

Labour market precarity shapes perception of the public sector in the Eurozone.

Abstract: This study analyses the impact of working in the public sector on job satisfaction in Europe (19) through the EWCS (2015). A grouping of countries is proposed based on the perception of workers regarding the functioning of the labour market. Econometric estimates show that public sector workers, at an aggregate level, are more satisfied than those in the private sector. The highest job satisfaction corresponds to permanent contract public sector workers, followed by temporary contract public sector employees, the permanent contract private sector and the temporary contract private sector workers. The results confirm that in those countries with a higher proportion of individuals who consider losing their job a probability, public sector job satisfaction is higher. Additionally, those countries where the proportion of individuals with low confidence in finding a new job with similar characteristics to the one they have, public sector job satisfaction is also higher.

1. Introduction

In recent decades, economic literature has emphasised the impact of job satisfaction on both individual and organizational performance, and well-being. For this reason, numerous investigations have studied both differences and determinants in job satisfaction in different sectors and groups of workers. One of the topics of greatest interest has been job satisfaction disparity between public and private sector workers. Most studies agree that timetable, holidays, flexibility, remuneration and promotion policies, and the activities (content and nature) carried out by workers (all of them job satisfaction determinants) differ considerably between public and private-sector organisations (Paine *et al.*, 1966; Porter and Mitchell, 1967; Rhinehart *et al.*, 1969; Rainey *et al.*, 1976; Stimson and Johnson, 1977; Whornton and Worthley, 1981; Fotler, 1981; Meyer, 1982; Perry and Porter, 1982; Solomon, 1986; and Perry and Rainey, 1988; Perry and Hondeghe, 2008; Taylor and Westover, 2011; Johnson *et al.*, 2017; and Kjeldsen and Hansen, 2018). However, there is no agreement on whether these differences lead to greater job satisfaction for private, or public, employees (Baarspul and Wilderom, 2011).

Perceptions of working conditions are also determined by a country's sociological, economic and political framework (Li, 2017), so comparisons of job satisfaction levels between public and private-sector workers are expected to be different among regions. In this sense, the economic conditions and the functioning of the labour market in each

country are expected to influence individual job satisfaction and well-being (Giorgi *et al.*, 2015), as well as their job perception. It is precisely this issue we aim to focus our attention on. We will examine how worker perception of the labour market alters job satisfaction.

In recent decades, and especially since the 2008 financial crisis, important changes in working relationships have been observed (Matilla *et al.*, 2019). The probability of unemployment has increased together with the difficulty of finding a new job (Bell and Blanchflower, 2019). These two factors could provoke a sense of work-related instability among workers and condition their job satisfaction.

This issue acquires special relevance among public-sector workers as it is, in theory, a less volatile sector. As such, adverse labour market conditions could affect public sector worker job satisfaction positively, rather than negatively. We hypothesise that public-sector workers will display greater job satisfaction in work environments with more adverse labour market perception. The study does not focus, therefore, on how job characteristics affect job satisfaction, but on how it is altered by perception of the labour market as a whole. To date, literature studying job satisfaction determinants has focused more on job characteristics and less on global perception of the labour market.

Other public sector groupings could be made in Europe based on the organizational, operational and legal structure that would enrich analysis and justify differences in public sector employee job satisfaction, although it was not the object of our analysis [See Thijs *et al.* (2017) for an overview of public administration characteristics and performance in Europe or the overview report corresponding to the EWCS].

Our study aims specifically to fill this void by using the 2015 European Working Condition Survey (EWCS) for European Monetary Union countries. The objectives are as follows: i) verifying whether job satisfaction of public sector employees is indeed superior to that of private-sector workers; ii) examine whether the proportion of temporary job contracts to permanent contracts justifies public and private-sector differences in job satisfaction; iii) studying whether significant differences between countries regarding public sector job satisfaction exist; and iv) showing any possible relation between countries based on individual labour market perception (probabilities of

losing a job and finding another with similar characteristics) which would justify the differences in public-sector employee job satisfaction.

The work is structured in the following way. In the second section, we present a brief review of the literature regarding job satisfaction in the public or private sectors. We also highlight those works that focus their attention on the impact of job insecurity on job satisfaction. The data, the estimated theoretical model, and the econometric procedure are described in the third section. Descriptive and econometric results are presented in the fourth section. Estimates are first focused on employees in the public and the private sectors in aggregate, then the temporary or permanent nature of contracts is examined for both sectors. This procedure allows us to identify where differences reported by public and private-sector employees are exclusively attributable to contract stability or by other factors. Likewise, a grouping of countries based on labour market perception (the probability of losing a job and probability of reemployment) is formulated. Once these groups have been created, the impact of public-sector employment on total job satisfaction is studied separately. It is therefore possible to verify whether job satisfaction in the public sector is superior in more adverse labour markets. Finally, some policy recommendations and brief conclusions are presented.

2. Literature

The study of job satisfaction has generated great interest in recent decades. The reason is none other than the importance of this variable as a determinant of worker performance (Hackman and Oldham, 1975; Iaffaldano and Muchinsky, 1985; Tietjens and Myer, 1998; Judge *et al.*, 2001; Appelbaum and Kamal, 2001; Lee, 2017), absenteeism (Lee, 1998 and Hausknecht *et al.*, 2008), turnover (Hom and Griffeth, 1995), and the performance of the organization as a whole (Ostroff, 1992, Ryan *et al.*, 1996, Harter *et al.*, 2002 and Garrido *et al.*, 2005). Both utilitarian and humanitarian concerns justify the study of job satisfaction given its impact on physical and psychological well-being (Ellickson and Logston, 2001). That is why, numerous works have tried to identify the determinants and differences in worker job satisfaction by gender, educational level or sector, as key factors in organizational human resources policy.

Many studies have been developed to identify differences in job satisfaction in varied types of organizations, specifically considering differences in job satisfaction

among public and private-sector workers. There exists a debate regarding the nature of differences between both sectors, however there is general consensus that differences do exist (Rainey, Backoff and Levine, 1976; Whornton and Worthley, 1981; Fotler, 1981; Meyer, 1982; Perry and Porter, 1982; Perry and Rainey, 1988; and Johnson *et al.*, 2017).

Public sector work may offer greater possibilities to satisfy altruistic or personal needs and lead to greater workforce motivation and job satisfaction (Perry and Hondeghem, 2008). However, the structure of public organizations, often strongly bureaucratic and, in some cases, conflictive, could undermine the possibility to reach goals (Steijn and Voet, 2017). At the same time, public sector organizations often lack specific organizational goals, which may have a negative influence on job satisfaction (Kjeldsen and Hansen, 2018).

Public-sector employees typically work in a highly politicized environment faced to relatively rigid accountability mechanisms, and intense media scrutiny, compared to those of the private sector and (Taylor and Westover, 2011). These factors could reduce the range of activities carried out by workers, the flexibility to perform them, and remuneration. As a result, workers would experience more tedium and lower job satisfaction as the range of tasks, work challenges and skills they can applied at work are smaller (Stimson and Johnson, 1977).

Additionally, fulfilment of self-esteem, autonomy and self-actualization of public-sector employees could be smaller than those of their private-sector counterparts (Paine *et al.*, 1966; Porter and Mitchell, 1967; Rhinehart *et al.*, 1969; and Solomon, 1986). Finally, public-sector wages are usually less responsive to changes in worker productivity than those of the private sector (Blackaby *et al.*, 2017; and Murphy *et al.*, 2020) which could lead to lower job satisfaction (Fernández and Sánchez-Sánchez, 2020).

Although the differences between the public and the private sector are evident, there is no agreement on how public employee job satisfaction compares with that of private-sector employees (Baarspul and Wilderom, 2011). On an aggregate level, Steel and Warner (1990), Maidani (1991), De Santis and Durst (1996) and Sánchez-Sánchez and Fernández (2020) show public-sector employees to be generally more satisfied than those in the private sector. Lewis (1991), Emmert and Taher (1992) and Gabris and Simo (1995) consider that differences are non-existent. Finally, Buchanan (1974), Bogg and

Cooper (1995), among others, conclude that private-sector employees are more satisfied than public-sector workers (These last two studies are focused exclusively on managers).

Employment precarity could also cause a change in employee job perception. From this perspective, many individuals, including those with higher qualifications and employment opportunities in the private sector, would prefer jobs in the public sector, giving up higher remuneration in exchange for greater job stability or security in unfavourable economic contexts (Ortiz, 2007, Sánchez-Sánchez and Fernández, 2014). It must be pointed out that the nature of public-sector activity frequently reduces job instability, even though there are temporary workers in this sector.

Economic literature identifies job insecurity, generally measured through unemployment, as a key determinant of individual well-being and job satisfaction (Carsten and Spector, 1987; Clark and Oswald, 1994; Winkelmann and Winkelmann, 1997; Chirumbolo and Hellgren, 2003; Witte and Näswall, 2003; Luechinger *et al.*, 2008; Grün *et al.*, 2010; Robone *et al.*, 2011; Zeytinoglu *et al.*, 2013; Pirani and Salvini, 2015; Van Aerden *et al.*, 2016; Dawson *et al.*, 2017; Klug, 2017; and Schumann and Kuchinke, 2019). This factor, as pointed out by Borra and Gómez-García (2016), would have an important effect on workers' subjective sense of well-being during an economic crisis as expectations of finding another job are lower (Knabe and Rätzl, 2010).

Job turnover, linked to a higher probability of unemployment (regardless of whether another position will be found relatively quickly) would mean job insecurity leads to lower satisfaction (Booth *et al.*, 2002; and Dawson *et al.*, 2017). Additionally, low wage employment, with worse working conditions (Booth *et al.*, 2002), monotonous tasks, and reduced autonomy (Letourneux, 1998), are more common in environments with very high labour turnover.

3. Sources and theoretical model

Our study is based on the sixth European Working Conditions Survey (EWCS) of 2015. This survey has been performed every 5 years since 1990 by the European Foundation for the Improvement of Living and Working Conditions. This sixth cross-sectional survey interviewed nearly 44,000 workers in 35 countries. Its findings provide detailed

information on a broad range of issues, including exposure to physical and psychosocial risks, work organisation, work-life balance, and health and well-being.

In our study we have considered, for the sake of homogeneity, the 19 countries of the European Monetary Union. The total number of observations in the survey is 31,570. We have removed unemployed and inactive individuals, and those who did not answer the question related to our dependent variable. Therefore, the number of observations is 20,531.

The survey includes workers' self-reported perceptions, in addition to other information on relevant worker and job characteristics. The survey, however, is not a panel, and therefore we are unable to reflect the factors that affect the transitions in satisfaction levels, or to control for fixed individual effects.

The EWCS includes several questions related to worker job satisfaction. We have chosen the following: "How often do you feel this way - I am enthusiastic about my job? The 5 possible response categories, based entirely on their individual perception, range from "always" (value 1) to "never" (value 5). The reported values may be used as a cardinal measure of satisfaction, as respondents considered the response numbers (1 to 5) as cardinal measures of their satisfaction.

Our study begins with simple "averages" of the responses. This index offers a measure of satisfaction that is comparable by year or group if linearity across response categories is assumed.

We have adopted the terms used by Clark and Oswald (1996) to define the theoretical model. The individual work utility function for each worker is expressed as:

$$u = u(x_j), \quad (1)$$

where x includes variables related to the worker's individual characteristics and j those related to job characteristics. As individual characteristics, we have included in this work: gender, age range, and educational level, as well as variables related to the family (having a partner and children, and household income). The ability to balance life and work, and the individuals' reported health status are also included. Some of these variables, as noted by Mottaz (1984 and 1987), Glisson and Durik (1988), Ting (1997), Reiner and Zhao (1999), Ellickson (2002) and Steijn (2004) appear to be insufficient to justify the

variations in total job satisfaction, that is why we have included other variables related to job characteristics, mainly intrinsic factors [See Herzberg's (1966) two factors theory]: working in the public or private sector, wages and work hours. These last variables could capture two of the main differences between the public and the private sector. We have also considered the occupation, the nature of the contract (temporary or permanent), and the size of the company. We have also included both the lack, and excess, of capacity required to perform the job, and the desire to work longer hours.

Regarding the variables associated with labour market precarity, two dummy variables have been created to observe whether individuals have the possibility of losing their job in the coming 6 months (instability) and whether it would be easy for them to find a job of similar salary (facility) were they to lose or quit their job. We have also generated a dummy variable that demonstrates whether a worker's enterprise is generating employment (genemployment).

Initially, use of official Eurostat data of unemployment and temporality to capture labour market precarity was proposed, but several drawbacks were considered. First, the simultaneous use of sample and extra-sample data. Second, the negative relationship that arises in many countries between temporary employment and unemployment. In fact, in those environments affected by economic crisis, there is frequently a reduction in temporary employment, associated not with greater stability in hiring, but with greater destruction of employment. Finally, in economically depressed settings, unemployment rates are relatively low as many individuals choose not to participate in the job market given the poor chances of finding a job.

In Appendix Table A1 the set of variables, their definition, measurement methodology, their average and standard deviation are shown.

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 reflects the possibility of an individual being satisfied at work. As the variable is unobservable, we use the individual ordinal assessment for its measure. The connection between the latent variable and our dependent variable is defined in the following manner:

$$JS_i = \begin{cases} 1 & \text{if } JS_i^* \leq \mu_0 \\ 2 & \text{if } \mu_0 < JS_i^* \leq \mu_1 \\ 5 & \text{if } \mu_{10} \leq JS_i^* \end{cases} \quad (3)$$

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

The five values provided by respondents have been divided into two groups: satisfied (values 1 and 2) and not satisfied (values 3, 4 and 5). Through this procedure we partially eliminate the subjective component when the worker assigns a specific value to job satisfaction. Additionally, results are easier to interpret and estimate. The estimates are carried out using a probit model (the estimates in tables show the marginal effects). Sample weights are used to weigh data.

Secondly, we have tried to assess whether significant differences in public-sector job satisfaction exist between European countries based on the perception of labour market conditions. We have considered two different groupings, the first based on the instability of the labour market and the second on the capacity to find a new job. We have defined countries in which the percentage of individuals who consider they will lose their job in the next 6 months exceeds 10 percent of the total as “labour-unstable” (the opposite for stable countries). Likewise, countries in which less than 20 percent of individuals consider it feasible to find another with similar characteristics in the event of losing their job have been defined as “difficult” (the opposite for “easy” countries)¹. Once estimates have been made, the impact of the variable associated with the public sector is studied in each group.

4. Results

Average job satisfaction and the distribution of workers by sector (public or private) are reported in table 1. As can be observed, 71.6 percent of the sample corresponds to private

¹The choice of these thresholds has been made according to the average of the 19 countries. The difference between averages is found to be statistically significant.

sector workers and 28.4 percent to public sector workers. This last proportion ranges between 38.5 percent in Luxembourg and 18.8 percent in Germany.

It is not possible to compare these percentages with real data as the limits of the government sector vary across member states, for example, jobs in education or health represent government employment in some countries though not in others. According to the European commission, and depending on the different definitions, the proportion of public sector workers ranges between 25 and 32 per cent.

At an aggregate level, public-sector employee job satisfaction is higher than in the private sector, however, this characteristic is not observed in all countries. In fact, in Belgium, Finland, Greece, France and Cyprus (shaded countries) the average satisfaction of private-sector workers is higher than in the public sector. The case of Greece is particularly striking given that public sector workers have gone from a privileged work position prior to the economic crisis to a situation where the wages were reduced by around 25-30 percent, which has undoubtedly caused a drop-in job satisfaction. Spain, Slovakia, Luxemburg and Germany are among countries with the highest public sector worker job satisfaction. In table A2 (annex) it is possible to observe the participation of the public sector employment and the percentage of permanent and temporary contracts.

TABLE 1

Table 2 shows econometric estimates using marginal effects to study the effect of working in the public sector on job satisfaction. Before we focus our attention on the variables, let us discuss other interesting results. The impact of the variable female is positive and statistically significant, which implies that women enjoy a higher probability of job satisfaction. This result is quite surprising as women's working conditions in terms of job segregation and salary are often worse than their male counterparts'. In any case, numerous studies have reported this result (Clark 1997; Kim 2005; Sloane and Williams 2000; Sousa-Poza and Sousa-Poza, 2000 and 2007, Long 2005; and Sánchez-Sánchez and Fernández, 2019).

As age range increases, so does the probability of job satisfaction. Thus, workers with the least probability of job satisfaction are those under 30, and those with the highest probability are aged between 65 and 75.

TABLE 2

The probability of job satisfaction increases as self-reported health status ameliorates, as reported by Ahn and García (2004) and Satuf *et al.* (2018). Thus, workers who report their health is bad or very bad, are less likely to be satisfied than those who consider it is fair, good and very good health, respectively. Household income influences job satisfaction positively and significantly. Workers with higher education show higher probabilities of satisfaction than those corresponding to primary education (reference category), but the degree of significance is very low.

Regarding family related variables, the impact of having a partner on job satisfaction is not significant, but that of having children is positive. Likewise, the difficulties to balance life and work have a negative and significant impact on the probability of satisfaction. Being an immigrant has a negative effect on the probability of satisfaction, though without statistical significance.

With regards type of occupation, professionals, technicians and associate professionals are more likely to be satisfied. Plant and machine operators, assemblers and elementary occupations are the least likely to be satisfied.

Five variables have been selected to reflect workplace security or stability: temporary or a part-time contract, the possibility of losing the job in the next 6 months (instability) and the ease of finding a new job with similar wage in case of current job loss (facility) and, finally, the prospects of the company of creating more employment (genemployment). These last *three* variables are reported by the worker and, consequently, subjective.

The estimates effectively corroborate the hypothesis that having a temporary contract has a negative impact on job satisfaction, however, the coefficient is not significant. These results differ with those obtained by Letourneux (1998) and Booth *et al.* (2002). In any case, the results could be partly biased due to other present variables that could reflect more accurately job insecurity. In the case of workers with part-time contracts, a negative impact on job satisfaction is observed. The explanation could be that individuals who perform a part-time job do so involuntarily, forced by the inability to find a full-time one. In any case, the variable that captures the desire of individuals to work longer hours is not significant. The effect of this variable is probably captured by part-time contracts.

Regarding the effect of the instability variable, results show a significant decrease in job satisfaction as the possibility of job loss increases. The variable facility, as we expected, has a positive impact. If workers consider that finding another job in the event of job loss will be relatively, probability of job satisfaction is higher. The same occurs when workers perceive that the company has good economic prospects and finds itself in a phase of job creation.

Our variable under study - working in the public sector - has a positive and significant influence on job satisfaction, in line with our initial hypothesis and the works of Steel and Warner (1990), Maidani (1991), DeSantis and Durst (1996) Demoussis and Giannakopoulos (2007) and Sánchez-Sánchez and Fernández (2020). the coefficient is positive even when variables associated with job instability are included, which implies that there are other factors that justify greater satisfaction in the public sector.

All the variables corresponding to countries are statistically significant except Netherlands. The coefficients are negative, as the reference country is Belgium, where job satisfaction is very high. The ranking (from the highest to the lowest probability of job satisfaction) is as follows: Netherlands, France, Germany, Malta, Spain, Finland, Latvia, Austria, Luxembourg, Cyprus, Greece, Ireland, Lithuania, Slovenia, Estonia, Italy, Portugal and Slovakia.

In order to reach a deeper understanding of public-sector job satisfaction, permanent and temporary contracts have been considered separately and introduced into the estimate (the referenced excluded variable is temporary private workers). The results are shown in Table 3 and Table A3 in the annex.

TABLE 3

The highest degree of job satisfaction corresponds to that of public-sector workers with permanent contracts (0.08), followed by the public-sector workers with temporary contracts (0.05), private-sector workers with permanent contracts (0.02) and the private-sector employees with temporary contracts. These results again support the idea that it is not only contract permanence, but other elements that justify the higher degree of public-

sector employee job satisfaction. In fact, in some countries the percentage of temporary contracts in the public sector is bigger than that of the private sector.

The sample has then been disaggregated considering workers in the public sector and those in the private sector (Table 4 and A4 in the annex). First, it is worth noting that the variable instability is no longer relevant in the case of public-sector workers. Likewise, the variable facility has a higher impact on private-sector worker job satisfaction. In short, the possibility of losing a job does not seem to alter the perception of public-sector workers, while the possibility of finding a new job with similar wage seems to have less impact than on the private sector. It is also very interesting that the variable linked with job creation perception, *genemployment*, does not affect public-sector employee job satisfaction, whereas it does have an effect in the case of private-sector workers. These facts seem to reinforce the idea that workers in the public sector feel safer than those in the private sector.

Regarding the ranking of countries, Netherlands displays the highest probability of job satisfaction, followed by Germany (this coefficient is not statistically significant), France, Malta, Estonia, Finland, Latvia, Austria, Luxembourg, Greece, Lithuania, Ireland, Slovakia, Spain, Cyprus, Slovenia, Portugal, Slovakia and Italy.

TABLE 4

Apart from the results corresponding to job satisfaction by country, there are others that should be highlighted. Women and workers with children experience greater probability of job satisfaction in the public sector, as pointed out by Sánchez-Sánchez and Fernández (2019). Intuitively, this result could be justified by the increased possibility to balance work and personal life. Given that women are still responsible for childcare and dependent relatives in many countries, we may assume that the impact of the female variable was greater. Additionally, the impact of being an immigrant is negative and significant in the public sector, but not in the private sector, though we have not found a priori any intuitive explanation for this differential result.

All the variables analysed so far, including those corresponding to temporality and stability, refer to individual characteristics or individual perceptions. Our objective,

however, is to observe how global perception of the labour market could alter job satisfaction and whether, specifically, a more negative perception of stability and the labour market could lead to greater satisfaction in the public sector, as suggested by Ortiz (2007). To contribute to this goal, a grouping of countries has been defined according to the variables associated with labour market perception. The estimates have been repeated, paying special attention to the coefficient associated with the public sector. First, we rank countries based on the perception of job stability (see Table 5). As can be observed, we consider countries where more than 10 percent of individuals think they will lose their job in the next 6 months as labour unstable (shaded areas).

TABLE 5

The estimates show that the variable public is only significant in those countries considered unstable, labour markets in which the perception of workers regarding the continuity of their job position is low (Table 6 and Annex A4). Working in the public sector contributes to higher job satisfaction in more volatile work environments.

TABLE 6

Secondly, the countries are classified according to the difficulty in finding employment for workers who lose their job. Countries where less than 20 percent of individuals who lose a job consider it feasible to find another with similar characteristics are defined as difficult (shaded areas in columns 3 and 4 of table 5). As observed in table 6 and annex A4, the public sector coefficient associated is higher in countries defined as difficult. Again, increased precarity in the labour market leads to greater satisfaction among public sector workers.

The results endorse the view that public sector employee job satisfaction is higher than for those in the private sector, that the temporary nature of contracts is not the only variable that justifies this difference, and that workers' perception of the labour market

alters their job satisfaction. Specifically, we have identified that greater precarity in the labour market increases public-sector employee job satisfaction.

It should be noted that the coefficients corresponding to the countries, with few exceptions, are statistically significant and high in both the former and latter estimates. Another type of groupings considering the public-sector organizational, operational and legal structure could enrich the analysis and justify differences in public-sector employee job satisfaction.

5. Conclusions

This study analyses the impact of working in the Eurozone public sector on job satisfaction through the EWCS (2015). The differential impacts of each country on this variable and on public-sector job satisfaction are analysed. The article creates a grouping of countries based on the worker perception of labour market performance, specifically the perceived probability of losing their job in the near future and the probability of finding a new job with a similar salary.

We begin with a descriptive analysis and then econometric estimations are carried out using a probit model that includes worker and job characteristics. We focus our attention on the coefficients linked to the different countries and that associated to the public sector. Additionally, we distinguish between temporary and permanent contracts in the private and the public sector.

The descriptive analysis shows that aggregated job satisfaction reported by public-sector employees is higher than that of private-sector employees. Nevertheless, this is not true of all countries. In fact, in Belgium, Finland, Greece, France and Cyprus average satisfaction of workers in the private sector is higher than that of public-sector workers.

Econometric estimates show that public-sector workers are likely to be more satisfied than those in the private sector. At a disaggregated level, the highest job satisfaction corresponds to public-sector workers with permanent contracts, followed by public-sector employees with temporary contracts, private-sector workers with permanent contracts, and private-sector with temporary contracts. This implies that it is

not just the duration of the contract but other elements that justify the higher job satisfaction of public-sector employees. Secondly, the variables linked to the countries have significant influence when analysing differences in public sector job satisfaction.

The grouping of countries by labour market perception shows public-sector job satisfaction is higher in countries with a greater number of individuals who consider it more probable they will lose their job. Additionally, public sector job satisfaction is also higher in those countries where individuals are less confident of finding a new job with similar characteristics to the one they have. Definitively, greater perceived precarity in the labour market increases public-sector employee job satisfaction.

From the point of view of policy implications, our analysis emphasizes the interest of studying macro variables corresponding to the labour market to identify the determinants of job satisfaction and not just those related to the worker's job conditions (occupation, wage, seniority, number of hours worked, among others). In fact, instability and volatility in the labour market, variables that are beyond organizational human resources policies, could alter the workers' consideration of their own job, increasing job satisfaction in some cases while decreasing it in others, and should be considered.

Finally, and regarding the limitations of the analysis, our cross-sectional survey unable us to study individual fixed effects as it is not a panel. Likewise, other public sector groupings could be made in Europe based on organizational, operational and legal structures that could complete the analysis and justify differences in public sector employee job satisfaction. Future research should be focused on this field.

Bibliography

- Ahn, N. and García, J.R. (2004) Job satisfaction in Europe. *Working paper 2004-16*, FEDEA.
- Appelbaum, S. and Kamal, R. (2001) An analysis of the utilisation and effectiveness of non financial incentives in small, business. *Journal of Management Development* 19(9): 733-763.

- Baarspul, H. C. and Wilderom C.P.M. (2011) Do Employees behave differently in public-vs private-sector organizations?. *Public Management Review* 13(7): 967-1002.
- Bell, N.F and Blanchflower. D.G (2019) Underemployment in the United States and Europe. *ILR Review* 74(1): 56-94.
- Blackaby, D., Murphy, P. and O'Leary, N. and Staneva, A. (2017). Regional pay? The public/private sector pay differential. *Regional Studies* 52: 1-13.
- Bogg, J. and Cooper, C. (1995) Job Satisfaction, Mental Health, and Occupational Stress among Senior Civil Servants. *Human Relations* 48(3): 327–41.
- Booth, L.A., Francesconi, M. and Frank, J. (2002) Temporary Jobs: Stepping Stones or Dead Ends?. *The Economic Journal* 112(480): 189-213.
- Borra, C. and Gómez-García, F. (2016) Wellbeing at Work and the Great Recession: The Effect of Others' Unemployment. *Journal of Happiness Studies* 17: 1939–1962.
- Buchanan, B. (1974) Government Managers, Business Executives, and Organizational Commitment. *Public Administration Review* 34(4): 339–47.
- Cantarelli, P., Belardinelli, P. and Belle, N. (2016) A meta-analysis of job satisfaction correlates in the public administration literature. *Review of Public Personnel Administration* 36(2): 115-144.
- Carsten, J., Spector, M. and Paul E. (1987) Unemployment, job satisfaction, and employee turnover: A meta-analytic test of the Muchinsky model. *Journal of Applied Psychology* 72(3): 374-381.
- Chirumbolo, A., and Hellgren, J. (2003) Individual and Organizational Consequences of Job Insecurity: A European Study. *Economic and Industrial Democracy* 24(2): 217–240.
- Clark, A. E (1997) Job satisfaction and gender, why are women so happy at work?, *Labour Economics* 4: 341-72.
- Clark, A. E. and Oswald, A. J. (1994) Unhappiness and Unemployment. *Economic Journal* 104(424): 648–59.
- Clark, A. E. and Oswald, A.J. (1996) Satisfaction and comparison income. *Journal of Public Economics* 61: 359-381.

- Dawson, C., Velizois M. and Hopkins B. (2017) Temporary employment, job satisfaction and subjective well-being. *Economic and Industrial Democracy* 38(1): 69-98.
- Demoussis M. and Giannakopoulos N. (2007) Exploring Job Satisfaction in Private and Public Employment: Empirical Evidence from Greece. *Labour* 21(2): 333-359.
- DeSantis, V.S. and Durst, S.L. (1996) Comparing job satisfaction among public and private sector employees. *The American Review of Public Administration* 26(3): 327-343.
- Durst, S.L. and DeSantis, V.S. (1997) The determinants of job satisfaction among federal, state, and local government employees. *State and Local Government Review* 29: 7-16.
- Ellickson, M.C. (2002) Determinants of job satisfaction of municipal government employees. *Public Personnel Management* 31(3): 343-358
- Ellickson, M.C. and Logsdon, K. (2001) Determinants of job satisfaction of municipal government employees. *State and Local Government Review* 33: 173-184.
- Emmert, M.A. and Taher, W.A. (1992) Public sector professionals: The effects of public sector jobs on motivation, job satisfaction and work involvement. *The American Review of Public Administration* 22(1): 37-48.
- Eurofond (2015): Sampling implementation report. 6 th European Working Conditions Survey.
https://www.eurofound.europa.eu/sites/default/files/ef_survey/field_ef_documents/6th_ewcs_2015_-_sampling_implementation_report.pdf
- Fernández, A.C. and Sánchez-Sánchez, N (2020) Public versus private job satisfaction. Is there a trade-off between wages and stability?. *Public Organization Review* doi:10.1007/s11115-020-00472-7
- Fottler, M.D. (1981) Is management really generic?. *Akademy of Management Review* 6(1): 1-12.
- Gabris, G.T. and Simo, G. (1995) Public sector motivation as an independent variable affecting career decisions. *Public Personnel Management* 24(1): 33-51.
- Garrido, M.J., Pérez, P. and Anton, C. (2005) Determinants of Sales Manager Job satisfaction: an Analysis of Spanish Industrial Firms. *International Journal of Human Resource Management* 19(10): 1934-1954.

- Giorgi, G., Shoss, M. and León-Pérez, J. (2015) Going beyond workplace stressors: Economic crisis and perceived employability in relation to psychological distress and job dissatisfaction. *International Journal of Stress Management* 22: 137-158.
- Glisson, C. and Durick, M. (1988) Predictors of Job Satisfaction and Organizational Commitment in Human Service Organizations. *Administrative Science Quarterly* 33(1): 61-81.
- Grün, C., Hauser, W. and Rhein, T. (2010) Is Any Job Better than No Job? Life Satisfaction and Re-employment. *Journal of Labor Research* 31(3): 285-306.
- Hackman, J.R. and Oldham, G.R. (1975) Development of the job diagnostic survey. *Journal of Applied Psychology* 60: 159-170.
- Harter, J.K., Schmidt, F.L. and Hayes, T.L. (2002) Business-unit Level Relationship between Employee Satisfaction, Employee Engagement and Business Outcomes: A Meta-analysis. *Journal of Applied Psychology*, April: 268-279.
- Hausknecht, J. P., Hiller, N.J and Vance, R.J. (2008) Work-Unit Absenteeism: Effects of Satisfaction, Commitment, Labour Market Conditions and Time. *Academy of Management Journal* 51(6): 1125-1245.
- Herzberg, F. (1966) *Work and the Nature of Man*, New York: Thomas Y. Crowell.
- Hom, P.W. and Griffeth, R.W. (1995) *Employee Turnover*, Cincinnati: South-western Publishing.
- Iaffaldano, M.T. and Muchinsky, P.M. (1985) Job satisfaction and job performance: A meta-analysis. *Psychological Bulletin* 97(2): 251-273.
- Johnson, P.F., Leenders, M.R. and McCue, C. (2017) A comparison of purchasing's organizational roles and responsibilities in the public and private sector. *Journal of Public Procurement* 3(1): 57-74.
- Judge, T.A., Thoresen, C.J., Bono, J.E. and Patton, G.K. (2001) The Job Satisfaction-Job Performance Relationship: A Qualitative and Quantitative Review. *Psychological Bulletin* May: 376-407.
- Kim, S. (2005) Gender differences in the job satisfaction of public employees: A study of Seoul metropolitan government, Korea. *Sex Roles* 52: 667-681.

- Kjeldsen, A.M. and Hansen. J.R. (2018) Sector differences in the public sector motivation-job satisfaction relationship: Exploring the role of organizational characteristics. *Review of Public Personnel Administration* 38(1): 24-48.
- Klug K. (2017) Young and at risk? Consequences of job insecurity for mental health and satisfaction among labor market entrants with different levels of education, *Economic and Industrial Democracy* 6: 1-24.
- Knabe, A. and Rätzl, S. (2010) Better an insecure job than no job at all? Unemployment, job insecurity and subjective wellbeing. *Economics Bulletin* 30: 2486-2494.
- Lee, T. (1998) Job satisfaction leads to turnover. *Journal of Business and Psychology* 2(3): 263-271.
- Lee, T. S. (2017) Employee Retention and Job Performance Attributes in Private Institutions of Higher Education. *International Journal of Business and Administrative Studies* 3(5): 158-165.
- Letourneux, V. (1998) *Precarious Employment and Working Conditions in Europe*. Dublin: European Foundation for the Improvement of Living and Working Conditions.
- Lewis, G.B. (1991) Pay and job satisfaction in the federal civil service. *Review of Public Personnel Administration* 11(3): 17-31.
- Li, X. (2017) Cross-cultural interaction and job satisfaction in cross-cultural organizations: A case study of two Thai companies founded and managed by Chinese people. *Journal of Administrative and Business Studies* 3(6): 255-262.
- Long, J.E. (2005) The Effects of Tastes and Motivation on Individual Income. *Industrial and Labor Relations* 48(2): 338-351.
- Luechinger, S., Meier, S. and Stutzer, A. (2008) Why Does Unemployment Hurt the Employed? Evidence from the Life Satisfaction Gap between the Public and the Private Sector. *IZA Discussion papers series* 3385, Institute for the Study of Labor.
- Maidani, E.A. (1991) Comparative study of Herzberg's two-factor theory of job satisfaction among public and private sectors. *Public Personnel Management* 20(4): 441-448.
- Matilla-Santander, N., Lidón-Moyano, C., González-Marrón, A., Bunch, K., Martín-Sánchez, J.C., Martínez-Sánchez, J.M. (2019) Measuring precarious

- employment in Europe 8 years into the global crisis. *Journal of Public Health* 41(2): 259-267.
- Meyer, J.W. (1982) Bureaucratic vs. profit organization. In by Staw, B.M and Cummings (eds), L.L *Research in organizational behaviour*, Greenwich, CT: JAI, pp 89-126 edited.
 - Mottaz, C. J. (1984) Education and work satisfaction. *Human Relations* 37(11): 985-1004.
 - Mottaz, C. J. (1987) Age and work satisfaction. *Work and Occupations* 14(3): 387-409.
 - Murphy, P., Blackaby, D., O'Leary, N and Staneva, A (2020) Understanding What Has Been Happening to the Public-Sector Pay Premium in Great Britain: A Distributional Approach Based on the Labour Force Survey. *British Journal of Industrial Relations* 58(2): 273-300.
 - Ortiz, L. (2007) Not the Right Job, but a Secure One: Over-education and Temporary Employment in France, Italy and Spain. Universitat Pompeu Fabra paper 2007-23.
 - Ostroff, C. (1992) The Relationship Between Satisfaction, Attitudes and Performance: An Organizational Level Analysis. *Journal of Applied Psychology* December: 963-974.
 - Paine, F.T, Stephen, C.J. and Leete, B.A. (1966) Need satisfactions of managerial level personnel in a government agency. *Journal of Applied Psychology* 50(3): 247-249.
 - Perry, J. L. and Hondeghem, A. (2008) *Motivation in Public Management: The Call of Public Service*, Oxford: Oxford University Press.
 - Perry, J. L. and Porter, L.W. (1982) Factors affecting the context for motivation in public organizations. *Academy of Management Review* 7(1): 89-98.
 - Perry, J. L. and Rainey, H.G. (1988) The public-private distinction in organizational theory: A critique and research strategy. *Academy of Management Review* 13(2): 182-201.
 - Pirani, E. and Salvini, S. (2015) Is temporary employment damaging to health? A longitudinal study on Italian workers. *Social Science & Medicine* 124: 121-131.

- Porter, L.W. and Mitchell, V.F. (1967) Comparative study of need satisfactions in military and business hierarchies. *Journal of Applied Psychology* 51(2): 139-144.
- Rainey, H. G., Backoff, R.W. and Levine, C. (1976) Comparing public and private organizations. *Public Administration Review* 36(2): 182-201.
- Reiner, M. D. and Zhao, J. (1999) The determinants of job satisfaction among United States Air Force security police. *Review of Public Personnel Administration* 19(3): 5-18.
- Rhinehart, J.B., Barrell, R., DeWolfe, A.S., Griffin, J.E. and Spaner, F.A. (1969) Comparative study of need satisfactions in governmental and business hierarchies. *Journal of Applied Psychology* 53(3): 230-235.
- Robone, S., Jones, A.M. and Rice N. (2011) Contractual conditions, working conditions and their impact on health and well-being. *European Journal of Health and Economy* 12: 429-444.
- Ryan, A.M., Schmidt, M.J. and Johnson, R. (1996) Attitudes and Effectiveness: Examining Relations at an Organizational Level. *Personnel Psychology*, Winter: 853-882.
- Sánchez-Sánchez, N M, and Fernández, A.C. (2014) Educational and skill mismatches: differential effects on job satisfaction. A study applied to the Spanish job market. *Estudios de Economía* 41(2): 261-281.
- Sánchez-Sánchez, N M, and Fernández, A.C. (2019) Is women's satisfaction higher than men's?: self-selection, expectations of utility function. *Acta Aoeconomica* 69(2): 267-295.
- Sánchez-Sánchez, N M, and Fernández, A.C. (2020) Public Versus Private Job Satisfaction. Is there a Trade-off between Wages and Stability?. *Public Organization Review* 472, DOI : 10.1007/s11115-020-00472-7.
- Satuf, C., Monteiro, S., Pereira, H., Esgalhado, G., Alfonso, R.M. and Loureiro, M. (2018) The protective effect of job satisfaction in health, happiness, well-being and self-esteem. *International Journal of Occupational Safety and Ergonomics* 24(2): 181-189.
- Schumann P. and Kuchinke, L. (2019) Do(n't) worry, it's temporary: the effects of fixed-term employment on affective well-being. *SOEP papers on Multidisciplinary Panel Data Research* 1065, DIW Berlin.

- Sloane, P.J. and Williams, H. (2000) Job satisfaction, comparison earnings and gender. *Labour* 14(3): 473-501.
- Solomon, E. (1986) Private and public sector managers: An empirical investigation of job characteristics and organizational climate. *Journal of Applied Psychology* 71(2): 247-259.
- Sousa-Poza, A. and Sousa-Poza, A.A. (2000) Taking another look at the gender/job satisfaction paradox, *Kyklos* 53: 135-52.
- Souza-Poza A, and Sousa-Poza A.A. (2007) The effect of job satisfaction on labour turnover by gender, An analysis for Switzerland. *The Journal of Socio-Economics*, 36: 895-913.
- Steel, B.S. and Warner, R.L. (1990) Job satisfaction among early labor force participants: Unexpected outcomes in public and private sector comparisons. *Review of Public Personnel Administration* 10(3): 4-22.
- Steijn, B. (2004) Human resource management and job satisfaction in the Dutch public sector. *Review of Public Personnel Administration* 24: 291-303.
- Steijn, B and Voet, J. (2017) Relational job characteristics and job satisfaction of public sector employees: When prosocial motivation and red tape collide. *Public Administration*. 97(1).
- Stimson, J. and Johnson, T. (1977) Tasks, individual differences, and job satisfaction. *Industrial Relations* 3: 315-322.
- Taylor, J. and Westover, J.H. (2011) Job Satisfaction in the public service: The effects of public service motivation, workplace attributes and work relations. *Public Management Review* 13(5): 731-753.
- Thijs, N., Hammerschmid, G. and Palaric, E. (2017) *A comparative overview of public administration characteristics and performances in Europe* 28, European Commission.
- Tietjen, M. and Myers, R.M. (1998) Motivation and Job satisfaction. *Management Decision* 36(4): 226-231.
- Ting, Y. (1997) Determinants of job satisfaction of federal government employees. *Public Personnel Management* 26(3): 313-334.
- Van Aerden, K., Puig-Barrachina, V., Bosmans, K. and Vanroelen, C. (2016) How does employment quality relate to health and job satisfaction in Europe? A typological approach. *Social Science and Medicine*, 158: 132–140.
- Whorton, J.W. and Worthley, J.A. (1981) A perspective on the challenge of public

- management: Environmental paradox and organizational culture. *Academy of Management Review* 6(3): 357-361.
- Winkelmann, L. and Winkelmann, R. (1997) Why are the unemployed so unhappy? Evidence from panel data. *Economica* 65(257): 1-15.
 - Witte, H. and Näswall, K. (2003) Objective vs Subjective job insecurity: consequences of temporary work and job satisfaction and organizational commitment in four European Countries. *Economic and Industrial Democracy* 24 (2): 149-188.
 - Zeytinoglu, I. U., Yilmaz, G., Keser, A., Inelmen, K., Uygur, D., and Özsoy, A. (2013) Job satisfaction, flexible employment and job security among Turkish service sector workers. *Economic and Industrial Democracy* 34(1): 123–144.