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A dimming of the 'warm glow'? Are non-profit workers in the UK still more satisfied with their jobs than other workers?

Chiara Paola Donegani, Stephen McKay
and Domenico Moro

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Abstract

Research has long shown that non-profit sector employees report a higher level of job satisfaction than workers in other sectors. This paper investigates trends in job satisfaction using longitudinal data from the British Household Panel Survey (1992-2008), through models which contain detailed information on individual, job and organisational characteristics. A Blinder-Oaxaca decomposition is used to provide an in-depth study of the differential in levels of job satisfaction across sectors, obtained from regression analyses. The results suggest a reduced non-profit premium in job satisfaction over time; the decomposition still confirms the 'warm glow' theory for workers within the non-profit sector, underlining relevant differences between sectors in job satisfaction even after controlling for substantive individual, job and organisational differences.

Keywords

Non-profit sector, warm glow theory, job satisfaction, Blinder-Oaxaca decomposition technique.

Contents

Introduction

Work is one of the most important components of human life. Different disciplines have studied the topic of well-being at work and in particular sociologists and industrial psychologists have focused on job satisfaction. Only more recently has job satisfaction attracted attention from applied economists. Freeman (1978) argued that job satisfaction is a meaningful variable to look at, because it sums up a wide range of job characteristics and reflects aspects of the workplace not captured by standard 'objective' variables. Job satisfaction expresses workers' utility derived from their work, which is the common focus of economists' studies, both theoretical and empirical.

The aim of this paper is to investigate to what extent job satisfaction in the non-profit sector is different from job satisfaction in other sectors and whether the non-profit sector advantage in job satisfaction, as found previously in the literature, still holds. This premium is sometimes known as the 'warm glow' (Andreoni 1990). In common with much of the existing empirical literature, in the analyses carried out here using econometrics techniques, the explanatory variables belong to three different areas: personal, job and organisational characteristics. We use 17 years' data from the British Household Panel Survey (1992 to 2008).[1] From the regression analyses there is a clear differential between different job sectors in job satisfaction; an important contribution of this work to the literature is applying the Blinder-Oaxaca decomposition technique[2] to the analysis. This seems to be a convincing way to focus on differences among the job sectors as it allows us to pick up more clearly these differences and to decompose them into subcomponents.

In the second section of this paper we review the most relevant literature on job satisfaction; and then in section three we discuss the econometric methodology. In section four we introduce the British Household Panel Survey (BHPS) data used to carry out the analyses and we present some descriptive statistics on job satisfaction. We show multivariate models and discuss the main results in section five. Finally in section six we analyse the Blinder-Oaxaca decomposition technique and implement it in order to investigate the explained and unexplained parts of the gap in job satisfaction between job sectors. We conclude in section seven and suggest possible avenues for further research.

[1] We do not take into account the first wave (1991) as in that year interviewees were asked about job satisfaction using a different show-card from all later years. As discussed in Rose (2005), that seems to have led to results which are not directly comparable with later years.

[2] The Blinder-Oaxaca decomposition technique is a tool usually applied to study 'race' and gender wage differentials. It investigates inter-group differences in the mean levels of an outcome (mostly such as wages) into those due to different observable characteristics or 'endowments' across groups (for instance between male and female workers) and those due to different effects of characteristics or "coefficients" of groups. This latter part is called "the unexplained part" and it is related to discrimination.

Literature Review

In the field of economics, the study of subjective well-being stems from the work of Easterlin (1974), whose famous paradox relates to the fact that in Western countries over the last fifty years there have been considerable increases in income but happiness data do not show any corresponding rise.[3] Once people are beyond a 'subsistence level', a higher income is no longer the key variable to increased well-being. Lane (2000) made the interesting point that in advanced economies the main sources of well-being are a good family life and friendship.

Among the relevant factors which help to explain individuals' well-being there is also the job component, as much of the time spent by people before their retirement is at their workplace. In this piece of research the focus is on job satisfaction, which is considered an indicator for a range of job characteristics.

Job satisfaction: a subjective variable?

Job satisfaction is subjective as it is related to 'what people say' rather than 'what people do' (Freeman, 1978). In his definition of job satisfaction as 'a positive emotional state resulting from the appraisal of one's job', Locke (1976) raised the issue that job satisfaction responses depend not only on objective circumstances faced at the workplace, but also on workers' psychological state. The vital question is whether subjective answers to job satisfaction questions can have a say in explaining objective economic behaviour.

Some economists have expressed their reluctance to rely on subjective data (e.g. Bertrand and Mullainathan 2001). The reason is that different definitions of subjective well-being may vitiate the use of such measures. In contrast, some psychologists have argued that self-reported subjective well-being is a stable concept and it is a reliable measurement over time (Diener et.al., 1985; Pavot and Diener, 1993). Hence such subjective data have been generally viewed with suspicion by economists and job satisfaction has been studied by relatively few economists in the past.

Hamermesh (1977, 2001) was the first economist who studied job satisfaction. He introduced it as an economic variable and built a basic theoretical framework. In his model, workers are in a perfectly competitive labour market. They compare the utility of their present job (the sum of wage and non-pecuniary elements) to the next best alternative. The difference is job satisfaction, which is the function:

$$Job\ satisfaction = \int_{Q_s}^{\infty} U(w + d_s) f_s^t\,(w) dw - U(w_0 + d_0).$$

Job satisfaction is equal to the utility of wage (w) and the monetary amount of specific training (d_s) multiplied by the worker assumption of future wages' distribution, compared to wage and training in time t_0.

In contrast, Freeman (1978) analysed the relation between job satisfaction and labour market mobility, as quitting is the behaviour most likely to be affected by satisfaction at workplace itself. In his

[3] For instance, data for the United States over the period 1973-2004 show that real income per capita almost doubled, but it bought little if any extra happiness (Clark, Frijters and Shields, 2008).

work, the aim was to show how economists could use job satisfaction as an independent or a dependent variable in the analysis of labour market outcomes. Working on US data, he used the logistic probability function to study the impact of satisfaction on mobility. He concluded that subjective expressions of job satisfaction are significant determinants of the probability of quitting. In probit estimations he treated job satisfaction as a dependent variable and included the union-status and standard demographic variables as regressors.

In common with much of the existing empirical literature, in the analyses carried out in this piece of work, the explanatory variables belong to three different areas: personal, job and organisational characteristics.

Personal characteristics

The first set of variables is related to individual characteristics. These include gender, age, education and marital status. Most studies on job satisfaction have looked separately at men and women because the latter have consistently reported higher levels of job satisfaction.[4] In respect of age, empirical literature has found that there is a positive relationship between age and job satisfaction (Warr, 1992). The key question is whether the relationship is simply linear or it contains a nonlinear component.[5]

As far as education is concerned, throughout the empirical literature a striking finding is that job satisfaction is decreasing in education: more educated workers are less satisfied (Clark, 1996). The fact that workers with higher qualifications report lower job satisfaction is also highlighted in Borghans and de Grip (2000). They suggested that this result might be linked to the changing extent to which workers' skills match their jobs. Marital status has been taken into account in several analyses (Benz, 2005; Serrano, 2011). Clark (1997) found that marital status is a significant determinant only for female workers; instead Ghinetti (2007) in his analysis on Italian public and private sector workers reported that the role of marital status was not significant.

[4] Working on the first wave of BHPS data, Clark (1997) found that women are more satisfied with their jobs than men even after controlling for individual and job characteristics. He commented that this result may be determined by different tastes and different expectations towards the job. Sloane and Williams (2000) analysed the 1986 UK Social and Economic Life Initiative (SCELI) household survey and found that the differences came from men and women having different types of work. An interesting point was suggested by Kaiser (2005). He found that across Europe, only in Denmark, Finland and the Netherlands there were no significant gender–job satisfaction differences. He argued that the gender gap differential in job satisfaction is more likely to fade out in the process of 'modernisation' of the labour market. It is also interesting that isolating highly educated people, such as academics, no gender gap for overall job satisfaction is found. Ward and Sloane (1999) carried out this analysis, examining a sample of Scottish academics across five universities. Also Stevens (2005), who used a survey of ten academic institutions in the UK, found that in their satisfaction levels women do not differ from men.

[5] (Clark, Oswald and Warr, 1996) confirmed the U-shaped pattern found by Herzberg et al. (1957) and by Handyside (1961). Job satisfaction is quite high among young workers who are new entrants to the labour market. It tends to decline during the first few years of employment because the novel situation gives pace to boredom and a perception of decreasing job opportunities. The low point is when employees are in their late twenties or early thirties. After that, job morale climbs steadily with age because people seem to come to terms with their occupational role.

Job characteristics

Focusing on job-related factors, controls for the hourly wage rate are generally included in the analysis, because monetary motivations are relevant to determining worker satisfaction and it is also assumed that money rewards partly compensate workers for job characteristics. Not only absolute but also relative wage (Clark, 1996), comparison income (Clark and Oswald, 1996) and wage growth (Clark, 1999) have been investigated. In particular, the idea behind the comparison income is that workers form their expectations about a wage they should earn and they also compare their wage to others (Hamermesh, 1977; Clark, 1996; Clark and Oswald 1996).

Throughout the empirical literature it has been found that workers' individual well-being depends also on the satisfaction they derive directly from hours of work. Working hours are considered as a measure of the disutility of work and they are also assumed as one of the key factors of the possible employee-job mismatch (Allen and van der Velden, 2001). Green and Tsitsianis (2005) found that in Britain and West Germany, working too many hours has a higher negative effect on job satisfaction than working too few hours, while in East Germany the converse is true. Also in Blanchflower and Oswald (1999) working hours accounted significantly for the decline in job satisfaction registered in the US. In Rutherford (2009) analysis of the *Workforce Employer Relations Survey* 2004 (WERS) on job satisfaction appeared interestingly to be U-shaped over weekly working hours. Finally, exploiting a unique data set on the Italian social service sector, Borzaga and Tortia (2006) found that workers in non-profit organisations are more satisfied with working hours than employees in public and for-profit organisations. Lastly, relevant control variables taken into account in the empirical analysis are the nature of the job contract, which can be seasonal, temporary, casual or for a fixed period of time (Clark, 1997; Serrano 2011) and the contractual relation (full time or part time) as in they both seem to be important predictors of job satisfaction.

Organisational characteristics

Moving to organisation-related characteristics, Idson (1990) was one of the first researchers to study the effect of firm size on job satisfaction. Sell and Cleal (2011) developed a model of job satisfaction integrating economic and work environment variables using a Danish panel data set. They reported that psychosocial work environment factors have significant impacts on the level of job satisfaction. Serrano (2011) focused his attention on the potential impact of the work environment on job satisfaction and the diverging effects of working conditions and the structure of work by firm size using a Spanish sample. His findings were that workers in larger firms face a worse work environment and working in large firms significantly reduces job satisfaction when no controls for working conditions are included. If he instead considered working conditions in the regressions, the differentials across size categories were statistically insignificant.

When studying job satisfaction a meaningful analytical distinction is also among sector. Job sector differences have been investigated in several studies (Karl and Sutton, 1998; Benabou and Tirole, 2006). The key finding is that workers in non-profit organisations are more satisfied with their jobs than those working in other sectors (Benz, 2005). He tested the determinants of job satisfaction using two large data sets for the whole U.S. and U.K. economies, comparing non-profit and for-profit workers.

His main finding was that workers in non-profit organisations are indeed more satisfied with their jobs than their counterparts in for-profit firms.

Work in the non-profit sector

Workers in non-profit organisations tend to believe they have greater autonomy and involvement in the running of the organisation. Analysis of the 2006 Skills Survey found that those working for non-profits were much more likely to believe they had a large element of choice in how their job was done, and that they would be involved in any decisions that affected the nature of their job. They also thought that they were inspired by the organisation, and that they shared similar values – to a much greater extent than in the public and private sectors.

Table 1: Nature of employment in different sectors

Column percentages

Question	Non-profits	Public sector	Private sector	All employees
Has *'a great deal of choice'* over way job is done	52	33	38	37
Strongly agree that *'I find that my values and my organisation's values are very similar'*	27	11	13	13
Agree that *'this organisation really inspires the very best in me in the way of job performance'*	77	63	62	62
Whether would personally have a say in a decision that affected the way job is done?	61	41	46	44
Unweighted bases	258	2,452	4,230	7,787

Source: Skills Survey 2006. All differences between non-profits and other employees are statistically significant at the 1% level (using chi-squared tests).

Outline of analysis

Following this line of work and making use of the variables analysed in the previous sections in the estimation procedure, this present paper investigates whether the advantage in job satisfaction found in previous literature (Benz, 2005) still holds, in a model which contains detailed information on individual characteristics, economic factors and work environment.

This piece of work addresses job satisfaction issues with respect to Britain in the past two decades. It examines job satisfaction using 17 waves of British Household Panel Survey (BHPS) data, from 1992 to 2008. The aim of this work is to establish whether there is a significant gap in job satisfaction

among job sectors, as reported in the literature. Given the longitudinal nature of the data, we investigate trends in job satisfaction over time.

This investigation will involve both a finer classification (focusing on eight different groups of job sectors) and a broader distinction (simply considering non-profit sector versus the 'private/public' sector). Even after controlling for important explanatory variables belonging to three different areas mentioned above (personal, job and organisational characteristics) we still expect to find unexplained variation between the sectors. We therefore take a second step, not previously investigated by the literature, which consists of trying to explore any apparent discrepancy in job satisfaction among job sectors, using the Blinder-Oaxaca decomposition technique. Our goal is to test empirically the prediction from theory of 'warm glow' which we believe to be the explanation of the 'unexplained part' of the gap in job satisfaction between groups.

Methodology

In this section the focus is on the empirical analyses, carried out in order to investigate whether there is a non-profit premium in job satisfaction. We make use of the structure of the panel data and use fixed effects. The sequence of events in time helps to reveal causation and this way it is possible to allow for time-invariant unobservable variables.

The estimated model of job satisfaction (y_{it}) is:

$$y_{it} = z_i\alpha + x_{it}\beta + u_i + \varepsilon_{it}$$

where z_i is the observable time-invariant factors (for instance sex); x_{it} is the observable time-varying factors (job sector, marital status, financial situation, job characteristics and organisation characteristic); u_i is the unobservable characteristic (or 'fixed effect') related to each individual and ε_{it} is the error. We also ran regressions with random effects and used the Hausman test to check the two models – results favoured the fixed-effects specification.

The dependent variable is job satisfaction. In common with existing empirical literature, the explanatory variables are the relevant personal, job and organisation characteristics observed in the data. The relevant personal characteristics included are: gender (male is the reference group); age and age squared; educational qualifications (GCE 0 level is the reference group); marital status (married is the reference group); financial situation and change in financial position the previous year (same financial condition as the previous year is the reference group). The job characteristics are: whether the job is full-time or part-time; number of hours normally worked per week; logarithm of hourly wage. The organisational characteristics are: size of the organisation in terms of how many people work there (the reference group is small size organisation); job sector (private sector is the reference group). We also introduce a set of year dummies to capture how job satisfaction changes over time in ways not explained by the other observed variables (BHPS wave 2 which corresponds to 1992 is the base year) and country dummies as well (England is the reference group).

Data and descriptive statistics

The data set used for the analyses is drawn from the British Household Panel Survey.[6] Since data are collected from each individual each year, we can exploit the structure of the data and carry out a panel analysis. As it is quite likely that individuals may move out of one household, and join with a new household, or simply leave the study, the panel is unbalanced. Despite this, the sample remains broadly representative of the population of Britain as it changes through the 1990s and early 2000s (aided by cross-sectional weighting).

In the BHPS, interviewees are asked to tell from a show card which number best describes how satisfied or dissatisfied they are with four particular aspects of their own present job.[7] The four facets of job satisfaction are: total pay, including any overtime or bonuses; job security; the actual work itself and hours worked. The show card which is given to respondents indicates the different levels of satisfaction and 7 mutually exclusive responses are presented:

1. Completely dissatisfied
2. Mostly dissatisfied
3. Somewhat dissatisfied
4. Neither satisfied nor dissatisfied
5. Somewhat satisfied
6. Mostly satisfied
7. Completely satisfied

The last question asked is 'All things considered, how satisfied or dissatisfied are you with your present job overall using the same 1 - 7 scale?' Therefore data on 'overall job satisfaction' is also available.

In this paper we focus on Britain, from 1992 up to 2008, the year in which data are available at the time of writing. Therefore 17 waves of data related to England, Scotland Wales and Northern Ireland[8] are analysed. We focus only on 'full interview' answers and drop proxy ones.[9] We also drop observations that present missing variables (e.g. refusal) answers.[10] Even though the sampling unit is

[6] The BHPS is an annual household survey of each adult (16+) member of a representative sample of more than 5,000 households, making a total of approximately 10,000 individual interviews every year within the UK. The same individuals have been re-interviewed in successive waves from 1991 onwards. If individuals split-off from their original households, all adult members of their new households are interviewed as well over time. Children can take part in the interviews only once they reach the age of 16.

[7] The question interviewees are asked to answer is: "I'd like you to tell me from this card which number best describes how satisfied or dissatisfied you are with that particular aspect of your own present job".

[8] Northern Ireland was introduced into the BHPS sample only in 1997.

[9] All together they account for 4.85% of the original sample.

[10] They represent only 0.21% of the original sample.

the household, the BHPS records information on the individuals' components over a wide range of characteristics. The dataset consists of more than 190,000 observations (persons x years).[11]

Summary statistics for the variables of interest are shown in Table 2. The first column refers to the pooled sample. The sample consists of almost 46% men and 54% women. Different age bands are similarly represented between men and women; as far as education is concerned, men report higher qualification than women on average. In respect to the financial situation there are no significant discrepancies, but as far as the change in financial position (related to the previous year) is concerned, there is a slightly wider gap between gender (almost 29% of men declare to be better off than the previous year compared to 25% of women and 48% of men declare to be about the same compared to 52% of women).

If we take columns 5 and 6 into account, the latter refers to workers within the non-profit making organisations. Column 5 refers to a broad group since it includes both the private and public sectors. An interesting difference between employees within the non-profit and all the other job sectors is related to education. Workers in the non-profit sector show higher qualifications on average and the gap is particularly wide in the two extreme bands, i.e. in the highest degree (30% versus 10%) and in the group without qualification (25% versus 9%). We can also add that workers within the non-profit making sector have on average higher hourly wage than private sector, but less than NHS or higher education sector and public sector (both civil service – central government and local government).

At this stage it is worth investigating the levels of job satisfaction with respect to the whole sample. As a second step we focus on subsamples related to job sectors. The following graphs show the trend of overall job satisfaction over time (1992 to 2008). The overall job satisfaction trend seems to follow a cyclical pattern (Figure 1) and in the first part of the time period there is a steady decline in its level, but it is important to note that throughout the period under study the variation in overall job satisfaction is, on average, quite small (from 5.52 to 5.29, whereas the range of possible answers goes from 1 to 7). The apparent cyclical effect is therefore small and may be reflecting sampling variability rather than being linked to any kind of macro-economic trend or institutional change.

Figure 2 shows overall job satisfaction among the different sectors. There are clear differences in levels of satisfaction between the sectors. Workers within non-profit sector report higher levels of satisfaction at workplace than employees within both private and public sector. The key issue is that the gap seems to be closing. The voluntary sector premium in job satisfaction seems to be falling especially if we compare the non-profit and public sectors.

Trends in job satisfaction with the other four facets of job satisfaction are shown in Appendix 1. In this case, especially in period up to 2000, there are some years in which workers within private and public sectors report higher level of job satisfaction (in particular as far as satisfaction with security, with the work itself and with hours worked are concerned).

[11] The sample we are left with consists of employed, unemployed, retired and other (temporary sick, in maternity leave or under a government scheme). We analyze it in the data section; in the empirical analysis we take into account only employed people.

Table 2: Descriptive statistics. [Weighted average data].

	Pooled Sample	Male	Female	Private and Public	Non-profit
Unweighted base	214,544	97,708	116,836	198,834	15,710
Percentage	100	45.54	54.46	92.68	7.32
Sex					
Male (%)	45.54	-	-	46.69	31.01
Female (%)	54.46	-	-	53.31	68.99
Age (%)					
<25	14.88	15.58	14.50	15.65	6.98
25 to 30	10.40	10.87	10.42	10.50	12.22
31 to 40	19.39	19.41	19.19	18.60	27.83
41 to 50	17.40	17.65	17.29	16.34	31.20
>50	37.93	36.48	38.60	38.91	21.77
Education (%)					
Degree +	12.07	13.23	11.10	10.63	30.20
Teaching QF	24.30	26.50	22.47	23.65	32.58
GCE A level	12.25	13.29	11.38	12.45	9.66
GCE 0 level	18.72	17.33	19.88	19.11	13.77
Other QF	8.74	8.71	8.76	9.08	4.41
No QF	23.93	20.95	26.41	25.08	9.39
Marital Status (%)					
Married	53.66	56.58	51.22	52.87	63.67
Separated or divorced	2.03	1.68	2.32	2.03	2.03
Widowed	7.89	3.91	11.23	8.38	1.69
Never married	28.33	31.30	25.84	28.75	22.96
Living as couple	0.11	0.13	0.10	0.11	0.21
Income (£)					
Hourly wage	9.28	10.48	8.17	9.05	10.66
Financial situation (%)					
Living comfortably	29.81	30.19	29.48	29.56	32.87
Doing alright	36.57	36.26	36.83	36.22	41.05
Just about getting by	25.48	25.8	25.22	25.83	21.04
Finding it quite difficult	5.65	5.44	5.82	5.79	3.84
Finding it very difficult	2.5	2.31	2.65	2.6	1.19
Change in financial position last year (%)					
Better off	26.77	28.88	25.01	26.26	33.24
Worse off	23.11	23.24	22.99	23.28	20.88
About same	50.12	47.87	52	50.46	45.88
Job sector (%)					
Private	68.15	77.88	59.31	-	-
Public	28.47	20.06	36.12	-	-
Non-profit	3.38	2.06	4.57	-	-

Figure 1: Overall job satisfaction (1992-2008). Weighted average data.

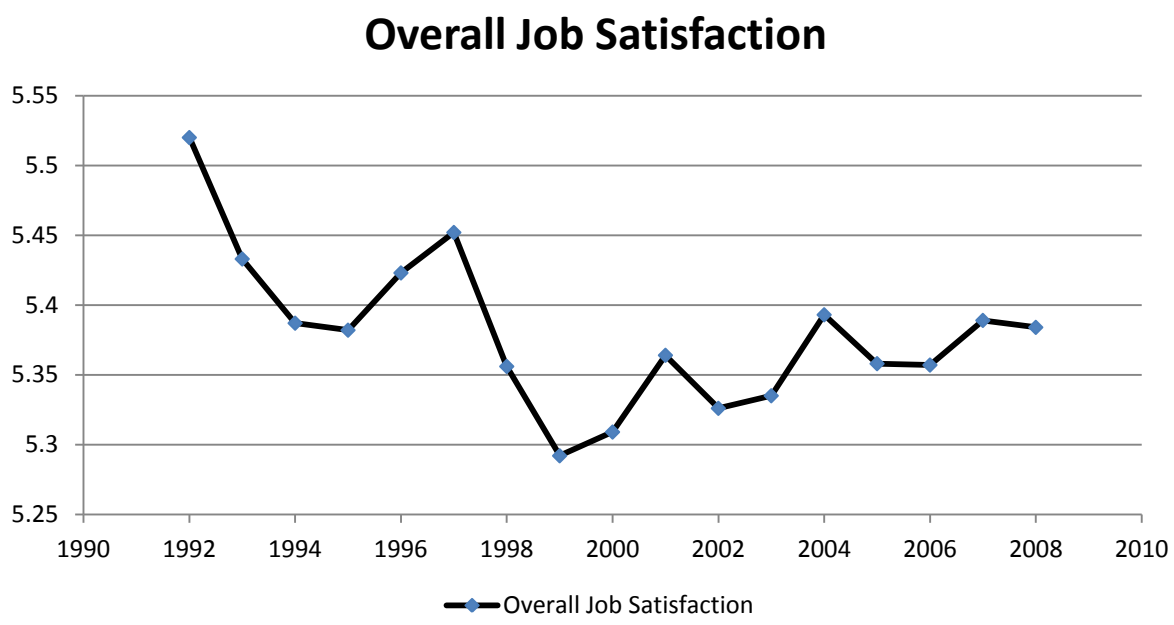
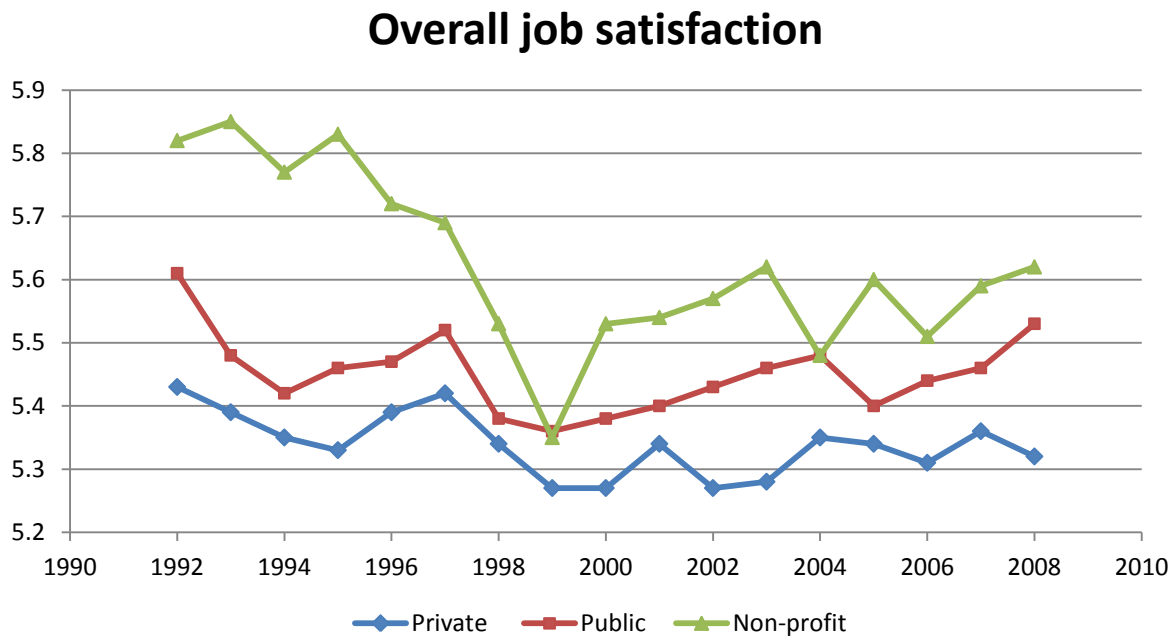


Figure 2: Overall job satisfaction by job sector (1992-2008). Weighted average data.



Empirical analyses and results

Exploiting the panel structure of data, we used a fixed-effects panel regression approach[12] technique here. In all the regressions the dependent variable is overall job satisfaction. We take into account only employed people[13] and after data cleaning across all the relevant variables, the sample consists of more than 100,000 observations.

In Table 3 panel data are used to control for unobserved individual fixed effects, such as personality traits. Column 2 relates to the whole sample while the focus of columns (b) and (c) is on the male and female subsamples.[14] The key finding is that ceteris paribus, people who work for the voluntary sector report on average a higher level of job satisfaction. This holds for analyses taking into account the two sub samples as well.

The data also suggest a large role for variables related to the financial situation. The key pecuniary factor (hourly wage) is statistically significant throughout all the analyses. The significant variables are those related to the financial situation and to the job characteristics such as working hours and the contractual relation. Their effects on job satisfaction are in the same direction as found in the literature (Clark, 1996; Clark and Oswald, 1996; Allen and van der Velden, 2001; Green and Tsitsianis, 2005).

From the empirical analyses undertaken in this section (using both the econometric techniques, fixed effects and ordered logit models)[15] we found some key results, which are in line with the literature. Women report higher levels of job satisfaction. Job satisfaction is decreasing in education; as the individual's financial problems worsen, the reported job satisfaction decreases while higher income leads to higher job satisfaction. In respect of the job hours, they have a significant and negative impact on reported job satisfaction, as expected. As far as the size of the organisation is concerned, the bigger, the less job satisfaction. However, the strongest and most remarkable finding is that job satisfaction is higher for people who work within the non-profit sector. We believe that it is worthwhile further analysing this differential, as we do in the next section using a decomposition approach.

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[12] A large and significant Hausman statistic meant a large difference between fixed effects and random effects coefficients. We can reject the null that the two methods do well in favour of the alternative hypothesis (random effects are inconsistent so we use fixed effects instead).

[13] Self-employed people represent 6.97% of the original sample and they are not included in the analysis as they are asked to answer to another questionnaire on job satisfaction.

[14] In respect of the gender, several studies on job satisfaction have investigated separately men and women's satisfaction at the work place as female workers have consistently reported significantly higher levels of job satisfaction (Clark, 1997; Sloane and Williams 2000; Moro and McKay, 2009; Sell and Cleal 2011). This finding meets the paradox that even though women face more disadvantages in the labour market (for instance lower wage rates and worse promotion possibilities than men) they still express more job satisfaction than men. It is important to argue, though, that there may be a possible selection issue for working women because less satisfied women may decide to stay at home (and take care of children), while more satisfied women are more likely to join the labour force. Moreover, women tend to be over-represented in non-profits as shown in Table 1. Therefore we have also isolated the two subsamples (males and females) and estimated the same model for them, in columns b and c of Table 3.

[15] Ordered logistic regression makes better use of the nature of the dependent variable. These results were similar to the linear models, and can be supplied on request to the authors.

Table 3: Fixed effects estimates. Robust Standard Errors in parentheses.

	Whole sample (a)	Men (b)	Women (c)
Sector			
Civil Service/Central Government	0.117***	0.111*	0.124**
	(0.045)	(0.069)	(0.057)
Local Government/Town hall	0.225***	0.260***	0.225***
	(0.029)	(0.057)	(0.033)
NHS or higher education	0.269***	0.293***	0.271***
	(0.035)	(0.074)	(0.041)
Nationalised industry	0.035	0.033	0.113
	(0.073)	(0.087)	(0.139)
Non-profit organisations	0.320***	0.392***	0.315***
	(0.036)	(0.070)	(0.043)
Armed forces	0.095	0.064	0.143
	(0.106)	(0.146)	(0.170)
Other	0.215***	0.358***	0.172***
	(0.052)	(0.089)	(0.089)
Age	-0.002	-0.034*	0.014
	(0.014)	(0.022)	(0.021)
Age^2	0.001	0.000**	0.000
	(0.001)	(0.000)	(0.000)
Education			
Degree +	-0.099**	-0.095	-0.095
	(0.048)	(0.077)	(0.136)
Teaching qualification	-0.048*	-0.070*	-0.026*
	(0.028)	(0.042)	(0.038)
GCE A level	-0.049*	-0.086*	-0.014
	(0.029)	(0.047)	(0.039)
Other qualification	0.089	0.067	0.109
	(0.056)	(0.078)	(0.081)
No qualification	-0.038	-0.203**	0.116
	(0.058)	(0.085)	(0.078)
Marital status			
Living as a couple	-0.055	-0.054	-0.062
	(0.116)	(0.145)	(0.187)
Separated and Divorced	0.116	0.204***	0.055
	(0.034)	(0.049)	(0.047)
Widowed	-0.007	0.160	-0.084
	(0.061)	(0.106)	(0.072)
Never married	-0.086***	-0.075**	-0.085**
	(0.025)	(0.037)	(0.035)
Financial situation	-0.119***	-0.132***	-0.099***
	(0.007)	(0.010)	(0.010)
Better off than previous year	0.147***	0.165***	0.125***
	(0.009)	(0.014)	(0.013)
Worse off than previous year	-0.109***	-0.155***	-0.064***
	(0.012)	(0.017)	(0.016)
Ln hourly wage	0.094***	0.143***	0.060***
	(0.015)	(0.024)	(0.019)
Full time Employment	0.059***	0.113**	0.047*
	(0.022)	(0.048)	(0.026)
No. employed at work place: medium org.	-0.058***	-0.059***	-0.065***
	(0.014)	(0.019)	(0.019)
No. employed at work place: big org.	-0.057***	-0.075***	-0.055***
	(0.020)	(0.028)	(0.027)
No. of hours normally worked per week	-0.006***	-0.006***	-0.007***
	(0.001)	(0.001)	(0.001)
Year dummies	yes	yes	yes
No. of observations	107247	50939	56308
No. of groups	18694	8842	9852

Excluded categories: Private sector, GCE 0 level, married, small size organisation, England.
Significance levels: 1%=***; 5%=**; 10%=*.
[Hausman Test: Chi2=567.79*** for (a); Chi2=384.90*** for (b); Chi2= 253.09*** for (c)]

Decomposition technique

The estimates above reveal evidence of a remarkable gap in overall job satisfaction between job sectors after controlling for personal, job and organisation characteristics. These differences are statistically significant at 1% and they hold if we analyse the other four facets of satisfaction at the work place.

To get these differences in analyses reported in Table 3 we used job sector dummy variables, entering them as independent variables in the model. The situation could be depicted graphically as an intercept shift between the private sector (which is our base group against which comparisons are made) and the other job sectors.

In this section we therefore seek to go further in the analysis and to study differences in job satisfaction between job sectors (non-profit versus private and public sectors). To do so we consider the method of decomposing inequality in job satisfaction using the Blinder-Oaxaca decomposition technique (Blinder, 1973; Oaxaca, 1973) which allows the study of differences in predicted conditional sample means.

The added value of this approach is that it improves the quality of the analysis in shaping differences among the sectors. It seems to be a more convincing way in addressing the discrepancies we found.

Not only does it calculate the differential between two sectors, reporting the job satisfaction mean prediction, but it also decomposes it. We can hence get the value and the weight of three different components of the differential, i.e. the 'explained' part by group differences, the second component which cannot be accounted for by such differences in job satisfaction determinants and finally an interaction term.

In literature, this technique is often employed in order to study labour market outcomes by groups, for instance sex and race (Groshen, 1991; Fields and Wolff, 1995; Bayard, Hellerstein, Neumark and Troske, 1999). It usually consists of a decomposition of mean differences in an outcome variable, such as wage, based on regression models in a counterfactual manner (please see Appendix 2 for further details). Within the labour economics literature, the wage gap by (for example) sex is therefore divided into a part that is 'explained' by group differences in productivity characteristics (such as education or tenure), a second component which cannot be accounted for by such differences in wage determinants (it is referred to the discrimination between men and women) and finally an interaction term.

Decomposing the job sectors' differential in job satisfaction

The Blinder-Oaxaca decomposition technique is here applied to job satisfaction differences between two groups: non-profits and the 'private and public' sector. Using the package Stata, two regressions are separately run for these two groups. The dependent variable is overall job satisfaction and the same independent variables are included in the two regressions. Lastly the differential is estimated and decomposed.

The decomposition output in Table 4 reports the mean prediction by the two groups and their difference. They are all statistical significant at 1%. The mean of overall job satisfaction is 5.518 for non-profits and 5.369 for private and public sector, yielding a gap of 0.148. In the second part of the table the satisfaction gap is divided into three components. The first element reflects the mean change in private and public sector workers' job satisfaction if they had the same characteristics as non-profit employees. This component is negative, but it is not significant.

Table 4: Blinder and Oaxaca decomposition technique to analyse the job sector gap differential in overall job satisfaction (non-profits versus private and public sector).

Overall Job satisfaction	Coefficient	Standard error
Differential		
Prediction non-profits	5.518***	0.007
Prediction private and public	5.369***	0.003
Difference	0.148***	0.008
Decomposition		
Endowments	-0.009	0.007
Coefficients	0.284***	0.019
Interaction	-0.127***	0.019

The second term quantifies the change in private and public sector workers' satisfaction when applying the non-profits employees' coefficients to the private and public sector's characteristics. As the endowment component is negative the second term, which quantifies the change in 'private and public' workers' satisfaction when applying the non-profit employees' coefficients to the 'private and public' characteristics, is even more valuable. This 'unexplained part' is therefore extremely relevant and significant.

This is also because the third part –the interaction term, which measures the simultaneous effect of differences in endowments and coefficients- is negative. The key finding is that the 'unexplained part' is particularly relevant.

Since the 'private and public' sector is a broad group, we are keen to use a more accurate measure for the 'private and public' sector, hence we isolate the private sector first. Applying again the Oaxaca and Blinder decomposition technique we replicate the decomposition, analysing the difference in job satisfaction between workers employed in the private sector and non-profit sector (Table 5).

Table 5: Blinder and Oaxaca decomposition technique to analyse the job sector gap differential in overall job satisfaction (non-profits versus private sector).

Overall Job satisfaction	Coefficient	Standard error
Differential		
Prediction non-profit	5.608***	0.012
Prediction private	5.348***	0.004
Difference	0.260***	0.013
Decomposition		
Endowments	-0.058**	0.012
Coefficients	0.316***	0.065
Interaction	0.002	0.065

Also in this case the endowment component is negative; the interaction is very low and now not significant though. The 'unexplained part' is therefore the element which completely accounts for the satisfaction gap between non-profit and private sector employees.

This analysis is repeated after isolating the public sector, as reported in Table 6. Here the endowment and interaction components play a minor positive role in explaining the satisfaction gap between non-profit and public sector employees (they are not statistically significant as well). Again it is the coefficient component that is responsible for the gap.

Table 6: Blinder and Oaxaca decomposition technique to analyse the job sector gap differential in overall job satisfaction (non-profits versus public sector).

Overall Job satisfaction	Coefficient	Standard error
Differential		
Prediction non-profit	5.608***	0.012
Prediction public	5.466***	0.005
Difference	0.142***	0.013
Decomposition		
Endowments	0.011	0.004
Coefficients	0.111***	0.009
Interaction	0.020	0.005

These consistent results throughout the three analyses related to job sectors strengthen the hypothesis that the 'unexplained part' may be linked to the 'warm glow theory'. Warm glow is defined as 'the utility derived from the act of giving' (Andreoni, 1990). We believe that this utility may be a

possible reasonable explanation of the unexplained part of satisfaction gap found in the above estimates.

One of the previous empirical works on the warm glow was carried out by Rutherford (2009). In his studies, he focused on the 'warm glow wage difference' in nonprofit organisations, questioning its real existence. In particular his contribution[16] is to highlight the relevance of comparison income, stressing the fact that ones he included relative wages between sectors in his equations, the non-profit premium in job satisfaction disappeared. In the literature the findings remain quite mixed though.

Contrary to companies within the 'private and public sector', which may be influenced by business motives, non-profit organisations are particularly socially responsible. They are defined as mission-oriented organisations and their distinguishing characteristic is their commitment to a social mission (see our earlier Table 1). To achieve this aim, non-profit institutions may hire individuals who are more motivated by the vision of the organisation than by profit and therefore they may rely on people who are willing to donate labour to the production of a good they find valuable.

People working in them are described as motivated agents who 'subscribe to the mission'. They are thought to enjoy doing charitable acts and they care about their personal involvement. They hence get utility and satisfaction simply from performing these actions, because they perceive intrinsic benefits from doing so (Besley and Ghatak, 2005).

Indeed it is likely that the commitment to certain values differentiates workers within the non-profit sector from their private and public sector counterparts and it allows the first group of workers to appreciate more their job and derive utility from their work.

Another explanation of this robust result may be due to the conditions of workplace within the non-profit sector organisations. Typically non-profit organisations are argued to be distinctively flexible, dynamic, innovative, and more effective in realising positive outcomes. They may have a flatter structure and on average they are less hierarchically structured (Barnabé and Burns, 1994), therefore employees may be likely to enjoy more autonomy both in expressing their values in performing tasks and in what they have to do.

Conclusion

This paper analysed BHPS data from 1992 to 2008 focusing on the overall job satisfaction of a representative sample of workers within Britain.

Regressions were run in line with the existing empirical literature in order to identify the determinants of job satisfaction in models which contained detailed information on individual, job and organisational characteristics. The most remarkable results are the higher levels of job satisfaction reported by women and by employees within the non-profit sector, after controlling for the three sets of features. The longitudinal nature of the data allowed us to investigate job satisfaction change levels over time: we found a reduced non-profit premium in job satisfaction.

[16] It is limited to a cross section data analysis, though (he used attitudinal data from an employer-employee linked dataset: the Workforce Employer Relations Survey 2004 (WERS)

The novelty of this piece of work is that it applies the Blinder-Oaxaca decomposition technique to an in depth analysis of the gap differential in overall job satisfaction between people working in different job sectors. This technique was implemented to provide and in depth study of discrepancies in reported level of job satisfaction between workers within the 'non-profit' and the private and public sectors. In both cases, the findings were that the differences are mostly and significantly accounted for in the 'unexplained component'.

In respect of these differences in reported level of job satisfaction between non-profit sector and private and public sectors, the robust results seemed to support the 'warm glow theory' (Andreoni, 1990). Another possible explanation refers to the self selection of third sector workers, who are expected to be more motivated and who may share the values of the organisations they work for and to commit to their mission. A further rationale for this finding may be related to the conditions of the workplace within the non-profit sector organisations. These findings also suggest further challenging research into mainly two implications: the economic impact of job satisfaction within the 'non-profit sector' on one hand and on the other the economic cost of people not that satisfied with their job in both the private and public sectors.

It would be also interesting to isolate within the sample the 'sector switchers', i.e. people who move sectors. In particular it would be worthwhile focusing on people who move into or out of the non-profit sector, in order to check whether they report significant changes in job satisfaction. One possible limitation of the work presented here is that the regressions represent static analyses which do not take into account lagged variables (and notably the idea of lagged dependent variables). Job satisfaction in a given year may be also a function of previous years' job satisfaction and perhaps other factors (for instance income). The introduction of lagged variables would be a further innovative contribution to the literature: we are not aware of other authors exploring this area. This calls for the use of techniques such as the 'Generalised method of moments' (GMM) (Arellano and Bond, 1991).

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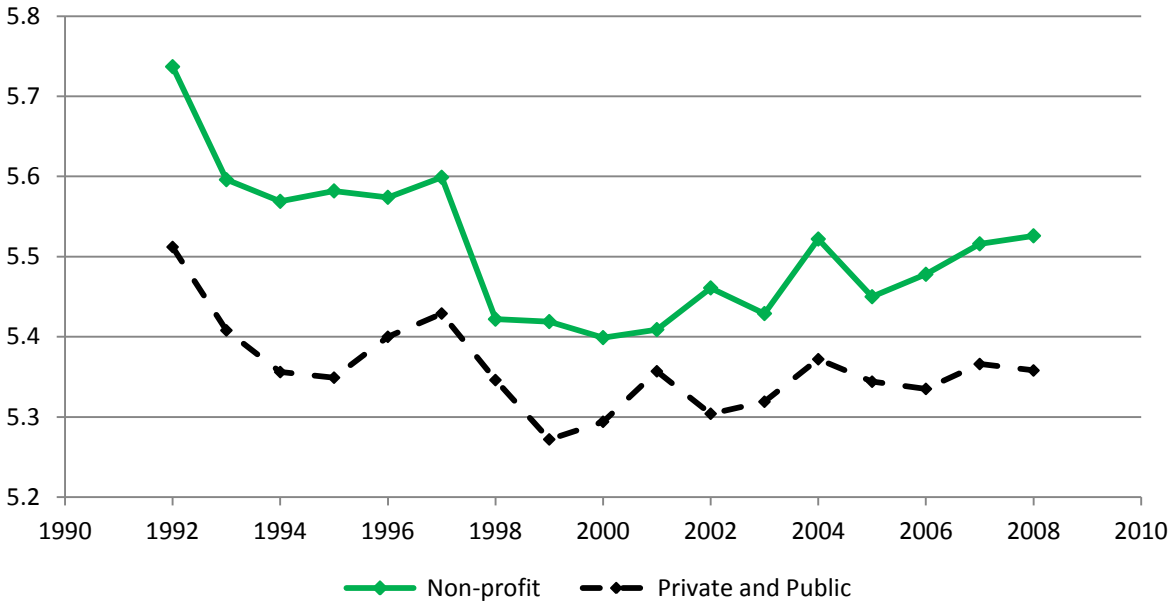
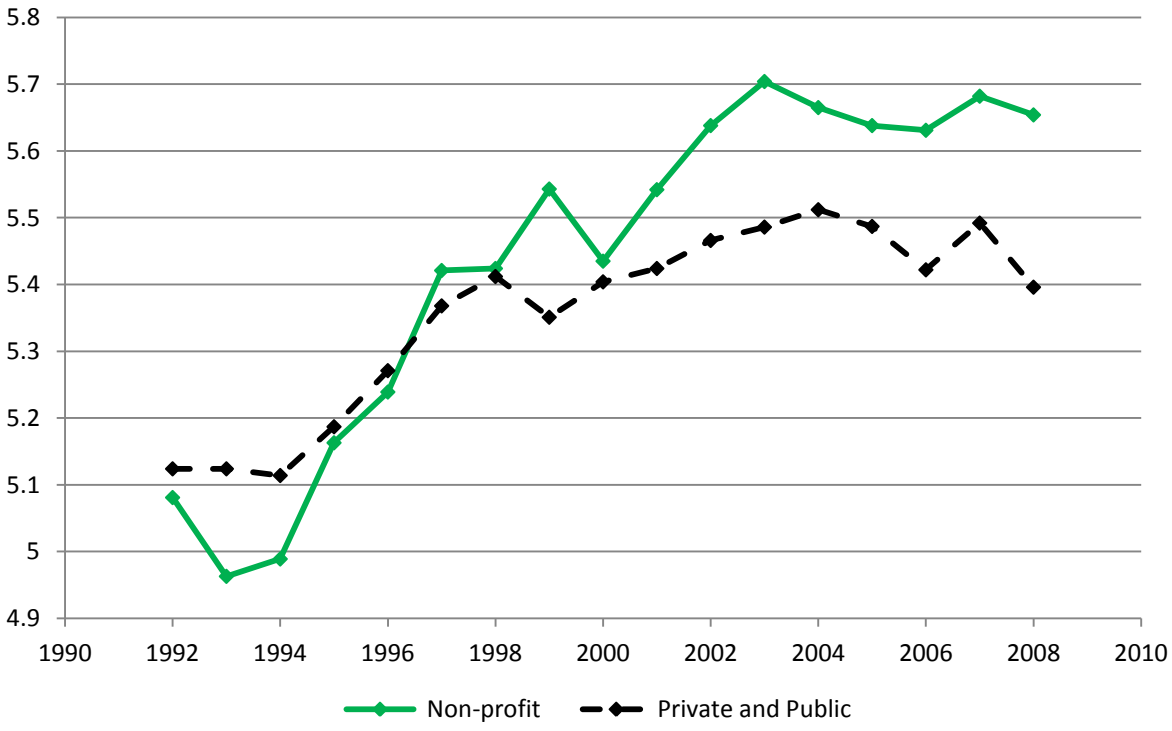
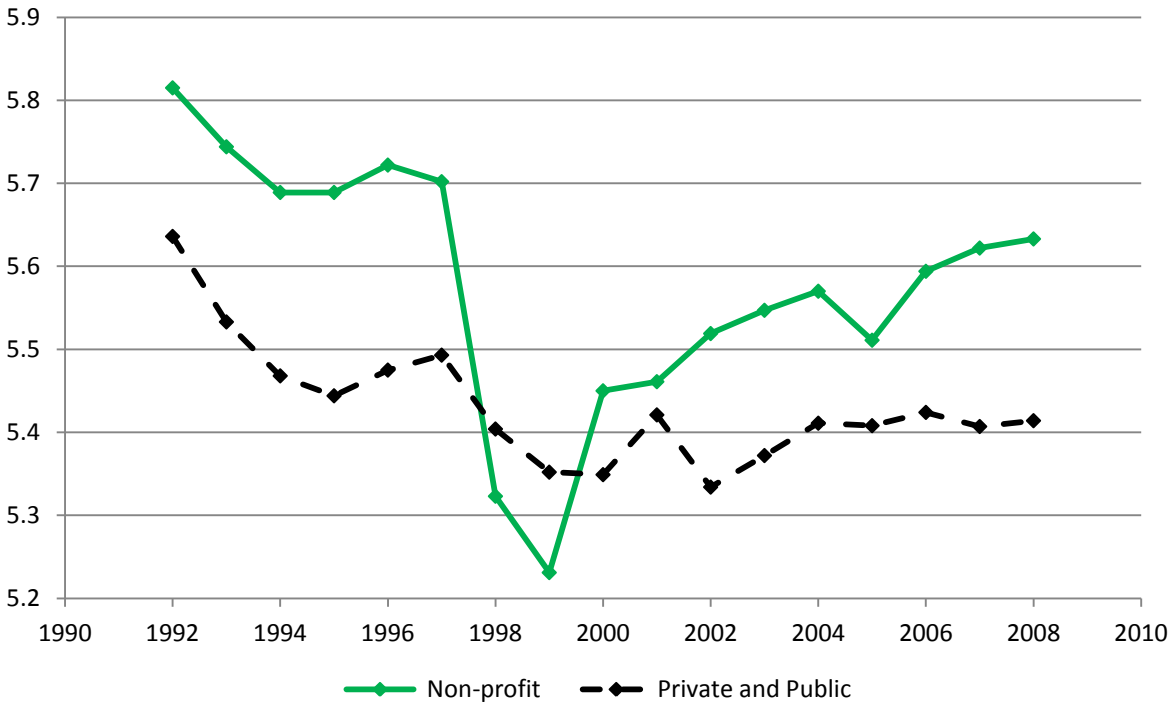
Satisfaction with total pay



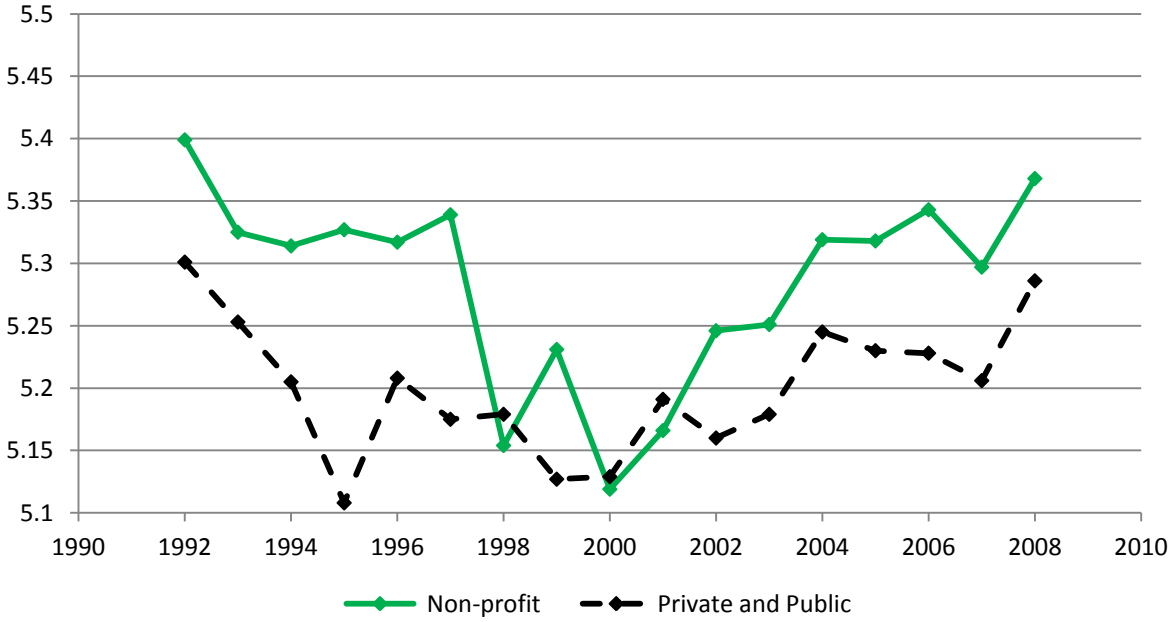
Satisfaction with security



Satisfaction with work itself



Satisfaction with hours worked



Appendix 2: Blinder-Oaxaca decomposition technique

Given two groups A and B, the aim of the Blinder-Oaxaca decomposition technique is to detect how much of the mean outcome difference is accounted for by group differences in the regressors, where $\mathrm{E}(\mathrm{Y_A})$ is the expected value of the outcome variable for group A and $\mathrm{E}(\mathrm{Y_B})$ denotes the expected value of the outcome variable for group B:

$$R = E(Y_A) - E(Y_B) \qquad (1)$$

If we take into account the linear model:

$$\mathrm{y_{it}} = \mathrm{x`_{it}}\beta + \varepsilon_{\mathrm{it}}, \qquad E(\varepsilon_{\mathrm{it}}) = 0, \;\; i \in \{A, B\} \qquad (2)$$

where x is a vector containing the predictors and a constant, β includes the slope parameters and the intercept, and ε is the error. The mean outcome difference is expressed as the difference in the linear prediction at the group-specific means of the independent variables.

Therefore:

$$R = E(Y_A) - E(Y_B) = E(X_A)`\beta_A - E(X_B)`\beta_B \qquad (3)$$

In order to identify the contribution of group differences in regressors to the overall outcome difference, equation (3) can be rearranged obtaining a "three-fold" decomposition. In this equation the decomposition is formulated from the viewpoint of group B:[17]

$$R = [E(X_A) - E(X_B)]`\beta_B + E(X_B)`(\beta_A - \beta_B) + [E(X_A) - E(X_B)]`(\beta_A - \beta_B) \qquad (4)$$

The outcome difference is hence divided into three parts:

$$R = E + C + I \qquad (5)$$

The first component

$$E = [E(X_A) - E(X_B)]`\beta_B \qquad (5a)$$

measures the differential which is due to group differences in the predictors and it is called the "endowments effect". The second component

$$C = E(X_B)`(\beta_A - \beta_B) \qquad (5b)$$

expresses the contribution of differences in the coefficients, including differences in the intercept. The third component

$$I = [E(X_A) - E(X_B)]`(\beta_A - \beta_B) \qquad (5c)$$

is an interaction term and it accounts for the fact that differences both in endowments and coefficients coexist simultaneously between the two groups.

[17] The differential can also be expressed from the viewpoint of group A:
$R = [E(X_A) - E(X_B)]`\beta_A + E(X_A)`(\beta_A - \beta_B) + [E(X_A) - E(X_B)]`(\beta_A - \beta_B)$

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Third Sector Research Centre
Park House
40 Edgbaston Park Road
University of Birmingham
Birmingham
B15 2RT

Tel: 0121 414 3086
Email: info@tsrc.ac.uk

www.tsrc.ac.uk

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Contact the authors

Steve McKay
s.mckay@tsrc.ac.uk
0121 415 8559

Domenico Moro
d.moro@tsrc.ac.uk
0121 414 45405

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