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**Does Job Satisfaction Vary Across The Regions Of  
Great Britain?**

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# **Does Job Satisfaction Vary Across The Regions Of Great Britain?**

## **ABSTRACT**

The aim of the paper is to examine the extent to which employee perspectives of eight different aspects of job satisfaction vary across the 11 Government Office Regions of Great Britain. A matched workplace-employee data set is used, which has its origins in two elements of the Cross Section Survey of the 2004 Workplace Employment Relations Survey. Some evidence of regional differences is found. Individuals employed at workplaces located in Wales are relatively more satisfied than those employed in workplaces located in the South East of England, whereas individuals employed in workplaces located in the East of England are relatively less satisfied.

# Does Job Satisfaction Vary Across The Regions Of Great Britain? <sup>1</sup>

## 1. INTRODUCTION

Recent studies of job satisfaction have produced similar results, irrespective of the data set used, the statistical methodology adopted, or the subject discipline of the researcher. Age, gender, income, qualifications, for example, have all been established as important determinants of job satisfaction, with younger and older workers being relatively more satisfied across many aspects of job satisfaction than those in middle age; women being relatively more satisfied than men; those in the higher earnings categories being relatively more satisfied than those in the lower earnings categories; and those without academic or vocational qualifications being relatively more satisfied than those who do possess these qualifications.

However, the workplaces about which individuals express their dissatisfactions/satisfactions with diverse aspects of their jobs do not exist in a geographical vacuum. The economic landscape is spatially differentiated. The economic process often assigns particular functions or roles to particular places. The resulting spatial division of labour, once manifest nationally is now apparent internationally, following globalisation. Management's recruitment and labour control strategies are often adjusted accordingly. It is not surprising, therefore, that there is now evidence of trends in job satisfaction and other, equivalent measures of job outcomes, varying internationally.

This paper addresses a similar spatial question, but investigating whether employee perspectives of job satisfaction vary intra-nationally. Controlling for empirically

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<sup>1</sup> The author acknowledges the (former) Department of Trade and Industry, the Economic and Social Research Council, the Advisory, Conciliation and Arbitration Service and the Policy Studies Institute as the originators of the 2004 Workplace Employment Relations Survey data, and the Data Archive at the University of Essex as the distributor of the data. The National Centre for Social Research was commissioned to conduct the field work on behalf of the sponsors. None of these organisations bears any responsibility for the author's analysis and interpretations of the data.

established determinants of job satisfaction - such as individual employee characteristics and the structural characteristics of the workplace at which the individual is employed - to what extent does job satisfaction vary across the regions of Great Britain?

Some evidence of regional differences is found. Across the diverse aspects of job satisfaction examined, individuals employed at workplaces located in Wales are relatively more satisfied than those employed in workplaces located in the South East of England. In contrast, individuals employed in workplaces located in the East of England are relatively less satisfied. There is no immediately apparent explanation for these observed differences, for example in terms of their association or correlation with the conventional economic variables used to examine inter-regional differences.

The paper is structured as follows. How others have investigated and analysed job satisfaction is reported in the next section. The data set and the model are then outlined, before the results are presented and discussed.

## **2. ANALYSING JOB SATISFACTION**

Locke (1976) provides the seminal definition of job satisfaction: “a pleasurable or positive emotional state resulting from an appraisal of one’s job or job experiences” (p. 1300) and this has informed many of the questionnaire surveys of relevance. However, many economists remain reluctant to make use of the wealth of statistical data which exists on job satisfaction and other measures of individual well-being, although they are used extensively by researchers from other disciplines (Blanchflower and Oswald, 2004).

Conventional economic theory adopts an objectivist perspective, based on observable choices made by individuals. According to this perspective, individual utility depends upon tangible goods and services and leisure, and is inferred from either observed behaviour or revealed preferences. In the standard economic model, individual utility from work ( $u$ ) depends positively upon earnings ( $y$ ) and negatively upon hours of

work (**h**), subject to an appropriate set of controls for individual and job characteristics (**Z**). In notation form:

$$u = u(y, h, Z)$$

By contrast, a subjectivist perspective of an individual's utility recognises that everyone has their own ideas on what constitutes happiness or satisfaction, and maintains that observed behaviour is an inadequate measure of both. Further, the subjectivist perspective assumes that measures of well-being are both cardinally measurable and inter-personally comparable, claims unacceptable to economists (Frey and Stutzer, 2000; 2002). Freeman (1978) raises another potential problem in relation to interpreting responses to questions about job satisfaction, especially so in the context of their use as dependent variables. Responses made "depend not only on the objective circumstances in which an individual finds himself but also on his psychological state and thus on aspirations, willingness to voice discontent, the hypothetical alternatives to which the current job is compared, and so forth" (p. 139). Therefore, available survey data are regarded with suspicion by many economists on grounds of their consistency, reliability and validity.

Nonetheless, increasing use has been made of these variables which "measure 'what people say' rather than 'what people do'" (Freeman, 1978, p. 135) for two principal reasons. The first is attributable to Freeman himself: "... the answers to questions about how people feel...convey useful information about economic life that should not be ignored" (p. 135). The other is that answers to questions about job satisfaction (or worker well-being more generally) have provided important insights into certain aspects of labour market behaviour, notably explaining shirking – hence worker productivity - (Akerlof and Yellen, 1986) and predicting voluntary quits (Akerlof et al, 1988: Clark et al, 1998: Freeman, 1978: Weiss, 1980).

In framing questions about job satisfaction, however, different surveys have constructed different sets of aspects (also referred to as domains or facets) of job satisfaction. Further, individuals have been offered different (Likert-style) response

scales.<sup>2</sup> In the first wave of the British Household Panel Survey, collected in 1991 (and used, *inter alia* by Clarke (1996:1997)) individuals were asked to rate their satisfaction levels with seven specific aspects of their job: promotion prospects, total pay, relations with supervisors, job security, ability to work on their own initiative, the actual work itself, and hours of work. Then they were asked a final question: ‘all things considered, how satisfied or dissatisfied are you with your present job?’ Each response was given a number 1 to 7, where the value of the former corresponded to ‘not satisfied at all’ and 7 to ‘completely satisfied’. The integers 2 to 6 represented intermediate levels of satisfaction.<sup>3</sup> In the Survey of Employees associated with the 1998 Workplace Employment Relations Survey, (used, *inter alia*, by Gazioglu and Tansel (2006)) four aspects of job satisfaction were considered: satisfaction with influence over the job; satisfaction with the amount of pay; satisfaction with sense of achievement; and satisfaction with respect from supervisors. In this instance, individuals had six possible response options viz. ‘very satisfied’, ‘satisfied’, ‘neither satisfied nor dissatisfied’, ‘dissatisfied’ ‘very dissatisfied’ and ‘don’t know’.<sup>4</sup>

Responses to job satisfaction questions in the two surveys noted have been examined making use of ordered probit models, which contain generally similar sets of personal characteristics but varying sets of job related characteristics as independent variables. As Wood (2008) notes, the results of many of the recent studies of job satisfaction are consistent “regardless of the discipline of the researchers conducting the study” (p. 153).

In the context of British studies, the papers by Clark (1996) and Gazioglu and Tansel (2006) exemplify the application of micro-econometric methodology, using ordered probit models to investigate the relationship between job satisfaction and variables such as age, education levels, gender, income and union status. Both papers produce similar results e.g. “job satisfaction is higher for women, older workers and those with

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<sup>2</sup> Which explains Rose’s, 2005, observation that “to present job satisfaction data concisely, accurately and meaningfully is inherently difficult” (p. 458).

<sup>3</sup> In his 1996 paper, for example, Clarke analyses three of these aspects, satisfaction with pay, which “measures the worker’s subjective evaluation of the extrinsic observable monetary reward from working” (p. 193); satisfaction with the work itself, which “reflects the intrinsic nature of the job” (p. 193); and overall job satisfaction, which is seen as an “useful summary measure” (p. 193)

<sup>4</sup> The Employment in Britain and Working in Britain surveys offered yet further variations on this theme of framing and wording questions on job satisfaction and the response scales associated with the same (Rose, 2005).

lower levels of education” (Clark, 1996, p. 207). In a subsequent paper, Clark (1997) pursues the gender issue further, examining why women are (unexpectedly) so happy at work. Bryson et al (2004) seek to examine a paradox in the findings of both Clark and Gazioglu and Tansel, namely that union membership and job satisfaction, counter intuitively, appear to be negatively correlated.

In the context of cross country studies, Green and Tsitsianis (2005) seek to explain national trends in job satisfaction in Britain and Germany. Modest, yet significant falls in job satisfaction are reported for both countries. Although the decline in job satisfaction in the latter country “remains a puzzle” (p. 423), in Britain it is attributed to work effort intensification (Green, 2001: 2004) and declining task discretion (Gallie et al, 2004).

### **3. THE DATA SET AND THE MODEL**

This paper makes use of a matched workplace-employee data set which has its origin in two elements of the Cross Section 2004 Workplace Employment Relations Survey (WERS 2004) (Kersley et al, 2006). The initial unit of analysis in this survey is workplaces, defined as “the activities of a single employer at a single set of premises” employing at least five workers (Kersley et al, 2006, p. 3). The population of workplaces sampled is drawn randomly from the International Departmental Business Register maintained by the Office for National Statistics and constitutes 700,000 workplaces (33 percent of the GB total) and 22.5 million employees (89 percent of the GB total). The sample selected is stratified by workplace size and industry, with workplaces being randomly selected from within size bands and industries.<sup>5</sup>

The first element of WERS 2004 used is the ‘Cross Section Survey of Managers’, the responses of the senior manager at the workplace responsible for employment relations on a day-to-day basis. In the original survey, this generated 2,295 observations. At each of the workplaces which participated in the survey of managers, self completion questionnaires were distributed to a random selection of up to 25

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<sup>5</sup> Although this paper makes use of the regional identifier (viz. the Government Office Regions), WERS2004 was not designed to be representative of geographical areas within Great Britain.

employees. This ‘Survey of Employees’ constitutes the second element of WERS 2004 used. In the original survey, this generated 22,451 observations.

Job satisfaction is addressed in two questions in the Survey of Employees. In one, respondents are asked: “How satisfied are you with the following aspects of your job?”. Seven aspects are identified: the sense of achievement got from work; the scope to use initiative; the amount of influence over the job; the training received; the amount of pay received; job security; and the work itself. Six possible responses are offered to each: ‘very satisfied’, ‘satisfied’, ‘neither satisfied nor dissatisfied’, ‘dissatisfied’, ‘very dissatisfied’ and ‘don’t know’. In the other question, respondents are asked: “Overall, how satisfied are you with the amount of involvement you have in decision-making at this workplace?” In this instance, five possible responses are offered: ‘very satisfied’, ‘satisfied’, ‘neither satisfied nor dissatisfied’, ‘dissatisfied’ and ‘very dissatisfied’. The ‘don’t know’ response option is not offered.

The nominal, multiple responses to these eight questions are re-structured to create the dependent variable in the model estimated. For both questions, the ‘very satisfied’ and ‘satisfied’ responses are merged and constitute ‘satisfied = 1’ in a binomial logit. The other responses – including the ‘don’t knows’ – are also merged and constitute ‘satisfied = 0’ in the same.

The generic binomial logit model is as follows:

$$y_{iw} = \mathbf{X}_{iw}\boldsymbol{\beta} + \boldsymbol{\varepsilon}_{iw}$$

where  $y_{iw} = 1$  if the response to the question posed is ‘satisfied’ and  $y_{iw} = 0$  otherwise,  $\mathbf{X}$  is a vector of values for the  $iw$  observation,  $\boldsymbol{\beta}$  is a vector of parameters to be estimated and  $\boldsymbol{\varepsilon}_{iw}$  is an error term. (Baum, 2006: Long, 1997: Long and Freese, 2006).

The vector of independent variables in the generic model contains variables of four distinct types, reflecting the personal characteristics of the individual, both related to and unrelated to work; the structural characteristics of the workplace at which the

individual is employed; human resource management policies and practices in operation at the workplace at which the individual is employed; and the region in which the workplace is located. (Full details are to be found in the Data Appendix.)<sup>6</sup> Data for these variables are taken from responses to other questions in the Survey of Employees and selected questions in the Survey of Managers.

#### **4. RESULTS AND DISCUSSION**

More than half of all respondents are satisfied with the sense of achievement they get from their jobs; the scope they have to make use of their own initiative; the influence they have over their jobs; their job security; and the work itself. Indeed, almost seven in ten are satisfied with three of these five aspects. By way of contrast less than one in four are satisfied with the pay they receive and their involvement in decision-making at the workplace (cf. Table 1). The statistical significance of the two way association between these eight aspects of job satisfaction is evident from Table 2. However, the varying value of Kendal's tau b statistic in the same table also demonstrates considerable inter personal differences in responses to each of the eight questions.

The importance of both personal characteristics and the structural characteristics of the workplace in explaining each of the eight aspects of job satisfaction may be seen from the Wald tests of joint significance reported in Tables 3 through to 10. By contrast, the set of variables associated with the human resource management policies and practices in operation at the workplace is jointly significant (again at  $p < 0.1$ ) in only two instances viz. 'scope' (cf. Table 4) and 'security' (cf. Table 8). The set of variables associated with the government office regions is jointly significant (at  $p < 0.1$ ) in five instances viz. 'scope' (cf. Table 4); 'influence' (cf. Table 5); 'pay' (cf. Table 7); 'security' (cf. Table 8); and 'involvement' (cf. Table 10).

Table 11 is a composite table, bringing together the marginal effects of the region coefficients from the binomial logit estimations reported in Tables 3 through to 10, by the aspects of job satisfaction. In the context of the 'achieve' aspect, no region is

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<sup>6</sup> The data are weighted using `emptnr` in the WESRS 2004 data set. Also, in all estimations, the observations are clustered by workplace, making use of `serno`.

associated with a statistically significant result. In the context of ‘scope’, ‘influence’, ‘training’ ‘security’, ‘work’ and ‘involvement’ in each instance there is one region associated with a statistically significant result viz. Scotland, Scotland, Wales, the East of England, London and Wales, respectively. In the context of ‘pay’ there are three regions associated with a statistically significant result viz. Yorkshire and the Humber, Scotland and Wales. It is notable that there are more statistically significant results associated with an ‘objective’ aspect of job satisfaction, viz. ‘pay’, perhaps because it is often the subject of media reporting.

Relative to the reference category region of South East England, four regions produce six or more positively signed coefficients, reflecting the probability that individuals employed in workplaces in these regions are relatively more satisfied with the aspect in question: the West Midlands and the South West, both with six; the East Midlands with seven; and Wales with eight, three of which are statistically significant at ( $p < 0.1$ ). In contrast, again relative to the reference category region, individuals employed in workplaces located in the East of England record negatively signed coefficients across all eight aspects of job satisfaction.

There is no apparent pattern to these results when they are seen in the context of the traditional economic variables, such as employment/unemployment rates, earnings etc., frequently used to examine and explain inter-regional differences. Nevertheless, these results do prompt the questions: ‘why are individuals in Wales – and to a lesser extent the East Midlands - so satisfied with aspects of their jobs?’ and ‘why are individuals in the East of England so dissatisfied?’

## **5. CONCLUSIONS**

The number of studies seeking to identify the determinants of job satisfaction continues to increase. An important feature of some of the more recent of these has been attempts to examine the extent to which international differences in job satisfaction may be observed. This paper has pursued the issue of spatial differences in job satisfaction further, by examining the extent to which job satisfaction varies across the Government Office Regions of Great Britain. To do so, it has made use of a

matched workplace-employee data set which has its origins in WERS 2004. It has applied a binomial logit model, which controlled for important and previously established determinants of job satisfaction, such as individual employee and workplace characteristics.

There is some evidence of regional differences. For example, across all eight aspects of job satisfaction examined, individuals employed in workplaces located in Wales are relatively more satisfied than those employed in workplaces located in the South East of England. Individuals employed in workplaces located in the East of England are relatively less satisfied. There is no apparent explanation for these observed inter-regional differences.

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## DATA APPENDIX

Full details of the independent variables used throughout are as follows:

**PERSONAL CHARACTERISTICS:** tenure, by means of 5 dummy variables; employment contract held, by means of 3 dummy variables; the log of the numbers of hours usually worked each week <sup>7</sup>; the number of days of training received in the past year, by means of 6 dummy variables; union/staff association membership, by means of 3 dummy variables; female; age, by means of 9 dummy variables; marital status, by means of 4 dummy variables; whether or not there is a dependent child at home; whether or not the individual has a long term health/disability problem; whether or not the individual has no academic qualifications; whether or not the individual has no vocational/professional qualifications; whether or not the individual supervises others at work; colour (i.e. whether or not the individual is 'not white'); and the hourly pay received, by means of 4 dummy variables.

**STRUCTURAL CHARACTERISTICS OF THE WORKPLACE:** the log of the numbers employed at the workplace; the log of the percentage of women employed at the workplace; the log of the percentage of employees working part time at the workplace; the log of the percentage of employees classified as 'administrative workers' employed at the workplace; the nature of the establishment (e.g. whether it is a single plant organisation, one plant within a multi-plant organisation etc.), by means of 3 dummy variables; the corporate status of the workplace (e.g. whether it is in the public sector, or the private sector etc.), by means of 3 dummy variables; the log of the number of years the workplace has been in operation at the given address; and the SIC of the workplace, by means of 12 dummy variables.

**THE HUMAN RESOURCE MANAGEMENT POLICIES AND PRACTICES IN OPERATION AT THE WORKPLACE** <sup>8</sup>: whether or not there is a strategic plan in operation at the workplace; whether or not the workplace is Investors in People accredited; whether or not regular meetings take place between senior management and all employees; whether or not regular meetings take place between employees and their immediate supervisors/managers; whether or not there is a consultative committee constituted to have members of management and employees; whether or not quality circles operate at the workplace; whether or not a system of job evaluation is in operation at the workplace; whether or not there is a formal procedure in operation at the workplace to address collective disputes; whether or not there is an individual grievance procedure in operation in the workplace; whether or not there is an equal opportunities policy in operation at the workplace; and whether or not recruitment and selection are monitored at the workplace.

**REGIONS:** (i.e. Government Office Regions), by means of 11 dummy variables (with the South East of England constituting the reference region category).

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<sup>7</sup> Throughout, before logs are taken, all '0.00's are converted to '0.05'.

<sup>8</sup> The working assumption is that these policies and practices may matter, given the nature of the dependent variables in question, not that they may be associated with engendering particular outcomes, such as commitment, on the part of the worker (Bryson et al, 2005; Godard, 2004; Wood et al, 2006).

## TABLES

**Table 1. The Dependent Variables, ‘aspects’ of job satisfaction, proportions**

<b>Variable</b>	<b>Proportion</b>
‘achieve’	.696
‘scope’	.710
‘influence’	.565
‘training’	.497
‘pay’	.351
‘security’	.616
‘work’	.712
‘involvement’	.375
<b>Number of observations</b>	<b>16,317</b>

**Table 2. The Dependent Variables, ‘aspects’ of job satisfaction, two way associations, Kendal’s tau b (Asymptotic Standard Error)**

	<b>‘achieve’</b>	<b>‘scope’</b>	<b>‘influence’</b>	<b>‘training’</b>	<b>‘pay’</b>	<b>‘security’</b>	<b>‘work’</b>	<b>‘involvement’</b>
<b>‘achieve’</b>		.5042 (.007)	.4484 (.007)	.2467 (.007)	.1833 (.007)	.2482 (.008)	.5701 (.007)	.3170 (.006)
<b>‘scope’</b>			.5786 (.006)	.2334 (.007)	.1781 (.007)	.2263 (.008)	.4214 (.008)	.3477 (.006)
<b>‘influence’</b>				.2743 (.008)	.2076 (.007)	.2641 (.008)	.3977 (.007)	.4189 (.007)
<b>‘training’</b>					.2464 (.008)	.2660 (.007)	.2609 (.007)	.2552 (.008)
<b>‘pay’</b>						.2400 (.007)	.2061 (.007)	.2407 (.008)
<b>‘security’</b>							.2893 (.008)	.2398 (.007)
<b>‘work’</b>								.2930 (.007)

**Table 3. Selected Output From the Binomial Logit: ‘Are you satisfied with the sense of achievement you get from your work?’ (aspect: ‘Achieve’)**

Number of observations: 16,317

Wald chi(2) (77): 1029.98

Prob>chi2: 0.0000

Psuedo R2: 0.0632

Wald Test for the exclusion of the set of independent variables relating to Personal Characteristics:

chi2 (35): 655.65

Prob > chi2: 0.0000

Wald Test for the exclusion of the set of independent variables relating to the Structural Characteristics of the Workplace:

chi2 (20): 137.89

Prob > chi2: 0.0000

Wald Test for the exclusion of the set of independent variables relating to the Human Resource Management Policies and Practices in Operation at the Workplace:

chi2 (11): 11.64

Prob> chi2: 0.3912

Wald Test for the exclusion of the set of independent variables relating to the Government Office Regions:

chi2 (10): 12.35

Prob> chi2: 0.2620

<b>Region</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Marginal Effect</b>	<b>Significance</b>
<b>North East</b>	-.0005	.1164	-.000	
<b>North West</b>	-.0195	.0758	-.004	
<b>Yorkshire and the Humber</b>	-.0373	.0925	-.007	
<b>East Midlands</b>	-.0428	.0958	-.008	
<b>West Midlands</b>	.0271	.0883	.005	
<b>East of England</b>	-.1332	.0841	-.027	
<b>London</b>	-.1583	.0957	-.033	
<b>South West</b>	.0590	.0915	.011	
<b>Scotland</b>	-.1134	.0810	-.023	
<b>Wales</b>	.0958	.1100	.019	

Footnotes to the above and subsequent tables:

1. Marginal effects are calculated at the means and for a discrete change from 0 to 1 for the dummy variables.

2. The reference category region is South East

3. \* , \*\* , and \*\*\* statistically significant at 0.1, 0.05, and 0.01, respectively.

**Table 4. Selected Output From the Binomial Logit: ‘Are you satisfied with the scope for using your own initiative?’ (aspect: ‘Scope’)**

Number of observations: 16,317

Wald chi(2) (77): 1055.50

Prob > chi2: 0.0000

Pseudo R2: 0.0598

Wald Test for the exclusion of the set of independent variables relating to Personal Characteristics:

chi2 (35): 760.44

Prob > chi2: 0.0000

Wald Test for the exclusion of the set of independent variables relating to the Structural Characteristics of the Workplace:

chi2 (20): 124.51

Prob > chi2: 0.0000

Wald Test for the exclusion of the set of independent variables relating to the Human Resource Management Policies and Practices in Operation at the Workplace:

chi2 (11): 18.03

Prob > chi2: 0.0809

Wald Test for the exclusion of the set of independent variables relating to the Government Office Regions:

chi2 (10): 17.24

Prob > chi2: 0.0693

<b>Region</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Marginal Effect</b>	<b>Significance</b>
<b>North East</b>	-.0000	.1189	-.000	
<b>North West</b>	.0422	.0785	.008	
<b>Yorkshire and the Humber</b>	-.0017	.0958	-.000	
<b>East Midlands</b>	.1516	.0932	.029	*
<b>West Midlands</b>	.0688	.0820	.013	
<b>East of England</b>	-.0811	.0822	-.016	
<b>London</b>	-.0745	.0900	-.014	
<b>South West</b>	.0268	.0928	.005	
<b>Scotland</b>	-.1388	.0797	-.028	*
<b>Wales</b>	.1342	.1096	.025	

**Table 5. Selected Output From the Binomial Logit: ‘How satisfied are you with the amount of influence you have over your job?’ (aspect: ‘influence’)**

Number of observations: 16,317

Wald chi(2) (77): 1114.06

Prob > chi2: 0.0000

Pseudo R2: 0.0552

Wald Test for the exclusion of the set of independent variables relating to Personal Characteristics:

chi2 (35): 851.37

Prob > chi2: 0.0000

Wald Test for the exclusion of the set of independent variables relating to the Structural Characteristics of the Workplace:

chi2 (20): 78.03

Prob > chi2: 0.0000

Wald Test for the exclusion of the set of independent variables relating to the Human Resource Management Policies and Practices in Operation at the Workplace:

chi2 (11): 14.43

Prob> chi2: 0.2099

Wald Test for the exclusion of the set of independent variables relating to the Government Office Regions:

chi2 (10): 19.71

Prob> chi2: 0.0322

<b>Region</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Marginal Effect</b>	<b>Significance</b>
<b>North East</b>	-.1046	.1148	-.025	
<b>North West</b>	.0503	.0702	.012	
<b>Yorkshire and the Humber</b>	-.0673	.0820	-.016	
<b>East Midlands</b>	.0380	.0886	.009	
<b>West Midlands</b>	.0484	.0754	.011	
<b>East of England</b>	-.1336	.0809	-.032	
<b>London</b>	-.0932	.0810	-.022	
<b>South West</b>	.0328	.0806	.008	
<b>Scotland</b>	-.1555	.0784	-.038	**
<b>Wales</b>	.1442	.1071	.034	

**Table 6. Selected Output From the Binomial Logit: ‘How satisfied are you with the training you receive?’ (aspect: ‘training’)**

Number of observations: 16,317

Wald chi(2) (77): 1529.32

Prob > chi2: 0.0000

Pseudo R2: 0.0925

Wald Test for the exclusion of the set of independent variables relating to Personal Characteristics:

chi2 (35): 1274.07

Prob > chi2: 0.0000

Wald Test for the exclusion of the set of independent variables relating to the Structural Characteristics of the Workplace:

chi2 (20): 75.58

Prob > chi2: 0.0000

Wald Test for the exclusion of the set of independent variables relating to the Human Resource Management Policies and Practices in Operation at the Workplace:

chi2 (11): 9.54

Prob > chi2: 0.5721

Wald Test for the exclusion of the set of independent variables relating to the Government Office Regions:

chi2 (10): 10.15

Prob > chi2: 0.4272

<b>Region</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Marginal Effect</b>	<b>Significance</b>
<b>North East</b>	-.0240	.1373	-.006	
<b>North West</b>	-.0275	.0825	-.006	
<b>Yorkshire and the Humber</b>	-.0371	.0912	-.009	
<b>East Midlands</b>	.1210	.1000	.030	
<b>West Midlands</b>	.0328	.0896	.008	
<b>East of England</b>	-.0506	.0877	-.012	
<b>London</b>	.0226	.0936	.005	
<b>South West</b>	.0227	.0851	.005	
<b>Scotland</b>	-.0203	.0866	-.005	
<b>Wales</b>	.2272	.1064	.056	**

**Table 7. Selected Output From the Binomial Logit: ‘How satisfied are you with the amount of pay you receive?’ (aspect: ‘pay’)**

Number of observations: 16,317

Wald chi(2) (77): 1041.41

Prob > chi2: 0.0000

Pseudo R2: 0.0566

Wald Test for the exclusion of the set of independent variables relating to Personal Characteristics:

chi2 (35): 901.11

Prob > chi2: 0.0000

Wald Test for the exclusion of the set of independent variables relating to the Structural Characteristics of the Workplace:

chi2 (20): 56.77

Prob > chi2: 0.0000

Wald Test for the exclusion of the set of independent variables relating to the Human Resource Management Policies and Practices in Operation at the Workplace:

chi2 (11): 7.46

Prob> chi2: 0.7605

Wald Test for the exclusion of the set of independent variables relating to the Government Office Regions:

chi2 (10): 24.89

Prob> chi2: 0.0055

<b>Region</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Marginal Effect</b>	<b>Significance</b>
<b>North East</b>	.1192	.1272	.027	
<b>North West</b>	.0074	.0848	.001	
<b>Yorkshire and the Humber</b>	.2708	.0924	.062	***
<b>East Midlands</b>	.1700	.1090	.039	
<b>West Midlands</b>	.1244	.0941	.028	
<b>East of England</b>	-.0169	.0870	-.003	
<b>London</b>	-.0163	.0963	-.003	
<b>South West</b>	-.0371	.0923	-.008	
<b>Scotland</b>	.2232	.0883	.051	**
<b>Wales</b>	.2157	.1169	.049	*

**Table 8. Selected Output From the Binomial Logit: ‘How satisfied are you with your job security?’ (aspect: ‘security’)**

Number of observations: 16,317

Wald chi(2) (77): 870.75

Prob > chi2: 0.0000

Pseudo R2: 0.0629

Wald Test for the exclusion of the set of independent variables relating to Personal Characteristics:

chi2 (35): 623.72

Prob > chi2: 0.0000

Wald Test for the exclusion of the set of independent variables relating to the Structural Characteristics of the Workplace:

chi2 (20): 158.76

Prob > chi2: 0.0000

Wald Test for the exclusion of the set of independent variables relating to the Human Resource Management Policies and Practices in Operation at the Workplace:

chi2 (11): 20.07

Prob> chi2: 0.0445

Wald Test for the exclusion of the set of independent variables relating to the Government Office Regions:

chi2 (10): 17.39

Prob> chi2: 0.062

<b>Region</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Marginal Effect</b>	<b>Significance</b>
<b>North East</b>	.0308	.1591	.007	
<b>North West</b>	-.0177	.1061	-.004	
<b>Yorkshire and the Humber</b>	.1452	.1109	.033	
<b>East Midlands</b>	.0505	.1241	.011	
<b>West Midlands</b>	-.0467	.1050	-.010	
<b>East of England</b>	-.2205	.1009	-.052	**
<b>London</b>	.1220	.1130	.028	
<b>South West</b>	.0768	.1204	.017	
<b>Scotland</b>	.0816	.1042	.018	
<b>Wales</b>	.1307	.1250	.030	

**Table 9. Selected Output From the Binomial Logit: ‘How satisfied are you with the work itself?’ (aspect: ‘work’)**

Number of observations: 16,317

Wald chi(2) (77): 909.21

Prob > chi2: 0.0000

Pseudo R2: 0.0506

Wald Test for the exclusion of the set of independent variables relating to Personal Characteristics:

chi2 (35): 557.66

Prob > chi2: 0.0000

Wald Test for the exclusion of the set of independent variables relating to the Structural Characteristics of the Workplace:

chi2 (20): 111.52

Prob > chi2: 0.0000

Wald Test for the exclusion of the set of independent variables relating to the Human Resource Management Policies and Practices in Operation at the Workplace:

chi2 (11): 14.93

Prob> chi2: 0.1859

Wald Test for the exclusion of the set of independent variables relating to the Government Office Regions:

chi2 (10): 15.24

Prob> chi2: 0.1237

<b>Region</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Marginal Effect</b>	<b>Significance</b>
<b>North East</b>	-.1011	.1257	-.020	
<b>North West</b>	-.0455	.0752	-.009	
<b>Yorkshire and the Humber</b>	-.0600	.0931	-.012	
<b>East Midlands</b>	.0005	.0955	.000	
<b>West Midlands</b>	-.0397	.0858	-.007	
<b>East of England</b>	-.1461	.0900	-.029	
<b>London</b>	-.2415	.0898	-.049	**
<b>South West</b>	.0543	.0906	.010	
<b>Scotland</b>	-.1065	.0830	-.021	
<b>Wales</b>	.0622	.1041	.012	

**Table 10. Selected Output From the Binomial Logit: ‘Overall, how satisfied are you with the amount of involvement you have in decision-making at this workplace?’ (aspect: ‘involvement’)**

Number of observations: 16,317  
 Wald chi(2) (77): 1360.58  
 Prob > chi2: 0.0000  
 Psuedo R2: 0.0747

Wald Test for the exclusion of the set of independent variables relating to Personal Characteristics:

chi2 (35): 1061.02  
 Prob > chi2: 0.0000

Wald Test for the exclusion of the set of independent variables relating to the Structural Characteristics of the Workplace:

chi2 (20): 134.57  
 Prob > chi2: 0.0000

Wald Test for the exclusion of the set of independent variables relating to the Human Resource Management Policies and Practices in Operation at the Workplace:

chi2 (11): 13.42  
 Prob> chi2: 0.2670

Wald Test for the exclusion of the set of independent variables relating to the Government Office Regions:

chi2 (10): 18.40  
 Prob> chi2: 0.0486

<b>Region</b>	<b>Coefficient</b>	<b>Standard Error</b>	<b>Marginal Effect</b>	<b>Significance</b>
<b>North East</b>	-.0960	.1217	-.021	
<b>North West</b>	.0073	.0779	.001	
<b>Yorkshire and the Humber</b>	.0801	.0942	.018	
<b>East Midlands</b>	.1444	.0977	.033	
<b>West Midlands</b>	.0267	.0867	.006	
<b>East of England</b>	-.1323	.0975	-.030	
<b>London</b>	-.0188	.0981	-.004	
<b>South West</b>	.1314	.0930	.030	
<b>Scotland</b>	-.0059	.0854	-.001	
<b>Wales</b>	.2540	.1048	.060	**

**Table 11. Marginal Effects of the Region Coefficients, by Aspect of Satisfaction**

<b>Region/Aspect</b>	<b>'achieve'</b>	<b>'scope'</b>	<b>'influence'</b>	<b>'training'</b>	<b>'pay'</b>	<b>'security'</b>	<b>'work'</b>	<b>'involvement'</b>
<b>North East</b>	-0.000	-0.000	-0.025	-0.006	.027	.007	-0.020	-0.021
<b>North West</b>	-0.004	.008	.012	-0.006	.001	-0.004	-0.009	.001
<b>Yorkshire and the Humber</b>	-0.007	-0.000	-0.016	-0.009	.062***	.033	-0.012	.018
<b>East Midlands</b>	-0.008	.029	.009	.030	.039	.011	.000	.033
<b>West Midlands</b>	.005	.013	.011	.008	.028	-0.010	-0.007	.066
<b>East of England</b>	-0.027	-0.016	-0.032	-0.012	-0.003	-0.052**	-0.029	-0.030
<b>London</b>	-0.033	-0.014	-0.022	.005	-0.003	.028	-0.040**	-0.004
<b>South West</b>	.011	.005	.008	.005	-0.008	.017	.010	.030
<b>Scotland</b>	-0.023	-0.028*	-0.038**	-0.005	.051**	.018	-0.021	-0.001
<b>Wales</b>	.019	.025	.034	.056**	.049*	.030	.012	.060**

NB. The reference category region is South East.