DEPARTMENT OF ECONOMICS

UNIVERSITY OF MILAN - BICOCCA

WORKING PAPER SERIES

Is Work Flexibility a Stairway to Heaven? The Story Told by Job Satisfaction in Europe

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No. 97 - June 2006

Is Work Flexibility a Stairway to Heaven? The Story Told by Job Satisfaction in Europe

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June 21, 2006

Abstract

In this paper we investigate the relationship between different aspects of flexibility and job satisfaction using data taken from the 2001 Special Eurobarometer 56.1 "Social Exclusion and Modernization of Pension Systems". More specifically, we verify whether functional, numerical and time flexibility produce different impact on job satisfaction, also distinguishing between satisfaction for quantitative aspects (such as pay, hours of work and career prospects) and qualitative ones (such as motivation, job variety and on the job relations). Then, we test the impact of flexibility on job satisfaction for different types of workers (e.g. high or low skilled, young or old, male or female and country clusters). Taking into account of potential endogeneity, on the whole results from econometric analysis seem to point to a positive link between functional flexibility and job satisfaction and either no effect or a negative impact of numerical and time flexibility. With regard to estimation by groups, differences in the impact of flexibility on job satisfaction are particularly relevant among those groups that are characterized by significant gaps in the incidence of flexibility, such as the young and the old workers, the low and the high educated, Southern and Nordic countries' workers.

Keywords: Job satisfaction; flexibility
JEL Code: J24, J28, M54

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1 Introduction

It is a common wisdom that in the last decades labour market flexibility has boosted in almost all OECD countries. Although the notion of labour market flexibility has been discussed widely, it has been defined in a number of different ways and referred to many aspects such as wage flexibility, numerical flexibility (concerning the freedom of employers to fire and to hire), or to functional flexibility, namely the ability of the labour force to perform different tasks and to acquire and employ the skills necessary to adapt easily to technological and market changes; the latter form of flexibility is achieved by firms through production organization, innovation strategies, skill formation and on the job-training policies favouring multi-tasking and promoting experience exchanges through job rotation, teamwork, project groups and employee direct involvement.

Even if flexibility is a very wide and heterogeneous concept, according to standard international classifications many flexible work arrangements can be classified into two main groups: quantitative and qualitative flexibility[1]. The first refers to changes in the number of employees and working hours, while the latter concerns skill contents and work quality. Numerical and working time flexibility are typical forms of quantitative flexibility, while functional flexibility is an example of qualitative flexibility.

In general both types of flexibility have increased in the last twenty years. Regarding quantitative flexibility, in EU-15 the share of fixed-term contracts, which can be used by employers as an instrument to overcome employment protection legislation rigidity, has passed from 11% in 1993 to 13.6% in 2004. As to working time flexibility, the share of part time employment in EU-15 has increased from 14.8% in 1993 to 19.4% in 2004 (European Commission, 2005).

There is also agreement on the fact that the recent diffusion of different forms of functional flexibility is strictly connected with the move away from Tayloristic mass-production towards more flexible work organization as a consequence of the change in the environment in which firms operate (OECD, 1999). The traditional firm has been replaced by a more flexible multi-product organization that emphasizes quality and speedy response to market conditions, adopting technologically advanced equipment and a bundle of many forms of functional flexibility (the so called "High Performance Workplace Practices"), including multi-skilling or multi-tasking, use of team working, reduced hierarchical levels and delegation of responsibility to individuals and teams (Betcherman, 1997).

Labour market flexibility, in a broad sense, is often depicted as a key to the competitive success of firms and of labour market in general, due to its direct impact on productivity, profitability and on global firm and market performance. This perception has especially spread in the last decades, as a consequence of the new competitive challenges brought by skill biased technological progress, by markets globalization and by shifts in consumers demand.

Indeed, rigid institutions may hinder flexible adjustments to shocks (among others, Blanchard and Wolfers 2000, Bertola, Blau and Kahn 2001, Blanchard and Portugal 2001, Buscher et al., 2005) and functional flexibility, enabling employees to perform a large range of jobs and thus to face technological and market change, may improve firms performance

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[1] See, for example, Goudswaard, A. and de Nanteuil, M. (2000).

(Godard and Delaney 2000).

Despite many studies have deeply analysed the potential effects of flexibility on labour market outcomes, few papers exist concerning the impact of flexibility on job satisfaction (among others, Blanchflower and Oswald 1999, Bailey, Berg and Sandy 2001, Freeman, Kleiner and Ostroff 2000, Bauer 2004, Theodossiou and Vasileiou 2005). However, the study of job satisfaction is important for at least two reasons.

First, job satisfaction may have an indirect effect on labour productivity (Freeman 1977); according to this thesis, more satisfied workers exhibit higher job performance than do unsatisfied employees and thus, beyond direct effects on firms and on labour market performance, flexibility may have an indirect influence on productivity via its impact on workers job satisfaction.

Second, flexibility is strictly correlated both directly and indirectly with many aspects of workers life beyond work, thus its impact on job satisfaction may be intensely linked to overall worker happiness and well being (social life, family, etc. . .).

As to the relationship between flexibility and job satisfaction, it is common opinion that functional flexibility produces a positive impact on job satisfaction and thus that its introduction is a "win-win" game, as both employer and employees benefit from it. However, there are also some results suggesting a different impact; for example, a recent Dutch study[2] has shown that functional flexibility is positively associated with skills development, but it may also cause emotional exhaustion, mainly in cases of high job demands and inadequate information (Goudswaard, 2003).

As to numerical flexibility, economic theory predicts that, *ceteris paribus* and in a partial equilibrium model, temporary work should decrease job satisfaction of risk adverse workers, even if existing empirical studies do not converge to a common conclusion with regard to this issue.

Considering working time flexibility, part time work *ceteris paribus* increases job satisfaction if the worker values leisure, but we may also expect a negative impact on job satisfaction if part time is applied within stigmatising conditions as it happens in many countries.

On the whole, we believe that the impact of any form of flexible work arrangement on job satisfaction heavily depends on whether it is freely chosen by the worker or it is imposed by either the employer or by environmental conditions (such as the lack of suitable job opportunities).

Another important point is that the various aspects of flexibility may produce different impacts on diverse facets of job satisfaction, for example on its quantitative and qualitative aspects. More specificaly, we expect that functional flexibility is more correlated with qualitative job satisfaction while quantitative flexibility (numerical and working time flexibility) should have a larger impact on quantitative job satisfaction. With this respect, we try to assess the impact of functional and quantitative flexibility on overall job satisfaction and also separately on its quantitative and qualitative components.

An additional issue is that it is likely that different groups of workers, characterised by heterogeneous preferences, are affected in distinct ways by functional, numerical and

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[2]Based on a representative sample of around 3600 Dutch companies, involving over 11,000 employees in all sectors excluding the civil service and education

time flexibility. Thus, the common opinions relative to the impact of flexibility on job satisfaction should be better qualified in order to quantify the differences in the impact of flexibility on job satisfaction for different types of workers (e.g. low skill and high skill, young and old, male and female); this analysis might help targeting more efficiently labour policies inside workplaces.

The paper is structured as follows: the next section contains a brief review of the literature; section 3 describes the estimation model we use in our analysis and how we proceed to tackle the problem of endogeneity; section 4 presents the dataset and it provides a description of the main variables used in the analysis; in section 5 results from descriptive investigation are presented and section 6 contains results from econometric analysis, both referred to estimation made on the whole sample and to estimation by groups; the last section briefly summarizes and concludes highlighting some policy implications.

2 Literature review

Socio-economic literature on job satisfaction is quite rich and ever growing. Economists have been primarily interested in "job satisfaction as an economic variable" (Hamermesh, 1997; Freeman, 1978) because more satisfied workers seem to be more motivated and hence more productive, generating positive effects on overall firm profitability (Oswald, 1997). Job satisfaction is also a major determinant of labour market mobility: in particular, it is as good predictor of quits as wages (Clark et al., 1998).

Empirical literature has been traditionally focused on different determinants of job satisfaction, such as wages (Clark, 1999), working hours (Lydon and Chevalier, 2002), unionization (Bender and Sloane, 1998; Bryson et al., 2004), racial harassment (Shields and Price, 2002).

Specific attention has been paid to socio-demographic conditions, looking at the existence of heterogeneity in job satisfaction by gender (Clark, 1997), age (Clark et al., 1996), education (Sloane and Williams, 1996; Kaiser, 2002) and ethnic groups (Bartel, 1981).

In light of the progressive diffusion of flexible work arrangements, recent contributions paid specific attention to the effect of some forms of flexibility on workers well-being.

A number of studies look at the effect of different temporary contracts on job satisfaction (Boot et al., 2002; De Witte and Naswall, 2003; de Graaf-Zijl, 2005). They point out that a negative impact emerges only for specific forms of temporary employment (such as seasonal-casual jobs or temporary agency work) and/or for specific job facets (mainly job security and career prospects). In general no significant difference in overall job satisfaction emerges between workers in permanent jobs and workers on fixed-term contracts.

Less research has been done on the role of part-time and flexible working hours, but at least for the first it seems that the effect on job satisfaction actually depends on whether part-time is voluntary or involuntary, mainly in the case of men (Johansson, 2004).

Other contributions have been focus on the role of specific forms of functional flexibility.

Freeman et al. (2000) study the effect of employee involvement on both workers productivity and job satisfaction and they find that this specific form of functional flexibility has a weak effect on output per worker, but it has a strong and positive impact on employees well-being.

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McCausland et al. (2005) investigate whether significant differences exist in job satisfaction between individuals on performance-related pay schemes (PRP) and those on alternative compensation plans. Correcting for both self-selection of individuals into their preferred compensation scheme and wage endogeneity, they find a negative effect of PRP schemes on job satisfaction, except for the high paid workers.

Only very few studies take into account the joint effect of different forms of flexibility, mainly considering the effect of an "enriched" job design (Mohr and Zoghi, 2006) or of a bundle of so called "High Performance Workplace Practices" (Bauer, 2004).

Job enrichment includes a number of different workplace practices, including quality circles, self-directed teams, job rotation, information sharing. On the basis of this definition and using data referred to a representative sample of Canadian workers, Mohr and Zoghi (2006) show that several forms of enrichment raise satisfaction, specifically suggestion programs, information sharing, task teams, quality circles and training.

Similarly, using individual data from the European Survey on Working Conditions covering all EU member states, Bauer (2004) points out that a higher involvement of workers in High Performance Workplace Organizations is associated with higher job satisfaction, particularly in the case of workers involvement in flexible work systems. This result suggests that workers particularly value the opportunities associated with an increased autonomy over how to perform their tasks and increased communication with co-workers. On the contrary, the effect of team work and job rotation, as well as supporting human resource practices, appear less relevant in increasing job satisfaction.

It is worth pointing out that both these studies consider only the effect of different forms of functional flexibility (including on the job training), eventually inserting some forms of quantitative flexibility (such as fixed-term contracts) among the controls.

3 Empirical strategy

The aim of the empirical analysis is to determine the effect of specific forms of quantitative and functional flexibility on individual utility from working, as proxied by job satisfaction.

Following the mainstreaming approach in the literature on job satisfaction (Clark and Oswald, 1996), we assume that utility from work depends on a number of factors, including pay, hours worked, individual, firm and job characteristics. Utility from job for the i-th worker (U_i) can then be expressed as follows:

$$U_i = U_i(Y_i, H_i, X_i, E_i, J_i, F_i) \tag{1}$$

where Y is a vector describing pay and benefits, H is hours of work, while X, E and J represent, respectively, individual, employer and job characteristics. F is a vector of flexibility indicators[3].

Utility from work is empirically proxied by self-reported job satisfaction, that is traditionally measured through a scale in which the lowest value corresponds to complete

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[3]Formally flexibility may be part of vector J. Given the aim of our analysis, we prefer to specify flexibility indicators separately from other job characteristics.

dissatisfaction and the highest value to complete satisfaction[4].

Using a traditional latent variable approach, observed job satisfaction levels (JS) may be related to the "true" unobserved (continuous) propensity for job satisfaction (JS^*) in the following way:

$$JS_i^* = \alpha + Y_i'\beta_1 + H_i'\beta_2 + X_i'\beta_3 + E_i'\beta_4 + J_i'\beta_5 + F_i'\beta_6 + \varepsilon_i \qquad (2)$$

$$JS_i = j \qquad if \ \mu_j < JS_i^* < \mu_{j+1} \quad for \ j = 1, 2, ...J$$

where the vectors of covariates are defined as above, while α and βs are parameter vectors to be estimated, with β_6 being the parameters of interest of our analysis. The $\mu_j s$ are constant cutpoints that determine movements along the job satisfaction scale and that have to be estimated simultaneously with the other model coefficients.

Given the intrinsic ordinal nature of the dependent variable and assuming that the error terms are normally distributed, an ordered probit estimator may be used to get the relevant estimates.

Estimation of job satisfaction equations has to deal with some econometric issues. More specifically, estimates may suffer from endogeneity bias. In our specific case, there may be some sorting of individuals with preferences for flexibility in firms more likely to adopt flexible work arrangements. Furthermore, some specific firm characteristics (such as firm culture and management style) may simultaneously influence both the probability of being in flexible workplaces and job satisfaction. For example, it may be that working for an effective manager increases a worker's job satisfaction and that effective managers are more likely to employ flexible work practices. As long as some unobserved individual or workplace characteristics simultaneously affect both the use of flexibility and job satisfaction, the estimated effect of flexibility on job satisfaction might in fact be biased, since it captures also the effect of other unobservable factors on job satisfaction.

The empirical literature on job satisfaction has started to deal with potential endogeneity only quite recently, concentrating mainly on potential endogeneity of wages and unionization.

Other than neglecting endogeneity at all, most recent studies have been trying to correct for endogeneity either estimating simultaneously the job satisfaction equation and the endogenous variable equation or by controlling in the job equation for many workers and job characteristics. The simultaneous estimation approach usually requires some identifying restrictions for the endogenous equation[5]. These restrictions are found in worker's partner or household characteristics (Lydon and Chevalier, 2002; McCausland et al., 2005) or in information provided by the employer when matched employer-employee data sets are available (Bryson et al., 2005; Mohr and Zoghy, 2006).

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[4]In our specific case, satisfaction is measured through a seven-point scale, where 1 is "completely dissatisfied" and 7 "completely satisfied". See section 4 for further details on the data and the measure of job satisfaction. Of course, we also assume that measures of satisfaction are comparable across individuals.

[5]Shields and Price (2002) is an exception. In studying the effect of racial harassment on job satisfaction and the intention to quit, they check the robustness of their ordered probit estimates by estimating a trivariate multinomial probit without using identifying restriction (after dichotomizing the job satisfaction and the racial harassment variables, they simultaneously estimate a probit for job satisfaction with a probit for racial harassment and one for quit intentions).

In empirical work based on detailed employees survey, endogeneity problems have been partly mitigated by controlling for a large number of covariates, assuming that the additional controls remove all the unobservable effects that are correlated with both the endogenous variable(s) and job satisfaction (Linz, 2003; Bauer, 2004)

As we will discuss in the next section, our empirical analysis is based on an employee survey providing very detailed and rich information on personal, social and work life. Even if we have a lot of information on firm and job characteristics for each surveyed worker, this information is not directly provided by the employer.

Furthermore, since we are interested in the effect of different types of flexibility on job satisfaction, the number of potentially endogenous variables may be relatively high (up to eight), thus making a simultaneous estimation approach quite cumbersome from a computational point of view.

In light of the above considerations, we tried to take into account of potential endogeneity by adopting a sort of "saturation approach": instead of "throwing in" as many controls as possible, we start with a parsimonious model in which we gradually add all the factors (individual, firm and job characteristics) that may capture part of the unobservables that are correlated with the adoption of flexibility. Once our parameters of interest become roughly insensitive to the inclusion of further controls (and to the ordering of their inclusion), we may assume that our estimates are quite robust with respect to potential sources of endogeneity.

With respect to the traditional approach, we then pay specific attention to both the progressive inclusion of other controls and to their effect on estimates robustness.

4   Data and variable description

The data we use in this study are taken from the 2001 Special Eurobarometer 56.1 "Social Exclusion and Modernization of Pension Systems".

Standard Eurobarometer was established in 1973 with the aim of monitoring the evolution of public opinion in the Member States; each survey consists in approximately 1000 face-to-face interviews per Member State (except Germany: 2000, Luxembourg: 600, United Kingdom 1300 including 300 in Northern Ireland).

Special Eurobarometer, whose reports are based on thorough thematic studies, are integrated in Standard Eurobarometer's polling waves. In each of the 15 Member States, both surveys are carried out by national institutes associated with the European Opinion Research Group, a consortium of Market and Public Opinion Research agencies, comprising INRA (EUROPE) and GfK Worldwide.

With regard to the data set we use, the universe of the survey are EU citizens aged 15 and over residing in Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom; the data have been collected between September 17, 2001 and October 26, 2001.

In this round of Special Eurobarometer, besides questions relative to social exclusion and modernization of pension systems in European Union countries, employed and self-employed respondents were asked a number of questions relative to their job, including the degree of its functional, numerical and time flexibility, and relative to different facets of job

satisfaction. The data set contains also demographic and other background information like age, gender, nationality, marital status, occupation and education.

For the purpose of our analysis, we have selected the sub-sample of employed workers which are not members of the armed force, corresponding to 6445 observations.

We use three measures of job satisfaction - overall, quantitative and qualitative - in order to analyse separately the impact of flexibility on each of them. The reason is that social scientists and employees themselves have long recognised the difference between financial and other quantitative facets of a job (extrinsic facets) and those which are qualitative (intrinsic facets) (Frey 1997, Rose 2002).

Respondents are asked to provide a rating on a seven-point scale with reference to their satisfaction on 14 facets of their job[6].

Overall job satisfaction corresponds to the rounded mean of the scores provided in the 14 questions; quantitative job satisfaction is the rounded mean of the scores provided to questions relative to pay, hours of work, amount of work, job security, promotion prospect, training provided; qualitative job satisfaction is the rounded mean of the scores provided to questions relative to opportunity to use own abilities, ability to use own initiative, chance to develop oneself, scope for innovation and creativity, variety in the work, possibility of achieving work targets, relations with supervisor or manager and ability to contribute something useful to society.

With regard to the explanatory factors, we provide here a brief explanation of how the relevant flexibility variables have been built, while we refer to the Appendix for other controls' description.

Functional flexibility

The survey contains several questions providing information on different aspects of functional flexibility, namely employee involvement, the possibility of using multiple skills, team work, on the job autonomy and training.

Employee involvement is a composite indicator based on three different questions, capturing whether the interviewed workers have a lot of say over their job, whether their job allows them to take part in decisions affecting their work and whether they could have some influence on decisions changing the way they do their job[7].

In the same way, the possibility of using multiple skills is indirectly measures through two questions asking, respectively, whether the job is characterized by a lot of variety and whether it requires keeping learning new things[8].

The variable referred to work autonomy measures whether the workers can decide either

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[6]The lowest value corresponds to "completely dissatisfied" and the highest to "completely satisfied". The considered job's aspects are: pay, opportunity to use one's abilities, ability to use own initiative, chance to develop oneself, scope for innovation and creativity, hours of work, amount of work, variety in the work, possibility of achieving work targets, job security, relations with supervisor or manager, promotion prospect, training provided, ability to contribute something useful to society.

[7]We started creating three dummies, one for each definition considered. The variable measuring employee involvement is then the simple mean of these three dummies. By construction, it still ranges from 0 to 1 but it can also be equal to 0.33 and 0.66. For each worker, it measures the normalized number of aspects (from 0 to 3) referred to employee involvement.

[8]As for employee involvement, we created two dummies, one referred to job variety and the other to continuous learning. The variable measuring multi-skills is then the simple mean of these two dummies.

what tasks to do or how to perform them[9]. The dummy variable referred to team work simply captures whether the individual has to work with other employees in a group or a team that has responsibility for organizing how the work is done.

Unfortunately the survey does not provide direct information on training received in the current job, but it asks a more general question related to education or training received in the previous five years and paid by the current or by the former employer. Our dummy variable on training is then based on this broader question[10].

We also created a summary indicator on functional flexibility, given by the simple mean of all the above five aspects. This variable ranges from 0 to 1 and its value increases with the number of the above aspects characterizing each worker's job[11].

Quantitative flexibility

To identify numerical flexibility, we have selected workers with a flexible contract, i.e. those with seasonal, temporary or casual job and employees under contract or for fixed time period.

We have considered two dimensions of working time flexibility. The first is part time work, with part time workers identified as those stating that "my job is a part time job"; the second is flexible working time and in this case we have considered workers with flexible working time those stating that "the total number of hours I work varies from week to week".

5   Descriptive statistics

Graph 1 depicts the distribution of the overall sample according to the score of overall, quantitative and qualitative job satisfaction indicators. On average European workers are quite satisfied with their job: for 60% of the interviewed the mean of the reported satisfaction on different fourteen job aspects is equal to 4 or 5 (in a 7-points scale). Less than 1% is completely dissatisfied, while more than 4% is completely satisfied[12]. Workers judgment for qualitative job facets appears more dispersed but on average more favourable than that regarding quantitative aspects: the average score is, respectively, 4.7 and 4.55[13], regardless the higher share of completely dissatisfied workers for qualitative job facets (respectively, 1.2% and 0.6%). This is because almost 28% of the workers are very satisfied with qualitative aspects of their job, while the same share for quantitative ones is just

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[9]As for multi-skills, the final variable is the simple mean of the two original dummies, one referred to worker's influence in choosing tasks and the other to his/her influence in doing them.

[10]Of course, for people with tenure longer than 5 years (56.5% of total sample) we are sure that this question captures on the job training received from current employer.

[11]The complete "functionally flexible" worker (FUNCFLEX=1, 1.5% of total sample) is characterized by all the three facets of employee involvement, the two facets of multi-skills, the two facets of work autonomy, team work and on the job training in the last five years. On the contrary, the "functionally rigid" worker (FUNCFLEX=0, 12.4% of total sample) is characterized by none of the above aspects. The remaining part of the sample is characterized by different combinations of these aspects.

[12]Since the overall indicator is the rounded mean of 14 specific aspects, this implies that completely dissatisfied workers have reported the lowest score for almost all the aspects considered, while completely satisfied workers have reported the highest score for almost all the same aspects.

[13]The difference is statistically significant at the usual confidence level (t=18.2).

above 21%[14]. The correlation of the two indicators is positive but not close to one[15], mainly because of the presence of workers highly satisfied with qualitative aspects of their job but not so with quantitative ones.

INSERT GRAPH 1

Table 1 reports the mean value of overall, quantitative and qualitative job satisfaction by type of flexibility[16].

As it can be seen from the table, overall job satisfaction of workers with a job characterised by functional flexibility is higher in correspondence with every aspect of flexibility and the differences in mean values are always statistically significant at the 99% level. Job satisfaction increases considerably for workers holding a job characterised by employee involvement and for those with a multi-skill job, while the impact of team work on satisfaction is quite low.

Results are different considering numerical and working time flexibility: workers hired with a temporary contract report lower job satisfaction than those with a permanent contract, and part-time workers seem to be less satisfied than full-time workers, even though in the latter case the difference in mean values is not statistically significant at conventional levels when considering quantitative job satisfaction. The impact of a job with flexible working hours is low and it is not statistically significant with respect to quantitative job satisfaction.

Considering separately quantitative and qualitative job satisfaction, two points are worth emphasizing: first, reported mean job satisfaction is always higher with regard to its qualitative aspects independently of the job's flexibility features considered, and, second, functional flexibility enhances more satisfaction relative to job's qualitative aspects than to its quantitative characteristics.

On the whole, descriptive analysis shown in Table 1 seems to indicate that functional flexibility is related to higher job satisfaction, both overall and qualitative and quantitative, while both numerical flexibility and part-time jobs are associated with lower satisfaction. Finally, a slight positive relation is observed between flexible working time and job satisfaction.

INSERT TABLE 1

As a first hint relative to the different impact of flexibility on different types of workers, Table 2 reports the incidence of each type of flexibility and the mean of overall job satisfaction by gender, age, education and occupation groups, sector of employment and country clusters.

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[14]We define as "very satisfied" workers those with an indicator equal at least to 6. Note that also the share of completely satisfied workers (i.e., with an indicator equal to 7) is higher in the case of qualitative job satisfaction.

[15]The correlation index is 0.75.

[16]The table contains also the differences between these two mean values and results of t tests of the hypothesis of their equality.

Overall the figures in the table seem to suggest the existence of a negative correlation between functional and quantitative flexibility, particularly temporary employment, and they confirm a positive correlation between the incidence of functional flexibility and job satisfaction.

Those groups with exceptionally high levels of job satisfaction (namely, the high educated, the high skilled and workers in the North of Europe) are also characterized by a relatively high incidence of most forms of functional flexibility (mainly employee involvement, multi-skilling, autonomy and training) and flexible working hours, but a very low incidence of temporary contracts[17]. The opposite is true for groups with relatively low levels of job satisfaction, in particular the low educated, the unskilled and workers in the South of Europe.

Even if overall job satisfaction of men is only marginally higher than that of women, the first are actually characterized by a higher incidence of all the forms of functional flexibility considered and flexible working hours, accompanied by a lower incidence of both part-time and temporary contracts.

The negative correlation between functional and quantitative flexibility does not emerge when the sample is broken down by economic activity. With the exception of team work, all the other types of flexibility – both functional and quantitative – are more widespread in services than in industry. Since job satisfaction is also relatively higher in the first than in the latter, this seems to suggest that the relation between functional flexibility and job satisfaction is more relevant than that between the latter and quantitative flexibility.

<div align="center">INSERT TABLE 2</div>

Obviously, all these results may be due to composition effects related both to observable and to unobservable characteristics of the sample's workers. The aim of the econometric analysis illustrated in the next section is to verify the impact of functional, numerical and time flexibility on job satisfaction controlling for these effects.

6   Econometric analysis

Descriptive analysis provided in Section 5 suggests a positive link between functional flexibility and job satisfaction and a negative link with numerical flexibility; the sign of the relation with time flexibility depends on the specific aspect that is considered.

In the first part of this section we present results from econometric analysis aimed at verifying how these relations changes after controlling for composition effects. As explained in Section 3, the strategy we follow to ease the problem of selection bias due to workers' heterogeneity is to control progressively for an increasing number of worker, firm and job characteristics, in order to verify if the relevant coefficients remain stable (do not change much) in the different model's specifications.

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[17]Part-time does not seem to display any clear-cut pattern, since it is relatively low among the high skilled workers but it is relatively widespread in Northern countries.

Table 3a reports results from the estimation of 5 different specification of model (2) with overall job satisfaction as dependent variable. The first specification is the most parsimonious: besides the flexibility variables of interest, it controls for demographic, country and local area conditions; model 2 adds controls for employer characteristics, job characteristics, state of relations within firm and firm-related values; model 3 includes covariates relative to past and future job expectations; model 4 controls for past work events and work related health and, finally, model 5 includes some variables describing worker's work and life attitudes and social relations[18].

The nonlinearity of the ordinal probit model makes it difficult an immediate interpretation of the variables' impact on the different outcomes of the dependent variable because these impacts depend on the values of all the variables included in the model and they are not simply given by the correspondent variables' coefficients as in linear models. There are different options for interpreting results after ordinal probit estimation; we compute the (marginal or discrete) change in the probability of each outcome caused by changes in the variables of interest with other variables held at their mean. Results from this computation are reported in Table 3b, which depicts marginal effect after Model 5 estimation.

INSERT TABLE 3A

INSERT TABLE 3B

As can be seen from Table 3a, almost all variables describing functional flexibility, with only exception of work autonomy, are highly statistically significant, and the positive sign of their coefficients indicates that functional flexibility increases overall job satisfaction, with the largest coefficient being that of employee involvement. Notice also that after controlling for firm and job characteristics (Model 2) results not sensitive to the progressive inclusion of other controls.

Temporary work coefficient is negative but is not statistically significant from Model 3 onward, which introduces controls for past and future job expectation. The explanation for this result relies on the fact that the way job expectations variables are built permits to control for involuntary temporary work and thus estimation indicates that only when temporary work is involuntary it reduces worker's satisfaction[19].

As to time flexibility, results indicate that part time work tends to reduce job satisfaction in almost all specifications, while the coefficient of flexible working time has a negative sign but it is not statistically significant in the less parsimonious models.

As before mentioned, in order to assess more precisely the relevant variables' quantitative impact on the different outcomes of the dependent variable, we have computed the change in the probability of each outcome produced by changes in the variables of interest with other variables held at their mean. Model 5 is the reference model for this computation. Table 3b reports both marginal effects and their standard errors.

Considering functional flexibility, employee involvement, multi-skill and team work and having received on the job training reduce the probability of outcomes 1 to 4 and increase

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[18]See Appendix for a detailed description of all the covariates.

[19]Expectation gap for temporary work was in fact created considering all the individuals on temporary contracts who desired a secure job. For further details, see the Appendix.

that of outcome 5 to 7. The quantitative values of all the marginal effects show that the greatest positive impact on job satisfaction is produced by employee involvement, followed by multi-skill work and training. Team work is the functional flexibility indicator characterised by the smallest impact while work autonomy is not linked to job satisfaction in a statistically significant way.

As regards the other measures of flexibility, the values of the marginal effects point to a negative impact on job satisfaction, being positive for outcomes 1 to 4 and negative for outcomes 5 to 7. However, only part time work reduces satisfaction in a statistically significant way, even though the marginal effects are very small.

On the whole, results from econometric analysis seem to confirm descriptive evidence, suggesting a positive link between functional flexibility and job satisfaction and either no effect or a negative impact of numerical and time flexibility.

We have replicated estimation disaggregating overall job satisfaction between its quantitative and qualitative facets. Tables 4a and 4b reports respectively coefficients estimation and marginal effects from Model 5, taking separately quantitative and qualitative job satisfaction as dependent variables.

INSERT TABLE 4A

INSERT TABLE 4B

Even in this case functional flexibility has a positive impact on both types of job satisfaction but it is to be noticed that some flexibility indicators produce effects on one type of satisfaction but not on the other type. In particular, from one side a work characterised by flexible working time seems to reduce satisfaction relative to quantitative aspects of one's job but it has no effects on qualitative job satisfaction; from the other side, work autonomy increases qualitative satisfaction but its coefficient is not statistically significant in the equation with quantitative job satisfaction as dependent variable.

It is interesting to notice that the coefficient of the dummy for temporary work is positive when considering quantitative job satisfaction and it is negative in the qualitative job satisfaction equation. However, even in these estimations the coefficient is not statistically significant from Model 3 onward, i.e. after involuntary temporary work is controlled for.

Turning now to marginal effects, Table 4b shows that for both facets of job satisfaction the greatest positive impact is produced by employee involvement: the more workers think they have a lot of say over what happen at work and/or the more they think their job allows taking part in making decisions that affect their work, the higher is the probability to declare high levels of satisfaction. The positive effect is more pronounced when considering satisfaction relative to qualitative aspects; for example, employee involvement increases the probability to be in the sixth value of the 1 to 7 scale by 12.4% for qualitative job satisfaction and by 6.4% for quantitative job satisfaction.

In general, however, the positive impact of functional flexibility is greater when considering qualitative job satisfaction: in this case the increase in the probability to be highly satisfied (sixth and seventh scale's values of job satisfaction) and the decrease in the probability to be completely dissatisfied (first scale's value) due to functional flexibility is higher

compared to the case of quantitative job satisfaction; this result is obtained with regard to every aspect of functional flexibility.

Another difference between the two estimations is that, apart from employee involvement, the ranking of the quantitative impacts of the different aspects of functional flexibility is not the same when considering quantitative and qualitative job satisfaction: the second greater positive impact on quantitative job satisfaction is produced by training, followed by multi-skill and by team work, while the second in importance impact on satisfaction relative to qualitative facets is produced by multi-skill work, followed by work autonomy (which is not significant in the quantitative job satisfaction equation), training and, finally, by team work, which increases the probability of outcomes 5 to 7 less than the other components of functional flexibility.

The negative impact of part time work on qualitative job satisfaction is slightly higher than that on quantitative job satisfaction, being the probability reduction of outcomes 6 and 7 smaller in the latter case. This result suggests that the reduction of job satisfaction for part time workers may be more correlated to the low quality of job than to its quantitative features like wage.

Finally, as anticipated, with regard to quantitative job satisfaction flexible working time increases the probability of outcomes 1 to 4 (low satisfaction) and diminishes the probability of outcomes 5 to 7 (high satisfaction) and thus it has a negative influence on this type of satisfaction.

6.1 Other factors

Table 1B in the Appendix reports coefficients' estimation of other controls. We report results from the fully specified model (Model 5) referred to the three equations having respectively overall, quantitative and qualitative job satisfaction as dependent variables.

Demographic, country and local area conditions

Considering demographic controls, it can be noticed that female workers are less satisfied than men with regard to quantitative job features; this result is in line with lower relative mean wages of women. Age does not seem to influence job satisfaction while overall and quantitative job satisfaction decreases as education level grows.

As to family variables, married workers are less satisfied from quantitative point of view and more satisfied from qualitative standpoint, while having a child younger than 5 years old has a negative impact on satisfaction, especially on its qualitative facets. As expected, the declared standard of living has a monotonic increasing impact on all types of job satisfaction.

Turning to area of living conditions, workers living in neighbourhood characterised by bad reputation have a larger probability to report low level of job satisfaction, while workers living in areas with good job opportunities seem to be more satisfied.

Firm and job characteristics

Considering the impact of firm size, the coefficients of the firm size dummy variables are negative when considering qualitative job satisfaction, pointing to a negative relation between firm size and qualitative aspects of job satisfaction, even though they are not statistically significant. On the contrary, quantitative job satisfaction is monotonically

increasing in firm size as the coefficients are positive and statistically significant. Thus, workers employed in larger firms seem to be more satisfied of quantitative features of their job.

As to sector of employment, workers employed in transportation and communications and those in financial intermediation exhibit lower overall, qualitative and quantitative satisfaction while workers having a job in electricity, gas and water supply and in the construction sector are more satisfied; notice also that public sector workers are more satisfied of both qualitative and quantitative aspects of their job than workers employed in the private sector.

Some interesting results emerge with regard to the impact of occupation: employed professionals as well as supervisors are considerably more satisfied of their job from a qualitative point of view while middle management and service workers present higher qualitative as well as quantitative satisfaction.

The coefficients of the tenure dummy variables are always negative and, recalling that the excluded category is short tenure (less than 3 years), this result indicates that satisfaction tend to diminish with tenure. Notice, however, that the coefficient of very high tenure (more than 10 years) is not statistically significant in the quantitative job satisfaction equation, pointing to a U relation between tenure and quantitative job satisfaction. On the contrary, results show a monotonically decreasing relation between tenure and qualitative job satisfaction. Unionised workers seem to be less satisfied from a qualitative point of view and, as expected, quantitative job satisfaction is increasing in income, which is a proxy for wage. The larger the number of hours of work the smaller is overall and quantitative job satisfaction.

Workers seem to be more satisfied on both facets when they have the opportunity to use their experiences, skills and abilities and workers using computerise or automated equipment present higher overall and quantitative job satisfaction.

In general, a negative impact of intensity of work and of dangerous and unhealthy conditions is found, while considering state of relations within firm and firm values, workers result more satisfied when there are good industrial relations on their workplace and when they get support from management; on the contrary, good horizontal relations do not seem to produce influence on satisfaction. Workers are more satisfied when they find similarity between their values and firms' ones.

Expectation

The expectation gap regarding part time and multi-skill work reduces qualitative satisfaction and the expectation gap for temporary work (referred to workers retaining very important to have a secure job but holding a temporary job) produces a negative impact on overall and on quantitative job satisfaction.

When workers declare that team work, employee involvement and autonomy in work are very important but their job has not these characteristics, their qualitative job satisfaction is higher; this counterintuitive result is to be interpreted in light of two points: first, for building the gap we considered workers stating very important that their job had a certain characteristics but their current job actually has not; however, the two statements don't refer exactly to the same concept (see Table A1 in the appendix for a precise description of how the variables are built). Second, the reference groups of the expectation gap

dummy variables are quite heterogeneous, as they contain workers wanting a particular job characteristic and having it, those not wanting and not having it and, finally, those not wanting and having it. For example, for some flexibility indicators the fact of not wanting and having it may reduce satisfaction more than wanting and not having it.

Finally, regarding career prospects, the likelihood of getting a better job in current and in another workplace respectively increases and reduces job satisfaction.

Other controls

Turning to past work events, having received an injury at work or having been unemployed in the previous five years is negatively related to quantitative job satisfaction; having been promoted in the current job or working in a firm interested by a staff reduction in the previous three years respectively increases and decreases all three types of job satisfaction.

As expected, stressful and wearying jobs reduce job satisfaction both on qualitative and on quantitative grounds and workers motivation produce a positive effect on satisfaction. Workers with negative psychological attitudes are less satisfied with their job while the opposite is true for workers having good social relations and for workers with a centre-left political membership[20].

Finally, turning to the impact of the country of residence, a general trend pointing to a negative impact of residence in southern European countries is found. More satisfied workers are those living in Scandinavian countries and in the Netherlands, followed by those residing in Germany, UK and Austria.

6.2 Estimates by groups

In order to test the effect of flexibility on job satisfaction by workers' characteristics, Tables 5 and 6 report the marginal effect of each type of flexibility on the probability of reporting high job satisfaction[21] by gender, age, education and occupation groups, sector of employment and country clusters. The dependent variable is both overall job satisfaction (Table 5) and satisfaction on, respectively, quantitative (Table 6a) and qualitative aspects of the job (Table 6b).

Estimates referred to overall job satisfaction point out quite different effects of each type of flexibility according to the sub-group considered.

Differences are particularly relevant among those groups that are characterized by significant gaps in the incidence of flexibility, such as the young and the old workers, the low and the high educated, Southern and Nordic countries (see again Table 2).

On the contrary, gender does not seem so relevant in determining the effect of flexibility on job satisfaction: estimates for men and women usually display the same sign and they are similar in size, with the exception of team work and flexible working hours for men. In particular, team work has a positive and significant effect on men job satisfaction, while flexible working hours seem to reduce it.

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[20]Notice, however, that many of the latter results may be biased by endogeneity issues, thus it is better to interpret them as mere correlations and not as causal relationships.

[21]They are calculated as a weighted average of the marginal effects on the probability of reporting a level of job satisfaction equal, respectively, to 6 and 7. Weighting is based on the distribution of workers by satisfaction levels.

Estimates by age groups reveal interesting patterns. In general, the effect of flexibility on job satisfaction seems to decrease with workers' age: five forms of flexibility are in fact relevant for the youngest (namely, multi-skills, team, training, part-time and flexible working hours), while only employee involvement and flexible working hours significantly influence job satisfaction reported by the elderly. This result suggests a cohort effect related to the fact that youngest workers may be relatively more incline than the oldest to the changes of work organisation brought by the extensive shift toward functional flexibility.

For the youngest, the possibility to use multiple skills and to work in team are important determinants of job satisfaction; the marginal effect of the first factor is actually higher than the marginal effect of employee involvement. The latter is relevant mainly for workers aged 30-39 and the elderly. As expected, the (positive) marginal effect of training decreases with age and it doesn't significantly affect job satisfaction of the oldest workers. Estimated marginal effects referred to flexible working hours (negative for workers up to 40 years old, positive for those aged at least 50) suggest that this type of flexibility is actually considered as a benefit only in the last part of job carrier.

Estimates by education and occupation point out the quite distinctive position of low educated/low skilled workers. With the exception of multi-skills, their job satisfaction does not significantly depend on any form of functional flexibility. As discussed in section 5, these groups are also characterized by the lowest incidence of any form of functional flexibility. Results are particularly relevant in the case of training: low skilled/low educated workers are less likely to get some on the job training and, even if they get it, this factor doesn't seem to significantly change their level of job satisfaction.

The analysis by occupation also reveals that skill levels are more relevant than the type of job (either manual or non manual) in determining the effect of flexibility on job satisfaction: estimated marginal effects are in fact quite similar for high skilled non manual occupations and skilled manual ones. Estimates referred to quantitative flexibility (i.e., temporary work, part-time and flexible working hours) don't show any clear trend as education and/or skills increase. In general, the effect of part-time and flexible working hours is negative – when statistically significant – suggesting once again that these forms of flexibility are often not freely chosen by the individuals involved.

The distinction between industry and services workers reveals the different role played by flexible work arrangements in the two sectors considered. While employee involvement, autonomy and training increase job satisfaction of workers in manufacturing firms, the possibility of using multiple skills and team work exert a higher (positive) effect on job satisfaction of workers in services. The negative marginal effect of part time and flexible working hours on job satisfaction is relatively more pronounced in industry than in services.

Clear-cut patterns emerge also when the traditional country clusters are considered. More specifically, even if both employee involvement and the possibility of using multiple skills at work increase the probability of reporting high levels of job satisfaction in all the four groups of countries considered, the size of this effect ranges from 0.04 in Southern countries to 0.12-0.15 in Northern ones. The effect of the other forms of flexibility usually varies with the cluster considered. The South is also characterized, together with Continental Europe, by a positive effect of team work. Training results particularly relevant in increasing job satisfaction in Continental and Anglo-Saxon countries, while the positive effect of autonomy is barely significant only in the North of Europe. The latter is also

the only cluster registering a significant negative effect of (voluntary) temporary contracts, while the negative marginal effect of part-time and flexible working hours seems relatively high in Continental countries.

INSERT TABLE 5

Estimates by type of job satisfaction confirm, regardless of the group considered, that functional flexibility is relatively more important (in terms of size of marginal effects) in determining the level of satisfaction for qualitative aspects of the job, while quantitative flexibility is generally more relevant in the case of satisfaction for quantitative facets of the same job.

Nonetheless, some groups are characterized by specific peculiarities.

For example, in the case of women part-time contracts seem to have a higher negative effect on satisfaction for qualitative aspects of the job rather than quantitative ones, confirming that women working part-time may be segregated in less interesting job positions. On the contrary, for men the effect is negative and significant only with respect to quantitative aspects, probably because, with respect to women, they care more about factors such as their wage level or promotion prospects.

In the same way, the positive effect of flexible working hours for the oldest workers is more related to satisfaction for qualitative than for quantitative aspects of their job.

The effect of training by age group and type of job satisfaction is particularly interesting, since for the youngest it seems to increase more satisfaction for qualitative aspects of the job, while for workers aged 30-49 the highest effect is in terms of satisfaction for quantitative job characteristics. This results may be related to the fact that youngest workers value more training as a way to learn new things and hence to increase their job quality, while workers in the 30-39 age rank attach more importance to training as an instrument to get wage increases. Estimates by occupation reveal that the effect of functional flexibility is relevant on quantitative aspects of the job only for skilled workers, either manual or non manual. Nonetheless, even for unskilled workers there are other forms of functional flexibility, mainly employee involvement and team work, that together with multi-skills have a positive effect on qualitative job satisfaction.

The analysis by country clusters reveals that differences between groups are much more relevant in terms of quantitative aspects of job satisfaction rather than qualitative ones. The ranking of the four groups also changes with the type of job satisfaction considered. For example, the marginal effect of employee involvement on satisfaction for quantitative aspects of the job ranges from 0.05 in Continental countries to 0.09 in Anglo-Saxon ones (with no significant effect for the South), while the same effect on satisfaction for qualitative aspects goes from 0.07 in Continental Europe, to 0.08 in the South, to 0.14 in the North and Anglo-Saxon countries. Training has a stronger effect on satisfaction for quantitative job characteristics in both Continental and Anglo-Saxon countries, while in the North its effect is significant only on satisfaction for qualitative job facets. The relatively higher negative effect of part-time on qualitative job satisfaction emerges in the South and particularly in Anglo-Saxon countries. If we read this result with that obtained by gender, we may infer that part-time women in these groups of countries are likely more disadvantaged - in terms of qualitative job characteristics - than those in Northern or Continental countries.

INSERT TABLE 6A

INSERT TABLE 6B

7   Conclusions

In this paper we have investigated the relationship between flexibility and job satisfaction; in the first place the purpose of our analysis has been to verify whether various aspects of flexibility, namely functional and quantitative flexibility, produce different impact on overall, quantitative and qualitative facets of job satisfaction. Second, we have tested whether the impact of flexibility on job satisfaction varies depending on the type of worker (e.g. high or low skilled, young or old, male or female) that is considered.

On the whole, results from econometric analysis seem to point to a positive link between functional flexibility and job satisfaction and either no effect or a negative impact of quantitative flexibility. Another interesting result is that the positive impact of functional flexibility is greater when considering qualitative job satisfaction compared to the case of quantitative job satisfaction; this result is obtained with regard to every aspect of functional flexibility.

Estimates by groups point out that differences in the impact of flexibility on job satisfaction are particularly relevant among those groups that are characterized by significant gaps in the incidence of flexibility, such as the young and the old workers, the low and the high educated, Southern and Nordic countries' workers. For example, estimates by education and occupation point out the quite distinctive position of low educated/low skilled workers, for which job satisfaction does not significantly depend on any form of functional flexibility, with the exception of multi-skills work. In addition, low skilled/low educated workers are less likely to get some on the job training and, even if they get it, this factor doesn't seem to significantly change their level of job satisfaction. The analysis by occupation also reveals that skill levels are more relevant than the type of job (either manual or non manual) in determining the effect of flexibility on job satisfaction: estimated marginal effects are in fact quite similar for high skilled non manual occupations and skilled manual ones.

Estimates by type of job satisfaction confirm, regardless of the group considered, that functional flexibility is relatively more important in determining the level of satisfaction for qualitative aspects of the job, while quantitative flexibility is generally more relevant in the case of satisfaction for quantitative facets of the same job.

Nonetheless, some groups are characterized by specific peculiarities. For example, in the case of women part-time seems to have a higher negative effect on satisfaction for qualitative aspects of the job rather than quantitative ones, confirming that women working part-time may be segregated in less interesting job positions.

In general, the results obtained in our analysis suggest that firms wanting to use flexibility strategically should take into account that different forms of flexibility produce quite different effects, both in sign and size, on job satisfaction. Thus, when deciding to increase flexibility, firms should consider also its indirect effect on profitability through its impact on job satisfaction. Furthermore, in light of our results by groups, flexibility should not be

adopted as a general policy to enhance firm performance, but it should be targeted toward those workers who are more likely to be positively influenced by it.

ANNEX

INSERT TABLE A1

INSERT TABLE A2

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Graph 1. Distribution of overall, quantitative and qualitative job satisfaction
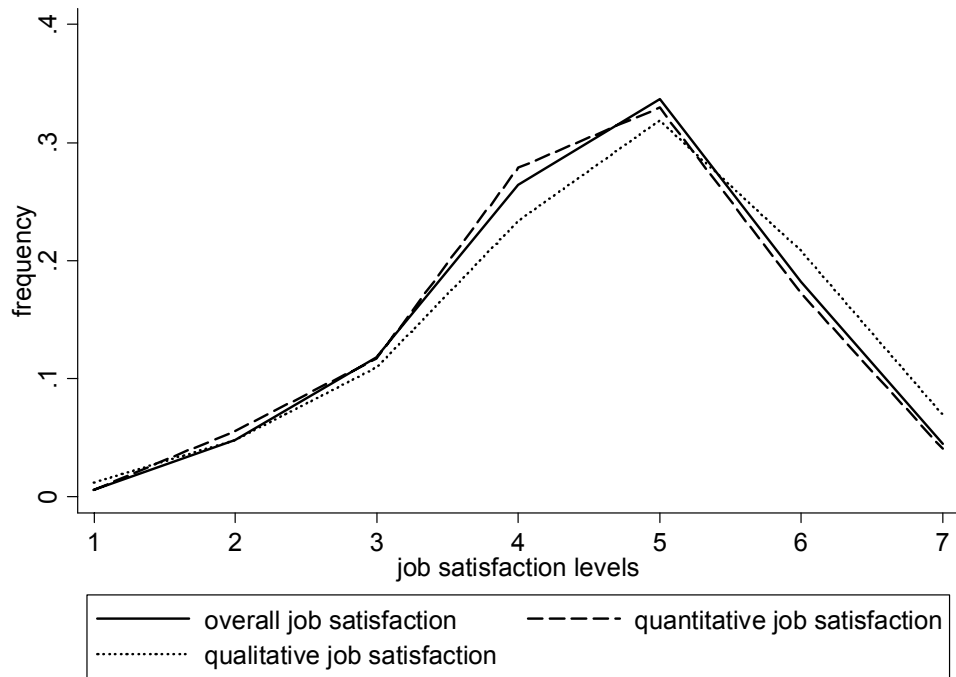
Table 1. Differences in job satisfaction and tests on the equality of means

	Overall Job satisfaction				Quantitative job satisfaction				Qualitative job satisfaction			
	YES	NO	DIFF		YES	NO	DIFF		YES	NO	DIFF	
employee involvement	5.398	4.590	0.808	***	5.161	4.551	0.610	***	5.632	4.691	0.941	***
multi-skilling	5.373	4.579	0.794	***	5.126	4.546	0.580	***	5.635	4.670	0.964	***
team work	4.819	4.544	0.275	***	4.730	4.503	0.228	***	4.957	4.643	0.314	***
work autonomy	5.286	4.631	0.655	***	5.053	4.587	0.466	***	5.537	4.734	0.803	***
training (last five years)	5.028	4.499	0.529	***	4.926	4.447	0.480	***	5.178	4.604	0.574	***
temporary work	4.160	4.798	-0.639	***	4.054	4.729	-0.674	***	4.325	4.918	-0.593	***
part time work	4.663	4.744	-0.081	**	4.611	4.666	-0.056		4.786	4.869	-0.083	**
flexible working time	4.807	4.675	0.133	***	4.662	4.653	0.009		4.999	4.750	0.249	***

legend: * p<.1; ** p<.05; *** p<.01

Table 2. Incidence of flexibility and overall job satisfaction by group

	employee involvement	multi-skilling	team work	work autonomy	training	temporary work	part time work	flexible working time	Overall job satisfaction
Total	0.167	0.257	0.657	0.175	0.408	0.112	0.165	0.421	4.605
By gender									
Males	0.184	0.271	0.677	0.184	0.418	0.096	0.058	0.472	4.636
Females	0.144	0.239	0.631	0.162	0.395	0.133	0.307	0.354	4.564
By age									
15-29	0.132	0.243	0.661	0.141	0.341	0.201	0.143	0.414	4.520
30-39	0.160	0.257	0.676	0.185	0.450	0.095	0.188	0.434	4.557
40-49	0.190	0.282	0.669	0.197	0.424	0.063	0.160	0.416	4.624
50 and over	0.197	0.248	0.610	0.177	0.414	0.076	0.167	0.418	4.776
By education*									
up to 8 years	0.115	0.171	0.617	0.147	0.215	0.176	0.150	0.337	4.355
9-12 years	0.152	0.221	0.654	0.144	0.363	0.123	0.178	0.418	4.586
13-15 years	0.169	0.283	0.682	0.194	0.476	0.098	0.155	0.408	4.577
16 years or more	0.239	0.385	0.662	0.259	0.572	0.060	0.149	0.494	4.836
By occupation									
High skilled	0.247	0.369	0.685	0.255	0.563	0.063	0.143	0.488	4.879
Mid skilled (non manual)	0.133	0.221	0.644	0.143	0.428	0.124	0.237	0.377	4.574
Skilled manual	0.136	0.210	0.685	0.134	0.289	0.112	0.060	0.428	4.476
Unskilled	0.099	0.129	0.568	0.118	0.136	0.233	0.232	0.336	4.097
By sector of employment									
Industry	0.150	0.233	0.680	0.162	0.352	0.098	0.108	0.402	4.599
Services	0.175	0.269	0.648	0.181	0.437	0.117	0.192	0.429	4.604
By country groups									
South	0.136	0.204	0.615	0.169	0.292	0.151	0.102	0.352	4.290
Continental	0.171	0.264	0.648	0.154	0.425	0.094	0.175	0.420	4.667
North	0.269	0.442	0.728	0.362	0.644	0.087	0.183	0.510	5.029
Anglo-saxon	0.167	0.257	0.730	0.183	0.457	0.115	0.228	0.504	4.761

* classification based on sample distribution (quartiles)

Table 3a. Relevant flexibility coefficients - Overall job satisfaction

	model 1	model 2	model 3	model 4	model 5
employee envolvement	0.73203 ***	0.39296 ***	0.42476 ***	0.4287 ***	0.41794 ***
	0.06112	*0.06644*	*0.07116*	*0.0717*	*0.07183*
multi-skilling	0.47823 ***	0.32802 ***	0.28822 ***	0.30748 ***	0.29861 ***
	0.04436	*0.04858*	*0.05063*	*0.05083*	*0.05094*
team work	0.13537 ***	0.0932 ***	0.13251 ***	0.14001 ***	0.13656 ***
	0.02992	*0.03189*	*0.04045*	*0.04058*	*0.04067*
work autonomy	0.03586	0.03153	0.07778	0.07166	0.06493
	0.04859	*0.05333*	*0.05582*	*0.05599*	*0.05607*
training (last five years)	0.23471 ***	0.1939 ***	0.20471 ***	0.20329 ***	0.20355 ***
	0.03039	*0.03301*	*0.03598*	*0.03625*	*0.03633*
temporary work	-0.21515 ***	-0.16682 ***	-0.0318	-0.02464	-0.01018
	0.04738	*0.05036*	*0.07328*	*0.07347*	*0.0736*
part time work	-0.06192	-0.15691 ***	-0.17498 ***	-0.16676 ***	-0.17683 ***
	0.04191	*0.04987*	*0.05096*	*0.05108*	*0.05132*
flexible working time	-0.09294 ***	-0.06034 *	-0.07928 **	-0.04953	-0.05338
	0.02912	*0.03162*	*0.03394*	*0.03429*	*0.03436*
OTHER CONTROLS					
demographics, country and local area conditions;	*YES*	*YES*	*YES*	*YES*	*YES*
employer characteristics, job characteristics, state of relations within firm and firm values;	*NO*	*YES*	*YES*	*YES*	*YES*
past and future job expectations;	*NO*	*NO*	*YES*	*YES*	*YES*
past work events, work related health;	*NO*	*NO*	*NO*	*YES*	*YES*
work and life attitudes, social relations;	*NO*	*NO*	*NO*	*NO*	*YES*

legend: * p<.1; ** p<.05; *** p<.01; standard errors in italicus

Table 3b. Relevant flexibility marginal effects - Overall job satisfaction

	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5	Outcome 6	Outcome 7
Predicted probability	0.0003	0.0121	0.0769	0.3116	0.4542	0.1378	0.0071
Marginal effects							
employee envolvement	-0.0005 ***	-0.0130 ***	-0.0540 ***	-0.0941 ***	0.0664 ***	0.0870 ***	0.0082 ***
	0.0002	*0.0024*	*0.0094*	*0.0164*	*0.0117*	*0.0151*	*0.0016*
multi-skilling	-0.0004 ***	-0.0093 ***	-0.0386 ***	-0.0672 ***	0.0474 ***	0.0621 ***	0.0059 ***
	0.0001	*0.0017*	*0.0067*	*0.0116*	*0.0083*	*0.0107*	*0.0011*
team work	-0.0002 **	-0.0045 ***	-0.0181 ***	-0.0303 ***	0.0227 ***	0.0278 ***	0.0025 ***
	0.0001	*0.0014*	*0.0056*	*0.0089*	*0.0071*	*0.0081*	*0.0008*
work autonomy	-0.0001	-0.0020	-0.0084	-0.0146	0.0103	0.0135	0.0013
	0.0001	*0.0018*	*0.0073*	*0.0126*	*0.0089*	*0.0117*	*0.0011*
training (last five years)	-0.0002 ***	-0.0062 ***	-0.0258 ***	-0.0460 ***	0.0311 ***	0.0430 ***	0.0042 ***
	0.0001	*0.0012*	*0.0046*	*0.0083*	*0.0055*	*0.0078*	*0.0009*
temporary work	0.0000	0.0003	0.0013	0.0023	-0.0016	-0.0021	-0.0002
	0.0001	*0.0023*	*0.0096*	*0.0165*	*0.0119*	*0.0152*	*0.0014*
part time work	0.0003 **	0.0063 ***	0.0244 ***	0.0383 ***	-0.0314 ***	-0.0347 ***	-0.0030 ***
	0.0001	*0.0021*	*0.0076*	*0.0106*	*0.0101*	*0.0095*	*0.0008*
flexible working time	0.0001	0.0017	0.0069	0.0120	-0.0086	-0.0111	-0.0010
	0.0000	*0.0011*	*0.0045*	*0.0077*	*0.0056*	*0.0071*	*0.0007*

legend: * p<.1; ** p<.05; *** p<.01; standard errors in italicus

Table 4a. Relevant flexibility coefficients - Quantitative and qualitative job satisfaction

	model 1	model 2	model 3	model 4	model 5
QUANTITATIVE JOB SATISFACTION					
employee envolvement	0.59291 ***	0.29881 ***	0.33274 ***	0.33095 ***	0.32105 ***
	0.06062	*0.06583*	*0.07052*	*0.07106*	*0.07117*
multi-skilling	0.29148 ***	0.16056 ***	0.12776 **	0.15351 ***	0.14687 ***
	0.04388	*0.04805*	*0.05005*	*0.05025*	*0.05036*
team work	0.12147 ***	0.09211 ***	0.1221 ***	0.12819 ***	0.12295 ***
	0.02976	*0.03168*	*0.04027*	*0.0404*	*0.04048*
work autonomy	-0.04679	-0.00497	0.00581	-0.00038	-0.00817
	0.04832	*0.05287*	*0.05535*	*0.05555*	*0.05562*
training (last five years)	0.25229 ***	0.22629 ***	0.22516 ***	0.22891 ***	0.23249 ***
	0.03018	*0.0327*	*0.03566*	*0.03595*	*0.03602*
temporary work	-0.23829 ***	-0.21407 ***	0.00151	0.00497	0.01502
	0.0473	*0.05021*	*0.07285*	*0.07307*	*0.07318*
part time work	0.00203	-0.12306 **	-0.14115 ***	-0.1331 ***	-0.14315 ***
	0.04162	*0.04949*	*0.05058*	*0.05073*	*0.05095*
flexible working time	-0.1884 ***	-0.13305 ***	-0.14157 ***	-0.106 ***	-0.10724 ***
	0.02904	*0.03144*	*0.03372*	*0.03407*	*0.03412*
QUALITATIVE JOB SATISFACTION					
employee envolvement	0.79883 ***	0.4412 ***	0.49314 ***	0.5106 ***	0.50149 ***
	0.06113	*0.06623*	*0.07088*	*0.0714*	*0.07153*
multi-skilling	0.58411 ***	0.43698 ***	0.37531 ***	0.39095 ***	0.38338 ***
	0.0442	*0.04823*	*0.05025*	*0.05042*	*0.05056*
team work	0.14198 ***	0.10104 ***	0.14759 ***	0.15764 ***	0.15312 ***
	0.02972	*0.03163*	*0.04009*	*0.0402*	*0.04029*
work autonomy	0.16519 ***	0.15346 ***	0.21126 ***	0.20615 ***	0.20044 ***
	0.04853	*0.05305*	*0.05547*	*0.05563*	*0.05571*
training (last five years)	0.21008 ***	0.17936 ***	0.19825 ***	0.19632 ***	0.19682 ***
	0.03019	*0.03276*	*0.03568*	*0.03593*	*0.03601*
temporary work	-0.16259 ***	-0.09358 *	-0.0635	-0.05711	-0.04003
	0.047	*0.04986*	*0.07245*	*0.07261*	*0.07272*
part time work	-0.09697 **	-0.13503 ***	-0.15837 ***	-0.14919 ***	-0.15059 ***
	0.04169	*0.04949*	*0.05058*	*0.05068*	*0.05091*
flexible working time	-0.01328	-0.00525	-0.02696	0.00126	-0.0026
	0.02896	*0.0314*	*0.03368*	*0.03403*	*0.03409*
OTHER CONTROLS					
demographics, country and local area conditions;	*YES*	*YES*	*YES*	*YES*	*YES*
employer characteristics, job characteristics, state of relations within firm and firm values;	*NO*	*YES*	*YES*	*YES*	*YES*
past and future job expectations;	*NO*	*NO*	*YES*	*YES*	*YES*
past work events, work related health;	*NO*	*NO*	*NO*	*YES*	*YES*
work and life attitudes, social relations;	*NO*	*NO*	*NO*	*NO*	*YES*

legend: * p<.1; ** p<.05; *** p<.01; standard errors in italicus

Table 4b. Relevant flexibility marginal effects - Quantitative and qualitative job satisfaction

QUANTITATIVE JOB SATISFACTION

	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5	Outcome 6	Outcome 7
Predicted probability	0.0004	0.0186	0.0863	0.3377	0.4189	0.1302	0.0080
Marginal effects							
employee envolvement	-0.0004 ***	-0.0144 ***	-0.0436 ***	-0.0683 ***	0.0559 ***	0.0638 ***	0.0070 ***
	0.0002	*0.0033*	*0.0098*	*0.0153*	*0.0126*	*0.0142*	*0.0017*
multiskilling	-0.0002 **	-0.0066 ***	-0.0200 ***	-0.0312 ***	0.0256 ***	0.0292 ***	0.0032 ***
	0.0001	*0.0023*	*0.0069*	*0.0108*	*0.0088*	*0.0100*	*0.0011*
team work	-0.0002 **	-0.0058 ***	-0.0170 ***	-0.0257 ***	0.0221 ***	0.0240 ***	0.0026 ***
	0.0001	*0.0020*	*0.0057*	*0.0083*	*0.0076*	*0.0078*	*0.0008*
work autonomy	0.0000	0.0004	0.0011	0.0017	-0.0014	-0.0016	-0.0002
	0.0001	*0.0025*	*0.0076*	*0.0118*	*0.0097*	*0.0111*	*0.0012*
training (last five years)	-0.0003 ***	-0.0101 ***	-0.0310 ***	-0.0499 ***	0.0390 ***	0.0470 ***	0.0054 ***
	0.0001	*0.0017*	*0.0048*	*0.0079*	*0.0060*	*0.0075*	*0.0010*
temporary work	0.0000	-0.0007	-0.0020	-0.0032	0.0026	0.0030	0.0003
	0.0001	*0.0032*	*0.0098*	*0.0157*	*0.0125*	*0.0147*	*0.0017*
part time work	0.0002 **	0.0071 **	0.0203 ***	0.0291 ***	-0.0269 ***	-0.0271 ***	-0.0028 ***
	0.0001	*0.0028*	*0.0076*	*0.0099*	*0.0102*	*0.0092*	*0.0009*
flexible working time	0.0001 **	0.0049 ***	0.0147 ***	0.0226 ***	-0.0190 ***	-0.0211 ***	-0.0023 ***
	0.0001	*0.0016*	*0.0047*	*0.0072*	*0.0062*	*0.0067*	*0.0008*

QUALITATIVE JOB SATISFACTION

	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5	Outcome 6	Outcome 7
Predicted probability	0.0009	0.0149	0.0726	0.2667	0.4356	0.1930	0.0163
Marginal effects							
employee envolvement	-0.0015 ***	-0.0183 ***	-0.0605 ***	-0.1064 ***	0.0425 ***	0.1239 ***	0.0203 ***
	0.0004	*0.0029*	*0.0089*	*0.0154*	*0.0068*	*0.0179*	*0.0032*
multiskilling	-0.0012 ***	-0.0140 ***	-0.0463 ***	-0.0813 ***	0.0325 ***	0.0947 ***	0.0156 ***
	0.0003	*0.0021*	*0.0063*	*0.0109*	*0.0049*	*0.0127*	*0.0023*
team work	-0.0005 ***	-0.0059 ***	-0.0190 ***	-0.0321 ***	0.0144 ***	0.0372 ***	0.0059 ***
	0.0002	*0.0017*	*0.0052*	*0.0084*	*0.0043*	*0.0097*	*0.0015*
work autonomy	-0.0006 ***	-0.0073 ***	-0.0242 ***	-0.0425 ***	0.0170 ***	0.0495 ***	0.0081 ***
	0.0002	*0.0021*	*0.0068*	*0.0119*	*0.0049*	*0.0138*	*0.0023*
training (last five years)	-0.0006 ***	-0.0070 ***	-0.0234 ***	-0.0418 ***	0.0155 ***	0.0490 ***	0.0083 ***
	0.0002	*0.0013*	*0.0043*	*0.0077*	*0.0029*	*0.0091*	*0.0017*
temporary work	0.0001	0.0015	0.0049	0.0084	-0.0036	-0.0098	-0.0016
	0.0002	*0.0028*	*0.0091*	*0.0152*	*0.0070*	*0.0176*	*0.0028*
part time work	0.0005 **	0.0061 ***	0.0192 ***	0.0312 ***	-0.0155 **	-0.0360 ***	-0.0055 ***
	0.0002	*0.0023*	*0.0069*	*0.0103*	*0.0062*	*0.0118*	*0.0017*
flexible working time	0.0000	0.0001	0.0003	0.0006	-0.0002	-0.0006	-0.0001
	0.0001	*0.0013*	*0.0041*	*0.0072*	*0.0029*	*0.0084*	*0.0014*

legend: * p<.1; ** p<.05; *** p<.01; standard errors in italicus

Table 5. Estimates by groups, overall job satisfaction*

	employee involvement	multi-skilling	team work	work autonomy	training	temporary work	part time work	flexible working time
By gender								
Males	0.076 ***	0.066 ***	0.040 ***	0.019	0.037 ***	0.007	-0.046 ***	-0.021 **
Females	0.099 ***	0.054 ***	-0.003	0.007	0.034 ***	-0.011	-0.035 ***	-0.004
By age								
15-29	0.064 **	0.125 ***	0.061 ***	0.037	0.053 ***	0.018	0.006 *	-0.034 **
30-39	0.105 ***	0.065 ***	0.024 *	0.025	0.042 ***	0.001	-0.053 ***	-0.031 ***
40-49	0.034	0.031	0.025 *	0.015	0.039 ***	-0.016	-0.076	0.010
50 and over	0.099 ***	0.034	-0.008	0.040	0.027	-0.035	0.014	0.031 *
By education								
up to 8 years	0.040 *	0.048 ***	-0.002	0.000	0.000	-0.015	0.007	-0.010
9-12 years	0.062 ***	0.060 ***	0.026 ***	0.011	0.022 ***	0.009	-0.039 ***	-0.019 **
13-15 years	0.142 ***	0.067 **	0.037 *	0.037	0.093 ***	0.031	0.008	-0.007
16 years or more	0.099 **	0.119 ***	-0.033	-0.013	0.047 **	-0.083 *	-0.082 ***	0.015
By occupation								
High skilled	0.108 ***	0.086 ***	0.048 ***	0.036 *	0.068 ***	-0.098 ***	-0.015	-0.015
Mid skilled non manual	0.085 ***	0.052 ***	0.017	-0.002	0.045 ***	0.041 *	-0.031 **	-0.023 **
Skilled manual	0.120 ***	0.062 ***	0.040 ***	0.033	0.015	-0.011	-0.072 ***	-0.014
Unskilled	0.010	0.029 **	0.005	0.012	-0.002	-0.005	-0.016 ***	-0.011 **
By sector of employment								
Industry	0.114 ***	0.051 **	0.017	0.063 ***	0.061 ***	0.043	-0.037 *	-0.026 **
Services	0.074 ***	0.064 ***	0.034 ***	-0.009	0.030 ***	-0.010	-0.028 **	-0.008
By country groups								
South	0.037 **	0.040 ***	0.020 ***	0.001	0.002	0.009	-0.017 *	0.002
Continental	0.055 **	0.050 ***	0.035 ***	0.027	0.066 ***	-0.032	-0.034 **	-0.019 *
North	0.160 ***	0.121 ***	0.027	0.052 *	0.034 *	-0.114 ***	-0.036	0.023
Anglo-saxon	0.099 **	0.093 **	0.013	0.025	0.057 ***	0.040	-0.041	0.0005

* Complete model. Marginal effects on the probability of being very satisfied: weighted average of marginal effect on probability JS=6 & JS=7. Weighting was based on the distribution of workers by satisfaction level

legend: * p<.1; ** p<.05; *** p<.01

Table 6a. Estimates by groups, quantitative job satisfaction*

	employee involvement	multi-skilling	team work	work autonomy	training	temporary work	part time work	flexible working time
By gender								
Males	0.064 ***	0.033 **	0.039 ***	0.007	0.044 ***	-0.004	-0.048 ***	-0.033 ***
Females	0.062 ***	0.037 **	-0.003	-0.012	0.033 ***	-0.002	-0.019 **	-0.010
By age								
15-29	0.045	0.075 ***	0.046 ***	0.017	0.069 ***	0.053 **	0.024	-0.040 ***
30-39	0.042 *	0.043 **	0.012	-0.009	0.043 ***	-0.034	-0.049 ***	-0.035 ***
40-49	0.058 **	0.005	0.028 **	-0.002	0.046 ***	-0.016	-0.058 ***	-0.002
50 and over	0.062 *	0.016	-0.023	0.033	0.015	0.014	0.008	-0.003
By education								
up to 8 years	-0.009	0.033	-0.008	0.006	0.006	-0.033 **	0.020	-0.005
9-12 years	0.059 ***	0.045 ***	0.022 **	-0.001	0.032 ***	0.031 *	-0.037 ***	-0.031 ***
13-15 years	0.057 *	0.057 **	0.029	0.019	0.077 ***	-0.028	0.015	-0.018
16 years or more	0.093 ***	0.041	-0.005	-0.062 **	0.034 **	-0.034	-0.079 ***	-0.011
By occupation								
High skilled	0.095 ***	0.064 ***	0.045 ***	-0.015	0.051 ***	-0.093 ***	-0.027	-0.020
Mid skilled non manual	0.011 *	0.017	0.013	0.009	0.050 ***	0.043 *	-0.014	-0.024 **
Skilled manual	0.082 ***	0.023	0.031 **	0.015	0.022 *	-0.020	-0.056 ***	-0.026 **
Unskilled	-0.006	0.029	0.013	0.013	0.005	-0.002	-0.027 **	-0.013
By sector of employment								
Industry	0.060 **	0.023	0.014	0.044 **	0.085 ***	0.044	-0.047 **	-0.037 ***
Services	0.062 ***	0.035 ***	0.029 ***	-0.020 *	0.024 ***	0.000	-0.018 *	-0.016 **
By country groups								
South	0.021	0.031 ***	0.018 ***	-0.007	-0.001	0.009	-0.015 *	-0.001
Continental	0.046 **	0.027	0.031 ***	0.021	0.066 ***	-0.017	-0.018	-0.032 ***
North	0.061 **	0.045 *	-0.002	0.007 *	0.006	-0.092 ***	-0.032	0.034 **
Anglo-saxon	0.086 **	0.044	0.008	-0.028	0.104 ***	0.025	-0.028	-0.018

* Complete model. Marginal effects on the probability of being very satisfied: weighted average of marginal effect on probability JS=6 & JS=7. Weighting was based on the distribution of workers by satisfaction level

legend: * p<.1; ** p<.05; *** p<.01

Table 6b. Estimates by groups, qualitative job satisfaction*

	employee involvement	multi-skilling	team work	work autonomy	training	temporary work	part time work	flexible working time
By gender								
Males	0.118 ***	0.098 ***	0.046 ***	0.044 ***	0.029 ***	0.009	-0.028	-0.009
Females	0.100 ***	0.079 ***	0.003	0.046 ***	0.054 ***	-0.023	-0.043 ***	0.000
By age								
15-29	0.048	0.194 ***	0.063 ***	0.051 *	0.074 ***	-0.003	0.006	-0.030 *
30-39	0.132 ***	0.108 ***	0.050 ***	0.061 ***	0.035 **	0.014	-0.060 ***	-0.006
40-49	0.063 **	0.048 *	0.015	0.067 ***	0.051 ***	-0.025	-0.083 ***	0.004
50 and over	0.181 ***	0.044	0.006	0.045	0.014	-0.042	0.015	0.035 *
By education								
up to 8 years	0.081 **	0.095 ***	-0.005	0.021	-0.010	0.013	0.031	-0.014
9-12 years	0.062 ***	0.086 ***	0.034 ***	0.043 ***	0.029 ***	-0.009	-0.037 ***	-0.015 *
13-15 years	0.224 ***	0.069 **	0.051 **	0.043	0.091 ***	0.039	-0.012	0.009
16 years or more	0.134 ***	0.174 ***	-0.041	0.044	0.048 **	-0.083	-0.038	0.041 *
By occupation								
High skilled	0.114 ***	0.109 ***	0.044 ***	0.088 ***	0.076 ***	-0.093 **	-0.002	-0.008
Mid skilled non manual	0.120 ***	0.080 ***	0.017	-0.001	0.036 ***	0.013	-0.042 ***	-0.012
Skilled manual	0.163 ***	0.038	0.070 ***	0.093 ***	0.057 ***	-0.003	-0.059 **	0.001
Unskilled	0.049 *	0.062 ***	0.018 *	0.016	-0.011	-0.002	-0.020 *	-0.018 *
By sector of employment								
Industry	0.163 ***	0.097 ***	0.030 *	0.089 ***	0.077 ***	0.050	-0.008 ***	-0.006
Services	0.092 ***	0.091 ***	0.037 ***	0.023 *	0.030 ***	-0.021	-0.012	-0.005
By country groups								
South	0.080 ***	0.067 ***	0.027 **	0.020	0.008	0.016	-0.028 *	0.003
Continental	0.068 ***	0.105 ***	0.039 ***	0.054 ***	0.066 ***	-0.028	-0.025	-0.007
North	0.141 ***	0.176 ***	0.040	0.046 *	0.041 *	-0.094 **	-0.031	0.030
Anglo-saxon	0.141 ***	0.058	0.036	0.078 **	0.046 *	-0.003	-0.050 *	0.007

* Complete model. Marginal effects on the probability of being very satisfied: weighted average of marginal effect on probability JS=6 & JS=7. Weighting was based on the distribution of workers by satisfaction level

legend: * p<.1; ** p<.05; *** p<.01

Table A1. Variables description

Name	Description	Mean	Std dev
lot of say	1 if has a lot of say over the job	0.175	0.380
decision making	1 if can take part in decision affecting hes/her job	0.211	0.408
decision making 2	1 if can take part in decision changing the way he/she does his/her job	0.115	0.319
lot of variety	1 if the job is characterized by lot of variety	0.249	0.432
keep learning	1 if the jon requires to keep learning new things	0.266	0.442
task 1	1 if can decide what tasks to do	0.146	0.353
task 2	1 if can decide how to do tasks	0.203	0.402
employee involvement	(lot of say+decision making+decision making 2)/3	0.167	0.299
multi-skilling	(lot of variety + keep learning)/2	0.257	0.378
team work	1 if working wih other employees in group or team that has responsibility on work organization	0.657	0.475
work autonomy	(task 1 + task 2)/2	0.175	0.349
training	1 if got training in the last five years paid by current or former employer	0.408	0.492
temporary work	1 if seasonal, temporary or casual job and employees under contract or for fixed time period	0.111	0.314
part time work	1 if part time job	0.160	0.367
flexible working time	the total number of hours I work varies from week to week	0.424	0.494
female	1 if female	0.430	0.495
age	Age (continuous)	37.981	11.454
squared age	Squared age (continuous)	1573.761	914.523
years of education	Age when stopped full time education minus 6 (continuous)	12.448	3.779
married	1 if married	0.636	0.481
head of the household	1 if contributes most to the household income	0.626	0.484
have a child < 5	1 if has a child under five years of age	0.175	0.380
Residence (ref: rural area or village)			
live in small town	1 if lives in small or middle sized town	0.377	0.485
live in large town	1 if lives in large town	0.300	0.458
Standard of living (ref: very poor)			
standard of living: rich	1 if rich	0.001	0.034
standard of living: very comfortable	1 if very confortable	0.033	0.178
standard of living: comfortable	1 if confortable	0.221	0.415
standard of living: average	1 if average	0.558	0.497
standard of living: just getting along	1 if just getting along	0.175	0.380
standard of living: poor	1 if poor	0.010	0.102
high area unemployment	1 if agrees that there is a lot of unemployment in the area in which lives	0.253	0.435
bad area reputation	1 if strongly agrees that the area in which lives has not a good reputation	0.040	0.197
very good area job opportunities	1 if thinks that job opportunities in local area are very good	0.139	0.346
Firm size (ref: lee than 10 people)			
firm size: 10-49	1 if 10-49 people	0.314	0.464
firm size: 50-99	1 if 50-99 people	0.102	0.302
firm size: 100-499	1 if 100-499 people	0.161	0.367
firm size: >=500	1 if more than 500 people	0.113	0.317
public sector	1 if works in the public sector	0.365	0.482

Name	Description	Mean	Std dev
Sector of employment (ref: manufacturing)			
agriculture, hunting, forestry, fishing	1 if agriculture, hunting, forestry, fishing	0.006	0.075
mining and quarrying	1 if mining and quarrying	0.002	0.050
electricity, gas and water supply	1 if electricity, gas and water supply	0.010	0.101
construction	1 if construction	0.066	0.248
wholesale and retail trade repairs	1 if wholesale and retail trade repairs	0.145	0.352
hotels and restaurants	1 if hotels and restaurants	0.036	0.185
transportation and communications	1 if transportation and communications	0.068	0.253
financial intermediation	1 if financial intermediation	0.037	0.188
real estate and business activities	1 if real estate and business activities	0.075	0.263
public administration	1 if public administration	0.092	0.289
other services	1 if other services	0.232	0.422
Occupation (ref: unskilled manual worker)			
employed professional	1 if employed professional	0.025	0.155
general management, director or top management	1 if general management, director or top management	0.029	0.167
middle management, other management	1 if middle management, other management	0.144	0.351
employed position: working mainly at a desk	1 if employed position: working mainly at a desk	0.203	0.402
employed position: travelling	1 if employed position: travelling	0.061	0.240
employed position: service job	1 if employed position: service job	0.139	0.346
supervisor	1 if supervisor	0.038	0.191
skilled manual worker	1 if skilled manual worker	0.234	0.423
Tenure (ref: less than 3 years)			
tenure: 3-4 years	1 if 3-4 years	0.309	0.462
tenure: 5-9 years	1 if 5-9 years	0.200	0.400
tenure: >=10 years	1 if equal or more than 10 years	0.365	0.481
unionised worker	1 if member of a trade union	0.249	0.432
Income (ref: very bad)			
income: very good	1 if very good	0.166	0.372
income: fairly good	1 if fairly good	0.631	0.483
income: fairly bad	1 if fairly bad	0.179	0.383
hour of work	number of weekly working hours (continuous)	37.735	11.049
use experiences, skills and abilities	1 if uses experiences, skills and abilities	0.737	0.440
use of computerise or automated equipment	1 if the job involves the use of computerise or automated equipment	0.525	0.499
work extratime	1 if often has to work extratime	0.130	0.337
work at very high speed	1 if works almost all the time at very high speed	0.145	0.352
work to tight deadlines	1 if works almost all the time to tight deadlines	0.134	0.341
work in dangerous or unhealthy conditions	1 if works always/often in dangerous or unhealthy conditions	0.111	0.314
very good industrial relations	1 if relations at the workplace between management and employees are very good	0.186	0.389
good friends at work	1 if has good friends at work	0.314	0.464
get support from management	1 if get support from management when there is pressure at work	0.153	0.360
similarity with firm's values	1 if finds that his/her values are very similar to those of his/her organisation	0.114	0.318
proud of working in his/her workplace	1 if proud of working in his/her workplace	0.171	0.376

Name	Description	Mean	Std dev
expectation gap: team work	1 if thinks very important to work with friendly people but team work=0	0.155	0.362
expectation gap: employee involvement	1 if thinks very important to have a job enabling to use own initiative but employee involvement=0	0.205	0.404
expectation gap: autonomy	1 if thinks very important to have a job that allows to work independently but autonomy=0	0.183	0.387
expectation gap: training	1 if thinks very important good training provision but training=0	0.167	0.373
expectation gap: part time work	1 if thinks very important to have a job that leaves a lot of leasure time but part time=0	0.176	0.380
expectation gap: flexible working hours	1 if thinks very important to have a job with flexible working hours but flexible working time=0	0.140	0.347
expectation gap: temporary work	1 if thinks very importantto have secure job but temporary=1	0.066	0.249
expectation gap: multi-skill work	1 if thinks very important to have a job with a lot of variety but multiskilling=0	0.091	0.288
likely to get a better job in present workplace	1 if strongly agrees that is likely to get a better job in current organisation in the next 3 years	0.049	0.217
likely to get a better job in another workplace	1 if strongly agrees that is likely to get a better job with another employer in the next 3 years	0.045	0.208
injury at work in last five years	1 if had an injury at work in the last five years	0.100	0.300
been promoted in current job	1 if have been promoted while with current employer	0.323	0.468
staff reduction in last three years	1 if the number of people employed in the organisation has been reduced over the last 3 years	0.251	0.433
been unemployed in last five years	1 if unemployed in the last five years	0.181	0.385
headaches and/or muscular pains due to work	1 if often has headaches and/or muscular pains due to work	0.201	0.401
exhausted and/or tired after work	1 if often exhausted and/or too tired after work	0.335	0.472
stressful	1 if work is often stressful and/or keep worrying about job problems after work	0.396	0.489
successful career absolutely necessary	1 if thinks absolutely necessary to have a successful career	0.534	0.499
continue to work even without income motivation	1 if states continue to work if were to get enough money to live as confortably as would like	0.526	0.499
lost much sleep over worry	1 if often lost much sleep over worry	0.157	0.364
thinking of himself/herself as a worthless person	1 if thinks of himself/herself as a worthless person	0.053	0.223
have relations with friends, relatives or neighbours	1 if regularly meets friends, relatives and/or neighbours	0.827	0.378
member of clubs, voluntary organisation, political party	1 if member of clubs, voluntary organisation and/or political party	0.421	0.494
Political party (ref: left)			
political party: right	1 if right	0.141	0.348
political party: centre	1 if centre	0.354	0.478
political party: don't know	1 if does not know	0.222	0.416
Country of residence (ref: Italy)			
Belgium	1 if Belgium	0.026	0.160
Denmark	1 if Denmark	0.019	0.137
Germany	1 if Germany	0.262	0.440
Greece	1 if Greece	0.017	0.129
Spain	1 if Spain	0.094	0.292
France	1 if France	0.173	0.378
Ireland	1 if Ireland	0.008	0.088
Luxemburg	1 if Luxemburg	0.001	0.036
Netherlands	1 if Netherlands	0.039	0.194
Portugal	1 if Portugal	0.022	0.147
UK	1 if UK	0.158	0.365
Finland	1 if Finland	0.011	0.102
Sweden	1 if Sweden	0.028	0.164
Austria	1 if Austria	0.022	0.147

Table A2. Ordered probit estimation of the fully specified model - Other controls

Variable	Overall job satisfaction	Quantitative job satisfaction	Qualitative job satisfaction
female	-0.0499	-0.1006 ***	0.0073
age	-0.0110	-0.0150	-0.0024
squared age	0.0002	0.0002 **	0.0000
years of education	-0.0099 **	-0.0146 ***	-0.0065
married	-0.0033	-0.0735 **	0.0614 *
head of the household	0.0140	0.0374	0.0183
have a child < 5	-0.0921 **	-0.0322	-0.1677 ***
live in small town	-0.0480	-0.0567	-0.0361
live in large town	-0.0663 *	-0.0610	-0.0573
standard of living: very comfortable	1.0143 ***	0.8036 **	1.1310 ***
standard of living: comfortable	1.0778 ***	0.7782 **	1.2076 ***
standard of living: average	0.9869 ***	0.6658 *	1.1156 ***
standard of living: just getting along	0.7576 **	0.3930	0.9338 **
standard of living: poor	0.5922	-0.0263	0.8527 **
standard of living: rich	1.8754 ***	1.6142 ***	1.5567 ***
high area unemployment	-0.0306	-0.0476	-0.0014
bad area reputation	-0.1449 *	-0.1692 **	-0.1923 **
very good area job opportunities	0.1543 ***	0.1929 ***	0.1031 **
firm size: 10-49	-0.0033	0.0165	-0.0067
firm size: 50-99	0.0030	0.0973 *	-0.0374
firm size: 100-499	0.0612	0.0913 *	-0.0294
firm size: >=500	0.0979 *	0.1557 ***	0.0297
agriculture, hunting, forestry, fishing	-0.1477	-0.1892	-0.2695
mining and quarrying	-0.3336	0.2055	-0.3737
electricity, gas and water supply	0.2990 **	0.3876 ***	0.0908
construction	0.1717 **	0.1118 *	0.1730 ***
wholesale and retail trade repairs	-0.0317	-0.0302	-0.0736
hotels and restaurants	-0.0579	-0.0428	-0.1133
transportation and communications	-0.1532 **	-0.1286 **	-0.2651 ***
financial intermediation	-0.1879 **	-0.2002 **	-0.2240 ***
real estate and business activities	0.0429	0.0943	-0.0480
public administration	-0.0236	-0.0042	-0.1324 **
other services	0.0151	-0.0682	0.0404
public sector	0.1044 ***	0.0876 **	0.1025 ***
employed professional	0.1986 *	0.1545	0.2499 **
general management, director or top management	0.0124	0.0522	0.0382
middle management, other management	0.2875 ***	0.1950 ***	0.2469 ***
employed position: working mainly at a desk	0.0377	0.0824	0.0511
employed position: travelling	0.0219	0.0553	0.0903
employed position: service job	0.2503 ***	0.2083 ***	0.2358 ***
supervisor	0.1794 **	0.1306	0.2696 ***
skilled manual worker	0.0512	0.0317	0.0886
tenure: 3-4 years	-0.0627	-0.0899 *	-0.0824
tenure: 5-9 years	-0.1268 **	-0.1257 **	-0.1214 **
tenure: >=10 years	-0.1336 **	-0.0996	-0.1490 **
unionised worker	-0.0751 *	-0.0553	-0.0842 **
income: very good	0.4174 ***	0.7088 ***	0.1671
income: fairly good	0.1293	0.3638 ***	-0.0401
income: fairly bad	-0.1406	-0.0076	-0.2293 **
hour of work	-0.0054 ***	-0.0078 ***	-0.0008
use experiences, skills and abilities	0.5075 ***	0.2804 ***	0.6137 ***

Variable	Overall job satisfaction	Quantitative job satisfaction	Qualitative job satisfaction
use of computerise or automated equipment	0.0594 *	0.0584 *	0.0474
work extratime	-0.1533 ***	-0.2777 ***	-0.0939 *
work at very high speed	-0.2118 ***	-0.2008 ***	-0.1488 ***
work to tight deadlines	-0.0749	-0.0415	-0.1007 *
work in dangerous or unhealthy conditions	-0.1657 ***	-0.1586 ***	-0.1087 **
very good industrial relations	0.5077 ***	0.4405 ***	0.5124 ***
good friends at work	-0.0427	0.0030	-0.0537
get support from management	0.2218 ***	0.2173 ***	0.2109 ***
similarity with firm's values	0.1651 ***	0.0790	0.1140 *
proud of working in his/her workplace	0.3931 ***	0.3627 ***	0.3923 ***
expectation gap: team work	0.0969 *	0.0690	0.1176 **
expectation gap: employee involvement	0.0347	0.0210	0.0830 *
expectation gap: autonomy	0.1087 **	0.0278	0.1297 ***
expectation gap: training	0.0375	0.0158	0.0605
expectation gap: part time work	-0.0629	-0.0278	-0.1117 ***
expectation gap: flexible working hours	0.0007	0.0360	-0.0095
expectation gap: temporary work	-0.1853 **	-0.3111 ***	-0.0053
expectation gap: multi-skill work	-0.0809	-0.0491	-0.1694 ***
likely to get a better job in present workplace	0.1573 **	0.2948 ***	0.0906
likely to get a better job in another workplace	-0.5910 ***	-0.5951 ***	-0.5785 ***
injury at work in last five years	-0.0451	-0.0454	-0.0928 *
been promoted in current job	0.1205 ***	0.1517 ***	0.0741 **
staff reduction in last three years	-0.2503 ***	-0.2913 ***	-0.2307 ***
been unemployed in last five years	-0.0648	-0.0653	-0.0773 *
headaches and/or muscular pains due to work	-0.1345 ***	-0.0807 **	-0.1872 ***
exhausted and/or tired after work	-0.1320 ***	-0.1599 ***	-0.0622 *
stressful	-0.1430 ***	-0.2203 ***	-0.1182 ***
successful career absolutely necessary	0.1019 ***	0.0492	0.1190 ***
continue to work even without income motivation	0.1086 ***	0.1145 ***	0.0961 ***
lost much sleep over worry	-0.1009 **	-0.0881 **	-0.1437 ***
thinking of himself/herself as a worthless person	-0.2015 ***	-0.1272 *	-0.2401 ***
have relations with friends, relatives or neighbours	0.1546 ***	0.1437 ***	0.1147 ***
member of clubs, voluntary organisation, political party	0.0156	-0.0373	-0.0119
political party: right	0.1130 **	0.1124 **	0.0832 *
political party: centre	0.0809 **	0.0592	0.1206 ***
political party: don't know	0.1085 **	0.0832 **	0.0517
Belgium	0.2774 ***	0.2806 ***	0.2522 **
Denmark	0.4230 ***	0.3086 ***	0.5140 ***
Germany	0.4999 ***	0.3969 ***	0.4789 ***
Greece	0.0937	0.0280	0.0724
Spain	-0.0349	-0.1471 **	0.0177
France	-0.0743	-0.1054 *	-0.0681
Ireland	0.1078	0.0185	0.1619
Luxemburg	0.0364	0.1939	-0.0402
Netherlands	0.5709 ***	0.3453 ***	0.5958 ***
Portugal	0.0499	0.0452	0.0602
UK	0.3839 ***	0.2997 ***	0.3506 ***
Finland	0.5632 ***	0.3960 ***	0.6313 ***
Sweden	0.5029 ***	0.2560 **	0.6359 ***
Austria	0.3470 ***	0.4081 ***	0.3021 ***

legend: * p<.1; ** p<.05; *** p<.01; standard errors in italicus