization*, and *DSwage*, making them the factors that have the most effect on job satisfaction (*DScurrentjob*).

Therefore, we accept hypothesis H1, which suggests that job-related variables better explain job satisfaction.

Table 3
Abstract of the Linear Model, Estimations of the Size Effects (Model of Third Group[c])

2007				
Source	gl	F	Sig.	Partial Squared Eta
Corrected model	19	1647966.346	0.000	0.635
Intersection	1	475506.409	0.000	0.026
Sex	1	2910.077	0.000	0.000
Age categorical	5	5087.409	0.000	0.001
Studies level	9	6514.081	0.000	0.003
DSjobenvironment	1	813110.153	0.000	0.043
DSactivity	1	3077821.240	0.000	0.146
DSjoborganization	1	2792602.648	0.000	0.134
DSwage	1	3769561.450	0.000	0.173
Error	18014315			

2008				
Source	gl	F	Sig.	Partial Squared Eta
Corrected model	18	2064452,236	0.000	0,651
Intersection	1	1246421,678	0.000	0,059
Sex	1	15315,330	0.000	0,001
Age categorical	5	6349,624	0.000	0,002
Studies level	8	10969,359	0.000	0,004
DSmotivation	1	2520541,255	0.000	0,112
DSactivity	1	2852648,013	0.000	0,125
DSjoborganization	1	2067836,995	0.000	0,094
DSwage	1	2835952,226	0.000	0,125
Error	19913078			
2009				
Source	gl	F	Sig.	Partial Squared Eta
Corrected model	18	966824.414	0.000	0.481
Intersection	1	668894.160	0.000	0.034
Sex	1	32122.688	0.000	0.002
Age categorical	5	3691.458	0.000	0.001
Studies level	8	8879.927	0.000	0.004
DSmotivation	1	1292336.750	0.000	0.064
DSactivity	1	1900950.189	0.000	0.092
DSjoborganization	1	598412.489	0.000	0.031
DSwage	1	1007545.428	0.000	0.051
Error	18786630			
2010				
Source	gl	F	Sig.	Partial Squared Eta
Corrected model	18	1378854.420	0.000	0.575
Intersection	1	351438.023	0.000	0.019
Sex	1	36636.884	0.000	0.002
Age categorical	5	9893.374	0.000	0.003
Studies level	8	4263.459	0.000	0.002
DSmotivation	1	1769123.885	0.000	0.088
DSactivity	1	2779480.653	0.000	0.132
DSjoborganization	1	890569.319	0.000	0.046
DSwage	1	1691516.535	0.000	0.084
Error	18351878			

Note: c. Principal effects model.

Dependent variable: DScurrentjob.

a. R-squared (2007)= 0.635, R-squared (2008) = 0.651, R-squared (2009) = 0.481, R-squared (2010) = 0.575.

Source: own elaboration using data from QLLS (Ministry of Employment and Social Security of Spain, 2007, 2008, 2009 and 2010).

To test hypotheses 2 and 3, we consider that organizational or job variables better explain job satisfaction (Sánchez-Sellero et al., 2014). So the next model includes only these variables and ranks them using the stepwise multiple linear regression met-

hod.[3] This method is useful to explain a dependent variable (in this case, *DScurrentjob*). We use statistical software to select the group of variables that are significant predictors of job satisfaction and adjust the model.[4] We then compare each variable's contribution.

In this sense, we consider a dependent variable (*DScurrentjob*) and some independent variables that measure each person's subjective satisfaction with labor issues such as motivation, activity, wage, etc. We propose that, as demonstrated, job satisfaction does not depend on personal variables but rather on the degree of satisfaction with labor issues. However, we must still determine the degree of dependence between in-

dependent and dependent variables, as well as whether is it more important to be satisfied with the job, the wage, the activity, or the boss. For this purpose, we apply principal-component analysis as a step preceding to the stepwise regression. We classify independent variables in homogeneous groups through principal-component analysis.

Table 4 shows means and variation rates for dependent and independent variables that take values from 0 to 10. The degree of wage satisfaction (*DSwage*) is the second variable with a lower average score, which indicates the effect of the economic crisis. Many public- and private-sector workers have had their wages reduced during that time.[5]

Table 4

Descriptive Statistics by Year and Variation Rate, 2007 to 2010 (Job-Related Variables)

Variables	2007 Mean	2008 Mean	2009 Mean	2010 Mean	Variation Rate 2007-2010 (%)
DScurrentjob	7.2	7.3	7.3	7.4	2.8
DSpromotionpossibilities	5.1	5.0	5.0	5.2	2.0
DSbossvaluation	6.9	7.2	7.0	7.2	4.3
DSactivity	7.7	7.7	7.6	7.8	1.3
DSpersonaldevelopment	7.3	7.6	7.5	7.6	4.1
DSautonomy	7.3	7.6	7.5	7.5	2.7
DSdecisionparticipations	6.6	7.0	7.0	6.9	4.5
DSjobenvironment	7.9				
DSmotivation		7.2	7.2	7.2	
DSworkday	6.9	7.1	7.0	7.1	2.9
DSscheduleflexibility	6.6	6.4	6.3	6.5	-1.5
DSholidays, permissions	6.9	7.2	7.1	7.1	2.9
DSstability	7.3	7.2	7.1	7.1	-2.7
DSwage	6.2	6.0	6.0	5.8	-6.5
DSrelaxationtime	6.4	6.7	6.5	6.7	4.7
DSjoborganization	6.7	7.2	7.1	7.1	6.0

Note: dependent variable: DScurrentjob

Source: own elaboration using data from QLLS (Ministry of Employment and Social Security of Spain, 2007, 2008, 2009 and 2010).

[3] This method was studied by Copas (1983), Derksen and Keselman (1992), Leigh (1988), Thompson (1995), and Thompson (2001).

[4] This methodology is applied by Lloréns and Senise (1996) and García et al. (2003).

[5] The Real Decreto-Ley 8/2010 of May 20 involved extraordinary decisions to reduce the public deficit, in part by reducing wages for civil servants.

We justify the use of the principal-component analysis (PCA) in table 5. In 2007, 2008, 2009, and 2010, the determinant of the correlation matrix is almost zero, the KMO (Kaiser-Meyer-Olkin Measure) is >0.500, and Bartlett's test has a p=0.000<0.05, which let us reject the hypothesis of identity matrix. Two studies about job satisfaction (PCA), Platis et al. (2015) and Leung et al. (2015), weigh the factors that affect job satisfaction.

Table 5
Diagnosis of Principal-Component Analysis Requirements by Year

		2007	2008	2009	2010
Determinant of the correlation matrix		0.003	0.004	0.004	0.003
Kaiser-Meyer-Olkin measure of sampling adequacy		0.926	0.895	0.902	0.899
Bartlett's sphericity test	Approximate chi-square	33516.311	34622.055	34954.709	33684.295
	Df	91	91	91	91
	Sig.	0.000	0.000	0.000	0.000

Source: own elaboration using data from QLLS (Ministry of Employment and Social Security of Spain, 2007, 2008, 2009 and 2010).

We extract five, seven, seven, and six factors in the analysis of 2007, 2008, 2009, and 2010 respectively. We then apply the Quartimax rotation and order the coefficients by size (see diagonals in table 6).[6] Thus, the extracted factors explain between 70% and 80% of the variability.

Table 6 shows the rotated component matrix. The factors have a mean of 0 and a standard deviation of 1. In addition, the correlations between the explanatory variables are 0. We see that DSwage does not group with any other variable. The saturations are higher than 0.500 in the diagonal, indicating a strong association. We have kept the diagonals of the 4 rotated component matrix in order to highlight factors (see diagonals in table 6).

[6] The rotated component matrix is also called factor loading or saturation matrix; it indicates the load of each variable in each factor so that factors with higher weights, in absolute terms, show a greater relation with variables.

Table 6
Rotated Component Matrix, by Year[a]

2007					
Variables	Component				
	1	2	3	4	5
DSdecisionparticipations	0.803				
DSpersonaldevelopment	0.787				
DSbossvaluation	0.783				
DSautonomy	0.780				
DSjoborganization	0.756				
DSpromotionpossibilities	0.663				
DSactivity	0.651				
DSscheduleflexibility		0.738			
DSrelaxationtime		0.730			
DSworkday		0.684			
DSstability			0.786		
DSholidays,permissions			0.665		
DSjobenvironment				0.589	
DSwage					0.818

2008							
Variables	Component						
	1	2	3	4	5	6	7
DSactivity	0.869						
DSpersonaldevelopment	0.846						
DSmotivation	0.552						
DSscheduleflexibility		0.793					
DSrelaxationtime		0.765					
DSworkday		0.721					
DSdecisionparticipations			0.820				
DSautonomy			0.794				
DSjoborganization				0.810			
DSbossvaluation				0.809			
DSstability					0.839		
DSholidays,permissions					0.741		
DSpromotionpossibilities						0.928	
DSwage							0.930

2009							
Variables	Component						
	1	2	3	4	5	6	7
DSactivity	0.827						
DSpersonaldevelopment	0.814						
DSmotivation	0.520						
DSscheduleflexibility		0.772					
DSrelaxationtime		0.740					
DSworkday		0.667					
DSdecisionparticipations			0.809				
DSautonomy			0.793				

DSjoborganization				0.822		
DSbossvaluation				0.769		
DSstability					0.857	
DSholidays,permissions					0.769	
DSwage						0.960
DSpromotionpossibilities						0.953

2010						
Variables	Component					
	1	2	3	4	5	6
DSactivity	0.890					
DSpersonaldevelopment	0.883					
DSmotivation	0.741					
DSscheduleflexibility		0.810				
DSrelaxationtime		0.754				
DSworkday		0.714				
DSpromotionpossibilities			0.738			
DSbossvaluation			0.658			
DSjoborganization			0.656			
DSstability				0.843		
DSholidays,permissions				0.714		
DSdecisionparticipations					0.717	
DSautonomy					0.619	
DSwage						0.900

Note: Extraction method: principal-component analysis.

[a] Rotation method: Quartimax with Kaiser normalization.

Source: own elaboration using data from QLLS (Ministry of Employment and Social Security of Spain, 2007, 2008, 2009 and 2010).

Therefore, we make very similar groups with 14 job-related variables as proposed in H2. These groups have the greatest similarities in economic crisis years. We accept hypothesis H3, suggesting that the economic cycle affects job satisfaction due to increased workloads during the crisis period. There are three areas of exception, however (stability, salary, and schedule flexibility).

We test hypothesis 4 through the stepwise regression in two ways: with the original variables related to work, and with the extracted factors of principal-component analysis. Aizawa et al. (2015) do a similar regression analysis with PCA factors. We first try to make groups of variables; then we introduce new variables (factors) in a regression model. This regression method is useful for explaining a dependent variable (in this case *DScurrentjob*) versus several potential independent variables (predictors) without a theory that allows us to preselect a subset of predictors to evaluate the model. We use software to conduct the statistical analysis and to select several variables that contribute significantly to the model fit. We only introduce variables that are significant predictors of job satisfaction. We contrast the contribution of each independent variable from the partial correlation coefficient through the hypothesis of independence between each independent variable and the dependent variable. Goetz et al. (2015) apply a stepwise regression model to job satisfaction, although they use different variables.

We introduce a variable according to the stepwise method and test the hypothesis of independence if the critical level of the partial correlation coefficient is less than 0.05 (probability of entry). We do not introduce a variable into the model if the critical level is greater than 0.10 (probability of exit). Table 7 only shows an abstract of stepwise regression models for different years from PCA factors; Table 8 shows a comparison of both processes (with and without PCA). Table 7 shows the value of R and R-squared at each step. The typical error of the estimation decreases from 1.35612 to 1.06569 in 2010.

We evaluate different selection criteria by analyzing changes in R-squared when variables are incorporated into the model. A big change in R-squared indicates that the variable (in this case, the factor 1) significantly explains what happens with the dependent variable. We include the F-statistic to test the hypothesis that the change in R-squared is zero in the population, as well as the critical level associated with the F-statistic. The six independent variables (which are PCA factors) explain 63.0% of the variance in *DScurrentjob* in 2010. The Durbin-Watson statistic is 1.973, whereby we assume independence between residuals. This is one assumption of the linear regression model.

Table 7

Abstract of Stepwise Regression Models Obtained from Factors of Principal-Component Analysis, by Year[h]

Model	R	R-squared	Typical error	Change in R-squared	Change in F	gl1	gl2	Significant change in F	Durbin-Watson
2007									
1	0.751[a]	0.563	1.15457	0.563	7295.681	1	5654	0.000	
2	0.804[b]	0.646	1.04008	0.082	1314.313	1	5653	0.000	
3	0.833[c]	0.694	0.96646	0.048	895.057	1	5652	0.000	
4	0.853[d]	0.727	0.91284	0.033	684.388	1	5651	0.000	
5	0.862[e]	0.743	0.88670	0.015	339.182	1	5650	0.000	2.034
2008									
1	0,476[a]	0,226	1,42592	0,226	1811,595	1	6197	0,000	
2	0,627[b]	0,393	1,26314	0,167	1701,168	1	6196	0,000	
3	0,715[c]	0,511	1,13359	0,118	1498,102	1	6195	0,000	
4	0,775[d]	0,600	1,02501	0,089	1383,034	1	6194	0,000	
5	0,816[e]	0,666	0,93716	0,066	1216,727	1	6193	0,000	
6	0,842[f]	0,710	0,87390	0,044	930,022	1	6192	0,000	
7	0,857[g]	0,734	0,83571	0,025	579,832	1	6191	0,000	2,028
2009									
1	0.433[a]	0.188	1.63824	0.188	1449.092	1	6272	0.000	
2	0.559[b]	0.313	1.50697	0.125	1141.317	1	6271	0.000	
3	0.627[c]	0.393	1.41621	0.080	830.523	1	6270	0.000	

Model	R	R-squared	Typical error	Change in R-squared	Change in F	gl1	gl2	Significant change in F	Durbin-Watson
4	0.655[d]	0.429	1.37368	0.036	395.189	1	6269	0.000	
5	0.678[e]	0.460	1.33638	0.031	355.846	1	6268	0.000	
6	0.700[f]	0.490	1.29873	0.030	369.689	1	6267	0.000	
7	0.716[g]	0.513	1.26930	0.023	295.009	1	6266	0.000	1.978

2010									
Model	R	R-squared	Typical error	Statistics of change					Durbin-Watson
				Change in R-squared	Change in F	gl1	gl2	Significant change in F	
1	0.633[a]	0.400	1.35612	0.400	3897.721	1	5839	0.000	
2	0.699[b]	0.489	1.25248	0.088	1007.323	1	5838	0.000	
3	0.749[c]	0.561	1.15984	0.073	970.791	1	5837	0.000	
4	0.773[d]	0.598	1.11022	0.037	534.471	1	5836	0.000	
5	0.791[e]	0.626	1.07198	0.027	424.784	1	5835	0.000	
6	0.794[f]	0.630	1.06569	0.004	70.030	1	5834	0.000	1.973

2007
a. Predictor variables: (Constant), factor 1
b. Predictor variables: (Constant), we add factor 2 to the previous
c. Predictor variables: (Constant), we add factor 5 to the previous
d. Predictor variables: (Constant), we add factor 3 to the previous
e. Predictor variables: (Constant), we add factor 4 to the previous
2008
a. Predictor variables: (Constant), factor 1
b. Predictor variables: (Constant), we add factor 4 to the previous
c. Predictor variables: (Constant), we add factor 2 to the previous
d. Predictor variables: (Constant), we add factor 3 to the previous
e. Predictor variables: (Constant), we add factor 5 to the previous
f. Predictor variables: (Constant), we add factor 7 to the previous
g. Predictor variables: (Constant), we add factor 6 to the previous
2009
a. Predictor variables: (Constant), factor 1
b. Predictor variables: (Constant), we add factor 4 to the previous
c. Predictor variables: (Constant), we add factor 6 to the previous
d. Predictor variables: (Constant), we add factor 3 to the previous
e. Predictor variables: (Constant), we add factor 5 to the previous
f. Predictor variables: (Constant), we add factor 2 to the previous
g. Predictor variables: (Constant), we add factor 7 to the previous
2010
a. Predictor variables: (Constant), factor 1
b. Predictor variables: (Constant), we add factor 3 to the previous
c. Predictor variables: (Constant), we add factor 2 to the previous
d. Predictor variables: (Constant), we add factor 4 to the previous
e. Predictor variables: (Constant), we add factor 6 to the previous
f. Predictor variables: (Constant), we add factor 5 to the previous
h. Dependent variable: DScurrentjob
Source: own elaboration using data from QLLS (Ministry of Employment and Social Security of Spain, 2007, 2008, 2009 and 2010).

The model improves when we introduce the factors from step 1 to 13 (the last), because the sum of squares of regression increases, whereas the residual sum of squares decreases.

Our last step is to do a stepwise regression with the 14 original job-satisfaction variables and then compare results. We obtain positive and significant coefficients. Table 8 shows the hierarchy of variables in this pro-

cess, as well as the hierarchy of the factors obtained in the previous regression. The R-squared of both regression processes for 2007, 2008, 2009, and 2010 are in table 8.

Table 8

Hierarchy of Variables and Goodness of Stepwise Regression Models Obtained with and without Principal-Component Analysis, by Year

2007		2008	
Without PCA	With PCA	Without PCA	With PCA
Hierarchy variables	Hierarchy factors	Hierarchy variables	Hierarchy factors
DSpersonaldevelopment	Factor 1	DSmotivation	Factor 1
DSwage	Factor 2	DSjoborganization	Factor 4
DSjoborganization	Factor 5	DSpersonaldevelopment	Factor 2
DSworkday	Factor 3	DSholidays,permissions	Factor 3
DSactivity	Factor 4	DSwage	Factor 5
DSautonomy		DSscheduleflexibility	Factor 7
DSjobenvironment		DSstability	Factor 6
DSpromotionpossibilities		DSactivity	
DSholidays,permissions		DSpromotionpossibilities	
DSscheduleflexibility		DSbossvaluation	
DSstability		DSrelaxationtime	
DSbossvaluation		DSautonomy	
DSdecisionparticipations		DSworkday	
DSrelaxationtime		DSdecisionparticipations	
R-squared	R-squared	R-squared	R-squared
0.744	0.743	0.736	0.734

2009		2010	
Without PCA	With PCA	Without PCA	With PCA
Hierarchy variables	Hierarchy factors	Hierarchy variables	Hierarchy factors
DSmotivation	Factor 1	DSmotivation	Factor 1
DSactivity	Factor 4	DSactivity	Factor 3
DSjoborganization	Factor 6	DSjoborganization	Factor 2
DSwage	Factor 3	DSwage	Factor 4
DSworkday	Factor 5	DSworkday	Factor 6
DSbossvaluation	Factor 2	DSbossvaluation	Factor 5
DSholidays,permissions	Factor 7	DSstability	
DSpersonaldevelopment		DSpersonaldevelopment	
DSdecisionparticipations		DSholidays,permissions	
DSstability		DSscheduleflexibility	
		DSautonomy	
		DSrelaxationtime	
		DSpromotionpossibilities	
R-squared	R-squared	R-squared	R-squared
0.521	0.513	0.634	0.630

Dependent variable: DScurrentjob

Source: own elaboration using data from QLLS (Ministry of Employment and Social Security of Spain, 2007, 2008, 2009 and 2010).

We accept hypothesis H4, which states that motivation, activity, and personal development most affect job satisfaction.

The models significantly improve if the explanatory variables are related to work, as we can see in Table 1. Table 3 shows that the variation in the dependent variable explained by each effect (*partial squared eta*) in variables related to work is much higher than in personal variables in both the growth year (2007) and the crisis years (2008, 2009 and 2010).

The variation in the means of the degree of satisfaction increases from 2007 to 2010, with the exceptions of *DSschedule-flexibility* (-1.5%), *DSstability* (-2.7%), and *DSwage* (-6.5%). This suggests that the economic crisis of 2008 caused higher labor instability and lower wages. Therefore, job satisfaction increases with economic crisis, though satisfaction with schedules, stability, and wages do not increase. Similarly, Bell and Blanchflower (2011) show that the economic crisis of southern Europe in 2007-2010 caused lower job satisfaction and higher unemployment, mainly among young people. Markovits et al. (2014) also demonstrate that the economic crisis has negative effects on jobs in Greece.

Our paper does not study what happens to motivation before and during the economic crisis, because the database does not provide this variable in 2007. However, we show that motivation remains stable in 2008, 2009 and 2010. Considering these previous studies in other countries, we propose that this crisis also had a negative effect on labor in other European and Western countries, although each one has its own singularities.

Therefore, and as a result of the mentioned studies in other European countries, the economic crisis reduced levels of satisfaction in those years. However, the results of our paper made by Spanish data, show that the average satisfaction levels of the 15 considered variables increase slightly, with only 3 exceptions (flexibility of schedules, stability and wages); during the economic crisis, contracts are less stable and wages are lower, hence the decline in job satisfaction of these variables. Our findings reflect that the cycle changes the results on satisfaction, but this effect is not uniform between the studied countries.

The rotated component matrix in 2008, 2009 and 2010 has many similarities (Table 6). Factor 1 includes the degree of satisfaction with activity, personal development, and motivation; factor 2 includes schedule flexibility, relaxation time, and work day (all related variables). The results of the factor groups — stability, holidays, and permissions in 2007, 2008, 2009, and 2010 - show that, for example, short-term jobs do not come with vacation time. The last in 2007, 2008 and 2010 and the penultimate factor in 2009 is made up only of *DSwage* variable.

The stepwise regression in Table 7 shows that factor 1 has the greatest influence on job satisfaction. Wage (factors 5, 7, 6, and 6 in 2007, 2008, 2009, and 2010, respectively) somewhat explains job satisfaction (specifically the third, the sixth, the third, and the fifth positions, respectively). Wage also occupies second, fourth or fifth place of the 14 explanatory variables when we compare the stepwise regressions made with the original variables (Table 8). There are four variables out of the model in 2009; as a consequence the model has 10 explanatory variables.

We highlight two important ideas. First, the hierarchy of variables in the regression is not the same if the PCA is implemented or not, because the PCA removes the interaction of the variables involved. Second, the goodness of fit in stepwise regression models made with the original varia-

bles and with PCA factors is very similar (R^2=0.634 and R^2=0.630 in 2010).

We will continue studying the evolution of the labor market, because it affects job satisfaction and the welfare of the country.

CONCLUDING REMARKS

Many factors can influence job satisfaction in our theoretical framework: the personal features of each employee, the job-related features, environmental factors, the macroeconomic context, and the overall policy framework.

We use the data from the 2007, 2008, 2009, and 2010 Quality of Labor Life Survey (2010 is the most recent data available in 2017). We apply different methodologies (general linear models (ANOVA), principal-component analysis, and stepwise multiple linear regression) in order to explain *DScurrentjob*. We study job satisfaction through a new combination of statistical techniques in years corresponding to different parts of the economic cycle.

We consider factors or variables that affect job satisfaction. We include the three most important personal and 14 most important job-related features. We have multiple objectives. First, we aim to find out which group characteristics influence job satisfaction to test hypothesis 1. The results of linear models (ANOVA) show that job-related features better explain job satisfaction. Empirical studies reach the same conclusion, although the model variables are not exactly the same.

Second, we test hypothesis 2. Once our results show that this group corresponds to job-related features, we rank the effects of those features. We classify variables in homogeneous groups or factors through principal-component analysis. We recognize four factors related to the principal-component analysis with job-related

variables during the crisis years. Factor 1 groups activity, personal development and motivation, factor 2 groups schedule flexibility, relaxation time, and workday; factor 3 groups stability, holidays, and permissions; and factor 4 is wages.

Third, we test hypothesis 3, which measures job satisfaction related to workload increase during an economic crisis, with some exceptions, such as *DSstability* and *DSwage*. We find the economic crisis of 2008 raises labor instability and lowers wages.

Fourth, we test hypothesis 4. We try to find variables and/or factors that most affect our dependent variable, *DScurrentjob*. The most relevant variables are activity, personal development, and motivation (factor 1). The stepwise regression with PCA factors shows that factor 1 has the greatest influence on job satisfaction every year in the study. We find that the variables affecting job satisfaction are the same during an economic crisis and during economic growth; that is, they do not depend on the economic cycle, although the hierarchies of variables are more alike during an economic crisis (2008, 2009 and 2010) than during economic growth (2007).

As a result of the literature review, we deduce that job satisfaction improves labor performance, labor productivity, and the employer's competitiveness. Public and private institutions should think about how their decisions favor this type of satisfaction and should take actions that improve workers' attitudes toward their jobs. Ideally, workers' job satisfaction would increase if employers and employees attend training courses in order to improve organizational skills, scheduling, autonomy, etc. Also, incorporating psychology and sociology materials in business education and management training could improve worker motivation and the personal deve-

lopment of subordinates. The leaders of the firm should increase employee motivation. After all, what benefits the employees benefits the firm and the manager.

Job satisfaction is defined in different ways and varies by economic cycle and country. The Spanish economic situation in 2017 is improving, but unemployment continues to be high and worker demands are low - largely, they prefer to have a job with bad working conditions and a low salary than no job at all.

Acknowledgments

REFERENCES

Aizawa, F., Kishi, M., Aizawa, Y., Hirata, S., Ishii, T., & Yonemitsu, M. (2015). Targeting individual empowerment to raise leaders for local oral health promotion in Japan. *Asia-Pacific Journal of Public Health*, *27*(2), 2305-2315. https://doi.org/10.1177/1010539511428669

Allen, J., & Van Der Velden, R. (2001). Educational mismatches versus skill mismatches: Effects on wages, job satisfaction, and on-the-job search. *Oxford Economic Papers, 53*(3), 434-452. https://doi.org/10.1093/oep/53.3.434

Alnıaçık, Ü., Alnıaçık, E., Akçin, K., & Erat, S. (2012). Relationships between career motivation, affective commitment and job satisfaction. *Procedia - Social and Behavioral Sciences, 58*, 355-362. https://doi.org/10.1016/j.sbspro.2012.09.1011

Aristovnik, A., & Jaklič, K. (2013). Job satisfaction of older workers as a factor of promoting labor market participation in the EU: The case of Slovenia. *Revija za socijalnu politiku*, *20*(2), 123-148. https://doi.org/10.3935/rsp.v20i2.1126

Bell, D. N. F., & Blanchflower, D. G. (2011). The crisis, policy reactions and attitudes to globalization and jobs. In M. Bacchetta & M. Jansen (Eds.), *Making globalization socially sustainable* (pp. 85-118). Geneva: International Labour Office & World Trade Organization.

Bòria-Reverter, S., Crespi-Vallbona, M., & Mascarilla-Miró, O. (2012). Variables determinantes de la satisfacción laboral en España. *Cuadernos de Economía, 35*(97), 9-16. https://doi.org/10.1016/S0210-0266(12)70018-3

Caballero, K. (2002). El concepto de satisfacción en el trabajo y su proyección en la enseñanza. *Profesorado: revista de currículum y formación del profesorado, 6*(1-2). Available at https://www.ugr.es/~recfpro/rev61COL5.pdf

Chiang, M., Martín, M. J., & Núñez, A. (2010). *Relaciones entre el clima organizacional y la satisfacción laboral.* Madrid: Universidad Pontificia Comillas.

Clark, A., Oswald, A., & Warr, P. (2011). Is job satisfaction U-shaped in age?. *Journal of Occupational and Organizational Psychology, 69*(1), 57-81. https://doi.org/10.1111/j.2044-8325.1996.tb00600.x

Cohrs, C., Abele, A. E., & Dette, D. E. (2006). Integrating situational and dispositional determinants of job satisfaction: Findings from three samples of professionals. *The Journal of Psychology, 140*(4), 363-395. https://doi.org/10.3200/JRLP.140.4.363-395

Copas, J. B. (1983). Regression, prediction and shrinkage. *Journal of the Royal Statistical Society. Series B (Methodological), 45*(3), 311-354. http://www.jstor.org/stable/2345402

Cuadra-Peralta, A. A., & Veloso-Besio, C. B. (2010). Grado de supervisión como variable moderadora entre liderazgo y satisfacción, motivación y clima organizacional. *Ingeniare. Revista chilena de ingeniería, 18*(1), 15-25. https://doi.org/10.4067/S0718-33052010000100003

Derksen, S., & Keselman, H. J. (1992). Backward, forward and stepwise automated subset-selection algorithms: Frequency of obtaining authentic and noise variables. *British Journal of Mathematical and Statistical Psychology, 45*(2), 265-282. https://doi.org/10.1111/j.2044-8317.1992.tb00992.x

Donohue, S. M., & Heywood, J. S. (2004). Job satisfaction and gender: An expanded specification from the NLSY. *International Jour-*

nal of Manpower, 25(2), 211-238. https://doi.org/10.1108/01437720410536007

Dueñas, D., Iglesias, C., & Llorente, R. (2010). Job quality, job satisfaction and services in Spain. *Journal of Innovation Economics, 1*(5), 145-166. https://doi.org/10.3917/jie.005.0145

Franěk, M., & Večeřa, J. (2008). Personal characteristics and job satisfaction. *Ekonomika a Management,* (4), 63-76. Available at http://www.ekonomie-management.cz/download/1331826690_2bc1/06_franek.pdf

Fundación FOESSA. (2014). *VII Informe sobre exclusión y desarrollo social en España*. Available at http://www.foessa.es/

Gamero Burón, C. (2005). *Análisis microeconómico de la satisfacción laboral*. Madrid: Consejo Económico y Social.

Gamero Burón, C. (2007). Satisfacción laboral y tipo de contrato en España. *Investigaciones Económicas, 31*(3), 415-444. Available at ftp://ftp.fundacionsepi.es/InvEcon/paperArchive/Sep2007/v31i3a3.pdf

Gamero Burón, C. (2010). Satisfacción laboral de los asalariados inmigrantes. *Revista de Economía Aplicada, 18*(54), 33-56. Available at http://www.revecap.com/revista/numeros/54/pdf/gamero.pdf

García, M. A., Barbero, M. I., Ávila, I., & García, M.C. (2003). La motivación laboral de los jóvenes en su primer empleo. *Psicothema, 15*(1), 109-113. Available at http://www.psicothema.es/pdf/1031.pdf

Gazioglu, S., & Tansel, A. (2006). Job satisfaction in Britain: Individual and job related factors. *Applied Economics, 38*(10), 1163-1171. https://doi.org/10.1080/00036840500392987

Ghazzawi, I. (2011). Does age matter in job satisfaction? The case of US information technology professionals. *Journal of Organizational Culture, Communication and Conflict, 15*(1), 25-54. Available at https://www.abacademies.org/articles/jocccvol15no12011.pdf

Goetz, K., Hasse, P., Campbell, S. M., Berger, S., Dörfer, C. E., Hahn, K., & Szecsenyi, J. (2015). Evaluation of job satisfaction and working atmosphere of dental nurses in Germany. *Community dentistry and oral epidemiology*, *44*(1), 24-31. https://doi.org/10.1111/cdoe.12186

Herzberg, F., Mausner, B., & Snyderman, B. B. (1959). *The motivation to work* (2nd ed.). New York: Wiley.

Hoppock, R. (1935). *Job Satisfaction,* New York: Harper and Brothers.

Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). The job satisfaction–job performance relationship: A qualitative and quantitative review. *Psychological Bulletin, 127*(3), 376-407. https://doi.org/10.1037/0033-2909.127.3.376

Koustelios, A. D. (2001). Personal characteristics and job satisfaction of Greek teachers. *International Journal of Educational Management, 15*(7), 354-358. https://doi.org/10.1108/EUM0000000005931

Laparra, M., Eransus, B. P., Lasheras, R., Carbonero, M. A., Guinea-Martín, D., Zugasti, N., Ayala, L., Martínez, L., Sarasa, S., García, A., Guillén, A., Pavolini, E., Luque, D., & Anaut, S. (2012). *Crisis y fractura social en Europa. Causas y efectos en España.* Barcelona: Obra Social "La Caixa".

Lawler, E. E. (1973). *Motivation in work organizations*. Monterrey: Brooks/Cole.

Lawler, E. E., & Porter, L. W. (1967). The effect of performance on job satisfaction. *Industrial Relations, 7*(1), 20-28. https://doi.org/10.1111/j.1468-232X.1967.tb01060.x

Leigh, J. P. (1988). Assessing the importance of an independent variable in multiple-regression: Is stepwise unwise?. *Journal of Clinical Epidemiology, 41*(7), 669-677. https://doi.org/10.1016/0895-4356(88)90119-9

Leung, J., Rioseco, P., & Munro, P. (2015). Stress, satisfaction and burnout amongst Australian and New Zealand radiation oncologists. *Journal of medical imaging and radiation oncology*, *59*(1), 115-124. https://doi.org/10.1111/1754-9485.12217

Lloréns, F. J., & Senise, M. E. (1996). Una evaluación económica del impacto salarial en las actitudes de los trabajadores ante el mercado laboral. *Investigaciones Europeas de Dirección y Economía de la Empresa, 2*(3), 13-25. Available at https://dialnet.unirioja.es/descarga/articulo/187727.pdf

Markovits, Y., Boer, D., & Van Dick, R. (2014). Economic crisis and the employee: The effects of economic crisis on employee job satisfaction, commitment, and self-regulation. *Euro-*

pean Management Journal, *32*(3), 413-422. https://doi.org/10.1016/j.emj.2013.09.005

Merino, M. C., Somarriba, N., & Negro, A. M. (2012). Un análisis dinámico de la calidad del trabajo en España. Los efectos de la crisis económica. *Estudios de Economía Aplicada*, *30*(1), 261-282. Available at https://dialnet. unirioja.es/descarga/articulo/3932542.pdf

Ministry of Employment and Social Security. (2010). *QLLS: Quality of Labor Life Survey*. Madrid: Ministry of Employment and Social Security.

Mpeka, R. L. (2012). A study to examine the determinants of job satisfaction for professional accountants in Tanzania. *Afro-Asian Journal of Finance and Accounting, 3*(1), 15-33. https://doi.org/10.1504/AAJFA.2012.046346

Okpara, J. O. (2004). Personal characteristics as predictors of job satisfaction: An exploratory study of IT managers in a developing economy. *Information Technology and People, 17*(3), 327-338. https://doi.org/10.1108/09593840410554247

Okpara, J. O. (2006). The impact of personal characteristics on the job satisfaction of public sector managers in a developing economy: Implications for personnel development. *African Journal of Business and Economics Research, 1*(1), 10-29.

Pérez, J. A. (1997). Motivación y satisfacción laboral: Retrospectiva sobre sus formas de análisis. *Reis: Revista española de investigaciones sociológicas,* (80), 133-170. https://doi.org/10.2307/40183920

Petrescu, A. I., & Simmons, R. (2008). Human resource management practices and workers' job satisfaction. *International Journal of Manpower, 29*(7), 651-667. https://doi.org/10.1108/01437720810908947

Platis, C., Reklitis, P., & Zimeras, S. (2015). Relation between job satisfaction and job performance in healthcare services. *Procedia: Social and Behavioral Sciences, 175*, 480-487. https://doi.org/10.1016/j.sbspro.2015.01.1226

Robles-García, M., Dierssen-Sotos, T., Martínez-Ochoa, E., Herrera-Carral, P., Díaz-Mendi, A. R., & Llorca-Díaz, J. (2005). Variables relacionadas con la satisfacción laboral: Un estudio transversal a partir del modelo EFQM.

Gaceta Sanitaria, 19(2), 127-134. https://doi.org/10.1157/13074368

Sánchez, S. M., Fuentes, F. J., & Artacho, C. (2007). La perspectiva de género en el análisis de la satisfacción laboral: Una aplicación empírica mediante modelos logit y probit. *Cuadernos de Gestión*, *7*(2), 55-67. http://hdl.handle.net/10396/7788

Sánchez-Sellero, M. C., Sánchez-Sellero, P., Cruz-González, M. M., & Sánchez-Sellero, F. J. (2014). Características organizacionales de la satisfacción laboral en España. *RAE: Revista de Administração de Empresas, 54*(5), 537-547. https://doi.org/10.1590/s0034-759020140507

Sánchez-Sellero, M. C., Sánchez-Sellero, P., Cruz-González, M. M., & Sánchez-Sellero, F. J. (2017). Stability and satisfaction at work during the Spanish economic crisis. *Prague Economic Papers*, *26*(1), 72-89. https://doi.org/10.18267/j.pep.596

Singh, P., & Loncar, N. (2010). Pay satisfaction, job satisfaction and turnover intent. *Relations Industrielles/Industrial Relations, 65*(3), 470-490. https://doi.org/10.7202/044892ar

Smith, D. B., & Shields, J. (2013). Factors related to social service workers' job satisfaction: Revisiting Herzberg's motivation to work. *Administration in Social Work*, *37*(2), 189-198. https://doi.org/10.1080/03643107.2012.673217

Thompson, B. (1995). Stepwise regression and stepwise discriminant-analysis need not apply here: A guidelines editorial. *Educational and Psychological Measurement, 55*(4), 525-534. https://doi.org/10.1177/0013164495055004001

Thompson, B. (2001). Significance, effect sizes, stepwise methods, and other issues: Strong arguments move the field. *Journal of Experimental Education, 70*(1), 80-93. https://doi.org/10.1080/00220970109599499

Tremblay, M., Chênevert, D., & Hébert, A. (2012). Le rôle des conditions de travail dans la satisfaction et la loyauté des infirmières d´agence au Québec. *Relations Industrielles/Industrial Relations*, *67*(3), 477-504. https://doi.org/10.7202/1012540ar

Van Der Meer, P., & Wielers, R. (2013). What makes workers happy?. *Applied Economics,*

45(3), 357-368. https://doi.org/10.1080/00036 846.2011.602011

Westover, J. H. (2012a). The job satisfaction-gender paradox revisited: A cross-national look at gender differences in job satisfaction, 1989-2005. *Journal of Global Responsibility, 3*(2), 263-277. https://doi.org/10.1108/20412561211260557

Westover, J. H. (2012b). Comparative welfare state impacts on work quality and job satisfac-

tion: A cross-national analysis. *International Journal of Social Economics, 39*(7), 503-525. https://doi.org/10.1108/03068291211231687

Westover, J. H., & Taylor, J. (2010). International differences in job satisfaction: The effects of public service motivation, rewards and work relations. *International Journal of Productivity and Performance Management, 59*(8), 811-828. https://doi.org/10.1108/17410401011089481

Sažetak

ZADOVOLJSTVO POSLOM U ŠPANJOLSKOJ. ANALIZA ČIMBENIKA U EKONOMSKOJ KRIZI 2008. GODINE

María Carmen Sánchez-Sellero

Faculty of Economics and Business Administration
Department of Applied Economics
Universidad de La Coruña
La Coruña, Spain

Pedro Sánchez-Sellero

School of Engineering
Department of Business Administration
Universidad de Zaragoza
Zaragoza, Spain

Cilj ovoga rada je utvrditi osnovna obilježja zadovoljstva poslom u 2008. godini na španjolskom tržištu rada na koja je utjecala duboka recesija i nestabilnost. Razlikujemo osobne i poslovno uvjetovane čimbenike kako bismo utvrdili koji bolje pojašnjavaju zadovoljstvo poslom. U tu svrhu koristili smo podatke iz istraživanja Quality of Labor Life (Kvaliteta radnog života) za 2007., 2008., 2009. i 2010. godinu, koje je provelo Ministarstvo rada i socijalne sigurnosti u Španjolskoj. Pokazujemo da varijable povezane s poslom bolje objašnjavaju zadovoljstvo poslom putem linearnih modela (ANOVA). Isto tako eliminiramo interakcije između 14 varijabli povezanih s poslom kroz analizu glavnih komponenata. Na temelju dobivenih čimbenika predlažemo stupnjevanu višestruku (multiplu) regresijsku analizu koja objašnjava kako varijable povezane s poslom utječu na zadovoljstvo poslom. Čimbenik 1 povezan s aktivnošću, osobnim razvojem i motivacijom je onaj koji bolje objašnjava zadovoljstvo poslom svake godine. Zaključili smo da osobna motivacija najviše utječe na zadovoljstvo poslom; plaće najmanje utječu na zadovoljstvo poslom tijekom ekonomskih kriza i ekonomskog rasta. Isto tako, zaključili smo da je tijekom ekonomske krize zadovoljstvo poslom veće, dok stabilnost i plaće nisu, jer su tada poslovi manje sigurni, a plaće su manje.

Ključne riječi: zadovoljstvo poslom, motivacija, plaća, rod, dob, ekonomska kriza.