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Article (Accepted version)
(Refereed)

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EMPLOYEE PERCEPTIONS OF WORKING CONDITIONS AND THE DESIRE FOR WORKER REPRESENTATION IN BRITAIN AND THE US

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Key words: working conditions; worker representation; trade unions

Words: 11,512

Abstract

This paper explores the link between employee perceptions of working conditions and the desire for worker representation in Britain and the US. We find that the distribution of employee perceptions of poor working conditions is similar in Britain and the US; similar factors affect the number of perceived poor working conditions; and the perception of poor working conditions is strongly associated with the desire for union representation. The nature of workplaces, as opposed to employees' characteristics, is the predominant factor determining employee perceptions of poor working conditions.

1. INTRODUCTION

Kaufman (2010) and other industrial relations theorists (eg. Budd, 2004) argue that it is the treatment of labor as "substantively human" (Kaufman, 2010: 86) that sets Industrial Relations apart from classical orthodox economics. Labor is not simply a factor of production, like land, to be bought and sold for a price set by the laws of demand and supply. Capital may be able to buy units of labor but the realisation of value requires that capital harnesses labor power at the point of production (Marx, 1867). The labor process becomes a "contested terrain" (Edwards, 1979) in which managers and workers continually renegotiate the terms of employment with outcomes depending, in part, on the relative bargaining power of the two sides. At issue are the conditions under which employees work. It is often assumed that worker perceptions of poor working conditions trigger worker desire for a collective voice to enhance their bargaining power vis-a-vis the employer. There is empirical support for this proposition from history, such as the example of the Match Girls at a Bryant and May factory in East London in 1888[1], through to the modern day with the Justice for Janitors strike in Los Angeles in the 1980s.[2] But it is only recently that analysts have used large-scale survey data to examine the links between perceptions of poor working conditions and the desire for worker representation (Freeman, Boxall and Haynes, 2007; Freeman and Rogers, 1999).

Using data for the United States and Britain collected at the end of the Twentieth Century we contribute to this literature by exploring the distribution and correlates of perceptions of poor working conditions in the two countries, and how these perceptions relate to worker desire for union representation. This is potentially important in furthering our understanding of modern employment. One might imagine that greater prosperity and public policy interventions such as minimum wages and health and safety standards might have reduced worker concerns about their working conditions, thus reducing the desire for worker representation. If so, this may partly explain the decline in union density observed in both countries and, indeed, elsewhere, in the last thirty years. Equally, this may not be the case at all. Workers may continue to perceive substantial problems at work, even if objective conditions have improved in general, either because they work in a workplace where conditions remain poor, or because expectations regarding what a worker should reasonably expect have adjusted accordingly. In a sense the issue is analogous to debate regarding relative poverty. Even though absolute poverty has declined dramatically

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[1] http://www.unionhistory.info/matchworkers/matchworkers.php
[2] http://en.wikipedia.org/wiki/Justice_for_Janitors

in recent years perceptions of relative poverty remain strong as individuals' views regarding the minimum requirements for social participation shift with overall prosperity (Townsend, 1979). This, in turn, engenders a desire for redistributive policies.

Data on employee perceptions of working conditions are not common. Our three data sources are not directly comparable. Furthermore, they contain a large array of items capturing employees' perceptions of various aspects of working conditions. The question therefore arises as to how one might configure these data to generalise about the correlates of perceptions of working conditions and the link to the desire for representation across workers and countries. In the absence of these rich data it is common to capture perceptions of one's working conditions with job satisfaction. Our data include, but are not confined to job satisfaction measures. We develop a single scalar measure of employee perceptions of poor working conditions, examine the workplace and demographic correlates of those perceptions, and analyze their relationship with the desire for unions. The scalar measure allows us to compare perceptions across our two countries despite differences in the specific questions in the surveys. Despite differences in the items that enter the scale, the distribution of perceptions of poor working conditions looks similar in both countries: it is skewed to the left with many workers reporting no poor conditions and with a few reporting many. Using linked employer-employee data for Britain we show that much of the variation in employee perceptions of poor working conditions arises from their workplace, some of which can be traced to specific workplace practices. We also find that the components of the perceived working conditions scale are highly inter-correlated and that scores based on them have high statistical reliability and are less subject to measurement error than single-survey items, such as job satisfaction. Finally, in both countries the desire for unionization rises among non-union workers with the number of poor working conditions they identify.

In Section Two we review the literature on working conditions and the desire for representation. Section Three introduces our data, including our measures of employee perceptions of working conditions. Section Four presents results, including the distribution and correlates of perceptions of working conditions and their link to the desire for union representation. Section Five concludes.

2. PREVIOUS LITERATURE ON WORKING CONDITIONS AND THE DESIRE FOR UNION REPRESENTATION

Most surveys do not ask employees about their working conditions. The one big exception in the European Working Conditions Surveys (EWCS), which are designed to assess and quantify working

conditions across Europe on a harmonised basis. First Findings from the most recent report indicate that progress towards better employment is uneven over time and there is a great deal of variance in working conditions across the Member States of the EU (European Foundation, 2010). But most analysts have tended to focus on job quality, as indicated by facets of the employment contract (hours worked, permanent versus temporary employment etc.), together with perceptions of job quality, often proxied by employee job satisfaction. These studies often use repeat cross-sectional data to identify secular and cyclical trends in aspects of job quality such as job insecurity and stress. Green (2006) surveys much of this literature. In a similar vein, Brown et al. (2006) pointed to recent improvements in employee perceptions of job quality in Britain, albeit in the context of rising job-related stress.

As the introduction indicated, there can be clear links between working conditions and workers' propensity to take industrial action and organize trade union representation. From a theoretical perspective, frustration, dissatisfaction and alienation in one's work are central to social psychologists' models of union joining (Klandermans, 1986) and, in industrial relations, to Kelly's mobilisation theory (1998). Subjective measures of working conditions, such as job satisfaction, have been criticised by analysts as poor measures of job quality per se because they also contain information on individuals' norms and expectations (Charlwood and Green, 2011). However, it is arguable that it is precisely these *perceptions* of working conditions, rather than "actual" conditions, that one is interested in when examining the link between those conditions and employees' propensity for union representation. Only if employees perceive their conditions to be problematic are they likely to trigger action on the part of the worker.

One such measure of perceived conditions is job satisfaction, as noted above. But in the union literature this often appears as a dependent variable with union status on the right-hand side of the equation. The puzzle in this literature is that there appears to be a negative association between union membership and job satisfaction, one which may or may not be causal (Bryson et al., 2004; Bryson et al., 2010). There is a complex relationship between union membership status and working conditions because while poor conditions can precipitate unionization, unions may have an impact on objective conditions and employee perceptions of those conditions. Workers organize in order for unions to have an effect on their terms and conditions, and the union wage premium literature is testimony to the fact that they do have such an impact. But unions will also influence employee perceptions of their conditions. They may do so by increasing employee awareness of their relative position in the workplace, a rational way for unions to engender worker dissatisfaction and thus galvanize their bargaining position vis-a-vis the employer. They may also do so by getting workers to voice-out their dissatisfaction (what Freeman and Medoff (1984)

termed "voice-induced complaining") , also enhancing their bargaining position with the employer. But in this paper we are not examining the link between working conditions and union status. Instead, we are exploring the links between perceived conditions and the *desire* for union representation, a desire which workers may have regardless of their current union status. Measures of employee desire for representation are rarely available in social surveys. But data from Peter D. Hart Research Associates for the United States casts doubt on the proposition that general improvements in working conditions have reduced workers' desire for union representation. Figure 1 shows the proportions of non union workers who said they would definitely or probably vote for or against forming a union at their workplace in the Hart polls, supplemented with the responses from the comparable question in a 1984 Harris poll. The proportion of non-union workers who say they would vote for a union rises over the period, to exceed 50 per cent in 2003 and 2005. Of course, this does not translate directly into new union organizing on the part of workers for various reasons including the costs of organizing. Nevertheless, the upward trend runs against explanations of declining union density in terms of falling worker interest in unions.[3] What is missing from such analyses is the link between the desire for unions and perceptions of working conditions.

[FIGURE 1]

3. THE MEASUREMENT OF PERCEPTIONS OF WORKING CONDITIONS

Our analysis uses data from two British surveys and one US survey. The first British survey is the *1998 Workplace Employment Relations Survey* (WERS) (Cully et al., 1999). This is a nationally representative survey of workplaces with 10 or more employees covering most sectors of the economy consisting of face-to-face interviews with the most senior workplace manager responsible for employee relations, and a self-completion survey of employees in the same workplaces. The management survey was conducted in 2191 workplaces with a response rate of 80 per cent. The employee survey was conducted in the 1880 workplaces where management interviews were obtained and where management agreed to allow for a survey of workers. Self-completion questionnaires were distributed to a random sample of 25 employees in workplaces with 25 or more workers and to all employees in workplaces with 10-24. Of the 44,283 questionnaires distributed, 28,237 (64 per cent) usable ones were returned.[4] Our estimation sample consists of the 25,362 employees in 1,759 workplaces having dropped those with missing data.

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[3] Farber and Krueger (1992) argued that falling interest in unions contributed to the 1980s decline in density. If desire for unionisation is constant over time, declines in union density should raise the proportion of non-organized workers who want unionism. Since the percentage of non-union workers saying they would vote for a union remained roughly constant over the period they examined they attributed some of the decline to loss of interest in unions. The increase in unfilled demand for unionisation in the 1990s through to 2005 runs against this story.

[4] The probability of worker selection is the product of the probability of the workplace being selected and the probability of an employee being selected from within that workplace. The survey includes weights to allow the analyst to run population

The second British survey is *The British Worker Representation and Participation Survey 2001* (BWRPS), which is a face-to-face interview conducted as part of the monthly BMRB Access Omnibus survey. In total, some 1,355 people were eligible to take part in the BWRPS. The weighting schema ensures that demographic profiles match those for all employees in Great Britain aged 15 or over. For the US we use the 1994-95 *Workplace Representation and Participation Survey* (WRPS) (Freeman and Rogers, 1999) based on telephone interviews with a nationally representative sample of 2,408 adults, 18 and over, employed in private companies or nonprofit organizations in the continental US with 25 or more employees.

Variation in the conditions employees face at work is likely to reflect a range of factors including the quality of management, the nature of the labor process undertaken to produce the good or service, firm profitability - which affects firms' ability to pay for improvements in working conditions - and the standards set at country level by legislation, or via collective bargaining at sectoral, firm or workplace level. Perceptions of those conditions may vary by worker, even within the same workplace, in part because conditions within the workplace may vary according to the job performed and worker knowledge about the rest of the workplace, but also because workers will have different perceptions and expectations regarding those conditions.

The different surveys pose different questions about perceived working conditions. Traditionally, analysts have focused on single measures, such as overall job satisfaction or perceptions of the climate of employment relations, the factors that determine them, and the influence of the subjective variables on intended or actual worker behavior such as quits (Freeman, 1978). While single item measures are valuable indicators of worker perceptions, questions on several items offer a potentially richer picture of how workers feel about their working conditions. By itself any single item captures only part of any underlying latent variable such as the conditions employees face at work that will influence worker desire for union representation. This latent perception of working conditions variable is related to a subset of the fundamental human needs that Maslow (1943) referred to in his work including the needs for safety, belonging, esteem and self-actualization.

A single item may change in salience depending on external factors, such as the point in the business cycle. For instance, workers may be less likely to cite problems with pay satisfaction when the labor market is tight and employers have to meet fairly large wage demands to attract and retain workers, but

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estimates. This weighting scheme compensates for sample non-response bias in the employee survey (Airey et al., 1999: 91-92). We test the sensitivity of our results to weighting the data.

problems with other terms and conditions may show up in other questions. Similarly, a worker who may have difficulties with the way their supervisor scheduled work may be satisfied with a host of other issues. A multi-item index of the form that we construct should give a more accurate measure of the totality of conditions the worker, or his colleagues, faces. With different surveys asking somewhat different questions about particular conditions, a multi-item scale offers the possibility of comparing responses across surveys in a relatively simple way. Furthermore, combining items across various dimensions should produce less classical measurement error than any single item measure of overall worker perceptions of working conditions. The same principle applies in other areas such as health. One might think of the General Health Questionnaire (GHQ), for example, which is intended for use in general practice settings as a screening instrument for psychiatric morbidity (Goldberg and Williams, 1998).

Accordingly, we developed a poor working conditions scalar measure to compare responses to questions between the US and British surveys, and between the two British surveys. We coded responses to questions relating to perceived poor working conditions as 0/1 variables, where a code of "1" indicates an employee perceives a poor working condition. We summed these measures to obtain the total number of conditions that employees thought were poor and divided the sum by the total number of working conditions the respondents were asked about. The resultant statistic is the fraction of working conditions that the employee perceived to be poor. Scaling by the number of relevant questions facilitates comparisons of the perceived poor working conditions across the different questions and surveys. The Data Appendix gives the specific items we used to form our index in the BWRPS, WERS, and WRPS data sets. The tables for each workplace also provide the mean and standard deviation for each composite item.

The BWRPS contains 26 different items that relate to working conditions but because the survey had a split sample design for six questions, with each respondent answering three, we have observations for each individual on 23 items (Appendix Table A1). Workers are asked whether there are problems at their workplace relating to unfair wages, discipline and dismissal, bullying, discrimination, and preferential treatment by management. They are asked whether they have directly witnessed unfair treatment at their workplace. They are asked a number of questions rating management at the workplace in relation to issues such as understanding family responsibilities, keeping everyone up-to-date, and encouraging skill development. They are asked for their perceptions of the climate at the workplace, and they are asked for their perceptions of their own job quality, such as job security. Finally we compute an "influence gap" which is the gap between what influence workers say they have and the influence they would like (see the

appendix for details). Few British workers gave management the lowest scores on understanding and knowledge of the business but a sizeable number gave them those grades in granting pay increases, sharing authority, and making work interesting (Diamond and Freeman, 2002). Asked about unfair practices, the most common was preferential treatment by management or senior staff, followed by payment of unfair wages, unfair dismissal, discipline and bullying, with discrimination the least cited problem. In a number of cases ordinal responses are elicited from the respondent. We have collapsed them into 0-1 dummy variables by identifying those in the bottom or bottom two categories as perceiving poor conditions. For instance, when rating management, they are perceived as poor if they score an "F" ("failure") or "D" ("poor") on the 5-point rating. Thirty-nine percent of workers cited at least one poor working condition. We summed the items coded as 1 to obtain the number of poor conditions, then divided the sum by 23, so that the scale varies from zero (none reported) through 1.0 (worker reports poor conditions for every item they answered on the survey). Factor analysis reveals a single factor with an Eigen value of 5.17 which explains 89% of the variance. The scale has a high reliability score (alpha of 0.761).[5] These results indicate that the variables are indeed loaded onto a single underlying latent variable, and that there is high inter-item correlation, thus providing a strong rationale for this single scale of poor working conditions as perceived by employees.

We followed a similar strategy in analyzing the 13 WERS questions eliciting employee perceptions of working conditions (Appendix Table A2). The WERS items include four measures of job dissatisfaction, perceptions of job insecurity, seven ratings of management, and the perception of the climate of employment relations at the workplace. The items are highly correlated with one another. Factor analysis reveals a single factor with an Eigen value of 7.82 which explains 93% of the variance. The scale has a high reliability score (alpha of 0.867).

Turning to the US, the WRPS asks very similar questions to the BWRPS because the latter was modelled on the former by one of the authors. So, for example, the difference between the influence workers had and the influence they wanted, which was referred to above, was originally asked in WRPS (Freeman and Rogers, 1999). Given the split sample design of the survey, each worker on the WRPS answered 13 questions about working conditions (Appendix Table A3). The factor analysis reveals a slightly more complicated data structure than in the case of the British surveys. The poor working conditions scale contains three factors with Eigen values above 1. Eight of the thirteen items load on the first factor which has an Eigen value of 2.76 and accounts for 21 percent of the variance and a scale reliability score of 0.60. The second factor (Eigen value 1.71, accounting for 13 percent of the variance) groups those who

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[5] Full details of the factor analyses conducted on all three poor working conditions scales are available from the authors on request.

say they don't trust management 'at all' to keep their promises and those with influence gaps. The remaining factor (Eigen value 1.23, explaining 10 percent of the variance) groups three responses identifying ineffective human resource 'voice' practices.

In sum, for all of our data sets we computed a new additive scale capturing employees' perceptions of poor working conditions which we treat as a latent factor likely to create desire for collective voice.[6]

4.   RESULTS

In this section we turn to our results. We begin with discussion of the distribution of employee perceptions of poor working conditions across workers, and then among workers within the same workplace. Then we turn to employee desire for union representation and the role played by perceptions of poor working conditions.

4.1   The distribution of poor working conditions

Figure 2 graphs the distribution of employee perceptions of poor working conditions for the three surveys. All of the distributions have the same shape. The mode occurs at zero poor conditions and the proportion of workers reporting poor conditions declines nearly monotonically. Panel A shows that in the BWRPS 23% of workers reported no poor conditions; 54% reported fewer than three, while 23% reported three or more. Ten percent of workers accounted for 52% of all the reported poor conditions. Panel B shows the results for WERS. There is a comparable bunching of responses at zero followed by a declining proportion reporting a higher number of poor conditions. Panel C for the US WRPS shows that 32% of workers report no poor working conditions while 74% report less than three.

[FIGURE 2]

The figure gives the mean and variance for the scalar measure of poor conditions for each survey. The mean and variance are as follows: WRPS 0.134 and 0.022; BWRPS 0.156 and 0.030; WERS 0.211 and 0.057. All three distributions diverge from the distribution of perceived poor working conditions that would be generated by a binomial distribution in which a worker had an independent random chance of reporting a poor condition on an item at the average rate reported in the sample. In the binomial case, there would only be a small mass at zero, and the distribution would look more or less normal around the

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[6] An alternative approach is to use the full information in the distribution of responses on each question so that the additive scale weights responses according to how much of a problem it was. Using a simple scale with 1 to reflect the lowest possible response to poor conditions, 2 to reflect the next level, and so on, we formed a summated rating of these responses and obtained results that parallel those in the paper.

average rate. The variance of the distribution would be (1-P) P, where P is the fraction of responses that reported poor conditions. Instead, the distribution is shaped like a power law or exponential, with variances that are much larger than those from a binomial distribution.[7] The reason the distribution takes the non-normal shape is simple: worker perceptions of poor working conditions on different items are not independent. Knowing that a worker reports poor conditions on any item gives information about their likelihood of reporting poor conditions on other items.

There are two possible reasons for the non-independence of perceived poor working conditions. One possibility is that it reflects workers' personal characteristics. In this case, the individual nature of employee perceptions of poor conditions is unlikely to translate into a collective response. The other possibility is that the non-independence reflects attributes of the workplace, which most workers would report. One workplace would generate many poor conditions while another would not. The former would likely produce a general desire for representation at a workplace, while the latter would not.

The BWRPS and WRPS surveys do not allow us to identify the workplace component of poor working conditions since they do not identify workers at the same workplace. Nor do they permit identification of the individual component of perceived poor conditions since they do not follow workers from one workplace to another. But WERS allows us to identify the workplace component because it surveyed up to 25 employees at each of the sampled workplaces. The result is a data file that contains reports by different workers in the same workplace – the information necessary to identify a fixed workplace effect for employee perceptions of working conditions. Accordingly, we created a data file from WERS that gave the number of poor working conditions reported by 25,451 employees at 1,759 workplaces. This gave us an average of 14.5 worker reports per workplace.

We tabulated the poor conditions reported by workers for each workplace and ranked the workplaces by average number of poor working conditions. Workplaces in the upper ten percent of the distribution of poor conditions averaged 6.23 poor conditions on the WERS scale from 0 to 13 – giving it a scale measure of 0.48 -- whereas workplaces in the lower ten percent of the distribution of poor working conditions averaged 0.74, a scalar measure of 0.06. Alternatively, poor conditions averaged 1.25 at the 10th percentile and 5.09 at the 90th percentile. Such wide variation by workplace is prima facie evidence that the differing labor situations at workplaces are important in generating worker perceptions of poor working conditions.

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[7] We regressed ln (the % reporting number of poor conditions) on the number of poor conditions to fit an exponential distribution and regressed ln (the % reporting number of poor conditions) on ln (the number of poor conditions) to fit a power law. The exponential fits the BWRPS and WRPS better than a power law, whereas the power law fits better for the WERS.

We compared the variance in poor working conditions explained by individuals' demographic and job characteristics with the variance explained by workplace fixed effects.[8] As Table 1 shows, the R^2 is around 0.2 in models containing only workplace fixed effects and 0.1 in models containing individual and job characteristics. When the two are combined the R^2 rises to around 0.25 and the workplace fixed effects remain jointly highly significant. It is therefore clear that a large proportion of the variance in employee perceptions of poor working conditions is accounted for by the workplace employing them. The results do not depend on whether we weight the analysis using the employee survey weights referred to earlier.

[TABLE 1]

4.2 The Correlates of Employee Perceptions of Poor Working Conditions and the Link to Desire for Union Representation in Britain

We established above that, together with workplace factors, the characteristics of workers affect perceptions of the number of poor working conditions they report. To explore this further we estimated regression equations linking perceived poor conditions to employees' characteristics, their union membership status, and selected human resource (HR) management policies. Concentrating on the WERS linked employer-employee data we examine this relationship for Britain and then consider the relationship between perceived poor working conditions and the desire for unions. In the next section we do the same for the US using WRPS.

[TABLE 2]

Table 2 gives the regression coefficients and t-statistics for estimates of the individual-level correlates of employees' perceptions of poor working conditions, with dummy variables controlling for workplace fixed effects. Column 1 presents estimates for all employees, while columns 2 and 3 present estimates for union members and non-members respectively.[9] The model in column 1 explains roughly one-quarter of the variance in perceptions of poor working conditions. Union members perceive conditions to be poorer than non-members, even in the same workplace. This might seem counterintuitive given unions' efforts to tackle poor conditions but, as discussed earlier, the finding is consistent with the job satisfaction

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[8] The mean values and standard deviation for each independent variable from the three surveys used in the analyses are presented in the data appendix.
[9] Union membership is not exogenous with respect to perceptions of poor working conditions, of course. We are not making any claims about the nature of causal linkages between membership status and perceptions of working conditions.

literature that finds a positive correlation between membership and job dissatisfaction when membership is treated as exogenous despite the well-established tendency for unions to be associated with lower quit rates (Freeman, 1978; Hammer and Avgar, 2005; Bryson et al., 2004, 2010). Women perceive fewer poor working conditions than men, again reflecting findings in the job satisfaction literature. Perceptions of poor conditions follow an inverted-U shape in age, peaking in the 30s. Those with health problems perceive more poor conditions than those with good health, and the number of poor conditions perceived rises with qualifications. Operatives perceive more poor conditions than those in other occupations, with managers least likely to say they face poor conditions. Perceptions of poor conditions rise with workplace tenure and with hours worked and fall with earnings. These patterns are remarkably similar across members and non-members (columns 2 and 3), with most differences being in magnitude rather than sign. Gender, age and health effects are more pronounced among members than non-members. The link between gender segregation at job-level and perceptions of poor working conditions is largely confined to union non-members.

[TABLE 3]

Table 3 identifies the workplace correlates of employee perceptions of poor working conditions in WERS. These are estimated in two ways. Column 1 regresses the coefficients on each workplace from the first stage employee-level estimates of poor conditions using identical individual-level covariates to those used in column 1 of Table 2 on various measures of workplace characteristics and labor policies: these estimates indicate what sorts of workplaces appear to generate the greatest number of poor working conditions, as perceived by their employees. Column 2 estimates the mean number of poor conditions for all workers at a given workplace.[10] The results are similar using either dependent variable, showing statistically significant relations between workplace characteristics and policies and the aggregate number of poor working conditions perceived by employees, though they explain only a small amount of the total variance in perceptions of poor conditions. Manufacturing workplaces appear to generate a higher number of poor working conditions than service sector workplaces. They are lowest of all in the hotels and restaurants sector followed by 'other services' which includes sectors such as charitable and welfare organizations. Workforce composition is also important. Whereas being female is associated with a lower likelihood of perceiving poor conditions, the number of poor working conditions at a workplace rises with the percentage of female workers at the workplace.

Employer personnel practices are also correlated with working conditions. Autonomous team-working is

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[10] The maximum workplace mean of poor perceived conditions in the data is 10.66 from a possible 13. The mean value for the workplace mean is 3.10.

negatively correlated with poor working conditions, a finding that is consistent with the literature that stresses the importance of job control in improving worker well-being (Hackman, 1987). Working conditions are better in workplaces where employment relations are the responsibility of a specialist employment relations manager such as a human resource or personnel manager than they are in workplaces where that responsibility falls to a non-specialist such as a finance manager or owner-manager).[11]

In the light of the literature on worker voice and its ability to elicit worker dissatisfaction (Freeman and Medoff, 1984) the relationship between working conditions and voice mechanisms is of particular note. Regular meetings between senior management and the whole workforce are associated with employee perceptions of more poor working conditions, which may reflect the impact of regular discussion in highlighting problems to workers that they might otherwise ignore. On the other hand, employer recognition of a union for bargaining purposes is not significantly associated with poorer working conditions. Assuming poor conditions lead to unions establishing themselves for reasons discussed earlier, the non-significant union recognition coefficient might suggest that they help resolve some of those problems.

[TABLE 4]

Next we establish the relationship between workers' perceptions of poor working conditions and their desire for union representation in WERS. We do so using models that contain workplace fixed effects so that the comparison is between workers in the same workplace. The dependent variable is constructed using responses to following question: 'ideally who do you think would best represent you in dealing with managers here about the following issues…getting increases in my pay; if I wanted to make a complaint about working here; if a manager wanted to discipline me?' Pre-coded responses are: myself, trade union, another employee, somebody else. The worker scores each time she responds 'trade union', thus giving a maximum score of 3 and a minimum score of zero. Controlling for individual and job characteristics workers who perceive a higher number of poor working conditions are significantly more likely to desire union representation, *even among like workers in the same workplace* (Table 4). The effect is apparent among union members (column 2) but is stronger for non-members (column 3).[12]

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[11] Specialists are designated according to their job title.

[12] The model for non-members is perhaps of most interest given unions' objective of reaching out to new members. The model accounts for roughly one-quarter of the variance in the desire for union representation among non-members. Desire for union representation rises with age initially but then tails off; it is greater among non-white ethnic minorities, those with higher qualifications, and those in lower occupations. It falls with tenure and wages.

In BWRPS there is no question asked of members and non-members that captures worker desire for union representation, but non-members in non-unionized workplaces were asked how likely they would be to join a union if one was formed that they could join. The number of poor working conditions had a positive independent effect on the likelihood of joining having accounted for demographic, job and workplace characteristics. Linear estimation of the probability of being 'very likely' to join revealed that each additional poor working condition corresponded to a 2.5 percent increase in the likelihood of joining. [13]

The value of using a scale capturing the number of poor working conditions over and above job dissatisfaction is most simply illustrated by looking at effects of poor working conditions separately from the four dissatisfaction dummies that make up part of the poor conditions scale. First we reran the models in Table 4 replacing the poor working conditions variable with a (0,4) count variable for dissatisfactions on four job aspects and dummy variables for the other nine poor working conditions. The number of dissatisfactions was positive and statistically significant in the all employees model and for non-members, but it was not significant for members. In addition, some of the other measures of poor working conditions were positive and statistically significant. For example, in the case of non-members, feelings of job insecurity, feelings that management was not understanding about family responsibilities, and the feeling that management were poor at dealing with employees' work problems, were all positively and significantly associated with the desire for union representation. Second, we ran the same models but this time we split the poor working conditions scale into dissatisfaction, on the one hand, and a second score containing the other poor working conditions. Again we find an independent statistically significant effect of these other poor conditions, something that would be overlooked in conventional analyses.[14]

4.3 The Correlates of Employee Perceptions of Poor Working Conditions and the Link to Desire for Union Representation in the United States

This section turns to the correlates of worker perceptions of poor working conditions in the United States and the relationship between poor working conditions and the desire for union representation, offering an external validation of the results for Britain. WRPS does not contain multiple observations per workplace so it is not possible to estimate workplace fixed effects models. Instead we present models in Table 5 containing demographic and job characteristics, structural features of the workplace (workplace size,

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[13] Full models for Table 4 and the BWRPS analysis are available on request.

[14] In these models, available from the authors on request, a simple 9-item count variable containing poor working conditions other than the four dissatisfaction variables, was positive and statistically significant having conditioned on the job dissatisfaction count variable and all the other variables in Table 4. The coefficients and t-stats were 0.025, t=5.86 for all employees, 0.017, t=2.41 for members, and 0.29, t=5.48 for non-members.

organization size, industry), and human resource (HR) practices. These are run for all workers and for union members and non-members separately.

[TABLE 5]

Models not shown containing demographic and job characteristics alone explain only a small percentage of the variance in worker perceptions of poor working conditions – 5% for non-members and 15% among members. Structural features of the workplace do very little to enhance the explanatory power of the models: they are not jointly statistically significant. Some of the correlations are similar to those in the analysis for Britain: for instance, perceptions of poor working conditions follow an inverted-U shape in age and they are highest among those in the lowest occupations. The correlation with union membership is positive. There are also, however, some differences between the US and UK findings. For instance, gender is not significant whereas being married or living as married – a variable that was not significant in Britain – is correlated with lower perceptions of poor working conditions in the US.

As in Britain, however, workplace practices are strongly related to employee perceptions of poor conditions and are highly significant and have large effects. Workers perceive fewer poor conditions where they say the employer has an open door policy, workplace committees, performance pay, an employee share option plan (ESOP) and, in the non-union sector, profit-related pay and grievance procedures. The association between fewer poor working conditions and these HR policies is generally larger for non-members than members, the exception being that an open door policy has similar effects on members and non-members.

To establish the link between poor working conditions and the desire for unionization in the United States we regressed the dummy variable identifying whether the worker would vote for a union if a vote was held today on demographic, job, workplace and HR policy variables. Union members were asked: "If a new election were held today to decide whether to keep the union at your (company/organization), would you vote to keep the union or get rid of it?" Non-members were asked "If an election were held today to decide whether employees like you should be represented by a union, would you vote for the union or against the union?" Models are run for all workers, members and non-members in columns 1, 2 and 3 of Table 6. (The full models are available on request).

[TABLE 6]

The 'all worker' model in column 1 explains around one-quarter of the variance in union voting intentions, as it does in the members' model (column 2) but it explains less of the variance in non-members' voting intentions. Controlling for other factors, those who perceive more poor working conditions have a greater likelihood of voting for a union. The strong positive correlation between poor working conditions and voting for the union is driven by non-members. The association with members' desire to retain the union is not statistically significant.[15]

There is a vast literature in the United States on employers' ability to reduce worker support for unions by implementing HR policies that substitute for unions as a solution to their problems and needs at work (Fiorito, 2001). Our estimates indicate that such policies are indeed independently associated with perceptions of fewer poor working conditions. Entered separately into the union voting models they appear to be weakly associated with a lower propensity to vote for the union among non-members. The policies are jointly statistically significant for non-members, although only one policy (having an HR department) is negative and statistically significant at a 90 percent level. This link between HR policies and non-members' propensity to vote union is stronger when worker perceptions of poor conditions are excluded from the model: when poor conditions are excluded HR policies are jointly statistically significant at a 99 percent confidence level with open door policies (-.11, t=3.41) and work committees (-.06, t=2.41) both being negatively correlated with voting union. This suggests that the effect of HR policies on union voting behavior in the US is partly attributable to these policies' ability to ameliorate employee perceptions of poor working conditions at the workplace. HR policies are not associated with members' voting intentions whether controlling for poor working conditions or not.

5.   CONCLUSIONS

Union decline has been apparent for a number of years in many Western developed economies, leading some to wonder whether workers' appetite for union representation has diminished. One potential reason why this might have occurred is that, in general, there have been substantial improvements in working conditions. These improvements have occurred as a result of legislative change, employer policies, the campaigns of unions and others, and a growing expectation on the part of the public that citizens deserve reasonable treatment at work as well as elsewhere in their lives. This paper therefore sought to bring together these two issues of working conditions and the desire for union representation. We began by establishing how workers perceived working conditions in Britain and the United States towards the end of the 20th Century. We found that, although a number of workers felt there were no poor working

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[15] As in the British case, the number of poor working conditions was significantly positively correlated with voting union conditioning on job dissatisfaction.

conditions at their workplace, most workers continue to perceive poor working conditions at their workplace. Because our surveys were not comparable, our measures of poor working conditions differed somewhat across the three data sets we used, but we found that the distribution of perceived poor working conditions looked similar in all three cases. Next we showed that, although there were a number of demographic characteristics which were correlated with the likelihood of reporting poor working conditions, we were able to show with linked employer-employee data that the workplace an individual worked in was a key determinant of the number of poor working conditions individuals reported. We then switched to the issue of worker desire for union representation. We showed that this desire has actually risen in the United States over time among non-union workers. Furthermore, in both the United States and Britain, the number of poor working conditions an individual perceived at her workplace was strongly correlated with their desire for union representation having controlled for demographic, job and workplace characteristics.

These finding may not be particularly surprising. There is a substantial literature showing that poor conditions at work trigger union organizing and increase the likelihood that a worker will join their workplace union. But they do tend to underscore the contention of various analysts who have argued that there is a "representation gap" in both the United States and Britain (Towers, 1997; Freeman and Rogers, 1999) in the sense that there is unmet demand for union representation. That desire has not been assuaged by employer practices which aim to involve employees and manufacture non-union forms of communication. Nor is it the case that employers have "solved" the problem by eliminating poor working conditions: even if, objectively, there have been great improvements, it is employees' perceptions that count, and these are liable to shift with societal expectations. Thus the gap between what workers want and what they get in terms of workplace representation remains an important issue for public policy, albeit one that is currently receiving very little attention.

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Table 1: Impact of Workplace on the Number of Poor Working Conditions, WERS 1998

	Workplace dummies + constant	Demographic and job characteristics + constant	Demographic and job characteristics + workplace dummies + constant
R-sq, weighted model	0.203	0.107	0.256
R-sq unweighted model	0.194	0.089	0.241
F-test for workplace dummies in unweighted model	f(1758,23692)=3.24 P>f=0.0000	NA	f(1758,23647)=2.68 p>f=0.0000

Notes:
(1) N=25,362, 1,759 workplaces.
(2) Regressors in columns 2 and 3 are those presented fully in Table 2. They are: female, age (6 dummies), ethnicity, health problem, married or living as married, academic qualifications (6 dummies), vocational qualifications, occupation (9 dummies), tenure (4 dummies), hours (5 dummies), gender segregation on the job (5 dummies), banded gross weekly wages (11 dummies), permanent contract.

Table 2 – Demographic and Job Correlates of Poor Working Conditions in WERS98 with Workplace Fixed Effects

	All employees	Union members	Union non-members
Union member	0.334 (4.25)**	-	-
Female	-0.451 (5.35)**	-0.717 (4.48)**	-0.264(2.83)**
Age (ref: <25 years)			
25-29	0.153 (1.37)	0.093 (0.34)	0.190(1.56)
30-39	0.470 (4.28)**	0.489 (1.86)	0.450 (3.78)**
40-49	0.404 (3.50)**	0.397 (1.50)	0.410 (3.16)**
50-59	0.120 (0.91)	-0.065 (0.23)	0.259 (1.73)
60+	-0.957(5.83)**	-1.125 (3.13)**	-0.887 (4.56)**
Ethnic minority	-0.275 (1.71)	-0.317 (1.07)	-0.073 (0.42)
Health problem	0.634 (4.35)**	0.982 (3.94)**	0.399 (2.55)**
Married/living as married	0.041 (0.59)	0.177 (1.29)	-0.068 (0.89)
Highest academic qualification (ref: none)			
CSE or equivalent	0.183 (1.58)	0.336 (1.46)	0.045 (0.37)
GCE or equivalent	0.568 (5.76)**	0.507 (2.69)**	0.593 (5.49)**
A-level or equivalent	0.787 (6.97)**	0.881 (3.87)**	0.667 (5.46)**
Degree or equivalent	0.976 (7.85)**	0.909 (3.73)**	0.922 (6.55)**
Post-grad or equivalent	1.179 (7.74)**	1.068 (3.79)**	1.144 (6.11)**
Any vocational qualifications	0.162 (2.51)*	0.039 (0.33)	0.314 (4.21)**
Occupation (ref: operative)			
Manager	-1.454 (7.43)**	-1.612 (4.24)**	-1.410 (6.88)**
Professional	-0.703 (3.67)**	-0.549 (1.54)	-0.771 (3.56)**
Associate professional	-0.679 (3.50)**	-0.668 (1.88)	-0.662 (2.98)**
Clerical	-0.665 (3.93)**	-0.821 (2.69)**	-0.779 (4.25)**
Craft	-0.223 (1.27)	-0.123 (0.43)	-0.420 (2.02)*
Personal	-0.399 (2.27)*	-0.425 (1.29)	-0.471 (2.41)*
Sales	-0.615 (3.19)**	-0.056 (0.13)	-0.876 (4.20)**
Other occupations	-0.338 (1.94)	-0.331 (1.09)	-0.438 (2.20)*
Workplace tenure (ref: <2 years)			
2-4 years	0.794 (10.28)**	0.877 (5.35)**	0.786 (9.05)**
5-9 years	1.033 (12.06)**	1.080 (6.72)**	1.008 (10.01)**
10+ years	1.116 (12.70)**	1.139 (7.17)**	1.087 (9.87)**
Hours worked (ref: 30-39 per week)			
<10 hours	-0.637 (3.48)**	-0.969 (2.32)*	-0.505 (2.40)*
10-29 hours	-0.482 (4.35)**	-0.782 (4.06)**	-0.320 (2.23)*
40-47 hours	0.018 (0.22)	0.029 (0.21)	0.072 (0.71)
48+ hours	0.298 (2.64)**	0.341 (1.79)	0.343 (2.39)*
Gender segregation in the job (ref: equal)			
Only men	0.457 (3.44)**	0.343 (1.32)	0.467 (3.21)**
Mainly men	0.366 (3.45)**	0.430 (2.04)*	0.232 (2.05)*
Mainly women	0.300 (3.51)**	0.318 (1.92)	0.286 (2.86)**
Only women	0.546 (4.46)**	0.303 (1.15)	0.632 (4.56)**
Banded gross weekly pay (ref: £141-£220)			
<£50	-0.145 (0.81)	0.310 (0.64)	-0.277 (1.39)
£51-80	-0.103 (0.68)	-0.105 (0.32)	-0.208 (1.16)
£81-140	-0.102 (0.89)	0.028 (0.13)	-0.129 (0.95)
£221-260	-0.129 (1.13)	0.118 (0.59)	-0.377 (2.74)**
£261-310	-0.494 (4.16)**	-0.502 (2.41)*	-0.582 (3.99)**
£311-360	-0.569 (3.94)**	-0.827 (3.50)**	-0.560 (3.03)**
£361-430	-0.970 (6.75)**	-1.050 (4.43)**	-1.033 (5.87)**
£431-540	-1.082 (6.69)**	-1.044 (3.54)**	-1.370 (7.09)**
£541-680	-1.806 (10.14)**	-2.078 (6.55)**	-1.668 (7.46)**
£681+	-2.413 (11.75)**	-2.839 (7.53)**	-2.433 (9.27)**
Permanent contract	-0.012 (0.11)	0.047 (0.19)	-0.091 (0.69)
Constant	2.494 (11.66)**	2.975 (6.83)**	2.543 (10.47)**
R-sq	0.26	0.31	0.28

Notes:

(1) OLS weighted regressions. N=25,362 employees (10309 members, 15053 non-members). Of these 10,036 work in non-unionized workplaces and 15,326 work in workplaces that recognize unions for bargaining.
(2) T-stats in parentheses. * sig at a 95% CI. ** sig at a 99% CI

Table 3: Workplace Correlates of Poor Working Conditions in WERS98

	(1) Workplace Fixed Effects for Poor Conditions	(2) Average of Worker Perceptions of Poor Conditions at Workplace
Employees at workplace	0.286 (0.95)	0.179 (0.53)
Employees at workplace squared	-0.023 (0.74)	-0.011 (0.32)
1,000+ employees in organization	0.143 (0.93)	0.143 (0.92)
Industry (ref: manufacturing)		
Utilities	0.171 (0.53)	0.134 (0.36)
Construction	0.216 (0.74)	0.442 (1.11)
Distribution	-0.310 (1.32)	-0.438 (1.54)
Hotels and restaurants	-0.784 (2.80)**	-0.937 (3.03)**
Transport and communications	-0.472 (1.47)	-0.462 (1.53)
Financial services	-0.526 (1.82)	-0.763 (2.32)*
Business services	-0.527 (2.08)*	-0.384 (1.28)
Public administration	-0.151 (0.52)	-0.263 (0.83)
Education	-0.293 (0.98)	-0.491 (1.47)
Health	-0.059 (0.20)	-0.373 (1.09)
Other services	-0.747 (2.67)**	-0.753 (2.57)*
% female	0.005 (1.70)	0.008 (2.64)**
Employment relations specialist at the workplace	-0.401 (2.04)*	-0.363 (2.06)*
Grievance procedure	-0.050 (0.23)	-0.053 (0.22)
Joint consultative committee	-0.046 (0.32)	-0.101 (0.69)
Union recognition	0.055 (0.38)	0.170 (1.07)
Regular meetings between management and entire workforce	0.248 (1.98)*	0.253 (2.05)*
Quality circles	0.057 (0.40)	-0.060 (0.42)
Degree of autonomous team working (0,4)	-0.165 (2.59)**	-0.179 (2.49)*
Employee share ownership scheme	0.098 (0.61)	0.171 (1.11)
Performance-related pay	0.058 (0.35)	0.109 (0.74)
Constant	-0.396 (0.58)	2.799 (3.47)**
R-sq	0.07	0.08

Notes:

(1) OLS weighted regressions. N=1,724 workplaces. T-statistics in parentheses. * significant at a 95% CI. ** significant at a 99% CI

(2) Column 1's dependent variable is the workplace fixed-effects coefficients from the first stage employee-level estimates using identical individual-level covariates to those used in column 1 of Table 2. Column 2's dependent variable is the workplace-level mean of employee perceptions of poor working conditions based on aggregated data from employees in the workplace.

(3) degree of autonomous team-working is a 0,4 score where workplace scores for the following: any team-working; team appoints own team leaders; team jointly decides how work is to be done; team is given responsibility for specific products or services.

Table 4: Effects of Poor Working Conditions on Worker Desire for Union Representation, WERS98

	All employees	Members	Non-members
Number of poor working conditions	0.031	0.016	0.042
	(10.78)**	(3.31)**	(11.68)**
Observations	24657	10096	14561
R-sq	0.50	0.30	0.26

Notes:

(1) Dependent variable WANTUREP (0,3) based on desire for union representation in response to following question: 'ideally who do you think would best represent you in dealing with managers here about the following issues…getting increases in my pay, if I wanted to make a complaint about working here, if a manager wanted to discipline me?' Pre-coded responses are: myself, trade union, another employee, somebody else. Score each time respondent says 'trade union'.

(2) OLS with fixed effects weighted by the probability of sample selection. N=1759 workplaces. T-statistics in parentheses. * significant at a 95% CI. ** significant at a 99% CI.

(3) In addition to the workplace dummies the models contain the same independent variables as those used in Table 2.

Table 5: Employee Perceptions of Poor Working Conditions in the USA's WRPS

	All workers	*Members*	*Non-members*
Union member	0.293 (2.12)*	-	-
Female	-0.015 (0.16)	-0.259 (0.74)	-0.001 (0.01)
Age (ref.: 35-44 years)			
18-24	-0.370 (2.49)*	0.131 (0.20)	-0.370 (2.40)*
25-34	-0.153 (1.40)	-0.573 (1.49)	-0.110 (0.95)
45-54	-0.101 (0.78)	-0.204 (0.54)	-0.095 (0.68)
55+	-0.615 (3.62)**	-1.146 (2.22)*	-0.535 (2.92)**
Ethnic minority	0.318 (2.76)**	0.032 (0.08)	0.373 (3.09)**
Married/living as married	-0.242 (2.64)**	-0.672 (2.20)*	-0.183 (1.89)
No children	-0.066 (0.70)	-0.145 (0.51)	-0.050 (0.50)
Educational qualifications (ref: high school or below)			
Spent some time at college after high school	0.036 (0.37)	0.403 (1.27)	0.018 (0.17)
College graduate or above	-0.066 (0.54)	-0.224 (0.46)	-0.049 (0.39)
Don't know educational qualifications	0.416 (0.68)	-0.139 (0.09)	0.472 (0.69)
Hours worked per week (ref.: 30-40)			
<30	-0.111 (0.66)	0.402 (0.40)	-0.127 (0.75)
>40	0.170 (1.83)	0.375 (1.25)	0.160 (1.61)
Tenure at organization (ref.: <2 years)			
2-4	0.270 (2.34)*	0.934 (1.57)	0.246 (2.09)*
5-9	0.263 (2.10)*	0.976 (1.65)	0.240 (1.87)
10+	0.212 (1.60)	0.759 (1.33)	0.226 (1.61)
Occupation (ref.: semi-skilled worker)			
Manager	-0.459 (1.96)*	-2.149 (2.09)*	-0.422 (1.71)
Professional	-0.453 (2.63)**	-0.173 (0.29)	-0.477 (2.54)*
Clerical worker	-0.540 (3.25)**	0.356 (0.63)	-0.597 (3.29)**
Sales worker	-0.375 (2.07)*	-0.582 (1.04)	-0.407 (2.05)*
Service worker	-0.252 (1.34)	-0.714 (1.15)	-0.274 (1.33)
Craft worker	-0.223 (1.36)	-0.157 (0.39)	-0.276 (1.48)
Other occupations	0.055 (0.31)	0.271 (0.60)	-0.066 (0.33)
Supervisor	-0.146 (1.69)	-0.681 (2.11)*	-0.087 (0.96)
Gross weekly earnings (ref.: >$960)			
<$150	0.315 (1.21)	0.388 (0.31)	0.287 (1.07)
$150-$214	0.428 (1.91)	0.258 (0.29)	0.433 (1.85)
$215-$264	0.641 (2.86)**	1.034 (1.23)	0.638 (2.69)**
$265-$315	0.281 (1.29)	0.472 (0.58)	0.291 (1.27)
$316-$399	0.648 (3.01)**	0.321 (0.44)	0.649 (2.82)**
$400-$449	0.521 (2.40)*	1.433 (2.10)*	0.463 (1.98)*
$450-$499	0.340 (1.45)	1.761 (2.38)*	0.203 (0.81)
$500-$599	0.239 (1.25)	0.391 (0.76)	0.263 (1.24)
$600-$710	0.219 (1.06)	0.950 (1.80)	0.071 (0.31)
$711-$960	0.054 (0.27)	0.121 (0.23)	0.108 (0.47)
Earnings missing	0.009 (0.05)	0.483 (0.86)	-0.038 (0.20)
Organization employs 1000+ employees	0.223 (2.39)*	0.259 (0.78)	0.215 (2.20)*
Number of employees at workplace (ref.: <25)			
25-99	0.055 (0.48)	0.986 (1.96)*	0.004 (0.04)
100-499	0.196 (1.62)	0.601 (1.21)	0.184 (1.47)
500+	0.297 (2.12)*	0.864 (1.64)	0.207 (1.40)
Number employees at workplace missing	-0.027 (0.07)	1.604 (1.01)	-0.114 (0.28)
Industry (ref.: Manufacturing)			
Construction	-0.403 (1.90)	-0.307 (0.48)	-0.246 (1.06)
Transport and Communication	-0.104 (0.65)	0.058 (0.15)	-0.198 (1.09)
Wholesale/Retail	-0.114 (0.88)	0.311 (0.69)	-0.151 (1.11)
Finance/Insurance/Real estate	0.022 (0.13)	-0.109 (0.13)	0.036 (0.20)
Health	0.082 (0.49)	0.859 (0.98)	0.047 (0.27)
Business services	0.031 (0.18)	0.414 (0.65)	-0.014 (0.08)
Educational and Social Services	-0.287 (1.40)	-0.566 (0.76)	-0.284 (1.33)

Other industries	-0.135 (0.86)	0.169 (0.34)	-0.181 (1.08)
Profit sharing bonuses	-0.141 (1.45)	0.365 (1.01)	-0.240 (2.37)*
Employee stock ownership/ESOP	-0.237 (2.23)*	-0.441 (1.32)	-0.200 (1.77)
Bonuses for meeting workplace goals	-0.198 (2.02)*	-0.599 (1.70)	-0.154 (1.51)
Human Resources Department	0.093 (0.95)	0.313 (0.92)	0.042 (0.40)
Open door policy	-1.368 (12.46)**	-1.641 (4.94)**	-1.347 (11.38)**
Grievance procedure	-0.185 (1.89)	0.314 (0.88)	-0.246 (2.41)*
Joint committee of managers and employees	-0.518 (6.00)**	-0.290 (1.06)	-0.558 (6.06)**
Constant	3.151 (10.46)**	1.583 (1.43)	3.255 (10.03)**
Observations	2049	282	1767
R-sq	0.18	0.29	0.18

Notes:

(1) Poor working conditions (0,13) estimated with survey-weighted OLS.

(2) T-statistics in parentheses. * significant at a 95% CI. ** significant at a 99% CI.

Table 6: Effects of Employee Perceptions of Poor Working Conditions on US workers' Propensity to Vote for Unionization, WRPS

	All	*Members*	*Non-members*
Poor Working Conditions	0.041	-0.003	0.050
	(7.49)**	(0.29)	(8.04)**
Observations	2049	282	1767
R-sq	0.25	0.23	0.14

Notes:

(1) Unweighted OLS estimating whether would vote for a union if election held today.

(2) Independent variables are as per Table 5.

(3) T-statistics in parentheses. * significant at a 95% CI. ** significant at a 99% CI.

Figure 1
Non-union Worker Likely Vote in Union Representation Election,
Peter Hart Surveys, 1984-2005

If an election were held tomorrow to decide whether your workplace would have a union or not, do you think you would definitely vote for forming a union, probably vote for forming a union, probably vote against forming a union, or definitely vote against forming a union?

Definitely or probably vote against forming a union

Definitely or probably vote for forming a union

%

Year

Source: Hart Research Associates, various polls, except 1984. Those year's data are from Harris, on a slightly differently worded question: "If an election were held tomorrow to decide whether your workplace would be unionized or not, do you think you would definitely vote for a union, probably vote for a union, probably vote against a union, or definitely vote against a union?"

Figure 2: Distribution of Employee Perceptions of Poor Working Conditions

Panel A: BWRPS (mean = 0.156; variance = 0.030)
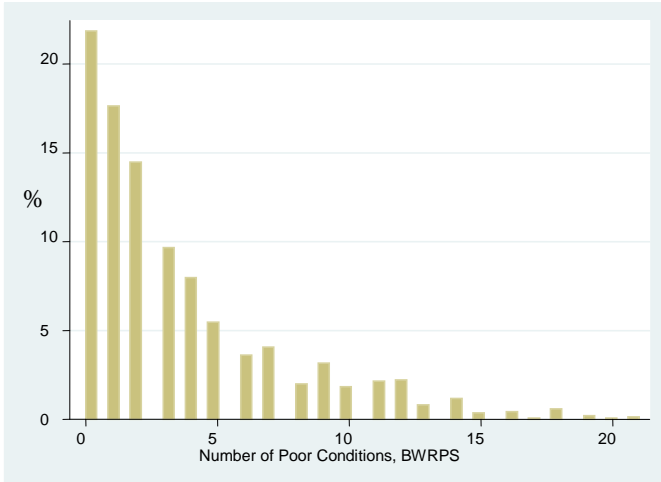
Panel B: WERS (mean =0.211; variance = 0.057)
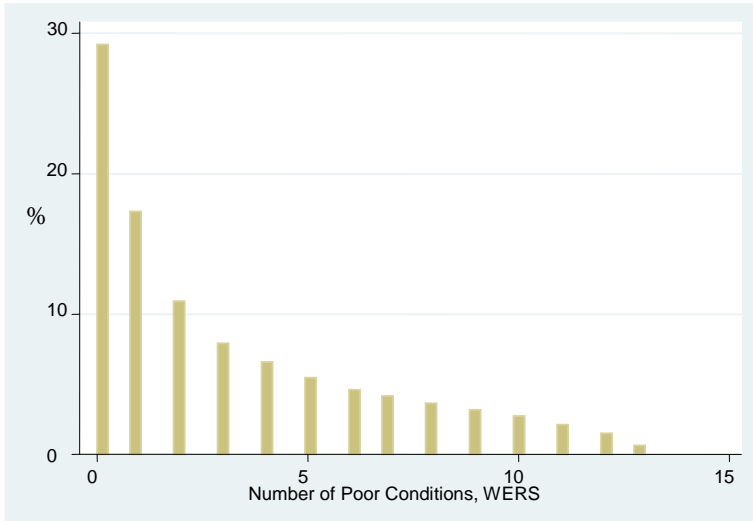
Panel C: WRPS (mean = 0.134; variance = 0.022)
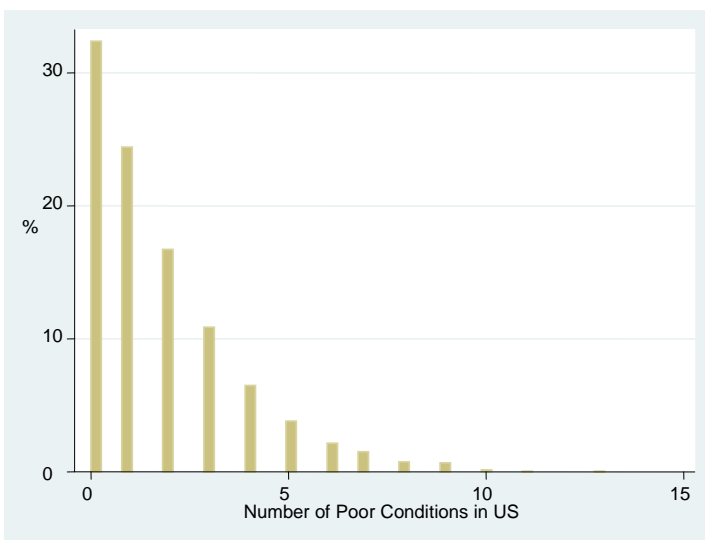
DATA APPENDIX: EMPLOYEE PERCEPTIONS OF POOR WORKING CONDITIONS

There are a variety of ways in which one might wish to construct an index of the poor working conditions employees face at the workplace. Traditionally, analysts have contented themselves with a single measure, such as an overall job satisfaction measure or perception of the climate of employment relations. However, single measures suffer from a number of drawbacks. First, any single item will only capture a part of an underlying multi-dimensional concept such as poor conditions at work. Measuring such a concept across various dimensions helps reduce the degree to which a proxy for poor conditions suffers from this type of measurement error. Second, there is no reason, a priori, why one should give precedence to one facet of poor conditions. Third, particular problems fall or rise in salience depending on external factors, such as the point in the business cycle. For instance, workers may be less likely to cite problems with pay satisfaction when the labor market is tight and employers are having to meet fairly large wage demands to attract and retain workers. A multi-item index can 'smooth' these idiosyncracies so giving a potentially more accurate measure of poor conditions. Another big advantage of a multi-item scale scored as a fraction of the total possible number of poor conditions recorded is that it offers a possibility of making comparisons across surveys where the specific survey questions are not identical.

Having chosen a multi-item scale, one needs to consider what enters the scale and how items should be added together. We were constrained in the items available to us since the surveys had already been undertaken. Fortunately those for both the USA and Britain contained items relating to key domains, notably the climate at the workplace, 'gaps' in influence between what workers had and what they wanted, satisfaction with various aspects of their jobs, ratings of management, and so on. We identified the cut off for "poor" conditions in the way described below. Results were not sensitive to whether we used the full distribution of answers to a particular item, or simply entered it as a dummy (0,1) variable where 1=a poor condition. One might consider giving greater weight to some items than others in an additive scale, but there were no a priori reasons for doing so. Inter-item correlations were generally positive suggesting adding items together was not an unreasonable strategy. The Cronbach alpha for all items in the BWRPS was .80, while the alpha for those in WRPS was .64.

There are difficulties running principal components analyses on the items entering the scales because some questions were randomly assigned to sub-samples. Consequently, whereas one can readily add up scores to similar questions to form a scale, principal components analyses would have to be run on the sub-samples asked the same set of questions.

The BWRPS poor working conditions scale runs from 0 to 23. All items in Appendix Table 1 are 0-1 dummy variables apart from the last one, which is an "influence gap" running from 0-3. The individual is asked "How much direct involvement and influence do you have in....deciding how to do your job and organise work; setting working hours including breaks, overtime and time off; deciding how much of a pay rise the people in your work group or department should get; the pace at which you work; deciding how to work with new equipment or software; deciding what kinds of perks and bonuses are offered to employees". Answers are coded on a four point scale from "a lot" to "none". For the same items respondents are then asked "tell me how important it would be to you to have a lot of influence over..." with responses coded on a four point scale from "very important" to "not at all important". When a person views having "a lot of influence" as "very important" but does not have "a lot of influence" this is identified as a poor working condition. Because respondents are randomly split into two groups, both of whom answer only three of the six items, respondents can score between 0-3 on the influence gap scale.

The WRPS is similar to BWRPS because the latter was partly based on the WRPS. The influence gap is constructed in a similar fashion, too, with 1 point added to the scale every time a person views having a lot of influence as 'very important' but does not have a lot of influence up to a maximum of 4. Some were randomly routed to an alternative question about satisfaction with influence on these items and so

these people scored 1 point every time they expressed dissatisfaction with their influence.

Appendix Table 1: BWRPS Perceptions of Poor Working Conditions

BWRPS, 2001, 0-23 score	Mean (sd)
- Workers paid unfair wages	.18 (.38)
- Workers dismissed/disciplined unfairly	.09 (.28)
- Bullying by management/fellow workers	.09 (.28)
- Sexual or racial discrimination	.03 (.16)
- Preferential treatment by management	.18 (.38)
- Have witnessed or experienced unfair treatment at current workplace	.22 (.42)
- Disagree managers understanding about having to meet family responsibilities	.15 (.35)
- Disagree people encouraged to develop skills	.16 (.36)
- Management poor at giving fair pay increases	.26 (.44)
- Management poor at making work enjoyable	.13 (.34)
- Management poor at willingness to share power	.21 (.41)
- Management poor at concern for employees	.15 (.36)
- Management poor at keeping everyone up to date with proposed changes	.21 (.40)
- Management poor at understanding and knowledge of the business	.08 (.27)
- Management poor at promoting equal ops	.07 (.25)
- Do not trust employer to keep promises at all	.09 (.29)
- Disagree that 'my job is secure'	.13 (.34)
- Disagree that 'my job is interesting and enjoyable'	.13 (.34)
- 'Relations between employees and management' are 'poor'	.09 (.29)
- Not satisfied with influence in company decisions affecting you	.28 (.45)
- Influence gap	.61 (.83)

Appendix Table 2: WERS Perceptions of Poor Working Conditions

WERS, 1998, 0-13 score	Mean (sd)
- Job insecure	.20 (.40)
- Dissatisfied with influence over job	.15 (.36)
- Dissatisfied with pay	.40 (.49)
- Dissatisfied with sense of achievement	.15 (.35)
- Dissatisfied with respect from supervisors	.20 (.40)
- Disagree managers understanding about having to meet family responsibilities	.18 (.39)
- Disagree people encouraged to develop skills	.22 (.42)
- Management poor at keeping everyone up to date about proposed changes	.28 (.45)
- Management poor on providing everyone with the chance to comment on proposed changes'	.37 (.48)
- Management poor in responding to suggestions	.31 (.46)
- Management poor dealing with work problems	.23 (.42)
- Management poor at 'treating employees fairly'	.20 (.40)
- Relations between management and employees poor or very poor	.17 (.38)

Appendix Table 3: BWRPS Perceptions of Poor Working Conditions

WRPS, 1995, 0-13 score	Mean (sd)
- Don't trust management 'at all' to keep promises	.04 (.20)
- Relations between employees and management poor	.06 (.23)
- Relations between employees and management worse than average	.10 (.30)
- Not at all satisfied with influence in company decisions affecting job or work life	.09 (.28)
- Not at all likely to get influence you want if you tried	.08 (.27)
- Management never take suggestions seriously	.05 (.21)
- Have held back from making suggestions about how to work more efficiently through fear of own or someone else's job	.16 (.37)
- System for resolving problems of individual employees is 'not effective at all'	.06 (.23)
- 'Town' meetings not effective at all in resolving group problems	.02 (.15)
- Open door policy not effective at all in resolving group problems	.01 (.12)
- Employee committee not effective at all in resolving group problems	.01 (.10)
- Influence gap	.65 (1.06)

Appendix Table A4: Descriptive Data

(Note: mean values with standard deviation in parentheses. All variables are (0,1) dummies unless otherwise stated)

Table A4a: WERS

	All	Member	Non-member
Desire for union representation (0,3)	1.03 (1.18)	1.89 (1.03)	0.44 (0.87)
Union member	0.41 (0.49)	1	0
Female	0.50 (0.50)	0.44 (0.50)	0.54 (0.50)
Age:			
Under 25	0.11 (0.31)	0.04 (0.20)	0.16 (0.37)
25-29	0.13 (0.34)	0.10 (0.31)	0.15 (0.35)
30-39	0.28 (0.45)	0.30 (0.46)	0.27 (0.44)
40-49	0.26 (0.44)	0.32 (0.47)	0.22 (0.41)
50-59	0.18 (0.39)	0.20 (0.40)	0.17 (0.38)
60+	0.04 (0.19)	0.03 (0.17)	0.04 (0.19)
Non-white	0.04 (0.19)	0.04 (0.19)	0.04 (0.19)
Health problem	0.05 (0.23)	0.07 (0.25)	0.05 (0.21)
Married or Living as Married	0.70 (0.46)	0.76 (0.43)	0.66 (0.47)
Qualifications:			
None	0.22 (0.41)	0.23 (0.42)	0.21 (0.41)
CSE or equivalent	0.11 (0.31)	0.10 (0.30)	0.11 (0.32)
GCSE or equivalent	0.26 (0.44)	0.24 (0.43)	0.27 (0.45)
A level or equivalent	0.16 (0.37)	0.15 (0.36)	0.17 (0.37)
Degree of equivalent	0.19 (0.39)	0.20 (0.40)	0.18 (0.37)
Post-grad degree or equivalent	0.06 (0.25)	0.08 (0.27)	0.06 (0.23)
Any vocational qualifications	0.38 (0.48)	0.40 (0.49)	0.36 (0.48)
Occupation:			
Manager	0.11 (0.31)	0.08 (0.27)	0.13 (0.34)
Professional	0.14 (0.35)	0.20 (0.40)	0.11 (0.31)
Associate professional	0.09 (0.28)	0.10 (0.30)	0.08 (0.27)
Clerical	0.23 (0.42)	0.19 (0.40)	0.25 (0.43)
Craft	0.08 (0.27)	0.11 (0.31)	0.06 (0.25)
Personal	0.10 (0.31)	0.10 (0.30)	0.11 (0.31)
Sales	0.07 (0.26)	0.03 (0.18)	0.10 (0.30)
Operative	0.09 (0.28)	0.11 (0.32)	0.07 (0.26)
Other occupation	0.08 (0.27)	0.07 (0.26)	0.09 (0.28)
Tenure at workplace:			
< 2 years	0.28 (0.45)	0.17 (0.37)	0.36 (0.48)
2-4 years	0.23 (0.42)	0.20 (0.40)	0.25 (0.43)
5-9 years	0.22 (0.42)	0.24 (0.43)	0.21 (0.41)
10+ years	0.26 (0.44)	0.39 (0.49)	0.18 (0.38)
Usual hours worked per week:			
Under 10	0.03 (0.18)	0.01 (0.10)	0.05 (0.21)
10-29	0.16 (0.37)	0.11 (0.32)	0.20 (0.40)
30-39	0.35 (0.48)	0.41 (0.49)	0.31 (0.46)
40-47	0.29 (0.45)	0.30 (0.46)	0.29 (0.45)
48+	0.16 (0.37)	0.17 (0.37)	0.16 (0.37)
Gender segregation in job at workplace:			

Only men	0.14 (0.35)	0.17 (0.37)	0.12 (0.33)
Mainly men	0.20 (0.40)	0.22 (0.41)	0.19 (0.39)
Equal	0.32 (0.47)	0.32 (0.47)	0.32 (0.47)
Mainly women	0.27 (0.44)	0.25 (0.43)	0.28 (0.45)
Only women	0.07 (0.26)	0.05 (.0.21)	0.09 (0.29)
Gross weekly wage, £'s banded:			
<=50	0.05 (0.22)	0.01 (0.11)	0.08 (0.27)
51-80	0.05 (0.22)	0.02 (0.15)	0.07 (0.26)
81-140	0.11 (0.31)	0.07 (0.25)	0.14 (0.35)
141-180	0.09 (0.29)	0.07 (0.25)	0.10 (0.31)
181-220	0.11 (0.32)	0.11 (0.32)	0.11 (0.32)
221-260	0.11 (0.31)	0.12 (0.33)	0.10 (0.30)
261-310	0.11 (0.31)	0.13 (0.34)	0.09 (0.30)
311-360	0.09 (0.28)	0.11 (0.32)	0.07 (0.26)
361-430	0.10 (0.31)	0.15 (0.35)	0.08 (0.26)
431-540	0.09 (0.28)	0.11 (0.32)	0.07 (0.25)
541-680	0.05 (0.21)	0.05 (0.23)	0.04 (0.20)
681+	0.04 (0.20)	0.03 (0.18)	0.05 (0.21)
Permanent contract	0.93 (0.26)	0.96 (0.21)	0.91 (0.28)
Union recognition	0.60 (0.49)	0.91 (0.29)	0.40 (0.49)
Log N employees (2.30, 9.56)	4.81 (1.23)	5.09 (1.25)	4.62 (1.19)
Log N employees squared (5.30, 91.33)	24.67 (12.60)	27.43 (13.24)	22.78 (11.78)
Organization has 1000+ employees	0.62 (0.49)	0.76 (0.43)	0.52 (0.50)
Industry:			
Manufacturing	0.14 (0.35)	0.14 (0.35)	0.15 (0.36)
Utilities	0.04 (0.20)	0.08 (0.26)	0.02 (0.14)
Construction	0.05 (0.22)	0.04 (0.20)	0.05 (0.23)
Distribution	0.13 (0.33)	0.05 (0.22)	0.18 (0.38)
Hotels and restaurants	0.04 (0.19)	0.01 (0.10)	0.06 (0.23)
Transport and communication	0.06 (0.24)	0.09 (0.29)	0.04 (0.20)
Financial Services	0.06 (0.23)	0.06 (0.24)	0.05 (0.23)
Business Services	0.09 (0.29)	0.03 (0.17)	0.14 (0.34)
Public administration	0.10 (0.30)	0.17 (0.37)	0.06 (0.23)
Education	0.12 (0.33)	0.16 (0.36)	0.10 (0.30)
Health	0.12 (0.32)	0.14 (0.35)	0.10 (0.30)
Other Services	0.04 (0.21)	0.04 (0.18)	0.05 (0.22)
Specialist HR manager	0.45 (0.50)	0.49 (0.50)	0.43 (0.49)
Has grievance procedure	0.96 (0.20)	0.99 (0.08)	0.94 (0.24)
Joint consultative committee	0.43 (0.49)	0.53 (0.50)	0.36 (0.48)
Regular meetings	0.39 (0.49)	0.41 (0.49)	0.38 (0.49)
Quality circles	0.50 (0.50)	0.55 (0.50)	0.47 (0.50)
Autonomous team working (0,4)	2.20 (1.05)	2.29 (0.98)	2.15 (1.09)
Employee Share Ownership Plan	0.24 (0.43)	0.23 (0.42)	0.24 (0.43)
Performance-related pay	0.26 (0.44)	0.27 (0.44)	0.26 (0.44)

Table A4b: WRPS

	All	Member	Non-member
Vote for union	0.38 (0.49)	0.89 (0.31)	0.30 (0.46)
Union member	0.14 (0.34)	1	0
Male	0.53 (0.50)	0.73 (0.45)	0.50 (0.50)
Age:			
18-24	0.17 (0.37)	0.08 (0.27)	0.18 (0.38)
25-34	0.30 (0.46)	0.22 (0.41)	0.31 (0.46)
35-44	0.28 (0.46)	0.37 (0.48)	0.26 (0.44)
45-54	0.16 (0.37)	0.22 (0.41)	0.15 (0.36)
55+	0.08 (0.27)	0.10 (0.29)	0.08 (0.27)
Non-white	0.14 (0.35)	0.12 (0.33)	0.15 (0.36)
Married or Living as Married	0.58 (0.49)	0.66 (0.48)	0.57 (0.50)
No children	0.55 (0.50)	0.49 (0.50)	0.56 (0.50)
Qualifications:			
Low	0.43 (0.49)	0.57 (0.50)	0.41 (0.49)
Medium	0.32 (0.47)	0.30 (0.46)	0.33 (0.47)
High	0.25 (0.43)	0.12 (0.33)	0.27 (0.44)
Other qualifications	0.00 (0.07)	0.01 (0.08)	0.00 (0.06)
Occupation:			
Manager	0.04 (0.20)	0.02 (0.13)	0.05 (0.21)
Professional	0.21 (0.41)	0.10 (0.30)	0.23 (0.42)
Clerical	0.19 (0.39)	0.08 (0.27)	0.21 (0.40)
Sales	0.11 (0.32)	0.08 (0.27)	0.12 (0.33)
Personal/protective	0.09 (0.29)	0.07 (0.25)	0.10 (0.30)
Operative	0.10 (0.31)	0.21 (0.40)	0.09 (0.28)
Other occupation	0.10 (0.30)	0.17 (0.38)	0.09 (0.28)
Supervisor	0.36 (0.48)	0.29 (0.45)	0.38 (0.48)
Tenure at workplace:			
< 2 years	0.27 (0.44)	0.09 (0.29)	0.29 (0.46)
2-4 years	0.24 (0.43)	0.18 (0.39)	0.25 (0.43)
5-9 years	0.22 (0.41)	0.19 (0.39)	0.22 (0.42)
10+ years	0.28 (0.45)	0.54 (0.50)	0.24 (0.42)
Usual hours worked per week:			
Under 30	0.09 (0.28)	0.02 (0.16)	0.10 (0.30)
30-40	0.54 (0.50)	0.60 (0.49)	0.53 (0.50)
>40	0.37 (0.48)	0.38 (0.49)	0.37 (0.48)
Gross weekly wage, bands:			
1	0.06 (0.24)	0.02 (0.14)	0.07 (0.25)
2	0.09 (0.29)	0.04 (0.20)	0.10 (0.30)
3	0.08 (0.26)	0.04 (0.19)	0.08 (0.27)
4	0.08 (0.27)	0.04 (0.20)	0.08 (0.27)
5	0.08 (0.26)	0.06 (0.23)	0.08 (0.27)
6	0.07 (0.25)	0.06 (0.24)	0.07 (0.26)
7	0.05 (0.22)	0.05 (0.21)	0.05 (0.22)
8	0.11 (0.31)	0.17 (0.38)	0.10 (0.30)
9	0.08 (0.27)	0.15 (0.36)	0.06 (0.25)
10	0.08 (0.26)	0.14 (0.35)	0.06 (0.25)
11	0.08 (0.27)	0.11 (0.31)	0.07 (0.26)
Missing	0.17 (0.37)	0.11 (0.31)	0.18 (0.38)

Organization has 1000+ employees	0.44 (0.50)	0.60 (0.49)	0.42 (0.49)
Workplace size, N employees:			
Under 25	0.20 (0.40)	0.10 (0.30)	0.22 (0.41)
25-99	0.30 (0.46)	0.24 (0.43)	0.31 (0.46)
100-499	0.28 (0.45)	0.31 (0.46)	0.27 (0.45)
500+	0.20 (0.40)	0.34 (0.47)	0.19 (0.39)
Missing	0.01 (0.10)	0.01 (0.08)	0.01 (0.11)
Industry:			
Manufacturing	0.27 (0.44)	0.39 (0.49)	0.25 (0.43)
Construction	0.04 (0.20)	0.07 (0.25)	0.04 (0.20)
Transport and communication	0.09 (0.28)	0.17 (0.38)	0.07 (0.26)
Wholesale/Retail	0.21 (0.41)	0.13 (0.34)	0.22 (0.41)
Finance/insurance	0.08 (0.27)	0.03 (0.17)	0.09 (0.28)
Health	0.10 (0.30)	0.03 (0.17)	0.11 (0.31)
Business Services	0.07 (0.26)	0.05 (0.22)	0.08 (0.27)
Education/social	0.05 (0.22)	0.04 (0.20)	0.05 (0.23)
Other	0.09 (0.29)	0.09 (0.28)	0.09 (0.29)
Profit-related pay	0.28 (0.45)	0.18 (0.39)	0.29 (0.41)
Employee Share Ownership Plan	0.22 (0.42)	0.24 (0.43)	0.22 (0.41)
Performance Pay	0.24 (0.43)	0.18 (0.39)	0.25 (0.43)
HR department	0.69 (0.46)	0.74 (0.44)	0.68 (0.47)
Open door policy	0.84 (0.37)	0.79 (0.41)	0.84 (0.36)
Grievance procedure	0.31 (0.46)	0.81 (0.39)	0.23 (0.42)
Joint committee	0.37 (0.48)	0.60 (0.49)	0.34 (0.47)
Union	0.22 (0.41)	1	0.09