



Public Versus Private Job Satisfaction. Is there a Trade-off between Wages and Stability?

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Abstract

This paper examines the differences in job satisfaction in the public and private sector using the Spanish Survey of Life Quality at Work throughout the period 2006–2010. We use several dimensions of job satisfaction perception (remuneration, promotion policy, time schedule, working hours, flexibility, breaks and holidays). Our results show that, at an aggregate level, public sector workers are observed to be more satisfied than those in the private sector in terms of aggregate level of job satisfaction, stability, time flexibility and holidays but not in terms of wages, work organization, independence and decision-making.

Keywords Job satisfaction · Public · Private · Trade-off

Introduction

Economic literature has underscored the importance of identifying employee job satisfaction determinants by linking it to job performance and turnover. The action on job satisfaction determinants is conditioned by the nature of the organization and the economic and political context in which it operates. Most of the studies do agree that the remuneration and promotion policy, time schedule (working hours, flexibility, breaks and holidays) and the content and nature of the activities carried out by workers -factors that could determine the degree of job satisfaction- differ considerably depending on the public or private nature of the organization or company considered. There is no consensus, however, on whether these differences lead to greater job satisfaction and if, on average, the public sector employee job satisfaction is higher than that of those in the private sector.

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The results in the different studies are also conditioned by the cultural, economic and socio-political context of the reference country, so it is expected that the comparison of job satisfaction levels between public and private workers will differ in different regional contexts.

Specifically, the Spanish labour market has certain characteristics that could influence public workers job satisfaction in relation to private ones. Firstly, the unemployment rate in Spain is considerably higher than that of other European countries in their immediate surroundings, such as Germany, United Kingdom, and France, especially in times of crisis. The elasticity of employment with respect to the economic cycle is very high, which means that, during recessions, such as the one experienced since 2008, the unemployment rate exceeds 25%. As Luechinger et al. (2010) have shown the satisfaction of public sector employees is less affected by economic recessions and unemployment increases in comparison to private sector employees. They conclude that work in the public sector is more protected, not only because it is less likely to get fired, but also because the public organization is less likely to bankrupt.

The second characteristic is the high rate of temporality that characterizes the Spanish labour market. During economic booms, the proportion of temporary contracts usually exceeds 35% and during recessions, despite a reduction, it exceeds 25%.¹ These particularities could alter worker job perception, especially when considering public positions, which are more stable and permanent.

If these aspects are considered, it is feasible that in the case of Spain, or any other country with similar characteristics, public sector employee job satisfaction will be higher than that of private sector employees. It is also feasible, in any case, that there will be a trade-off between satisfaction with respect to salary and stability and working hours. In principle, the public sector would offer greater stability, and better working hours which allow employees to reconcile work with family life, but lower remuneration. This trade-off will be especially high for the most qualified and competent workers who could demand a higher wage in the private sector (Antón and Muñoz de Bustillo 2015; and Hospido and Moral-Benito 2016).

From this perspective, it will be relevant to question i) whether public employees job satisfaction is higher than those in the private sector; ii) if the difference between both groups lies exclusively on the temporality of the position, which will be higher in the private sector; and iii) if there is a trade-off, or substitution effect, between satisfaction with job stability and working hours and salary. To corroborate these hypotheses, initially, it is necessary to distinguish between public and private sector workers and, then, to differentiate within each group those with a temporary or an indefinite contract.

The scarcity of data has led most studies to analyse job satisfaction at an aggregate level, private or public sector, without considering the temporary, or permanent, condition of the contract. Likewise, it has prevented analysis of job satisfaction regarding different domains, such as salary, working time, stability or flexibility and not only at an aggregated level. A more detailed study of the different facets of job satisfaction would make it feasible to identify the existence of the aforementioned trade off. It will also allow us to define lines of action that would increase public employee job satisfaction using the experience of those in the private sector and vice versa.

¹ The reduction in the number of temporary contracts during crisis is linked, fundamentally, to the destruction of temporary jobs.

The present study aims, specifically, to fill this gap, using the Spanish Survey of Life Quality at Work (ECVT) for Spain throughout the period 2006–2010. The structure of the work is as follows. In the first place, differences in job satisfaction by sector (public and private) at the aggregate level are analysed. Subsequently, the existing differences are observed separating workers from the public and the private sector according to the temporality of their contract. Through this procedure, it could be possible to identify whether differences between the public and the private sector are exclusively attributable to the stability or, on the contrary, they obey other causes. Differences by sector and temporality are also considered in terms of satisfaction with wage, job stability, work hours, time flexibility, time breaks, holidays, organization of work, independence, decision making, assessment by hierarchical superiors and in terms of stress. Secondly, econometric estimations are carried out considering job satisfaction as the dependent variable. Determinants, among others, will be gender (female), age, education, occupation, and sector (public and private, permanent and temporary). Finally, estimates are made using job satisfaction with all the domains mentioned as dependent variables.

Literature

Job satisfaction could be defined as a pleasurable or positive emotional state resulting from the appraisal of one's job or job experience (Locke, 1976). It describes a positive feeling about a job, resulting from evaluation of its characteristics. A review of the literature shows that there is a strong correlation between this variable and job performance (Appelbaum and Kamal 2001; Judge et al. 2001; Tietjen and Myers 1998). Satisfied employees tend to be more effective than those who are not. Research results also support the satisfaction-performance relationship at the organizational level (Garrido et al. 2005; Ostroff 1992; Ryan et al. 1996; Harter et al. 2002). Additionally, a negative relationship between job satisfaction and absenteeism (Hausknecht et al. 2008; and Lee 1998), turnover (Hom and Griffeth 1995) and workplace deviance (Spector et al. 2006) is observed.

Many studies have been conducted to measure job satisfaction in different types of organizations, specifically studying the differences between job satisfaction of public and private sector workers. Although there is a debate about the differences between the characteristics of both sectors, there is general agreement that differences currently do exist (Fotller 1981; Meyer 1982; Perry and Porter 1982; Perry and Rainey 1988; Rainey et al. 1976; and Whorton and Worthley 1981).

Public sector workers could have missions that often provide greater opportunities to achieve altruistic or higher order needs, that could lead to greater workforce motivation (Perry and Honddeghem 2008). However, the very structure of public organizations - purportedly characterized by greater red tape and conflict - could hinder the realization of these opportunities. At the same time, the absence of organizational goal specificity, which are often more present in public sector organizations, may have a negative influence on job satisfaction (Jin and Mc Donald 2016; Kjeldsen and Hansen 2018).

Public sector employees typically have to undertake their tasks in a highly political and even politicized work environment that is subject to relatively rigid accountability mechanisms and intense public and media scrutiny (Taylor and Westover 2011). These characteristics could reduce the range of activities performed by workers, flexibility to carry them out and remuneration. From this perspective, research suggests that workers

who experience a greater variety of tasks, allowing workers to apply a variety of skills to an array of new and different work challenges also experience less tedium and, therefore, enhanced job satisfaction (Stimson and Johnson 1977).

Finally, public employees could be less satisfied than their private sector counterparts are with respect to specific aspects of their work, including the fulfilment of their self-esteem, autonomy and self-actualization needs (Paine et al. 1966; Porter and Mitchell 1967; Rhinehart et al. 1969; and Solomon 1986).

Although the differences are evident, there is no clear consensus on how public employee job satisfaction compares with that of private ones. On an aggregate level, Demoussis and Giannakopoulos (2007), DeSantis and Durst (1996), Maidani (1991) and Steel and Warner (1990) show that public employees are generally more satisfied than the private ones. Heywood et al. (2002), Emmert and Taher (1992), Gabris and Simo (1995) and Lewis (1991) consider that the differences are non-existent. Finally, Bogg and Cooper (1995) and Buchanan (1974)² and Artz (2008) conclude that public employees are less satisfied than the private ones. In case of Artz (2008) attributed the difference to the fact that in the private sector workers are more likely to be paid in accordance with their performance at work.

One of the only works that studies the differences in satisfaction between public and private sector workers taking into account non-pecuniary job attributes is Ghinetti (2007). Their main results indicate that public employees earn a satisfaction premium with some dimensions, specifically with job security, safety and health, while there are other dimensions in which this satisfaction premium do not appear, is the case of environmental conditions, effort and interest for the job.

Employment precariousness in the Spanish regional context, measured by unemployment rates and high proportion of temporary contracts, leads certain highly qualified individuals, with private sector employment opportunities, to prefer jobs in the public sector with lower remuneration but greater stability (Ortiz 2010; Sánchez-Sánchez and Fernández 2019). It should not be forgotten that, apart from the nature of public activity, which reduces instability, the degree of temporality is also lower. This reason could justify higher public sector employee job satisfaction than that of private sector employees. In any case, to contrast this hypothesis accurately, it would be necessary to differentiate between public and private sector workers with temporary and permanent contracts. It will be also necessary to observe whether job satisfaction is superior with respect to employment stability or is higher in other domains of satisfaction.

Data and Descriptive Results

We use the Spanish Survey of Life Quality at Work (hereafter ECVT), this survey is conducted on more than 7000 Spanish workers each year starting from 1999. Our study focuses on five cross-sections of the survey ECVT for the years 2006–2010.³ The main advantage of the survey is that it includes workers' self-reported satisfaction scores in different job domains as well as overall job satisfaction, along with the information on important worker and job characteristics. Unfortunately, the survey is not longitudinal;

² These last two studies are focused exclusively on managers.

³ Although survey data is available since 1999, there were some methodological changes which make data incomparable between pre and post 2006 periods. The survey was discontinued in 2011 as a result of budget cut by the government.

therefore it is unable to examine the factors affecting transitions in satisfaction level or to control fixed individual effects.

At the outset, it is important to verify the satisfaction questions analysed. The respondents in the survey were asked “How satisfied are you with your job (or different job aspects)?” with 10 possible response categories ranging from ‘very dissatisfied’ (=1) to ‘very satisfied’ (=10). The responses are based entirely on individuals’ own perception. The question asked is not concrete in terms of comparison groups or in the description of each category of satisfaction levels,⁴ therefore leaving a large room for interpretation of heterogeneity across interviewees. Another characteristic to note is that the responses are ordered qualitatively.⁵ Comparing the responses between groups of people is not straightforward. The analysis begins with simple “averages” of the responses. The simple average provides a satisfaction index which is comparable across year or population under the assumption of linearity across response category.

In Appendix Table 8 the set of variables used, its definition, how they are measured, their average and standard deviation are shown.

Regarding the theoretical model, it is based on an individual work utility function for each worker, which adopts the term used by Clark and Oswald (1996):

$$u = u(x, j) \quad (1)$$

where x includes those variables related to the worker’s individual characteristics and j those related to the job characteristics.

To estimate the model, it is assumed that job satisfaction can be used as a proxy of individual work utility so the following model is proposed:

$$JS_i^* = \beta X_i + \alpha J_i + \varepsilon_i. \quad (2)$$

Job satisfaction (hereafter JS^*) is a latent variable that denotes the probability of individual of being satisfied at work. This variable is unobservable, and, for its measurement, an ordinal assessment made by the individual himself is used. The relationship between the latent variable and our job satisfaction variable is shown by the following expression:

$$JS_i = \begin{bmatrix} 0 & \text{if} & JS_i^* \leq \mu_0 \\ 1 & \text{if} & \mu_0 < JS_i^* \leq \mu_1 \\ 2 & \text{if} & \mu_1 < JS_i^* \leq \mu_2 \\ & \dots & \\ 10 & \text{if} & \mu_{10} \leq JS_i^* \end{bmatrix} \quad (3)$$

where μ are the values of latent job satisfaction, which define the observed job satisfaction intervals. It is assumed $\mu_0 = 0$.

⁴ The categories (2, 3, 4, ..., 9) between the worst (=1) and the best (=10) have no words attached to them.

⁵ To the extent that respondents considered the response numbers (1 to 10) as cardinal measures of their satisfaction (for example, the response 10 means twice more satisfied than the response 5), the reported values may be used as a cardinal measure of satisfaction. However, many studies have shown virtually no qualitative differences in empirical results between different treatments of the variable.

Since the values of the dependent variable are ordered, in the estimation of the model, an ordered probit model could be used. However, results will be easier to be interpreted if an OLS estimation is used and according to Ferrer-i-Carbonell and Frijters (2004) the results are similar.⁶

A key concern in the literature is the potencial non-random selection of workers into public or private sector causing an endogeneity problem. In case of cross-sectional data the endogeneity problem has solved by specifying a switching regression model. For this, we specify a public selection equation and estimate the parameters jointly using maximum likelihood. However, the control for self-selection does not qualitatively affect the results.⁷

The method of Oaxaca-Blinder (Oaxaca 1973) is used to disaggregate the observed differences in satisfaction levels between public sector employees and private one into two components: the component attributable to the characteristics of the job and that corresponding to the performance of those characteristics for private and public employees. The analysis has been done considering both sector (private (PR) or public (P)) and considering separately public and private sector.

The conventional decomposition equation is:

$$\begin{aligned} \overline{JS_{PR}} - \overline{JS_P} = & [E(X_{PR}) - E(X_P)]' [\Omega\beta_{PR} + (I - \Omega)\beta_P] \\ & + [(I - \Omega)\tilde{E}E(X_{PR}) + \Omega'E(X_P)]\tilde{E}(\beta_{PR} - \beta_P) \end{aligned} \quad (4)$$

Where Ω is a weighting matrix and I is an identity matrix.

The left side of the eq. (4) represents the differential of average satisfaction between private and public employees. The first term of the right side is the part attributable to differences in job satisfaction that are due to differences in personal and job characteristics (X). The second term is the part attributable to differences in the valuation of these characteristics. The right side depends on different assumptions about Ω . If Ω is equal to an identity matrix, then the coefficients estimated would be the ones for private employees. In contrast if Ω is considered a null matrix, then the coefficients would be the ones for public. In the literature several ways to define Ω has been suggesting, in this article we follow the idea of Oaxaca and Ransom (1994). According to them Ω is constructed using the coefficients from a pooled model over both groups.⁸

Another characteristic to note is that the responses are ordered qualitatively.⁹ Comparing the responses between groups of people is not straightforward. We begin

⁶ We also have checked the results using using an ordered probit model instead of OLS model and the conclusions do not vary. To further information request the authors.

⁷ We use the maximum likelihood estimation of endogeneous switching and sample selection models developed by Miranda and Rabe-Hesketh (2006). The `ssm` command is used to evaluate the random selection. A likelihood-ratio test for $\rho = 0$ accepts the null hypothesis so we can admit the absence of a significant sample selection problem. For an easy interpretation we only include the estimation without the selection model in the text.

⁸ We have also tested the robustness of the results assuming the decomposition if we use an ordered probit model and the results are similar. Sinning et al. (2008) is followed for the decomposition for nonlinear regression models.

⁹ To the extent that respondents considered the response numbers (1 to 10) as cardinal measures of their satisfaction (for example, the response 10 means twice more satisfied than the response 5) the reported values may be used as a cardinal measure of satisfaction. However, many studies have shown virtually no qualitative differences in empirical results between different treatments of the variable.

with simple “averages” of the responses. The simple average provides a satisfaction index, which is comparable across year or population under the assumption of linearity across response category.

Table 1 reports average job satisfaction and the distribution of workers by sector (public or private sector). Public and private sector workers have also been separated according to the nature of the contract, permanent or temporary. 75.1% of the sample corresponds to private sector workers and 24.9% to public sector workers. Among the first, the degree of temporality is 23.5% and among the second 20.8%. As can be observed, the satisfaction of public employees is higher than that of private sector employees. Likewise, permanent contract workers have higher job satisfaction than those with a temporary contract. In any case, belonging to the public sector prevails, which means that job satisfaction is always higher in the public sector than in the private sector, regardless of temporality. Thus, temporary contract public workers have greater job satisfaction than permanent contract private workers.

It seems clear that public sector workers job satisfaction does not follow the same pattern as that of the private sector ones and the differences are not exclusively justified by contract temporality. That is why a deeper analysis is necessary to establish the domains in which public sector employees are more satisfied. To this purpose, overall job satisfaction could be considered as a combined (weighted average) evaluation by workers of several different job aspects.

For this reason, average satisfaction scores in different job domains (wage, stability, work hours, time flexibility, time break, holidays, organization at work, independence, decision making and assessment of hierarchical superior) are compared. A question related to the degree of stress is also included. This variable should be considered in the opposite way to satisfaction variables (greater stress implies a worse situation). Definitions and descriptive statistics of the dependent variables are shown in Appendix, Table 8.

As can be observed in Table 2, public workers are more satisfied in most of the domains considered, but in the assessment made by hierarchical superiors and the organization at work. If we compare temporary public sector workers with those of the private sector, there is also a penalty in terms of stability, independence and in decision-making participation. Their perception of stress is lower than that of the private sector on average.

Table 1 Mean Job Satisfaction and Distribution by sector-contract

	Total	
	Distribution	Job Sat.
Private	24.069	7,20
Private-perm	18.412	7,31
Private-temp	5.657	6,83
Public	7.984	7,50
Public-perm	6.326	7,51
Public-temp	1.658	7,45

Table 2 Mean Satisfaction Scores in Different Job Aspects by sector-contract

	Public	Public-perm	Public-temp	Private	Private-perm	Private-temp
Wage	6,31	6,32	6,28	5,95	6,06	5,56
Job stability	7,97	8,66	5,34	7,19	7,76	5,33
Work hours	7,62	7,63	7,58	6,96	7,03	6,72
Time flexibility	6,42	6,44	6,37	6,25	6,35	5,93
Break times	6,93	6,92	6,97	6,45	6,52	6,23
Holidays	7,92	8,08	7,32	7,18	7,51	6,12
Organization at work	6,77	6,77	6,80	6,82	6,89	6,58
Independence	7,31	7,37	7,08	7,18	7,36	6,62
Desision making participation	6,66	6,75	6,33	6,48	6,70	5,76
Assesment of hierarchical superiors	6,98	6,96	7,08	7,04	7,10	6,84
Stress	5,69	5,83	5,13	5,50	5,71	4,83

Multivariate Analysis

Although most of the descriptive results in the previous section seem reasonable, they are likely to be biased due to the confounding effects of other correlated characteristics. To establish the net effects of other correlated variables we run regressions including many relevant variables available in our data. As will be seen below, the effects of some variables differ substantially from the results of descriptive comparisons. We have estimated using an ordinary least squared (OLS) method. While ordered probit (or logit) estimation which respects the qualitative nature of the response options is theoretically more preferable, the results were very similar to those of the OLS model, and therefore we decided to present OLS results for simplicity of interpretation.¹⁰

Econometric estimates studying the effect on job satisfaction of working in the public and private sectors are shown in Table 3. In the estimate (1) all public and private workers are considered as a whole, while in the estimate (2) the nature of the contract, permanent and temporary, is considered in both groups. We have also included worker and job characteristics such as gender, age, education, partner occupation, wage, job tenure, job rank, region and year. Definitions and descriptive statistics of the variables are shown in Appendix, Table 8.

Let us discuss other control variables (Table 3) before we go on to the variables of main interest. The dummy female is positive, although its significance is not very high. Age is only marginally significant. Younger and older workers (>65) are more satisfied than the other group ages. Education level is also marginally significant with negative effects for those with a university degree and maximum secondary studies. Individual and household wage has a significant positive effect. Managers are also more satisfied than regular employees are. Working hours have a negative and significant impact on

¹⁰ See Ferrer-i-Carbonell and Frijters (2004) for a more detailed discussion on different estimation methods and the similarity in their results.

job satisfaction. These findings are in accordance with existing literature, supporting the validity of our data.

Now turning to the variables of interest, the effect of working in the public sector is positive and significant. If we also differentiate between permanent and temporary contract workers, it is observed that the highest degree of satisfaction corresponds to that of permanent public workers (0.506), followed by the temporary contract public sector workers (0.482), permanent contract private sector workers (0.418) and the temporary contract private sector ones (variable omitted). These results, therefore, support the results of DeSantis and Durst (1996), Maidani (1991) and Steel and Warner (1990) and also demonstrate that it not only contract permanence, but other elements that justify the higher degree of job satisfaction of public employees.

The results of the Blinder–Oaxaca decompositions are presented in Table 4, developed in eq. 4. The table presents the mean differential in the dependent variable and which part of this differential is associated with differences in mean values of characteristics and which with differences in the coefficients (the valuation of characteristics). The analysis has been done considering the entire sample (public and private sectors) and the group of temporal and permanent employees.

The first column of Table 4 shows the difference in job satisfaction between private sector workers and the public ones. The results indicate that public employees report higher levels of job satisfaction than do private ones in all sample (without taking into account if they are temporal or permanent workers). The decomposition suggests that the role of differences in coefficients is substantial to explain job satisfaction differential (0.17). Job and personal characteristics also contribute but to a lesser extent (0.10).

Focusing on temporal employees only, results show that private-public job satisfaction differences are higher than all sample, 0.60 vs. 0.23. Again, we can explain that difference based on the return of the characteristics to a greater extent, although personal and job characteristics also contribute considerably.

Column 3 of the table shows the results for workers with a fixed contract. Comparing with column 1 and 2, important changes are observed although there is still a difference of job satisfaction in favor of public sector workers. However, in this case, this higher satisfaction can be attributed to a greater extent to the characteristics, while the return of this characteristics also contribute but less.

Additionally, it will be interesting to observe the existence of a possible trade-off between these different domains of job satisfaction. Different domains are grouped into three categories: i) wage and job stability (Table 5) referring to present and future income possibilities; ii) work hours, flexibility, break times and holidays (Table 6), referring to the workload and the possibility to make work and personal life compatible; and iii) organization at work, independence, decision making participation, assessment by hierarchical superiors and stress¹¹ (Table 7) referring to other aspects of the work that could affect total job satisfaction. In all cases, differences between workers in the public and private sectors are studied in aggregate terms (1) and subsequently the temporary or permanent nature of the contract is considered (2).¹²

¹¹ According to Herzberg's model (Herzberg 1966) this last grouping corresponds largely with intrinsic factors (features related to job content and tasks). The first two groups correspond mainly to extrinsic factors (contextual elements).

¹² In the appendix, the differences between workers in the public and private sector in aggregate terms are not included due to lack of space.

Table 3 Job satisfaction

	(1)		(2)	
	Coefficient	t-statistics	Coefficient	t-statistics
female	0,07	1,57	0,07	1,43
age 40	-0,03	-0,50	-0,04	-0,61
age 50	-0,12	-1,71	-0,12	-1,78
age 60	-0,17	-1,65	-0,18	-1,75
age 65	0,46	2,47	0,44	2,37
partner	0,01	0,10	0,00	0,05
children	0,12	1,36	0,13	1,45
nchildren	-0,08	-2,05	-0,08	-2,16
educ2	-0,13	-1,01	-0,13	-0,99
educ3	-0,15	-1,14	-0,15	-1,10
educ4	-0,41	-3,12	-0,41	-3,08
educ5	-0,65	-4,63	-0,65	-4,57
ocup1	0,41	3,05	0,40	2,98
ocup2	0,56	6,14	0,56	6,18
ocup3	0,39	4,84	0,38	4,77
ocup4	0,18	2,04	0,18	2,08
ocup5	0,20	2,59	0,21	2,63
ocup6	-0,12	-0,82	-0,12	-0,81
ocup7	-0,01	-0,13	-0,01	-0,14
ocup8	-0,17	-1,44	-0,16	-1,39
ocup10	-0,31	-1,15	-0,26	-0,97
seniority	-0,01	-4,79	-0,01	-4,55
lowwage	0,23	2,21	0,22	2,10
mediumwage	0,48	4,26	0,47	4,18
highwage	0,65	5,21	0,65	5,19
lowwagehouse	0,05	0,28	0,05	0,27
mediumwagehouse	0,40	2,25	0,39	2,22
highwagehouse	0,35	1,92	0,34	1,90
low manager	0,68	5,60	0,67	5,44
high manager	0,28	5,99	0,27	5,81
lnhours	-0,37	-3,41	-0,37	-3,37
night	-0,05	-0,93	-0,05	-0,89
tum	-0,06	-1,04	-0,06	-1,16
public	0,18	3,82		
temporary	-0,33	-6,60		
public-temp			0,48	5,69
public-perm			0,50	6,88
private-perm			0,42	7,28
private-temp			(omitted)	
partial	-0,07	-0,94	-0,07	-1,01

Table 3 (continued)

	(1)		(2)	
	Coefficient	t-statistics	Coefficient	t-statistics
continouhours	-0,09	-2,08	-0,08	-2,01
sunday	-0,18	-1,58	-0,17	-1,47
hours>8	-0,21	-3,84	-0,21	-3,84
year2007	-0,39	-4,79	-0,40	-4,85
year2008	-0,27	-3,42	-0,28	-3,51
year2009	-0,20	-2,49	-0,21	-2,62
year2010	-0,19	-2,29	-0,20	-2,39
_cons	8,46	18,86	8,09	17,85

Satisfaction with Wages and Job Stability

Aggregated estimates allow us to contrast the second hypothesis, the existence of a possible trade-off between salaries and stability. As can be observed, public sector employee job satisfaction with stability is higher than that of private sector employees. In contrast, satisfaction in terms of wages is negative (although not statistically significant).

If the nature of the contract is considered, the existence of a trade-off between wages and stability is more visible and statistically significant (the omitted variable is worker of the private sector temporary contract). The coefficient of permanent contract public sector workers related to stability is 2.75, while that of permanent contract private sector employees is 2.16. In terms of wages, however, the results are inverse, wage satisfaction is higher in permanent contract private sector workers than among the permanent contract public sector (0.22 vs. 0.10).

It is noteworthy that the aforementioned trade off does not take place in temporary contract public sector workers, which evidence a negative coefficient in job stability but the highest positive coefficient among the different groups in terms of wage. Intuitively, this result is understandable if we take into account that public sector workers, despite having a temporary contract, receive similar wages to those with permanent contract. In the private sector wage differences between temporary and permanent contract workers are wider. This greater job satisfaction will disappear as their contract becomes permanent.

Table 4 Linear decomposition of job satisfaction: private-public

	Total	Only temporal employees	Only permanent employees
TOTAL	-0.27	-0.60	-0.17
Characteristics	-0.10	-0.23	-0.06
Coefficient (Returns)	-0.17	-0.36	-0.10

Note: Ω is constructed using the coefficients from a pooled model over both groups

Table 5 OLS Estimation of Satisfaction with wage and stability

(t-statistics in parenthesis)					
	Wage		Job stability		
	(1)	(2)	(1)	(2)	
Private	(omitted)		(omitted)		
Private-perm		0.22 (3.89)		2.16 (26.12)	
Private-temp		(omitted)		(omitted)	
Public	-0.01 (-0.32)		0.15 (2.23)		
Public-perm		0.1 (1.24)		2.75 (27.94)	
Public-temp		0.33 (2.70)		-0.32 (2.02)	
Adjusted R ²	0.09	0.09	0.10	0.23	
N	15,212	15,212	15,257	15,257	

Other control variables included are age (5 categories), education (5), partner, children, occupation (10), wage (4), job tenure (years), contract (2), public sector, dummy year, and region (17)

Note: t-stadistic is in brackets

Satisfaction with Work Hours, Flexibility, Breaks and Holidays

In aggregate terms, the results of Table 6 corroborate that public sector workers are more satisfied with holidays and break times than private sector workers are. Satisfaction with work hours and labour flexibility, however, does not register significant differences between both sectors.

If the nature of the contract is considered, in the public sector workers with permanent contracts are more satisfied in terms of flexibility and holidays, however are less satisfied in terms of working hours and time breaks. It is observed, as it was in terms of wage satisfaction, that certain variables positively affect job satisfaction for temporary contracts and that, later, when these contracts become permanent, the positive impact disappears.

In the private sector, temporary contract workers are clearly the least satisfied, not only in relation to the public sector ones but also to the permanent contract private sector workers. Temporary contracts reduce satisfaction in terms of workload and the possibility to make work and personal life compatible.

Satisfaction with Organization at Work, Independence, Decision Making, Superior Assessment and Stress

The aggregate results of Table 7 show that job satisfaction in the public sector is lower than that of the private sector in terms of organization at work, independence, and assessment made by hierarchical superiors. Public employee stress is, however, lower than that of private employees. It has to be pointed out that the statistical significance of these variables, not taking into account contract temporality, is not very high.

At a disaggregated level, however, the degree of significance of the variables is much higher. It could be inferred that the non-consideration of contract temporality

Table 6 OLS Estimation of Satisfaction with work hours, time flexibility, break times and holidays

	Work hours		Time flexibility		Break times		Holidays	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
	(t-statistics in parenthesis)							
Private	(omitted)		(omitted)		(omitted)		(omitted)	
Private-perm		0.19 (2.76)		0.51 (5.52)		0.21 (2.57)		1.22 (14.34)
Private-temp		(omitted) (5.47)		(omitted)		(omitted)		(omitted)
Public	0.30		0.07	0.96	0.32	4.65	0.35	5.93
Public-perm		0.43 (4.95)		0.55 (4.48)		0.47 (4.46)		1.51 (15.06)
Public-temp		0.55 (5.20)		0.35 (2.37)		0.57 (4.41)		0.95 (7.38)
Adjusted R ²	0.10		0.04		0.053		0.09	0.12
N	15,257		15,257		15,257		15,257	15,257

Other control variables included are age (5 categories), education (5), partner, children, occupation (10), wage (4), job tenure (years), contract (2), public sector, dummy year, and region (17)

Table 7 OLS Estimation of Satisfaction with type of work

	Organization Work		Independence	
	(1)	(2)	(1)	(2)
Private	(omitted)		(omitted)	
Private-perm		0.36 (4.64)		0.69 (8.69)
Private-temp		(omitted)		(omitted)
Public	-0.08 (-1.36)		-0.08 (-1.41)	
Public-perm		0.21 (2.19)		0.54 (5.63)
Public-temp		0.24 (2.08)		0.34 (2.89)
Adjusted R ²	0.034	0.038	0.053	0.064
N	15,257	15,257	15,257	15,257

	Decision making		Assessment of hierarchical superiors		Stress	
	(1)	(2)	(1)	(2)	(1)	(2)
Private	(omitted)		(omitted)		(omitted)	
Private-perm		0.77 (8.22)		0.24 (3.34)		0.34 (3.56)
Private-temp		(omitted)		(omitted)		(omitted)
Public	0.04	0.55 (6.34)	-0.18 (-2.95)		-0.12 (-1.61)	
Public-perm		0.71 (3.70)		0.01 (0.30)		0.24 (2.07)
Public-temp		0.55		0.03 (-0.47)		-0.07 (-0.47)

Table 7 (continued)

(t-statistics in parenthesis)		Decision making		Assessment of hierarchical superiors		Stress	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)
Adjusted R ²	0.080	0.089	0.042	0.044	0.088	0.091	0.091
N	14,861	14,861	14,668	14,668	15,257	15,257	15,257

Note: The household wage, and individual wage are considered as dummies because the survey does not provide the exact number rather an interval between the wages is. Years dummy are considered because the great recession in 2008 can have a big impact in job satisfaction

variable biases the results. As can be observed, permanent contract private sector workers are considerably more satisfied than those in the public sector (regardless of whether they are on temporary or permanent contracts) in terms of work organization, independence, decision-making and the assessment made by their hierarchical superiors. These results are coherent with those of Paine et al. (1966), Porter and Mitchell (1967), Rhinehart et al. (1969) and Solomon (1986). It is remarkable, however, that they suffer greater stress than permanent contract public sector employees, corroborating the results of Bogg and Cooper (1995).

Temporary contract private sector workers are clearly, again, in the worst position in all the categories considered, other than in terms of stress.

Temporary contracts do not affect univocally public sector workers. Thus, temporary public workers would be more satisfied than those with permanent contracts in terms of organization at work and the assessment made by their superiors. They will also suffer less stress. However, they will be less satisfied in terms of independence and decision-making. This result will be easily explained intuitively given the temporary nature of their position.

Discussion and Conclusions

Higher job satisfaction spreads better outcomes at all levels of an organization. It is therefore relevant for employers to understand which factors can influence over it. Job satisfaction has many facets so a thorough analysis of each of them can be useful to a rigorous analysis. Specifically, in our work we have studied satisfaction in wages, job stability, work hours, time flexibility, break times, holidays, organization of work, independence, decision making, assessment made by hierarchical superiors and stress.

We focus our attention on public and private employees and then, within them, between temporary and permanent contracts, because the stability situation into their jobs could be a relevant factor in job satisfaction.

The different characteristics of the organization in the public sector compared to the private one means that workers value wages, stability, work hours and the organization of work in a very different way.

Empirical results allow us to contrast some of the hypotheses. First, at an aggregate level, public sector workers are observed to be more satisfied than those in the private one. At a disaggregated level, the highest job satisfaction corresponds to permanent contract public sector workers, followed by temporary contract public sector workers, the permanent contract private sector workers and the temporary contract private sector employees. Secondly, it is not just contract temporality but other elements which also justify the higher public sector employee satisfaction. In third place, we wanted to steer attention towards the importance of the existence of trade-off between wages and stability and obtained that public sector employees are more satisfied in terms of stability but not in terms of wages. This result is statistically significant if permanent public sector employees are compared with those on permanent contracts in the private sector.

In terms of work load (work hours and break times) and the possibility to make work and personal life compatible (time flexibility and holidays), workers in the public sector are definitely in the best position and those with private sector temporary contracts in

the worst. On the other hand, public employee job satisfaction in terms of work organization, independence, decision-making and assessment made by supervisors is lower than that of private sector employees, but their stress is more reduced. This result is particularly striking, and statistically significant, if the results of permanent contract public sector workers are compared with those on private sector permanent contracts.

Improving job satisfaction in some of the domains that we have taken into account are feasible areas for policy changes, while other domains cannot be influenced by policy because they are more affected by psychological aspects.

In the public sector, our suggestion should be the improvement of the remuneration system and the organization of work, as well as favouring independence, decision-making and worker assessment. While, measures in the private sector should be aimed to promote stability, as well as the redefinition of work times and enhancing work flexibility.

Appendix

Table 8 Descriptive statistics

Definition	Measure	Mean	Std. Dev	
Job satisfaction	Subjective job satisfaction	0 to 10	7.3	1.85
female	If individual is female	Dummy 0/1	0.42	0.49
age30	Age <=30	Dummy 0/1	0.165	0.37
age 40	30 < Age <=40	Dummy 0/1	0.29	0.45
age 50	40 < age <=50	Dummy 0/1	0.3	0.46
age 60	51 < age <=60	Dummy 0/1	0.19	0.4
age 65	60 < age <=65	Dummy 0/1	0.04	0.2
partner	If the individual is married or cohabiting	Dummy 0/1	0.67	0.47
children	If the individual has children	Dummy 0/1	0.35	0.47
n.children	Number of children	Number (0–5)	0.39	0.64
educ1	No education	Dummy 0/1	0.03	0.18
educ2	Maximum education primary	Dummy 0/1	0.17	0.37
educ3	Maximum education secondary	Dummy 0/1	0.21	0.41
educ4	Maximum education high-school	Dummy 0/1	0.34	0.47
educ5	Maximum education University	Dummy 0/1	0.25	0.43
ocup1	Directors and Managers	Dummy 0/1	0.07	0.26
ocup2	Scientific and intellectual technicians	Dummy 0/1	0.14	0.35
ocup3	Technicians	Dummy 0/1	0.14	0.35
ocup4	Accounting. administrative	Dummy 0/1	0.07	0.26
ocup5	Customer services clerks	Dummy 0/1	0.16	0.36
ocup6	Skilled agricultural. Fishery workers	Dummy 0/1	0.04	0.19
ocup7	Skilled manufacturing industry workers	Dummy 0/1	0.22	0.41
ocup8	Food. tobacco and textile workers	Dummy 0/1	0.03	0.17
ocup9	Elementary occupations	Dummy 0/1	0.12	0.32

Table 8 (continued)

Definition	Measure	Mean	Std. Dev	
ocup10	Armed forces occupations	Dummy 0/1	0,00	0.06
seniority	Work experience	Years	12.8	10.7
lowwage	If wages is below 1200	Dummy 0/1	0.29	0.45
mediumwage	1201 < wages<=3000	Dummy 0/1	0.5	0.5
highwage	Wages >3001	Dummy 0/1	0.13	0.34
lowwagehouse	If house wages is below 1200	Dummy 0/1	0.12	0.33
mediumwagehouse	1201 < house wages<=3000	Dummy 0/1	0.54	0.49
highwagehouse	House wages >3001	Dummy 0/1	0.29	0.45
self-employed without	Self-employed without employees	Dummy 0/1	0.13	0.34
self-employed with	Self-employed with employees	Dummy 0/1	0.05	0.22
low manager	If individual is manager	Dummy 0/1	0.15	0.36
high manager	If individual is high manager	Dummy 0/1	0.02	0.13
lnhours	Hours worked	Ln hours	3.64	0.33
night	If individual works at night	Dummy 0/1	0.14	0.34
turn	If individual works by turns	Dummy 0/1	0.17	0.37
temporary	If individual holds temporal contract	Dummy 0/1	0.19	0.4
public	If individual works in public sector	Dummy 0/1	0.2	0.4
partial	If individual holds part-time job	Dummy 0/1	0.13	0.34
region1	Andalucía	Dummy 0/1	0.09	0.28
region2	Aragón	Dummy 0/1	0.04	0.19
region3	Asturias	Dummy 0/1	0.03	0.18
region4	Baleares	Dummy 0/1	0.03	0.18
region5	Canarias	Dummy 0/1	0.04	0.19
region6	Cantabria	Dummy 0/1	0.03	0.16
region7	Castilla-león	Dummy 0/1	0.05	0.21
region8	Castilla la mancha	Dummy 0/1	0.04	0.19
region9	Cataluña	Dummy 0/1	0.26	0.44
region10	C. valenciana	Dummy 0/1	0.07	0.26
region11	Extremadura	Dummy 0/1	0.03	0.17
region12	Galicia	Dummy 0/1	0.05	0.22
region13	Madrid	Dummy 0/1	0.1	0.3
region14	Murcia	Dummy 0/1	0.03	0.18
region15	Navarra	Dummy 0/1	0.03	0.17
region16	País Vasco	Dummy 0/1	0.05	0.21
year2006	Year 2006	Dummy 0/1	0.19	0.39
year2007	Year 2007	Dummy 0/1	0.19	0.39
year2008	Year 2008	Dummy 0/1	0.21	0.4
year2009	Year 2009	Dummy 0/1	0.19	0.39
year2010	Year 2010	Dummy 0/1	0.2	0.4
region17	La Rioja	Dummy 0/1	0.02	0.15
continuoushours	Continuous working hours	Dummy 0/1	0.53	0.49
sunday	If individual works on Sunday	Dummy 0/1	0.06	0.24

Table 8 (continued)

Definition	Measure	Mean	Std. Dev
hours>8	If individual works more than 8 h	Dummy 0/1	0.28
Observations			30,882

Note: The variables in bold are the categories of reference in the estimations

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