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Peer Salaries and Employee Satisfaction in the Workplace

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ABSTRACT

Peer Salaries and Employee Satisfaction in the Workplace

We explore the relationship between reported job satisfaction and own wage, relative wage and average comparison group wage; allowing for asymmetry in these responses across genders. We find that the choice of relevant comparison group is affected by gender in Britain; men display behaviour characteristic of competitiveness whilst women do not.

JEL Classification: J3, J7, J28

Keywords: job satisfaction, earnings, gender, segregation, workplace

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1. Introduction.

A substantial and persistent earnings gap exists between male and female employees in Britain (see Table 1). Despite this sizable earnings gap, British women typically report higher levels of job satisfaction than do men.

Table 1. Employee earnings by gender, Britain 2004.

	Male	Female	All
Average hourly wages	£10.55	£8.76	£9.70
Average log hourly wages	2.243	2.056	2.154
Job satisfaction (index 0-6)	3.318	3.606	3.453

Source: WERS 2004.

This paper considers this apparent contradiction by asking whether the higher job satisfaction reported by female employees is due to their being less concerned by the level of co-worker wages.

Employees appear to have a good understanding of their wage relative to their fellow employees, male or female, (Hampton and Heywood, 1993). This is not to say that they care equally about the gap between their own wage and the salaries of all other employees. It has long been recognised that workers compare their wages to other workers they consider to be similar to themselves by custom (Mill, 1867:236; Phelps Brown, 1979:134). Recently, Card et al (2012) have shown that the response of an employee to their relative wage is perhaps not obvious a priori. Workers may care about the absolute size of the gap between their own wage and the comparison group (Phelps Brown, 1979:141). Or they may distinguish between an increase in their own wage and a reduction in the average wage in the comparison group (Easterlin, 1995:36-37). Furthermore, the behavioural responses are not clearly established in the literature. Card et al (2012) propose a comparison between two approaches as between a model of relative utility where an employee may be dissatisfied if their wage is lower than other workers (see also Zizzo and Oswald, 2001) and a model of co-worker wage as a signal of future wages (see also Clark et al, 2009). Employees may also react asymmetrically to co-worker wages depending on whether they are being paid relatively higher or lower than their comparison group (Duesenberry, 1949; Clark et al, 2009; Ferrer-i-Carbonell, 2005).

This paper explores gender differences in the relationship between job satisfaction and relative wages amongst co-workers at the establishment level using linked employee and workplace data for Britain (WERS04). In particular, we address the possibility that that the relevant comparison group for individual workers is affected by gender.

2. Data and methodology

Following Clark and Senik (2010) we model job satisfaction as:

$$S_i = S_i(W_i, W_i - \overline{W}_i, X_i, \dots)$$
(1)

Where S_i is the job satisfaction of worker i; W_i is the wage of that worker; \overline{W}_i is the average wage of their reference group and X_i is a vector of observable employee and workplace characteristics correlated with job satisfaction.

The matched employee-workplace data used in this study are drawn from the British Workplace Employee Relations Survey 2004 (WERS04). WERS04 is a stratified random sample of workplaces with 5 or more employees; larger workplaces and some industries are over-represented. The data have been weighted throughout the paper to allow for the (stratified and clustered) survey design and thus represent the sampling population.

An aggregate measure of job satisfaction is calculated from six satisfaction measures for the individual employee. These measures are satisfaction with: influence over job; sense of achievement; scope for using own initiative; pay; job security; and work. In each case a binary measure is constructed for positive responses ('satisfied' or 'very satisfied') and then these binary measures are summed to form the aggregate scaled job satisfaction index measure taking values from 0 to 6.

The employee characteristics included as determinants of job satisfaction are human capital related characteristics; demographic variables; and individual job characteristics. Workplace characteristics are physical and market conditions at the

workplace including measures of high performance workplace practices (Lynch 2012).¹

3. Estimation and results

The model for the scaled measure of job satisfaction is estimated using the ordered probit estimation method. It is assumed that the measured satisfaction reflects a latent welfare variable (s^*) dependent on observed characteristics (Z), which includes wage measures W and control variables X, and an unobserved component (ε) for employee i in workplace k.

$$s_{ik}^* = \beta Z_{ik} + \varepsilon_{ik} \tag{2}$$

where $S_i = \lambda(s_{ik}^*)$ is a step function taking the category values 0-6 for job satisfaction according to s_{ik}^* crossing a set of threshold levels.

We are interested in the impact of alternative measures of wage relativity on job satisfaction for different comparison groups: the workplace average wage; and separately, the workplace average male and female wages. We begin with the individuals' own wage relative to the comparison group average: the *relative wage* (= $log(W_i) - log(workplace comparison group average)$) as part of the model for job satisfaction discussed above. The results for relative wages (Table 2) reveal that employees have higher job satisfaction levels if their relative wage is above the workplace comparison group average (see panel 1 of Table 2). This is true for both males and females, although male job satisfaction is substantially more sensitive (the effect is almost twice as large) to relative wages than is female job satisfaction.

Next, the restriction that the own and the relative wage measure have an equal and opposite effect is removed (see panel 2). These results suggest that employees' job satisfaction is raised by increases in their own wage level (especially for males) and is significantly affected by an average comparison wage measure in their workplace, be it the average of male or female or all employees. However, we find a significant asymmetric comparison effect, especially for women.

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¹ Variable definitions and full results are provided in the Online Appendix.

We examine the possibility that employees respond differently to their wage being relatively higher or relatively lower than the comparison group in panel 3. Both male and female employees show a positive relationship between reported job satisfaction and their own wage. These estimates are significant and positive, and are not significantly different between the two genders. However, the results show that male employees also gain satisfaction from having a wage rate higher than the average for the workplace comparison group: more so if the comparison group is the males in the workplace (but not significantly so). In contrast, the reported job satisfaction of female employees is not significantly related to the average wages of their workplace co-workers, male or female.

Our results contrast in terms of relative significance with those of Card et al (2012) who find that job satisfaction is lower for those below median earners whilst those above the median show no higher satisfaction. Card et al (2012) do not report any differences in responses between males and females. Clark et al (2009) examine job satisfaction in Danish workplaces and report results that contrast with ours and Card et al (2012). Whilst they find that higher wages raises job satisfaction for all workers, they find that below median wage workers have higher satisfaction if they work in higher wage establishments. They show a somewhat less significant effect for females than males.

Our results show a clearly significant difference in the response of males and females to earnings comparisons. This chimes with studies that examine broader income comparisons, for instance with friends and neighbours. Mayraz et al (2010) find substantial gender differences with income comparisons being much better predictors of well-being in males than in females.

4. Conclusions

Relative earnings is found to be an important determinant of job satisfaction for men; men care about their own wage level and the higher their wage is above the average wage (especially of other males) in their workplace. In contrast, women appear to be indifferent to the average wages of other men or women in their workplace. Their job

satisfaction is sensitive only to their own wage level. Our evidence favours the relative utility model over a signalling explanation.

Our results suggest that the large earnings gap between men and women in British workplaces is not associated with lower job satisfaction levels for women whilst it is positively associated with higher job satisfaction levels for males. Consequently, it may be that little pressure is being exerted by either male or female employees to have the gender earnings gap reduced within their workplaces.

Acknowledgments

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Table 2. Job satisfaction and wage relativity.

	all		ma	lles	females		
	coeff	s.error	coeff	s.error	coeff	s.error	
relative to average workplace wage	0.258	0.032	0.387	0.047	0.187	0.043	
relative to average male workplace wage	0.246	0.032	0.359	0.047	0.191	0.041	
relative to average female workplace wage	0.222	0.034	0.326	0.051	0.167	0.042	
own wage	0.329	0.033	0.439	0.048	0.280	0.045	
average workplace wage	0.031	0.072	-0.113	0.099	0.111	0.086	
own wage	0.336	0.033	0.431	0.048	0.295	0.045	
average male workplace wage	-0.012	0.063	-0.063	0.091	-0.002	0.071	
own wage	0.325	0.033	0.424	0.048	0.279	0.045	
average female workplace wage	0.062	0.071	-0.041	0.103	0.116	0.078	
own wage	0.341	0.074	0.315	0.098	0.396	0.091	
above average workplace wage	0.190	0.094	0.457	0.123	-0.161	0.139	
below average workplace wage	-0.115	0.080	-0.070	0.114	-0.097	0.093	
own wage	0.303	0.067	0.364	0.092	0.290	0.079	
above average male workplace wage	0.280	0.093	0.416	0.124	0.033	0.140	
below average male workplace wage	-0.066	0.069	-0.103	0.104	-0.004	0.076	
own wage	0.377	0.075	0.389	0.106	0.397	0.085	
above average female workplace wage	0.092	0.097	0.275	0.133	-0.132	0.121	
below average female workplace wage	-0.149	0.078	-0.156	0.121	-0.111	0.087	
number observations		17810		8606		9183	

Source: WERS 2004. The models include the full set of explanatory variables discussed above: individual characteristics; occupations; job characteristics; industry; workplace characteristics; regions; and measures of gender segregation at the workplace and the occupational level. (Full results are provided in the Online Appendix.) Italics significant at the 95% or bold 99% confidence level or above.

Online Appendix for

Peer salaries and employee satisfaction in the workplace.

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Appendix Table A1. Variable definitions.

Variable name Variable definition

job satisfaction index Index of six job satisfaction measures for the individual employee: satisfaction with influence

over job; satisfaction with pay; satisfaction with sense of achievement; satisfaction with scope

for using own initiative; satisfaction with job security; satisfaction with work itself.

employee measures;

log hourly pay

The natural log of average hourly pay

age Age

training Days of employer provided training in previous year

education measures;

other Has other academic qualifications but doesn't have a listed recognised qualification

none Doesn't have a recognised academic qualification

minimal Education 'none' or 'other' above.

cse25 Has GCSE grades D-G; CSE grades 2-5 SCE; O grades D-; SCE Standard grades 4-7

Has GCSE grades A-C; GCE O-level passes; CSE grade 1 SCE; O grades A-C; or SCE

cse1 Standard 1-3

gceae Has GCE A-level grades A-E; 1-2 SCE; Higher grades A-C, As levels

gce2ae Has 2 or more GCE; A-levels grades A-E; 3 or more SCE; or Higher grades A-C

degree Has a first degree, eg BSc, BA, HND, HNC Ma at first degree level

postgraduate Has a higher degree, eg MSc, MA, PGCE, PhD

female Female

child 0-18 Has a dependent child aged below 18 child 0-4 Youngest dependent child aged 0-4 child 5-11 Youngest dependent child aged 5-11 child 12-18 Youngest dependent child aged 12-18

married Married or living with a partner

disabled Has a long term (>1 year) illness/disability

ethnic Employee considers they are white and black Caribbean; white and black African; white and

Asian; any other mixed background; Indian; Pakistani; Bangladeshi; any other Asian

background; Caribbean; African; any other black background; Chinese; or other ethnic group.

fixed contract Employed on a fixed term contract.

hours Usual hours worked per week (includes over time) standard hours Usual hours worked per week minus over time

overtime hours Usual overtime hours per Week

part time Working part time, if usual working hours is less than 30 per week

tenure Years at this workplace

union Employee is a current trade union member

occupation categories;

managerial Managerial
professional Professional
technical Technical
clerical Clerical
craft Craft service
personal Personal service

sales Sales and customer services operative Operative and assembly workers

unskilled Unskilled

Variable name Variable definition

industry categories;

manufacturing manufacturing

utilities electricity, gas, and water supply

construction construction

whole/retail Wholesale and retail hotels hotels and restaurants transport transport and communication

financial services financial services
other business other business services
public admin public administration

education education

health health and social work other community other community services

workplace measures;

workplace age Establishment age

workplace size Total number of employees at the workplace

multi site Firm has multiple UK work sites

foreign owned Foreign-controlled

increasing market Market for workplace main product or service is growing

family friendly index Index of Six Family Friendly Policies: paternity leave; maternity leave; home working; job

sharing; child care; paid leave.

paternity leave If employees on paternity leave receives the normal, full rate of pay maternity leave If employees on maternity leave receives the normal, full rate of pay

home working If employees can work at home

job sharing If a job sharing scheme exists in the workplace

child care
If a workplace nursery or child care subsidy is available at the workplace

of discretion over work; quality circles exists; team working exists; employees consulted over

targets; employee briefing system exists

IR index Index of three industrial relations measures at the workplace: union membership presence;

human resources representative; collective grievance procedure present

equal opportunities Workplace has a formal written equal opportunity policy relative female workplace Percentage of the workplace employees who are female

relative female occupation Percentage of the occupation who are female

Regions;

north east of England
north west of England
north west of England
Yorkshire & Humberside
east midlands of England
west midlands of England
west midlands of England
west midlands of England

east of England east of England London London

south east of England south east of England south west of England south west of England

Scotland Scotland Wales Wales

Source: WERS 2004.

Table A2. Summary statistics.

	al	I	male		female		
	mean	s.error	mean	s.error	mean	s.error	
average hourly pay (£)	9.70	0.097	10.55	0.129	8.76	0.096	
log average hourly pay	2.154	0.010	2.243	0.012	2.056	0.010	
job satisfaction (index 0-6)	3.453	0.024	3.318	0.033	3.606	0.028	
age	40.77	0.166	41.30	0.200	40.15	0.215	
training	2.539	0.045	2.544	0.060	2.536	0.053	
education:							
minimal	0.231	0.005	0.257	0.007	0.203	0.006	
cse25	0.096	0.003	0.102	0.005	0.090	0.004	
cse1	0.253	0.005	0.217	0.006	0.293	0.007	
ceae	0.054	0.002	0.046	0.003	0.062	0.003	
ce2ae	0.088	0.003	0.083	0.004	0.094	0.004	
degree	0.197	0.005	0.210	0.007	0.182	0.006	
postgraduate	0.066	0.003	0.071	0.005	0.060	0.004	
child 0-4	0.121	0.003	0.147	0.005	0.093	0.004	
child 5-11	0.135	0.003	0.138	0.005	0.132	0.005	
child 12-18	0.120	0.003	0.113	0.004	0.128	0.004	
married	0.671	0.005	0.686	0.007	0.655	0.007	
disabled	0.117	0.003	0.127	0.004	0.106	0.004	
ethnic	0.058	0.004	0.059	0.005	0.057	0.005	
fixed term contract	0.031	0.002	0.029	0.003	0.034	0.003	
part-time	0.222	0.006	0.087	0.005	0.372	0.009	
job tenure	5.082	0.059	5.317	0.076	4.817	0.066	
trade union member	0.303	0.009	0.311	0.012	0.295	0.010	
female	0.472	0.008	0.000	0.000	1.000	0.000	
occupation:							
managerial	0.129	0.004	0.165	0.006	0.088	0.004	
professional	0.113	0.005	0.122	0.007	0.103	0.006	
technical	0.148	0.005	0.135	0.006	0.163	0.007	
clerical	0.174	0.006	0.083	0.005	0.276	0.009	
craft	0.080	0.005	0.139	0.009	0.013	0.002	
personal	0.067	0.004	0.029	0.003	0.110	0.006	
sales	0.077	0.005	0.046	0.004	0.111	0.008	
operative	0.092	0.005	0.147	0.008	0.032	0.005	
unskilled	0.120	0.006	0.134	0.008	0.105	0.006	
industry:	0.107	0.000	0.047	0.010			
manufacturing	0.186	0.008	0.267	0.012	0.097	0.007	
utilities	0.005	0.001	0.006	0.001	0.003	0.001	
construction	0.047	0.005	0.073	0.009	0.018	0.002	
whole/retail	0.137	0.007	0.134	0.010	0.140	0.009	
hotels	0.038	0.004	0.030	0.004	0.047	0.005	
transport	0.065	0.004	0.088	0.006	0.038	0.004	
financial services	0.059	0.005	0.052	0.005	0.067	0.007	
other business	0.151	0.009	0.152	0.012	0.150	0.011	
public admin	0.051	0.004	0.048	0.005	0.054	0.005	
education	0.092	0.004	0.049	0.003	0.141	0.007	

	al	I	ma	ile	female		
	mean	s.error	mean	s.error	mean	s.error	
health	0.123	0.006	0.054	0.005	0.199	0.010	
other community	0.046	0.005	0.047	0.006	0.045	0.005	
workplace age	44.53	1.833	45.59	2.153	43.36	1.943	
workplace size	420.1	21.83	420.8	27.27	419.8	28.21	
multi site	0.747	0.014	0.729	0.017	0.767	0.014	
foreign owned	0.153	0.012	0.194	0.016	0.108	0.011	
increasing market	0.331	0.015	0.344	0.018	0.316	0.016	
family friendly index	3.071	0.044	2.924	0.055	3.234	0.048	
IR index	2.608	0.035	2.565	0.043	2.657	0.039	
HP practices	1.190	0.027	1.178	0.032	1.204	0.030	
equal opportunity policy	0.856	0.010	0.839	0.013	0.875	0.011	
relative female workplace	49.15	0.800	33.37	0.787	66.75	0.609	
relative female occupation	51.01	0.394	41.70	0.481	61.39	0.384	
regions:							
north east of England	0.042	0.007	0.045	0.009	0.038	0.006	
north west of England	0.146	0.012	0.150	0.014	0.141	0.013	
Yorkshire & Humberside	0.090	0.010	0.090	0.012	0.091	0.011	
east midlands of England	0.094	0.009	0.091	0.011	0.097	0.011	
west midlands of England	0.090	0.009	0.093	0.011	0.087	0.010	
east of England	0.106	0.009	0.100	0.011	0.112	0.011	
London	0.131	0.011	0.128	0.013	0.133	0.013	
south east of England	0.079	0.008	0.074	0.009	0.086	0.010	
south west of England	0.118	0.011	0.119	0.014	0.117	0.012	
Scotland	0.037	0.005	0.039	0.006	0.035	0.006	
Wales	3.453	0.024	3.318	0.033	3.606	0.028	
number of observations		17810		8606		9183	

Source: WERS 2004.

Table A3. Job satisfaction, ordered probits.

	al	I	males		_	females		_	
	coeff	s.error	z val	coeff	s.error	z val	coeff	s.error	z val
age	-0.029	0.007	***	-0.029	0.009	***	-0.028	0.009	***
age squared	0.431	0.079	***	0.429	0.106	***	0.409	0.112	***
training	0.072	0.004	***	0.077	0.005	***	0.066	0.005	***
education (education min		•							
cse25	-0.066	0.040		-0.140	0.055	**	0.027	0.057	
cse1	-0.168	0.030	***	-0.227	0.043	***	-0.103	0.043	**
ceae	-0.229	0.045	***	-0.230	0.070	***	-0.216	0.062	***
ce2ae	-0.189	0.044	***	-0.231	0.064	***	-0.155	0.057	***
degree	-0.232	0.039	***	-0.260	0.052	***	-0.187	0.053	***
postgraduate	-0.234	0.048	***	-0.215	0.067	***	-0.271	0.065	***
child 0-4	0.013	0.034		-0.009	0.043		0.038	0.053	
child 5-11	0.098	0.032	***	0.123	0.044	***	0.064	0.046	
child 12-18	0.052	0.030		0.026	0.046		0.072	0.041	
married	0.105	0.024	***	0.159	0.035	***	0.054	0.030	
disabled	-0.188	0.029	***	-0.199	0.039	***	-0.192	0.041	***
ethnic	-0.022	0.043		0.078	0.060		-0.126	0.065	**
fixed contract	-0.151	0.052	***	-0.115	0.074		-0.167	0.075	**
part-time	0.138	0.028	***	0.144	0.054	***	0.128	0.033	***
tenure	0.002	0.003		-0.004	0.005		0.009	0.004	**
union	-0.132	0.026	***	-0.132	0.036	***	-0.114	0.034	***
occupation (craft/persona	ıl services o	mitted)							
managerial	0.319	0.044	***	0.363	0.055	***	0.198	0.086	**
professional	0.178	0.044	***	0.129	0.066		0.256	0.070	***
technical	0.105	0.039	***	0.153	0.067	**	0.045	0.055	
clerical	0.051	0.045		0.077	0.090		0.019	0.050	
sales	-0.064	0.061		-0.033	0.098		-0.076	0.072	
operative	-0.077	0.052		-0.062	0.055		-0.149	0.130	
unskilled	0.004	0.047		-0.016	0.067		0.056	0.075	
industry (manufacturing o	mitted)								
utilities	0.033	0.111		-0.004	0.130		0.065	0.230	
construction	0.245	0.062	***	0.220	0.070	***	0.297	0.136	**
whole/retail	0.207	0.053	***	0.235	0.062	***	0.166	0.077	**
hotels	0.171	0.073	**	0.245	0.109	**	0.061	0.092	
transport	-0.013	0.065		-0.059	0.078		0.072	0.088	
financial services	-0.078	0.067		-0.112	0.084		-0.077	0.082	
	3.07.3	0.007		31112	3.001		3.3.7	3.002	

	al	I	males		_	females			
	coeff	s.error	z val	coeff	s.error	z val	coeff	s.error	z val
other business	0.089	0.052		0.088	0.063		0.091	0.074	
public admin	0.063	0.066		-0.005	0.075		0.109	0.095	
education	0.231	0.057	***	0.151	0.081	**	0.267	0.080	***
health	0.251	0.057	***	0.136	0.097		0.336	0.076	***
other community	0.172	0.068	***	0.208	0.077	***	0.128	0.095	
workplace age	0.000	0.000		0.000	0.000		0.000	0.000	
workplace size	0.000	0.000		0.000	0.000		0.000	0.000	
multi site	-0.110	0.034	***	-0.146	0.047	***	-0.077	0.040	**
foreign owned	-0.027	0.039		-0.080	0.047	**	0.075	0.055	
increasing market	0.054	0.028	**	0.049	0.038		0.064	0.034	**
family friendly index	-0.016	0.010		-0.006	0.013		-0.028	0.012	**
IR index	-0.011	0.012		0.001	0.015		-0.021	0.015	
employee interaction	-0.022	0.015		-0.019	0.020		-0.020	0.020	
equal opp	-0.114	0.047	**	-0.128	0.061	**	-0.110	0.057	**
rel female workplace	0.000	0.001		0.001	0.001		-0.001	0.001	
rel female occupation	0.000	0.001		-0.001	0.001		-0.001	0.002	
Region (east Midlands o	mitted):								
north east of England	-0.086	0.089		0.053	0.102		-0.246	0.113	**
north west of England	-0.064	0.059		-0.048	0.072		-0.076	0.072	
Yorkshire & Humber	-0.043	0.066		0.045	0.084		-0.127	0.077	
west Midland England	-0.072	0.063		-0.085	0.084		-0.069	0.073	
east of England	-0.096	0.070		-0.032	0.097		-0.162	0.079	**
London	-0.060	0.067		0.035	0.086		-0.159	0.080	**
south east of England	-0.081	0.059		-0.028	0.073		-0.146	0.072	**
south west of England	-0.033	0.065		0.034	0.086		-0.106	0.078	
Scotland	-0.093	0.061		-0.032	0.078		-0.174	0.075	**
Wales	-0.020	0.071		0.063	0.094		-0.131	0.100	
female	0.117	0.024	***						
number observations		17810			8606			9183	
	F(59,1294)	19.090		F(58,1182)	12.830		F(58,1209)	9.790	

Source: WERS 2004. ** Significant at the 95% or *** 99% confidence level or above.