Socio-Economic Differences in the Perceived Quality of High and Low-Paid Jobs in Europe[1]

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Abstract

This paper engages in a novel comparative investigation of the differences in the perceived quality of high and low-paid jobs in six European labour markets. Utilizing data from six waves (1996-2001) of the European Community Household Panel (ECHP), and after correcting for the selectivity problem that is prevalent in the study of the effect of low pay status on job satisfaction, it is shown that, other things equal, low-paid employees are significantly less satisfied with their jobs compared to those who are high-paid in Greece, Spain, and Finland. In contrast, there appears to be an insignificant difference in the satisfaction of high and low wage workers in the United Kingdom, France and Denmark. Based on this evidence, one can therefore argue that the European Commission's claim that low paid jobs are inherently jobs of low quality is not universal, for in half of the countries examined the data refute the dual labour market hypothesis. Nevertheless, there is a legitimate case of concern for some countries. The results also highlight the extent to which the diversity of conditions, institutions and welfare regimes across dissimilar EU economies result in differential outcomes with respect to labour market performance.

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1. Introduction

As a result of the substantial process of structural change and reform that European labour markets underwent since the late 1970s, during which the distribution of earnings has been widely regarded as having become more unequal, concerns were raised over the growing proportion of workers falling into the category of 'the 'working poor'. Specifically, given the increased globalisation of economic activity, the acceleration of technological innovation and the emergence of the knowledge society, as well as the growing importance of the service sector, new employment practices were deployed that aimed to provide employers with adequate flexibility to respond to ever-changing circumstances. These involved the widespread use of 'atypical' forms of employment, such as part-time work, contracts of temporary duration (fixed-term/agency work), and very low-paid jobs on non-standard working hours. While some considered such relative changes as the ineluctable response of competitive markets to the diminishing demand for the services of low-skilled workers, others were apprehensive of the ability of low-paid individuals to maintain decent living standards, especially in the face of the deregulation of the institutional framework that traditionally supported their wages.

More recently, the European Union (EU) has expressed concerns regarding the potential downsides of such non-standard forms of employment not only on the level of pay but also in terms of job quality, such as the impact on job security, work-life balance, access to training and lifelong learning, health and safety at the workplace *inter alia*. In other words, it has been argued by the EU that along with the declining relative (and for some countries real) position in the earnings distribution, low-paid workers have suffered from a double penalty as their jobs are also of inherently bad

quality. This is believed to be the outcome of market and institutional failures, as well as the belief by employers that quality improvements can impair their capacity for flexibility, both of which have allegedly fostered the development of a two-tier labour market in Europe. In this segmented market "the first tier is made up of jobs subject to decent pay, relative job security and career prospects, involving generally good working conditions. The second tier comprises not only the unemployed and discouraged workers, but also those employed in jobs of low quality which have low pay, precarious employment relationships or lack of further education and career development prospects" (Employment in Europe, 2001, p. 79).

The need for policy-makers to focus on this latter 'lower end' of the labour market was underlined by the Employment in Europe 2001 survey, which was the first to document the strong link between jobs of relatively poor quality and the risk of job loss and social exclusion. Specifically, it was shown that those employed in jobs of low quality are at much higher risk of becoming unemployed or dropping out of the labour force. Moreover, "previous experience of unemployment and labour market exclusion, in turn, lowers the probability of returning to employment in general and into high quality employment in particular, thus leading to substantial risk of vicious circles of low quality – low productivity employment, and unemployment, inactivity and social exclusion" (Employment in Europe, 2002, p. 81). So the problem with casual or low-paid labour is not, to paraphrase Hicks (1963, p. 82), that 'it is worth so appallingly little', but that it is condemned to 'act as the main conduit for repeat unemployment' (Stewart, 2002, p. 19), and, subsequently, to suffer from few opportunities to move up the job ladder.

The attention that the EU has paid to job quality was also stirred by the acknowledgement that the full potential of job creation cannot be achieved if the jobs

on offer are unattractive in terms of quality of work, consequently proving difficult to fill (Eurofound, 2001, p. 4). This problem has recently become starker in European labour markets, following the marked improvements in the quality of the European labour supply (European Commission, 2001, p. 9).

Finally, placing greater emphasis on the quality of employment was also dictated by the evidence that better quality in work results in faster employment growth and higher productivity[4] (European Commission, 2003, p. 6-8), while it is also believed to contribute to the positive mental and psychical well-being of employees, thus serving as a precondition for a rich, satisfying, and productive life (Eurofound, 2001, p. 7).

It is not least for these reasons that European Member States in the Lisbon Summit of 2000 considered the goal of improving quality in work as a complementary and mutually supportive objective to those of full employment and social cohesion. Quality promotion has hence been acknowledged as a cornerstone for modernising Europe's social model, as a means of ensuring the dynamic positive complementarity between flexible and competitive economic policies, on the one hand, and social cohesion, achieved through strong and supportive social systems, on the other.

Of course, the theoretical framework underlying the EU's rationale of low wage jobs also being of low quality is the *dual labour market hypothesis*. According to this theory, the lack of perfect mobility, and subsequent lack of competition, between distinct labour markets fosters the development of 'good' and 'bad' jobs, whereby the former enjoy not only better working conditions than the latter, but also higher pay. In this case significant differences in the utility derived from work among otherwise

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[4] Specifically, better jobs are expected to be more attractive to non-participants, especially women. Safer jobs that offer access to training are also more likely to result in productivity gains, by reducing turnover and absenteeism and by leading to the production of better goods and services, respectively. At the same time employees are likely to reciprocate to their employer's gift-exchange offer of better working conditions by exerting greater effort (much in the spirit of the 'reciprocity' arguments put forward by Fehr and Falk, 2004).

identical individuals arise, with those in superior jobs enjoying greater job satisfaction. Such differences cannot be sustained, however, in markets that are characterised by a perfect flow of information and lack of barriers to mobility. For in that case Adam Smith's (1776) paradigm of *compensating wage differentials* would prevail. According to Smith, employers of jobs with many disamenities would be expected in the long run to compensate for these with higher pay, all other things equal, in order to recruit and retain their workers. Thus, according to the theory of compensating (or equalizing) differences, in perfectly competitive labour markers one expects to observe low-paid jobs with relatively good working conditions, and jobs with bad working conditions paying high wages. Two otherwise similar individuals, who have the same demographic, human capital, and job characteristics, but who work in different tiers of the job market (i.e. one as low-paid and the other as high-paid), should therefore enjoy similar utility from their occupations.

Following this logic, this study attempts to detect whether or not significant differences in job quality exist among high and low-paid workers in six European countries, namely Greece, Spain, France, Finland, Denmark and the UK. For if such differences do, in fact, exist, this constitutes evidence in favour of the hypothesis that segmented labour markets have emerged in Europe. Moreover, by uncovering the differential effect that certain socio-economic variables exert on the utility from work, appropriate policy responses could then be developed to address the discrepancy in quality between good and bad jobs.

Of course, since quality in work is a multifaceted concept, any attempt to quantify the term is highly contentious. It is for this reason that the Commission (2001, p. 7) has suggested that there can be no one single measure or index of employment quality,

which is why it has identified 10 'dimensions' of job quality instead.[5] In contrast, this paper follows the practice of an ever-increasing number of economists who use self-reported job satisfaction data as a surrogate for the overall quality of work. Specifically, many have argued that since overall subjective job satisfaction is the reflection of the worker's weighting in his/her mind of all the job's aspects (such as pay, job security, the type of work, hours and times of work, working conditions, commuting etc.), "then the former should serve as a reasonable proxy for the overall quality of work as perceived by the individual worker" (Hamermesh, 2001; Leontaridi and Sloane, 2004, p. 2).[6] This is also the method adopted by Leontaridi and Sloane (2004), who showed with data from the first six years (1991-1997) of the British Household Panel Survey (BHPS) that low-paid workers in the UK enjoy greater job satisfaction than their higher paid counterparts. This finding led to the conclusion that there is "no justification for the European Commission's assertion that low paid jobs are inherently jobs of low quality, at least as far as the British evidence is concerned" (ibid., 2004).[7]

   The aim of this paper is to revisit the issue by engaging in a novel comparative study of job satisfaction in six European labour markets. Utilizing data from six waves (1996-2001) of the European Community Household Panel (ECHP), this paper shows that, other things equal, low-paid employees are significantly less satisfied with their jobs compared to those who are high-paid in Greece, Spain, and Finland. In contrast,

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[5] These indicators cover 10 main elements of quality within two broad categories – the characteristics of the job itself, and the work and wider labour market context. They include: intrinsic job quality; skills, lifelong learning and career development; gender equality; health and safety at work; flexibility and security; inclusion and access to the labour market; work organization and work-life balance; social dialogue and worker involvement; diversity and non-discrimination; and overall work performance.
[6] Indeed, the strength of this approach seems to lie in the fact that subjective assessments of job satisfaction have been found to be strong predictors of worker behaviour, such as quits, absenteeism, and worker productivity (Freeman, 1978; Clegg, 1983).
[7] Jones and Sloane (2004) have also illustrated recently that job satisfaction in the low-wage economy of Wales is not lower than the rest of the UK.

there appears to be an insignificant difference in the satisfaction of high and low wage workers in the United Kingdom, France and Denmark. Based on this evidence, one can therefore argue that the European Commission's claim that low paid jobs are inherently jobs of low quality is not universal, for in half of the countries examined in this study the data refute the dual labour market hypothesis. Nevertheless, there is a legitimate case for concern in some countries. These results also highlight the extent to which the diversity of conditions, institutions and welfare regimes across dissimilar EU economies result in differential outcomes with respect to labour market performance.

The structure of the paper is therefore organized as follows. Section 2 offers a brief literature review of the growing research that has taken place using subjective well-being data. In section 3 the data used in this study and summary statistics are presented. Section 4 outlines the econometric methodology, while section 5 describes the empirical estimates of the relationship between low pay status and job satisfaction in the six European countries. Section 6 concludes the discussion.

2. Subjective Job Satisfaction

There has been a surge of interest among economists in recent years regarding the use of subjective survey questions on individual well-being and its domains, such as job satisfaction or health satisfaction. As mentioned above, much research has now started with the premise that *subjective well-being* (SWB) can serve as an empirical proxy for the theoretical concept of utility, thus overcoming the traditional economic practice of evaluating individual preferences by means of *revealed* behaviour in market situations. This initiative has followed the lead of many years of psychological research, which has illustrated that comparisons of different measures of SWB are

often mutually consistent. For example, self-reported SWB has been found to be correlated with physiological measures such as the amount of smiling or frowning, changes in facial muscles (see Kahneman et al., 1999) or the evaluation of the individual's experience by a third party observer (Kahneman et al., 1997). Van Praag (1991) has also shown that individuals belonging to the same language community have a very similar understanding of concepts such as welfare, well-being and happiness. In addition, the use of subjective well-being data was encouraged by the robust econometric findings that were spurred by Freeman's (1978) pioneering work on the inverse relationship between job satisfaction and quit behaviour.

Of course, it has been acknowledged that survey questions about satisfaction suffer from a number of weaknesses, such as the discrepancy between *remembered utility* and *experienced utility*. For example, it has been argued by Kahneman that when evaluating retrospectively the utility of an event (remembered utility), individuals give a relatively higher weight to events with a high intensity (Peak Effect) and those that have occurred last (End Effect) (hence the term *Peak-End evaluation rule*). Another problem arises due to the presence of the adaptation phenomenon (Easterlin, 2001). Specifically, the evidence that wealthier individuals and economies are happier at a given point in time, but not over time, has led to the assertion that individuals adapt to new situations, such as an income increase or becoming handicapped, by changing their expectations. Both of these issues therefore arouse suspicion concerning the use of time-series data on subjective happiness.

In spite of these problems, economists have reported a number of interesting and robust results regarding the effect of individual socio-economic characteristics on SWB and its domains. Concentrating specifically on the domain of job satisfaction, which is considered to be a proxy of the individual's utility from work (U), most of the

empirical literature now follows the theoretical exposition of Clark and Oswald (1996).

According to these authors, job satisfaction depends not only on absolute income (y)

and working hours (h), as in standard indifference curve microeconomics, but also on a

set of individual (i) and job-specific (j) features:

$$U = u(y, h, i, j) \ \ u_y' > 0, u_h' < 0 \qquad\qquad (1)$$

Based on this model, the estimating equations usually regress the indices of job

satisfaction on a set of demographic (age, gender, marital status, number of children

etc.), human capital (education, training), economic (wages and salaries, other

income), work-related (firm size, hours of work, contractual arrangement), and social

(unionization, institutions) determinants.

In this manner the literature has found that unemployed individuals report

substantially lower levels of well-being than the employed and are permanently

'scarred' as a result of their jobless experience (Clark and Oswald, 1994; Theodossiou,

1998). It has also been argued that much of the wage effect on job satisfaction

operates through relative wages (Clark and Oswald, 1996; Clark, 1999; Grund and

Sliwka, 2003), or through the individual's own judgement about his past and future

financial situation (Easterlin, 2001; Lydon and Chevalier, 2002).[8] Interesting

demographic differences have emerged in that women consistently declare higher job

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[8] In this case researchers assume a utility function that depends not only on absolute income, but also on relative income i.e. $U = u(y, y^*, h, i, j)$, where y^* is the reference level of income against which the individual compares his/her own earnings. The idea is that utility either declines with an increase in comparison income when this gives rise to feelings of relative deprivation, or increases when higher wages of co-workers are regarded as a signal of a higher potential wage for the individual himself (what is known as the 'tunnel effect' - see Panos, Theodossiou and Nicolaou (2004) for an empirical investigation of these two hypotheses). Contention exists, though, among economists as to what is exactly the comparison benchmark. While Clark and Oswald (1996) have defined it as the econometrically predicted 'going rate' for the job, that is the income of comparable employees of given characteristics, Clark (1999) and Grund and Sliwka (2003) have recently argued that it is the wage of the prior period that serves as reference. Due to the limited availability of data in the ECHP, however, it has not been possible to incorporate any of these relative wage effects in the econometric analysis below.

satisfaction scores than men (Clark, 1997) and the age effect has been reported as being U-shaped (Blanchflower and Oswald, 1999). Finally, satisfaction levels have been found to be negatively correlated with both education (Clark and Oswald, 1996; Sloane and Williams, 1996) and union status (Blanchflower and Oswald, 1999; Drakopoulos and Theodossiou, 1997).[9]

3. Statistical Data and Descriptives

3.1   Data and Incidence of Low-Paid Employment

The empirical analysis uses statistical data for Greece, Spain, France, Finland, Denmark and the UK drawn from six waves of the European Community Household Panel (ECHP), covering the period 1996-2001.[10] Designed centrally at Eurostat, but in close coordination with the Member States, the ECHP is a questionnaire database that contains information on more than 60,000 nationally representative households and 120,000 observations per year for all (pre-accession) EU countries.[11] In constructing the ECHP emphasis was placed on developing comparable longitudinal statistics across Member States on income, labour, poverty and social exclusion, housing, health, as well as other social indicators concerning living conditions of private households and persons. More important for our purposes, it contains a considerable amount of information on the personal, human capital and employment characteristics

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[9] Though difficult to test, several hypotheses for these facts have been put forward. For example, it has been argued that more educated workers are less satisfied since education raises aspiration targets. The lower ceteris paribus satisfaction of union workers has been attributed to voice mechanisms that allow workers to express their dissatisfaction, or to the fact that dissatisfaction is used by unions as a means to increase demands.

[10] The motivation underlying the choice of the six countries in this study was to accurately reflect the diversity of conditions underlying employment markets in Europe. Thus, our selection includes two southern Mediterranean member states (Spain and Greece), one large Continental economy (France), one Anglo-Saxon labour market (UK) and, finally, two Scandinavian representatives (Denmark and Finland).

[11] In the first wave of the ECHP (1994) the sample comprised of 60,500 representative households and 130,000 interviewees aged 16 years or over, from 12 Member States. From 1995 onwards Austria was also included, and from 1996 and 1997 Finland and Sweden, respectively, joined the survey as well.

of workers, as well as their stated satisfaction with their jobs. In particular, in the ECHP respondents are asked to rate their satisfaction levels with their main activity status (whether it is employment, unemployment, or inactivity). The employed are also asked to state their utility level with respect to specific components of their jobs, such as earnings, job security, type of work, working hours, working times, working conditions/environment and distance to job/commuting. Each of these are given a number from one to six, where a value of one corresponds to 'not satisfied at all', six reflects 'full satisfaction', and the integers from two to five represent intermediate levels of utility. It is these self-reported responses that constitute the dependent variables in the econometric analysis that follows below.

Due to the survey design and for the sake of data robustness the sample in this paper is restricted to individuals between 16 and 65 years of age who are working 15 hours a week or more. This includes those working in paid employment, as well as those working in paid apprenticeship or receiving job-related training, given that training possibilities constitute a key component of the quality of jobs. For six years of the ECHP (1996-2001) this results in 14,795 observations (4,250 individuals) for Greece, 26,238 (8,157) for Spain, 30,361 (8,055) for France, 19,582 (5,731) for Finland, 14892 (4073) for Denmark and 26,806 (6,983) for the UK.

Based on this sample, Table 1a identifies the fraction of employees who are low-paid in each of the six countries examined in this study. These figures were computed by, firstly, deriving gross hourly earnings for each individual, using the available information on current gross monthly earnings and the number of weekly hours of work in the main job.[12] A conventional definition that classifies as low-paid those

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[12] Given that the presence of part-time workers in the sample introduces the additional complexity of disentangling differences in time worked from differences in wage rates, hourly earnings were

individuals whose earnings are less than two-thirds of the median hourly gross wage was then adopted.[13] On the basis of this definition, Table 1a illustrates that the overall incidence of low-paid employment varies widely between the six EU countries, with the highest percentages of low wage workers found in the UK (20.22%), Spain (17.75%) and Greece (17.51%), and the lowest in France (14.34%), Finland (11.14%) and Denmark (10.01%). These figures closely mirror the results that other authors have reported in the past (such as Employment Outlook, 1996; Asplund, Sloane and Theodossiou, 1998; Marlier and Ponthieux, 2000; Employment in Europe 2004).

3.2   Descriptive Statistics

Having identified the overall incidence of low pay, Tables 1a and 1b depict the composition of low wage employment in relation to categories of jobs and individuals. Specifically, the tables show the percentage of workers in each category who are low-paid (*incidence*), as well as the *concentration indicator*, a measure of the prevalence of low-paid employment in each group relative to the overall incidence in the population. This indicator is useful for conducting cross-national comparisons, as a value greater than one suggests a higher than average risk of a specific group of workers being low-paid in any country. A particularly striking feature that emerges from these tables is that the risk of low wage employment tends to be concentrated on the same types of workers and employment categories in all countries, despite the substantial differences in the overall incidence of low pay. For example, the likelihood of low pay is higher for women and younger workers, as well as those with lower educational qualifications

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constructed in order to neutralize the effect of diverse working hours among full-time and part-time workers.

[13] Such a relative measure is commonly used in the literature, since an absolute metric poses difficult conceptual and methodological problems for making international comparisons of the incidence of low pay (Employment Outlook, 1996, p. 69).

and absence of training opportunities in their jobs. This is not surprising given that wages tend to increase with the level of human capital accumulation, acquired either through formal schooling, or in the form of on-the-job training and general working experience. Jobs with low wages are also primarily concentrated among part-time, non-married individuals possessing a non-supervisory role in the organization in which they work. In addition, the risk of low-paid employment is smaller in fairly 'stable' jobs, such as those with contracts of indefinite duration or in the public sector. The existence of a no pay/low pay cycle is also apparent, since those individuals who (re-) enter employment after being unemployed or inactive a year earlier are 2.5 to 3 times more likely to occupy a low wage job than those who were already employed. Though accounting for an increasingly smaller proportion of paid employment in most EU countries, working in the agricultural sector suffers from a higher than average incidence of low-paid employment. Lastly, the occupational breakdown suggests that while being in a non-manual occupation (such as sales) is not a guarantee of being in a relatively high-paid job, very few managerial, technical and professional workers receive low wages.

Moving on to an analysis of the raw job satisfaction data, Table 2 depicts the mean values of overall job satisfaction in the six countries, broken down by various categories of interest. Interestingly, the various correlations that have been advocated in the literature for the UK do not hold across all of the countries that are examined here. For example, there is no clear-cut evidence that due to low aspirations, presumably caused by more frequent career breaks or societal norms, women report a higher level of job satisfaction than men. With the exceptions of the UK, Finland and Denmark, there is also no support for the "rising expectations" or "hedonic treadmill" (Kahneman et al., 1999) hypothesis that accompanies the acquisition of additional

education. There is also mixed evidence with respect to the differences in the average job satisfaction of part-time and full-time workers. In particular, while full-time workers declare higher job satisfaction scores in Greece, Spain, France and Finland, part-time work is more enjoyable in the UK and Denmark. Other findings include the fact that working in the public sector and on non-casual contractual arrangements yields a higher utility from work in all countries. Most important for the purposes of this study, however, one can see that low-paid workers in Greece, Spain, Finland and France are unambiguously less satisfied with their jobs compared to those who enjoy higher wages. This is not the case in the UK, though, while Danish workers appear to receive equivalent happiness from their jobs regardless of their wage status.

These trends are confirmed by Figure 1, which illustrates the evolution over time of the average difference in job satisfaction between high and low-paid workers in the six countries. The UK stands out as the only country in which low wage employees report larger job satisfaction scores than the high-paid over the six years of the sample. No difference exists in Denmark, which contrasts with the considerable divergence that is observed in the two Southern Mediterranean countries, namely Greece and Spain. Finally, in France and Finland the discrepancy in the utilities of high and low wage workers appears to have narrowed over the years.

4. Econometric Methodology

The correlations that are outlined above may, of course, be spurious, as the influence of other factors that may obscure the relationship between an individual's low pay status and his/her job satisfaction has not yet been controlled for. As shown in section 2, we cannot be certain on the basis of the raw data only that low-paid workers are undeniably more or less satisfied than their higher-paid counterparts. Since a large

proportion of low-paid workers possess other characteristics that might have an effect on job satisfaction (e.g. they are more likely to be single, low-skilled, on non-permanent contracts, etc.), it might be these features that cause low-paid workers to appear as more or less satisfied, rather than the fact of being low-paid itself. Therefore, in order to uncover the true *ceteris paribus* effect of low pay on job satisfaction, a multivariate regression methodology is required to net out the effects of other variables that are simultaneously correlated with both low pay status and self-reported job satisfaction.

However, even after controlling for these factors, a simple OLS estimate of the effect of low pay is likely to be biased. The reason is that in the non-experimental sample that this study utilizes, it is unlikely that individuals have been randomly allocated into either the low pay or the high pay sector. In reality, the observed distribution of high and low-paid workers is likely to reflect the influence of (unobserved) characteristics that determine an individual's position in the wage ladder. For example, it has been argued by psychologists that those individuals who are characterized by an introvert or pessimistic disposition have a higher likelihood of ending up on the lower rungs of the wage distribution.[14] If those same individuals are concurrently more likely to report a low level of job satisfaction, the least squares coefficient of a low pay variable will underestimate its true effect. Similarly, if having low expectations from life is positively correlated with a person's chances of being low-paid, and low expectations breed a high level of satisfaction with one's current state of affairs (in the spirit of Easterlin, 2001), then the OLS estimate will suffer from

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[14] See Mueller and Plug (2004) for a recent exploration of gender differences in the effects of personality (extroversion, agreeablesss, concientiousness, neuroticism, and openness) on earnings.

upward bias. In other words, the well-known problem of sample selection bias is likely to feature prominently in the analysis of the effect of low pay on job satisfaction.

It is for this reason that a "treatment effects model" has been employed (Barnow et al., 1981; Maddala, 1983), which considers the effect of an endogenously chosen binary treatment on another endogenous continuous variable, conditional on two sets of independent variables. Such techniques use either Heckman's two-step consistent estimator or full maximum-likelihood, and estimate all of the parameters in the model:

$$JS_i = X_i \beta_1 + L_i \beta_2 + u_i \qquad (2)$$

where **JS**, job satisfaction, is the dependent variable, **X** is a vector of personal and labour market characteristics that affect job satisfaction, and **L** is the endogenous dummy variable of interest that distinguishes between high and low-paid employees by taking the value 1 if low-paid and 0 otherwise. The stochastic process which determines the propensity of an individual belonging to either the high or the low tier of the labour market is modelled as the outcome of an unobserved latent variable, **L***, which is determined by the following equation:

$$L_i^* = Z_i \gamma + \varepsilon_i \qquad (3)$$

where **Z** is a matrix of identifying factors believed to determine whether assigned treatment in the low wage sector occurs or not, and u and ε are assumed to be bivariate normal random disturbance terms that are distributed as follows:

$$\begin{Bmatrix} u \\ \varepsilon \end{Bmatrix} \sim N \left\{ \begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \sigma & \rho \\ \rho & 1 \end{pmatrix} \right\} \tag{4}$$

Of course, **L*** is unobserved, but it is known that the allocation of individuals into either wage sector is made according to the rule:

$$L_i = \begin{cases} 1, & if\ L_i^* > 0 \\ 0, & otherwise \end{cases} \tag{5}$$

From this it becomes evident that due to the problem of incidental truncation, OLS estimation of the average difference in job satisfaction between high and low-paid workers will be biased ($E(u\,/\,L_i^* > 0) \neq 0$).

Implementation of the "treatment effects model", however, should lead to a consistent estimate of the impact of low pay status, β_2, as it accounts for the selectivity issue that arises. Maddala (1983, p. 122; also see Stata, 2003, p. 282) derives the likelihood function for this model, the maximisation of which yields consistent and asymptotically efficient estimates of the coefficients (**β, γ**) and variance-covariance matrix (**σ, ρ**):

$$l_i = \begin{cases} \ln \Phi \left\{ \dfrac{Z_i \gamma + (JS_i - X_i \beta_1 - \beta_2)\rho/\sigma}{\sqrt{1-\rho^2}} \right\} - \dfrac{1}{2} \left(\dfrac{JS_i - X_i \beta_1 - \beta_2}{\sigma} \right)^2 - \ln(\sqrt{2\pi}\sigma), & L_i = 1 \\[3em] \ln \Phi \left\{ \dfrac{Z_i \gamma + (JS_i - X_i \beta_1)\rho/\sigma}{\sqrt{1-\rho^2}} \right\} - \dfrac{1}{2} \left(\dfrac{JS_i - X_i \beta_1}{\sigma} \right)^2 - \ln(\sqrt{2\pi}\sigma), & L_i = 0 \end{cases}$$

where $\Phi(.)$ is the cumulative distribution function of the standard normal distribution.

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Identification of the model is achieved provided that at least one non-overlapping variable in **Z**, compared to **X,** is present. For this purpose various identifying restrictions have been used in the selection equations (3), but not in the main job satisfaction equations (2). These consist of (combinations of) variables that describe various characteristics of the household or the individual, the existence of which is believed to be correlated with the probability of an individual belonging in the low-paid group, but uncorrelated with his/her utility from work. Specifically, a set of indicator variables capturing the number of rooms that correspond to each individual of the household was included, ranging from one to more than three rooms per person. Also included were variables referring to the presence of "good" and "bad" features in the household, for example whether the dwelling possesses hot running water or adequate heating in the former case, and whether it has shortage of space or damp walls in the latter. Information about the ownership of basic consumer durables (such as a car, microwave, telephone etc.) was also utilized. Finally, due to data constraints limited use was made of a variable describing whether anyone in the household received an exogenous amount of income during the year of the survey (in the form of an inheritance, a gift, or lottery winnings).

It needs to be pointed out, though, that given the distinct nature of the six economies that are examined in this paper, it has been impossible to include a common set of identifying restrictions in all of the regressions. Instead, for each country we have incorporated in the respective treatment equation those variables that exhibit the strongest relationship with the probability of low pay status. Nevertheless, for all six countries the exogenous variables are ultimately based on the four aggregate categories that were outlined above. Furthermore, in all cases statistical tests were undertaken

(discussed in more detail below) that indicate that the restrictions for identifying the selection equations are adequate.

Before describing the empirical results of the model, two final clarifications need to be made with respect to the nature of the dependent variable and of the standard errors.[15] Firstly, given that subjective well-being answers are categorical variables i.e. ordered discrete variables, researchers conventionally apply ordered probit (OP) or logit (OL) techniques with the aim of identifying the probability that a self-reported satisfaction level, i, falls within one of the intervals (or 'ancillary' cut points) $(k_{i-1}, k_i]$, as a function of appropriate individual and labour market characteristics:

$$\Pr(i) = \Pr(k_{i-1} < X_i\beta_1 + L_i\beta_2 \leq k_i) = \qquad (6)$$
$$\Phi(k_i - X_i\beta_1 + L_i\beta_2) - \Phi(k_{i-1} - X_i\beta_1 + L_i\beta_2)$$

This practice reflects the fact that one does not know the respondents' *exact* feelings about their job, only the *interval* in which they belong. However, it has been (increasingly) suggested that via an appropriate utility transformation, researchers may be able to approximate the true evaluations of the respondents by means of a cardinal scale. For example, in one of the seminal articles in this field, Freeman (1978) recommended that one could convert the ordinal job satisfaction variable by applying a standardized z-score transformation. He argued that this practice would not distort the regression output compared to techniques that assume interpersonal ordinal comparability. Recently, other options have been explored, most notably the 'conditional mean' transform. According to this method, the researcher may

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approximate the unknown value of *JS* by the conditional mean of *JS*, as follows (Maddala, 1983, p. 366):

$$\overline{JS} = E(JS \leq 1) = \frac{-\phi(k_{i-1})}{\Phi(k_{i-1})} \qquad \text{if } JS = 1$$

$$\overline{JS} = E(1 < JS < 6) = \frac{\phi(k_{i-1}) - \phi(k_i)}{\Phi(k_i) - \Phi(k_{i-1})} \qquad \text{if } 1 < JS < 6$$

$$\overline{JS} = E(JS \geq 6) = \frac{\phi(k_{i-1})}{1 - \Phi(k_{i-1})} \qquad \text{if } JS = 6$$

This approach, which Van Praag and Ferrer-i-Carbonell (2004) have called the *Probit Ordinary Least Squares* approach (POLS), yields approximately the same estimates as a traditional OP regression, apart from a multiplying factor that stems from a different normalization. Moreover, the significance of the estimates, e.g. as evaluated by t-values, has been shown to be practically the same for both methods (see Ferrer-i-Carbonell and Fritjers, 2004; Van Praag and Ferrer-i-Carbonell, 2004, Ch. 2). It is, thus, evident that there are significant advantages to using the cardinal measure of POLS instead of OP, since it simplifies the computational constraints that the researcher encounters when dealing with complicated models (e.g. sample selection or panel data).[16] It is for this reason that we have adopted the POLS technique in the econometric estimations of this paper.

Finally, it should also be noted that robust (Hubert-White) standard errors have been calculated in all of the regressions that correct for clustering at the individual

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[16] Ultimately, given that the focus of interest is on the relative contribution of 'objective' characteristics on well-being i.e. on the *trade-off* ratio between two variables, so as to maintain well-being constant, the econometric method that is used becomes irrelevant. This is the case since the trade-off ratios for either OLS, OP and POLS estimates are the same, apart from statistical deviations, which tend to become small in large samples (Westergaard-Nielsen et al.,2004, p. 280).

level. Time effects have also been accounted for through the inclusion of yearly dummy variables.

5. Empirical Results

Based on the methodology that was described above, this section outlines the econometric output of the impact of low pay status on the utility from work across six European countries. These results were generated by applying *exactly* the same model specification on all countries, using six waves (1996-2001) of the ECHP. This practice, which has followed the lead of Westergaard-Nielsen et al. (2004), constitutes one of the first ever attempts to make a comparison of the same model of job satisfaction across various countries. In this manner, it also contributes to the establishment of consensus regarding the impact of many key variables (such as gender, education, part-time work etc.) on happiness in the workplace. A downside of this exercise is that the model that has been fitted on all countries is fairly parsimonious, which further highlights the need for the researcher to correct for the potential endogeneity of the low pay variable.

5.1   Empirical Results for Low Pay Selection Equations

The estimation of the selection equations (3) makes use of the probit method to identify the factors that determine whether an individual works in the low pay or high pay tier of the labour market. The regression results are presented in Table 3, where, as usual, positive coefficients imply a greater likelihood of an individual having low wages.[17] As mentioned before, a particularly striking feature that emerges from this table is that the risk of low wage employment tends to be concentrated on the same

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[17] A description of all of the variables that are used in this study can be found in the Appendix.

types of workers and employment categories in all countries, despite the substantial differences in the overall incidence of low pay. In particular, it is revealed that the probability of being in the low wage group in all six countries is U-shaped in age, and higher for females and part-time employees. In addition, greater human capital reduces the chances of individuals falling into the low pay category, since those with higher educational qualifications, and those who receive training are more likely to receive higher wages. The widespread concerns over the presence of a vicious circle between low pay and no pay are also verified by the fact that individuals who were unemployed or inactive a year earlier face a higher probability of being low-paid. Moreover, in all countries there is a positive relationship of low pay with 'transitory' deviations of working hours from the mean (which arise, presumably, due to overtime/shift work). A high possibility of receiving low wages is also present for those workers who are on non-permanent contracts.

Interesting differences that emerge include the fact that for the UK, Spain and France the chances of an individual being low-paid increase after 13, 27 and 24 years of tenure, respectively. This contrasts with Greece and Finland, where additional years of tenure with the employer seem to unambiguously reduce the likelihood of low pay, and Denmark, where tenure is found to exert no significant effect. Furthermore, with the exception of Denmark, being employed in the private sector of the economy and working in two jobs increases the chances of the individual being low-paid, while in Finland supervisory posts in the workplace do not seem to make a difference. In both of these countries, marriage is also a variable that is not significant. Finally, the negative correlation between having young children in the household and low wage employment in all countries apart from Spain and Denmark provides support to the Malthusian rationale of income being a crucial determinant of fertility patterns.

With respect to the identifying restrictions now, it is clear that these are highly correlated with low pay status, most of them at the one percent significance level or less. The Wald test statistics testing the joint significance of these variables in the probit equations are also significant at the one percent level (as can be seen at the bottom of Table 3). Specifically, in every country but Denmark it was found that those individuals who live in households with two or more than three rooms per person are less likely to be low-paid, compared to those with only one room per person. In addition, though the remaining identifying variables differ by country a common pattern emerges, namely that individuals living in households with fewer "good" features, more "bad" features, and those who do not possess certain basic consumer durables face a greater likelihood of low wage employment. For example, in the case of France it appears that the existence of hot running water or of a telephone in the dwelling is a good indicator that the tenant enjoys a lower probability of working in a low-paid job. Moreover, enough data was available for France so as to allow the inclusion of a variable denoting whether anyone in the household had been a receiver of some sort of exogenous income (e.g. inheritance, gift, lottery winnings) in the year of the survey. Interestingly, as can be seen from Table 3 it appears that in France the receipt of exogenous income worth more than 10000 euros but under 50000 euros is positively correlated with the probability of low pay employment. Similar conclusions can be drawn for the remaining five countries.

5.2   Empirical Results for Overall Job Satisfaction Equations

From the estimation of the main job satisfaction equations (2) for each of the six countries, as is shown in Table 4, it is found that, other things equal, low-paid employees are significantly less satisfied with their jobs compared to those who are

high-paid in Greece, Spain, and Finland. In contrast, there appears to be an insignificant difference in the satisfaction of high and low wage workers in the United Kingdom, France and Denmark. Based on this evidence, one can therefore argue that the European Commission's claim that low paid jobs are inherently jobs of low quality is not universal, for in half of the countries examined in this study the data are not in favour of the dual labour market hypothesis. Instead, it appears that low wage workers in the UK, France and Denmark do not suffer from a double penalty, in the sense that they are not employed in jobs that are also of 'bad' quality. Nevertheless, a legitimate case for concern exists for some other countries.

From the other explanatory variables it is observed further that higher absolute wages have a significant positive effect on individual job satisfaction in all six countries, which is consistent with the traditional income-leisure trade-off of microeconomic theory. However, the insignificant effect of higher average working hours on the utility from work in all countries but France does not support the theory. On the contrary, 'transitory' deviations of working hours from the mean seem to enhance the utility that individuals receive from their jobs. Combined with the positive effect that multiple-job holding has on the job satisfaction of Greek and Danish employees, these results indicate that those who are more likely to work in excess of average hours or in multiple jobs are those who receive an intrinsic enjoyment from their work. Furthermore, the well-documented U-shaped relationship between job satisfaction and age is unearthed in all countries, though the age level at which there is an upturn differs considerably (e.g. the minimum is reached at age 15 in Finland, while it takes 42 years in the case of Greece). Interestingly, Westergard-Nielsen's et al. (2004) conclusion that there is no common support for the so-called "gender paradox" is confirmed, as no significant differences in the job satisfaction of

male and female employees is found in France and Denmark. Other demographic trends that emerge include the fact that marriage only affects the job satisfaction of British, Finish and Danish workers, whilst the existence of small children in the household only matters for British and Spanish employees.

Considering now the variables that capture the 'stability' or 'precariousness' of the employment relationship, it can be seen from Table 4 that part-time workers are in general more satisfied with their jobs than full-timers. Greece is a notable exception in the sense that the reverse trend holds, while for Spain there is no significant difference between the two types of workers. Furthermore, in Greece and France, the two countries where the public sector occupies the largest share of national output, public sector workers are significantly more satisfied than their private sector counterparts, and only in the UK does an opposite relationship hold. Finally, with regards to the type of contractual arrangement, it is evident that the instability and uncertainty that is associated with casual work leads to lower job satisfaction everywhere but in Finland. With the exception of Finland and Denmark, workers on fixed term temporary contracts also suffer from lower satisfaction with their jobs, compared to permanent employees. Overall, these results suggest that the recent concerns about the negative effect of precarious and non-standard forms of employment on the quality of work cannot be generalized, but need to be considered on a country-by-country basis. The satisfaction premium enjoyed by part-time employees in most countries, and by the temporarily employed in Finland and Denmark, also points towards the possibility that these individuals have chosen such working arrangements voluntarily.

Significant differences in the subjective evaluation of jobs are also found among those who have different human capital characteristics. The well-known "education paradox" that has been reported for the UK, whereby higher-educated individuals are

significantly less satisfied with their jobs compared to those with fewer qualifications, is more or less confirmed across countries. Greece escapes the common trend once again, as the low educated report a significantly *lower* level of job satisfaction than those with superior education. Furthermore, the provision of vocational training by employers as a means of skill upgrading and career development has a beneficial impact on the utility of Greek, Spanish and Finish employees, but, most notably, is a source of disutility for the British. Good health, which Mincer (1976) considered a form of human capital as well, is also found to be one of the most significant determinants of job satisfaction in all six countries.

Finally, non-supervisory positions in the hierarchy have a negative impact on the perceived quality of work, while ex-inactive employees are happier with their current jobs (excluding the UK and Denmark), which is consistent with the fact that most of these people consist of women and younger individuals. This specific group is more likely to be in the process of entering or re-entering employment, after having taken some time off due to various care responsibilities or further education.

At this point it is also worth mentioning that, compared to the "treatment effect" coefficients, the simple least squares estimates tend to overestimate the levels of satisfaction of low-paid workers (see Table 4). This suggests the presence of unobserved heterogeneity (such as low expectations) that is positively correlated with the job satisfaction scores that low wage workers report, and therefore justifies the use of the selectivity correction method that was adopted in this paper.

Of course, the success of our preferred methodology hinges on the appropriateness of the identification restrictions of the model. For this purpose, statistical tests that examine the adequacy of the restrictions were repeatedly undertaken. Regressions were run in each case to ascertain statistically that our chosen variables are

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uncorrelated with the job satisfaction measures that were used. Specifically, the exogenous variables were entered as regressors in the job satisfaction equations together with the other covariates. In all estimations the instruments as a group did not add any significant explanatory power as tested by an F test. In fact, the relevant F-statistics that are reported at the end of Table 4 are extremely small and insignificant in comparison to conventional statistical levels.

5.3   Empirical Results for Facets of Job Satisfaction

In order to deconstruct the reasons that underlie the cross-country differences in job satisfaction among high and low-paid workers, an analysis of the effects of low pay status on satisfaction with various facets of jobs was also undertaken. This follows the argument that aggregate job satisfaction is likely to reflect the amalgamation of partial satisfactions with various features of work, such as pay, the security of employment, the type of work, working hours and conditions etc. A series of satisfaction equations were thus estimated for each country, using the individual components of job satisfaction as dependent variables instead. Table 5 displays the estimated coefficients of the low pay variable for each of the seven facets of job satisfaction that were available in the ECHP. As an additional piece of information the table also includes, separately for each country, the rankings of the facets in terms of their relative importance for explaining the variance of overall job satisfaction, as has been analysed by Skalli, Theodossiou and Vasileiou (2004). In this manner, the aggregate impact of low pay status on overall job satisfaction in each country can be understood as the weighted outcome of the effect of low pay on each of the components of job satisfaction, with the relative rankings of the facets serving as weights.

Following this logic, it can be seen that the significant negative effect of the low pay variable on total job satisfaction in Greece arises not only because of the lower satisfaction of low-paid workers with their pay, but, mainly, because of the inferior type of work that they perform. In addition, compared to their higher-paid counterparts, low wage employees in Greece are found to be less satisfied with their working hours and the environment of their workplace. Similar effects are uncovered for Spain, as low-paid Spanish workers also appear to be more dissatisfied with their pay, the nature of their work and their working hours. The results for Finland are less clear-cut, since low wage employees there declare a higher average satisfaction score with the security of their employment (and the distance to work). Nevertheless, Finish workers seem to attach a low weight on the facet of job security, when considering their overall utility from work. The Finish results also highlight the fact that the list of facets that is available in the ECHP is non-exhaustive. In other words, no information is available on other important factors of work (such as work intensity, organization and autonomy; the quality of management and supervision; the availability of training and opportunities for career development and promotion; employee benefits; employee empowerment; *inter alia*), which could potentially explain the significantly negative effect of low pay status on job satisfaction in Finland.

Considering now the three countries where no significant differences in the utility of high and low-paid workers were found, it is comforting to discover that in the UK the lower paid are unambiguously less satisfied with their wages than the higher paid, in line with the results of Leontaridi and Sloane (2004) from the BHPS. Low wage employees in Britain also suffer from lower satisfaction with their job security. Nonetheless, the factors of 'pay' and 'security' are ranked below those of the 'type of work' and of 'working hours' in terms of their relative importance for overall job

satisfaction. Thus, the insignificant coefficients of these latter two facets may account for the total lack of a relationship between low pay status and job satisfaction in the UK. Similar conclusions can be drawn for France and Denmark. In France, though low wage employees are significantly less satisfied with their working hours and times, there are no significant utility differences in their type of work, working conditions, job security and travelling distance to work. A similar dislike for hours of work is also evident among Danish low wage workers, but this is outweighed by a compensating premium in their working conditions and commuting, while there are no apparent differences in their type of work, working times and job security. Surprisingly, in both of these countries it is found that, other things equal, low-paid workers are more satisfied with their pay than high-paid workers.

5.4 Discussion

Based on this evidence, one can therefore conclude that low paid jobs in the European Union are not universally jobs of low quality, for in half of the countries examined in this study the data refute the dual labour market hypothesis. Instead, it appears that low wage workers in the UK, France and Denmark do not suffer from a double penalty, in the sense that they are not employed in jobs that are perceived to be of 'bad' quality. This can be attributed either to the presence of non-pecuniary compensating differences, as would be expected in labour markets where perfectly competitive market forces operate, or because low-paid jobs in these countries are perceived to be stepping stones for positions higher up the pay distribution. Additionally, it could also be the case that the selection of such employment constitutes a voluntary strategy by individuals with other care responsibilities (especially women with small children), or that the British, French, and Danish

governments have ensured that low-paid jobs are underpinned by an infrastructure of decency and fairness with guaranteed workplace rights.

In any case, these results highlight the extent to which the diversity of conditions, institutions and welfare regimes across dissimilar EU economies result in differential outcomes with respect to labour market performance. The specific structures of the Greek and Spanish labour markets, for example, can account for the fact that 'good' and 'bad' jobs exist in these two countries. In Greece, the prevalence of agricultural employment (15%) and self-employment (44%), the small (in terms of number of employees) size of firms and enterprises, the limited and to a large extent involuntary nature of part-time work[18], and the fact that about a third of paid employees are employed in the broadly defined public sector (Kanellopoulos et al, 2003) has resulted in a dualistic labour market. "On the one hand, there are those who are either low-skilled self-employed or employed in small firms, receive low wages, work in unstable and precarious conditions, often for very long hours, and face a highly competitive environment. On the other hand, there are those who are working either in the highly unionised public sector or in large private sector firms who receive relatively high wages and enjoy far better working conditions" (Tsakloglou and Cholezas, 2004).

Spain also stands out, from a European perspective, as a country that has experienced a fast and intense shift from one of the most rigid employment protection systems to a highly flexible labour market. In an attempt to combat unemployment, which had just risen to over 20 per cent of the active population in the mid-1980s, Spanish firms gained a free hand in recruiting employees on short-term contracts. This

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[18] Based on 8 years of ECHP data (1994-2001), Pouliakas and Theodossiou (2005a) find that among the 5.34 percent of employees who work in a part-time job in their sample, almost 47 percent declare that they do it because they were unable to find other work, while only 7.5 percent preferred this type of working arrangement. Furthermore, "part-time employment in Greece is directly interwoven with low pay, low-skilled jobs, limited prospects of career development, low social benefits and partial insurance coverage which also entails low pension rights" (Ioakimoglou and Soumeli, 2002).

led to a marked increase in the distribution of fixed-term contracts to more than 30 percent of all employees, which is extraordinarily high compared to all other European countries. However, the shift towards more flexible employment relations in Spain was unusual in that it was directed at individuals outside the labour market trying to (re-)enter. At the same time, due to the prevailing strong legal obligations that protect permanent employees from dismissal, the job security of those who were already employed under permanent full-time contracts persisted (Toharia and Malo, 2000). This appears to have led to a considerable segmentation of the Spanish labour market.

Finally, other researchers have also pointed out that due to the specific developments that took place in the Finnish labour market since the economic crisis of the early 1990s, the quality of jobs may have suffered. These include a large rise in the unemployment rate and in the incidence of fixed-term contracts from 10% in the 1980s to 16% in 2003 (European Commission, 2004; Asplund, 2003). A more striking fact regarding the quality of these jobs, however, is that most employees declare that they would prefer a permanent contract instead of a fixed-term one. Specifically, in 2001 some 60% of men and 70% of women stated they have a fixed-term contract because they were unable to find another job (Asplund 2003).[19] It has also been argued that due to "a day-care system and income taxation rates that virtually necessitate that both parents work" (Asplund, 2003), part-time work as a form of child-care device for families is not very common in Finland, and that voluntary part-time work is common only among elderly Finnish men. In light of these arguments, it is surprising to find in this study that part-time workers in Finland are more satisfied with their jobs than full-timers, or that there are no significant discrepancies in the utilities of permanent and

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[19] This phenomenon also tends to worsen with age, with almost 80% of men and approximately 85% of women over the age of 50 stating that they work on such contracts because they cannot find another job. Less than 4% of men and less that 2% of women that were working on a fixed-term contract did so because they were on a trial period (Asplund 2003).

non-permanent workers.   Therefore, the reasons that lie behind the overall dissatisfaction of low-paid workers in Finland need to be sought elsewhere.

6. Conclusions

Following the establishment of job quality as one of the three overarching objectives of the EU's Employment Guidelines, and in the face of concerns regarding the declining economic prospects of workers on the lower rungs of the income distribution, which has supposedly led to the emergence of a two-tier labour market in Europe, this study examined whether or not significant differences in perceived job quality exist among high and low-paid workers in six EU countries, namely Greece, Spain, France, Finland, Denmark and the UK.   To do so the practice of an ever-increasing number of economists, who use self-reported job satisfaction data to proxy the overall quality of work as perceived by the individual worker, was followed. Using data from the six waves of the ECHP (1996-2001), evidence was presented that that, other things equal, low-paid employees are significantly less satisfied with their jobs compared to those who are high-paid in Greece, Spain, and Finland.   In contrast, there appears to be an insignificant difference in the satisfaction of high and low wage workers in the United Kingdom, France and Denmark.   Based on this evidence, one can therefore argue that low paid jobs in the European Union are not universally jobs of low quality, for in half of the economies examined in this study the data refute the dual labour market hypothesis.   Nevertheless, there is a legitimate case for concern in some countries.   For these countries, policies that centre on the quality of jobs would therefore be of equal importance to those that focus on the level of pay.

TABLE 1a
Incidence* of low-paid employment in six EU countries

	Greece	UK	Spain	France	Finland	Denmark
Total	17.51	20.22	17.75	14.34	11.14	10.01
By sex						
Female	23.08	27.32	24.42	17.80	13.54	11.71
Male	14.07	13.30	13.92	11.49	8.69	8.43
By age						
16-25	48.44	42.86	41.81	43.55	39.33	46.01
26-35	17.29	13.15	16.72	13.53	9.55	6.86
36-45	9.16	13.88	10.08	9.38	6.66	5.33
46-55	7.89	16.53	10.10	8.61	7.06	3.28
56-65	15.01	21.88	12.23	11.89	7.12	4.58
By marital status						
Not married	31.29	26.37	27.14	21.11	17.78	17.30
Married	10.14	15.17	11.72	9.62	7.28	4.47
By working time status						
Part-time	24.80	40.74	27.45	29.42	27.51	16.31
Full-time	17.24	16.23	17.06	14.89	10.05	9.57
By sector						
public	3.41	9.13	4.98	7.50	8.51	9.29
private	26.03	23.77	21.52	17.63	12.98	10.00
By position in hierarchy						
Supervisory	1.84	6.11	3.81	5.09	3.75	2.31
Intermediate	3.61	14.24	6.59	7.36	4.67	3.70
Non-supervisory	19.15	26.51	20.65	17.38	13.19	7.55
By contractual arrangement						
Permanent	10.87	18.87	8.55	10.57	7.36	4.28
Fixed/short term	25.64	31.95	28.39	38.49	23.57	19.37
Casual/no contract	43.86	52.35	65.45	na	43.11	24.04
Other arrangement	26.47	na	30.60	na	32.38	18.60
By training incidence						
No training/education	21.73	32.78	24.40	17.66	19.23	15.04
Training/education	8.70	15.56	10.82	10.29	7.03	2.60
By educational attainment						
Tertiary	5.99	13.52	7.45	7.25	4.03	1.87
2nd stage secondary	19.71	19.59	17.23	14.32	15.11	9.80
Below 2nd stage secondary	24.99	30.73	24.91	18.30	17.16	25.49
By health						
Very good	17.88	15.58	18.57	14.36	11.94	10.76
Good	15.73	20.64	17.10	14.32	9.77	8.31
Fair	20.12	23.17	18.26	13.56	11.51	10.81
Bad	27.91	26.73	21.38	20.04	13.67	16.36
By status last year						
Employed	14.29	16.99	13.83	11.84	7.63	7.28
Self-employed	19.86	21.65	21.59	32.14	21.93	11.11
Unemployed	46.78	46.17	43.74	46.76	41.04	24.72
Inactive	49.58	52.11	45.13	45.63	35.11	47.36

By industry						
Agriculture	45.55	36.26	48.81	29.84	25.64	21.05
Industry	19.12	14.19	14.25	12.24	9.70	7.41
Services	16.07	22.49	17.61	14.20	13.31	9.11
By occupation						
Legislators/managers	3.80	6.69	1.32	4.28	3.12	3.35
Professionals	3.45	3.41	2.27	4.12	2.17	1.53
Technicians/associate prof.	11.35	8.25	7.23	6.10	7.71	3.74
Clerks	11.34	18.88	11.08	12.05	8.34	10.22
Service and Sales	31.91	51.54	31.39	29.16	23.44	23.30
Skilled agriculture/fishery	40.70	37.17	41.61	33.10	23.04	30.06
Craft/trade	24.32	14.18	15.77	15.99	11.23	15.94
Plant/machine operators	13.16	23.49	14.40	15.75	12.62	6.63
Elementary	30.93	44.53	34.21	28.97	30.26	18.70

Notes: Low pay is defined as less than 2/3rds of median hourly earnings of all employees aged 16-65.
[*]Percentage of workers in each category who are low-paid.
Source: ECHP UDB (1996-2001)

TABLE 1b
Concentration* of low-paid employment in six EU countries

	Greece	UK	Spain	France	Finland	Denmark
By sex						
Female	1.30	1.31	1.35	1.18	1.15	1.17
Male	0.81	0.70	0.80	0.84	0.85	0.84
By age						
16-25	2.77	2.12	2.36	3.04	3.53	4.60
26-35	0.99	0.65	0.94	0.94	0.86	0.69
36-45	0.52	0.69	0.57	0.65	0.60	0.53
46-55	0.45	0.82	0.57	0.60	0.63	0.33
56-65	0.86	1.08	0.69	0.83	0.64	0.46
By marital status						
Not married	1.79	1.30	1.53	1.47	1.60	1.73
Married	0.58	0.75	0.66	0.67	0.65	0.45
By working time status						
Part-time	1.42	2.01	1.55	2.05	2.47	1.63
Full-time	0.98	0.80	0.96	1.04	0.90	0.96
By sector						
public	0.19	0.45	0.28	0.52	0.76	0.93
private	1.49	1.18	1.21	1.23	1.17	1.00
By position in hierarchy						
Supervisory	0.11	0.30	0.21	0.35	0.34	0.23
Intermediate	0.21	0.70	0.37	0.51	0.42	0.37
Non-supervisory	1.09	1.31	1.16	1.21	1.18	0.75
By contractual arrangement						
Permanent	0.62	0.93	0.48	0.74	0.66	0.43
Fixed/short term	1.46	1.58	1.60	2.68	2.12	1.94
Casual/no contract	2.50	2.59	3.69		3.87	2.40
Other arrangement	1.51		1.72		2.91	1.86
By training incidence						
No training/education	1.24	1.62	1.37	1.23	1.73	1.50
Training/education	0.50	0.77	0.61	0.72	0.63	0.26
By educational attainment						
Tertiary	0.34	0.67	0.42	0.51	0.36	0.19
2nd stage secondary	1.13	0.97	0.97	1.00	1.36	0.98
Below 2nd stage secondary	1.43	1.52	1.40	1.28	1.54	2.55
By health						
Very good	1.02	0.77	1.05	1.00	1.07	1.07
Good	0.90	1.02	0.96	1.00	0.88	0.83
Fair	1.15	1.15	1.03	0.95	1.03	1.08
Bad	1.59	1.32	1.20	1.40	1.23	1.63
By status last year						
Employed	0.82	0.84	0.78	0.83	0.68	0.73
Self-employed	1.13	1.07	1.22	2.24	1.97	1.11
Unemployed	2.67	2.28	2.46	3.26	3.68	2.47
Inactive	2.83	2.58	2.54	3.18	3.15	4.73

By industry

Agriculture	2.60	1.79	2.75	2.08	2.30	2.10
Industry	1.09	0.70	0.80	0.85	0.87	0.74
Services	0.92	1.11	0.99	0.99	1.19	0.91
By occupation						
Legislators/managers	0.22	0.33	0.07	0.30	0.28	0.33
Professionals	0.20	0.17	0.13	0.29	0.19	0.15
Technicians/associate prof.	0.65	0.41	0.41	0.43	0.69	0.37
Clerks	0.65	0.93	0.62	0.84	0.75	1.02
Service and Sales	1.82	2.55	1.77	2.03	2.10	2.33
Skilled agriculture/fishery	2.32	1.84	2.34	2.31	2.07	3.00
Craft/trade	1.39	0.70	0.89	1.12	1.01	1.59
Plant/machine operators	0.75	1.16	0.81	1.10	1.13	0.66
Elementary	1.77	2.20	1.93	2.02	2.72	1.87

Notes: *Incidence of low-paid employment in each category divided by overall incidence of low-paid employment. A value greater than 1 indicates a higher than average risk of being low-paid, while a value less than 1 indicates a smaller probability.
Source: ECHP UDB (1996-2001)

TABLE 2
Mean Job Satisfaction Scores by Country

	Greece	*UK*	*Spain*	*France*	*Finland*	*Denmark*
Low-paid	3.169	4.419	3.795	4.284	4.431	4.903
High-paid	4.027	4.309	4.326	4.438	4.594	4.909
By sex						
Female	3.882	4.436	4.237	4.419	4.597	4.893
Male	3.871	4.229	4.230	4.413	4.554	4.922
By age						
16-25	3.529	4.325	4.099	4.424	4.475	4.859
26-35	3.794	4.300	4.183	4.429	4.525	4.863
36-45	4.030	4.320	4.262	4.396	4.560	4.874
46-55	4.037	4.324	4.331	4.402	4.632	4.965
56-65	3.862	4.536	4.444	4.508	4.748	5.064
By marital status						
Not married	3.703	4.276	4.157	4.392	4.496	4.832
Married	3.968	4.376	4.280	4.433	4.623	4.967
By working time status						
Part-time	3.296	4.607	3.935	4.296	4.514	4.950
Full-time	3.903	4.278	4.254	4.430	4.582	4.905
By sector						
Public	4.381	4.364	4.556	4.575	4.645	4.936
Private	3.580	4.319	4.133	4.337	4.526	4.885
By contractual arrangement						
Permanent	4.098	4.339	4.386	4.430	4.577	4.918
Fixed or short	3.495	4.217	3.996	4.309	4.593	4.924
Casual	2.916	4.189	3.566	na	4.427	4.680
Other	3.765	na	4.016	na	4.659	5.024
By education attainment						
Tertiary	4.381	4.283	4.449	4.553	4.637	4.947
2nd stage second	3.877	4.321	4.176	4.385	4.505	4.883
Below 2nd stage	3.418	4.415	4.113	4.342	4.609	4.904

Source: ECHP UDB (1996-2001) data

FIGURE 1
Mean Job Satisfaction of High and Low-paid Workers
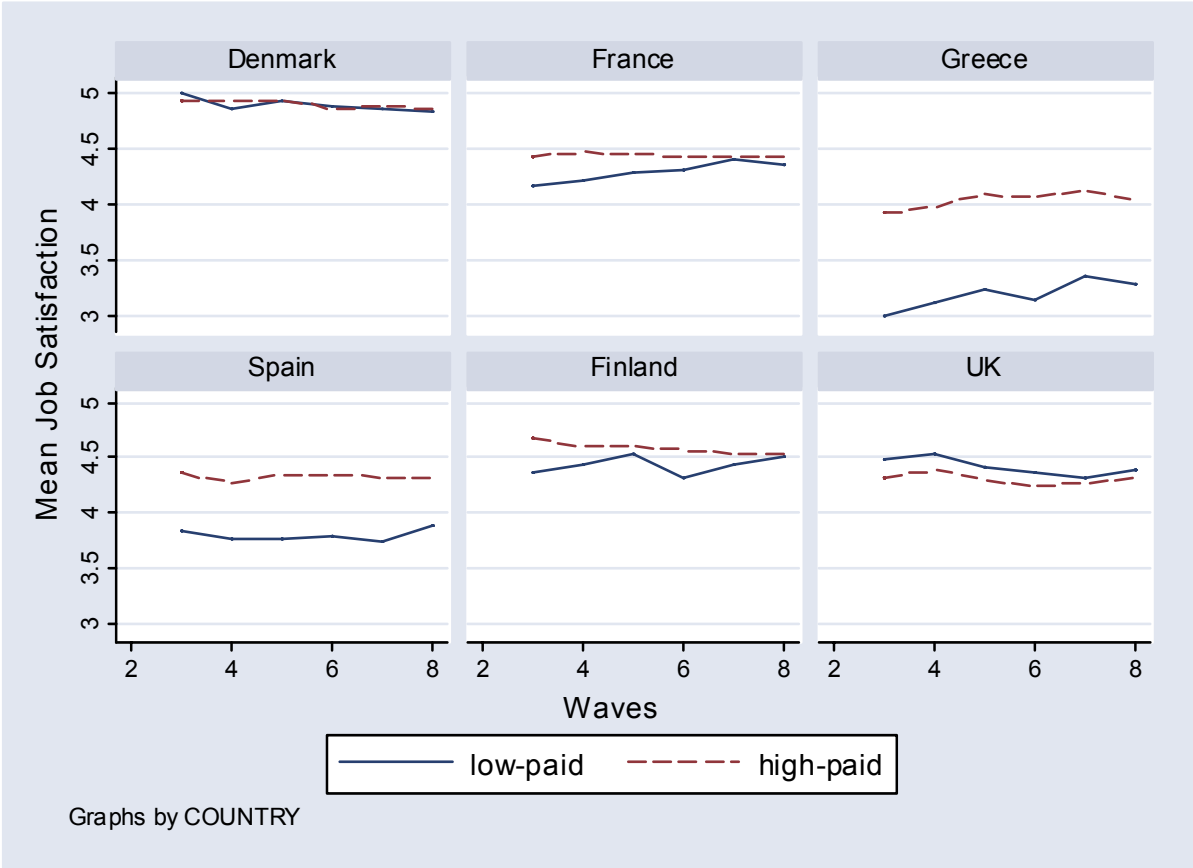**in six EU countries over time**

Graphs by COUNTRY

TABLE 3 Probit estimates of low pay status in six EU countries

	Greece		UK		Spain		France		Finland		Denmark	
	Coef	s.e	Coef	s.e	Coef	s.e	Coef	s.e	Coef	s.e	Coef	s.e
Personal												
Age	-0.145	(0.012)***	-0.143	(0.008)***	-0.116	(0.008)***	-0.098	(0.011)***	-0.091	(0.013)***	-0.088	(0.019)***
Agesq	0.002	(0.000)***	0.002	(0.000)***	0.001	(0.000)***	0.001	(0.000)***	0.001	(0.000)***	0.001	(0.000)***
Male	-0.540	(0.041)***	-0.551	(0.034)***	-0.645	(0.032)***	-0.421	(0.034)***	-0.501	(0.050)***	-0.512	(0.070)***
Married	-0.268	(0.047)***	-0.107	(0.031)***	-0.121	(0.033)***	-0.087	(0.031)***	-0.051	(0.045)	-0.087	(0.064)
Child < 12	-0.183	(0.046)***	-0.104	(0.033)***	0.025	(0.033)	-0.235	(0.032)***	-0.114	(0.047)**	-0.006	(0.062)
Work vars												
Tenure	-0.035	(0.012)***	-0.051	(0.009)***	-0.053	(0.010)***	-0.097	(0.009)***	-0.054	(0.014)***	-0.012	(0.017)
Tenuresq	0.000	(0.001)	0.002	(0.000)***	0.001	(0.000)**	0.002	(0.000)***	0.001	(0.001)	0.000	(0.001)
Mean hours	-1.175	(0.184)***	-0.916	(0.099)***	-0.734	(0.121)***	-1.329	(0.139)***	-0.197	(0.173)	0.227	(0.304)
Ln(hours)	2.972	(0.173)***	1.258	(0.107)***	3.040	(0.116)***	3.008	(0.153)***	2.038	(0.184)***	2.213	(0.279)***
Full-time	-0.943	(0.119)***	-0.609	(0.061)***	-1.217	(0.081)***	-1.114	(0.073)***	-1.417	(0.113)***	-1.161	(0.122)***
Private	0.633	(0.075)***	0.702	(0.052)***	0.525	(0.063)***	0.341	(0.045)***	0.150	(0.055)***	-0.138	(0.087)
Two jobs	0.261	(0.091)***	0.133	(0.044)***	0.163	(0.090)*	0.207	(0.107)**	0.149	(0.070)**	0.054	(0.093)
Duties												
Intermedia	0.104	(0.174)	0.001	(0.061)	0.233	(0.089)***	0.054	(0.058)	-0.169	(0.091)*	0.088	(0.116)
Non-super	0.507	(0.141)***	0.340	(0.055)***	0.521	(0.084)***	0.250	(0.051)***	0.094	(0.077)	0.209	(0.098)**
Contract												
Fixed/short	0.325	(0.055)***	0.128	(0.070)*	0.235	(0.034)***	0.391	(0.042)***	0.258	(0.054)***	0.473	(0.096)***
Casual	0.546	(0.044)***	0.161	(0.083)**	0.950	(0.070)***	na	na	0.511	(0.112)***	0.649	(0.105)***
Other	0.207	(0.220)	na	na	0.408	(0.069)***	na	na	0.735	(0.202)***	0.608	(0.241)**
Human K												
Tertiary	-0.344	(0.066)***	-0.280	(0.031)***	-0.254	(0.042)***	-0.470	(0.043)***	-0.373	(0.069)***	-0.683	(0.105)***
2nd level	-0.117	(0.045)***	-0.267	(0.040)***	-0.139	(0.034)***	-0.122	(0.034)***	-0.140	(0.051)***	-0.308	(0.065)***
Training	-0.144	(0.045)***	-0.212	(0.028)***	-0.102	(0.028)***	-0.156	(0.028)***	-0.258	(0.044)***	-0.497	(0.062)***

	(1)		(2)		(3)		(4)		(5)		(6)	
Health												
Good	0.014	(0.043)	0.096	(0.032)***	0.049	(0.031)	0.085	(0.040)**	-0.038	(0.047)	0.023	(0.058)
Fair	0.191	(0.078)**	0.145	(0.038)***	0.110	(0.045)**	0.131	(0.045)***	0.056	(0.059)	0.191	(0.083)**
Bad/V. bad	0.395	(0.194)**	0.302	(0.058)***	-0.013	(0.082)	0.453	(0.079)***	0.270	(0.122)**	0.416	(0.168)**
Ex-status												
Self-employ	-0.032	(0.162)	0.143	(0.111)	0.031	(0.130)	0.467	(0.207)**	0.304	(0.183)*	-0.081	(0.441)
Unemployed	0.325	(0.068)***	0.462	(0.090)***	0.347	(0.042)***	0.339	(0.066)***	0.498	(0.083)***	-0.126	(0.194)
Inactive	0.310	(0.069)***	0.338	(0.053)***	0.383	(0.054)***	0.457	(0.065)***	0.406	(0.064)***	0.536	(0.108)***
Occupation												
Legislators/managers	-0.954	(0.179)***	-0.778	(0.075)***	-0.772	(0.182)***	-0.837	(0.100)***	-0.857	(0.126)***	-0.329	(0.170)**
Profs	-0.975	(0.108)***	-1.047	(0.075)***	-0.960	(0.098)***	-0.675	(0.079)***	-1.302	(0.099)***	-0.426	(0.144)***
Techns/associate prof	-0.584	(0.091)***	-0.814	(0.063)***	-0.398	(0.059)***	-0.691	(0.057)***	-0.720	(0.075)***	-0.422	(0.119)***
Clerks	-0.560	(0.070)***	-0.583	(0.053)***	-0.362	(0.056)***	-0.517	(0.053)***	-0.607	(0.082)***	-0.321	(0.110)***
Serv/sales	-0.385	(0.064)***	0.038	(0.053)***	0.055	(0.045)	-0.067	(0.054)	-0.233	(0.074)***	0.437	(0.098)***
Skilled agri/fish	-0.171	(0.167)	0.092	(0.148)	-0.118	(0.098)	0.161	(0.134)	-0.475	(0.184)***	0.194	(0.231)
Craft/trade	-0.110	(0.063)*	-0.399	(0.059)	-0.134	(0.042)***	-0.198	(0.059)***	-0.299	(0.083)***	0.029	(0.127)
Plant/machine operats	-0.446	(0.072)***	-0.164	(0.058)***	-0.247	(0.051)***	-0.143	(0.059)**	-0.516	(0.091)***	-0.266	(0.122)**
Id vars												
2 roomspp	-0.312	(0.056)***	-0.224	(0.029)***	-0.106	(0.033)***	-0.090	(0.030)***	-0.131	(0.046)***		
> 3 roomspp	-0.353	(0.125)***	-0.366	(0.041)***	-0.158	(0.055)***	-0.274	(0.051)***	-0.010	(0.077)		
< 2 good fts	0.477	(0.143)***										
3 good fts	0.430	(0.079)***										
4 good fts	0.191	(0.038)***										
Damp walls			0.114	(0.045)***								
Possess car			-0.275	(0.050)***								
1st pc cd's					-0.089	(0.010)***						
Exog income							0.335	(0.110)***				
Hot run water							-0.507	(0.150)***				
Possess phone							-0.199	(0.082)**				

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Possess micro					-0.195 (0.059)***	
Electric Heat						(0.679) (0.305)**
Possess video						(-0.219) (0.086)***
N	13273.000	20989.000	23663.000	21787.000	12496.000	9665.000
Wald χ^2(d.f)	2538.07 (59)***	4098.86 (64)***	4280.21 (60)**	3747.47 (61)***	1765.17 (58)***	1020.49 (53)***
Pseudo R^2	0.380	0.362	0.387	0.335	0.314	0.356
χ^2(H$_o$: Z=0)	51.83(5)***	83.8(4)***	65.36(3)***	38.32(5)***	13.74(3)***	9.37(2)***

Notes: Standard errors robust to arbitrary heteroscedasticity and the repeat sampling of individuals over time; *significant at 10%; ** significant at 5%; *** significant at 1%; All regressions include controls for industry (10) and time (6); Reference groups: duties: supervisory; contract: permanent; education: below 2nd stage; health: very good; status last year: employed; rooms pp: 1 room pp; good features: >5;

TABLE 4 Estimates of overall job satisfaction in six EU countries

	Greece		UK		Spain		France		Finland		Denmark	
	Coef	s.e	Coef	s.e	Coef	s.e	Coef	s.e	Coef	s.e	Coef	s.e
Lowpay OLS	-0.08	(0.029)***	0.02	(0.028)	-0.09	(0.025)***	0.03	(0.027)	-0.001	(0.041)	0.12	(0.062)**
Lowpay	**-0.158**	**(0.076)****	**0.009**	**(0.060)**	**-0.307**	**(0.044)****	**-0.006**	**(0.048)**	**-0.167**	**(0.063)****	**0.004**	**(0.110)**
Personal												
Age	-0.017	(0.008)**	-0.035	(0.007)***	-0.051	(0.005)***	-0.027	(0.008)***	-0.027	(0.009)***	-0.048	(0.010)***
Agesq	0.000	(0.000)*	0.001	(0.000)***	0.001	(0.000)***	0.000	(0.000)***	0.000	(0.000)***	0.001	(0.000)***
Male	-0.079	(0.025)***	-0.147	(0.024)***	-0.085	(0.020)***	-0.068	(0.022)	-0.102	(0.027)***	-0.015	(0.033)
Married	-0.019	(0.029)	0.037	(0.022)*	-0.017	(0.020)	0.028	(0.020)	0.052	(0.027)**	0.110	(0.030)***
Child < 12	0.005	(0.023)	0.065	(0.021)***	0.035	(0.018)**	-0.023	(0.019)	0.031	(0.026)	-0.007	(0.029)
Work vars												
Tenure	0.012	(0.006)**	-0.040	(0.006)***	-0.008	(0.005)	-0.020	(0.006)***	-0.034	(0.008)***	-0.015	(0.007)**
Tenuresq	0.000	(0.000)	0.002	(0.000)***	0.000	(0.000)*	0.001	(0.000)***	0.002	(0.000)***	0.000	(0.000)
Ln(pay)	0.433	(0.034)***	0.073	(0.028)***	0.252	(0.027)***	0.170	(0.028)***	0.261	(0.041)***	0.146	(0.058)***
Mean hours	0.008	(0.087)	-0.005	(0.056)	-0.094	(0.064)	-0.033	(0.068)***	0.039	(0.093)	-0.134	(0.123)
Ln(hours)	0.482	(0.079)***	-0.018	(0.054)	0.236	(0.062)***	0.258	(0.060)	0.314	(0.092)***	0.303	(0.108)***
Full-time	0.103	(0.052)**	-0.133	(0.041)***	0.022	(0.046)	-0.047	(0.043)***	-0.133	(0.067)**	-0.161	(0.063)***
Private	-0.214	(0.033)***	0.075	(0.036)**	-0.037	(0.028)	-0.083	(0.028)***	0.041	(0.030)	0.006	(0.042)
Two jobs	0.141	(0.044)***	0.001	(0.028)	-0.048	(0.044)	0.071	(0.053)	0.020	(0.039)	0.123	(0.034)***
Duties												
Intermedia	-0.122	(0.050)**	-0.087	(0.029)***	-0.107	(0.029)***	-0.074	(0.027)***	-0.148	(0.035)***	-0.110	(0.043)***
Non-super	-0.184	(0.044)***	-0.105	(0.028)***	-0.182	(0.028)***	-0.198	(0.027)***	-0.252	(0.032)***	-0.079	(0.037)**
Contract												
Fixed/short	-0.276	(0.034)***	-0.149	(0.041)***	-0.118	(0.020)***	-0.086	(0.030)***	0.027	(0.035)	-0.011	(0.050)
Casual	-0.374	(0.031)***	-0.262	(0.049)***	-0.139	(0.053)***	na	na	-0.040	(0.080)	-0.224	(0.058)***
Other	0.040	(0.094)	na	na	-0.110	(0.042)***	na	na	0.110	(0.133)	0.094	(0.126)
Human K												
Tertiary	0.057	(0.036)*	-0.126	(0.023)***	-0.219	(0.023)***	-0.126	(0.028)***	-0.346	(0.038)***	-0.106	(0.046)**

	Coef	SE	Coef	SE	Coef	SE	Coef	SE	Coef	SE	Coef	SE
2nd level	0.052	(0.027)*	-0.109	(0.025)***	-0.161	(0.021)***	-0.071	(0.021)***	-0.198	(0.032)***	-0.029	(0.039)
Training	0.094	(0.020)***	-0.073	(0.023)***	0.151	(0.015)***	0.092	(0.015)	0.114	(0.026)***	0.032	(0.032)
Health												
Good	-0.139	(0.021)***	-0.180	(0.018)***	-0.230	(0.016)***	-0.227	(0.024)***	-0.240	(0.024)***	-0.215	(0.023)***
Fair	-0.055	(0.047)	-0.332	(0.023)***	-0.389	(0.024)***	-0.542	(0.027)***	-0.417	(0.032)***	-0.406	(0.040)***
Bad/ v.Bad	-0.031	(0.110)	-0.387	(0.038)***	-0.576	(0.056)***	-0.788	(0.053)***	-0.688	(0.083)***	-0.651	(0.100)***
Ex-status												
Self-employ	-0.121	(0.075)	0.101	(0.063)	0.202	(0.076)***	0.085	(0.136)	0.418	(0.108)***	-0.027	(0.193)
Unemployed	-0.041	(0.039)	0.177	(0.057)***	-0.038	(0.027)	0.071	(0.047)	0.109	(0.061)*	0.001	(0.085)
Inactive	0.090	(0.043)**	0.024	(0.033)	0.118	(0.034)***	0.073	(0.043)*	0.088	(0.039)**	0.064	(0.063)
Occupation												
Legislators/managers	0.235	(0.076)***	0.074	(0.051)	0.273	(0.051)***	0.157	(0.057)***	0.019	(0.069)	0.088	(0.077)
Profs	0.277	(0.057)***	0.022	(0.050)	0.243	(0.039)***	0.250	(0.051)***	0.070	(0.063)	0.020	(0.068)
Techns/associate prof	0.250	(0.053)***	0.040	(0.048)	0.271	(0.033)***	0.156	(0.043)***	-0.004	(0.059)	0.088	(0.062)
Clerks	0.209	(0.048)***	0.019	(0.046)	0.164	(0.032)***	0.129	(0.041)***	0.000	(0.060)	-0.054	(0.064)
Serv/Sales	0.144	(0.048)***	0.166	(0.045)***	0.217	(0.031)***	0.059	(0.043)	0.055	(0.061)	0.121	(0.067)*
Skilled agri/fish	0.200	(0.119)*	0.086	(0.116)	0.182	(0.067)***	0.158	(0.112)	-0.048	(0.153)	0.052	(0.149)
Craft/trade	0.151	(0.045)***	0.109	(0.051)**	0.174	(0.027)***	0.135	(0.044)***	-0.152	(0.060)***	-0.036	(0.069)
Plant/machine operts	0.077	(0.049)	-0.095	(0.051)*	0.106	(0.030)***	0.051	(0.045)	-0.112	(0.066)*	0.063	(0.071)
N	13273.000		20989.000		23663.000		21787.000		12496.000		9665.000	
Wald χ^2(df)	3457.36 (56)***		811.7 (62)***		2356.66 (59)***		1352.97 (58)***		784.07 (57)**		404.38 (53)***	
$\chi^2(1)$ (H_o:ρ=0)	1.290		0.260		35.410***		1.060		12.980***		2.210	
F(H_o:Z=0)	1.36 (5, 3806)		1.88 (4, 6168)		0.61 (3, 7528)		1.57 (5, 6470)		0.09 (3, 4727)		0.7 (2, 3294)	

Notes: Standard errors: robust to arbitrary heteroscedasticity and the repeat sampling of individuals over time; * significant at 10%; ** significant at 5%; *** significant at 1%; All regressions include controls for industry (10) and time (6); Reference groups: duties: supervisory; contract: permanent; education: below 2nd stage; health: very good; status last year: employed;

Table 5 Estimates of effect of low pay status on facets of job satisfaction by country

	Pay	*Security*	*Type Work*	*Hours*	*Times*	*Conditions*	*Commute*
Greece	-0.168(0.095)* (3)	0.104(0.083) (2)	-0.126(0.069)* (1)	-0.125(0.069)* (.)	-0.002(0.084) (5)	-0.234(0.010)** (4)	0.291(0.097)*** (.)
UK	-0.371(0.117)*** (3)	-0.192(0.080)** (4)	-0.049(0.064) (1)	-0.051(0.060) (2)			
Spain	-0.17(0.05)*** (2)	0.114(0.05)** (3)	-0.332(0.045)*** (1)	-0.192(0.051)*** (.)	-0.019(0.082) (5)	-0.114(0.007) (4)	-0.086(0.092) (.)
France	0.118(0.045)*** (4)	0.039(0.05) (5)	-0.065(0.05) (1)	-0.228(0.052)*** (.)	-0.231(0.067)*** (2)	-0.051(0.072) (3)	0.146(0.118)
Finland	-0.032(0.062) (2)	0.169(0.07)** (4)	-0.103(0.071) (1)	0.042(0.075) (.)	0.111(0.079) (5)	-0.013(0.08) (3)	0.161(0.093)* (.)
Denmark	0.225(0.101)** (2)	-0.03(0.106) (4)	-0.01(0.122) (1)	-0.237(0.113)** (.)	-0.178(0.108) (5)	0.262(0.12)** (3)	0.246(0.133)* (.)

Notes: Standard errors in parentheses: robust to arbitrary heteroscedasticity and the repeat sampling of individuals over time; * significant at 10%; ** significant at 5%; *** significant at 1%; Results for the remaining explanatory variables are available from the authors upon request; Rankings of facets of job satisfaction in parentheses, according to Skalli et al.(2004), while for UK according to Leontaridi and Sloane (2004).

Appendix

Description of variables

Variable	Description
Job Satisfaction scores (1 = 'not satisfied', 6 = 'fully satisfied')	
Overall Job Satisfaction	respondent satisfaction rating with work or main activity
Job Satisfaction: facets	respondent satisfaction rating of facet i of present job (i = earnings, job security, type of work, number of working hours, working times, work conditions/environment, distance to work/commuting)
Identifying variables	
1 room pp	1, if individual lives in household with 1 room per person (not counting kitchen, bathroom and toilets), 0 otherwise
2 rooms pp	1, if individual lives in household with 2 rooms per person (not counting kitchen, bathroom and toilets), 0 otherwise
3 rooms pp	1, if individual lives in household with more than 3 rooms per person (not counting kitchen, bathroom and toilets), 0 otherwise
< 2 good features	1, if accommodation of individual has less than two good features, 0 otherwise
3 good features	1, if accommodation of individual has 3 good features, 0 otherwise
4 good features	1, if accommodation of individual has 4 good features, 0 otherwise
> 5 good features	1, if accommodationof individual has more than 5 good features, 0 otherwise
Damp walls	1, if dwelling has damp walls, floors, foundations etc, 0 otherwise.
Possess car	1, if household possesses a car or van (for private use), o otherwise.
1st pc cd's	1st principal component of 7 'consumer durables' variables (car, colour tv, vcr, microwave, dishwasher, phone, second home).
Exog income	1, if household inherited, received a gift, or made lottery winnings of more than 10,000 euros and less than 50000 euros, 0 otherwise.
Hot run water	1, if dwelling has hot running water, 0 otherwise
Possess phone	1 if household possesses a telephone, 0 otherwise
Possess micro	1, if household possesses a microwave, 0 otherwise
Electric Heat	1, if dwelling has heating or electric storage heaters, 0 otherwise
Possess video	1, if dwelling possesses a video recorder, 0 otherwise
Job and Personal Characteristics	
Lowpay	1, if individual is low-paid, 0 otherwise
Lnpay	natural log of gross hourly wage of main job (including overtime)
Age	age of respondent at date of interview
Agesq	age squared
Tenure	job tenure at date of interview
Married	1, if individual is married, 0 otherwise
Male	1, if gender is male, 0 otherwise
Hours	Total number of hours worked per week (in main plus additional jobs, including paid overtime)
Child < 12yrs	1, if household has 1 or more children under 12, 0 otherwise
Full-time	1, if main job is full-time, 0 otherwise
Private	1, if current job is in the private sector, 0 otherwise
Human Capital	
Training	1, if individual had formal training or education that gave skills needed for present type of work, 0 otherwise
Below second stage secondary	1, if highest level of general or higher education completed is less than second stage of secondary education, 0 otherwise (omitted)
Second stage secondary	1, if highest level of general or higher education completed is second stage of secondary education, 0 otherwise
Third level	1, if highest level of general or higher education completed recognised third level education, 0 otherwise
Duties	
Supervisory	1, if job status in current job is supervisory (omitted), 0 otherwise
Intermediate	1, if job status in current job is intermediate, 0 otherwise
Non-supervisory	1, if job status in current job is non-supervisory, 0 otherwise
Contract	

Permanent	1, if employment contract in main job is permanent, 0 otherwise (omitted)
Fixed/short term	1, if employment contract in main job is fixed term or short-term, 0 otherwise
Casual work	1, if employment contract in main job is casual work with no contract, 0 otherwise
Health	
Health: very good	1, if health in general is very good, 0 otherwise (omitted)
Health: good	1, if health in general is good, 0 otherwise
Health: fair	1, if health in general is fair, 0 otherwise
Health: poor	1, if health in general is poor, 0 otherwise
Health: very poor	1, if health in general is very poor, 0 otherwise
Status last year	
Employed	1, if most frequent activity last year was employment, 0 otherwise (omitted)
Self-employed	1, if most frequent activity last year was self-employment, 0 otherwise
Unemployed	1, if most frequent activity last year was unemployment, 0 otherwise
Inactivity	1, if most frequent activity last year was inactivity, 0 otherwise

Other controls	
Industry	a set of 10 dummies for one-digit industry, taking the value 1 if the respondent's job belongs to the corresponding industry classification, 0 otherwise. The one-digit industries include: Agriculture; Mining and Manufacturing; Construction; Retail and Trade; Hotels and Restaurants; Transport and Communication; Financial Services; Public Administration; Education; Health, social services and other (omitted: Agriculture)
Occupation	a set of nine dummies for one-digit occupation, taking the value 1 if the respondent's job belongs to the corresponding occupational classification, 0 otherwise. The one-digit occupations include: Legislators, Senior officials and managers; Professionals; Technicians and associate professionals; Clerks; Service and Shop and market sales workers; Skilled agricultural and fishery workers; Craft and related trades workers; Plant and machine operators and assemblers; Elementary occupations (omitted: Elementary occupations)
Year	a set of six dummies taking the value 1 for observations that belong to the corresponding wave of the ECHP, 0 otherwise. Years of sample include: 1996, 1997, 1998, 1999, and 2001.

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