

Jobs as Lancaster Goods:

Facets of Job Satisfaction and Overall Job Satisfaction

Ali Skalli*, Ioannis Theodossiou**, Efi Vasileiou***

Abstract

Overall job satisfaction is likely to reflect the combination of partial satisfactions related to various features of one's job, such as pay, security, the work itself, working conditions, working hours, and the like. The level of overall job satisfaction emerges as the weighted outcome of the individual's job satisfaction with each of these facets. Thus, jobs are given a status similar to that of commodities in Lancaster's theory of consumption behaviour. The purpose of this study is to determine the extent and the importance of partial satisfactions in affecting and explaining overall job satisfaction. The study uses eight waves of the European Community Household Panel for ten EU countries and an econometric methodology which not only overcomes a variety of econometric problems introduced by the two-layer model used, but also accounts for unobserved heterogeneity by exploiting the longitudinal dimension of the data. The results show that the different facets of job satisfaction are explained by observed individual and firm characteristics. This suggests that these facets of job satisfaction are in fact strongly interrelated. For all the EU countries examined in this study and in both the short and the long run, satisfaction with the type of work emerges as the most important determinant of overall job satisfaction.

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* Université Pantheon-Assas (Paris 2).

**Corresponding author: Department of Economics, University of Macedonia, Greece and Centre for European Labour Market Research, Aberdeen University Business School, Economics, University of Aberdeen, UK.

*** Department of Economics, University of Macedonia, Greece and, Université Pantheon-Assas (Paris 2).

1.Introduction

Job satisfaction is an important readily available measure of the worker's utility derived from the job and therefore reflects a number of supply side features of labour market. Moreover, it allows one to perform an empirical analysis aiming at identifying those characteristics which have a differential impact on the utility of individual in the same job. The identification of such determinants of the job satisfaction is important since higher job satisfaction is likely to result in higher performance at work, decreased absenteeism and tardiness (Lawler & Porter, 1967; Locke, 1969; Hamermesh, 1977; Freeman, 1978; Borjas, 1979).

These considerations justify the growing interest of labour economists devoted to the concept of job satisfaction during the last two decades. The available literature usually aims at investigating the effect of a variety of individual or job characteristics on the levels of job satisfaction reported by individuals. The underlying assumption in these studies is that individuals make a judgement about their job as a whole. While this is a reasonable assumption, it does not explicitly account for the possibility that an individual remains equally satisfied with her/his job certain of the facets of job satisfaction change, for example, when working conditions deteriorate but this is accompanied by a compensating wage increase in a way that the overall job satisfaction remains unaltered.

The level of overall job satisfaction emerges as the weighted outcome of the individual's job satisfaction with each one of these facets. Thus, jobs can be seen as similar to commodities in Lancaster's theory of consumption behaviour (Lancaster, 1966, 1977). Lancaster suggests that each commodity can be seen as having a number of properties from which utility is derived. Different mix of such properties lead to a differentiated product. For each pair of such products, consumers may have a unanimous view that one of them is superior to the other or alternatively, they may exhibit heterogeneous preferences, leading to opposite orderings between them. A consequence of this approach is that two different varieties of the good may be viewed by the consumer as equally attractive, provided that a low content in one desirable property is compensated by an increase in an other. Furthermore, a consumer may be willing to pay a certain extra amount of money, in order to buy a superior variety (containing more of the desirable characteristics than other varieties). Thus, the consumer is understood to rank the mix of these properties, rather than to rank the commodities as such. He argues that only by considering the mix of properties or characteristics, the intrinsic qualities of individual goods can be incorporated into the

analysis. A similar reasoning can be applied to work. The same declared job satisfaction level can be obtained or fulfilled through different combinations of job facets including intrinsic and extrinsic features of one's job. Different jobs are substitutes for each other since they may offer combinations of characteristics hence different combinations of partial job satisfactions may add up to the same overall job satisfaction.

This approach to investigating job satisfaction is better suited to address a number of important issues such as the effects of the major changes of work organisation that firms have experienced during the last three decades on job satisfaction. These changes have had an impact on pay practices, on job contents, on working conditions and environment and job security (Lindbeck and Snower, 1996). One should therefore address the question of whether these observed changes have had any impact on workers' satisfaction with their jobs. Could the decline of job satisfaction reported by Blanchflower and Oswald (1999) for the U.S. be explained by the change of organisational practices and their impact on the job facets? Can this pattern be linked to the increase of job insecurity reported by Aarason & Sullivan (1998) and more recently by Nickell *et al* (2002)?

This paper explores the relationship between overall job satisfaction and satisfaction with important aspects of work environment which are naturally linked to organisational changes in the workplace; namely, the intrinsic aspect¹ of the job satisfaction which refers to satisfaction with the type of work, and the extrinsic aspects which refer to satisfaction with working conditions, with working time, with job insecurity and with earnings.

Most of the empirical research on job satisfaction relies on the use of micro-data to assess the effect of specific individual and job characteristics on job satisfaction. Although there is strong evidence regarding the effect of some of these characteristics on job satisfaction this is not the case for others. For instance, one well established result is the existence of a U-shaped relationship between one's age and job satisfaction (Clark and Oswald, 1996; Groot and Van de Brink, 1999). Likewise, a number of studies have shown that job satisfaction increases with wage levels, measured either in absolute or relative terms (Lydon and Chevalier, 2002), and with education (Ward & Sloane, 1999)². In contrast, whereas there is

¹ Examples of intrinsic aspects are the opportunity for personal control, the possibility of utilizing one's skills, the variety of job tasks, whether there is supportive or controlling supervision, opportunities for personal contracts (Frey and Stutzer, 2002, p.103). Examples of extrinsic aspects are: pay, working conditions, job security, physical security at work and social status (Frey and Stutzer, 2002, p.104).

² Interestingly enough, there seems to be no systematically increasing relationship between education and life satisfaction.

some evidence for gender differentials in terms of job satisfaction, it is not clear whether men are more or less satisfied with their work than women. Using the British Household Panel Study, Clark (1997) reports that British females are more satisfied than their male counterparts whereas Kaiser (2002) and Moguerou (2002) highlight the opposite result for Europe and the U.S., respectively. Similarly, the effect of occupational level on job satisfaction is not unambiguous in the literature. For example, using the European Community Household Panel (ECHP), Kaiser (2002) shows that the occupational hierarchy in terms of job satisfaction is country-specific. Thus, in Denmark, professionals and scientists are more satisfied with their jobs than workers in any other occupation, but in contrast in Portugal, they are the least satisfied occupational group.

The literature also suggests that there are differences in job satisfaction stemming from a number of job characteristics. Clark & Oswald, (1996) and Drakopoulos & Theodossiou, (1997) showed that the level of job satisfaction diminishes as the number of working hours increases. Furthermore, Drakopoulos & Theodossiou (1997) and Sloane & Williams (2000) show that people who work in small firms report higher job satisfaction levels compared to large firms' employees. The usual interpretation of this relies on the idea that working in a small unit implies more job control and less repetitive tasks than otherwise; job characteristics which workers tend to value. However, job security increases with firm size (Idson, 1996). Lang and Johnson (1994) found that firm size acts as a contingency variable affecting satisfaction only by means of other determinants of job satisfaction. Thus, the initial employer–employee attachment is an important determinant of job satisfaction in small firms whereas in large firms, it is the quality of the relationship which matters the most.

The effect of any individual or job characteristic on workers' job satisfaction is also dependent on a number of features like institutions or social norms. Nikolaou *et al* (2003) showed that the workforce in Denmark, Finland and the Netherlands has higher odds of reporting higher job satisfaction compared to workers in Great Britain. According to Sousa-Poza and Sousa-Poza (2000), the high level of reported job satisfaction in the former countries could be explained by the relative high work-role outputs compared to the work-role inputs³.

3 Sousa-Poza and Sousa-Poza (2000) analysed job satisfaction on the assumption that it depends on the balance between work-role inputs (education, working time, effort) and work-role outputs (wages, fringe

This paper differs from the previous literature in the sense that it does not simply examine how sensitive are the job satisfaction levels to individual or job characteristics. Rather, it develops a two-layer model similar in structure to the one used by Van Praag *et al* (2002) and Van Praag & Ferrer-i-Carbonell (2004) where the job satisfaction is viewed as an aggregate concept which can be unfolded into different components. The data allow the identification of the following components of job satisfaction: satisfaction with the type of work, with working conditions, with working time, with job insecurity and with earnings. Satisfaction with each of these facets of a job is explained by a number of worker and job characteristics. At least a number of these characteristics turn out to be important determinants of satisfaction with all the facets of jobs we consider. This implies that satisfaction with different facets of jobs are interrelated and the individual's reported overall job satisfaction depends on how the individual weights each of these facets. Since the analysis is systematically conducted for ten EU countries for which data are available in the ECHP, the study identifies the national specificities in terms of the effect of individual and job characteristics on satisfaction with each one of the job facets considered. In addition, the study assesses how sensitive the overall job satisfaction is to the satisfaction with each one of these facets. Finally, since the ECHP is a longitudinal data set, it accounts for unobserved sources of individual heterogeneity and for time-specific effects.

The rest of the paper is organised as follows. Section 2 discusses the data used in this study, while section 3 discusses the estimation methodology. Section 4 presents the results and their interpretation. Section 5 concludes.

2. The Data

In this study the eight waves of the European Community Household Panel (ECHP) are used. Although household based, the data provide information not only on a variety of socio-demographic variables, but also on a number of judgments individuals make about their work environment. Indicators of “overall job satisfaction” and of satisfaction with five job facets are derived from the following questions, respectively:

- 1) *How satisfied are you with your work or main activity?*
- 2) *How satisfied are you with your present job in terms of earning?*

benefits, status, working conditions, intrinsic aspects). Thus, if work work-role outputs (“pleasures”) increase relative to work-role inputs (“pains”), then job satisfaction will increase.

- 3) *How satisfied are you with your present job in terms of job security?*
- 4) *How satisfied are you with your present job in terms of type of work?*
- 5) *How satisfied are you with your present job in terms of working times (day time, night time, shifts etc)?*
- 6) *How satisfied are you with your present job in terms of working conditions/environment?*

The answers are ranked according to a 6-level scale: from 1 (completely dissatisfied) to 6 (completely satisfied).

Due to data limitations the analysis is restricted to ten countries. These are Austria, Belgium, Denmark, Finland, France, Greece, Italy, Netherlands, Portugal and Spain. The sample has been restricted to employees aged between 17 and 65. In addition, because no reliable information on the earnings of the self-employed is available for the first five waves of the panel, this category has been excluded from the analysis.

These ten European countries are studied separately, to identify potential national similarities and differences of the effect of individual and job characteristics on satisfaction with each facet of jobs. A number of key variables are used to explain the partial satisfactions. In particular, along with a set of personal characteristics of employees (such as gender, marital status, experience, education, health and past unemployment experience) a set of dummy variables indicating establishment size (4 dummy variables)⁴, private and public sector, industrial sectors (3 dummy variables)⁵, eight occupational dummy variables and the type of contract (permanent and temporary) are used.

The effect of income on partial job satisfactions is assumed to depend on personal labor income and household income. The equivalised household income⁶, which takes into account the family structure, is used.

Table 3, in the appendix presents the means of Overall Job Satisfaction and Partial Satisfactions of the eight waves of the ECHP (1994-2001) for the ten European countries. Comparing unweighted averages across countries, workers in northern Europe report

4 Firm size less than 20 regular paid employees, 20-to 100, 100 to 500, and more than 500 regular paid employees.

5 Agriculture, Manufacture and Services.

6 The equivalised household income is used by several authors on the job satisfaction literature see for example van de Stand et al (1985).

higher overall job satisfaction than the Mediterranean countries (Greece, Portugal, Italy and Spain). Interestingly, workers in southern countries are less satisfied than those in the northern ones on every single facet of job satisfaction. Some countries such as Denmark and Austria report a noticeably higher average on almost every partial job satisfaction than the remainder. Finally, satisfaction with earnings is scored lower than the remaining partial satisfactions for every European country examined in this study except for workers in the Netherlands who report less satisfaction with working conditions. Therefore, there is a significant gap between southern countries and the northern ones: the latter report higher satisfaction scores on almost every partial job satisfaction than the former. Yet, these differences among European countries may reflect the general macroeconomic environment. For example countries with better economic performance have lower perceived insecurity. Yet this finding may be the outcome of differences in cultural backgrounds or of differences in labour market institutions. Deloffre and Rioux (2004) studying cross-national differences in job security, find that these differences are outcomes of differences in cultural background rather than outcomes of different labour market institutions, since the stringency of employment protection is found to have no effect on perceived job security.

3. The Empirical Model

Let S denote overall job satisfaction. Let s^j , $j = 1, \dots, J$, denote satisfaction with respect to the j^{th} facet of one's job. It is assumed that S can be explained by the satisfaction levels, s^j with respect to all job facets, $j = 1, \dots, J$. Suppose that the researcher observes a set of K individual or job characteristics x_k , $k = 1, \dots, K$ then partial satisfaction levels s^j , $j = 1, \dots, J$, can in turn be explained by the variables x_k , $k = 1, \dots, K$. It should be expected that satisfaction levels with respect to different facets of a job interact. For instance, the satisfaction level with respect to working conditions that an individual might report is likely to be conditional on how satisfied she/he is with respect to earnings. Therefore, the two-layer model should be considered to be a reduced-form model from which all such relationships have been eliminated.

Of course, no matter how large is the set of explanatory variables x_k , $k = 1, \dots, K$, it cannot account for all the determinants of one's level of satisfaction. Let y_h , $h = 1, \dots, H$, denote

the set of satisfaction determinants one does not observe. Some of these variables explain the level of satisfaction with respect to some job facets and hence overall job satisfaction as well.

Given the above, the model structure can be written as:

$$S = f(s^1, s^2, \dots, s^J, y_1, y_2, \dots, y_H) \quad (1)$$

$$s^j = g(x_1, x_2, \dots, x_K, y_1, y_2, \dots, y_H), \quad j = 1, 2, \dots, J \quad (2)$$

which is a $J+1$ -equation. Two characteristics of the above model are worth emphasising. First, equation (1) has ordered qualitative variables on both its sides. Though this poses no particular econometric problem, it implies that there should be a rather large number of dummy variables on the right-hand side.⁷ Not only this makes equation (1) computationally unattractive, but it also yields results that are not straightforward to interpret. For this reason, continuous versions of the partial satisfaction variables s^j , $j = 1, \dots, J$, are used relying on the idea that any translation of ordered variables into numbers which preserves the rank-order of the values will yield qualitatively similar results. This approach follows Freeman's (1978) suggestion of rescaling the variable according to the standard normal distribution. With this unit transformation, partial job satisfactions become z-scores measuring the number of standard deviations between a given response and the mean.

Second, the explanatory variables s^j , $j = 1, \dots, J$, in equation (1) are correlated with the unobserved variables y_h , $h = 1, \dots, H$. Hence, if these variables are left to belong to the error term in equation (1), any estimate in the latter would suffer from endogeneity bias. Fortunately, this problem can be overcome via an instrumental variable procedure. Following Van Praag *et al* (2002), first the J equations in (2) are estimated and the corresponding residuals are calculated in order to estimate the part attributable to the variables y_h , $h = 1, \dots, H$; that is the part common to all the residuals. This is defined as the first principal component of the $J \times J$ error covariance matrix of the residuals retrieved after estimating equations (2). The idea is that after inclusion of the latter variable in equation (1), one can reasonably assume that the remaining error in equation (1) is no

⁷ If the number of satisfaction levels is, say, m , then the number of dummy variables that should be included is $J \times (m - 1)$.

longer correlated with the partial satisfaction variables s^j , $j = 1, \dots, J$.

The longitudinal dimension of the data is exploited in two ways. First, by controlling for time fixed effects through a set of year dummies and by allowing for individual random effects. However, this may be criticized since the individual random effect model may overlook the potential correlation between individual random effect, such as innate ability, with some explanatory variable such as wage or household income. In this study the Mundlak⁸ (1978) correction is applied by decomposing into two independent terms, the disturbance term in equation (1) for overall job satisfaction and the disturbance term in each equation of type (2) for the five job facets. Hence, the disturbance term is modelled as the sum of a zero-mean individual random effects term and of a zero-mean pure error term. The random effects are assumed not to be correlated with any of the explanatory variables x_k , $k = 1, \dots, K$.

Second, some dynamics are included in the model by distinguishing between permanent and transitory effects for some important explanatory variables x_k in each of the equations (2), and for the partial satisfaction variables s^j , $j = 1, \dots, J$, in equation (1). Consider a variable which has significant variability over time and across individuals. Following Van Praag *et al* (2002) let v_t denote such a variable as observed in year t of the panel and let \bar{v} denote its average as calculated over the eight years of the panel. Instead of including the variable v_t in the regression one can include $av_t + b\bar{v}$ which may be written as $a(v_t - \bar{v}) + (a + b)\bar{v}$. Thus, differences across individuals in the averages \bar{v} will measure between effects while the deviations from the averages per individual will measure within effects. Likewise, the coefficients, a and $(a + b)$ denote shock and level effects, respectively and hence reflect the effects of the transitory and the permanent components of v_t ⁹.

Finally, while equation (1) is estimated as an ordered probit, the five equations (2) are estimated using Generalised Least Squares since the ordinal partial satisfaction indicators s^j , $j = 1, \dots, J$, have been transformed into continuous variables.

⁸ Mundlak (1978) offers more details on this specification.

⁹ A Mundlak term can be interpreted as the permanent or level effect while actual income (working or household) can be interpreted as a transitory or shock effect.

4. Satisfactions with Job Facets and Overall Job Satisfaction

This section first reports and discusses the most interesting results from the estimation of the five equations (2) corresponding to the five facets of job satisfaction namely satisfaction with earnings, with job security, with the type of work, with working conditions and with working times. These results are reported in Tables 1 to 5 respectively. The results from the estimation of equation (1) for overall job satisfaction are reported in Table 6. Although there are important similarities across countries as to the role of some of the determinants of partial facets of job satisfaction, there are also notable differences which are difficult to interpret in the absence of specific knowledge on the potential causes.

4.1 Satisfaction with earnings

Although the question of what makes individuals more or less satisfied with their earnings has already been addressed in the literature, most frequently the results are country-specific. A detailed survey of the literature is beyond the scope of this study. Yet to convey the flavour of the recent research studies, one could mention Clark (1996), who reported that wage is positively correlated with pay satisfaction and much less correlated with the overall job satisfaction and Pouliakas and Theodossiou (2004), who found that pay satisfaction is positively correlated with performance –related pay.

A number of interesting findings are reported in Table 1. In the majority of countries (except for Denmark and Portugal where both men and women report equal satisfaction with the earnings), men are less satisfied with their earnings than women even though the earnings of the latter remained, on average, 16.2% below those of men (European Commission, 2002). This is in line with Clark (1996) who also found that men are less satisfied with pay than women in the UK. Research into job satisfaction issues has shown that women consistently report higher satisfaction with their jobs than men (Clark, 1997; Blanchflower and Oswald, 1999) in the UK and US respectively. Ward and Sloane (1999), argued that “this is surprising given that studies across occupations and countries have found substantial and significant male-female earnings differentials and there is evidence of discrimination against women in areas for the labour market such as hiring/firing and promotion”¹⁰. It is also surprising according to Clark (1996) that women are found to be

¹⁰ Ward and Sloane (1999), p.1.

more stressed than men when life satisfaction scores are examined¹¹. He explained this result in term of differences in types of jobs, work values¹², and expectations by assuming that workers who expect comparatively less of their job report higher job satisfaction, compared to those who expect more in the terms of career opportunities and aspirations. Thus, women who generally expect less from their job, due to their heavy involvement in home production, feel more satisfied than men, since the satisfaction gap between the current state of job career and what is expected to be reached is narrower (Kaiser, 2002). Sloane and Williams (2000) also argued that the persistence of occupational segregation by gender is a result of differing tastes for work between the sexes. Usually, men seek jobs in which pecuniary factors such as overtime hours are emphasised and women prefer jobs where in which flexible hours and other non-pecuniary aspects dominate. Godechot and Gurgand (2000) found that men in France are more satisfied with their pay when they are compensated for the physical contents of their job (men have a more “economic” behaviour) while women would like to be better paid for time constraints and less for the social status.

In the relevant literature which examines the distribution of public and private wages (Bender, 1998) it has often been argued that on average the central government pay more compared to the private sector, even after controlling for differences in workers’ abilities. This study found that in six out of the ten European countries examined, workers in the public sector appear to be more satisfied with pay than their private counterparts. However in Belgium and the Netherlands there are no significant differences in satisfaction between these two groups though Van Ophem (1993), using Dutch data from 1986, found that some categories of the public sector earn less in comparison to the private sector. The positive correlation between private sector and satisfaction with earnings in Denmark and Finland may be explained by the fact that in these two countries, those working in the private sector earn more compared to those in the public sector (European Commission, 2002).

The results also reveal that there is a negative relationship between satisfaction with earnings and educational attainment with the surprising exception of workers in France and Greece where there seems to be no education-related differential in satisfaction with earnings. Clark (1996) reports similar results to France and Greece for UK workers. One

¹¹ Clark and Oswald (1994).

¹² For example only 13% of females employees say that the most important aspect of working is the salary, as opposed to 19% of male employees. (Clark, 1996)

possible explanation for this finding has been proposed by Clark and Oswald (1996) and relates to the possibility of a positive correlation between education and aspiration levels. The underlying idea is that while satisfaction depends on the gap between outcomes and aspirations, education raises aspiration targets more than proportionately than it raises earnings.

There is a systematic relation between potential labour market experience and satisfaction with earnings exhibiting a U-curve profile. This is compatible with the reported U-shaped relationship between age and job satisfaction (Clark, 1996 for UK; Blanchflower and Oswald, 1999 for US). The posterior choice model (Levy-Garboua and Montmarquette, 1997) can explain that job satisfaction is U-shaped in age. For instance, young workers over-estimate their future earnings but experience in the labor market will reduce their expected future wage, thus affecting negatively their job satisfaction. For older workers job satisfaction is likely to be affected more by unexpected shocks than their future expectations. Interestingly, the U-shaped experience-job satisfaction profile is different across countries. Thus, for instance, the lowest level of satisfaction with earnings is reached after 17 years of labour market experience in Austria and Finland but after 30 years in France and Portugal implying a negative slope for most of the labor market experience of the workforce.

As one would expect, the most significant effect is that the higher the wage is, the happier are the individuals with their earnings (Clark, 1996; Pouliakas & Theodossiou, 2004). The Mundlak correction term implies that the coefficient of $\log(\text{wage})$ measures differences from the mean earnings for each individual for the eight years of the sample (1994-2001). It is found that a higher mean value of wages either decrease or is uncorrelated with pay satisfaction, while individual deviations from the mean significantly raise the individual's satisfaction with pay. This provides support to the rising expectations¹³ hypothesis that transitory changes in an individual's wage enhance her or his utility derived from work. In contrast, the negative coefficient of the permanent component of wages (the individual mean over the years of the sample) may imply that in the long run additions to wages that are accompanied by corresponding rises in expectations might actually reduce pay satisfaction.

¹³This is known as the "preference shift parameter" according to van Praag & Kapteyn (1973) or "habit formation" according to Easterlin (1995, 2001) or in psychology literature usually referred to as the "Hedonic Treadmill" through adaptation (Kahneman *et al.* 1999).

Likewise, satisfaction with earnings is systematically and positively influenced by (the log of) household income. The higher the transitory income is, the more likely individuals are to be satisfied with their household income. Again the mean log-income is either positive or statistically insignificant. In the former case, the permanent income effect is larger than that of transitory income (like in Italy, Netherlands and Spain); in the latter, the transitory and permanent effects do not differ significantly (e.g. in Belgium, Greece and Portugal). In all cases, greater household income gives the worker more latitude to be selective in accepting job offers on the basis of remuneration levels (van Praag, *et al*, 2002).

4.2 Satisfaction with job security

While in the majority of countries, men are less satisfied with their earnings than women, no similar pattern emerges with respect to job security. It is only in Greece, Italy, the Netherlands and Spain that men seem to be less happy than women with the perceived risk of joblessness. This is in line with Brown *et al* (1992) and Burchell's (1999) argument that men suffer more than women when they are faced with a high risk of losing their jobs. However, according to the results of this study this is far from being consistently true since in six out of ten countries, there seems to be no gender-related satisfaction differential with respect to job security. This result is in line with Nikolaou *et al* (2004) who also report an insignificant coefficient in the gender variable using the cross-sectional Eurobarometer dataset conducted in 1996.

A surprising result is the negative relationship between educational levels and satisfaction with job security in some countries (Austria, Italy, the Netherlands and Spain). It is well established that unemployment risk decreases with educational attainments (Ashenfelter and Ham, 1979). One would therefore expect that the highly educated feel more secure about their jobs (OECD, 1997; Blanchflower and Oswald, 1999). In contrast, Kaiser (2002) examines five countries -the Netherlands, UK, Germany, Denmark, Portugal- and finds that only in Portugal there is a positive relationship between educational levels and satisfaction with job security. The present study reveals that it is only in France and Portugal that the lowly educated appear to be less satisfied with job security compared to the remainder. Satisfaction with job security appears to be a decreasing function of education in Austria, Italy, the Netherlands and Spain, and there seems to be no significant relation between education and satisfaction with job security in Belgium, Denmark, Finland and Greece. However, in the present study the effect of education on satisfaction with job security is

estimated after controlling for occupational and work status variables which also turn out to be positive and highly significant. This may suggest that workers in supervisory positions are less worried of losing their jobs compared to blue collar workers. This is in line with Burchell's (1999) result that belonging to higher social classes increases satisfaction with job security.

Perhaps, a more explicit indicator of unemployment risk is the number of unemployment spells experienced by the individual over the recent past¹⁴ In all countries, individuals who experienced episodes of unemployment during the last five years report lower satisfaction levels with respect to job security. According to Tversky and Kahneman (1982) previous experience of unemployment should raise the subjective perception of unemployment risk which is consistent with psychological theories relating to how individuals calculate subjective probabilities. Likewise, employees in permanent contracts are also systematically more satisfied with job security than those in fixed term contracts¹⁵. This result echoes the similar finding of Campbell *et al* (2001) who also report that workers with fixed and seasonal contracts are less satisfied with job security assuming that certain types of job characteristics are associated with fragile employment reduce job security.

Finally, the sector of employment is also related to the unemployment risk as in most countries, the private sector is a much more risky sector in terms of likelihood of unemployment. In the ten countries, private sector employees turn out to be significantly less satisfied with job security than their public sector counterparts, a result in line with Blanchflower and Oswald's (1999) findings. However the differences in coefficients among the countries are large. According to Clark and Postel-Vinay (2004) who use the same dataset as the present study (ECHP), found that perceived job security in the private sector is lower in countries with stricter employment protection legislation but higher in countries with more generous unemployment benefits. This study shows that in southern countries (France, Greece, Italy, Spain and Portugal) workers in the private sector report less satisfaction with job security than the workers in the northern countries.

Studies like Clark's (1997) and Aarosan and Sullivan's (1998) have found that workers in small firms report higher levels of satisfaction with job security. The findings of this study

¹⁴ As Blanchflower (1991) pointed out, this probably measures an otherwise unobservable level of worker quality

¹⁵ A caveat should be attached to this finding since the decision to accept or not a fixed term employment contract may also depend on the worker's own degree of risk aversion.

show that this effect is not systematic. Only in Austria, Denmark, the Netherlands and Spain the employees of small firms appear to be happier with their job security than workers in large firms. In contrast, Finnish, Greek, Italian and Portuguese workers seem to be more satisfied with job security when they are employed by large firms than when they are employed in small firms. This result is in line with Idson (1996) who found that larger firms offer more job security to their employees due to a lower risk of bankruptcy. Clearly the firm size effect on satisfaction with job security is conditional on a number of country-specificities such as labour market institutions, contractual arrangements and the likelihood of bankruptcy. These features are not easily quantifiable in the setting of surveys such as the ECHP.

The results also indicate that better paid workers are also more satisfied with the security of their jobs. This is in contrast to the predictions of the theory of compensating differentials¹⁶ which suggests that higher unemployment risk and hence lower satisfaction with job security would be compensated with a wage premium¹⁷. The findings of this study point to a productivity effect. Namely, the most skilled and talented workers are also the most productive ones and as such they face the lowest unemployment risk since they are the most valuable elements of the firm's labour force.

Importantly, household income has a positive impact on satisfaction with job security and this is more pronounced in southern European countries, partly due to the extended family networks (European Commission, 2002). This is consistent with the view that the cost of job loss is less severe for employees with higher non-labour income or some kind of financial security due to established cultural environment (eg. strength of family networks, family support, etc).

4.3 Satisfaction with the type of work

Occupational psychologists (Ryan *et al*, 1996) have often argued that workers are concerned with the type of work which they are contracted to perform namely with the non-monetary features of the job such as autonomy, the degree of skill utilisation, the challenge in performing job tasks and the like. They also argue that the intrinsic aspect of a

¹⁶ As Adam Smith pointed out the "constancy or inconstancy" of employment will generate compensating wage differentials (Borjas, 1996). There are also empirical studies which found that the labor market provides compensating differentials to workers with job insecurity. (see Adams (1985); Li (1986)).

¹⁷ As Brown (1980) noted, for results that fail to find equalising differences, the most common explanation is the omission of important worker abilities which may bias the coefficients of job characteristics.

job make a worker happier than the extrinsic ones. One possible explanation is given by Lawler and Porter (1967) who argue that satisfaction with extrinsic characteristics satisfy mainly lower level needs, whereas satisfaction with intrinsic characteristics satisfy higher order needs.

Table 3 reveals that the effects of the above job specificities are country-specific. Male workers are significantly less satisfied with the type of work than females in Belgium, Finland, Greece and the Netherlands. Greece seems to be the only country where satisfaction with the type of work increases with educational levels. In Belgium, Italy and Portugal, no significant educational effect emerges. For the six remaining countries, it turns out that the highly educated are less satisfied with their types of work than their lower educated counterparts. Sloane *et al* (2000) pointed out that highly educated workers are more likely to suffer from educational mismatch.

Yet, a number of individual or job characteristics have qualitatively similar effects across countries. Thus, workers with supervisory or even intermediate positions are systematically more satisfied with their type of work than the manual workforce, a finding which may reflect that, compared to their subordinates, supervisory personnel may feel more involved in the organisation of the work patterns, more likely to face a wide diversity in the tasks they perform or they may have more opportunities of assuming responsibility.

There is a significant employer size effect on satisfaction with the type of work. With the exception of Greece and Portugal, where the satisfaction with the type of work increases with the size of the firm, workers from the other countries are happier with their type of work when they are employed by small firms which implies that matching the right worker to the right job may be much easier in a small firm than in a larger organization. This is in line with Ingham (1970) who found that small firms offer more intrinsic rewards to their workers than large firms.

Interestingly, with the exception of Austria, wages positively and significantly influence the satisfaction with the type of work via either its permanent or its transitory wage component. This is in contrast with the findings of Pouliakas and Theodossiou (2004) who report evidence from the BHPS that suggests that there is no significant effect of current pay on satisfaction with the type of work.

The effect of household income on satisfaction with the type of work is not systematic. In Austria, Belgium, Denmark, Finland and France it is insignificant, whereas in Greece,

Italy, the Netherlands, Portugal and Spain, it is positive and significant. The latter implies that in the second group of countries higher household income acts as a buffer, that permits individuals to not only set a higher reservation wage but also to have a higher ability to refuse less attractive jobs compared with their counterparts who have a lower household income. This can be partly explained by the extended family network (European Commission, 2002) or the relative generosity of the unemployment compensation systems (eg. in The Netherlands).

4.4 Satisfaction with working conditions

In none of the countries under consideration men appear to be more satisfied with the working conditions of their job than women. In addition, for all countries workers with supervisory positions are systematically more satisfied with their working conditions than workers on the lower rungs. The report of Employment in Europe (2001) finds poor working conditions and health disorders in lower skill sectors as well as among clerks and low-skilled or unskilled manual workers. Similarly, in none of the countries did workers who experienced recent unemployment episodes report higher satisfaction with working conditions. This suggests that controlling for household income, unemployment reduces the incentive to unemployed workers to search for a job with the desired working conditions and that those with recent unemployment experience may be more willing to accept jobs with bad working conditions compared to those who have no such recent unemployment experience.

In contrast to the above factors all the other control variables reveal country-specific effects. In Austria, Belgium, France, the Netherlands and Portugal, there is no education-related differential in the satisfaction with the working conditions. In Denmark, Finland and Spain, the least educated report the highest satisfaction levels while in Italy only the highly educated do so. In Greece, both high school and college graduates report the highest levels of satisfaction with working conditions.

Similarly, private and public sector employees do not exhibit a differential satisfaction with their working conditions in all countries. There is no significant difference in Austria, Denmark, Finland, France and Spain. Among the remaining countries, Belgium and the Netherlands are the only countries where private sector employees are happier with their working conditions than their public sector counterparts.

In the theory of “compensating differentials or “equalizing differences” it has often been argued that working conditions can explain the so-called employer size effect on wages.

The underlying idea is that workers are more likely to face increasingly difficult working conditions as the size of the employing firm increases¹⁸. Thus the employer offers them a wage premium which equalises their current utility with the one which they would have had derived if they were employed in a similar job with more convenient working conditions¹⁹. The results of this study found a negative result between firm size, working conditions and in a specification where wage levels are controlled for, this implies that in Austria, France, the Netherlands and Spain and, to a lesser extent, in Belgium, Denmark and Italy workers are not compensated for working conditions.

The theory of compensating wage differentials also predicts that any non productivity-related wage differential is a compensation for working conditions. One should therefore expect a negative correlation between wages and satisfaction with working conditions²⁰. Although individual productivity is not fully controlled for in this model²¹, there seems to be a negative correlation between the permanent component of wages and satisfaction with working conditions in the majority of countries (the only exceptions are Belgium, Finland and Greece where the correlation between wages and satisfaction with working conditions is statistically insignificant).

It would be expected that the higher is household income the more freedom workers may have to shop for jobs which are not associated with bad working conditions. This implies a positive correlation between household income and satisfaction with working conditions (Lanfranchi *et al* 2002). Yet, the results do not support this hypothesis. Household income appears to have no significant effect on working conditions in most countries. Only in

¹⁸ Multiple shifts (Stafford, 1980), inefficient hierarchies, more rules, less autonomous work, and an impersonal work atmosphere (Lester, 1967) are all examples of undesirable characteristics often associated with large firms.

¹⁹ However, the most recent literature provides only weak evidence for this traditional explanation (Brown and Medoff, 1989) and even reject this “working conditions explanation” (Winter-Ebmer and Zweimüller, 1999) by assuming that individual heterogeneity rather than firm heterogeneity could partially explain the size effect on wages.

²⁰ The key implication of the theory is as follows: as long as all persons in the population agree on whether a particular job characteristic is “good” or “bad”, good working conditions would be paid less and bad working conditions would be paid more (Borjas, 1996). In this model the worker’s innate ability is not controlled for, and there is a possibility that more capable workers be able to earn higher wages and these workers will probably spend some of their additional income on job conditions. More capable workers then benefit from higher wages and better working conditions (Borjas, 1996).

²¹ In this model the worker’s innate ability is not controlled for, and there is a possibility that more capable workers be able to earn higher wages and these workers will probably spend some of their additional income on job conditions. More capable workers then benefit from higher wages and better working conditions (Borjas, 1996).

Greece and, to a lesser extent, in Austria and Portugal higher household income' result in greater satisfaction with working conditions.

4.5 Satisfaction with working times

Table 5 reports the estimation results of satisfaction with working times. In all countries men report lower satisfaction levels compared to women and specifically, only in Austria, Denmark and France are males and females equally satisfied with their working schedules. Education neither increases nor decreases the likelihood of workers reporting higher satisfaction levels with their working schedules and only in Belgium, Finland and Greece the highly educated are more satisfied with this aspect of the job than the remainder.

A notable cross-country similarity is that those having previously experienced some episodes of unemployment are, at most, as satisfied as the remainder with their working times. This is true for Austria, Belgium, Finland, Portugal and Spain. For the remaining five countries, those who did not experience any unemployment in the last five years are systematically happier with their work in terms of working times. It appears that previous unemployment experience make individuals less demanding with aspects of the job including the working times²² when they are reemployed.

Interestingly, private sector employees are systematically less satisfied with their working times than their public sector counterparts. An interpretation of this finding might be that shift work and other atypical working schedules are more widely used in the private than in the public sector. Alternatively, since unemployment risk is in general much higher in the private sector compared to the public sector, workers or their union representatives are more worried about wages and employment than about the flexibility of the working schedules.

A surprising result in Table 5 is the effect of the employer's size on satisfaction with working times. One would expect that large firms are more likely to resort to atypical working schedules than smaller ones via multiple shifts and less flexible scheduling²³. One would therefore be likely to expect that firm size would have a negative effect on

²² According to Blanchflower (1991) a history of unemployment depresses wages by 10% on average. Similar results are obtained by the European Commission (The European Report for Employment in Europe, 2002) who found previous unemployment experiences reduces earnings in all European member states except Denmark and the UK.

²³ As Idson and Oi (1999) pointed out large firms choose higher utilization rates via multiple shifts and newer equipment.

satisfaction with working times. The results do not support such an effect in all countries. Only in Denmark and in Finland is there clear evidence that the employees of the largest firms report lower levels of satisfaction with working schedules.

The negative effect of wages on satisfaction with working times indicates that wages are more likely to be low where working schedules are the most constraining. Table 5 shows indeed that in the six countries where wages influence satisfaction with working times, the permanent component of wages exhibits a negative effect. In Belgium, Denmark, France and Spain, neither the permanent, nor the transitory component of wages exerts any influence on satisfaction with working times.

Finally, only in Austria, Greece, Italy and Portugal does the household income have an effect on satisfaction with working times and in these cases, the permanent component systematically has a positive effect. This is in line with the idea that a higher household income gives one more latitude to choose a job with satisfactory working schedules.

4.6 Overall Job Satisfaction

Having discussed satisfaction with different job facets, the analysis turns now to examine how these facets interact to yield the observed levels of overall job satisfaction. Table 6 reports the results from the estimation of equation (1).

Interestingly, the results show that, with the exception of the Netherlands, the instrumental variable(IV) is highly significant, hence suggesting that endogeneity is indeed a crucial issue²⁴. Satisfaction with the job facets is correlated with other determinants which cannot be controlled for. This provides a justification for the strategy adopted in this paper. Furthermore, Table 6 also clearly shows that satisfaction with any of the five job facets considered in this study is strongly significant in each of the ten countries. This suggests that these five partial satisfaction measures are important contributors to overall job satisfaction.

Furthermore, the results suggest that not only satisfaction with earnings ranks second in importance in most countries, but in some cases it is ranked even lower. Specifically, in Greece, satisfaction with earnings comes third after job security signalling the importance of having a job in a country with relatively high unemployment rates. In France, not only is satisfaction with working conditions and with working schedules more important

²⁴ The first component explains 42% to 52% of the total variance depending on the country examined.

determinants of overall job satisfaction compared to satisfaction with earnings, but job security appears to be the least important job facet. This is puzzling since France is a country where employment security or the feeling of security decreased between 1985-1995 (OECD, 1997). In addition, unemployment is quite high. Yet, there is nothing specifically negative regarding the working conditions or the working times in the French labor market. Yet, this finding may reflect differences in cultural backgrounds since Deloffre and Rioux (2004) who found that the stringency of employment protection practices in France did not affect the perceived job security.

The application of the Lancasterian paradigm in terms of the worker's utility from his or her job is straightforward: Obviously, jobs are not one-dimensional or homogenous. Like in Lancaster's approach to consumption, a worker may be willing to accept a job involving less of a given desirable facet if he or she is compensated with more of another facet. In a similar way, the worker may be willing to accept a lower wage for a "superior" job that is with a higher content in all desirable facets. The resulting formalisation of an utility model accounting for a multi-characteristic space is compatible with the existence of a number of subutilities emerging from different characteristics. Thus, the overall utility from a good job is the result of an aggregation of all sub-utilities emerging from the vector of the job characteristics. Therefore in this study, an interesting finding is that the type of work is the most important contributor to the overall level of job satisfaction. The t ratios associated with both the within and the between effects of satisfaction with the type of work are indeed consistently the highest ones in all of the ten countries. Table 7 reports the level effect of overall job satisfaction with the corresponding satisfaction of the job facet. Each cell contains the sum of the coefficients associated with the measure of the satisfaction with the facet under consideration and with the time average of this measure. It clearly confirms that satisfaction with the type of work is the most important determinant of overall job satisfaction and that this is consistent for each country.

This result relates to previous findings on the shares of different aspects of a job on the worker's satisfaction from it. For example, Frey and Stutzer (2002) distinguish between two determinants of job satisfaction: the intrinsic characteristics of the job which partly coincides with satisfaction with type of work and the extrinsic characteristics which refer to satisfaction with pay, working conditions, job security, working times. Also, in line with Ryan *et al* (1996) the result of this study suggests that the European worker values the

intrinsic characteristics of a job more than the extrinsic ones. According to Frey and Stutzer (2002) the result that workers value the satisfaction with work itself more than others can also explain the fact that many people undertake unpaid work (volunteer work and charity). Somehow related to this finding, Scitovsky (1976) in the *Joyless Economy* makes a basic distinction between “comfort” and “stimulation”, as two characteristics of enjoyment, arguing that stimulation or motivation (corresponding to satisfaction with the type of work in this study) makes people more satisfied and creative, and people choosing comfort instead are led to “impoverished lives”.

5. Concluding remarks

In this paper, data from ten EU countries have been used to study the determinants of job satisfaction. The analysis differs from the conventional approach since individuals are not assumed to judge their jobs as a whole. Like in Lancaster’s critique to the “products-are-products” approach, it is assumed that jobs are evaluated by workers through a vector of sub-utilities derived from separate job characteristics. Therefore, it is the judgment that individuals make about these characteristics which determines how satisfied they are overall with their jobs. Thus, overall job satisfaction is assumed to be the aggregate outcome of partial satisfactions with different job facets. This requires the estimation of a two-layer model comprising a set of partial satisfaction equations as well as an overall job satisfaction equation.

The results from equations of satisfaction with five job facets show that these are not equally sensitive to each of the potential determinants one controls for. There are a number of interesting findings. It is found that, there is no job facet for which males are more satisfied than women. Low educated workers are most likely to report higher levels of satisfaction with earnings, with job security and with the type of work, not necessarily with working conditions or working schedules. The results also show that while some of the effects are common to the ten countries under consideration, others are country-specific. For instance, in none of the countries do males report higher satisfaction levels than women. Private sector employees are systematically less satisfied with working schedules than their public sector counterparts. In contrast, not in all countries are employees in small firms more satisfied with their working conditions compared to workers in large firms. Workers in supervisory positions are more likely than any other occupational category to report high levels of satisfaction with job security, with working conditions as well as with

the type of work. The same holds for public sector employees when compared to their private sector counterparts. In addition, workers who were unemployed in the past are less satisfied with their pay, with the security of their job, with their type of work and with their working time schedules.

The estimation results of the overall job satisfaction equation highlights very interesting patterns. First, it clearly shows that satisfaction with each of the five job facets is a highly significant contributor to overall job satisfaction. In some countries, satisfaction with earnings is not even the second main determinant of job satisfaction. In some others, like France where unemployment is rather high, job security is even the least important criterion. Importantly, this study suggests that in each of the ten examined countries, satisfaction with the type of work is the main criterion used by workers to rank their jobs and this is true in the short as well as in the long term. This is in line with Scitovsky (1976) who argued that the most cherished values are priceless and are not for sale and that, furthermore, intrinsic work enjoyment yields greater satisfaction than pay. He proposed that “the difference between liking and disliking one’s work may well be more important than the differences in economic satisfaction that the disparities in our income lead to”(p.103).

The empirical results of this study are important in terms of human resources management since workers seem to value most the intrinsic characteristics offered by the job task which they perform. Thus much attention should be given to the design of the job tasks which lead to a fulfillment of individual worker goals and satisfy certain intrinsic needs. In most jobs, the employers can only monitor their employees very partially (Holmstrom & Milgrom, 1991) and hence it is essential to enhance the employee’s intrinsic motivation. The organizational environment which offers high intrinsic work motivation to the workers is more likely to be conducive to an environment where employees are engaged in their job tasks and hence to a productive workforce.

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Table 1: Satisfaction with earnings

	Austria	Belgium	Denmark	Finland	France	Greece	Italy	Netherlands	Portugal	Spain
Male	-0.166 (-6.40)	-0.164 (-5.2)	-0.010 (-0.39)	-0.070 (-2.89)	-0.134 (-5.75)	-0.133 (-6.48)	-0.162 (-8.78)	-0.093 (-4.29)	0.024 (1.26)	-0.149 (-8.52)
Lower_sec	0.150 (3.22)	0.074 (1.96)	0.201 (7.24)	0.142 (4.84)	0.030 (1.1)	0.000 (-0.02)	0.254 (8.6)	0.040 (1.95)	0.126 (3.77)	0.148 (7.48)
Upper_sec	0.077 (1.9)	0.059 (1.95)	0.106 (5.6)	0.073 (3.30)	-0.003 (-0.11)	0.019 (0.88)	0.216 (8.24)	0.014 (0.71)	0.066 (2.1)	0.045 (2.39)
Experience	-0.007 (-2.10)	-0.017 (-4.37)	-0.020 (-6.29)	-0.010 (-3.40)	-0.012 (-4.9)	-0.014 (-5.53)	-0.014 (-6.28)	0.002 (0.73)	-0.016 (-8.17)	-0.022 (-11.4)
Experience^2	0.000 (2.7)	0.000 (4.48)	0.001 (8.00)	0.000 (4.46)	0.000 (3.41)	0.000 (4.81)	0.000 (5.58)	0.000 (0.06)	0.000 (6.78)	0.000 (10.61)
Supervisor	0.090 (3.4)	0.114 (3.65)	-0.032 (-1.36)	0.079 (3.19)	0.038 (1.74)	0.039 (1.34)	0.081 (4.11)	0.039 (1.81)	0.024 (0.83)	0.056 (2.43)
Intermediate	-0.016 (-0.98)	0.015 (0.7)	-0.089 (-4.51)	-0.005 (-0.27)	-0.032 (-2.15)	-0.102 (-4.09)	-0.014 (-1.04)	-0.027 (-1.73)	-0.025 (-1.15)	-0.036 (-2.5)
Private	-0.078 (-3.55)	-0.028 (-1.05)	0.120 (4.75)	0.132 (6.68)	-0.106 (-4.15)	-0.108 (-5.19)	-0.070 (-4.06)	-0.015 (-0.86)	-0.078 (-4.35)	-0.065 (-3.44)
Fsize_100	-0.037 (-2.02)	-0.014 (-0.54)	-0.072 (-3.13)	0.012 (0.7)	-0.064 (-2.49)	0.063 (3.82)	0.029 (1.99)	-0.014 (-0.76)	-0.032 (-2.39)	-0.021 (-1.49)
Fsize_500	-0.020 (-0.91)	0.027 (0.93)	0.001 (0.03)	0.013 (0.63)	0.020 (0.67)	0.016 (0.59)	0.060 (3.27)	0.004 (0.21)	-0.065 (-3.61)	-0.022 (-1.2)
Fsize_more	0.012 (0.51)	0.011 (0.36)	-0.004 (-0.14)	0.043 (1.59)	0.010 (0.3)	-0.128 (-4.83)	-0.021 (-1.02)	0.035 (1.84)	-0.089 (-3.64)	-0.033 (-1.79)
Unemp_spell	-0.011 (-1.21)	-0.010 (-1.35)	-0.038 (-4.64)	-0.022 (-2.99)	-0.019 (-2.14)	-0.143 (-1.99)	-0.005 (-1.63)	-0.007 (-2.8)	-0.009 (-2.46)	-0.006 (-1.61)
Lnwage	0.440 (14.86)	0.568 (13.01)	0.648 (20.52)	0.535 (17.31)	0.289 (10.88)	0.910 (27.39)	0.957 (34.48)	0.331 (16.65)	0.740 (31.91)	0.669 (27.46)
Mean_wage	-0.142 (-3.75)	-0.066 (-1.07)	-0.346 (-8.27)	-0.004 (-0.10)	0.072 (1.88)	0.049 (1.14)	-0.055 (-1.41)	-0.056 (-2.00)	-0.182 (-5.74)	-0.058 (-1.86)
Ln housinc	0.184 (6.99)	0.146 (4.13)	0.093 (3.79)	0.076 (3.00)	0.196 (9.03)	0.235 (10.62)	0.112 (6.72)	0.106 (6.35)	0.118 (7.37)	0.124 (6.32)
Mean_income	0.181 (4.11)	-0.064 (-1.11)	0.102 (2.12)	0.078 (1.82)	0.030 (0.84)	-0.049 (-1.50)	0.175 (6.46)	0.0765 (2.37)	-0.042 (-1.53)	0.062 (2.2)
Intercept	-6.1748 (-16.24)	-5.914 (-10.29)	-4.7051 (-11.62)	-6.050 (-17.65)	-4.6119 (-15.7)	-13.666 (-38.11)	-14.87 (-39.36)	-3.3269 (-13.99)	-7.009 (-24.72)	-9.173 (-34.00)
R ² : within	0.030	0.024	0.0337	0.033	0.023	0.110	0.059	0.020	0.062	0.049
R ² : between	0.107	0.087	0.102	0.112	0.128	0.342	0.227	0.068	0.176	0.182
R ² : overall	0.098	0.068	0.086	0.103	0.116	0.259	0.177	0.065	0.135	0.140
N. Obs.	18,154	13,487	20,484	17,504	27,033	20,048	36,790	32,885	33,443	34,540

Note: t-ratios in parentheses

Table 2 : Satisfaction with job security

	Austria	Belgium	Denmark	Finland	France	Greece	Italy	Netherlands	Portugal	Spain
Male	-0.009 (-0.36)	-0.069 (-1.59)	0.007 (0.28)	0.004 (0.15)	-0.014 (-0.63)	-0.046 (-2.4)	0.072 (-4.01)	-0.057 (-2.8)	0.017 (0.91)	-0.030 (-1.8)
Lower_sec	0.093 (1.97)	-0.057 (-1.09)	0.035 (1.29)	0.005 (0.17)	-0.010 (-0.41)	0.009 (0.38)	0.129 (4.56)	0.039 (1.92)	-0.059 (-1.76)	0.110 (5.95)
Upper_sec	0.103 (2.54)	0.028 (0.66)	-0.002 (-0.1)	0.009 (0.39)	-0.055 (-2.28)	0.013 (0.7)	0.120 (4.78)	0.057 (2.96)	-0.063 (-1.97)	0.036 (2.04)
Experience	-0.006 (-1.75)	-0.015 (-2.73)	-0.016 (-5.18)	-0.027 (-8.79)	-0.014 (-6.08)	0.012 (5.21)	0.006 (3.12)	-0.006 (-2.9)	0.005 (2.55)	0.004 (2.01)
Experience^2	0.000 (2.66)	0.001 (4.49)	0.000 (5.51)	0.001 (7.61)	0.000 (5.85)	0.000 (-5.58)	0.000 (-1.13)	0.000 (1.62)	0.000 (-1.63)	0.000 (-0.26)
Supervisor	0.096 (3.48)	0.127 (2.88)	0.117 (4.91)	0.138 (5.66)	0.107 (5.23)	0.174 (6.82)	0.141 (7.66)	0.081 (3.81)	0.125 (4.31)	0.129 (6.04)
Intermediate	0.054 (3.08)	0.054 (1.77)	0.096 (4.81)	0.070 (3.81)	0.043 (3.00)	0.077 (3.58)	0.123 (9.68)	0.081 (5.19)	0.126 (5.63)	0.075 (5.54)
Private	-0.303 (-13.2)	-0.088 (-2.35)	-0.054 (-2.16)	-0.024 (-1.24)	-0.416 (-17.4)	-0.383 (-20.6)	0.283 (-17.47)	-0.069 (-4.05)	-0.120 (-6.59)	-0.112 (-6.4)
Fsize_100	-0.065 (-3.35)	-0.051 (-1.36)	-0.067 (-2.96)	0.022 (1.22)	-0.042 (-1.74)	0.044 (3.09)	0.055 (4.05)	-0.059 (-3.18)	0.029 (2.1)	-0.048 (-3.64)
Fsize_500	-0.052 (-2.20)	-0.061 (-1.46)	-0.055 (-2.02)	0.024 (1.10)	-0.002 (-0.06)	0.022 (0.93)	0.086 (5.01)	-0.059 (-3.02)	0.022 (1.18)	-0.052 (-3.04)
Fsize_more	-0.023 (-0.92)	-0.053 (-1.29)	-0.024 (-0.81)	0.075 (2.78)	-0.001 (-0.05)	0.077 (2.78)	0.075 (3.88)	-0.087 (-4.53)	0.089 (3.63)	-0.030 (-1.7)
Unemp_spell	-0.034 (-3.38)	-0.044 (-4.31)	-0.082 (-10.50)	-0.048 (-6.6)	-0.035 (-4.16)	-0.065 (-9.88)	0.021 (-6.84)	-0.006 (-2.80)	-0.025 (-6.82)	-0.050 (-14.5)
Lnwage	0.066 (2.18)	0.086 (1.37)	-0.043 (-1.32)	-0.025 (-0.82)	0.059 (2.31)	0.237 (8.4)	0.341 (13.43)	0.100 (4.94)	0.199 (8.54)	0.198 (8.72)
Mean_wage	0.013 (0.33)	0.163 (1.88)	0.017 (0.4)	0.135 (3.00)	0.138 (3.84)	0.240 (6.29)	0.046 (1.28)	-0.114 (-4.14)	0.016 (0.5)	-0.016 (-0.56)
Ln housinc	0.035 (1.25)	-0.017 (-0.34)	-0.006 (-0.23)	0.070 (2.75)	0.042 (2.00)	0.115 (6.13)	0.091 (5.92)	0.047 (2.72)	0.081 (4.98)	0.051 (2.8)
Mean_income	0.101 (2.23)	0.110 (1.36)	0.101 (2.14)	0.042 (0.98)	0.052 (1.55)	0.029 (1.03)	0.215 (8.37)	0.036 (1.19)	-0.006 (-0.2)	0.048 (1.84)
Intercept	-1.8715 (-4.84)	1.1867 (1.5)	-0.39 (-1.00)	-1.709 (-5.05)	-2.188 (-8.08)	-7.439 (-22.7)	-7.82 (-21.5)	-0.367 (-1.62)	-3.257 (-11.39)	-3.231 (-12.8)
R ² : within	0.016	0.0259	0.063	0.096	0.055	0.081	0.034	0.065	0.064	0.087
R ² : between	0.171	0.111	0.192	0.261	0.318	0.530	0.344	0.151	0.234	0.359
R ² : overall	0.112	0.084	0.141	0.208	0.229	0.430	0.246	0.105	0.169	0.290
N. Obs.	18,154	13,496	20,487	17,504	27,050	20,049	36,804	32,945	33,440	34,567

Note: t-ratios in parentheses

Table 3 : Satisfaction with type of work

	Austria	Belgium	Denmark	Finland	France	Greece	Italy	Netherlands	Portugal	Spain
Male	-0.024 (-0.86)	-0.128 (-3.43)	0.010 (0.4)	-0.069 (-2.7)	-0.031 (-1.37)	-0.051 (-2.34)	-0.013 (-0.68)	-0.078 (-3.57)	0.015 (0.78)	-0.029 (-1.61)
Lower_sec	0.130 (2.50)	0.017 (0.37)	0.052 (1.76)	0.097 (3.08)	0.071 (2.55)	-0.132 (-4.79)	-0.017 (-0.55)	0.096 (4.57)	0.009 (0.27)	0.119 (5.82)
Upper_sec	0.115 (2.59)	0.046 (1.27)	-0.003 (-0.16)	0.002 (0.1)	0.031 (1.19)	-0.059 (-2.74)	0.004 (0.15)	0.061 (3.03)	0.038 (1.16)	0.034 (1.78)
Experience	0.002 (0.51)	-0.010 (-2.18)	0.009 (2.84)	0.001 (0.28)	-0.006 (-2.59)	-0.002 (-0.92)	0.004 (1.7)	0.001 (0.59)	-0.002 (-0.96)	-0.001 (-0.63)
Experience^2	0.000 (0.28)	0.000 (3.09)	0.000 (0.55)	0.000 (2.39)	0.000 (2.68)	0.000 (0.19)	0.000 (-0.27)	0.000 (0.65)	0.000 (0.81)	0.000 (2.45)
Supervisor	0.174 (6.00)	0.293 (7.63)	0.115 (4.53)	0.161 (6.05)	0.192 (8.27)	0.167 (5.72)	0.209 (10.53)	0.169 (7.62)	0.099 (3.29)	0.160 (6.87)
Intermediate	0.068 (3.72)	0.194 (7.26)	0.005 (0.24)	0.060 (2.99)	0.138 (8.43)	0.052 (2.11)	0.154 (11.32)	0.086 (5.3)	0.099 (4.28)	0.086 (5.81)
Private	-0.117 (-4.74)	-0.057 (-1.76)	-0.057 (-2.13)	-0.051 (-2.40)	-0.066 (-2.52)	-0.165 (-7.72)	-0.142 (-8.14)	-0.038 (-2.15)	-0.098 (-5.24)	-0.133 (-6.91)
Fsize_100	-0.105 (-4.99)	-0.029 (-0.89)	-0.073 (-3.04)	-0.091 (-4.64)	-0.099 (-3.77)	0.039 (2.37)	-0.012 (-0.85)	-0.092 (-4.76)	0.051 (3.61)	-0.063 (-4.34)
Fsize_500	-0.100 (-3.95)	-0.050 (-1.37)	-0.086 (-2.99)	-0.102 (-4.31)	-0.116 (-3.83)	0.073 (2.7)	0.013 (0.69)	-0.128 (-6.31)	0.027 (1.43)	-0.051 (-2.73)
Fsize_more	-0.132 (-4.82)	-0.093 (-2.61)	-0.196 (-6.12)	-0.057 (-1.94)	-0.146 (-4.36)	0.110 (3.46)	-0.032 (-1.51)	-0.122 (-6.11)	0.076 (2.99)	-0.059 (-3.03)
Unemp_spell	-0.019 (-1.71)	-0.022 (-2.52)	-0.018 (-2.23)	0.002 (0.19)	-0.020 (-2.18)	-0.339 (-4.42)	-0.009 (-2.66)	-0.003 (-1.33)	-0.012 (-3.18)	-0.018 (-4.8)
Lnwage	0.042 (1.32)	0.121 (2.22)	0.118 (3.45)	0.040 (1.14)	0.086 (2.9)	0.154 (4.76)	0.223 (8.17)	0.076 (3.64)	0.239 (9.87)	0.185 (7.5)
Mean_wage	0.010 (0.25)	-0.075 (-1.01)	-0.149 (-3.37)	0.173 (3.56)	0.015 (0.37)	0.117 (2.68)	0.020 (0.5)	-0.010 (-0.35)	0.015 (0.44)	-0.011 (-0.35)
Ln housinc	0.044 (1.48)	-0.041 (-0.93)	-0.014 (-0.5)	0.035 (1.25)	0.018 (0.76)	0.183 (8.56)	0.041 (2.49)	0.059 (3.34)	0.062 (3.68)	0.048 (2.44)
Mean_income	0.093 (1.89)	-0.017 (-0.25)	0.017 (0.34)	0.020 (0.43)	-0.169 (-0.46)	0.214 (0.65)	0.160 (5.79)	-0.888 (-2.72)	-0.031 (-1.09)	-0.813 (-2.82)
Intercept	-2.019 (-4.76)	4.719 (6.91)	0.224 (0.54)	-2.424 (-6.71)	-0.840 (-2.87)	-5.5967 (-14.9)	-4.980 (-2.79)	-0.371 (-1.55)	-3.173 (-10.9)	-1.712 (-6.14)
R ² : within	0.0104	0.012	0.016	0.013	0.031	0.025	0.013	0.014	0.016	0.015
R ² : between	0.095	0.065	0.078	0.100	0.092	0.344	0.200	0.061	0.155	0.162
R ² : overall	0.061	0.049	0.044	0.071	0.068	0.249	0.133	0.034	0.095	0.103
N. Obs.	18,154	13,496	20,487	17,504	27,050	20,049	36,804	32,945	33,440	34,567

Note: t-ratios in parentheses

Table 4: Satisfaction with working conditions

	Austria	Belgium	Denmark	Finland	France	Greece	Italy	Netherlands	Portugal	Spain
Male	0.001 (0.05)	-0.096 (-2.41)	0.020 (0.8)	-0.046 (-1.77)	-0.050 (-2.18)	-0.187 (-8.22)	-0.074 (-3.89)	0.022 (1.07)	-0.007 (-0.35)	-0.088 (-4.87)
Lower_sec	0.032 (0.63)	0.009 (0.19)	0.056 (1.92)	0.057 (1.77)	-0.006 (-0.21)	-0.107 (-3.73)	-0.107 (-3.46)	0.029 (1.37)	0.029 (0.81)	0.046 (2.22)
Upper_sec	0.052 (1.18)	-0.019 (-0.47)	0.011 (0.57)	0.006 (0.24)	-0.025 (-0.96)	-0.009 (-0.4)	-0.054 (-1.96)	0.018 (0.89)	0.032 (0.96)	0.008 (0.4)
Experience	-0.003 (-0.88)	-0.019 (-3.8)	-0.010 (-2.91)	-0.007 (-2.19)	-0.010 (-3.98)	-0.003 (-1.22)	0.001 (0.3)	-0.006 (-2.55)	-0.008 (-3.86)	0.000 (-0.15)
Experience^2	0.000 (1.21)	0.001 (4.25)	0.000 (5.17)	0.000 (3.20)	0.000 (4.2)	0.000 (0.87)	0.000 (0.93)	0.000 (2.73)	0.000 (4.02)	0.000 (2.75)
Supervisor	0.109 (3.63)	0.202 (4.8)	0.144 (5.64)	0.168 (6.24)	0.141 (6.16)	0.127 (4.18)	0.115 (5.4)	0.097 (4.32)	0.095 (3.05)	0.099 (4.07)
Intermediate	-0.018 (-0.96)	0.086 (2.95)	0.017 (0.8)	0.011 (0.52)	0.032 (2.01)	-0.028 (-1.1)	0.051 (3.48)	-0.030 (-1.79)	0.020 (0.82)	0.018 (1.17)
Private	-0.022 (-0.90)	0.068 (1.92)	0.007 (0.26)	-0.006 (-0.30)	-0.007 (-0.26)	-0.044 (-1.98)	-0.078 (-4.31)	0.039 (2.21)	-0.050 (-2.61)	-0.026 (-1.3)
Fsize_100	-0.087 (-4.06)	-0.050 (-1.41)	-0.048 (-1.97)	-0.027 (-1.36)	-0.136 (-5.23)	0.017 (0.98)	-0.019 (-1.2)	-0.094 (-4.84)	-0.007 (-0.49)	-0.061 (-4.04)
Fsize_500	-0.141 (-5.45)	-0.025 (-0.63)	0.012 (0.41)	0.003 (0.19)	-0.101 (-3.36)	0.000 (0.01)	-0.006 (-0.31)	-0.100 (-4.92)	-0.012 (-0.63)	-0.076 (-3.91)
Fsize_more	-0.148 (-5.33)	-0.075 (-1.91)	0.003 (0.08)	0.029 (0.96)	-0.082 (-2.45)	0.073 (2.22)	-0.043 (-1.95)	-0.133 (-6.66)	0.036 (1.35)	-0.077 (-3.79)
Unemp_spell	0.004 (0.40)	-0.022 (-2.38)	-0.029 (-3.56)	-0.003 (-0.42)	-0.001 (-0.09)	-0.021 (-2.68)	-0.008 (-2.55)	-0.003 (-1.29)	-0.001 (-0.16)	-0.015 (-4.1)
Lnwage	-0.017 (-0.52)	-0.074 (-1.23)	0.087 (2.53)	-0.046 (-1.3)	-0.053 (-1.8)	0.041 (1.23)	0.072 (2.4)	0.005 (0.23)	0.143 (5.68)	0.056 (2.13)
Mean_wage	-0.084 (-1.93)	0.055 (0.67)	-0.091 (-2.06)	0.045 (0.90)	0.043 (1.08)	0.006 (0.13)	-0.132 (-3.24)	-0.057 (-1.98)	-0.117 (-3.43)	-0.118 (-3.53)
Ln housinc	0.032 (1.03)	0.000 (0.01)	-0.038 (-1.4)	0.039 (1.33)	0.001 (0.05)	0.121 (5.43)	0.029 (1.58)	0.019 (1.01)	0.056 (3.2)	0.027 (1.29)
Mean_income	0.123 (2.48)	-0.076 (-1.01)	0.039 (0.78)	0.046 (0.99)	0.029 (0.78)	0.092 (2.65)	-0.074 (-5.91)	-0.061 (-1.91)	0.030 (1.03)	-0.012 (-0.42)
Intercept	-0.668 (-1.58)	5.418 (7.4)	-0.018 (-0.04)	-0.641 (-1.75)	-0.101 (-0.35)	-2.8788 (-7.36)	-0.552 (-1.4)	0.725 (3.13)	-1.253 (-4.2)	0.556 (1.99)
R ² : within	0.004	0.008	0.008	0.004	0.012	0.014	0.008	0.020	0.006	0.005
R ² : between	0.055	0.048	0.054	0.068	0.062	0.252	0.114	0.068	0.042	0.078
R ² : overall	0.038	0.036	0.038	0.050	0.046	0.168	0.072	0.065	0.0255	0.047
N. Obs.	18,154	13,496	20,487	17,504	27,050	20,049	36,804	32,945	33,440	34,567

Note: t-ratios in parentheses

Table 5 : Satisfaction with working times

	Austria	Belgium	Denmark	Finland	France	Greece	Italy	Netherlands	Portugal	Spain
Male	-0.014 (-0.53)	-0.075 (-2.37)	-0.031 (-1.22)	-0.062 (-2.4)	-0.020 (-0.93)	-0.048 (-2.09)	-0.035 (-1.81)	-0.080 (-3.7)	-0.045 (-2.23)	-0.034 (-1.86)
Lower_sec	-0.014 (-0.28)	-0.152 (-3.93)	0.048 (1.66)	-0.007 (-0.24)	-0.001 (-0.03)	-0.126 (-4.3)	-0.003 (-0.1)	-0.005 (-0.24)	-0.015 (-0.42)	0.036 (1.76)
Upper_sec	-0.057 (-1.37)	-0.118 (-3.8)	-0.033 (-1.64)	-0.041 (-1.79)	-0.003 (-0.12)	-0.066 (-2.87)	0.017 (0.62)	0.013 (0.67)	-0.047 (-1.39)	-0.008 (-0.42)
Experience	0.004 (1.23)	-0.008 (-1.92)	0.003 (0.85)	0.004 (1.15)	0.000 (0.11)	0.012 (4.19)	0.008 (3.63)	-0.002 (-0.83)	-0.008 (-3.59)	0.001 (0.32)
Experience^2	0.000 (0.35)	0.000 (3.96)	0.000 (2.52)	0.000 (1.26)	0.000 (0.97)	0.000 (-3.48)	0.000 (-1.57)	0.000 (1.4)	0.000 (3.4)	0.000 (2.42)
Supervisor	0.046 (1.61)	0.047 (1.42)	-0.002 (-0.07)	0.023 (0.91)	-0.031 (-1.37)	0.061 (1.94)	0.095 (4.6)	-0.052 (-2.34)	0.048 (1.54)	-0.004 (-0.18)
Intermediate	-0.019 (-1.08)	0.017 (0.76)	-0.039 (-1.89)	0.022 (1.17)	-0.022 (-1.33)	0.006 (0.23)	0.064 (4.49)	-0.039 (-2.4)	0.033 (1.36)	-0.004 (-0.24)
Private	-0.118 (-5.02)	-0.115 (-4.17)	-0.164 (-6.32)	-0.013 (-0.64)	-0.183 (-7.26)	-0.275 (-12.1)	-0.215 (-11.96)	-0.119 (-6.69)	-0.167 (-8.6)	-0.256 (-13.1)
Fsize_100	-0.033 (-1.64)	0.015 (0.53)	0.028 (1.18)	-0.011 (-0.57)	-0.009 (-0.37)	0.003 (0.16)	0.017 (1.11)	-0.029 (-1.52)	0.028 (1.93)	-0.004 (-0.31)
Fsize_500	-0.037 (-1.53)	-0.020 (-0.65)	0.021 (0.75)	-0.009 (-0.39)	0.073 (2.49)	-0.083 (-2.82)	0.041 (2.16)	-0.008 (-0.4)	0.005 (0.26)	-0.024 (-1.28)
Fsize_more	-0.043 (-1.64)	-0.018 (-0.58)	-0.078 (-2.49)	-0.004 (-0.12)	-0.048 (-1.49)	0.032 (0.95)	-0.023 (-1.07)	-0.014 (-0.72)	-0.021 (-0.79)	-0.011 (-0.54)
Unemp_spell	0.000 (0.02)	0.000 (0.05)	-0.014 (-1.80)	0.011 (1.4)	-0.018 (-2.08)	-0.022 (-2.66)	-0.009 (-2.76)	-0.004 (-1.88)	-0.001 (-0.36)	-0.005 (-1.26)
Lnwage	-0.108 (-3.44)	-0.076 (-1.62)	0.001 (0.03)	-0.107 (-3.42)	-0.011 (-0.35)	0.037 (1.06)	0.053 (1.83)	-0.085 (-4.07)	0.121 (4.79)	0.042 (1.65)
Mean_wage	0.067 (1.63)	0.094 (1.47)	0.028 (0.65)	0.079 (1.71)	-0.005 (-0.12)	-0.116 (-2.48)	-0.133 (-3.3)	0.086 (3.00)	-0.051 (-1.49)	-0.038 (-1.16)
Ln housinc	0.017 (0.55)	0.025 (0.65)	-0.014 (-0.54)	0.041 (1.59)	-0.013 (-0.51)	0.106 (4.59)	-0.006 (-0.33)	-0.012 (-0.66)	0.070 (4.01)	0.026 (1.26)
Mean_income	0.139 (2.97)	-0.058 (-0.99)	0.084 (1.72)	-0.027 (-0.61)	0.043 (1.17)	0.068 (1.92)	0.228 (8.04)	-0.008 (-0.25)	-0.040 (-1.39)	0.042 (1.45)
Intercept	-1.217 (-3.07)	0.265 (0.46)	-0.980 (-2.40)	0.223 (0.63)	-0.2332 (-0.82)	-1.080 (-2.71)	-0.530 (-1.34)	0.232 (0.97)	-1.030 (-3.43)	-0.629 (-2.26)
R ² : within	0.005	0.005	0.008	0.007	0.034	0.013	0.004	0.006	0.006	0.003
R ² : between	0.054	0.046	0.084	0.067	0.059	0.186	0.107	0.023	0.050	0.063
R ² : overall	0.036	0.034	0.045	0.056	0.054	0.136	0.070	0.020	0.030	0.044
N. Obs.	18,154	13,496	20,487	17,504	27,050	20,049	36,804	32,945	33,440	34,567

Note: t-ratios in parentheses

Table 6: Overall Job Satisfaction

	Austria	Belgium	Denmark	Finland	France	Greece	Italy	Netherlands	Portugal	Spain
Satisfaction with Earnings	0.371 (20.32)	0.252 (11.48)	0.191 (11.06)	0.304 (15.24)	0.285 (20.12)	0.430 (31.51)	0.386 (33.78)	0.140 (7.94)	0.314 (24.13)	0.273 (25.36)
Satisfaction with Job security	0.228 (12.47)	0.100 (4.46)	0.079 (5.11)	0.082 (4.77)	0.222 (16.7)	0.456 (28.04)	0.270 (22.22)	0.094 (6.08)	0.363 (25.9)	0.201 (18.69)
Satisfaction with Type of work	0.536 (24.49)	0.570 (22.13)	0.573 (29.13)	0.509 (22.82)	0.480 (36.57)	0.596 (33.93)	0.801 (58.11)	0.362 (17.3)	0.732 (46.55)	0.658 (52.3)
Satisfaction with Working conditions	0.384 (17.39)	0.362 (13.43)	0.150 (7.48)	0.222 (10.15)	0.324 (28.86)	0.255 (15.94)	0.213 (17.01)	0.176 (8.26)	0.288 (19.09)	0.137 (11.61)
Satisfaction with Working times	0.210 (10.49)	0.155 (6.37)	0.103 (5.92)	0.096 (4.82)	0.438 (12.9)	0.173 (11.41)	0.127 (13.09)	0.157 (8.09)	0.089 (8.31)	0.158 (13.42)
Mean satisfaction with Earnings	0.070 (2.87)	0.134 (5.09)	0.008 (0.39)	0.058 (2.43)	0.048 (2.61)	0.040 (1.9)	0.040 (2.49)	0.032 (1.85)	0.126 (6.85)	0.050 (3.51)
Mean satisfaction with Job security	-0.008 (-0.35)	0.043 (1.6)	0.017 (0.85)	-0.003 (-0.14)	-0.026 (-1.44)	0.034 (1.47)	0.011 (0.65)	0.038 (2.26)	0.013 (0.66)	-0.037 (-2.5)
Mean satisfaction with Type of work	0.258 (10.23)	0.362 (12.81)	0.306 (13.96)	0.369 (15.21)	0.331 (17.57)	0.169 (6.35)	0.344 (18.59)	0.144 (7.96)	0.272 (12.39)	0.238 (15.35)
Mean satisfaction with Working times	0.003 (0.13)	0.002 (0.07)	-0.026 (-1.27)	0.010 (0.43)	-0.040 (-2.15)	-0.064 (-2.97)	-0.056 (-3.2)	0.062 (3.6)	0.009 (0.46)	-0.052 (-3.56)
Mean satisfaction with Working conditions	0.025 (1.02)	-0.005 (-0.16)	0.028 (1.24)	-0.083 (-3.53)	0.021 (1.04)	-0.060 (-2.62)	-0.022 (-1.27)	0.067 (3.66)	0.038 (1.8)	0.021 (1.46)
<i>Year dummies</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IV	-0.180 (-5.69)	-0.154 (-3.76)	0.097 (3.27)	0.080 (2.68)	-0.186 (-7.05)	-0.104 (-7.03)	-0.147 (-9.84)	0.002 (0.06)	-0.240 (-12.74)	0.010 (0.67)
Log Likelihood	-17,346	-15,358	-19,840	-17,404	-27,680	-22,258	-42,721	-33,825	-29,931	-40,996
Observations	18,154	13,350	20,338	17,504	27,021	20,040	36,750	32,878	33,419	34,438

Note: t-ratios in parentheses

Table 7: Level Effects of Satisfaction with Job Facets on Overall Job Satisfaction

	Satisfaction with				
	Earnings	Job security	Type of work	Working conditions	Working times
Austria	0.441	0.22	0.794	0.409	0.213
Belgium	0.386	0.143	0.932	0.357	0.157
Denmark	0.199	0.096	0.879	0.178	0.077
Finland	0.362	0.079	0.878	0.139	0.106
France	0.333	0.196	0.811	0.345	0.398
Greece	0.470	0.490	0.765	0.195	0.109
Italy	0.426	0.281	1.145	0.191	0.071
Netherlands	0.172	0.132	0.506	0.243	0.219
Portugal	0.44	0.376	1.004	0.326	0.098
Spain	0.323	0.164	0.896	0.158	0.106

Appendix Table 1: Definitions of the variables used

Variables	Definitions
Job satisfaction	Standardized score of satisfaction with the job or main activity.
Satisfaction with earnings	Standardized score of satisfaction with earnings
Satisfaction with job security	Standardized score satisfaction with job security
Satisfaction with working conditions/environment	Standardized score of satisfaction with working conditions or environment
Satisfaction with type of work	Standardized score of satisfaction with the type of work
Satisfaction with working times	Standardized score of satisfaction with working times
Male	Dummy with value 1 for male workers
Married	Dummy with value 1 for married workers
Lower_sec	Dummy with value 1 for workers whose highest qualification is from primary or lower secondary education
Upper_sec	Dummy with value 1 for workers whose highest qualification is from upper secondary education
Tertiary	Dummy with value 1 for workers whose highest qualification is from tertiary education
Experience	Potential labour market experience
Supervisor	Dummy with value 1 if the respondent has a supervisory position
Intermediate	Dummy with value 1 if the respondent has an intermediate position
Non-supervisory position	Dummy with value 1 if the respondent has a non-supervisory position
Manager	Dummy with value 1 for managers, legislators and senior officials
Professional	Dummy with value 1 for Professionals
Technicians	Dummy with value 1 for Technicians and Associate Professionals
Clerks	Dummy with value 1 for Clerks
Salesworkers	Dummy with value 1 for Service, Shop and Market Sales Workers
Agriculture	Dummy with value 1 for Skilled Agricultural and Fishery workers
Craft	Dummy with value 1 for Craft and related Trades workers
Machine_oper	Dummy with value 1 for Plant and machine operators
Element	Dummy with value 1 for Elementary occupations
Private	Dummy with value 1 for private sector employees
Fsize_20	Dummy with value 1 if employer size is less than 20 regular paid employees
Fsize_100	Dummy with value 1 if employer size is greater than 20 and less than 100 regular paid employees
Fsize_500	Dummy with value 1 employer size is greater than 100 and less than 500 regular paid employees
Fsize_more	Dummy with value 1 employer size is greater than 500 regular paid employees
Agriculture	Dummy with value 1 for workers in the agricultural sector
Manufacturing	Dummy with value 1 for workers in the industrial sector
Services	Dummy with value 1 for workers in the sector of services
P_contract	Dummy with value 1 for workers with a permanent contract
F_contract	Dummy with value 1 for workers with a fixed-term contract
Good_health	Dummy with value 1 if the respondent has reported a <i>good</i> or a <i>very good</i> health status
Unemp_spell	Number of unemployment spells during the five years before the individual joined the survey
Lnwage	Log of CPI-deflated wage
Ln housinc	Log of CPI-deflated equivalised household income
Mean_wage	Mean wage over the eight survey years
Mean_income	Mean household income over the eight survey years

Note: Though the corresponding estimates are not reported in Tables 1 to 5, the estimated specifications include 7 year dummies, 8 occupational dummies, 2 industry dummies, 1 marital status dummy, 1 dummy for being in good health and 1 dummy for having a fixed term contract.

Table 2 : Frequencies of variables

	France	Greece	Netherlands	Spain	Denmark	Belgium	Italy	Portugal	Austria	Finland
	Freq.(%)	Freq.(%)	Freq.(%)	Freq.(%)	Freq.(%)	Freq.(%)	Freq.(%)	Freq.(%)	Freq.(%)	Freq.(%)
Male	56.31	62.01	58.90	65.51	53.21	55.87	63.51	58.04	57.96	49.88
Married	59.86	65.56	63.21	64.33	57.75	67.65	69.37	68.96	61.03	66.04
Low_educate	41.94	32.81	57.50	52.25	19.05	21.21	46.47	79.64	20.04	20.75
Mid_educate	32.45	36.83	28.57	20.07	46.09	34.40	42.34	12.29	71.82	42.49
High_educate	25.62	30.37	13.93	27.68	34.86	44.40	11.19	8.08	8.13	36.76
Supervisor	12.59	6.14	12.17	5.81	13.18	10.06	5.88	2.85	8.55	12.12
Intermediate	20.22	7.26	15.65	13.60	12.92	17.62	11.45	4.19	20.14	13.61
Non_supervis	67.19	85.74	69.18	57.78	62.46	56.25	54.15	64.41	52.63	53.42
Private	69.58	61.52	71.85	80.49	61.05	66.55	71.93	80.40	75.39	65.53
Manager	4.79	2.27	10.45	7.97	6.29	4.87	3.21	5.78	6.48	9.19
Professionals	8.30	16.42	17.98	11.68	15.18	17.37	9.36	5.70	4.60	17.85
Technicians	19.22	8.08	21.01	9.84	18.44	12.11	10.91	7.96	15.71	15.46
Clerks	83.43	17.73	13.51	8.82	11.92	16.39	17.81	8.69	14.22	8.72
Sales worke	12.74	13.67	10.14	14.39	11.72	7.49	13.04	13.93	15.39	11.05
Agricultural	1.35	1.11	1.37	5.30	2.01	0.99	3.96	12.51	10.74	9.67
Craft	13.48	18.20	9.41	18.24	10.39	7.33	19.47	20.54	18.44	10.43
Machine_ope	12.91	9.66	6.14	9.00	7.03	4.54	6.89	8.26	6.69	6.56
Elementary o	8.5	9.39	4.65	13.24	7.71	7.84	10.66	14.60	7.73	5.13
Firmsi: 1-19	24.12	53.66	17.98	53.28	31.47	25.41	54.27	60.69	46.02	50.96
Firmsi: 20-99	18.07	23.36	22.09	19.44	20.95	16.56	17.81	18.72	24.89	24.91
Firm:100-499	12.84	5.87	22.82	9.96	13.33	12.21	9.58	9.08	15.51	15.56
Firmsi: 500+	10.21	4.75	29.02	10.57	10.77	15.53	7.08	4.45	13.58	8.55
Agriculture	1.39	1.36	1.42	7.45	3.17	1.48	6.53	15.05	11.20	9.05
Manufacture	29.25	29.34	20.56	30.62	22.12	20.48	31.35	31.28	31.46	19.09
Services	69.36	69.30	67.56	61.93	61.65	56.67	62.13	53.66	57.34	48.58
Perman_cont	74.72	65.26	77.20	42.55	66.38	63.58	53.70	50.36	75.20	66.76
Fixed contra	9.85	19.45	9.04	23.64	8.68	7.73	8.05	12.37	6.29	12.39
Health: very	69.90	93.49	84.71	81.93	87.89	84.86	72.00	62.68	85.27	74.04
Experience				20,1						
(mean)	19,2 years	16,5 years	19,6 years	years	21,8 years	18,3 years	18,5 years	21,5 years	20,7 years	22,1 years
Wage (in national currency)	10,136	176,831	2,680	132,743	16,972	39,543	1,090	66,654	13,358	5,562
Income (in national currency)	8,328	165,169	2,415	124,381	11,646	45,716	1,510	88,251	17,163	7,270

Appendix Table 3: Means of Overall and Partial Job Satisfaction in ECHP (1994-2001)

	France	Greece	Netherlands	Spain	Denmark	Belgium	Italy	Portugal	Austria	Finland
	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean
Overall Job Satisfaction	4.40	3.88	4.75	4.26	4.96	4.49	4.05	3.95	4.48	4.58
Satisfaction with earnings	3.54	3.26	4.37	3.25	4.33	3.94	3.31	3.23	4.10	3.92
Satisfaction with security	4.17	4.03	4.68	4.14	4.79	4.42	4.08	3.99	4.94	4.40
Satisfaction with type of work	4.58	4.03	4.82	4.34	4.9	4.65	4.24	4.17	5.09	4.49
Satisfaction with working times	4.32	4.03	4.84	4.13	5.00	4.61	3.99	4.05	4.99	4.61
Satisfaction with working conditions	4.23	3.92	4.34	4.23	4.81	4.43	4.02	4.18	5.05	4.47

