# JRC Scientific and Technical Reports

# Why are managers happier than workers?

**Elena Arjona Perez, Beatrice D`Hombres and Massimiliano Mascherini**

**JRC**
EUROPEAN COMMISSION

**ipsc**
Institute for the Protection
and Security of the Citizen

**CRELL**
*Centre for Research
on Lifelong Learning*

# Why are managers happier than workers?

**Elena Arjona Perez, Beatrice D`Hombres and Massimiliano Mascherini**

The mission of the JRC-IPSC is to provide research results and to support EU policy-makers in their effort towards global security and towards protection of European citizens from accidents, deliberate attacks, fraud and illegal actions against EU policies.

***Europe Direct is a service to help you find answers
to your questions about the European Union***

**Freephone number (*):**

**00 800 6 7 8 9 10 11**

(*) Certain mobile telephone operators do not allow access to 00 800 numbers or these calls may be billed.

A great deal of additional information on the European Union is available on the Internet.
It can be accessed through the Europa server http://europa.eu/

# I. Introduction

Work has a central role in many people's lives and therefore is one important factor affecting their level of well-being. Many researchers, inspired by Andrew Clark's extensive work on the topic, have tried to explain job satisfaction with objective working conditions (income, working hours, etc). More recently, there has been a growing interest in understanding how intangible job characteristics (autonomy, prestige, stress, etc ) affect job satisfaction.

The effect of the occupational choice has however received far less attention. Yet, as one climbs the ladder of occupations (from elementary positions, to workers and professionals until senior officials and managers, using the ISCO-88 classification) the self-reported levels of general happiness and job satisfaction tend to increase. Based on raw figures, Smith (20007) shows that in US the occupations with the least happy people are manual and service positions, for which little skills are necessary. The same pattern is distilled from the data of the European Social Survey 2006/2007. Those preliminary findings motivate the current study. Indeed we aim to understand what drives such variations of job satisfaction across occupations.

In order to answer to the research question, we adopt a stepwise approach and test whether the differences across occupation in the level of self-reported job satisfaction are due to confounding factors lying at the individual, household and job levels or the effect of the occupation as such. Among the variables used in the analysis, we are particularly interested in the effect of autonomy, supervisory tasks, influence in decision-making and opportunities to learn on job satisfaction. Those unconventional job related variables are rarely considered in the literature and could in large part explain cross occupation variations in job satisfaction.

The main data used in the paper are drawn from the 2006/2007 European Social Survey (henceforth ESS3), a cross-country survey which was administered on a nationally representative sample of 25 countries. The data provides information on the socio-economic characteristics of the respondents, including relevant job-related variables (which can proxy the level of autonomy, risk, responsibility, participation in decision-making processes, satisfaction with wage, working hours, etc). In addition, one specific module explores both personal and inter-personal aspects of well-being (Huppert et al., 2009). We check the robustness of our main findings with data from an alternative source, the European Working Conditions Survey (henceforth EWCS). This survey, which focuses on quality of work, covers in detail all aspects of working conditions: career and employment security (employment status, income, worker's rights, etc), health and well-being (risk exposure, health problems, work organization), skills development and work-life balance. While the ESS3 just measures household income, EWCS allows us to control for the income level of individuals.

The outcome of this empirical study is the following: when the effect of other variables is not accounted for, being a Manager yields a satisfaction premium twice as big that

provided by Workers positions. This substantial satisfaction gap between those holding Managerial positions and Workers practically disappears when we control for individual, household and work related variables. It is important to note that, even though the differences across occupations are reduced, all occupations bring about more job satisfaction than manual and services positions. All results still hold when using an alternative data set (the EWCS). They are also robust to alternative estimation procedures.

The rest of the paper is organized as follows: section 2 briefly reviews the literature on job satisfaction; section 3 describes the datasets used in the analysis; section 4 presents the methodology and results. Section 5 discusses the empirical findings; section 6 concludes.

## II. Literature Review

The economic literature on job satisfaction comes from two areas of research. On the one hand, welfare economists interested in the analysis of happiness consider job satisfaction as a domain-specific measure of subjective well-being (Van Praag et al., 2003; Warr, 1999). Originally a matter in the realm of psychology (Kahneman et al., 2003; Seligman, 2002; Diener, 1984) the study of well-being has attracted the attention of many economists in recent years (to name just a few Easterlin, 1995; Clark &Oswald, 1994; Frey & Stutzer, 2000; Layard, 2005). In the psychologists' tradition, the analysis of life satisfaction[1] can be approached from three angles: assessing objective conditions (for example, actual superiors' feedback), focusing on perceptions[2] (i.e. worker feels that his performance is recognized) or studying the match between aspirations and attainment (worker feels as much appreciated as he expects to be). In addition, the overall evaluation (for example, job satisfaction) can differ from contentment with specific features (i.e. working conditions, responsibility, etc…). In any case, the subjective nature of happiness makes it difficult to compare and add individual well-being levels. The scarcity of detailed data has been a significant obstacle to the measurement of well-being. In the wake of the growing interest in the subject, a number of comprehensive questionnaire modules have been included in national and international surveys. This is the case of the GSS (prepared by the US National Opinion Research Center) and in Europe, the 2005 ESS module on Personal & Social Well-being.

Happiness is commonly defined either as pleasure attainment (hedonic approach) or as the degree to which a person is fully functioning (eudaimonic approach, Ryan & Deci, 2001). As work is one of the domains at which individuals try to fulfil their potential,

---

[1] Dolan et al. (2008) grouped the determinants of happiness covered in the literature as follows: personal characteristics (gender, age, personality, etc…), social (education, health, type of job, unemployment, etc…), income, how we spend our time (work/life balance, volunteering, etc…) , attitudes and beliefs towards self/others/life ( confidence, religion, etc..), relationships (marriage, having children), environment, economic, social, political determinants (inequality, institutions, safety, urbanization, etc…).

[2] Furthermore, Kahneman and Krueger (2006) suggested that perceptions of (recent) experiences are a better measure of subjective well-being that the individual responses to standard, evaluative, questions.

many researchers have turned their attention to the study of satisfaction with this aspect of life. To start with, having a job already appears to make a difference. In effect, there is now enough evidence that the unemployed are less happy than those in jobs (Clark & Oswald, 1994; Winkelmann & Winkelmann, 1998). Employment is also the most common source of revenue. The effect of the income on well-being is a subject of much controversy since Easterlin first enunciated its famous paradox (Easterlin, 1974; Easterlin, 1995; Easterlin, 2001; Frijters et al., 2004).

On the other hand, within the sphere of labour economics, researchers regard job satisfaction as a good indicator of worker's general evaluation of working conditions. Although subjective, it is used in the literature (Freeman, 1978; Clark, 2004, Akerlof et al., 1988) as an explanatory variable of workers' behavior (i.e. productivity, quits, early retirement, etc). The main sources of information of this type of studies are labor surveys, surveys combining both employers' and employees' data and administrative information addressing elements of quality of work.

Whether concerned with the well-being or with the performance of workers, when studying job satisfaction economists tend to focus on the determinants of such satisfaction. These determinants are often grouped into individual characteristics and job-related factors. Concerning individual characteristics, there is some evidence that age (Clark et al., 1996; Sloane & Ward, 2001; Blanchflower & Oswald, 1999), gender (Clark, 1997; Sousa-Poza & Sousa-Poza, 2000), marital status (Clark, 1997; Sousa-Poza & Sousa-Poza, 2000) education (Clark & Oswald, 1996; Hamermesh, 2001) and health condition (Clark et al., 1996)[3] have significant effects on job satisfaction. The job related characteristics influencing job satisfaction can be grouped into conventional features and unconventional, intangible or unobserved elements. The first group of variables has been extensively used in the literature. They include objective working conditions such as wage, hours worked, income comparison (Clark & Oswald, 1996), exposure to risks, sector (Gazioglu & Tansel, 2006) and union status (Borjas, 1979; Bryson et al., 2004). In contrast, the effect of intangible job characteristics such as opportunities to learn (Gazioglu & Tansel, 2006), autonomy (Bradley et al., 2003), supervisory role (Blanchflower & Oswald, 1999), participation in decision-making processes, prestige, trust (Helliwell & Huang, 2008) have started to receive attention much later.

The impact of the choice of the occupation on the level of well-being at work is another aspect neglected by researchers. Based on raw figures, Smith (2007) shows that in US the occupations with the least happy people are manual and service positions, for which little skills are necessary. On the other end, the happiest people have professions involving helping others, technical and scientific expertise and creativity. A number of papers has analyzed the level and determinants of life and job satisfaction for specific occupations (Hedley, 1981; Gavin & Kelley, 1978; Sloane & Ward, 2001; Shields & Price, 2002). However, to the best of our knowledge, there are no attempts to explain the variations in the level of job satisfaction across occupations. We aim to contribute to this branch of the

---

[3] The opposite relationship (that is, the effect of job satisfaction on self-reported measures of health) has been analyzed at length by health scientist and organizational psychologists (Faragher et al., 2005) before economists (Fischer & Sousa-Poza, 2009).

literature by analysing first whether the occupation held by the respondents affect their level of job satisfaction and second, the reasons underlying those cross-occupation variations.

## III. Data

The data used in the paper is drawn from the 2006/2007 *European Social Survey* (ESS3) covering 25 countries (total sample size 37044). The ESS is funded jointly by the European Commission, the European Science Foundation and academic funding bodies in each participating country. Data collection takes place every two years, by means of face to face interviews[4]. The questionnaire consists in a core module that is repeated in all rounds plus two rotating modules in each round. The core module contains questions on health and well-being as well as detailed information on socio-economic characteristics of the respondent and her household. In particular, it contains information on household composition, sex, age, education of respondent and partner, income, marital status. It includes a wide range of job-related questions such as past unemployment experience, type of contract, establishment size, sector, occupation of respondent and partner, hours worked, union membership or even the degree of influence, autonomy or responsibility that the respondent enjoys at work.

In 2005 the ESS3 included a rotating module on Personal and Social Well-Being which reflects the most recent theoretical developments on the analysis of happiness. It incorporates questions about how the respondent feels but also how does he functions (i.e. sense of autonomy, competence, interest, etc), not only at personal level, but also at inter-personal or social level. In addition, the module includes general evaluative questions as well as more specific questions about recent events (i.e what happened in the last seven days). The module assesses the individual feelings and functioning within and across domains. In particular, it explores job satisfaction as well as positive and negative affect at work.

In our analysis we also use data from the *European Working Condition Survey* (EWCS) (EFILWC, 2007; Parent-Thirion et al., 2007). The EWCS is a cross-country survey conducted by the European Foundation for the Improvement of Living and Working Conditions (EFILWC) once every five years[5]. In 2005 the survey included 31 countries (the 27 current EU member states plus Croatia, Turkey, Switzerland and Norway). The survey is based on a questionnaire which is administered face-to-face to a random sample of "persons in employment" (i.e. employees and the self-employed), representative of the working population in each EU country (aged 15 years and over). Retired and unemployed persons, housewives and students, etc., were excluded. The total sample size is 29,680. The questionnaire covers individual and job characteristics (i.e. age, living with partner, occupation, working time, size of firm, etc...). The EWCS also explores job satisfaction, as a proxy for a general assessment of quality of work. More importantly, the questionnaire covers in detail all aspects of working conditions: career and employment

---

[4] The first round was in 2002/2003, the second round in 2004/2005 and the third one in 2005/2006. The ESS3 rotating modules: Personal & Social Well-being; The Timing of Life.
[5] The EWCS series began in 1990-1991.

security (employment status, income, worker's rights, etc), health and well-being (risk exposure, health problems, work organization), skills development and work-life balance.

The ESS3 and the EWCS were conducted for very different purposes: the former seeks to explore well-being across life domains whereas the latter focuses on quality of work and employment. Interestingly enough, the ESS3 and the EWCS share, however, many useful features. In effect, these two surveys have the same geographical and time coverage (most European countries, year 2005). Both surveys report the occupation and job satisfaction of adults in employment. The same control variables at individual, household and job level can be measured using either survey[6]. Because of these similarities, we employ the EWCS to check the robustness of the conclusions obtained using ESS3 data. The ESS3 remains however the main dataset for the present study because it reports the general level of happiness, as well as detailed information on domain-specific aspects of individual well-being.

# IV. Methodology

## IV.1 Econometric framework

We explore the impact of occupation on job satisfaction using the following econometric framework:

$$Y_i = X_i \beta + \sum_{j=1}^{J} Occ_j \delta_j + \varepsilon_i \qquad (1)$$

where $Y_i$ is the level of subjective job satisfaction of individual $i$, $X_i$ is a set of observable individual covariates, $Occ_j$ is a set of occupational dummy variables and $\varepsilon_i$ is the error term.

Because the focus of our study is to evaluate whether occupation has an effect on job satisfaction, we include only individuals aged between 18 and 65. In the case of the ESS we have selected the respondents who report being in paid work in the 7 days prior to the interview. All EWCS respondents are persons in employment. Final sample size is 10294 for the ESS and 9390 for the EWCS. We use data from the 18 countries for which there is information on the complete set of variables included in the analysis in both the ESS and the EWCS: Belgium, Bulgaria, Cyprus, Denmark, Estonia, Finland, France, Germany, Hungary, Norway, Poland, Portugal, Slovenia, Slovakia, Spain, Sweden, Switzerland, and the United Kingdom.

---

[6] In some cases, however, one of the datasets offers a better proxy for the concept under analysis. As for example, the ESS inquires about household income, whereas the EWCS incorporates data on individual earnings. One expects the latter measure of income to be more correlated with job satisfaction and personal well-being that the former.

The dependent variable is self-reported job satisfaction. This variable is coded in the ESS on an eleven-point scale running from "extremely dissatisfied" to "extremely satisfied". The EWCS uses a four-point scale running from "not at all satisfied" to "very satisfied". The mean of job satisfaction in the ESS sample is 7.21 (standard deviation 2.01). The Nordic countries are all above that mean, with Denmark scoring the highest level of job satisfaction in the sample (7.8). Most Southern and Eastern Europe countries achieve low levels of job satisfaction, with Bulgaria at the bottom end of the rank (average job satisfaction 6.586). Great Britain, France and Germany attain job satisfaction levels of about 7.

The set of control variables, $X_i$ includes individual and household covariates as well as conventional and unconventional job-related characteristics. Country dummies are also introduced in all specifications. Appendix Table A1 provides detailed information on the explanatory variables used to estimate equation (1) both in the ESS sample and in the EWCS sample. Appendix Table A2 reports descriptive statistics for the ESS sample, by country.

The main variables of interest are the set of five occupational dummies. To determine the respondent's occupation, the ESS includes three questions (title, description of job and qualifications required)[7]. This information is used to create a post-coded variable that follows the ILO's ISCO88 classification, at four digits. We have grouped occupations into 5 groups[8]: Senior Officials or Managers (henceforth Managers), Professionals, Technicians, Workers and Elementary Occupations (or Labourers). The ISCO standards classifies jobs according to (the complexity of) the tasks and duties undertaken in the job. At major group level, it does not differentiate between sectors of activity[9].

Table 1 below shows the distribution of occupations in the samples. Workers represent by far the largest group (they account for 46% of the ESS sample and 48% of the EWCS sample), followed by Technicians (around 20% in both samples) and Professionals (18% in ESS and 15% in EWCS). The percentage of respondents performing manual or service tasks is just 8% in the ESS sample but rises to 13% in the EWCS sample. Appendix Table A2 shows the distribution of occupations for each country[10]. The Northern and richer countries tend to have more persons in employment at the upper level of the occupation ladder than the Southern or Eastern countries.

Table 1 shows the mean job satisfaction by occupation, for both the ESS sample and the EWCS sample. Respondents with higher occupational level tend to report higher job

---

[7] The size of the firm and sector of activity are also taken into account for the post-coding of the respondent's occupation (ref: ESS 2006 Data Protocol Edition 1.4, August 2006)

[8] Occupations were first grouped at the level of the ten ISCO major groups (one digit). After excluding Armed forces, groups 4 to 8 (Clerks, Service workers, Agricultural and fishery workers, Trade workers, Machine Operators) were further clustered into one category: Workers.

[9] For instance, the sub-major group 21 is "Physical, Mathematical and Engineering Science Professionals", whereas the sub-major 24 refers to "Legal and Business Professionals". However, these two types of professionals are confounded at major level 2.

[10] Numbers under column "Mean" show the frequency of each occupation (summing up to 1).

satisfaction. All means are crowed together in the upper level of the satisfaction scale. The difference between the highest and the lowest mean job satisfaction is 1.13 points (10%) for the ESS and 0,30 points (6%) for the EWCS. In particular, the satisfaction gap between Managers and Workers amounts to just 5% in both cases. Table 1 displays the test statistics for mean differences across occupations. Using data from the ESS, all means appear to be statistically different from each other, except for the case of Managers against Professionals, suggesting that these two groups may be statistically similar. In the EWCS case, we also observe significant differences across occupations in job satisfaction except for the pairs Managers/Professionals Managers/Technicians and Professional/Technicians.

**Table 1: Mean Job Satisfaction by Occupation**

| ESS | How satisfied are you with your present job, all things considered? (range 0-10) | | | EWCS | How satisfied are you with working conditions in your main paid job? (range 1-4) | | |
|---|---|---|---|---|---|---|---|
| Occupation (ISCO 88) | Mean | Std.Dev | Freq. | Occupation (ISCO 88) | Mean | Std.Dev | Freq. |
| Senior Officials and Managers | 7.650 | 1.728 | 812 | Senior Officials and Managers | 3.199 | 0.708 | 487 |
| Professionals | 7.566 | 1.722 | 1819 | Professionals | 3.149 | 0.662 | 1387 |
| Technicians | 7.308 | 1.866 | 2090 | Technicians | 3.169 | 0.679 | 1798 |
| Workers | 7.068 | 2.102 | 4756 | Workers | 2.995 | 0.727 | 4477 |
| Elementary Occupations | 6.517 | 2.387 | 817 | Elementary Occupations | 2.906 | 0.715 | 1241 |
| Total | 7.207 | 2.011 | 10294 | Total | 3.050 | 0.713 | 9390 |
| diff = mean(Senior O) - mean(Professi) | $Pr(|T| > |t|) = 0.2452$ | | | diff = mean(Senior O) - mean(Professi) | $Pr(|T| > |t|) = 0.1539$ | | |
| diff = mean(Senior O) - mean(Technici) | $Pr(|T| > |t|) = 0.0000$ | | | diff = mean(Senior O) - mean(Technici) | $Pr(|T| > |t|) = 0.3811$ | | |
| diff = mean(Senior O) - mean(Workers) | $Pr(|T| > |t|) = 0.0000$ | | | diff = mean(Senior O) - mean(Workers) | $Pr(|T| > |t|) = 0.0000$ | | |
| diff = mean(Senior O) - mean(Elementa) | $Pr(|T| > |t|) = 0.0000$ | | | diff = mean(Senior O) - mean(Elementa) | $Pr(|T| > |t|) = 0.0000$ | | |
| diff = mean(Professi) - mean(Technici) | $Pr(|T| > |t|) = 0.0000$ | | | diff = mean(Professi) - mean(Technici) | $Pr(|T| > |t|) = 0.4047$ | | |
| diff = mean(Professi) - mean(Workers) | $Pr(|T| > |t|) = 0.0000$ | | | diff = mean(Professi) - mean(Workers) | $Pr(|T| > |t|) = 0.0000$ | | |
| diff = mean(Professi) - mean(Elementa) | $Pr(|T| > |t|) = 0.0000$ | | | diff = mean(Professi) - mean(Elementa) | $Pr(|T| > |t|) = 0.0000$ | | |
| diff = mean(Technici) - mean(Workers) | $Pr(|T| > |t|) = 0.0000$ | | | diff = mean(Technici) - mean(Workers) | $Pr(|T| > |t|) = 0.0000$ | | |
| diff = mean(Technici) - mean(Elementa) | $Pr(|T| > |t|) = 0.0000$ | | | diff = mean(Technici) - mean(Elementa) | $Pr(|T| > |t|) = 0.0000$ | | |
| diff = mean(Workers) - mean(Elementa) | $Pr(|T| > |t|) = 0.0000$ | | | diff = mean(Workers) - mean(Elementa) | $Pr(|T| > |t|) = 0.0001$ | | |
| Source: European Social Survey, 2006/7 | | | | Source: European Working Conditions Survey, 2005 | | | |

Having observed that the mean job satisfaction of Managers and Professionals appear not to be statistically different from each other, we group together these two categories under a new category labeled "Senior Officials, Managers and Professionals". Table 2 shows the distribution of occupations in the sample and the test statistics for mean differences.

**Table 2: Mean Job Satisfaction by Occupation (four occupational categories)**

| ESS | How satisfied are you with your present job, all things considered? (range 0-10) | | | EWCS | How satisfied are you with working conditions in your main paid job? (range 1-4) | | |
|---|---|---|---|---|---|---|---|
| Occupation (ISCO 88) | Mean | Std.Dev | Freq. | Occupation (ISCO 88) | Mean | Std.Dev | Freq. |
| Senior Officials Managers Professionals | 7.592 | 1.724 | 2631 | Senior Officials Managers Professionals | 3.162 | 0.674 | 1874 |
| Technicians | 7.308 | 1.866 | 2090 | Technicians | 3.169 | 0.679 | 1798 |
| Workers | 7.068 | 2.102 | 4756 | Workers | 2.995 | 0.727 | 4477 |
| Elementary Occupations | 6.517 | 2.387 | 817 | Elementary Occupations | 2.906 | 0.715 | 1241 |
| Total | 7.207 | 2.011 | 10294 | Total | 3.050 | 0.713 | 9390 |
| diff = mean(Senior O) - mean(Technici) | Pr(|T| > |t|) = 0.0000 | | | diff = mean(Senior O) - mean(Technici) | Pr(|T| > |t|) = 0.7596 | | |
| diff = mean(Senior O) - mean(Workers) | Pr(|T| > |t|) = 0.0000 | | | diff = mean(Senior O) - mean(Workers) | Pr(|T| > |t|) = 0.0000 | | |
| diff = mean(Senior O) - mean(Elementa) | Pr(|T| > |t|) = 0.0000 | | | diff = mean(Senior O) - mean(Elementa) | Pr(|T| > |t|) = 0.0000 | | |
| diff = mean(Technici) - mean(Workers) | Pr(|T| > |t|) = 0.0000 | | | diff = mean(Technici) - mean(Workers) | Pr(|T| > |t|) = 0.0000 | | |
| diff = mean(Technici) - mean(Elementa) | Pr(|T| > |t|) = 0.0000 | | | diff = mean(Technici) - mean(Elementa) | Pr(|T| > |t|) = 0.0000 | | |
| diff = mean(Workers) - mean(Elementa) | Pr(|T| > |t|) = 0.0000 | | | diff = mean(Workers) - mean(Elementa) | Pr(|T| > |t|) = 0.0001 | | |
| Source: European Social Survey, 2006/7 | | | | Source: European Working Conditions Survey, 2005 | | | |

The EWCS data casts doubts about the difference between the mean satisfaction of the group of "Officials, Managers and Professionals" and the mean job satisfaction of the next group (Technicians). We assume that this result derives from the similarity between the satisfaction means of Professionals and Technicians observed when using five occupational categories.

## IV.2 Stepwise approach: empirical results

We aim to evaluate whether the differences in job satisfaction that we observe across Occupations are maintained once we control for relevant variables at individual, household and work related level. We therefore adopt a stepwise approach which consists in regressing self-reported job satisfaction on Occupational dummies and adding control variables at each step, so that the final specification will involve all variables, as in equation (1). In order to check the robustness of our conclusions, we apply the same approach to the alternative sample from the EWCS. All estimates presented in this section are performed using Ordinary Least Squares (OLS). The outcome of both series of specifications is reported in Table 3 (only occupational coefficients). Appendix Tables A3 and A4 display all estimation results for the ESS and the EWCS.

**Model 1**: **At this first step, job satisfaction is explained just by Occupational dummies and country dummies**.

Results are presented in Table 3 column (1) (ESS dataset) and column (5) (EWCS dataset). The occupations enter in the job satisfaction equation (1) as dummy variables that take the value of one if the respondent belongs to that occupation $O$ (with $O$ running from 1 to 4), zero otherwise. The omitted category is Elementary Occupations (or Labourers). As reported in Table 3, the coefficients associated with the three remaining occupational dummies are significantly different from zero. The coefficients of the occupational dummies give the "extra level" of job satisfaction (or percentage increase) associated with that occupation, with respect to the job satisfaction achieved by

Labourers. The quantitative effect increases as one climbs the ladder of occupations. Indeed, being a Manager/Professional provides a "satisfaction bonus" of 9% (or nearly 1 point in an eleven-points scale) whereas Worker's satisfaction is 4,6% (or 0.51 points) higher that the satisfaction of those performing manual tasks. In other words, Managers' satisfaction bonus nearly doubles that of Workers. This results hold when using the EWCS dataset, although in this case Managers/Professionals achieve an extra satisfaction of 6.1% with respect to those engaged in manual labor (or 0.24 points in a four points scale) whereas Workers report a plus of satisfaction of 2%.

**Model 2: As in model 1, plus individual variables and household variables.**

Results are presented in second (for ESS) and sixth (for EWCS) columns of Table 3. The individual and household variables introduced in the model are those frequently used in the literature. Individual characteristics are gender, age, age squared, citizenship status, whether the respondent belongs to a minority group, general health state and years of education. Household variables include marital status, size of household, whether the respondents have children living at home and whether the respondent's partner works. The ESS gives information on *household* earnings whereas the EWCS reports *individual* revenues, which is obviously a more accurate indicator of income. Yet, we cannot control for *actual* revenues, as respondents are not asked directly about their resources. Instead, individuals are given a set of income bands so that they can indicate in which band their earnings lie[11] (see Appendix Table A1 for a description of variables).

In comparison with the previous step, the quantitative effects of the occupational variables do not change substantially. After controlling for individual and household characteristics, being a Manager/Professional would provide an extra job satisfaction of 8,8% (over Laborers) whereas being a Worker gives a plus of contentment of 4,6%.

With EWCS data, the quantitative effects of occupational variables appear to be smaller than in the previous specification. Managerial/Professional positions now provide a 3,1% more satisfaction at work than Manual and Service positions. They have lost half of their satisfaction bonus. The satisfaction gap between Workers and those performing the most basic tasks is reduced to 1,4%. The changes in the occupational coefficients due to the introduction of individual and household variables in equation (1) are more noticeable when using EWCS because this survey measures individual income more precisely than the ESS.

Regarding the effect of the control variables, our results are in line with what was found by Clark (1996) with respect to health status (a significant and positive effect). Gender is non significant in our study. This result is in line with Sousa-Poza & Sousa-Poza, (2000) who also show that the gender gap in job satisfaction do not exist or can be explained by differences in working conditions or wages, for most of the countries in their sample (21 countries). However, it contradicts Clark (1997) who observes a higher job satisfaction for women even though they have worse jobs than men. The author suggests that this

---

[11] Giving respondents a scale tends to produce higher response rates than asking directly about income. The variable income is in a 12-points scale in the ESS and in a 10-points scale in the EWCS.

could be due to lower job expectations form women with respect to men. Age seems to have a negative effect, which could suggest that older workers suffer a certain job fatigue and therefore tend to report lower job satisfaction. Most of the literature (Clark et al., 1996, Sloane & Ward, 2001; Blanchflower & Oswald, 1999) reports a U-shape relationship between age on job satisfaction. By contrast, neither the marital status of the respondent nor the fact that the spouse/partner works affect the respondent's job satisfaction[12]. The effect of education on job satisfaction is negative. This could be explained by the fact that expectations increase with the level of education and if those expectations are not met, the satisfaction at work tends to be lower (Hamermesh, 2001).

**Model 3:  Model 2 + classical job-related variables.**

Equation (1) now includes a set of work-related variables which at this step comprise "conventional" determinants of job satisfaction usually found in the literature: a dummy variable to indicate whether the respondent is self-employed, type of contract (no contract, limited or unlimited), sense of job security, hours worked, hours worked squared, size of establishment and sector of activity. Results are presented in third (for ESS) and seventh (for EWCS) columns of Table 3.

Having any occupation other than Laborer still brings about more job satisfaction. That is, after controlling for conventional working conditions all occupational coefficients $\beta_1$ are significant. However, the positive effect on satisfaction of being a Manager/Professional or a Technician has considerably diminished. As the satisfaction bonus for Managers/Professionals drops more than one percentage point, so does the gap between those and Workers. This suggests that conventional working conditions account for a large part of the observed differences in job satisfaction across occupations. Yet, these factors alone do not fully explain the different job satisfaction levels.

With the EWCS data, the coefficients of the occupational variables change less when passing from specification 2 to 3 than in the previous step.

The quantitative effects of the conventional working conditions variables on job satisfaction are not significant, with the notable exception of sense of job security. In effect, the lower the probability of becoming unemployed in the next 12 months is, the higher the job satisfaction. This conclusion clearly matches the existing evidence on the importance of job security (Clark, 2001; Blanchflower & Oswald, 1999) and the negative effects of unemployment on job and life satisfaction (Clark & Oswald, 1994; Lucas et al., 2004).

**Model 4: Model 3 + non conventional job related characteristics.**

At this final step, we include in the model non conventional job-related variables, such as the level of responsibility (as number of people the respondent supervises), the autonomy

---

[12] A number of papers have demonstrated a positive correlation between marital status and life satisfaction (Blanchflower & Oswald, 2004). Clark (1996) finds the same positive relationship between marital status and job satisfaction.

(as the degree of which the respondent is allowed to decide how daily work is organized), the influence (as the degree of which the respondent can influence policy decisions about the firm activities) and the opportunities to learn that the respondent enjoys at work. Results are presented in Table 3, fourth (ESS) and eight (EWCS) columns.

Whereas skills development and work organization (including worker control) are variables generally used in the job satisfaction literature, the other two covariates (supervisory role and influence) are less popular (Blanchflower & Oswald, 1999). To the best of our knowledge, no research has been conducted to relate non-conventional variables and occupations.

Performing supervisory tasks and influencing decisions entail exerting power. Authority is however not the only issue at play, as these two activities require establishing close (and often tense) contacts with others within the organization. The quality of those relations is very difficult to measure. We can only gauge the degree to which the respondent is exposed to those interactions. We hypothesize that supervisory role, and influence, jointly with opportunities to learn and control over own tasks are determinants of the respondent's overall evaluation of her job. As a matter of fact, using ESS data, all variables appear to have a significant positive effect on job satisfaction, except for the supervisory role.

More importantly, those control variables do influence the way in which the occupational categories affect satisfaction with work. In all models the coefficients of the occupational dummies are significant. However, in the first specification, the differences in extra satisfaction across occupations were noticeable whereas now those gaps are much smaller. In the first model, being a Manager/Professional would prompt nearly twice as much job satisfaction as being a Worker. After controlling for individual, household as well as working conditions, both occupational categories yield about the same extra job satisfaction (with respect to the reference group). Actually, it is at the last specification (i.e. when controlling for non-conventional job-related characteristics) that the gap among those two occupational categories is considerably reduced. At that step, the quantitative effect of being a Worker diminishes for the first time in the series of specifications moving from 4,5% to 3,9%. However, the satisfaction bonus (with respect to Laborers) of Managers/Professionals shrinks from 7,6% to 4,4%. One additional result of the inclusion of non conventional job-related variables in the specification is that the job satisfaction premium of Technicians falls below that of the Workers.

Using the EWCS, adding control variables to the model also narrows the gaps in satisfaction between each of the three occupational categories and the reference group, Labourers. The extra satisfaction obtained by being a Manager/Professional passes from 2,7% in the previous specification to 2,2%. It is now less than one percentage point larger than the coefficient associated with the occupational category Worker.


**Table 3: Estimates of the effect of Occupation on Job Satisfaction**

| VARIABLES | ESS MODEL 1 | ESS MODEL 2 | ESS MODEL 3 | ESS MODEL 4 | EWCS MODEL 1bis | EWCS MODEL 2bis | EWCS MODEL 3bis | EWCS MODEL 4bis |
|---|---|---|---|---|---|---|---|---|
| Senior Official or Manager or Professional | 0.99*** | 0.97*** | 0.84*** | 0.49*** | 0.24*** | 0.13*** | 0.11*** | 0.08*** |
|  | (0.09) | (0.10) | (0.10) | (0.11) | (0.03) | (0.03) | (0.03) | (0.03) |
| Technician | 0.69*** | 0.68*** | 0.62*** | 0.37*** | 0.20*** | 0.15*** | 0.13*** | 0.11*** |
|  | (0.09) | (0.10) | (0.10) | (0.10) | (0.03) | (0.03) | (0.03) | (0.03) |
| Worker | 0.51*** | 0.51*** | 0.50*** | 0.43*** | 0.08*** | 0.06** | 0.05** | 0.05** |
|  | (0.09) | (0.09) | (0.09) | (0.09) | (0.02) | (0.02) | (0.02) | (0.02) |
| Constant | 6.85*** | 7.44*** | 6.90*** | 6.75*** | 3.05*** | 3.04*** | 3.04*** | 3.00*** |
|  | (0.11) | (0.52) | (0.56) | (0.55) | (0.04) | (0.12) | (0.14) | (0.14) |
| Observations | 10294 | 10294 | 10294 | 10294 | 9390 | 9390 | 9390 | 9390 |
| R-squared | 0.04 | 0.07 | 0.11 | 0.15 | 0.10 | 0.13 | 0.16 | 0.17 |

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Dependent Variable: Self reported job satisfaction. Values range from 0 to 10 in the ESS and from 1 to 4 in the EWCS.
Control Variables: Additional covariates in column (1) and (5) are country dummies; Columns (2) and (6) include covariates in previous column plus individual and household characteristics such as marital status, having children at home, household size, partner works, household income (ESS) and personal income (EWCS). Columns (3) and (7) include covariates in previous columns plus conventional job variables (duration of contract, sense of job security, size of establishment, sector, hours worked, hours worked squared, self employed or not). Columns (4) and (8) include covariates in previous columns plus unconventional job related characteristics (supervisory role, autonomy, influence, opportunities to learn).

Figure 1 below shows the estimated coefficients of the occupational categories in the four model specifications, for both the ESS and the EWCS (coefficients are expressed as a percentage of the range of the dependent variable Job Satisfaction, as shown in table 3bis).

**Table 3bis: Estimates of the effect of Occupation on Job Satisfaction**

| VARIABLES | ESS (dependent variable Job Satisfaction ranges from 0 to 10) | | | | | | | | EWCS (dependent variable Job Satisfaction ranges from 1 to 4) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | MODEL 1 | | MODEL 2 | | MODEL 3 | | MODEL 4 | | MODEL 1 bis | | MODEL 2 bis | | MODEL 3 bis | | MODEL 4 bis | |
| Official, Manager, Professional | 0.99 | 9.0% | 0.97 | 8.8% | 0.84 | 7.6% | 0.49 | 4.4% | 0.24 | 6.1% | 0.13 | 3.1% | 0.11 | 2.7% | 0.08 | 2.1% |
|  | (0.09) | | (0.10) | | (0.10) | | (0.10) | | (0.03) | | (0.03) | | (0.03) | | (0.03) | |
| Technician | 0.69 | 6.3% | 0.68 | 6.2% | 0.62 | 5.6% | 0.37 | 3.4% | 0.20 | 5.1% | 0.15 | 3.6% | 0.13 | 3.3% | 0.11 | 2.7% |
|  | (0.09) | | (0.10) | | (0.10) | | (0.10) | | (0.03) | | (0.03) | | (0.03) | | (0.03) | |
| Worker | 0.51 | 4.6% | 0.51 | 4.6% | 0.50 | 4.5% | 0.43 | 3.9% | 0.08 | 2.0% | 0.06 | 1.4% | 0.05 | 1.4% | 0.05 | 1.3% |
|  | (0.09) | | (0.09) | | (0.09) | | (0.09) | | (0.02) | | (0.02) | | (0.02) | | (0.02) | |

Robust standard errors in parenthesis
Numbers in shaded areas: coefficients expressed as a percentage of the total number of values (range) of the dependent variable (11 points scale at the ESS and 4 points scale at the EWCS)

**Figure 1: Estimates of the Job Satisfaction return to Occupation**

**Occupation coeficients, ESS**

**Occupation coeficients, EWCS**

Official, Manager, Professional — Technician — Worker

Official, Manager, Professional — Technician — Worker

**Officials, Managers, Professionals (Coeficients and Standard errors), ESS**

**Technicians (Coeficients and Standard errors), ESS**

**Workers (Coeficients and Standard errors), ESS**

We have shown that the job satisfaction premium decreases for all occupational categories when additional covariates are added to the basic model 1. However, there remains a gap in job satisfaction between each of the three occupational categories with respect to the reference category (Laborers). In addition, we noted that most of the difference in job satisfaction between Managers/Professionals and Workers can be explained by non conventional job-related variables. This premium, albeit lower, still persists in the last specification.

# V. Robustness check

## V.1 Job satisfaction, a polychotomous variable

In our analysis we have employed OLS as estimation method for the sake of simplicity. However, the dependent variable (job satisfaction) could be considered a polychotomous variable which categories follow a natural order (extremely satisfied, very satisfied, etc). The coding of the dependent variable reflects a ranking and therefore the difference between a 1 and a 2 cannot be treated as equivalent to the difference between a 2 and a 3. Strictly speaking, using OLS estimates would not be appropriate in this case.[13] Instead, an ordered probit model could be used. Table 4 (ESS sample only) displays the estimated marginal effects associated with the highest level of job satisfaction, and this for each occupational dummy for the four alternative specifications Annex A.4 includes a table with the full set of marginal effects for the three occupational dummies in the four models. Those marginal effects are computed at the mean of the independent variables.

---

[13] Note that according to Ferrer-i-Carbonell & Frijters (2004), presuming ordinality or cardinality of happiness scores makes little difference to the results.

**Table 4: Marginal effects of the occupation on the probability to report the highest level of job satisfaction (ESS)**

|  | (1) MODEL 1 | (2) MODEL 2 | (3) MODEL 3 | (4) MODEL 4 |
|---|---|---|---|---|
| **S. Officials Managers Professionals** | 0.085 | 0.089 | 0.075 | 0.039 |
|  | (0.009) | (0.010) | (0.010) | (0.009) |
| **Technicians** | 0.054 | 0.058 | 0.052 | 0.028 |
|  | (0.009) | (0.009) | (0.009) | (0.008) |
| **Workers** | 0.037 | 0.039 | 0.038 | 0.033 |
|  | (0.007) | (0.007) | (0.006) | (0.006) |
| **Obs.** | 10294 | 10294 | 10294 | 10294 |

Robust standard errors in parentheses
Dependent Variable: Self reported job satisfaction. Values range from 0 to 10.
Control Variables: Additional covariates in column (1) are country dummies; Column (2) includes covariates in previous column plus individual and household characteristics such as marital status, having children at home, household size, partner works, household income (ESS). Column (3) includes covariates in previous columns plus conventional job variables (duration of contract, sense of job security, size of establishment, sector, hours worked, hours worked squared, self employed or not). Column (4) includes covariates in previous columns plus unconventional job related characteristics (supervisory role, autonomy, influence, opportunities to learn).
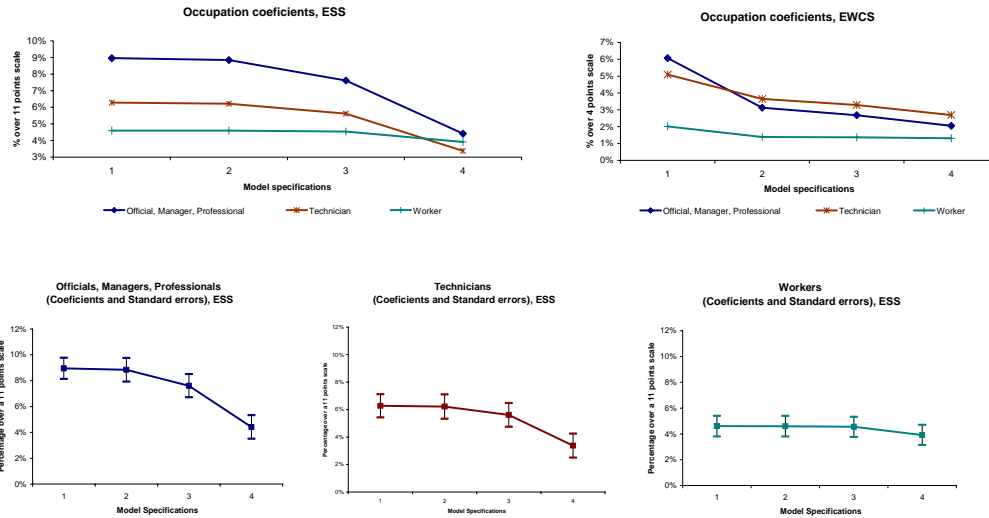Source: European Social Survey 2006/2007

These results are in line with those previously obtained. The three categories (Officials/Managers/Professionals, as well as Technicians and Workers) are more likely to report the highest level of job satisfaction than the reference category (Laborers). Although the estimated marginal effects of those three categories slightly increase when passing from model 1 to model 2, in subsequent specifications the marginal effects decrease as job-related covariantes are included in the job satisfaction equation. For example, in the case of Managers/Professionals, the probability of reporting the highest level of job satisfaction raises by 0,085 when no covariantes but country dummies are included in equation (1) whereas this figure only reaches 0,039 in the less parsimonious specification. Furthermore, we observe that the marginal effects of Managers/Professionals always surpass those associated with the other occupational categories. However, the difference shrinks as the models include more variables. In particular, the gap between the estimated marginal effects associated with Manager/Professionals and those related with Workers practically fade away in the last specification, where we introduced non-conventional job conditions into the model.

## V.2   Endogeneity of the occupational choice

What happens if the selection of an occupation is not random?. If we assume that individuals make occupational choices that depend on unobservable characteristics that are also correlated with job satisfaction, then the disturbance term in equation (1) will have a non zero expectation (and the OLS estimates presented in section 4 could be biased). As for example, it could be possible that one personality trait (such as optimism, a variable that is unobservable) simultaneously affects the self-reported feeling of satisfaction and the probability to choose one specific occupation. This could explain why the Managers and Professionals experience a significant satisfaction premium with

respect to elementary workers, even after controlling for individual characteristics as well as conventional and non conventional job-related characteristics.

To account for the potential endogeneity of the occupational choice, we adopt a control function approach while considering the occupational choice as a multi-treatment case. The control function (henceforth CF) approach relies on similar identification conditions than instrumental variable methods and consists in recovering the causal effect of the treatment (i.e. the occupational choice) by controlling directly in the job satisfaction equation for the correlation between $\varepsilon_i$ and the treatment (occupational choice).

The process of occupational choice is modeled as follows:

$$O^* = W_i\theta + \varsigma_i \tag{2}$$

where O* is a latent unobservable variable, $W_i$ is a set of covariates that includes the control variables $X_i$_introduced in equation (1) as well as a restriction exclusion $Z_i$_that satisfies the following condition $E[\varepsilon_i|Z_i]=E[\varepsilon_i]=0$. Endogeniety arises if $\zeta_i$ is correlated with $\varepsilon_i$. We exploit the sequential order of the four occupational categories and define

$$O_i = j \quad \text{if} \quad \alpha_{j-1} < O^* \leq \alpha_j$$

with j=1,...,4 and j=1(4) corresponding to the lowest (highest) occupations and $\alpha_0$=-∞ and $\alpha_4$=+∞. The other j-1 parameters $\alpha_j$ are unknown and have to be estimated jointly with θ by maximum likelihood. If $\zeta_i$_is normally distributed and Φ(.) is the cumulative standard normal distribution of $\zeta_i$, , then:

$$\Pr(O_i=j) = \Phi(\alpha_j\_- W_i\theta) - \Phi(\alpha_{j-1} - W_i\theta)$$

In the second stage, we estimate the augmented job satisfaction equation given by :

$$Y_i = W_i\theta + \sum_{j=1}^{3} Occ_{ji}\delta_j + \rho\sum_{j=1}^{4} Occ_{ji}\hat{\lambda}_{ji} + \varepsilon_i \tag{3}$$

with $\lambda_{ji}$ the Inverse Mills ratio (IMR) derived from the ordered probit selection rule. The estimated Mills ratios are given by:

$$\hat{\lambda}_{ji} = \frac{\phi(\alpha_{j-1} - W_i\widehat{\beta}) - \phi(\alpha_j - W_i\widehat{\beta})}{\Phi(\alpha_j - W_i\widehat{\beta}) - \Phi(\alpha_{j-1} - W_i\widehat{\beta})}$$

with φ(.) the standard normal density function. The term $\sum_{j=1}^{4}$_$Occ_{ji}\hat{\lambda}_{ji}$ (named control functions) eliminate the bias induced by the endogeneity of the occupational choice. The OLS estimate of equation (3) will produce consistent returns to education under the conditions that the occupational assignment rule is correct and the instrument $Z_i$ satisfies the two necessary conditions to be valid: (i) uncorrelated with $\varepsilon_i$ (orthogonality

condition), (ii) relevant, i.e, strongly correlated with the occupational choice. Because equation (3) includes a generated regressor, the standard errors have to be boostrapped.

We use as exclusion restriction the occupational status of the father. The latter is defined by a set of four occupational dummies that describes the occupation of the father when the respondent was 15 years old. The occupational dummies take value one if the father was respectively a Laborer, a Worker, a Technician or an Official/Manager/Professional, and zero otherwise.

Several studies demonstrate that the individual preferences for specific occupations are in a large part driven by the parents' occupation (see for instance Lentz and Laband 1989) . Similarly, the literature on social mobility in earnings (for example, Goldthrope et al., 1987) also point to the occupation of the father as one important determinant of professional choices made by their offspring. We postulate that once we control for $X_i$ in equation (3), the occupation of the father has not a direct effect on the job-satisfaction of the respondent. The consistency of the results hinges on this assumption being correct.

Results for the first stage regression are displayed in Table (5). We only present the marginal effects of the occupation of the father on the probability for the respondents of being in each of the four occupational categories. As expected, we observe that having a father who was a Technician increases the probability of becoming an Official/Manager or Professional by 0.062 and reduces by 0.08 the probability of being a Worker[14].

**Table 5: First stage estimates. Determinants of the occupational choice of the respondents (marginal effects)**

|  | OCCUPATION OF THE RESPONDENT | | | |
|  | Labourer | Worker | Technician | Professional/Manager |
| --- | --- | --- | --- | --- |
| **FATHER'S OCCUPATION** | | | | |
| Labourer | 0.004 | 0.025 | -0.010 | -0.018 |
|  | (0.000) | (0.020) | (0.010) | (0.020) |
| Worker | 0.001 | 0.005 | -0.002 | -0.003 |
|  | (0.000) | (0.020) | (0.010) | (0.020) |
| Technician | -0.009 | -0.080 | 0.027 | 0.062 |
|  | (0.000) | (0.030) | (0.010) | (0.030) |
| Professional/Manager | -0.008 | -0.061 | 0.023 | 0.046 |
|  | (0.000) | (0.030) | (0.010) | (0.020) |
| Obs. | 9534 | 9534 | 9534 | 9534 |

Standard errors in parentheses
Dependent Variable: Occupational status of the respondent.
Control Variables: Additional covariates are country dummies, individual and household characteristics, conventional and non conventional job-related variables.
Source: European Social Survey 2006/2007

---

[14] The sample size is smaller due to the number of observations available for the variable occupation of the father.

Table 6 presents the job satisfaction returns to occupation when the endogeneity of the occupation choice is taken into account. Column (3) shows the results obtained after using OLS to estimate the second stage equation and Column (4) displays the marginal effects derived after estimating that second stage equation with ordered probit (only ME associated with the highest level of job satisfaction are reported, see in Appendix A.5 the full set of marginal effects).

For the sake of clarity, we include in column (1) the OLS estimates reported in section 4 of this paper (summarized in table 3). Finally, column (2) presents the marginal effects obtained in section 5.1 after assuming that job satisfaction is a polychotomous variable (as shown in table 4).

**Table 6: Comparison of results with different estimation methods (ESS, model 4)**

|  | OLS Coeff | OPROBIT ME satisfc 10 | Control Function 2nd stage | |
|---|---|---|---|---|
|  |  |  | OLS Coeff | OPROBIT ME stsfc 10 |
| **Officials Managers Professionals** | 0.485 | 0.039 | 0.568 | 0.047 |
|  | (0.10) | (0.01) | (0.23) | (0.02) |
| **Technicians** | 0.372 | 0.028 | 0.374 | 0.028 |
|  | (0.10) | (0.01) | (0.16) | (0.01) |
| **Workers** | 0.431 | 0.033 | 0.386 | 0.029 |
|  | (0.09) | (0.01) | (0.10) | (0.01) |
| ***Obs.*** | *10294* | *10294* | *9534* | *9534* |

Standard errors in parentheses
Dependent Variable: Self reported job satisfaction. Values range from 0 to 10.
Additional covariates are country dummies, individual and household characteristics, conventional and non conventional job-related variables.
Source: European Social Survey 2006/2007

The results of the robustness checks back the conclusions obtained in section 4. In effect, the estimated OLS coefficients of the occupational dummies displayed in column (3) are similar to those in column (1). For all occupations, there is always a satisfaction premium with respect to the reference category (Labourers). However, after controlling for endogeneity of the occupational choice, the satisfaction gap between Managers/Professionals and Workers (0.568 to 0.386) is wider than in the standard case (0.485 to 0.431). The results after estimation with ordered probit are also consistent. The marginal effects displayed in columns (2) and (4) are similar: even if we adapt the specification to account for the endogeneity in the occupational choice, the probability of

reporting higher levels of satisfaction is larger for Manager/Professionals than for Workers.

An interesting extension of the work presented in this paper is the analysis of the robustness of the results to a choice of a more general measure of satisfaction. This would involve abandoning a domain-specific measure for a wider indicator of well-being. Preliminary results based on the ESS data (which provide information on self reported happiness) show that although Managers report a higher level of job satisfaction, they appear to be less happy that Professionals (the occupational category just below). A deeper analysis of this dichotomy would involve discussing the role of the balance between different life domains (i.e. satisfaction at and outside work).

Finally, among our results there are some surprising findings which could be worth exploring. As for example, the fact that in the final specification using the ESS sample the return in terms of job satisfaction associated with a Professional occupational status actually falls below that of Managers/Professionals and even that of Workers. In the case of the EWCS, Technicians' extra level of happiness exceeds the coefficient associated with Managers/Professionals.

# VI. Conclusions

Having observed considerable differences in the mean job satisfaction of the respondents, we have sought to determine whether those differences are occupational specific or can be explained by the effect of control variables at individual, household and job level.

We have used a stepwise approach starting with a simple regression model in which job satisfaction is explained by occupations and country dummies. Our method consists in introducing variables at each step in order to progressively control for individual, household and job-related characteristics that could influence the effect of occupation on job satisfaction. Job-related variables are split into "conventional" working conditions and "un-conventional" work-related characteristics, such as autonomy, supervisory role, influence over the firm's decisions and opportunities to learn. It appears that the substantial satisfaction gap between those holding Managerial positions and Workers decreases at each step and practically disappears in the last specification. These results still hold when using an alternative data set (the EWCS). In addition, the results appear to be robust to alternative methods of estimation (ordered probit) and an alternative specification that takes into account the potential endogeneity of the occupational choice.

# VII.  References

Akerlof, George A., Andrew K. Rose, & Janet L. Yellen 1988. Job Switching and Job Satisfaction in the U.S. Labor Market. Brookings Papers on Economic Activity, 19(1988-2):495–594.

Blanchflower, David G., & Andrew J. Oswald 1999. Well-being, insecurity and the decline of American job satisfaction. Mimeo. Dartmouth College, USA.

Blanchflower, David G., & Andrew J. Oswald 2004. Well-being over time in Britain and the USA. Journal of Public Economics, 88(7-8):1359–1386.

Borjas, George J. 1979. Job Satisfaction, Wages, and Unions. Journal of Human Resources, 14(1):21–40.

Bradley, Steve, Jim Taylor, & Anh Ngoc Nguyen 2003. Job autonomy and job satisfaction: new evidence. Working Papers 000192, Lancaster University Management School, Economics Department.

Bryson, Alex, Lorenzo Cappellari, & Claudio Lucifora 2004. Does Union Membership Really Reduce Job Satisfaction? British Journal of Industrial Relations, 42(3):439–459.

Clark, Andrew, Andrew Oswald, & Peter Warr 1996. Is job satisfaction U-shaped in age? Journal of Occupational and Organizational Psychology, 69:57–81.

Clark, Andrew E. 1997. Job satisfaction and gender: Why are women so happy at work? Labour Economics, 4(4):341–372.

Clark, Andrew E. 2001. What really matters in a job? Hedonic measurement using quit data. Labour Economics, 8(2):223–242.

Clark, Andrew E. 2004. What makes a good job? Evidence from OECD countries. DELTA Working Papers 2004-28, DELTA (Ecole normale supérieure).

Clark, Andrew E, & Andrew J Oswald 1994. Unhappiness and Unemployment. Economic Journal, 104(424):648–59.

Clark, Andrew E., & Andrew J. Oswald 1996. Satisfaction and comparison income. Journal of Public Economics, 61(3):359–381.

Diener, Ed 1984. Subjective well-being. Psychological Bulletin, 95(3):542 – 575.

Dolan, Paul, Tessa Peasgood, & Mathew White 2008. Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. Journal of Economic Psychology, 29(1):94–122.

Easterlin, Richard. A. 1974. Does economic growth improve the human lot? Some empirical evidence. In David, P.A., & M.W. Reder (eds), Nations and Households in Economic Growth, Essays in Honor of Moses Abramowitz, page 89–125. Academic Press, New York.

Easterlin, Richard A. 1995. Will raising the incomes of all increase the happiness of all? Journal of Economic Behavior & Organization, 27(1):35–47.

Easterlin, Richard A 2001. Income and Happiness: Towards an Unified Theory. Economic Journal, 111(473):465–84.

EFILWC 2007. European Working Conditions Survey, 2005. Computer file. Colchester, Essex: UK Data Archive [distributor].

Faragher, E.B., M. Cass, & C.L. Cooper 2005. The relationship between job satisfaction and health: a meta-analysis. Occupational and Environmental Medicine, 62:105–112.

Ferrer i Carbonell, Ada & Paul Frijters 2004. How Important is Methodology for the estimates of the determinants of Happiness? Economic Journal, 114(497):641–659.

Fischer, Justina A. V., & Alfonso Sousa-Poza 2009. Does job satisfaction improve the health of workers? New evidence using panel data and objective measures of health. Health Economics, 18(1):71–89.

Freeman, Richard B 1978. Job Satisfaction as an Economic Variable. American Economic Review, 68(2):135–41.

Frey, Bruno S, & Alois Stutzer 2000. Happiness, Economy and Institutions. Economic Journal, 110(466):918–38.

Frijters, Paul, John P. Haisken-DeNew, & Michael A. Shields 2004. Money Does Matter! Evidence from Increasing Real Income and Life Satisfaction in East Germany Following Reunification. American Economic Review, 94(3):730–740.

Gavin, J.F., & R.E. Kelley 1978. The Psychological Climate and Reported Well-Being of Underground Miners: An Exploratory Study. Human Relations, 31:567 – 581.

Gazioglu, Saziye, & Aysit Tansel 2006. Job satisfaction in Britain: individual and job related factors. Applied Economics, 38(10):1163–1171.

Goldthrope, John, Catriona Llewellyn & Clive Payne 1987. Social mobility and class structure in modern Britain. Clarendon Press. Oxford

Hamermesh, Daniel S. 2001. The Changing Distribution of Job Satisfaction. Journal of Human Resources, 36(1):1–30.

Hedley, R.A 1981. Work, Life and the Pursuit of Happiness: A Study of Australian Industrial Workers. The Journal of Industrial Relations, pages 397 – 405.

Helliwell, John F., & Haifang Huang 2008. Well-being and Trust in the Workplace. Technical Report 14589, National Bureau of Economic Research, Inc.

Huppert, Felicia A., Nic Marks, Andrew E. Clark, Johannes Siegrist, Alois Stutzer, Joar Vittersø, & Morten Wahrendorf 2009. Measuring Well-being Across Europe: Description of the ESS Well-being Module and Preliminary Findings. Journal Social Indicators Research, 91(3):301–315.

Kahneman, Daniel, Ed Diener, & Norbert Schwarz 2003. Well-being: the foundations of hedonic psychology. Russell Sage Foundation.

Kahneman, Daniel, & Alan B. Krueger 2006. Developments in the Measurement of Subjective Well-Being. Journal of Economic Perspectives, 20(1):3–24.

Layard, Richard 2005. Happiness: lessons from a new science. Penguin, London, UK.

Lentz, Bernard F. & David N. Laband, 1989. Why So Many Children of Doctors Become Doctors. Journal of Human Resources, 24, 396-413.

Lucas, R.E., A.E. Clark, Y. Georgellis, & E. Diener 2004. Unemployment Alters the Set Point for Life Satisfaction. Psychological Science, 15(1):8–13.

Parent-Thirion, Agnès, Enrique Fernández Macías, John Hurley, & Greet Vermeylen 2007. Fourth European Working Conditions Survey. Technical report, Eurofound.

Ryan, Richard M., & Edward L. Deci 2001. On Happiness and Human Potentials: A Review of Research on Hedonic and Eudaimonic Well-Being. Annual Review of Psychology, 52:141–166.

Seligman, M. E. P. 2002. Authentic Happiness: Using the New Positive Psychology to Realize Your Potential for Lasting Fulfillment. Free Press, New York.

Shields, Michael A, & Stephen Wheatley Price 2002. Racial Harassment, Job Satisfaction and Intentions to Quit: Evidence from the British Nursing Profession. Economica, 69(274):295–26.

Sloane, Peter J, & Melanie E Ward 2001. Cohort Effects and Job Satisfaction of Academics. Applied Economics Letters, 8(12):787–91.

Smith, Tom W. 2007. Job Satisfaction in the United States. Technical report, National Opinion Research Center/University of Chicago.

Sousa-Poza, Alfonso, & Andres A Sousa-Poza 2000. Taking Another Look at the Gender/Job-Satisfaction Paradox. Kyklos, 53(2):135–52.

Sousa-Poza, A., & A. A. Sousa-Poza 2003. Gender differences in job satisfaction in Great Britain, 1991-2000: permanent or transitory? Applied Economics Letters, 10(11):691–694.

Van Praag, B. M. S., P. Frijters, & A. Ferrer-i Carbonell 2003. The anatomy of subjective well-being. Journal of Economic Behavior & Organization, 51(1):29–49.

Warr, Peter B. 1999. Well-Being and the Workplace. In Kahneman, Daniel, Ed Diener, & Norbert Schwarz (eds), Well-being: the foundations of hedonic psychology. Russell Sage Foundation.

Winkelmann, Liliana, & Rainer Winkelmann 1998. Why Are the Unemployed So Unhappy? Evidence from Panel Data. Economica, 65(257):1–15.

# VIII. Appendix

## Table A 1 Description of variables (ESS sample and EWCS sample)

| ESS N= 10420 | Description | Min | Max | Mean (SD) | EWCS N= 9960 | Description | Min | Max | Mean (SD) |
|---|---|---|---|---|---|---|---|---|---|
| **OUTCOME VARIABLES** | | | | | **OUTCOME VARIABLES** | | | | |
| Job Satisfaction | How satisfied with current job, all things considered | 0 | 10 | 7.213 (2.018) | Job Satisfaction | How satisfied with working conditions in main paid job | 0 | 4 | 3.040 (0.717) |
| **INDEPENDENT VARIABLES** | | | | | **INDEPENDENT VARIABLES** | | | | |
| **Occupational dummies** | | | | | **Occupational dummies** | | | | |
| Senior official or manager | Whether the respondent is a senior official or manager (ISCO 88 codes 11/13) 0=No 1=Yes | 0 | 1 | 0.080 (0.271) | Senior official or manager | Whether the respondent is a senior official or manager (ISCO 88 codes 11/13) 0=No 1=Yes | 0 | 1 | 0.048 (0.215) |
| Professional | Whether the respondent is a professional (ISCO 88 codes 21/24) 0=No 1=Yes | 0 | 1 | 0.176 (0.381) | Professional | Whether the respondent is a professional (ISCO 88 codes 21/24) 0=No 1=Yes | 0 | 1 | 0.155 (0.362) |
| Technician | Whether the respondent is a technician or associated professional (ISCO 88 codes 31/34) 0=No 1=Yes | 0 | 1 | 0.203 (0.402) | Technician | Whether the respondent is a technician or associated professional (ISCO 88 codes 31/34) 0=No 1=Yes | 0 | 1 | 0.188 (0.391) |
| Worker | Whether the respondent is a worker (ISCO 88 codes 41/83) 0=No 1=Yes | 0 | 1 | 0.461 (0.499) | Worker | Whether the respondent is a worker (ISCO 88 codes 41/83) 0=No 1=Yes | 0 | 1 | 0.484 (0.500) |
| Elementary Occupation | Whether the respondent has an elementary occupation (ISCO 88 codes 91-93) 0=No 1=Yes | 0 | 1 | 0.080 (0.272) | Elementary Occupation | Whether the respondent has an elementary occupation (ISCO 88 codes 91-93) 0=No 1=Yes | 0 | 1 | 0.125 (0.331) |
| **Individual characteristics** | | | | | **Individual characteristics** | | | | |
| Citizen | Whether the respondent is a citizen of the country of the interview 0=No 1=Yes | 0 | 1 | 0.957 (0.202) | Citizen | Whether the respondent is a citizen of the country of the interview 0=No 1=Yes | 0 | 1 | 0.966 (0.181) |
| Minority | Whether the respondent belongs to a minority group 0=No 1=Yes | 0 | 1 | 0.044 (0.204) | Minority | Whether the respondent belongs to a minority group 0=No 1=Yes | 0 | 1 | 0.011 (0.106) |
| Age | Age of the respondent | 18 | 75 | 41.958 (11.477) | Age | Age of the respondent | 18 | 75 | 41.012 (11.295) |
| Age2 | Age squared | 324 | 5612.51 | 1892.132 (977.719) | Age2 | Age squared | 324 | 5625 | 1809.553 (943.888) |
| Sex | Gender of the respondent 0=Female 1=Male | 0 | 1 | 0.510 (0.500) | Sex | Gender of the respondent 0=Female 1=Male | 0 | 1 | 0.458 (0.498) |
| Years of education | Years of full time education the respondent completed | 0 | 20 | 13.623 (3.536) | Education | Level of education, ISCES codes | 0 | 14 | 5.360 (1.996) |
| Health | Whether the respondent felt that her general health was very good or good 0=No 1=Yes | 0 | 1 | 0.780 (0.414) | Health | Whether the respondent was ever absent from job in the last 12 months for reasons of health problems 0=No 1=Yes | 0 | 1 | 0.724 (0.447) |
| **Household characteristics** | | | | | **Household characteristics** | | | | |
| Married | Respondent's current legal marital status 0=Other 1=Married | 0 | 1 | 0.559 (0.497) | Married | Whether respondent lives with spouse or partner 0=No 1=Yes | 0 | 1 | 0.671 (0.470) |
| Children | Children (sons and/or daughters) living at home 0=No 1=Yes | 0 | 1 | 0.519 (0.500) | Children | Children (sons and/or daughters) living at home 0=No 1=Yes | 0 | 1 | 0.539 (0.499) |
| Household Size | Number of people in household | 1 | 12 | 2.900 (1.332) | Household Size | Number of people in household | 1 | 13 | 2.984 (1.344) |
| Partner works | Whether the respondent's partner was in paid job for last 7 days 0=No 1=Yes | 0 | 1 | 0.117 (0.321) | Partner works | Whether the respondent's partner was in paid job for last 7 days 0=No 1=Yes | 0 | 1 | 0.654 (0.476) |
| Household income_1 | Household's monthly total net income, all sources, less than €150 0=No 1=Yes | 0 | 1 | 0.0035509 (0.059) | Personal income_1 | Respondent's monthly total net income, first decile of country 0=No 1=Yes | 0 | 1 | 0.105 (0.307) |
| Household income_2 | Household's monthly total net income, all sources, €150 to under €300 0=No 1=Yes | 0 | 1 | 0.0143954 (0.119) | Personal income_2 | Respondent's monthly total net income, second decile of country 0=No 1=Yes | 0 | 1 | 0.079 (0.269) |
| Household income_3 | Household's monthly total net income, all sources, €300 to under €500 0=No 1=Yes | 0 | 1 | 0.0394434 (0.195) | Personal income_3 | Respondent's monthly total net income, third decile of country 0=No 1=Yes | 0 | 1 | 0.084 (0.277) |
| Household income_4 | Household's monthly total net income, all sources, €500 to under €1000 0=No 1=Yes | 0 | 1 | 0.0956814 (0.294) | Personal income_4 | Respondent's monthly total net income, fourth decile of country 0=No 1=Yes | 0 | 1 | 0.085 (0.279) |
| Household income_5 | Household's monthly total net income, all sources, €1000 to under €1500 0=No 1=Yes | 0 | 1 | 0.1002879 (0.300) | Personal income_5 | Respondent's monthly total net income, fifth decile of country 0=No 1=Yes | 0 | 1 | 0.114 (0.317) |
| Household income_6 | Household's monthly total net income, all sources, €1500 to under €2000 0=No 1=Yes | 0 | 1 | 0.1142035 (0.318) | Personal income_6 | Respondent's monthly total net income, sixth decile of country 0=No 1=Yes | 0 | 1 | 0.101 (0.301) |
| Household income_7 | Household's monthly total net income, all sources, €2000 to under €2500 0=No 1=Yes | 0 | 1 | 0.1105566 (0.314) | Personal income_7 | Respondent's monthly total net income, seventh decile of country 0=No 1=Yes | 0 | 1 | 0.109 (0.311) |
| Household income_8 | Household's monthly total net income, all sources, €2500 to under €3000 0=No 1=Yes | 0 | 1 | 0.124952 (0.331) | Personal income_8 | Respondent's monthly total net income, eighth decile of country 0=No 1=Yes | 0 | 1 | 0.115 (0.319) |
| Household income_9 | Household's monthly total net income, all sources, €3000 to under €5000 0=No 1=Yes | 0 | 1 | 0.2357006 (0.424) | Personal income_9 | Respondent's monthly total net income, nineth decile of country 0=No 1=Yes | 0 | 1 | 0.100 (0.300) |
| Household income_10 | Household's monthly total net income, all sources, €5000 to under €7500 0=No 1=Yes | 0 | 1 | 0.1077735 (0.310) | Personal income_10 | Respondent's monthly total net income, tenth decile of country 0=No 1=Yes | 0 | 1 | 0.109 (0.312) |
| Household income_11 | Household's monthly total net income, all sources, €7500 to under €10000 0=No 1=Yes | 0 | 1 | 0.034261 (0.182) | | | | | |
| Household income_12 | Household's monthly total net income, all sources, €10000 or more 0=No 1=Yes | 0 | 1 | 0.0191939 (0.137) | | | | | |

| ESS<br>N= 10420 | Description | Min | Max | Mean (SD) | EWCS<br>N= 9960 | Description | Min | Max | Mean (SD) |
|---|---|---|---|---|---|---|---|---|---|
| **Conventional Job Characteristics** | | | | | **Conventional Job Characteristics** | | | | |
| No contract | Respondent has no contract<br>0=No 1=Yes | 0 | 1 | 0.056<br>(0.230) | No contract | Respondent has no contract<br>0=No 1=Yes | 0 | 1 | 0.050<br>(0.219) |
| Type of contract: limited duration | Respondent has a contract of limited duration<br>0=No 1=Yes | 0 | 1 | 0.130<br>(0.336) | Type of contract: limited duration | Respondent has a contract of limited duration<br>0=No 1=Yes | 0 | 1 | 0.130<br>(0.336) |
| Type of contract: limited duration | Respondent has a contract of unlimited duration<br>0=No 1=Yes | 0 | 1 | 0.814<br>(0.389) | Type of contract: limited duration | Respondent has a contract of unlimited duration<br>0=No 1=Yes | 0 | 1 | 0.820<br>(0.384) |
| Job security very low | Whether the respondent felt that it was very likely to become unemployed in the next 12 months<br>0=No 1=Yes | 0 | 1 | 0.040<br>(0.196) | Job security very low | Whether the respondent felt that he might lose job in next 6 months: strongly agree<br>0=No 1=Yes | 0 | 1 | 0.063<br>(0.243) |
| Job security low | Whether the respondent felt that it was likely to become unemployed in the next 12 months<br>0=No 1=Yes | 0 | 1 | 0.094<br>(0.291) | Job security low | Whether the respondent felt that he might lose job in next 6 months: agree<br>0=No 1=Yes | 0 | 1 | 0.100<br>(0.300) |
| Job security medium | Whether the respondent felt that it was not very likely to become unemployed in the next 12 months<br>0=No 1=Yes | 0 | 1 | 0.379<br>(0.485) | Job security medium | Whether the respondent felt that he might lose job in next 6 months: Neither agree nor disagree<br>0=No 1=Yes | 0 | 1 | 0.121<br>(0.326) |
| Job security high | Whether the respondent felt that it was not at all likely to become unemployed in the next 12 months<br>0=No 1=Yes | 0 | 1 | 0.488<br>(0.500) | Job security high | Whether the respondent felt that he might lose job in next 6 months: disagree<br>0=No 1=Yes | 0 | 1 | 0.257<br>(0.437) |
| | | | | | Job security very high | Whether the respondent felt that he might lose job in next 6 months: Strongly disagree<br>0=No 1=Yes | 0 | 1 | 0.459<br>(0.498) |
| Size of establishment micro | Less than 10 people employed at respondent's workplace<br>0=No 1=Yes | 0 | 1 | 0.235<br>(0.424) | Size of establishment micro | Number of employees in local establishment: One-person company<br>0=No 1=Yes | 0 | 1 | 0.026<br>(0.160) |
| Size of establishment small | Between 10 and 24 people employed at respondent's workplace<br>0=No 1=Yes | 0 | 1 | 0.191<br>(0.393) | Size of establishment small | Number of employees in local establishment: 2-9 employees<br>0=No 1=Yes | 0 | 1 | 0.241<br>(0.428) |
| Size of establishment medium | Between 25 and 99 people employed at respondent's workplace<br>0=No 1=Yes | 0 | 1 | 0.261<br>(0.439) | Size of establishment medium | Number of employees in local establishment: 10-49 employees<br>0=No 1=Yes | 0 | 1 | 0.344<br>(0.475) |
| Size of establishment large | Between 100 and 499 people employed at respondent's workplace<br>0=No 1=Yes | 0 | 1 | 0.173<br>(0.378) | Size of establishment large | Number of employees in local establishment: 50-249 employees<br>0=No 1=Yes | 0 | 1 | 0.234<br>(0.424) |
| Size of establishment very large | More than 500 people people employed at respondent's workplace<br>0=No 1=Yes | 0 | 1 | 0.140<br>(0.347) | Size of establishment very large | Number of employees in local establishment: 250+ employees<br>0=No 1=Yes | 0 | 1 | 0.154<br>(0.361) |
| Agriculture, hunting, forestry and fishing | Sector at which belongs the firm/organisation where the respondent works : Agriculture, etc (Nace 1.1 groups 1/5)<br>0=No 1=Yes | 0 | 1 | 0.019<br>(0.137) | Agriculture, hunting, forestry and fishing | Sector at which belongs the firm/organisation where the respondent works : Agriculture, etc (Nace 1.1 groups 1/5)<br>0=No 1=Yes | 0 | 1 | 0.022<br>(0.148) |
| Industry | Sector at which belongs the firm/organisation where the respondent works : Industry (Nace 1.1 groups 10/45)<br>0=No 1=Yes | 0 | 1 | 0.271<br>(0.445) | Industry | Sector at which belongs the firm/organisation where the respondent works : Industry (Nace 1.1 groups 10/45)<br>0=No 1=Yes | 0 | 1 | 0.267<br>(0.443) |
| Services | Sector at which belongs the firm/organisation where the respondent works : Services (Nace 1.1 groups 50/74)<br>0=No 1=Yes | 0 | 1 | 0.335<br>(0.472) | Services | Sector at which belongs the firm/organisation where the respondent works : Services (Nace 1.1 groups 50/74)<br>0=No 1=Yes | 0 | 1 | 0.321<br>(0.467) |
| Public administration and defense | Sector at which belongs the firm/organisation where the respondent works : Public Administration and defense (Nace 1.1 group 75)<br>0=No 1=Yes | 0 | 1 | 0.074<br>(0.262) | Public administration and defense | Sector at which belongs the firm/organisation where the respondent works : Public Administration and defense (Nace 1.1 group 75)<br>0=No 1=Yes | 0 | 1 | 0.074<br>(0.262) |
| Other services | Sector at which belongs the firm/organisation where the respondent works : Other Services (Nace 1.1 groups 80/99)<br>0=No 1=Yes | 0 | 1 | 0.300<br>(0.458) | Other services | Sector at which belongs the firm/organisation where the respondent works : Other Services (Nace 1.1 groups 80/99)<br>0=No 1=Yes | 0 | 1 | 0.315<br>(0.465) |
| Hours worked | Total hours normally worked per week overtime included | 0 | 80 | 39.899<br>(10.735) | Hours worked | Hours usually worked per week | 0 | 80 | 38.044<br>(9.680) |
| Hours worked 2 | Hours worked squared | 0 | 6400 | 1707.110<br>(831.601) | Hours worked 2 | Hours worked squared | 0 | 6400 | 1541.024<br>(720.491) |
| Self employed | Whether the respondent is self employed<br>0=No (Employee) 1=Yes | 0 | 1 | 0.014<br>(0.118) | Self employed | Whether the respondent is self employed<br>0=No (Employee) 1=Yes | 0 | 0 | 0.000<br>(0.000) |
| **Unconventional Job Characteristics** | | | | | | | | | |
| Supervisory role | Number of people responsible for in job | 0 | 1600 | 5.348<br>(30.084) | Supervisory role | Number of people working under the supervision of the respondent | 0 | 1250 | 2.407<br>(20.187) |
| Autonomy | Allowed to decide how daily work is organised | 0 | 10 | 6.641<br>(3.035) | Autonomy | Respondent able to choose or change order of tasks<br>0=No 1=Yes | 0 | 1 | 0.661<br>(0.473) |
| Influence | Allowed to influence policy decisions about activities of organisation | 0 | 10 | 3.904<br>(3.180) | Influence | Respondent has been consulted about changes in the organisation of work and/or working conditions, last 12months<br>0=No 1=Yes | 0 | 1 | 0.527<br>(0.499) |
| Opportunities to learn | Whether the respondent has attended a course to improve knowledge or skills at<br>0=No 1=Yes | 0 | 1 | 0.536<br>(0.499) | Opportunities to learn | Whether the respondent has attended a course paid by employer<br>0=No 1=Yes | 0 | 1 | 0.354<br>(0.478) |

# Table A 2 Descriptive statistics of main variables, by country. ESS sample.

| ESS Variable Name | BE Obs | Mean | Std. Dev. | Min | Max | BG Obs | Mean | Std. Dev. | Min | Max | CH Obs | Mean | Std. Dev. | Min | Max | CY Obs | Mean | Std. Dev. | Min | Max | DE Obs | Mean | Std. Dev. | Min | Max | DK Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Job Satisfaction | 654 | 7.509 | 1.863 | 0 | 10 | 261 | 6.586 | 2.519 | 0 | 10 | 648 | 7.674 | 1.801 | 0 | 10 | 273 | 7.667 | 1.530 | 2 | 10 | 802 | 6.956 | 2.279 | 0 | 10 | 642 | 7.804 | 1.693 | 1 | 10 |
| Occupation: Senior Officials and Managers | 654 | 0.089 | 0.285 | 0 | 1 | 261 | 0.065 | 0.247 | 0 | 1 | 648 | 0.091 | 0.288 | 0 | 1 | 273 | 0.000 | 0.000 | 0 | 0 | 802 | 0.040 | 0.196 | 0 | 1 | 642 | 0.173 | 0.378 | 0 | 1 |
| Occupation: Professionals | 654 | 0.209 | 0.407 | 0 | 1 | 261 | 0.176 | 0.382 | 0 | 1 | 648 | 0.199 | 0.400 | 0 | 1 | 273 | 0.168 | 0.375 | 0 | 1 | 802 | 0.173 | 0.379 | 0 | 1 | 642 | 0.202 | 0.402 | 0 | 1 |
| Occupation: Technicians | 654 | 0.265 | 0.441 | 0 | 1 | 261 | 0.157 | 0.365 | 0 | 1 | 648 | 0.301 | 0.459 | 0 | 1 | 273 | 0.128 | 0.335 | 0 | 1 | 802 | 0.239 | 0.427 | 0 | 1 | 642 | 0.217 | 0.412 | 0 | 1 |
| Occupation: Workers | 654 | 0.364 | 0.481 | 0 | 1 | 261 | 0.506 | 0.501 | 0 | 1 | 648 | 0.343 | 0.475 | 0 | 1 | 273 | 0.626 | 0.485 | 0 | 1 | 802 | 0.498 | 0.500 | 0 | 1 | 642 | 0.352 | 0.478 | 0 | 1 |
| Occupation: Elementary | 654 | 0.073 | 0.261 | 0 | 1 | 261 | 0.096 | 0.295 | 0 | 1 | 648 | 0.066 | 0.249 | 0 | 1 | 273 | 0.077 | 0.267 | 0 | 1 | 802 | 0.050 | 0.218 | 0 | 1 | 642 | 0.056 | 0.230 | 0 | 1 |
| Contract duration: no contract | 654 | 0.026 | 0.159 | 0 | 1 | 261 | 0.096 | 0.295 | 0 | 1 | 648 | 0.023 | 0.150 | 0 | 1 | 273 | 0.564 | 0.497 | 0 | 1 | 802 | 0.011 | 0.105 | 0 | 1 | 642 | 0.097 | 0.296 | 0 | 1 |
| Contract duration: limited | 654 | 0.096 | 0.295 | 0 | 1 | 261 | 0.215 | 0.411 | 0 | 1 | 648 | 0.054 | 0.226 | 0 | 1 | 273 | 0.099 | 0.299 | 0 | 1 | 802 | 0.118 | 0.323 | 0 | 1 | 642 | 0.062 | 0.242 | 0 | 1 |
| Contract duration : unlimited | 654 | 0.878 | 0.328 | 0 | 1 | 261 | 0.690 | 0.464 | 0 | 1 | 648 | 0.923 | 0.267 | 0 | 1 | 273 | 0.337 | 0.474 | 0 | 1 | 802 | 0.870 | 0.336 | 0 | 1 | 642 | 0.841 | 0.366 | 0 | 1 |
| Probability to lose job next 12 months: very likely | 654 | 0.026 | 0.159 | 0 | 1 | 261 | 0.088 | 0.284 | 0 | 1 | 648 | 0.020 | 0.140 | 0 | 1 | 273 | 0.029 | 0.169 | 0 | 1 | 802 | 0.054 | 0.225 | 0 | 1 | 642 | 0.025 | 0.156 | 0 | 1 |
| Probability to lose job next 12 months: likely | 654 | 0.076 | 0.266 | 0 | 1 | 261 | 0.157 | 0.365 | 0 | 1 | 648 | 0.065 | 0.246 | 0 | 1 | 273 | 0.106 | 0.309 | 0 | 1 | 802 | 0.079 | 0.269 | 0 | 1 | 642 | 0.058 | 0.233 | 0 | 1 |
| Probability to lose job next 12 months: not very likely | 654 | 0.335 | 0.472 | 0 | 1 | 261 | 0.475 | 0.500 | 0 | 1 | 648 | 0.412 | 0.493 | 0 | 1 | 273 | 0.344 | 0.476 | 0 | 1 | 802 | 0.469 | 0.499 | 0 | 1 | 642 | 0.352 | 0.478 | 0 | 1 |
| Probability to lose job next 12 months: not at all likely | 654 | 0.563 | 0.496 | 0 | 1 | 261 | 0.280 | 0.450 | 0 | 1 | 648 | 0.503 | 0.500 | 0 | 1 | 273 | 0.520 | 0.501 | 0 | 1 | 802 | 0.399 | 0.490 | 0 | 1 | 642 | 0.565 | 0.496 | 0 | 1 |
| Size establishment: under 10 | 654 | 0.220 | 0.415 | 0 | 1 | 261 | 0.452 | 0.499 | 0 | 1 | 648 | 0.301 | 0.459 | 0 | 1 | 273 | 0.443 | 0.498 | 0 | 1 | 802 | 0.188 | 0.391 | 0 | 1 | 642 | 0.184 | 0.388 | 0 | 1 |
| Size establishment: 10 to 24 | 654 | 0.151 | 0.359 | 0 | 1 | 261 | 0.184 | 0.388 | 0 | 1 | 648 | 0.198 | 0.398 | 0 | 1 | 273 | 0.297 | 0.458 | 0 | 1 | 802 | 0.192 | 0.394 | 0 | 1 | 642 | 0.192 | 0.394 | 0 | 1 |
| Size establishment: 25 to 99 | 654 | 0.260 | 0.439 | 0 | 1 | 261 | 0.226 | 0.419 | 0 | 1 | 648 | 0.235 | 0.424 | 0 | 1 | 273 | 0.209 | 0.407 | 0 | 1 | 802 | 0.254 | 0.436 | 0 | 1 | 642 | 0.304 | 0.460 | 0 | 1 |
| Size establishment: 100 to 499 | 654 | 0.191 | 0.393 | 0 | 1 | 261 | 0.107 | 0.310 | 0 | 1 | 648 | 0.188 | 0.391 | 0 | 1 | 273 | 0.033 | 0.179 | 0 | 1 | 802 | 0.196 | 0.397 | 0 | 1 | 642 | 0.201 | 0.401 | 0 | 1 |
| Size establishment: 500 or more | 654 | 0.177 | 0.382 | 0 | 1 | 261 | 0.031 | 0.173 | 0 | 1 | 648 | 0.079 | 0.269 | 0 | 1 | 273 | 0.018 | 0.134 | 0 | 1 | 802 | 0.170 | 0.375 | 0 | 1 | 642 | 0.120 | 0.325 | 0 | 1 |
| Sector of activity: Agriculture, hunting, forestry and fishing | 654 | 0.014 | 0.117 | 0 | 1 | 261 | 0.042 | 0.201 | 0 | 1 | 648 | 0.022 | 0.146 | 0 | 1 | 273 | 0.011 | 0.104 | 0 | 1 | 802 | 0.022 | 0.148 | 0 | 1 | 642 | 0.025 | 0.156 | 0 | 1 |
| Sector of activity: Industry | 654 | 0.278 | 0.448 | 0 | 1 | 261 | 0.291 | 0.455 | 0 | 1 | 648 | 0.258 | 0.438 | 0 | 1 | 273 | 0.136 | 0.343 | 0 | 1 | 802 | 0.302 | 0.459 | 0 | 1 | 642 | 0.243 | 0.429 | 0 | 1 |
| Sector of activity: Services | 654 | 0.318 | 0.466 | 0 | 1 | 261 | 0.318 | 0.467 | 0 | 1 | 648 | 0.270 | 0.444 | 0 | 1 | 273 | 0.593 | 0.492 | 0 | 1 | 802 | 0.335 | 0.472 | 0 | 1 | 642 | 0.312 | 0.463 | 0 | 1 |
| Sector of activity: Public administration and defence | 654 | 0.087 | 0.282 | 0 | 1 | 261 | 0.073 | 0.260 | 0 | 1 | 648 | 0.063 | 0.244 | 0 | 1 | 273 | 0.037 | 0.188 | 0 | 1 | 802 | 0.075 | 0.263 | 0 | 1 | 642 | 0.042 | 0.201 | 0 | 1 |
| Sector of activity: Other activities | 654 | 0.303 | 0.460 | 0 | 1 | 261 | 0.276 | 0.448 | 0 | 1 | 648 | 0.387 | 0.488 | 0 | 1 | 273 | 0.223 | 0.417 | 0 | 1 | 802 | 0.266 | 0.442 | 0 | 1 | 642 | 0.379 | 0.485 | 0 | 1 |
| Hours worked | 654 | 38.644 | 11.493 | 0 | 80 | 261 | 42.414 | 8.245 | 14 | 72 | 648 | 39.767 | 12.999 | 0 | 80 | 273 | 40.762 | 8.262 | 5 | 72 | 802 | 40.647 | 10.749 | 3 | 80 | 642 | 38.333 | 8.231 | 7 | 80 |
| Hours worked2 | 654 | 1625.225 | 887.762 | 0 | 6400 | 261 | 1866.651 | 720.131 | 196 | 5184 | 648 | 1750.119 | 952.346 | 0 | 6400 | 273 | 1729.538 | 721.904 | 25 | 5184 | 802 | 1767.582 | 863.004 | 9 | 6400 | 642 | 1537.081 | 655.564 | 49 | 6400 |
| Self Employed | 654 | 0.015 | 0.123 | 0 | 1 | 261 | 0.038 | 0.192 | 0 | 1 | 648 | 0.012 | 0.111 | 0 | 1 | 273 | 0.070 | 0.255 | 0 | 1 | 802 | 0.004 | 0.061 | 0 | 1 | 642 | 0.037 | 0.190 | 0 | 1 |
| Supervisory tasks: number of people supervised | 654 | 9.323 | 48.927 | 0 | 888 | 261 | 1.962 | 6.834 | 0 | 60 | 648 | 5.185 | 19.100 | 0 | 300 | 273 | 2.172 | 9.535 | 0 | 100 | 802 | 6.360 | 29.944 | 0 | 500 | 642 | 5.470 | 18.998 | 0 | 350 |
| Autonomy | 654 | 6.852 | 2.893 | 0 | 10 | 261 | 5.613 | 3.601 | 0 | 10 | 648 | 7.076 | 2.797 | 0 | 10 | 273 | 5.857 | 3.394 | 0 | 10 | 802 | 6.338 | 2.976 | 0 | 10 | 642 | 7.833 | 2.264 | 0 | 10 |
| Influence in decisions | 654 | 3.850 | 3.195 | 0 | 10 | 261 | 2.506 | 3.319 | 0 | 10 | 648 | 3.872 | 3.173 | 0 | 10 | 273 | 2.615 | 2.953 | 0 | 10 | 802 | 2.928 | 3.033 | 0 | 10 | 642 | 5.044 | 3.204 | 0 | 10 |
| Opportunities to learn (attended course) | 654 | 0.595 | 0.491 | 0 | 1 | 261 | 0.230 | 0.422 | 0 | 1 | 648 | 0.667 | 0.472 | 0 | 1 | 273 | 0.256 | 0.437 | 0 | 1 | 802 | 0.464 | 0.499 | 0 | 1 | 642 | 0.693 | 0.462 | 0 | 1 |
| Years Education | 654 | 13.427 | 3.200 | 0 | 20 | 261 | 12.808 | 2.792 | 2 | 20 | 648 | 14.190 | 3.310 | 0 | 20 | 273 | 12.670 | 3.141 | 0 | 20 | 802 | 14.176 | 2.921 | 2 | 20 | 642 | 14.234 | 4.204 | 0 | 20 |

| ESS / Variable Name | EE Obs | Mean | Std. Dev. | Min | Max | ES Obs | Mean | Std. Dev. | Min | Max | FI Obs | Mean | Std. Dev. | Min | Max | FR Obs | Mean | Std. Dev. | Min | Max | GB Obs | Mean | Std. Dev. | Min | Max | HU Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Job Satisfaction | 400 | 7.015 | 2.126 | 0 | 10 | 504 | 7.175 | 1.894 | 0 | 10 | 771 | 7.562 | 1.638 | 0 | 10 | 818 | 6.866 | 2.157 | 0 | 10 | 834 | 6.861 | 2.397 | 0 | 10 | 386 | 6.938 | 2.402 | 0 | 10 |
| Occupation: Senior Officials and Managers | 400 | 0.120 | 0.325 | 0 | 1 | 504 | 0.042 | 0.200 | 0 | 1 | 771 | 0.089 | 0.286 | 0 | 1 | 818 | 0.059 | 0.235 | 0 | 1 | 834 | 0.158 | 0.365 | 0 | 1 | 386 | 0.005 | 0.072 | 0 | 1 |
| Occupation: Professionals | 400 | 0.178 | 0.383 | 0 | 1 | 504 | 0.103 | 0.304 | 0 | 1 | 771 | 0.235 | 0.424 | 0 | 1 | 818 | 0.169 | 0.375 | 0 | 1 | 834 | 0.161 | 0.367 | 0 | 1 | 386 | 0.166 | 0.372 | 0 | 1 |
| Occupation: Technicians | 400 | 0.133 | 0.339 | 0 | 1 | 504 | 0.135 | 0.342 | 0 | 1 | 771 | 0.174 | 0.379 | 0 | 1 | 818 | 0.249 | 0.433 | 0 | 1 | 834 | 0.150 | 0.357 | 0 | 1 | 386 | 0.093 | 0.291 | 0 | 1 |
| Occupation: Workers | 400 | 0.478 | 0.500 | 0 | 1 | 504 | 0.597 | 0.491 | 0 | 1 | 771 | 0.428 | 0.495 | 0 | 1 | 818 | 0.414 | 0.493 | 0 | 1 | 834 | 0.440 | 0.497 | 0 | 1 | 386 | 0.560 | 0.497 | 0 | 1 |
| Occupation: Elementary | 400 | 0.093 | 0.290 | 0 | 1 | 504 | 0.123 | 0.329 | 0 | 1 | 771 | 0.074 | 0.262 | 0 | 1 | 818 | 0.109 | 0.312 | 0 | 1 | 834 | 0.091 | 0.288 | 0 | 1 | 386 | 0.176 | 0.381 | 0 | 1 |
| Contract duration: no contract | 400 | 0.025 | 0.156 | 0 | 1 | 504 | 0.062 | 0.240 | 0 | 1 | 771 | 0.003 | 0.051 | 0 | 1 | 818 | 0.042 | 0.200 | 0 | 1 | 834 | 0.107 | 0.309 | 0 | 1 | 386 | 0.013 | 0.113 | 0 | 1 |
| Contract duration: limited | 400 | 0.118 | 0.322 | 0 | 1 | 504 | 0.250 | 0.433 | 0 | 1 | 771 | 0.154 | 0.362 | 0 | 1 | 818 | 0.110 | 0.313 | 0 | 1 | 834 | 0.112 | 0.315 | 0 | 1 | 386 | 0.119 | 0.324 | 0 | 1 |
| Contract duration : unlimited | 400 | 0.858 | 0.350 | 0 | 1 | 504 | 0.688 | 0.464 | 0 | 1 | 771 | 0.843 | 0.364 | 0 | 1 | 818 | 0.848 | 0.359 | 0 | 1 | 834 | 0.782 | 0.413 | 0 | 1 | 386 | 0.868 | 0.339 | 0 | 1 |
| Probability to lose job next 12 months: very likely | 400 | 0.045 | 0.208 | 0 | 1 | 504 | 0.040 | 0.195 | 0 | 1 | 771 | 0.048 | 0.214 | 0 | 1 | 818 | 0.048 | 0.213 | 0 | 1 | 834 | 0.044 | 0.206 | 0 | 1 | 386 | 0.052 | 0.222 | 0 | 1 |
| Probability to lose job next 12 months: likely | 400 | 0.125 | 0.331 | 0 | 1 | 504 | 0.093 | 0.291 | 0 | 1 | 771 | 0.062 | 0.242 | 0 | 1 | 818 | 0.110 | 0.313 | 0 | 1 | 834 | 0.062 | 0.242 | 0 | 1 | 386 | 0.153 | 0.360 | 0 | 1 |
| Probability to lose job next 12 months: not very likely | 400 | 0.508 | 0.501 | 0 | 1 | 504 | 0.373 | 0.484 | 0 | 1 | 771 | 0.348 | 0.477 | 0 | 1 | 818 | 0.279 | 0.449 | 0 | 1 | 834 | 0.392 | 0.489 | 0 | 1 | 386 | 0.575 | 0.495 | 0 | 1 |
| Probability to lose job next 12 months: not at all likely | 400 | 0.323 | 0.468 | 0 | 1 | 504 | 0.494 | 0.500 | 0 | 1 | 771 | 0.542 | 0.499 | 0 | 1 | 818 | 0.564 | 0.496 | 0 | 1 | 834 | 0.501 | 0.500 | 0 | 1 | 386 | 0.220 | 0.415 | 0 | 1 |
| Size establishment: under 10 | 400 | 0.243 | 0.429 | 0 | 1 | 504 | 0.353 | 0.478 | 0 | 1 | 771 | 0.256 | 0.436 | 0 | 1 | 818 | 0.164 | 0.371 | 0 | 1 | 834 | 0.169 | 0.375 | 0 | 1 | 386 | 0.187 | 0.390 | 0 | 1 |
| Size establishment: 10 to 24 | 400 | 0.258 | 0.438 | 0 | 1 | 504 | 0.228 | 0.420 | 0 | 1 | 771 | 0.220 | 0.415 | 0 | 1 | 818 | 0.131 | 0.337 | 0 | 1 | 834 | 0.169 | 0.375 | 0 | 1 | 386 | 0.171 | 0.377 | 0 | 1 |
| Size establishment: 25 to 99 | 400 | 0.293 | 0.455 | 0 | 1 | 504 | 0.216 | 0.412 | 0 | 1 | 771 | 0.281 | 0.450 | 0 | 1 | 818 | 0.226 | 0.419 | 0 | 1 | 834 | 0.228 | 0.420 | 0 | 1 | 386 | 0.308 | 0.462 | 0 | 1 |
| Size establishment: 100 to 499 | 400 | 0.108 | 0.310 | 0 | 1 | 504 | 0.119 | 0.324 | 0 | 1 | 771 | 0.154 | 0.362 | 0 | 1 | 818 | 0.216 | 0.412 | 0 | 1 | 834 | 0.213 | 0.410 | 0 | 1 | 386 | 0.168 | 0.375 | 0 | 1 |
| Size establishment: 500 or more | 400 | 0.100 | 0.300 | 0 | 1 | 504 | 0.083 | 0.277 | 0 | 1 | 771 | 0.088 | 0.284 | 0 | 1 | 818 | 0.207 | 0.405 | 0 | 1 | 834 | 0.225 | 0.418 | 0 | 1 | 386 | 0.166 | 0.372 | 0 | 1 |
| Sector of activity: Agriculture, hunting, forestry and fishing | 400 | 0.045 | 0.208 | 0 | 1 | 504 | 0.022 | 0.146 | 0 | 1 | 771 | 0.016 | 0.124 | 0 | 1 | 818 | 0.015 | 0.120 | 0 | 1 | 834 | 0.004 | 0.060 | 0 | 1 | 386 | 0.044 | 0.205 | 0 | 1 |
| Sector of activity: Industry | 400 | 0.348 | 0.477 | 0 | 1 | 504 | 0.270 | 0.444 | 0 | 1 | 771 | 0.254 | 0.436 | 0 | 1 | 818 | 0.244 | 0.430 | 0 | 1 | 834 | 0.188 | 0.391 | 0 | 1 | 386 | 0.326 | 0.470 | 0 | 1 |
| Sector of activity: Services | 400 | 0.300 | 0.459 | 0 | 1 | 504 | 0.377 | 0.485 | 0 | 1 | 771 | 0.380 | 0.486 | 0 | 1 | 818 | 0.335 | 0.472 | 0 | 1 | 834 | 0.381 | 0.486 | 0 | 1 | 386 | 0.272 | 0.446 | 0 | 1 |
| Sector of activity: Public administration and defence | 400 | 0.043 | 0.202 | 0 | 1 | 504 | 0.151 | 0.358 | 0 | 1 | 771 | 0.047 | 0.211 | 0 | 1 | 818 | 0.094 | 0.292 | 0 | 1 | 834 | 0.118 | 0.322 | 0 | 1 | 386 | 0.075 | 0.264 | 0 | 1 |
| Sector of activity: Other activities | 400 | 0.265 | 0.442 | 0 | 1 | 504 | 0.181 | 0.385 | 0 | 1 | 771 | 0.304 | 0.460 | 0 | 1 | 818 | 0.312 | 0.463 | 0 | 1 | 834 | 0.309 | 0.463 | 0 | 1 | 386 | 0.282 | 0.451 | 0 | 1 |
| Hours worked | 400 | 42.648 | 9.194 | 6 | 80 | 504 | 41.145 | 9.802 | 6 | 72 | 771 | 39.654 | 7.782 | 0 | 80 | 818 | 37.495 | 10.130 | 0 | 80 | 834 | 39.155 | 12.359 | 0 | 80 | 386 | 43.492 | 9.491 | 0 | 80 |
| Hours worked2 | 400 | 1903.122 | 791.539 | 36 | 6400 | 504 | 1788.796 | 783.763 | 36 | 5184 | 771 | 1632.899 | 622.108 | 0 | 6400 | 818 | 1508.373 | 782.177 | 0 | 6400 | 834 | 1685.656 | 944.214 | 0 | 6400 | 386 | 1981.425 | 864.136 | 0 | 6400 |
| Self Employed | 400 | 0.005 | 0.071 | 0 | 1 | 504 | 0.016 | 0.125 | 0 | 1 | 771 | 0.017 | 0.129 | 0 | 1 | 818 | 0.004 | 0.060 | 0 | 1 | 834 | 0.019 | 0.137 | 0 | 1 | 386 | 0.008 | 0.088 | 0 | 1 |
| Supervisory tasks: number of people supervised | 400 | 5.693 | 30.471 | 0 | 544 | 504 | 2.841 | 12.324 | 0 | 200 | 771 | 2.695 | 10.063 | 0 | 150 | 818 | 6.685 | 35.006 | 0 | 600 | 834 | 7.127 | 23.244 | 0 | 280 | 386 | 2.795 | 15.214 | 0 | 200 |
| Autonomy | 400 | 5.710 | 3.328 | 0 | 10 | 504 | 6.383 | 3.153 | 0 | 10 | 771 | 7.472 | 2.342 | 0 | 10 | 818 | 6.782 | 2.998 | 0 | 10 | 834 | 7.096 | 2.792 | 0 | 10 | 386 | 4.399 | 3.516 | 0 | 10 |
| Influence in decisions | 400 | 3.030 | 3.048 | 0 | 10 | 504 | 4.157 | 3.199 | 0 | 10 | 771 | 4.707 | 2.885 | 0 | 10 | 818 | 3.774 | 3.257 | 0 | 10 | 834 | 4.189 | 3.072 | 0 | 10 | 386 | 2.083 | 2.696 | 0 | 10 |
| Opportunities to learn (attended course) | 400 | 0.475 | 0.500 | 0 | 1 | 504 | 0.403 | 0.491 | 0 | 1 | 771 | 0.700 | 0.458 | 0 | 1 | 818 | 0.446 | 0.497 | 0 | 1 | 834 | 0.603 | 0.490 | 0 | 1 | 386 | 0.337 | 0.473 | 0 | 1 |
| Years Education | 400 | 13.423 | 2.745 | 5 | 20 | 504 | 13.798 | 4.583 | 0 | 20 | 771 | 14.227 | 3.424 | 4 | 20 | 818 | 13.501 | 3.572 | 0 | 20 | 834 | 14.483 | 3.337 | 0 | 20 | 386 | 13.181 | 3.249 | 4 | 20 |

| ESS Variable Name | NO | | | | | PL | | | | | PT | | | | | SE | | | | | SI | | | | | SK | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Obs | Mean | Std. Dev. | Min | Max | Obs | Mean | Std. Dev. | Min | Max | Obs | Mean | Std. Dev. | Min | Max | Obs | Mean | Std. Dev. | Min | Max | Obs | Mean | Std. Dev. | Min | Max | Obs | Mean | Std. Dev. | Min | Max |
| Job Satisfaction | 900 | 7.440 | 1.748 | 0 | 10 | 459 | 6.810 | 2.174 | 0 | 10 | 364 | 6.898 | 1.662 | 0 | 10 | 966 | 7.353 | 1.830 | 0 | 10 | 378 | 7.267 | 1.935 | 0 | 10 | 356 | 6.747 | 2.027 | 0 | 10 |
| Occupation: Senior Officials and Managers | 900 | 0.063 | 0.244 | 0 | 1 | 459 | 0.098 | 0.298 | 0 | 1 | 364 | 0.016 | 0.128 | 0 | 1 | 966 | 0.073 | 0.261 | 0 | 1 | 378 | 0.082 | 0.275 | 0 | 1 | 356 | 0.065 | 0.246 | 0 | 1 |
| Occupation: Professionals | 900 | 0.157 | 0.364 | 0 | 1 | 459 | 0.139 | 0.347 | 0 | 1 | 364 | 0.085 | 0.280 | 0 | 1 | 966 | 0.219 | 0.414 | 0 | 1 | 378 | 0.185 | 0.389 | 0 | 1 | 356 | 0.149 | 0.356 | 0 | 1 |
| Occupation: Technicians | 900 | 0.307 | 0.461 | 0 | 1 | 459 | 0.137 | 0.344 | 0 | 1 | 364 | 0.104 | 0.306 | 0 | 1 | 966 | 0.222 | 0.415 | 0 | 1 | 378 | 0.169 | 0.376 | 0 | 1 | 356 | 0.171 | 0.377 | 0 | 1 |
| Occupation: Workers | 900 | 0.440 | 0.497 | 0 | 1 | 459 | 0.492 | 0.500 | 0 | 1 | 364 | 0.654 | 0.476 | 0 | 1 | 966 | 0.448 | 0.498 | 0 | 1 | 378 | 0.516 | 0.500 | 0 | 1 | 356 | 0.508 | 0.501 | 0 | 1 |
| Occupation: Elementary | 900 | 0.033 | 0.180 | 0 | 1 | 459 | 0.133 | 0.340 | 0 | 1 | 364 | 0.140 | 0.348 | 0 | 1 | 966 | 0.037 | 0.190 | 0 | 1 | 378 | 0.048 | 0.213 | 0 | 1 | 356 | 0.107 | 0.309 | 0 | 1 |
| Contract duration: no contract | 900 | 0.059 | 0.236 | 0 | 1 | 459 | 0.039 | 0.194 | 0 | 1 | 364 | 0.093 | 0.291 | 0 | 1 | 966 | 0.006 | 0.079 | 0 | 1 | 378 | 0.026 | 0.161 | 0 | 1 | 356 | 0.020 | 0.139 | 0 | 1 |
| Contract duration: limited | 900 | 0.090 | 0.286 | 0 | 1 | 459 | 0.290 | 0.454 | 0 | 1 | 364 | 0.187 | 0.390 | 0 | 1 | 966 | 0.120 | 0.325 | 0 | 1 | 378 | 0.148 | 0.356 | 0 | 1 | 356 | 0.177 | 0.382 | 0 | 1 |
| Contract duration : unlimited | 900 | 0.851 | 0.356 | 0 | 1 | 459 | 0.671 | 0.470 | 0 | 1 | 364 | 0.720 | 0.450 | 0 | 1 | 966 | 0.874 | 0.332 | 0 | 1 | 378 | 0.825 | 0.380 | 0 | 1 | 356 | 0.803 | 0.398 | 0 | 1 |
| Probability to lose job next 12 months: very likely | 900 | 0.012 | 0.110 | 0 | 1 | 459 | 0.083 | 0.276 | 0 | 1 | 364 | 0.016 | 0.128 | 0 | 1 | 966 | 0.042 | 0.202 | 0 | 1 | 378 | 0.042 | 0.202 | 0 | 1 | 356 | 0.042 | 0.201 | 0 | 1 |
| Probability to lose job next 12 months: likely | 900 | 0.038 | 0.191 | 0 | 1 | 459 | 0.227 | 0.419 | 0 | 1 | 364 | 0.143 | 0.350 | 0 | 1 | 966 | 0.052 | 0.222 | 0 | 1 | 378 | 0.116 | 0.321 | 0 | 1 | 356 | 0.233 | 0.423 | 0 | 1 |
| Probability to lose job next 12 months: not very likely | 900 | 0.232 | 0.422 | 0 | 1 | 459 | 0.477 | 0.500 | 0 | 1 | 364 | 0.442 | 0.497 | 0 | 1 | 966 | 0.262 | 0.440 | 0 | 1 | 378 | 0.495 | 0.501 | 0 | 1 | 356 | 0.486 | 0.501 | 0 | 1 |
| Probability to lose job next 12 months: not at all likely | 900 | 0.718 | 0.450 | 0 | 1 | 459 | 0.214 | 0.410 | 0 | 1 | 364 | 0.398 | 0.490 | 0 | 1 | 966 | 0.644 | 0.479 | 0 | 1 | 378 | 0.347 | 0.477 | 0 | 1 | 356 | 0.239 | 0.427 | 0 | 1 |
| Size establishment: under 10 | 900 | 0.216 | 0.411 | 0 | 1 | 459 | 0.187 | 0.391 | 0 | 1 | 364 | 0.409 | 0.492 | 0 | 1 | 966 | 0.175 | 0.380 | 0 | 1 | 378 | 0.159 | 0.366 | 0 | 1 | 356 | 0.225 | 0.418 | 0 | 1 |
| Size establishment: 10 to 24 | 900 | 0.206 | 0.404 | 0 | 1 | 459 | 0.135 | 0.342 | 0 | 1 | 364 | 0.239 | 0.427 | 0 | 1 | 966 | 0.195 | 0.396 | 0 | 1 | 378 | 0.116 | 0.321 | 0 | 1 | 356 | 0.258 | 0.438 | 0 | 1 |
| Size establishment: 25 to 99 | 900 | 0.292 | 0.455 | 0 | 1 | 459 | 0.290 | 0.454 | 0 | 1 | 364 | 0.206 | 0.405 | 0 | 1 | 966 | 0.292 | 0.455 | 0 | 1 | 378 | 0.220 | 0.415 | 0 | 1 | 356 | 0.306 | 0.462 | 0 | 1 |
| Size establishment: 100 to 499 | 900 | 0.167 | 0.373 | 0 | 1 | 459 | 0.235 | 0.425 | 0 | 1 | 364 | 0.085 | 0.280 | 0 | 1 | 966 | 0.177 | 0.382 | 0 | 1 | 378 | 0.228 | 0.420 | 0 | 1 | 356 | 0.129 | 0.336 | 0 | 1 |
| Size establishment: 500 or more | 900 | 0.120 | 0.325 | 0 | 1 | 459 | 0.153 | 0.360 | 0 | 1 | 364 | 0.060 | 0.239 | 0 | 1 | 966 | 0.161 | 0.368 | 0 | 1 | 378 | 0.278 | 0.448 | 0 | 1 | 356 | 0.081 | 0.274 | 0 | 1 |
| Sector of activity: Agriculture, hunting, forestry and fishing | 900 | 0.013 | 0.115 | 0 | 1 | 459 | 0.035 | 0.184 | 0 | 1 | 364 | 0.008 | 0.091 | 0 | 1 | 966 | 0.013 | 0.115 | 0 | 1 | 378 | 0.005 | 0.073 | 0 | 1 | 356 | 0.022 | 0.148 | 0 | 1 |
| Sector of activity: Industry | 900 | 0.226 | 0.418 | 0 | 1 | 459 | 0.388 | 0.488 | 0 | 1 | 364 | 0.330 | 0.471 | 0 | 1 | 966 | 0.230 | 0.421 | 0 | 1 | 378 | 0.378 | 0.486 | 0 | 1 | 356 | 0.407 | 0.492 | 0 | 1 |
| Sector of activity: Services | 900 | 0.311 | 0.463 | 0 | 1 | 459 | 0.318 | 0.466 | 0 | 1 | 364 | 0.313 | 0.464 | 0 | 1 | 966 | 0.336 | 0.473 | 0 | 1 | 378 | 0.386 | 0.488 | 0 | 1 | 356 | 0.222 | 0.416 | 0 | 1 |
| Sector of activity: Public administration and defence | 900 | 0.069 | 0.253 | 0 | 1 | 459 | 0.074 | 0.262 | 0 | 1 | 364 | 0.069 | 0.253 | 0 | 1 | 966 | 0.061 | 0.240 | 0 | 1 | 378 | 0.058 | 0.234 | 0 | 1 | 356 | 0.073 | 0.261 | 0 | 1 |
| Sector of activity: Other activities | 900 | 0.381 | 0.486 | 0 | 1 | 459 | 0.185 | 0.389 | 0 | 1 | 364 | 0.280 | 0.450 | 0 | 1 | 966 | 0.359 | 0.480 | 0 | 1 | 378 | 0.172 | 0.378 | 0 | 1 | 356 | 0.275 | 0.447 | 0 | 1 |
| Hours worked | 900 | 38.960 | 9.064 | 4 | 80 | 459 | 43.331 | 10.927 | 7 | 80 | 364 | 32.624 | 15.798 | 0 | 60 | 966 | 39.507 | 8.307 | 1 | 70 | 378 | 45.056 | 9.104 | 0 | 80 | 356 | 41.007 | 15.528 | 0 | 80 |
| Hours worked2 | 900 | 1599.949 | 722.467 | 16 | 6400 | 459 | 1996.730 | 987.783 | 49 | 6400 | 364 | 1313.190 | 806.236 | 0 | 3600 | 966 | 1629.749 | 635.918 | 1 | 4900 | 378 | 2112.675 | 840.304 | 0 | 6400 | 356 | 1922.025 | 1120.514 | 0 | 6400 |
| Self Employed | 900 | 0.003 | 0.058 | 0 | 1 | 459 | 0.007 | 0.081 | 0 | 1 | 364 | 0.000 | 0.000 | 0 | 0 | 966 | 0.003 | 0.056 | 0 | 1 | 378 | 0.034 | 0.182 | 0 | 1 | 356 | 0.006 | 0.075 | 0 | 1 |
| Supervisory tasks: number of people supervised | 900 | 4.946 | 20.286 | 0 | 330 | 459 | 2.843 | 9.702 | 0 | 100 | 364 | 1.813 | 7.511 | 0 | 100 | 966 | 8.314 | 61.895 | 0 | 1600 | 378 | 6.794 | 28.249 | 0 | 400 | 356 | 3.478 | 16.533 | 0 | 250 |
| Autonomy | 900 | 7.428 | 2.436 | 0 | 10 | 459 | 4.908 | 3.494 | 0 | 10 | 364 | 5.854 | 2.843 | 0 | 10 | 966 | 7.547 | 2.382 | 0 | 10 | 378 | 6.780 | 3.058 | 0 | 10 | 356 | 4.466 | 3.419 | 0 | 10 |
| Influence in decisions | 900 | 5.559 | 2.805 | 0 | 10 | 459 | 2.571 | 2.896 | 0 | 10 | 364 | 3.975 | 2.913 | 0 | 10 | 966 | 4.630 | 2.958 | 0 | 10 | 378 | 3.669 | 3.176 | 0 | 10 | 356 | 2.433 | 2.795 | 0 | 10 |
| Opportunities to learn (attended course) | 900 | 0.646 | 0.479 | 0 | 1 | 459 | 0.383 | 0.487 | 0 | 1 | 364 | 0.187 | 0.390 | 0 | 1 | 966 | 0.722 | 0.448 | 0 | 1 | 378 | 0.534 | 0.499 | 0 | 1 | 356 | 0.444 | 0.498 | 0 | 1 |
| Years Education | 900 | 14.419 | 3.224 | 0 | 20 | 459 | 13.185 | 2.884 | 7 | 20 | 364 | 9.124 | 4.573 | 0 | 20 | 966 | 13.610 | 3.041 | 3 | 20 | 378 | 13.034 | 3.332 | 2 | 20 | 356 | 13.171 | 2.902 | 1 | 20 |

# Table A 3: Results, ESS sample

| VARIABLES | (1) MODEL 1 | (2) MODEL 2 | (3) MODEL 3 | (4) MODEL 4 |
|---|---|---|---|---|
| Senior Official/ Manager | 1.03*** | 0.97*** | 0.86*** | 0.39*** |
| | (0.10) | (0.11) | (0.11) | (0.11) |
| Professional | 0.92*** | 0.94*** | 0.79*** | 0.51*** |
| | (0.09) | (0.10) | (0.10) | (0.10) |
| Technician | 0.66*** | 0.67*** | 0.60*** | 0.35*** |
| | (0.09) | (0.10) | (0.09) | (0.10) |
| Worker | 0.49*** | 0.49*** | 0.49*** | 0.40*** |
| | (0.09) | (0.09) | (0.09) | (0.09) |
| Citizen | | -0.01 | -0.05 | -0.09 |
| | | (0.11) | (0.11) | (0.11) |
| Minority group | | -0.05 | 0.01 | 0.08 |
| | | (0.11) | (0.10) | (0.10) |
| Age | | -0.05*** | -0.04*** | -0.06*** |
| | | (0.01) | (0.01) | (0.01) |
| Age2 | | 0.00*** | 0.00*** | 0.00*** |
| | | (0.00) | (0.00) | (0.00) |
| Gender | | 0.01 | 0.04 | 0.02 |
| | | (0.04) | (0.04) | (0.04) |
| Education | | -0.02*** | -0.02*** | -0.03*** |
| | | (0.01) | (0.01) | (0.01) |
| Health | | 0.55*** | 0.46*** | 0.45*** |
| | | (0.05) | (0.05) | (0.05) |
| Married | | 0.02 | 0.01 | 0.02 |
| | | (0.05) | (0.05) | (0.05) |
| Children at home | | 0.09 | 0.07 | 0.06 |
| | | (0.06) | (0.06) | (0.06) |
| Household size | | 0.00 | -0.01 | -0.00 |
| | | (0.02) | (0.02) | (0.02) |
| Partner works | | 0.03 | 0.03 | 0.00 |
| | | (0.07) | (0.07) | (0.07) |
| HH Income €150 to <€300 | | 0.01 | 0.05 | 0.12 |
| | | (0.42) | (0.40) | (0.39) |
| HH Income €300 to < €500 | | -0.38 | -0.31 | -0.19 |
| | | (0.39) | (0.38) | (0.37) |
| HH Income €500 to < €1000 | | -0.25 | -0.25 | -0.10 |
| | | (0.38) | (0.37) | (0.36) |
| HH Income €1000 to <€1500 | | 0.02 | 0.04 | 0.15 |
| | | (0.38) | (0.37) | (0.36) |
| HH Income €1500 to <€2000 | | 0.03 | 0.01 | 0.06 |
| | | (0.38) | (0.37) | (0.36) |
| HH Income €2000 to < €2500 | | 0.15 | 0.09 | 0.15 |
| | | (0.38) | (0.37) | (0.36) |
| HH Income €2500 to < €3000 | | 0.14 | 0.08 | 0.13 |
| | | (0.38) | (0.37) | (0.35) |
| HH Income €3000 to <€5000 | | 0.10 | 0.04 | 0.06 |
| | | (0.38) | (0.36) | (0.35) |
| HH Income €5000 to <€7500 | | 0.19 | 0.11 | 0.09 |
| | | (0.38) | (0.37) | (0.35) |
| HH Income €7500 to <€10000 | | 0.36 | 0.26 | 0.26 |
| | | (0.39) | (0.37) | (0.36) |
| HH Income €10000 or more | | 0.41 | 0.29 | 0.27 |
| | | (0.40) | (0.38) | (0.37) |
| Contract limited duration | | | -0.06 | 0.05 |
| | | | (0.11) | (0.11) |
| Contract unlimited duration | | | -0.13 | -0.10 |
| | | | (0.09) | (0.09) |
| Job security low | | | 0.14 | 0.11 |
| | | | (0.15) | (0.15) |
| Job security medium | | | 0.97*** | 0.87*** |
| | | | (0.14) | (0.14) |
| Job security high | | | 1.43*** | 1.27*** |
| | | | (0.14) | (0.14) |
| Small enterprise | | | 0.05 | 0.11** |
| | | | (0.06) | (0.06) |
| Medium enterprise | | | 0.02 | 0.11** |
| | | | (0.06) | (0.06) |
| Large enterprise | | | -0.11* | 0.01 |
| | | | (0.06) | (0.06) |
| Very large enterprise | | | 0.01 | 0.14** |
| | | | (0.07) | (0.07) |
| Industry | | | -0.08 | -0.03 |
| | | | (0.13) | (0.13) |
| Services | | | -0.14 | -0.14 |
| | | | (0.13) | (0.13) |
| Public Administration | | | -0.01 | -0.02 |
| | | | (0.15) | (0.15) |
| Other Services | | | 0.10 | 0.06 |
| | | | (0.14) | (0.14) |
| Hours worked | | | -0.02** | -0.01** |
| | | | (0.01) | (0.01) |
| Hours worked2 | | | 0.00*** | 0.00* |
| | | | (0.00) | (0.00) |
| Self employed | | | 0.34** | -0.01 |
| | | | (0.16) | (0.16) |
| Supervisory | | | | 0.00 |
| | | | | (0.00) |
| Autonomy | | | | 0.08*** |
| | | | | (0.01) |
| Influence | | | | 0.07*** |
| | | | | (0.01) |
| Opportunities to learn | | | | 0.12*** |
| | | | | (0.04) |
| Constant | 6.87*** | 7.24*** | 6.73*** | 6.49*** |
| | (0.11) | (0.51) | (0.55) | (0.55) |
| Observations | 10420 | 10420 | 10420 | 10420 |
| R-squared | 0.05 | 0.07 | 0.11 | 0.15 |

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

**Table A 4: Estimation by ordered probit, marginal effects, ESS, all models**

**MARGINAL EFFECTS**
**associated with each occupational dummy**
(ESS, MODEL 1)

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Officials, Managers, Professionals** | -0.007 | -0.006 | -0.013 | -0.018 | -0.018 | -0.040 | -0.034 | -0.037 | 0.024 | 0.065 | 0.085 |
| *Std error* | *(0.001)* | *(0.001)* | *(0.001)* | *(0.002)* | *(0.002)* | *(0.004)* | *(0.003)* | *(0.004)* | *(0.002)* | *(0.006)* | *(0.009)* |
| **Technicians** | -0.005 | -0.004 | -0.009 | -0.012 | -0.012 | -0.027 | -0.023 | -0.023 | 0.018 | 0.044 | 0.054 |
| *Std error* | *(0.001)* | *(0.001)* | *(0.001)* | *(0.002)* | *(0.002)* | *(0.004)* | *(0.003)* | *(0.004)* | *(0.002)* | *(0.006)* | *(0.009)* |
| **Workers** | -0.004 | -0.004 | -0.008 | -0.010 | -0.010 | -0.021 | -0.017 | -0.015 | 0.018 | 0.034 | 0.037 |
| *Std error* | *(0.001)* | *(0.001)* | *(0.001)* | *(0.002)* | *(0.002)* | *(0.004)* | *(0.003)* | *(0.003)* | *(0.003)* | *(0.006)* | *(0.007)* |

**MARGINAL EFFECTS**
**associated with each occupational dummy**
(ESS, MODEL 2)

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Officials, Managers, Professionals** | -0.006 | -0.006 | -0.014 | -0.019 | -0.019 | -0.043 | -0.037 | -0.040 | 0.025 | 0.070 | 0.089 |
| *Std error* | *(0.001)* | *(0.001)* | *(0.001)* | *(0.002)* | *(0.002)* | *(0.004)* | *(0.004)* | *(0.005)* | *(0.002)* | *(0.007)* | *(0.010)* |
| **Technicians** | -0.004 | -0.004 | -0.009 | -0.013 | -0.013 | -0.029 | -0.025 | -0.026 | 0.019 | 0.047 | 0.058 |
| *Std error* | *(0.001)* | *(0.001)* | *(0.001)* | *(0.002)* | *(0.002)* | *(0.004)* | *(0.004)* | *(0.004)* | *(0.002)* | *(0.007)* | *(0.009)* |
| **Workers** | -0.004 | -0.004 | -0.008 | -0.011 | -0.010 | -0.023 | -0.018 | -0.016 | 0.020 | 0.036 | 0.039 |
| *Std error* | *(0.001)* | *(0.001)* | *(0.001)* | *(0.002)* | *(0.002)* | *(0.004)* | *(0.003)* | *(0.003)* | *(0.003)* | *(0.006)* | *(0.007)* |

**MARGINAL EFFECTS**
**associated with each occupational dummy**
(ESS, MODEL 3)

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Officials, Managers, Professionals** | -0.005 | -0.005 | -0.012 | -0.016 | -0.017 | -0.039 | -0.034 | -0.036 | 0.026 | 0.064 | 0.075 |
| *Std error* | *(0.001)* | *(0.001)* | *(0.001)* | *(0.002)* | *(0.002)* | *(0.004)* | *(0.004)* | *(0.005)* | *(0.002)* | *(0.007)* | *(0.010)* |
| **Professionals** | -0.003 | -0.004 | -0.008 | -0.012 | -0.012 | -0.028 | -0.024 | -0.025 | 0.019 | 0.045 | 0.052 |
| *Std error* | *(0.001)* | *(0.001)* | *(0.001)* | *(0.002)* | *(0.002)* | *(0.004)* | *(0.004)* | *(0.005)* | *(0.002)* | *(0.007)* | *(0.009)* |
| **Workers** | -0.004 | -0.004 | -0.008 | -0.011 | -0.011 | -0.024 | -0.019 | -0.018 | 0.021 | 0.038 | 0.038 |
| *Std error* | *(0.001)* | *(0.001)* | *(0.001)* | *(0.002)* | *(0.002)* | *(0.004)* | *(0.003)* | *(0.003)* | *(0.003)* | *(0.006)* | *(0.006)* |

**MARGINAL EFFECTS**
**associated with each occupational dummy**
(ESS, MODEL 4)

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Officials, Managers, Professionals** | -0.003 | -0.003 | -0.007 | -0.010 | -0.010 | -0.024 | -0.020 | -0.021 | 0.019 | 0.039 | 0.039 |
| *Std error* | *(0.001)* | *(0.001)* | *(0.001)* | *(0.002)* | *(0.002)* | *(0.005)* | *(0.004)* | *(0.005)* | *(0.003)* | *(0.008)* | *(0.009)* |
| **Technicians** | -0.002 | -0.002 | -0.005 | -0.007 | -0.008 | -0.017 | -0.015 | -0.015 | 0.014 | 0.028 | 0.028 |
| *Std error* | *(0.001)* | *(0.001)* | *(0.001)* | *(0.002)* | *(0.002)* | *(0.004)* | *(0.004)* | *(0.004)* | *(0.003)* | *(0.007)* | *(0.008)* |
| **Workers** | -0.003 | -0.003 | -0.007 | -0.009 | -0.010 | -0.022 | -0.018 | -0.017 | 0.020 | 0.035 | 0.033 |
| *Std error* | *(0.001)* | *(0.001)* | *(0.001)* | *(0.002)* | *(0.002)* | *(0.004)* | *(0.003)* | *(0.003)* | *(0.004)* | *(0.006)* | *(0.006)* |

**Table A 5: Controlling for the endogeneity of the occupational choice. Second stage equation estimated by ordered probit. Marginal effects associated with all levels of job satisfaction (ESS, model 4)**

ESS model 4 MARGINAL EFFECTS
associated with each occupational dummy, after controlling for potential endogeneity of the occupational choice

| | | | | | Job satisfaction | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Officials, Managers, Professionals | -0.003 | -0.003 | -0.008 | -0.011 | -0.012 | -0.027 | -0.024 | -0.025 | 0.021 | 0.046 | 0.047 |
| | (0.001) | (0.001) | (0.003) | (0.004) | (0.005) | (0.011) | (0.010) | (0.012) | (0.007) | (0.019) | (0.022) |
| Technicians | -0.002 | -0.002 | -0.005 | -0.007 | -0.007 | -0.017 | -0.015 | -0.015 | 0.014 | 0.029 | 0.028 |
| | (0.001) | (0.001) | (0.002) | (0.003) | (0.003) | (0.008) | (0.007) | (0.008) | (0.005) | (0.014) | (0.015) |
| Workers | -0.002 | -0.003 | -0.006 | -0.008 | -0.008 | -0.019 | -0.016 | -0.015 | 0.017 | 0.031 | 0.029 |
| | (0.001) | (0.001) | (0.002) | (0.002) | (0.002) | (0.005) | (0.005) | (0.004) | (0.005) | (0.009) | (0.008) |

**Abstract**
This paper studies the determinants of differences in self reported job satisfaction across occupations using data from the 2006/2007 European Social Survey (18 countries). When the effect of other variables is not accounted for, being a Manager yields a "satisfaction bonus" two times as big as the one provided by Workers positions. This substantial satisfaction gap between those holding Managerial positions and Workers practically disappears when we control for individual, household and work related variables. Even though the differences across occupations are reduced, all occupations bring about more job satisfaction than manual and service positions. All results hold when using the European Working Conditions Survey data set. In addition, the results are robust to the use of job satisfaction as a categorical variable and to a variation of the model specification that takes into account the potential endogeneity of the occupational choice.

The mission of the JRC is to provide customer-driven scientific and technical support for the conception, development, implementation and monitoring of EU policies. As a service of the European Commission, the JRC functions as a reference centre of science and technology for the Union. Close to the policy-making process, it serves the common interest of the Member States, while being independent of special interests, whether private or national.

JRC
EUROPEAN COMMISSION

Publications Office