

# **In Search of the “Warm Glow”: Estimating Pay and Job Satisfaction in the Private, Public and Voluntary Sectors<sup>1</sup>**

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*Mixed findings in studies of wage differences between private, public and voluntary sectors provide confusing evidence about the existence of a “warm glow” wage difference in nonprofit organisations. We use attitudinal data from an employer-employee linked dataset to examine differences between the private, public and voluntary sectors. We find a voluntary sector premium in job satisfaction in line with previous studies. However, the higher level of job satisfaction found amongst workers in the voluntary sector disappears after we control for relative wages. In the Health and Social Work industries, including relative wages in the satisfaction equations leads to estimates of higher job satisfaction in the private sector. This suggests that the difference in relative wages between the sectors is at least in part responsible for observed sector differences in job satisfaction. These findings are difficult to reconcile with a traditional theory of ‘warm glow’ motivation for workers in the voluntary sector.*

Are the employees of voluntary, or nonprofit, organisations motivated by a ‘warm glow’? One of the areas in which voluntary organisations may differ from private and public organisations is their behaviour in the labour market. The stylised facts regarding wage differences between the sectors offer some support for lower wages in the voluntary sector, in line with a “warm glow” explanation of motivated workers in this sector (Preston, 1989), (Weisbrod, 1983). However, more detailed analysis at the industry level finds evidence of wage premiums in health & social work (HSW) industries, where nearly two thirds of voluntary sector workers are employed (Leete, 2001), (Rutherford 2008).

How can we explain these sector wage differences, and what do they imply for theories of ‘warm glow’ motivation in the voluntary sector? In this paper we use job satisfaction data in a linked employer-employee dataset to estimate sector differences after accounting for worker and organisational characteristics. We use estimates of comparison wages to control for their impact on subjective measures. In particular,

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are there sector differences in job satisfaction, even after accounting for differences in wages?

The key findings are:

- Before accounting for differences in relative wages, voluntary sector workers report higher job satisfaction than workers in the private or public sectors
- Comparison income has a significant effect on job satisfaction, and on the sector differences in satisfaction, reducing the difference between the private and voluntary sectors
- After including an estimate of comparison income in the satisfaction equations, the higher voluntary sector job satisfaction effect disappears. In the HSW industry, workers in the Private sector report higher job satisfaction, while workers in the Public sector report lower job satisfaction, compared to the Voluntary Sector.

## **Literature Review**

### **Wages in the Voluntary Sector**

One of the dominant theories in the nonprofit literature is ‘warm glow’ motivation (Andreoni, 1990): that performing charitable acts can be intrinsically enjoyable and provide utility from the action as well as the outcome. This has been used to explain the low incidence of free-riding in charitable donations, the absence of crowding-out of donations by government grants to nonprofits, and even extended to explain volunteering behaviour and to model nonprofit organisations objective functions.

More recently, the ‘warm glow’ literature has been applied to employees in the voluntary sector, as motivated agents with a “mission” (Besley & Ghatak, 2005). This Principal-Agent model, where motivated agents match with a principal who shares their mission, predicts that workers in this sector will accept lower wages. The ‘warm glow’ utility they gain from contributing to principal’s work acts as a compensating differential, reducing the level of efficiency wages required to elicit optimal effort. This prediction of lower voluntary sector wages after controlling for worker characteristics is testable, and a number of papers have tried to investigate the question.

There is an extensive literature on the apparent wage premium earned by workers in the public sectors (see Bender (1998) for a review). The stylised facts from this literature are that there is a public sector premium, it is greatest for women and minorities, but it has generally been decreasing over time. Disney & Gosling (1998) used the General Household Survey (GHS) and British Household Panel Survey

(BHPS) to estimate the public sector premium in the UK after taking worker characteristics into account. They found that for men the premium fell from 5% in 1983 to only 1% by the mid-1990's. However, for women the public sector premium increased over the same period from 11% to 14%.

There has been some past research attempting to estimate nonprofit or voluntary sector wage differences, primarily using US data. Preston (1989) conducted an analysis of the nonprofit sector wage differential for white-collar workers using Current Population Survey (CPS) in the US, and found a significant nonprofit sector discount of 18% even after controlling for differences in human capital and other worker and job characteristics. She found a larger differential for male workers than female workers. It is suggested that a selectivity bias might be present, and this is tested for using a two-stage sector choice model, and also analysing a limited sector switching model. She concludes that a "donative labour" hypothesis is supported by the findings, but that the presence of unobserved heterogeneity in worker characteristics that might affect their productivity has not been completely ruled out. Weisbrod (1983) examined wage differences between lawyers employed by nonprofit and for-profit firms, and found evidence of a nonprofit wage discount of ~20%. His analysis of a job choice equation suggested that lawyers in the nonprofit sector held different preferences to those employed in the private sector.

Leete (2001) used US census data for 1990 and found little evidence of a difference between the private and voluntary sectors overall. However, she did find some significant differences at the disaggregated industry level. Although the industry categories used in Leete's paper differ from those in the UK LFS, it is possible to identify some that are relevant to the industry classifications examined in this paper.

<b>Industry</b>	<b>Nonprofit Premiums (t-statistic)</b>	<b>% Nonprofit (Sample Size)</b>
Nursing & Personal Care Facilities	2.22% (3.5)	19.40% (60,120)
Hospitals	5.02% (18.87)	43.70% (171,612)
Day-care services	6.72% (6.54)	35.40% (21,505)

Figure 1 – Estimated Nonprofit Wage Premiums from US Census 1990  
(Source: (Leete, 2001))

Figure 1 shows that Leete found significant nonprofit sector premiums of between 2.2% - 6.7% in caring industries in the US. The table also shows that these were in industries with a relatively high concentration of nonprofit organisations. Examining similar sectors, Mocan & Tekin (2003) used employer-employee matched data on child care workers in the USA, and found evidence of a nonprofit wage premium of between 6% - 15%.

These papers produce contradictory results – one provides evidence of a nonprofit wage discount, while the other supports a wage premium in the health and care

industries where most nonprofits operate. Little work has been done to analyse equivalent wage differentials in a three sector model using UK data. An economy-wide analysis using UK Quarterly Labour Force Survey (LFS) data carried out by the author (Rutherford 2007) found support for a nonprofit wage discount for male workers, but little evidence of sector differential for female workers. This is in line with the findings of Preston. However, analysis of the LFS data for workers in the Health & Social Work industries found a wage premium for voluntary sector workers (Rutherford 2008).

The empirical tests for the ‘warm glow’ wage difference have provided mixed evidence for evaluating the first prediction of the motivated agent theory. In particular, there seem to be significant industry differences in the findings. However, the motivated agent theory also makes a second prediction, which is that the work-related utility of workers in the mission-oriented sectors should be higher than that of their colleagues in the private sector. This prediction can be investigated using the literature on measuring job satisfaction.

### **The economics of job satisfaction**

The value of so-called “subjective variables” such as job satisfaction is a matter of debate amongst economists, despite their wide use in other social sciences. Freeman (Freeman, 1978) described them as measuring “... ‘what people say’ rather than ‘what people do’.”, but went on to argue that these variables contain useful information for predicting and understanding behaviour. More recently there has been a resurgence in interest in measures of “happiness” and its relation to income (Blanchflower & Oswald, 2004).

Job satisfaction is a subjective variable that is often collected in surveys of workers, usually as a categorical variable on a multi-point scale. This is of interest to labour economists, who assume that reported satisfaction reflects the utility received from the job. This can be modelled as:

$$u = u(y, Ind, Job, Org)$$

Where  $y$  is the worker’s income, and  $Ind$ ,  $Job$  and  $Org$  are characteristics of the individual, job and organisation respectively.

The literature has also examined the importance of relative income on reported happiness. Clark & Oswald (1996) attempted to test the hypothesis that comparison income is an important factor influencing job satisfaction. The individual’s utility from working is then defined as:

$$u = u(y, y', Ind, Job, Org)$$

Where  $y'$  is the comparison income with other workers.

They estimate wage equations to compute predicted wages for each worker, and then use the difference between the observed wage and predicted wage as a proxy for the comparison wage. This assumes that workers compare their earnings to those of other workers with similar characteristics. They find that comparison income is significant in the estimation of job satisfaction equations.<sup>3</sup>

### **Job Satisfaction in Nonprofit Organisations**

There are two main economic explanations for the existence of nonprofit organisations. Firstly, the non-distribution of profits constraint facing nonprofits gives them a competitive advantage in providing services where quality is difficult to contract over, as the main incentive to exploit information asymmetry for profit is removed (Hansmann, 1980). Secondly, their nonprofit status and mission allows them to harness the motivation of individuals to donate labour to achieving a common goal (Rose-Ackerman, 1996).

If workers are motivated through receiving utility from performing their job, then we would expect to see higher levels of job satisfaction reported after controlling for other characteristics of the individual, organisation and job. This allows us to investigate the 'warm glow' theory (Andreoni, 1990) of motivated workers.

It has been established that relative income is significant in job satisfaction (Clark & Oswald, 1996). Leete (2000) suggests that nonprofit organisations take this further, as wage dispersion can have a significant effect on motivation. Frey (1997) argues that altruistic motivation can not be traded off so easily with financial self-interested incentives. He distinguishes between the extrinsic motivation of (often financial) incentives, and the intrinsic motivation of gaining utility directly from undertaking an activity. His suggestion, drawing on evidence from the literatures of psychology and experimental economics, is that these two motivations can interact. This has two main implications:

- "Crowding Out" effects
- "Spill-over" effects

"Crowding Out" is observed when the introduction of external incentives for performing a task reduces the amount of intrinsic motivation derived from the task, with the results that "paying more" leads to lower rather than higher effort.

"Spill-over" is observed when the introduction of external incentives for one task reduces the intrinsic motivation for performing other tasks. For example, introducing

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<sup>3</sup> Further literature in this area includes (Clark, 1997), (Sloane & Williams, 2000), (Clark, 2001), (McBride, 2001), (Carbonell, 2005), (Levy-Garboua, Montmarquette, & Simonnet, 2007)

payment for a teenager to perform one household chore reduces the effort applied to other unpaid, but previously undertaken, chores.

This interaction is a break with traditional “warm glow” explanations, which suggested that the glow produced the same type of utility as payment and agents could trade off these utilities internally.

This can lead to a labour supply curve that has both upward and downward sloping portions. The implications can run even deeper than this, suggesting that the method of reward can also be important, independent of the value of the payment. If a small payment is perceived as a gift or award (such as an Olympic gold medal), then it can increase intrinsic motivation. But if it is perceived as payment for services then intrinsic motivation can be crowded out. For example, allowing volunteers to claim their expenses can show that their time is valued and encourage greater volunteering. Providing an equivalent small “hourly rate” payment for volunteers could discourage volunteering, even if the expected value of the two payment schemes is identical.

If nonprofits reduce wage differentials within the sector due to their reliance on the intrinsic motivation of workers, and increased wage equality is associated with increased job satisfaction, then this could explain differences in job satisfaction observed between the sectors.

Little empirical work has been carried out to examine potential sector differences in job satisfaction. Benz (2005) undertook one of the first analyses, using data from the National Longitudinal Study of Youth (NLSY) for the US and the British Household Panel Survey (BHPS) for the UK. He compared workers in the private for-profit sector with workers in the private nonprofit sector by estimating binary and ordered logit job satisfaction equations to control for worker and job characteristics. Benz found evidence of higher levels of job satisfaction in the nonprofit sector. He also narrowed his sample to “professional services” workers, a category which the majority of nonprofit workers fell into. Here Benz found smaller but still significant positive satisfaction effects for nonprofit workers.

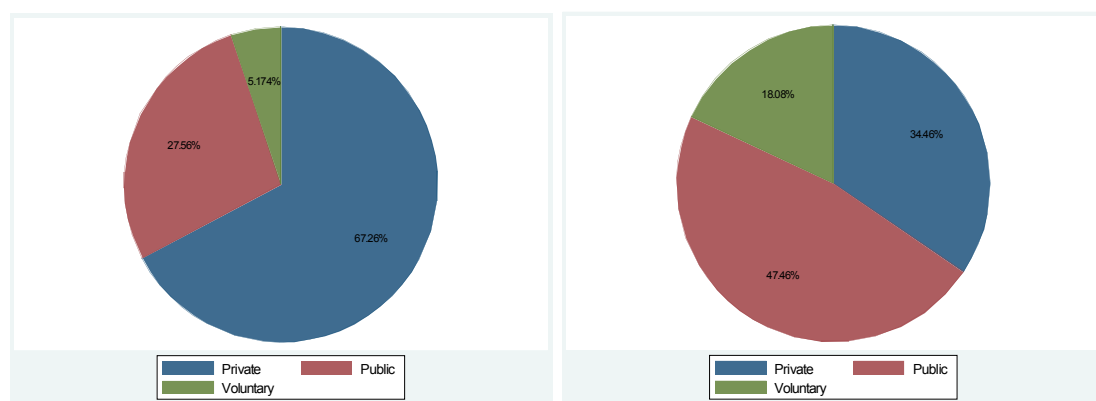
This paper approaches the estimation of nonprofit sector job satisfaction equations in a similar way to Benz. There are, however, a number of significant differences in our analysis. We adopt a three-sector approach, examining differences between the private, public and voluntary sectors. Following the evidence that wage equality may be a significant factor for both motivation and job satisfaction, we explicitly account for differences in comparison income levels. Lastly, by using a linked employer-employee dataset we are able to control more accurately for differences in size and other organisational characteristics.

## The Dataset

The Workforce Employer Relations Survey 2004 (WERS) surveyed a cross-section of contains questions asked to individual workers and to the organisations' management. WERS was based on a random sample of establishments in existence in 2004. Data was collected from about 2,300 managers, 1,000 employee representatives and 22,500 employees. The Survey took place at workplace level and contained five components:

- Employee profile questionnaire: Four-page self-completion questionnaire for the main management respondent about the composition of the workforce
- Main management interview: A face-to-face interview with the senior person at the workplace with day-to-day responsibility for industrial relations, employee relations or personnel matters.
- Interviews with employee representatives
- Survey of employees: Eight-page self-completion questionnaire distributed to a random selection of up to 25 employees in each workplace
- Financial performance questionnaire: Four-page self-completion questionnaire for the financial manager about the financial performance of the establishment

For this paper organisations have been categorised into three sectors based on their response based on a question about the organisation status in the management interview. The main sample used contains 1,121 organisations, and the Health & Social Work subsample contains 177 organisations. Figure 2 shows the breakdown by sector of the two samples. Voluntary organisations make up about 5% of the employers in the whole economy sample, and 18% of employers in the HSW industries.



*Whole Economy sample*

*Health & Social Work subsample*

*Figure 2 - Sector proportions by sample*

## **Individual Questionnaire: The Survey Questions**

The attitudinal questions allow examination of the motivation and ethos of workers and management in the organisations, and comparison between sectors and across industries.

This paper examines the responses to two survey questions:

- “How satisfied are you with - the work itself?”
- “To what extent do you agree or disagree with the following statements about working here? I share many of the values of my organisation.”

These questions are both categorical responses, scored on a five point scale by up to 25 workers from each employer.

## **Descriptive Statistics**

The individual level questionnaires collect data on many worker characteristics such as age, tenure, and education. Mean scores for the Job Satisfaction question is summarised by characteristics in Appendix One.

Figure 3 below shows the distribution of responses to the question, split by sector. It shows that the proportion of “Satisfied” responses is very similar in the three sectors, but a greater proportion of workers responded “Very Satisfied” in the voluntary sector than the other two.

Figure 4 above shows the distribution of responses to the question about the extent to which individual workers share the values of their employer. The proportion of both “Strongly Agree” and “Agree” responses is much higher in the voluntary sector than the private sector.



Figure 3 - Histogram of Job Satisfaction Responses by Sector  
 (Very Satisfied = 1, Satisfied = 2, Neither = 3, Dissatisfied = 4, Very Dissatisfied = 5)

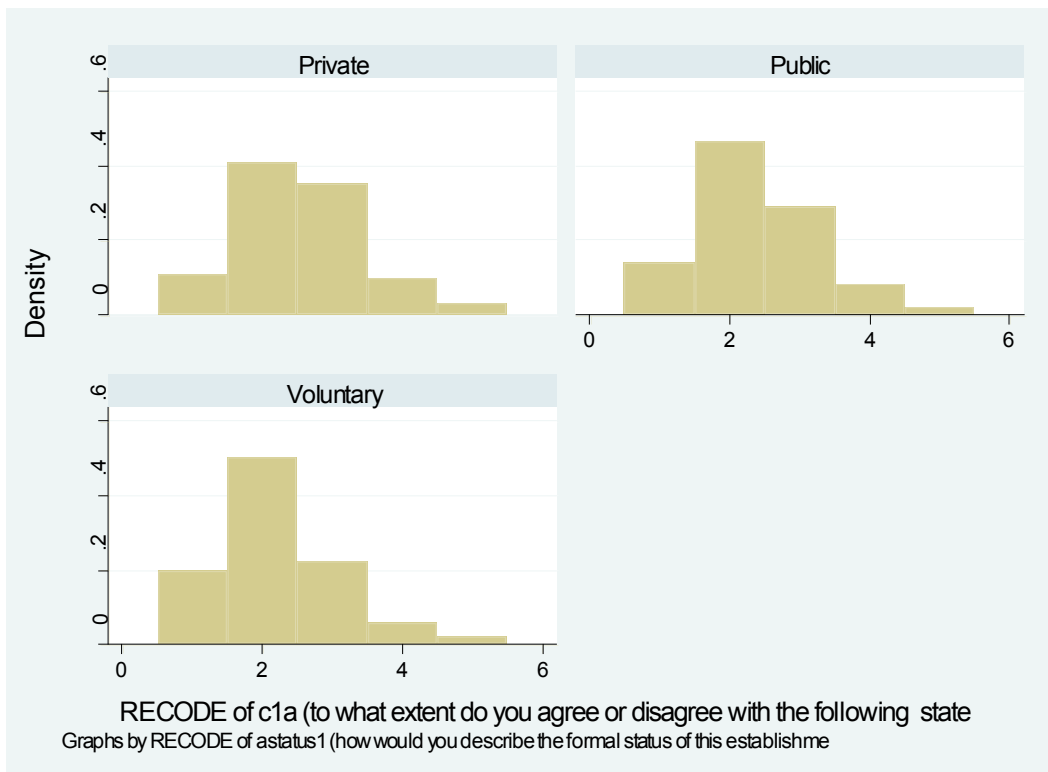


Figure 4 – Histogram of Organisational Values by Sector  
 (Strongly Agree = 1, Agree = 2, Neither = 3, Disagree = 4, Strongly Disagree = 5)

In Figure 5 the mean job satisfaction scores are plotted against age and weekly working hours, by sector. We can see that job satisfaction seems to generally increase with age in all sectors, although there is some evidence of a U-shape in the private and public sectors with a trough around 20 – 29 years old. For workers aged 30 and above job satisfaction appears considerably higher in the voluntary sector than the other two.

Job satisfaction also appears to be U-shaped over weekly working hours, with a trough at 30-40 hours. Job satisfaction in the voluntary sector appears consistently higher, with the lowest satisfaction in the private sector.

Figure 6 shows the extent to which workers agree that they share the values of their organisation, plotted against age and tenure. There is a clear trend in all sectors of a greater sharing of organisational values as workers get older, with average levels of agreement higher in the voluntary sector. As the second graph shows this is not necessarily explained by longer time spent working for an organisation, as value-sharing appears to decline with tenure in the private and public sectors, and remain level in the voluntary sector.

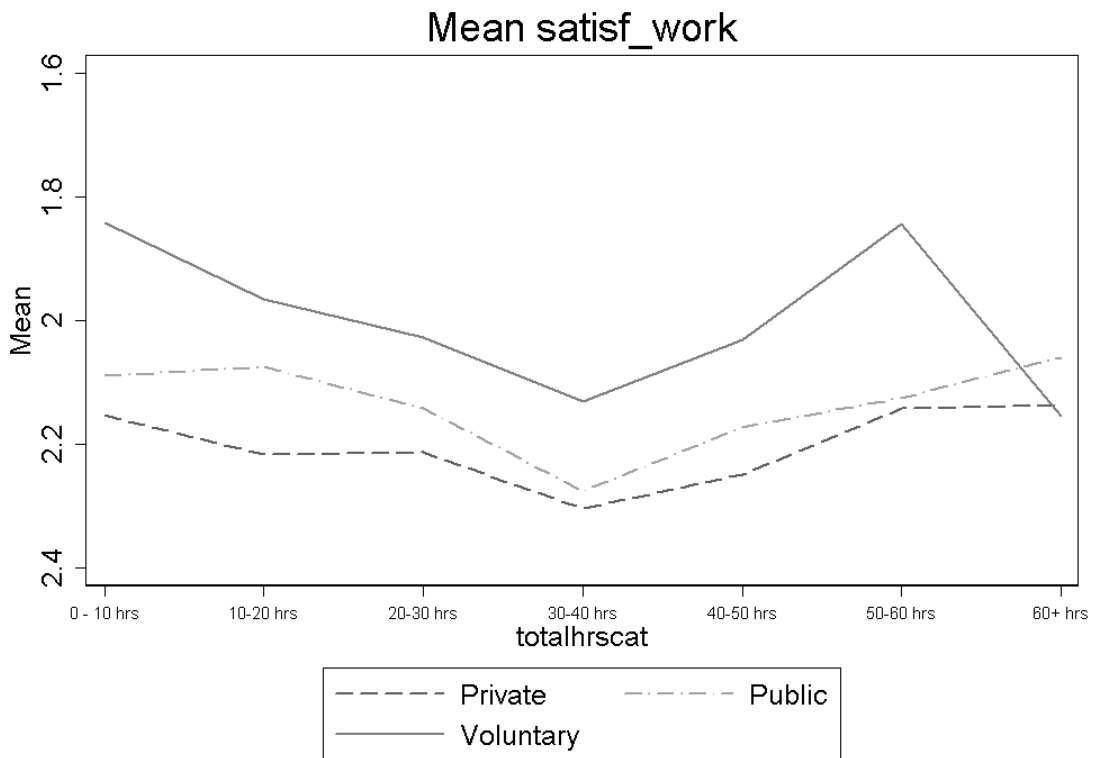
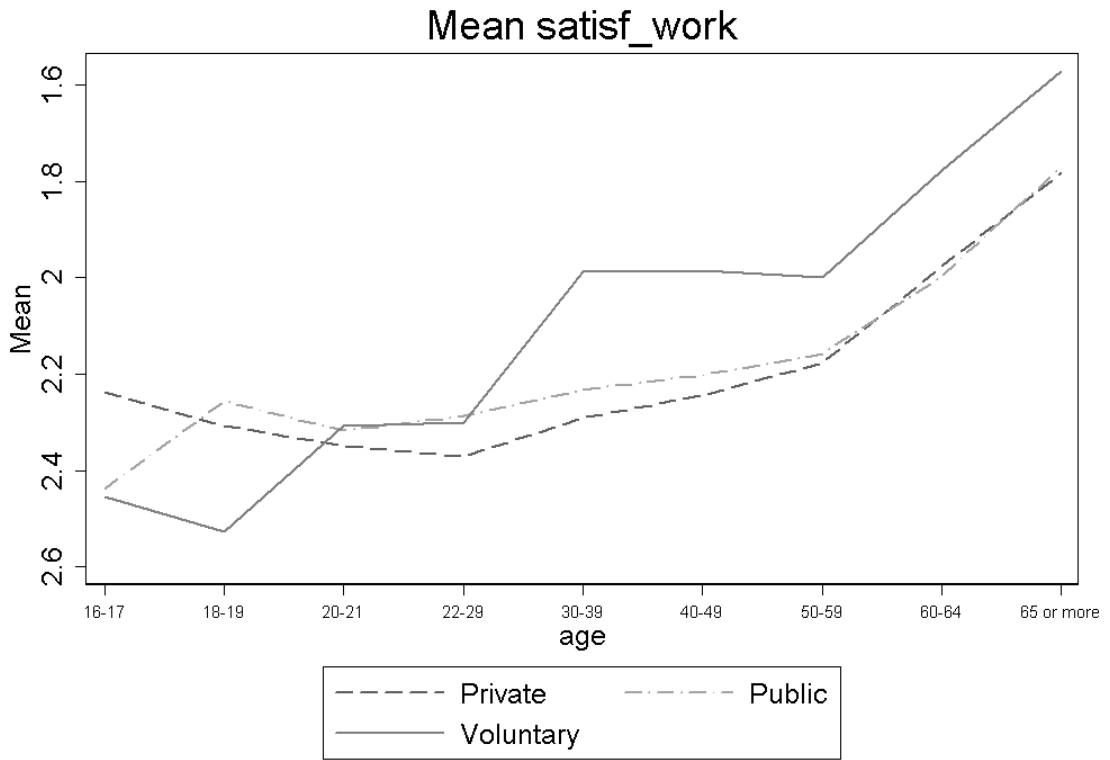


Figure 5 - Job Satisfaction by Sector

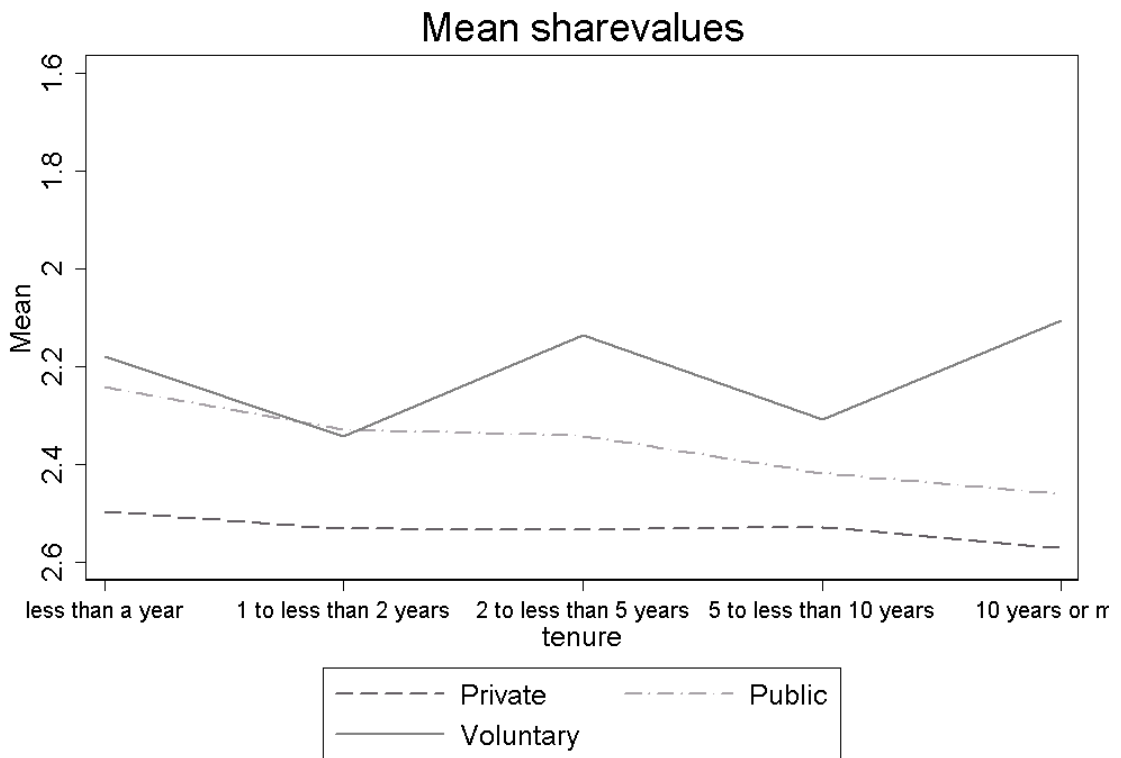
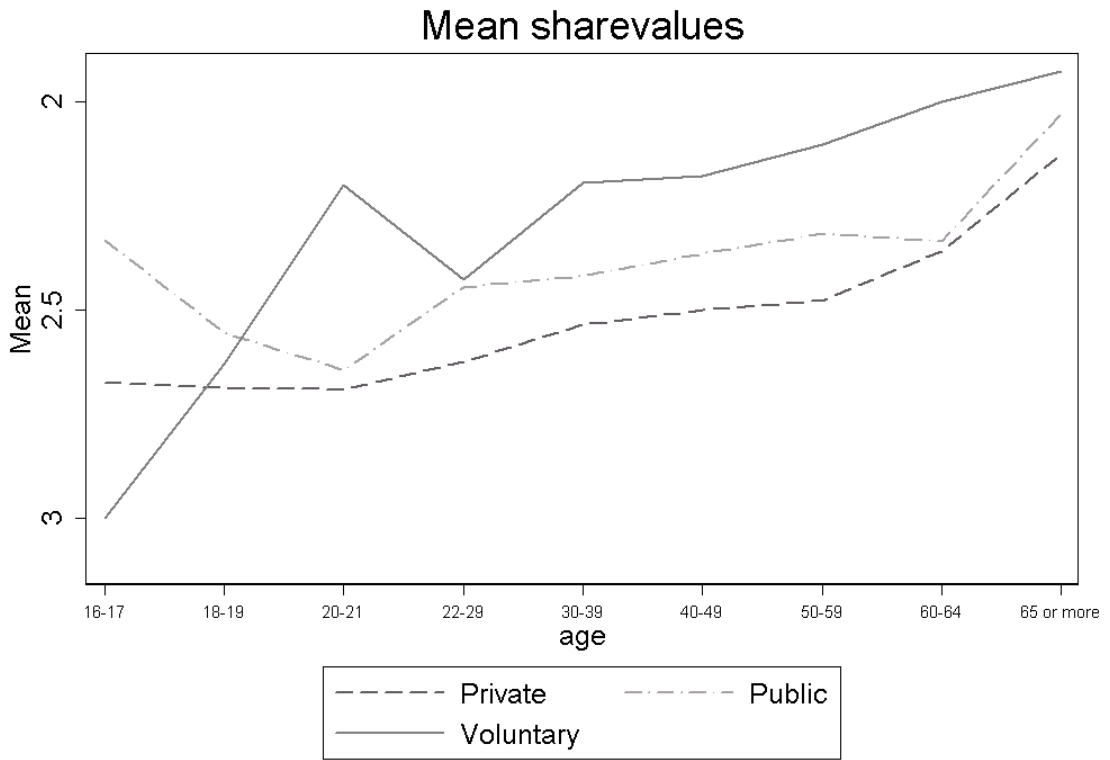


Figure 6 - Organisational Values by Sector

## Job Satisfaction: Estimating the Satisfaction Equation

In our analysis of job satisfaction we estimate ordered logit models of discrete choice between the five category outcomes of the dependent variable. This allows aspects of worker or organisational characteristic to be taken into account, and the statistical significance of sector differences estimated. The models are analysed separately for workers in HSW industries versus the rest of the workforce.

$$\Pr(Y_i = x_j) = \alpha + \beta_1 \cdot Ind_i + \beta_2 \cdot Job_i + \beta_3 \cdot Org_i + \beta_4 \cdot y_i + e_i$$

The explanatory variables used in the analysis of workers responses were:

- Age (age of employee in years)
  - Sex
  - Education level (Highest qualification achieved)
  - Job tenure (length of time with current employer)
  - Total hours (weekly hours)
  - Job status (Permanent or temporary)
  - Organisation Turnover (from financial data)
  - No. of Employees (No. of Fulltime Equivalent employees in workplace)
  - Sector (Private / Public / Voluntary)
- 

The regression is estimated with robust standard errors to account for fact that up to 25 workers are drawn from each employer, creating clusters by organisation.

The estimated coefficients on the Private and Public sector dummy variables are shown in the table below. These are interpreted as differences from the voluntary sector. As the five-point scale runs from 1 (Very Satisfied) to 5 (Very Dissatisfied) a negative effect suggests that the voluntary sector employees are less satisfied than the private or public sectors, and vice versa.

We first estimate our satisfaction equations without including comparison income, in order to provide a benchmark and allow comparison with the work of Benz.

**Individual Questionnaires: A8g: How satisfied are you with - the work itself?**

	(1) Whole Economy	(2) Health & Social Work
Private Sector	0.262 (0.151)*	-0.0776 (0.150)
Public Sector	0.230 (0.156)	0.577 (0.179)***
<hr/>		
cut1		
_cons	-1.671 (0.168)***	-1.365 (0.277)***
<hr/>		
cut2		
_cons	1.029 (0.169)***	1.322 (0.261)***
<hr/>		
cut3		
_cons	2.397 (0.172)***	2.607 (0.257)***
<hr/>		
cut4		
_cons	3.756 (0.180)***	3.920 (0.310)***
<hr/>		
N	8491	1650
pseudo R2	0.017	0.027

Standard errors in parentheses

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Figure 7 – Regression Results: Job Satisfaction

The regression results in Figure 7 above show that in the Whole Economy job satisfaction is higher in the voluntary sector than the other two sectors, although only significant at the 10% level in the private sector. In the HSW industries there is no significant difference between the private and voluntary sectors, but workers in the public sectors are significantly less satisfied. These findings are broadly consistent with those in Benz, who found a significant difference between the private and voluntary sectors, with a smaller effect at the more detailed industry level.

As suggested above, this estimation does not account for comparison incomes, and so we now continue to include these in our analysis.

### Comparison Income: Estimating the Wage Equations

WERS does not include data on comparison income as such, and so we use the difference between predicted wage (based on worker characteristics) and observed wage, following Clark & Oswald (1996). In order to estimate this proxy for relative earnings we estimate standard Mincer wage equations:

$$\ln(\text{wage}_i) = \alpha + \beta_1 \cdot \text{Ind}_i + \beta_2 \cdot \text{Job}_i + \beta_3 \cdot \text{Org}_i + \varepsilon_i$$

Where Ind, Job and Org are characteristics of the individual, job and organisation respectively.

The wage data in the WERS (2004) Individual Questionnaire is recorded as a 14 point categorical variable for weekly earnings rather than as a continuous variable. This poses a potential problem for the estimation of the wage equation, as estimating an ordered logit model would not permit the prediction of comparison wages. We instead estimate the wage equations using OLS. This is justified by the relatively large number of categories in the dependent variable with quite small wage bandings. Conventional Mincer wage equations are estimated on log wages, and so we calculate our dependent variable as being the log of the midpoint of each category.

The summarised regression results are shown in Figure 8 below.

Relative wages are calculated from the difference between the predicted and observed wages, that is, the residuals from the wage equations:

$$\hat{\varepsilon} = \ln(\hat{w}) - \ln(w)$$

These residuals can then be included as an explanatory variable in the job satisfaction equation estimates. One area of concern is the reliability of this measure of relative wages as a measure of the wage comparisons made by workers. The WERS worker questionnaire includes a question on satisfaction with pay. We ran an ordered logit model to explain pay satisfaction, to test whether the imputed relative wages had a significant effect in the expected direction.

$$\Pr(Y_i = x_j) = \alpha + \beta_1 \cdot Ind_i + \beta_2 \cdot Job_i + \beta_3 \cdot Org_i + \beta_4 \cdot y_i + \beta_5 \cdot \hat{\varepsilon} + e_i$$

In Figure 9 below we can see that the coefficient on Relative Wages is significant at the 1% level. The coefficients in both regressions are negative, which means that being paid a premium above predicted wages increases job satisfaction.

<b>Wage Equations</b>		
	<b>(1)</b>	<b>(2)</b>
	<b>Whole Economy</b>	<b>Health &amp; Social Work</b>
sex	-0.159 (0.0143) <sup>***</sup>	-0.106 (0.0339) <sup>***</sup>
No Qualifications	-0.167 (0.0222) <sup>***</sup>	-0.140 (0.0452) <sup>***</sup>
Other Quals	-0.0263 (0.0271)	-0.0252 (0.0527)
GCSE D grades	-0.0129 (0.0247)	-0.0743 (0.0534)
One A-Level	0.0135 (0.0295)	0.00852 (0.0606)
2+ A-Levels	0.0698 (0.0240) <sup>***</sup>	0.0495 (0.0541)
Degree	0.151 (0.0199) <sup>***</sup>	0.136 (0.0399) <sup>***</sup>
Higher Degree	0.228 (0.0286) <sup>***</sup>	0.214 (0.0597) <sup>***</sup>
Temporary Job	-0.136 (0.0233) <sup>***</sup>	-0.119 (0.0496) <sup>**</sup>
Turnover: Less than £1,000	-0.214 (0.0205) <sup>***</sup>	-0.0844 (0.0414) <sup>**</sup>
Turnover: £1,000 to £10,000	-0.0861 (0.0155) <sup>***</sup>	-0.00848 (0.0434)
Turnover: £100,000 to £1,000,000	0.125 (0.0198) <sup>***</sup>	0.0650 (0.0515)
Turnover: £1,000,000 plus	0.213 (0.0419) <sup>***</sup>	N/A
constant	5.918 (0.0542) <sup>***</sup>	5.756 (0.0717) <sup>***</sup>
<i>N</i>	5,057	947
<i>R</i> <sup>2</sup>	0.706	0.722

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

(Additional controls include age, working hours, occupation, tenure, marital status, children, vocational qualifications, industry, union, FT/PT)

Figure 8 - Estimated Wage Equations

**Individual Questionnaires: A8e: How satisfied are you with - The amount of pay you receive?**

	(1) Whole Economy	(2) Health & Social Work
Private Sector	-0.113 (0.213)	0.117 (0.216)
Public Sector	-0.0614 (0.217)	0.526 (0.218)**
Relative Wages	-0.550 (0.0776)***	-0.570 (0.205)***
<hr/>		
cut1 _cons	-3.916 (0.253)***	-3.628 (0.427)***
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cut2 _cons	-1.234 (0.249)***	-1.019 (0.415)**
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cut3 _cons	-0.169 (0.249)	-0.139 (0.407)
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cut4 _cons	1.477 (0.253)***	1.696 (0.412)***
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N	4484	842
pseudo R <sup>2</sup>	0.044	0.057

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Figure 9 - Regression Results: Pay Satisfaction

## Job Satisfaction & Comparison Income

We now re-estimate the job satisfaction equations, controlling for comparison income. We estimate ordered logit models of discrete choice between the five category outcomes of the dependent variable.

$$\Pr(Y_i = x_j) = \alpha + \beta_1 \cdot Ind_i + \beta_2 \cdot Job_i + \beta_3 \cdot Org_i + \beta_4 \cdot y_i + \beta_5 \cdot \hat{\epsilon}_i + e_i$$

Figure 10 below shows the regression results for the private and public sector coefficients, as deviations from the voluntary sector. Workers in the wider economy show no significant difference between the private, public and voluntary sectors in their job satisfaction. Comparison wages have a significant effect in the expected direction, with relative wage premiums increasing job satisfaction. In the HSW industries there are significant differences between the sectors, with workers in the private sector more likely to say that they are satisfied and those in the public sector more likely to be dissatisfied, than the voluntary sector workers. The coefficient on comparison wages is not statistically significant in this sample.

**Individual Questionnaires: A8g: How satisfied are you with - the work itself?**

	(1) Whole Economy, Comp. Inc	(2) Health & Social Work, Comp. Inc
Private Sector	-0.0299 (0.179)	-0.344 (0.173)**
Public Sector	-0.0683 (0.186)	0.392 (0.193)**
Relative Wage	-0.200 (0.0695)***	-0.151 (0.190)
<hr/>		
cut1 _cons	-1.859 (0.208)***	-1.638 (0.308)***
<hr/>		
cut2 _cons	0.796 (0.208)***	1.133 (0.305)***
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cut3 _cons	2.183 (0.211)***	2.467 (0.330)***
<hr/>		
cut4 _cons	3.465 (0.217)***	3.886 (0.361)***
<hr/>		
N	5000	931
pseudo R <sup>2</sup>	0.017	0.033

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Figure 10 - Regression Results: Job Satisfaction with Relative Income

The estimated coefficients on the Private and Public sector dummy variables are shown in the Figure 11 below, along with 90% and 95% confidence intervals, with and without relative wages. We can see that the higher voluntary sector job satisfaction for the whole economy has now disappeared with the inclusion of comparison income in the equation. Within the HSW industries the significantly lower public sector satisfaction remains, but satisfaction is now significantly higher in the private sector than the voluntary sector.



Figure 11 – Sector Coefficients from both Models

## Organisational Values

Next, we examine sector differences in response to a question about organisational values. This question asks workers about the extent to which they share the values of their organisation. Respondents rate their agreement with the statement on a five-point scale from “Strongly Agree” to “Strongly Disagree”.

Figure 12 below shows the sector coefficients from the estimation results. In the wider economy, workers in the private sector are significantly less likely to agree that they share their employer’s values. Public sector workers are also less likely to agree, though this estimate is not statistically significant. In the HSW industries the opposite is the case, with no significant difference between voluntary and private sector workers, but significantly less agreement from workers in the public sector.

Individual Questionnaires: “To what extent do you agree or disagree with the following statements about working here? I share many of the values of my organisation.”

	(1) Whole Economy	(2) Health & Social Work
sharevalues		
Private Sector	0.678 (0.251) <sup>***</sup>	-0.0239 (0.251)
Public Sector	0.408 (0.255)	0.878 (0.272) <sup>***</sup>
Log Wage	-1.006 (0.135) <sup>***</sup>	-1.041 (0.322) <sup>***</sup>
Comparison Wage	0.613 (0.151) <sup>***</sup>	0.837 (0.363) <sup>**</sup>
<i>N</i>	4839	912
pseudo <i>R</i> <sup>2</sup>	0.036	0.068

Standard errors in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Figure 12 - Regression results from Organisational Values question

For public sector workers in both industry classifications the effect is similar. However this question highlights the difference between private and voluntary organisations in the two industry classifications. The very significant difference between private and voluntary workers sharing organisational values completely disappears in the HSW industries. This suggests that the role of motivation through sharing the organisation’s mission could be quite different in the different industries.

The coefficient on comparison wages is strongly significant and is worthy of discussion. The coefficient is positive, suggesting that those paid below their comparison wage are more likely to agree with the statement that they share the values of their organisation. This finding supports the ‘warm glow’ theory, in that workers are prepared to trade off lower wages for an organisation that they support.

## **Conclusion**

The key findings are:

- Before accounting for differences in relative wages, voluntary sector workers report higher job satisfaction when looking at the economy as a whole
- Comparison income has a significant effect on job satisfaction, and on the sector differences in satisfaction, reducing the difference between the private and voluntary sectors
- After including an estimate of comparison income in the satisfaction equations, the higher voluntary sector job satisfaction effect disappears. In the HSW industry, workers in the Private sector report higher job satisfaction, while workers in the Public sector report lower job satisfaction, compared to the Voluntary Sector
- Workers in the Voluntary Sector in all industries are more likely to agree that they share the organisation’s goals. Comparison income provides a significant effect, with workers paid below their expected wage more likely to share the organisation’s values
- Industry effects are very significant, with a ‘warm glow’ explanation largely supported for both wages and utility at the economy-level, but not at the industry level

This paper agrees with previous research in showing that comparison income is important in explaining job satisfaction. We have also shown that including comparison income has a significant effect on sector differences in job satisfaction, removing the voluntary sector premium over the private sector. This could lend support to the hypothesis that wage equality is important for job satisfaction in the voluntary sector due to its impact on levels of intrinsic motivation. The fairness of wages seems to be a significant portion of the voluntary sector premium in work-related utility.

Support for the intrinsic motivation hypothesis was found in the result that voluntary sector workers were more likely to agree that they shared the organisation’s goals. However the lack of a significant difference between private and voluntary workers in

the HSW industries in this question raises problems for the mission “motivated agent” explanation in these types of jobs.

There is a caveat to this analysis: although the datasets provide detailed information on both employers and employees and a reasonable sample sizes, the model is estimated in a cross-section. This raises the spectre of unobserved heterogeneity providing a bias if there is sample selection with workers sorting between the private, public and voluntary sectors. Further research remains to be done conducting this analysis using sample selection equations to control for this process, and using panel datasets to control for unobserved individual effects.

The motivated agents theory of wage-setting in the mission-oriented sectors makes two clear predictions: a lower wages in the voluntary sector, replaced by a premium in work-related utility. The empirical work presented here shows that these predictions are supported by an analysis of a three sector model in the whole economy. However, when we narrow the analysis to the industry sectors in which the greatest proportion of the voluntary sector workforce is concentrated, little evidence for either lower wages or higher work-related utility is found.

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