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ABSTRACT

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We explore the relationship between employee trust of managers and workplace performance. We present a theoretical framework which serves to establish a link between employee trust and firm performance as well as to identify possible mechanisms through which the relationship may operate. We then analyse matched workplace and employee data in order to ascertain whether the average level of employee trust within the workplace influences workplace performance. We exploit the 2004 and 2011 Work Place and Employee Relations Surveys (WERS) to analyse the role of employee trust in influencing workplace performance in both pre and post recessionary periods. Our empirical findings support a positive relationship between three measures of workplace performance (financial performance, labour productivity and product or service quality) and employee trust at both points in time. We then exploit employee level data from the WERS to ascertain the determinants of employee trust as well as how trust is influenced by measures taken by employers to deal with the recent recession. Our findings suggest that restricting paid overtime and access to training potentially erode employee trust. In addition, we find that job or work reorganisation experienced at either the employee or organisation level are associated with lower employee trust.

JEL Classification: J20, J50

Keywords: employee trust, financial performance, labour productivity, product quality

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1. Introduction and Background

Given the importance of identifying determinants of firm performance for understanding both economic growth and productivity at an aggregate level, it is not surprising that a vast literature exists exploring this issue focusing on a range of measures of firm performance such as financial performance (see, for example, Machin and Stewart, 1990, McNabb and Whitfield, 1998, and Munday et al., 2003) and labour productivity (see, for example, Griliches and Regev, 1995, Oulton, 1998, and Griffiths and Simpson, 2004). Many of the studies in this area focus on the role of firm level characteristics such as capital and labour inputs in determining firm performance.

It is apparent that employee behaviour may influence firm level performance given that many employees have some degree of discretion with respect to how hard they work (see, for example, Brown et al., 2011, who explore the relationship between worker commitment and workplace performance). In this paper, we focus on employee trust, specifically employee trust in management, which has attracted limited interest in the economics literature. Trust can be defined as '*firm belief in the reliability, truth, or ability of someone or something*' (Oxford English Dictionary, 2013). It may be the case that employee trust in the workplace influences the behaviour of employees, which in turn affects firm performance. In particular, the extent to which employees trust that their managers will treat them honestly and fairly may influence the extent to which employees engage in opportunistic behaviour or otherwise.[1] Thus, the degree of trust that employees have in their managers may impact upon firm performance.

The role of trust in the economy is being increasingly recognised in the economics literature at both the macroeconomic level, where there has been debate, for example, on the relationship between trust and economic growth (see, for example, Knack and Keefer, 1996,

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[1] For instance, Kurtulus et al. (2011), using data from the NBER Shared Capitalism Survey, find that employee trust in management is associated with employees wanting a part of their pay to be related to company performance.

and, more recently, Algan and Cahuc, 2010) and at the microeconomic level, such as in the context of financial decision-making (see, for example, Guiso et al., 2008, who explore the relationship between trust and stock market participation). A recent and comprehensive survey of the literature is provided by Algan and Cahuc (2013). There are an increasing number of studies in the economics literature exploring the determinants of trust at the individual level frequently using the standard trust question from the World Values Survey and the General Social Survey: *Generally speaking would you say that most people can be trusted or that you can't be too careful in dealing with people*? (see, for example, Alesina and La Ferrara, 2002, and Bellemare and Kröger, 2007). There has also been some interest in the applied psychology and human resource management literatures, which have tended to explore the effects of specific workplace practices on employee trust. For example, Mayer and Davies (1999) explore the effects of a performance appraisal system in one particular workplace, whilst Blunsdon and Reed (2003), using Australian workplace data, find significant correlations between HR practices (such as having formalised policies and procedures) and employee trust in management. There is also some evidence that the degree of autonomy workers have over their work is associated with increased general trust, see Grund and Harbring (2009) for European evidence.

There has been less attention paid in the economics literature, however, to the role of employee trust in the workplace and its implications for firm performance. One interesting exception is La Porta et al. (1997), who explore Fukuyama's (1995) argument that high levels of trust amongst individuals serve to enhance the performance of all institutions in society including firms. They explore the effect of trust on the performance of large organisations in 40 countries. The relative success of large firms in a country is measured by the sales of the large firms relative to GNP, where a large positive effect from general trust is found. A recent contribution in the finance literature by Goergen et al. (2012) focuses on the implications of

intra-firm trust for firm performance and reports empirical evidence of a positive relationship. Their measure of intra-firm trust is based on responses to 64 questions covering staff communication, profit-sharing, internal promotion, staff turnover and training. Such measures serve to capture the degree of intra-firm trust somewhat indirectly rather than employee trust *per se*. It is apparent that analysis of matched employee and firm level data may be a fruitful line of enquiry in order to shed further light on the relationship between firm performance and trust by exploiting more direct measures of employee trust.

This paper seeks to fill this gap in the existing literature. We begin, in Section 2, by developing a theoretical framework which establishes a link between employee trust and firm performance as well as indicating possible mechanisms through which the relationship may operate. In Section 3, we analyse matched workplace and employee data in order to explore whether employee trust influences workplace performance. To explore the robustness of our empirical findings, we exploit the 2004 and 2011 Work Place and Employee Relations Surveys (WERS) in order to analyse the role of employee trust in influencing workplace performance in both pre and post recessionary periods. Our empirical findings support a positive relationship between three measures of workplace performance (financial performance, labour productivity, and product or service quality) and employee trust. In Section 4, we exploit employee level data in order to ascertain the determinants of employee trust to shed some light on how such trust is influenced in the workplace. Section 5 concludes the paper.

2. Theoretical Model

In this section we seek to establish a theoretical basis for our hypothesis of a link between employee trust and firm performance and to outline possible mechanisms through which the relationship may operate. We begin by observing that each of our measures of firm performance (financial performance, labour productivity and service or product quality) can

be enhanced by, amongst other things, eliciting greater employee effort, engagement with training, or, willingness to adopt new processes or work-place organisation. Our theory builds on principal-agent arguments to illustrate how higher levels of employee trust in managers can help explain improvements in each of these firm performance-enhancing factors.

The principal-agent problem concerns a principal (here the manager), who wishes to incentivise the agent (here the employee) to undertake an action that is, or may appear to the agent to be, against their own best interests. We begin by outlining a typical characterization of the principal-agent problem.

Consider an agent with action set $A \equiv \{H, L\}$, whose choice of action $a \in A$ affects the value of output, $v(a)$ and their own costs, c_a, where $c_H > c_L$. Let H be the principal's preferred action. Further, assume the principal is unable to observe the agent's action (there is asymmetric information), or infer it from observing output (i.e. $v(a)$ is not one-to-one). Since action H is costly to the agent and unobservable to the principal, the principal knows the agent will have an incentive to select action, L.

To simplify matters, let $\boldsymbol{v}$ be an n-vector of feasible values of v_i ($i = 1, ..., n$). Let $\boldsymbol{p}_a$ be an n-vector of probabilities, with each element, p_{ia} ($\sum_{i=1}^{n} p_{ia} = 1$), being the probability that v_i is observed given the agent's action is a. Given that the principal employs a payment contract $\boldsymbol{w}(\boldsymbol{v})$, we construct the following – linear in cost – von Neumann-Morgenstern utility function, $u_a = \boldsymbol{u}(\boldsymbol{w})\boldsymbol{p}_a - c_a$, for the agent, whom we assume to be risk-averse. We assume that the principal is risk-neutral, and that their objective is to design a payment contract $\boldsymbol{w}(\boldsymbol{v})$ to maximize $(\boldsymbol{v} - \boldsymbol{w})\boldsymbol{p}_H$ subject to the agent's incentive compatibility constraint:

$$\boldsymbol{u}(\boldsymbol{w})\boldsymbol{p}_H - c_H \geq \boldsymbol{u}(\boldsymbol{w})\boldsymbol{p}_L - c_L, \tag{1}$$

and participation constraint, with reservation utility, $\bar{u}$:

$$\boldsymbol{u}(\boldsymbol{w})\boldsymbol{p}_H - c_H \geq \bar{u}. \tag{2}$$

We now explore three framings of the principal-agent model to illustrate the potential channels through which trust can influence our firm performance measures: the first allows us to see how trust can be used to elicit performance-enhancing effort, the second provides insight into how trust can engender participation and co-operation or reduce costly resistance to productivity/quality enhancing change, whilst the third demonstrates how trust can influence worker identity.

2.1 Trust Eliciting Effort[2]

In this section we let the elements H and L in the agent's action set represent high (H) and low (L) effort. We also augment the basic model outlined above to include trust. We begin under a scenario in which the agency problem yields an equilibrium with the agent choosing action L. As such it is reasonable to assume that the agent knows, through experience, the rewards and costs associated with action L. The principal, in an effort to resolve the agency problem, wishes to assure the agent that the costs to action H are no greater than c_H and that, given this, the contract that it offers, $\boldsymbol{w}(\boldsymbol{v})$, satisfies the constraints Eqs. (1) and (2). However, the agent, who has no experience of the actual rewards and costs associated with action H, may not trust the principal to keep to the contract, and/or, be truthful about the full costs of action H. Hence the agent has beliefs, $\boldsymbol{u}(\boldsymbol{w})\widetilde{\boldsymbol{p}}_H$, about the distribution of returns and beliefs, $\tilde{c}_H$, about the costs, under action H, such that $\boldsymbol{u}(\boldsymbol{w})\widetilde{\boldsymbol{p}}_H = \theta\boldsymbol{u}(\boldsymbol{w})\boldsymbol{p}_H$ and $\tilde{c}_H = c_H/\varphi$, where $\theta(t), \varphi(t) \in [0,1]$, t represents the level of employee trust, and $\theta'(t), \varphi'(t) \geq 0$. Hence, even if the principal can design a feasible reward contract $\boldsymbol{w}(\boldsymbol{v})$ which satisfies Eqs. (1) and (2), if employee trust, t, is sufficiently low then it will not be possible to resolve the principal-agent problem. Consequently, since the discount parameters $\theta(t)$ and $\varphi(t)$ are non-decreasing, higher levels of trust can increase the prospect of a given contract resolving the

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[2] A similar argument is employed in Brown et al. (2011) to explain the potential link between worker commitment and loyalty and firm profit.

agency dilemma, yielding effort level H and raising productivity, quality and/or financial performance.

Notice that, given the agent is risk averse, $\boldsymbol{u}(\boldsymbol{w})\boldsymbol{p}_H$ is decreasing with uncertainty. Hence, higher levels of employee trust can act as a buffer helping to mitigate the effects of increased uncertainty (for instance during a recession), by increasing θ and hence $\boldsymbol{u}(\boldsymbol{w})\widetilde{\boldsymbol{p}}_H = \theta\boldsymbol{u}(\boldsymbol{w})\boldsymbol{p}_H$.

2.2 Trust Inducing Engagement with Training and Re-organisation

In this section we adopt a slightly different principal-agent framework. In this case the principal can directly observe the action of the agent where H and L now refer, respectively, to high and low levels of investment/engagement in labour training, firm re-organisation or changes in working practices (or conversely low and high levels of resistance to training or re-organisation). Again, the principal's preferred action is H.

Suppose that the principal wishes to uplift worker skills and/or reconfigure working practices or the working environment so as to achieve a new, more profitable, organizational regime. For simplicity, suppose that the principal can only achieve this new regime in a future period if the agent undertakes action H (high engagement with training and/or low resistance to change) in the current period. Otherwise, the status quo prevails. Hence we have two regimes $R \equiv \{n, s\}$, where n represents the new regime and s represents the status quo.

With no asymmetry in information about the action of the agent, the principal can set a determinate reward profile for the agent (w_r, e_r) where w_r is the wage and e_r is the working environment associated with regime $r \in R$. The principal's objective is therefore to design a reward profile $(w_s, e_s; w_n, e_n)$ so as to maximize $\pi_n(w_n, e_n)$ subject to an optimality constraint:

$$\pi_n(w_n, e_n) \geq \delta + \pi_s(w_s, e_s) \tag{3}$$

where δ is the time-adjusted value of the cost of the organizational change and/or training; an agent incentive compatibility constraint:

$$u(w_n, e_n) \geq \omega + u(w_S, e_S), \tag{4}$$

where, ω is the time-adjusted cost to the agent of the organizational change and/or training; and a participation constraint, with reservation utility, $\bar{u}$:

$$u(w_n, e_n) - \omega \geq \bar{u}. \tag{5}$$

However, in the absence of trust the agent may heavily discount the claims of the principal in terms of the wage and working conditions in the new regime, or anticipate a significant understatement of the direct costs to the agent of undertaking action H, i.e. the agent may base its decisions on $u(\theta w_n, \theta e_n)$ and ω/φ instead of $u(w_n, e_n)$ and ω.[3] Hence, even if the principal can devise a feasible reward profile which satisfies Eqs. (3)-(5), if trust is sufficiently low (i.e. θ and/or $1/\varphi$ are sufficiently high) then the principal may not be able to find a reward profile which incentivizes the agent to opt for action H. Again, increasing employee trust increases the range of contracts which are feasible and satisfy Eqs. (4) and (5) thereby engendering the high-performance outcome for the firm.

2.3 Trust to Change Worker Identity

Finally, we consider the possibility that building employee trust can yield a change in worker identity along the lines discussed in Akerlof and Kranton (2005). In this case, the agent's utility depends on their identity where agent identity is a function of organizational practices, or more specifically in the present situation, organizational practices which influence employee trust.

To illustrate, suppose the agent can have one of two identities, $B \equiv \{x, y\}$. An agent with identity x (y) has an associated 'norm' under which utility is maximized, in terms of the

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[3] It is not difficult to see that an employer might have an incentive to cheat on the agent once the agent has undertaken the productivity-enhancing training (especially if training develops firm-specific human capital) or given up their original work-practices, since these changes may be largely irreversible.

principal's preferred (non-preferred) action in the above models, with action *H* (*L*) and deviation from this action results in loss of utility.[4] If the agent's identity is *x* then the principal can stimulate action *H* at a lower wage than if agent identity is *y*. Replacing the cost term c_a in Eqs. (1) and (2) with:

$$c_a = k_a + \rho_b |k^*(b) - k_a| - \mu_b$$

where k_a is the agent's cost under action $a \in A$, μ_b represents the utility that the agent achieves with identity $b \in B$, whilst $\rho_b |k^*(b) - k_a|$ is a potential penalty incurred due to any divergence from the agent's 'ideal' action given they have identity b. Hence investing to build employee trust to influence worker's identity – changing worker identity from type *y* to type *x* – reduces the penalty associated with action *H*, raising μ_b. Since both effects diminish the 'net cost' term, enhancing $\boldsymbol{u(w)p}_H - c_H$ relative to $\boldsymbol{u(w)p}_L - c_L$ they increase the likelihood of *H* relative to *L*.

Having motivated the link between employee trust and workplace performance from a theoretical perspective, and identified potential mechanisms through which this may operate, the remainder of the paper considers whether an empirical relationship exists between trust and performance using matched employee-employer data.

3. Empirical Analysis of the Relationship between Trust and Workplace Performance

3.1 Data and Methodology

In order to explore the relationship between employee trust and workplace performance from an empirical perspective, we analyse data drawn from the Workplace and Employee Relations Surveys (WERS). The aim of the WERS is to provide nationally representative data on the state of workplace relations and employment practices in Britain. We focus on data drawn from the most recent survey, namely the 2011 WERS, which is the sixth in the series. We also explore the robustness of our findings by analysing the 2004 WERS, which relates to

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[4] For example, identity *x* (*y*) might represent a committed (non-committed) worker.

the pre financial crisis period and, hence, allows us to explore whether the relationship between employee trust and workplace performance varies with the prevailing economic climate. The survey population for both the 2004 and 2011 WERS is all British workplaces with at least 5 employees.[5] The sample for the 2011 WERS comprises 2,680 workplaces, with the sample used in the econometric analysis discussed below being reduced to 1,550 workplaces, once missing values are taken into account. For the 2004 WERS, the sample comprises 2,295 workplaces, with the sample used for our econometric analysis including 1,432 workplaces due to missing data. The WERS comprises four main sections: the Worker Representative Questionnaire; the Financial Performance Questionnaire; the Management Questionnaire; and the Employee Questionnaire. The first three sections yield establishment level information, whilst the final section (the Employee Questionnaire) provides employee level information. Our empirical analysis exploits data drawn from the Management and Employee Questionnaires.

We conduct workplace level analysis in order to explore the determinants of three measures of relative workplace performance, namely: financial performance, labour productivity and the quality of service or product. The workplace performance measures are derived from the following question included in the Management Questionnaire: *I now want to ask you how your workplace is currently performing compared with other establishments in the same industry. How would you assess your workplace's (i) financial performance (ii) labour productivity and (iii) quality of product or service?* The management representative was asked to indicate in which of the following categories financial performance (FP_w), labour productivity (LP_w) and quality of product or service (q_w) lay: (i) a lot better than average; (ii) better than average; (iii) about average; (iv) below average or a lot below average, where *w* denotes the workplace subscript.

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[5] Workplaces in agriculture, hunting and forestry, fishing, mining and quarrying, private households with employed persons, and extra-territorial organizations, are excluded.

From the responses to these questions, we have constructed three four-point indices where a value of 3 denotes 'a lot better than average', a value of 2 denotes 'better than average', a value of 1 denotes 'about average' and a value of zero denotes 'below or a lot below average'. The distributions of each of the three measures of workplace performance are given in the table below.

Workplace performance: % in each category						
	FP_w		LP_w		q_w	
%	2004	2011	2004	2011	2004	2011
A lot better than average	11.45	13.09	6.94	9.22	22.41	25.81
Better than average	41.08	39.56	42.05	43.68	55.17	52.44
About average	38.93	40.07	44.90	41.76	19.99	19.67
Below average	8.54	7.29	6.11	5.34	2.43	2.08

These measures of firm performance are clearly subjective and, in addition, the response rates, which are relatively consistent across 2011 and 2004, also suggest that bias exists towards responding in the average and above categories.[6] It may be the case that the three workplace performance variables are subject to measurement error (see Bertrand and Mullainathan, 2001, and Forth and McNabb, 2008). Random measurement error makes it difficult to explain variations in workplace performance, whilst if the measurement error is correlated with the explanatory variables, this leads to spurious correlation with the subjective dependent variables (Brown et al., 2011). Such issues will arguably be mitigated since the data relating to the key explanatory variables of interest are provided by employees (i.e. trust, which, as discussed in detail below, is elicited from responses to the Employee Questionnaire) whereas the subjective workplace performance measures are provided by management representatives. Less correlation is expected, therefore, between the

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[6] In the Financial Performance Questionnaire, continuous measures of workplace financial performance, such as sales turnover, are available. However, the sample sizes are greatly reduced (roughly 25 per cent of firms remain for the 2004 WERS), which is likely to lead to a non-random sample. Furthermore, Chaplin et al. (2005) state that a relatively high percentage of workplaces declined to take part in this section of the 2004 WERS, with a lower average response rate reported for those firms listed on the stock exchange. Similarly, the response rate for this part of WERS 2011 was somewhat low at 31.8%, providing information on up to only 545 workplaces (van Wanrooy et al., 2013). Consequently, in what follows, we do not analyse the continuous measures of firm performance.

measurement error in the measures of workplace performance and the key explanatory variables.[7]

The measures of employee trust are derived from the Employee Questionnaire. In the 2011 and the 2004 WERS, up to 25 employees from each workplace were asked to complete the Employee Questionnaire yielding samples of 18,492 employee-workplace observations in 2011 and 17,532 in 2004, after conditioning on missing data. The Employee Questionnaire contains information on a number of different measures of employee trust. To be specific, employees were asked to indicate whether they strongly agree, agree, neither agree nor disagree, disagree or strongly disagree with the statements: *Managers here can be relied upon to keep their promises* (t_1); *Managers here deal with employees honestly* (t_2); *Managers here treat employees fairly* (t_3); and *Managers here are sincere in attempting to understand employees' views* (t_4). The responses to these four questions are used to create four trust indices which are increasing in the level of employee trust and run from one (strongly disagree) to five (strongly agree). We then match averages of the trust measures in each work place ($\bar{t}_1, \bar{t}_2, \bar{t}_3$ and $\bar{t}_4$) with the workplace performance information to explore how the average level of employee trust prevailing in the workplace is correlated with workplace performance. Due to the possibility of co-linearity between the four employee trust measures, they are included independently rather than simultaneously in the specification.[8] Hence, four ordered probit specifications are modelled for each of the three measures of workplace performance conditional on each alternative measure of employee trust, $\bar{t}_w$, and other explanatory variables, X_w, as follows:[9]

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[7] Furthermore, evaluations of these subjective measures of workplace performance have indicated that their ordinal properties are unaffected by such bias (see Bryson et al., 2005). In addition, comparisons of these subjective measures and objective profitability and productivity data are found to be weakly equivalent and produce similar results (Forth and McNabb, 2008). Similar evidence is reported by Wall et al. (2004), who explore the validity of subjective measures of firm performance.
[8] Indeed, the pairwise correlation coefficients between the four measures of trust are all above 0.7 and are all statistically significant at the 1% level.
[9] We have also used a generalised ordered probit model and we find that the general pattern of results remains.

$$y_w^* = X_w'\boldsymbol{\beta} + \psi\bar{t}_w + \varepsilon_w \tag{6}$$

where the unit of analysis is the workplace, $w=1,\ldots,W$, (in WERS 2011 W=1,550 and in WERS 2004 W=1,432) in which the continuous latent performance of the workplace, y_w^*, is observed in discrete form through a censoring mechanism: $y_w = j$ if $\mu_{j-1} < y_w^* \leq \mu_j$, with j outcomes and the μ's are unknown parameters to be estimated. Hence, the probability that alternative j is chosen is the probability that the latent variable, y_w^*, is between two boundaries μ_{j-1} and μ_j.

It is interesting to note that, as shown in the table below, the average level of employee trust within the workplace, i.e. $\bar{t}_w = (1/N)\sum_{i=1}^{N} t_i$ where there are $i=1,\ldots,N$ employees in workplace w, is similar in the post (2011) and pre (2004) financial crisis periods. In addition, it is interesting to note the similarity in the mean values of the four measures of employee trust.

	WERS 2011 Mean (Standard Deviation)	WERS 2004 Mean (Standard Deviation)
$\bar{t}_1$	3.3273 (0.6030)	3.2972 (0.5950)
$\bar{t}_2$	3.4779 (0.5848)	3.4627 (0.5753)
$\bar{t}_3$	3.4665 (0.5921)	3.4642 (0.5814)
$\bar{t}_4$	3.4357 (0.6099)	3.3991 (0.5771)
Number of Observations	1,550	1,432

In each of the ordered probit models of workplace performance, controls in the vector X_w include: trade union density; firm size; industry (distinguishing between: manufacturing; electricity, gas and water; construction; wholesale and retail; hotels and restaurants; transport and communication; financial services; other business services; public administration; education; health; and other community services); public sector; years in operation; the average amount of training provided to employees; the proportion of experienced staff in the largest occupational group who had training in past year; the percentage of employees using computers; whether the workplace competes at the regional (the omitted category), national or international level; the percentage of employees by occupation (distinguishing between:

managers and senior officials; professional; associate professional and technical; administrative and secretarial; skilled trades; caring, leisure and other personal service; sales and customer service; process, plant and machine operatives and drivers; and routine); whether the workplace operates a profit share scheme; if employees can participate in a shared ownership scheme; if the workplace implements performance related pay; and finally whether a consultative committee is thought to be "very influential" or "fairly influential" over managerial decisions which affect the workforce.

3.2 Results

Table 1a presents the marginal effects relating to the effects of the employee trust measures on each category of the workplace performance measures for the 2011 WERS, whilst Table 1b presents the analogous results for the 2004 WERS.[10] Focusing initially on Table 1a, it is apparent that, for financial performance and labour productivity, trust is inversely related to being in the 'about average' and 'below average' categories and positively associated with being in the 'a lot better than average' and 'better than average' categories. So higher levels of employee trust (across all four measures of employee trust) appear to be positively related to workplace financial performance and labour productivity. With respect to product or service quality, employee trust is positively associated with being in the 'a lot better than average' category and inversely associated with being in the other three categories, the positive influence on the probability of reporting the highest level of this measure of workplace performance being particularly pronounced in terms of magnitude. For example, focusing on Table 1a panel c, it is evident that each alternative measure of trust, evaluated at

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[10] For brevity, we only present the results relating to the employee trust variables. The results relating to the other control variables, which are available on request, accord with the existing literature. For example, competing on an international level and the proportion of employees receiving training are positively associated with financial performance, labour productivity and product/service quality. Firm size is positively associated with financial performance, whilst competing at a national level is positively associated with product or service quality. Operating in the financial services sector is positively associated with financial performance and labour productivity.

the mean, increases the probability that product or service quality is 'a lot better than average' by approximately 8 to 9 percentage points.

Turning to Table 1b, it is evident that the pattern of the results is consistent across the 2011 and the 2004 WERS thereby endorsing the finding that employee trust is positively associated with higher levels of workplace performance. There are, however, some differences across the two years in terms of the magnitude of the effect of employee trust on workplace performance. For example, the positive effect of employee trust on the probability of reporting the highest category for the financial performance measure (i.e. being 'a lot better than average') is higher in 2011 than in 2004. Similarly, the positive effect of employee trust on the probability of reporting the 'a lot better than average' category for the quality of product or service measure is considerably higher in 2011 as compared to the effect in 2004 by around 2 to 4 percentage points. The largest differential in terms of magnitude is for whether managers are deemed to treat employees fairly, $\bar{t}_2$, at 4.4 percentage points. Conversely, the positive effect of employee trust on the probability of reporting the 'better than average' category for labour productivity is much higher in 2004, i.e. pre the economic recession, than in 2011.[11]

Overall, our findings, which support the existence of a statistically significant relationship between employee trust and workplace performance, with high levels of employee trust in their managers being associated with higher levels of relative workplace performance, are consistent with our theoretical priors. Moreover, these findings are robust

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[11] The WERS are cross-sectional data sets, which means that we conduct separate analysis for the 2004 and 2011 surveys. A sub sample of workplaces is, however, followed across the two waves thereby allowing some panel data analysis to be conducted. Once we condition on non-missing values for the variables used in our analysis, the sub sample comprises 584 firms. In order to explore the robustness of our findings, we estimate a random effects ordered probit model and the results are consistent with the cross-sectional findings in that employee trust is positively associated with workplace performance. We further explore robustness by employing a fixed effected ordered logit estimator. The positive association remains, although, in accordance with expectations, the statistical significance of the trust variables is reduced. Modelling financial performance on the lag of the employee trust measures, to reduce the possibility of reverse causality, yields similar results.

across four different measures of employee trust and three different measures of workplace performance, as well across the 2011 and 2004 surveys. Indeed, it would appear that the influence of employee trust on workplace performance has become more important during the recession. Again, this is consistent with our theoretical priors (see Section 2.1).

4. The Determinants of Employee Trust

4.1 Data and Methodology

Given that the findings presented in Section 3 indicate a positive relationship between employee trust and workplace performance, the natural next step is to ascertain what influences the degree of employees' trust in their managers. We therefore analyse employee level data drawn from the WERS Employee Questionnaire. We focus on the most recent WERS, i.e. the 2011 survey, since it includes a set of questions relating to whether employees were influenced by the recent recession with respect to a variety of aspects relating to their jobs. Again, in order to analyse the robustness of our findings, we explore the determinants of the four measures of employee trust (described in Section 3 above).

The distribution of employee trust appears to be consistent across the four measures as reported in the table below. It is apparent that the majority of the responses across the four measures fall into the 'agree' category, with 'strongly disagree' being the least populated category.

Employee trust measures: % responding in each category				
	t_1	t_2	t_3	t_4
Strongly agree	10.47	12.78	14.93	12.09
Agree	37.30	42.50	41.49	42.70
Neither agree nor disagree	29.76	26.14	23.84	24.48
Disagree	16.13	13.21	12.68	14.96
Strongly disagree	6.34	5.36	7.06	5.77

Given that the trust measures are ordered five-point indices, we use an ordered probit specification to model each of the four measures of trust as follows:

$$t_{iw}^* = \mathbf{Z}_{1w}'\boldsymbol{\gamma} + \mathbf{Z}_{2i}'\boldsymbol{\phi} + \varepsilon_{iw} \qquad (7)$$

where the unit of analysis is the employee, $i=1,\ldots,N$, in workplace, $w=1,\ldots,W$. The continuous latent trust of the employee, t_{iw}^*, is observed in discrete form through a censoring mechanism: $t_{iw} = k$ if $\mu_{k-1} < t_{iw}^* \leq \mu_k$, with k outcomes and the μ's are unknown parameters to be estimated. Standard errors are clustered at the workplace level to account for the possibility that up to 25 employees may be observed for each workplace.[12]

With respect to the explanatory variables, we include a set of job and work related characteristics, $\mathbf{Z}_{1w}'$, and a set of personal characteristics, $\mathbf{Z}_{2i}'$. We control for the following job and work related characteristics: the natural logarithm of the individual's weekly contractual hours; the employee's workplace tenure distinguishing between less than one year (the omitted category), 1 to less than 2 years, 2 to less than 5 years, 5 to less than 10 years and 10 years or more; how much training he/she has received during the last 12 months either paid for or organised by the employer (excluding health and safety training), none (the omitted category), less than 1 day, 1 to less than 2 days, 2 to less than 5 days, 5 to less than 10 days, 10 days or more; trade union membership; and a set of dummy variables indicating which range that the individual's weekly gross pay falls into, less than £60 (the omitted category), £61-£100, £101-£130, £131-£170, £171-£220, £221-£260, £261-£310, £311-£370, £371-£430, £431-£520, £521-£650, £651-£820, £821-£1050 and £1051 or more.[13] With respect to personal characteristics, we control for gender, age, ethnicity, marital status, health status, education, number of children and religion.

Our focus on the 2011 WERS relates to the inclusion in the Employee Questionnaire of the following question: '*Did any of the following happen to you as a result of the most recent recession whilst working at this workplace? My workload increased; My job was re-organised; I was moved to another job; My wages were frozen or cut; My nonwage benefits were reduced; My contracted working hours were reduced; Access to paid overtime was*

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[12] Our findings are robust to employing a random effects ordered probit framework.
[13] The equivalent amounts are translated into annual pay in the questionnaire.

restricted; I was required to take unpaid leave; And access to training was restricted. Thus, we include a set of control variables capturing whether (as well as how) the individual reported that he/she was affected by the recent recession where these are entered into equation (7) as binary controls.[14] It is apparent from the summary statistics presented in the final column of Table 2 that 26% of employees felt that their workload had increased as a result of the recession, with 18% reporting that their work had been re-organised. Approximately 32% reported that their wages had been frozen or cut, contrasting with only 5% reporting that their non-wage benefits had been reduced. Access to paid overtime and access to training being restricted were reported by 17% and 12% of employees, respectively.

4.2 Results

In Table 2, for brevity, we present selected results relating to the coefficients estimated in modelling t_1, the ordered index capturing the extent to which employees agree with the statement: *Managers here can be relied upon to keep their promises*. Given our focus, we present the estimated coefficients related to the job and work-related characteristics.[15] It is apparent that the amount of training received by employees is positively associated with employee trust, whereas workplace tenure, hours worked and trade union membership are all inversely associated with employee trust. With respect to pay, the highest pay category is positively associated with trust with an inverse association being apparent for the middle categories relative to being in the lowest pay category.[16]

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[14] It should be acknowledged that the variables capture the employee's perceptions regarding whether and how they were influenced by the recession, i.e. they reflect the employee's judgements regarding the perceived causation of the effects.

[15] The analogous results for the other three employee trust measures are in line with those presented in Table 2 and are available on request, as are the results pertaining to the effects of the personal characteristics of the employees. With respect to personal characteristics, being male and being in poor health are consistently associated with lower levels of trust, whilst being white or Asian are associated with reporting higher levels of trust.

[16] Whilst the findings here are mostly intuitive, the negative associations between trust and tenure and trust and trade union membership are a little less obvious. Indeed, in the case of trade union membership and employee trust, Bryson (2001) finds that the association can be positive or negative dependent upon factors such as the balance of power between the union and management in the workplace, the extent to which management actively encourage union membership and members' perceptions of union effectiveness.

With respect to the set of variables relating to experiences due to the economic recession, with the exception of being required to take unpaid leave, it is apparent that the estimated coefficients are all negative and generally highly statistically significant. The marginal effects relating to this set of variables are presented in Table 3 where it can be seen that the set of variables capturing whether or not employees have been influenced by the financial crisis (with the exception of having to take unpaid leave) all have a positive influence on being in the relatively low employee trust categories and a negative influence on being in the relatively high employee trust categories. Focusing firstly on t_1, *managers here can be relied upon to keep their promises*, it is apparent that restricting access to paid overtime has a relatively large inverse effect on the probability of responding in the 'agree' category, at 7 percentage points, closely followed by the size of the effects of an increased workload and access to training being restricted, both at around 5 percentage points. Moreover the effects related to these three variables are highly statistically significant. The cumulative effect of the recession variables may play an important role in influencing employee trust. Hence, in the second part of the table we present the marginal effects associated with an index of the number of recession effects reported by the employee which ranges from zero to nine. The results indicate that a higher value of the index is associated with an increased probability of reporting the lower categories of employee trust.[17]

Similar results are found for t_2 and t_3, *managers here deal with employees honestly* and *managers here treat employees fairly*, respectively, with highly significant effects also found for job re-organisation. A slightly different pattern of marginal effects is found for t_4, *managers here are sincere in attempting to understand employees' views*, with negative effects found for category 5 only. The largest inverse effect on reporting category 5 'strongly

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[17] In order to further explore the robustness of our results, we distinguish between employees who have been at the workplace pre 2008 and new hires. For non new hires, we find similar results to those for the full sample; that is, the effects of the recession maintain a negative association with employee trust.

agree' was once again associated with restricting access to paid overtime, with highly statistically significant effects also found for restricting access to training and job re-organisation. For example, job re-organisation is associated with around a 3 percentage point lower probability that employees 'strongly agree' that managers treat employees fairly (see panel c). It is noticeable across the four measures of employee trust that being required to take unpaid leave does not appear to influence employee trust. Such a finding may reflect differing values placed on having additional time away from work related to the earnings and effort associated with being at work.[18,19]

It is apparent that the changes experienced by employees due to the recession are changes experienced at the individual level. It is also interesting to explore the influence of organisational changes introduced at the workplace level on employee trust and whether the influence of such changes on employee trust varies across the 2004 and 2011 WERS. Hence, we exploit the responses to the following questions which were included in the Management Questionnaire and hence provide information at the workplace level which we then match with the employee level data. In the 2004 WERS, management representatives were asked: *over the past two years has management introduced any of the following changes: introduction of performance related pay; introduction or upgrading of computers; introduction or upgrading of other technology; changes in working time arrangements; changes in the organisation of work; changes in work techniques or procedures; introduction of initiatives to involve employees; and introduction of*

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[18] We have experimented with a variety of specifications. For example, we have incorporated controls for workplace characteristics such as: workplace size; the percentage of employees dismissed over the last year; the percentage of employees made redundant over the last year; the frequency of meetings between senior managers and the whole workforce; and the number of committees of managers and employees primarily concerned with consultation (rather than negotiation). Workplace size, which is generally inversely associated with employee trust, is the only additional control to consistently exert a statistically significant influence . The pattern of results relating to the variables capturing the effects of the recent recession remains unaltered with particularly statistically significant influences found for: my workload increased; my job was re-organised; my wages were frozen or cut; access to paid overtime was restricted; and access to training was restricted.

[19] In order to explore the robustness of our findings, we repeat the analysis including workplace fixed effects. The results are generally in line with those presented above. However, in line with prior expectations, the statistical significance of some of the explanatory variables is reduced.

technologically new or significantly improved product or service. In the 2011 WERS, the second and third categories were combined as follows: introduction or upgrading of new technology (including computers). Hence, seven types of organisational change were identified in the 2011 WERS as compared to eight in the 2004 WERS.

We exploit this information to explore the relationship between employee trust and organizational change by re-estimating equation (7) above replacing the variables associated with changes experienced by employees as a result of the recent recession with the organisational change variables described above.[20] The results are summarised in Tables 4 and 5 below, which present the marginal effects associated with the organisational change variables. Table 4 presents the results relating to the 2011 WERS and Table 5 presents the results relating to the 2004 WERS. As above, it may be the case that employee trust is influenced by the cumulative effects of the various types of organisational change. Hence, in the second part of each table, we replace the set of organisational change dummy variables with an index denoting the number of types of change introduced by the organisation over the last two years. For the 2011 WERS, the index runs from zero to seven, whilst for the 2004 WERS the index runs from zero to eight.

It is apparent that there are only two organisational change variables that achieve statistical significance in the 2011 WERS across the four measures of employee trust, namely: changes in working time arrangements and changes in the organisation of work. These two types of organisational change are generally associated with an increased probability of reporting trust in the lowest three categories and inversely associated with reporting trust in the highest two categories. Thus, the findings suggest that this type of organisational change, in line with the effects of changes associated with the recent recession, erodes employee trust. These effects are, however, smaller in magnitude than

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[20] The set of controls for employee characteristics excludes religion since this was not available in the 2004 WERS.

those capturing the effects of the recent recession. In 2011, none of the other types of organisational change appear to influence employee trust. For the index of the number of types of organisational change, across the four measures of employee trust, an inverse relationship is apparent.

Interestingly, if the set of organisational change variables are included as well as the set of variables capturing the effects of the recent recession, the pattern of the effects associated with the effects of the recent recession remains in terms of sign and statistical significance, although, as expected, some of the marginal effects are slightly smaller in magnitude. The only organisational change measures to exert statistically significant influences are once again changes in working time arrangements and changes in the organisation of work, with the findings suggesting that these changes are associated with lower employee trust. The estimated magnitudes of these effects are small in comparison to those associated with the variables capturing the effects of the recent recession.

For the 2004 WERS, it is apparent that changes in working time arrangements are inversely associated with trust across all four measures of employee trust, whilst changes in the organisation of work are inversely associated with employee trust for three of the trust measures: *managers here can be relied upon to keep their promises*; *managers here deal with employees honestly*; and *mangers are sincere in attempting to understand employees' views*. Interestingly, in the pre-recession period, there is one type of organisational change, introduction or upgrading of computers, which is positively associated with employee trust being inversely associated with reporting the relatively low levels of trust and positively associated with reporting the high levels of trust. Dolton and Makepeace (2004) report a substantial wage premium associated with computer use for some individuals in the UK. Thus, the findings may partially reflect wage increases experienced or expected with such changes. The findings therefore suggest that certain

types of organisational change may serve to enhance employee trust.[21] In Section 2, we set out a theoretical framework to consider how employee trust can facilitate beneficial organisation practices engendering workplace performance-enhancing behaviour. The same framework can be used equally well to explain the reverse situation: practices that damage trust and reduce workplace performance. In this Section we have found evidence of both types of practice, although the results relating to the index of organisational change suggest an inverse relationship between employee trust and the number of types of organisational change introduced.

5. Conclusion

We have explored the relationship between employee trust and workplace performance from a theoretical and an empirical perspective. Our theoretical framework has established a link between employee trust and firm performance and has also indicated possible mechanisms through which such a relationship may operate. Our empirical findings, based on matched workplace and employee data from the WERS 2004 and 2011, support a positive relationship between three measures of workplace performance (financial performance, labour productivity and product or service quality) and four measures of employee trust. Our findings are generally similar across 2004 and 2011 with the exception that the effect of employee trust on 'the better than average' category for labour productivity is much higher in 2004, i.e. pre the economic recession, than in 2011. Our analysis of the determinants of employee trust highlights the effects of how workplaces have dealt with the recent recession. It is apparent that restricting paid overtime potentially erodes employee trust, whilst requiring employees to take unpaid leave appears to have no effect on employee trust. In addition, we find that job or work reorganisation experienced at either the employee or organisational

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[21] If we combine the variables representing the introduction or upgrading of computers and the introduction or upgrading of other technology in the 2004 WERS, in line with the results presented in Table 5, we find positive effects associated with this type of organisational change. We present the findings associated with keeping these two categories separate in order to allow a more precise definition of the types of change and to tie in with the specific question included in the Management Questionnaire.

level are associated with lower employee trust. Our findings therefore highlight the importance of employee trust for workplace performance as well as shedding some light on how such trust is influenced by job and work related characteristics.

References

AKERLOF, G. A. and KRANTON, R. E. (2005) 'Identity and the Economics of Organizations', *Journal of Economic Perspectives,* 19(1), 9-32.

ALESINA, A. and LA FERRARA, E. (2002) 'Who Trusts Others?', *Journal of Public Economics*, 85, 207-234.

ALGAN, Y. and CAHUC, P. (2010) 'Inherited Trust and Growth', *American Economic Review*, 100(5), 2060-2092.

ALGAN, Y. and CAHUC, P. (2013) 'Trust, Growth and Well-being: New Evidence and Policy Implications', in the *Handbook of Economic Growth* edited by P. Aghion and S. Durlauf, Elsevier.

BELLEMARE, C. and KRÖGER, S. (2007) 'On Representative Social Capital', *European Economic Review*, 51, 183-202.

BERTRAND, M. and MULLAINATHAN, S. (2001) 'Do People Mean What They Say? Implications for Subjective Survey Data', *American Economic Review*, 91, 67-72.

BLUNSDON, B. and REED, K. (2003) 'The Effects of Technical and Social Conditions on Workplace Trust', *Journal of Human Resource Management*, 14(1), 12-27.

BROWN, S., MCHARDY, J., MCNABB, R. and TAYLOR, K. (2011) 'Workplace Performance, Worker Commitment and Loyalty', *Journal of Economics and Management Strategy*, 20, 925-955.

BRYSON, A. (2001) 'The Foundation of 'Partnership'? Union Effects on Employee Trust in Management', *National Institute Economic Review*, 176(1), 91-104.

BRYSON, A., FORTH, J. and KIRBY, S. (2005) 'High Involvement Management Practices, Trade Union Representation and Workplace Performance in Britain', *Scottish Journal of Political Economy*, 52(3), 451-491.

CHAPLIN, J., MANGLA, J., PURDON, S. and AIREY, C. (2005) 'The Workplace Employment Relations (WERS) 2004 Technical Report (Cross-Section and Panel Surveys)', Department of Trade and Industry, November 2005.

DOLTON, P. and G. MAKEPEACE, (2004) 'Computer Use and Earnings in Britain' *The Economic Journal*, 114, C117-C129.

FORTH, J. and R. MCNABB, (2008) 'Workplace Performance: A Comparison of Subjective and Objective Measures in the 2004 Workplace Employment Relations Survey' *Industrial Relations*, 39, 104–123.

FUKUYAMA, F. (1995) *Trust*. New York: Free Press.

GOERGEN, M., CHAHINE, S., BREWSTER, C. and WOOD, G. (2012) 'Trust, Owner Rights, Employees and Firm Performance', European Corporate Governance Institute Finance Working Paper Number 336/2012.

GRILICHES, Z. and REGEV, H. (1995) 'Firm Productivity in Israeli Industry: 1979-1988', *Journal of Econometrics*, 65(1), 175-203.

GRIFFITHS, R. and SIMPSON, H. (2004) 'Characteristics of Foreign-Owned Firms in British Manufacturing', in *Creating A Premier League Economy*, R. Blundell, D., Card, and R., Freeman (Editors), Chicago: Chicago University Press.

GRUND, C. and HARBRING, C. (2009) 'Trust and Control at the Workplace: Evidence from Representative Sample of Employees in Europe', IZA working paper number 4297.

GUISO, L., SAPIENZA, P. and ZINGALES, L. (2008) 'Trusting the Stock Market', *Journal of Finance*, 63, 2557-600.

KURTULUS, F.A., KRUSE, D. and BLASI, J. (2011) 'Worker Attitudes towards Employee Ownership, Profit Sharing and Variable Pay', Department of Economics, University of Massachusetts-Amherst working paper, 2011-15.

KNACK, S. and KEEFER, P. (1996) 'Does Social Capital Have an Economic Payoff? A Cross-Country Investigation', *Quarterly Journal of Economics*, 112, 1251-1288.

LA PORTA, R., LOPEZ-De-SILANES, F., SHLEIFER, A. and VISHNY, R. (1997) 'Trust in Large Organizations', *American Economic Review Papers and Proceedings*, 87, 333-338.

MACHIN, S. and STEWART, M. (1990) 'Unions and Financial Performance of British Private Sector Establishments', *Journal of Applied Econometrics*, 5, 327-50.

MAYER, R. C. and DAVIES, J. H. (1999) 'The Effect of the Performance Appraisal System on Trust for Management: A Field Quasi-Experiment', *Journal of Applied Psychology*, 84, 123-136.

MCNABB, R. and WHITFIELD, K. (1998) 'The Impact of Financial Participation and Employee Involvement on Financial Performance', *Scottish Journal of Political Economy*, 45, 171-87.

MUNDAY, M., PEEL, M. and TAYLOR, K. (2003) 'The Performance of the Foreign-Owned Sector of UK Manufacturing: Some Evidence and Implications for UK Inward Investment Policy', *Fiscal Studies*, 24, 501-21.

OULTON, N. (1998) 'Competition and the Dispersion of Labour Productivity amongst UK Companies', *Oxford Economic Papers*, 50(1), 23-38.

VAN WANROOY, B., BEWLEY, H., BRYSON, A., FORTH, J., FREETH, S., STOKES, L. and S. WOOD (2013) The 2011 Workplace and Employment Relations Study First Findings.

WALL, T. D., MICHIE, J., PATTERSON, M., WOOD, S. J., SHEEHAN, M., CLEGG, C. W. and WEST, M. (2004) 'On the Validity of Subjective Measures of Company Performance', *Personnel Psychology*, 57(1), 95-119.

TABLE 1A: Workplace Performance and Employee Trust; Ordered Probit Analysis; WERS 2011

PANEL A: Dependent Variable = Financial Performance (FP_w); Marginal Effects				
	0	1	2	3
Trust Measures	ME (t-stat)	ME (t-stat)	ME (t-stat)	ME (t-stat)
$\bar{t}_1$	-0.0257 (-4.02)	-0.0579 (-4.07)	0.0400 (3.99)	0.0437 (4.10)
$\bar{t}_2$	-0.0260 (-3.95)	-0.0586 (-4.00)	0.0404 (3.93)	0.0442 (4.03)
$\bar{t}_3$	-0.0230 (-3.59)	-0.0514 (-3.63)	0.0355 (3.58)	0.0390 (3.65)
$\bar{t}_4$	-0.0202 (-3.15)	-0.0451 (-3.17)	0.0311 (3.14)	0.0342 (3.19)
PANEL B: Dependent Variable = Labour Productivity (LP_w); Marginal Effects				
	0	1	2	3
Trust Measures	ME (t-stat)	ME (t-stat)	ME (t-stat)	ME (t-stat)
$\bar{t}_1$	-0.0189 (-3.58)	-0.0577 (-3.68)	0.0474 (3.65)	0.0292 (3.66)
$\bar{t}_2$	-0.0154 (-2.85)	-0.0465 (-2.90)	0.0382 (2.89)	0.0237 (2.90)
$\bar{t}_3$	-0.0148 (-2.82)	-0.0450 (-2.88)	0.0369 (2.86)	0.0229 (2.87)
$\bar{t}_4$	-0.0154 (-2.94)	-0.0468 (-3.00)	0.0385 (2.98)	0.0238 (2.99)
PANEL C: Dependent Variable = Product or Service Quality (q_w); Marginal Effects				
	0	1	2	3
Trust Measures	ME (t-stat)	ME (t-stat)	ME (t-stat)	ME (t-stat)
$\bar{t}_1$	-0.0104 (-4.11)	-0.0658 (-5.14)	-0.0088 (-2.30)	0.0850 (5.22)
$\bar{t}_2$	-0.0109 (-4.16)	-0.0694 (-5.23)	-0.0093 (-2.31)	0.0896 (5.32)
$\bar{t}_3$	-0.0099 (-3.99)	-0.0625 (-4.89)	-0.0084 (-2.28)	0.0808 (4.96)
$\bar{t}_4$	-0.0102 (-4.08)	-0.0652 (-5.06)	-0.0087 (-2.29)	0.0841 (5.14)

TABLE 1B: Workplace Performance and Employee Trust; Ordered Probit Analysis; WERS 2004

PANEL A: Dependent Variable = Financial Performance (FP_w); Marginal effects				
	0	1	2	3
Trust Measures	ME (t-stat)	ME (t-stat)	ME (t-stat)	ME (t-stat)
$\bar{t}_1$	-0.0280 (-3.40)	-0.0481 (-3.40)	0.0411 (3.38)	0.0350 (3.42)
$\bar{t}_2$	-0.0241 (-2.86)	-0.0413 (-2.85)	0.0353 (2.84)	0.0301 (2.87)
$\bar{t}_3$	-0.0177 (-2.16)	-0.0300 (-2.16)	0.0257 (2.16)	0.0220 (2.16)
$\bar{t}_4$	-0.0272 (-3.21)	-0.0467 (-3.21)	0.0399 (3.19)	0.0340 (3.22)
PANEL B: Dependent Variable = Labour Productivity (LP_w); Marginal effects				
	0	1	2	3
Trust Measures	ME (t-stat)	ME (t-stat)	ME (t-stat)	ME (t-stat)
$\bar{t}_1$	-0.0260 (-3.99)	-0.0672 (-4.07)	0.0643 (4.07)	0.0289 (4.00)
$\bar{t}_2$	-0.0253 (-3.77)	-0.0651 (-3.83)	0.0623 (3.84)	0.0281 (3.78)
$\bar{t}_3$	-0.0191 (-2.97)	-0.0489 (-3.00)	0.0467 (3.00)	0.0212 (2.98)
$\bar{t}_4$	-0.0276 (-4.09)	-0.0715 (-4.18)	0.0684 (4.18)	0.0307 (4.11)
PANEL C: Dependent Variable = Product or Service Quality (q_w); Marginal effects				
	0	1	2	3
Trust Measures	ME (t-stat)	ME (t-stat)	ME (t-stat)	ME (t-stat)
$\bar{t}_1$	-0.0087 (-3.33)	-0.0549 (-3.83)	-0.0006 (-0.20)	0.0643 (3.87)
$\bar{t}_2$	-0.0063 (-2.48)	-0.0391 (-2.67)	-0.0005 (-0.21)	0.0458 (2.68)
$\bar{t}_3$	-0.0070 (-2.80)	-0.0436 (-3.07)	-0.0005 (-0.20)	0.0511 (3.09)
$\bar{t}_4$	-0.0087 (-3.24)	-0.0548 (-3.71)	-0.0006 (-0.20)	0.0642 (3.90)

TABLE 2: Determinants of Employee Trust; Ordered Probit Analysis of Employee Level Data; WERS 2011

Dependent Variable = t_1			
	Coef	T-stat	Mean
Job characteristics			
Tenure 1-2 years	-0.1278	(-3.47)	0.0959
Tenure 2-5 years	-0.1937	(-6.32)	0.2346
Tenure 5-10 years	-0.2072	(-6.61)	0.2421
Tenure >10 years	-0.2354	(-7.33)	0.3101
Train < 1 day	0.0744	(2.61)	0.1217
Train 1-2 days	0.2230	(8.42)	0.1699
Train 2-5 days	0.3498	(14.05)	0.2364
Train 5-10 days	0.4122	(12.56)	0.1059
Train > 10 days	0.5082	(13.56)	0.0664
Trade Union Member	-0.2775	(-12.96)	0.3783
Log Weekly Hours	-0.1295	(-4.36)	3.4252
Gross pay £61-£100	-0.0221	(-0.37)	0.0346
Gross pay £101-£130	-0.0528	(-0.85)	0.0315
Gross pay £131-£170	-0.1262	(-2.20)	0.0444
Gross pay £171-£220	-0.1505	(-2.81)	0.0736
Gross pay £221-£260	-0.1516	(-2.76)	0.0719
Gross pay £261-£310	-0.2102	(-3.75)	0.0895
Gross pay £311-£370	-0.2086	(-3.82)	0.1086
Gross pay £371-£430	-0.1791	(-3.25)	0.0977
Gross pay £431-£520	-0.1870	(-3.38)	0.1050
Gross pay £521-£650	-0.2011	(-3.48)	0.1007
Gross pay £651-£820	-0.0906	(-1.49)	0.0821
Gross pay £821-£1050	-0.0276	(-0.42)	0.0453
Gross pay > £1051	0.1579	(2.31)	0.0393
Experience of recession			
Workload increased	-0.2198	(-9.92)	0.2619
Work was reorganised	-0.1521	(-6.00)	0.1803
Moved to another job	-0.1043	(-2.71)	0.0538
Wages frozen or cut	-0.1210	(-5.70)	0.3236
Non-wage benefits reduced	-0.1296	(-3.31)	0.0507
Contracted work hours reduced	-0.1682	(-3.13)	0.0407
Access to paid overtime restricted	-0.3034	(-12.68)	0.1679
Required to take unpaid leave	0.0299	(0.37)	0.0174
Access to training restricted	-0.2116	(-7.28)	0.1170
Cut point 1 ($\hat{\mu}_1$)	-2.5316	-7.7984	
Cut point 2 ($\hat{\mu}_2$)	-1.6736	-13.1011	
Cut point 3 ($\hat{\mu}_3$)	-0.7783	-6.1100	
Cut point 4 ($\hat{\mu}_4$)	0.5241	4.1084	
Log pseudo likelihood	-23,423.731		
Wald Chi squared (67)	2,377.26		
Pseudo R squared	0.0559		
Number of observations	18,492		

Notes: (i) Controls are also included for a set of personal characteristics: Male; White; Aged 18-19; Aged 20-21; Aged 22-29; Aged 30-39; Aged 40-49; Aged 50-59; Aged 60-64; Aged 65 and over; Married; Separated, widowed or divorced; Children; Health problem; Highest

educational qualification, GCSE, A level, first degree or higher degree; Christian religion; and other religion. (ii) The standard deviations for log weekly hours (the only continuous variable reported above) is 0.4479.

TABLE 3: Employee Trust and the Recent Financial Recession; Ordered Probit Analysis; WERS 2011

PANEL A: Dependent variable = Managers here can be relied upon to keep their promises (t_1)

	1	2	3	4	5
(i) Effects of Recent Recession:	ME	ME	ME	ME	ME
	(t-stat)	(t-stat)	(t-stat)	(t-stat)	(t-stat)
My workload increased	0.0218	0.0413	0.0242	-0.0539	-0.0335
	(9.37)	(9.87)	(9.52)	(-9.82)	(-9.65)
My job was re-organised	0.0151	0.0286	0.0167	-0.0373	-0.0231
	(5.95)	(5.96)	(5.90)	(-5.99)	(-5.94)
I was moved to another job	0.0103	0.0196	0.0115	-0.0256	-0.0159
	(2.71)	(2.71)	(2.68)	(-2.71)	(-2.70)
My wages were frozen or cut	0.0120	0.0227	0.0133	-0.0296	-0.0184
	(5.74)	(5.67)	(5.52)	(-5.69)	(-5.63)
My nonwage benefits were reduced	0.0129	0.0243	0.0142	-0.318	-0.0197
	(3.28)	(3.31)	(3.29)	(-3.31)	(-3.29)
My contracted working hours were reduced	0.0167	0.0316	0.0185	-0.0412	-0.0256
	(3.10)	(3.12)	(3.13)	(-3.11)	(-3.13)
Access to paid overtime was restricted	0.0301	0.0571	0.0334	-0.0744	-0.0462
	(12.00)	(12.44)	(11.71)	(-12.55)	(-12.02)
I was required to take unpaid leave	-0.0030	-0.0056	-0.0033	0.0073	0.0046
	(-0.37)	(-0.37)	(-0.37)	(0.37)	(0.37)
Access to training was restricted	0.0210	0.0398	0.0233	-0.0519	-0.0322
	(7.17)	(7.21)	(7.11)	(-7.20)	(-7.25)
(ii) Index of Recession Effects	0.0179	0.0336	0.0197	-0.0438	-0.0274
	(21.74)	(24.40)	(19.86)	(-24.68)	(-22.39)

PANEL B: Dependent variable = Managers here deal with employees honestly (t_2)

	1	2	3	4	5
(i) Effects of Recent Recession:	ME	ME	ME	ME	ME
	(t-stat)	(t-stat)	(t-stat)	(t-stat)	(t-stat)
My workload increased	0.0197	0.0382	0.0328	-0.0490	-0.0416
	(9.74)	(10.35)	(10.22)	(-10.22)	(-10.25)
My job was re-organised	0.0161	0.0313	0.0269	-0.0403	-0.0341
	(7.27)	(7.30)	(7.30)	(-7.32)	(-7.32)
I was moved to another job	0.0089	0.0172	0.0148	-0.0222	-0.0188
	(2.62)	(2.62)	(2.61)	(-2.62)	(-2.61)
My wages were frozen or cut	0.0115	0.0223	0.0192	-0.0287	-0.0243
	(6.42)	(6.37)	(6.32)	(-6.38)	(-6.38)
My nonwage benefits were reduced	0.0078	0.0151	0.0130	-0.0194	-0.0164
	(2.30)	(2.31)	(2.30)	(-2.31)	(-2.30)
My contracted working hours were reduced	0.0109	0.0212	0.0182	-0.0273	-0.0231
	(2.33)	(2.34)	(2.34)	(-2.33)	(-2.34)
Access to paid overtime was restricted	0.0215	0.0417	0.0358	-0.0536	-0.0454
	(9.78)	(10.15)	(9.97)	(-10.12)	(-10.01)
I was required to take unpaid leave	0.0115	0.0223	0.0192	-0.0287	-0.0243
	(6.42)	(6.37)	(6.32)	(-6.38)	(-6.38)
Access to training was restricted	0.0078	0.0151	0.0130	-0.0194	-0.0164
	(2.30)	(2.31)	(2.30)	(-2.31)	(-2.30)
(ii) Index of Recession Effects	0.0153	0.0296	0.0255	-0.0381	-0.0323
	(20.64)	(23.44)	(22.12)	(-23.05)	(-23.08)

TABLE 3: Employee Trust and the Recent Financial Recession; Ordered Probit Analysis; WERS 2011 (Continued)

PANEL C: Dependent variable = Managers here treat employees fairly (t_3)

(i) Effects of Recent Recession:	1	2	3	4	5
	ME	ME	ME	ME	ME
	(t-stat)	(t-stat)	(t-stat)	(t-stat)	(t-stat)
My workload increased	0.0248	0.0340	0.0291	-0.0420	-0.0459
	(9.66)	(10.14)	(10.05)	(-9.93)	(-10.08)
My job was re-organised	0.0166	0.0228	0.0195	-0.0281	-0.0307
	(5.66)	(5.70)	(5.68)	(-5.66)	(-5.71)
I was moved to another job	0.0076	0.0104	0.0090	-0.0129	-0.0141
	(1.79)	(1.78)	(1.78)	(-1.79)	(-1.78)
My wages were frozen or cut	0.0158	0.0216	0.0186	-0.0268	-0.0292
	(6.94)	(6.80)	(6.71)	(-6.82)	(-6.82)
My nonwage benefits were reduced	0.0095	0.0130	0.0111	-0.0161	-0.0175
	(2.18)	(2.18)	(2.18)	(-2.18)	(-2.18)
My contracted working hours were reduced	0.0168	0.0231	0.0198	-0.0285	-0.0312
	(2.63)	(2.64)	(2.66)	(-2.63)	(-2.65)
Access to paid overtime was restricted	0.0288	0.0394	0.0339	-0.0488	-0.0533
	(10.28)	(10.44)	(10.36)	(-10.40)	(-10.42)
I was required to take unpaid leave	0.0035	0.0048	0.0041	-0.0059	-0.0064
	(0.41)	(0.41)	(0.41)	(-0.41)	(-0.41)
Access to training was restricted	0.0178	0.0244	0.0210	-0.0302	-0.0330
	(5.82)	(5.81)	(5.83)	(-5.79)	(-5.87)
(ii) Index of Recession Effects	0.0187	0.0254	0.0218	-0.0315	-0.0345
	(20.96)	(21.96)	(21.31)	(-21.12)	(-22.60)

PANEL D: Dependent variable = Are sincere in attempting to understand employees' views (t_4)

(i) Effects of Recent Recession:	1	2	3	4	5
	ME	ME	ME	ME	ME
	(t-stat)	(t-stat)	(t-stat)	(t-stat)	(t-stat)
My workload increased	0.0013	0.0212	0.0415	0.0279	-0.0516
	(6.00)	(9.85)	(10.20)	(10.03)	(-10.22)
My job was re-organised	0.0009	0.0140	0.0274	0.0185	-0.0341
	(4.54)	(5.85)	(5.89)	(5.88)	(-5.89)
I was moved to another job	0.0005	0.0084	0.0165	0.0111	-0.0205
	(2.26)	(2.36)	(2.36)	(2.34)	(-2.36)
My wages were frozen or cut	0.0007	0.0111	0.0217	0.0146	-0.0270
	(4.49)	(5.81)	(5.81)	(5.73)	(-5.81)
My nonwage benefits were reduced	0.0005	0.0079	0.0153	0.0103	-0.0191
	(2.17)	(2.27)	(2.28)	(2.28)	(-2.28)
My contracted working hours were reduced	0.0008	0.0125	0.0245	0.0165	-0.0305
	(2.33)	(2.45)	(2.47)	(2.48)	(-2.46)
Access to paid overtime was restricted	0.0015	0.0249	0.0487	0.0328	-0.0607
	(5.98)	(10.72)	(11.25)	(10.95)	(-11.18)
I was required to take unpaid leave	0.0002	0.0031	0.0062	0.0041	-0.0076
	(0.47)	(0.47)	(0.47)	(0.47)	(-0.47)
Access to training was restricted	0.0009	0.0140	0.0273	0.0184	-0.0340
	(4.27)	(5.30)	(5.31)	(5.31)	(-5.30)
(ii) Index of Recession Effects	0.0010	0.0154	0.0299	0.0202	-0.0373
	(6.91)	(19.88)	(22.42)	(20.78)	(-22.35)

TABLE 4: Employee Trust and Organisational Change; Ordered Probit Analysis; WERS 2011

PANEL A: Dependent variable = Managers here can be relied upon to keep their promises (t_1)					
	1	2	3	4	5
(i) Organisational Change in Last two years:	ME	ME	ME	ME	ME
	(t-stat)	(t-stat)	(t-stat)	(t-stat)	(t-stat)
Introduction of performance related pay	-0.0085	-0.0144	-0.0085	0.0186	0.0127
	(-1.73)	(-1.72)	(-1.72)	(1.72)	(1.73)
Introduction or upgrading of new technology	0.0008	0.0015	0.0009	-0.0019	-0.0013
	(0.30)	(0.30)	(0.30)	(-0.30)	(-0.30)
Changes in working time arrangements	0.0067	0.0114	0.0067	-0.0147	-0.0100
	(2.35)	(2.35)	(2.34)	(-2.35)	(-2.35)
Changes in the organisation of work	0.0113	0.0192	0.0113	-0.0248	-0.0170
	(3.96)	(3.95)	(3.90)	(-3.95)	(-3.94)
Changes in work techniques or procedures	0.0069	0.0117	0.0069	-0.0151	-0.0103
	(2.33)	(2.33)	(2.33)	(-2.34)	(-2.32)
Introduction of initiatives to involve employees	0.0013	0.0023	0.0014	-0.0029	-0.0020
	(0.48)	(0.48)	(0.48)	(-0.48)	(-0.48)
Introduction of technologically new/significantly improved product	0.0033	0.0056	0.0033	-0.0073	-0.0050
	(1.18)	(1.18)	(1.18)	(-1.18)	(-1.18)
(ii) Index of organisational change	0.0046	0.0078	0.0046	-0.0101	-0.0069
	(6.61)	(6.63)	(6.48)	(-6.62)	(-6.62)

PANEL B: Dependent variable = Managers here deal with employees honestly (t_2)					
	1	2	3	4	5
(i) Organisational Change in Last two years:	ME	ME	ME	ME	ME
	(t-stat)	(t-stat)	(t-stat)	(t-stat)	(t-stat)
Introduction of performance related pay	-0.0062	-0.0107	-0.0091	0.0135	0.0125
	(-1.44)	(-1.44)	(-1.44)	(1.44)	(1.44)
Introduction or upgrading of new technology	-0.0006	-0.0010	-0.0009	0.0013	0.0012
	(-0.23)	(-0.23)	(-0.23)	(0.23)	(0.23)
Changes in working time arrangements	0.0054	0.0093	0.0079	-0.0117	-0.0109
	(2.13)	(2.13)	(2.13)	(-2.14)	(-2.13)
Changes in the organisation of work	0.0113	0.0196	0.0166	-0.0246	-0.0228
	(4.47)	(4.47)	(4.46)	(-4.46)	(-4.49)
Changes in work techniques or procedures	0.0050	0.0087	0.0074	-0.0110	-0.0102
	(1.95)	(1.95)	(1.94)	(-1.95)	(-1.94)
Introduction of initiatives to involve employees	0.0021	0.0037	0.0031	-0.0046	0-.0043
	(0.87)	(0.87)	(0.87)	(-0.87)	(-0.87)
Introduction of technologically new/significantly improved product	0.0018	0.0032	0.0027	-0.0040	-0.0037
	(0.74)	(0.73)	(0.74)	(-0.73)	(-0.74)
(ii) Index of Organisational Change	0.0038	0.0067	0.0057	-0.0084	-0.0078
	(6.17)	(6.13)	(6.10)	(-6.12)	(-6.16)

TABLE 4: Employee Trust and Organisational Change; Ordered Probit Analysis; WERS 2011 (Continued)

PANEL C: Dependent variable = Managers here treat employees fairly (t_3)

(i) Organisational Change in Last two years:	1 ME (t-stat)	2 ME (t-stat)	3 ME (t-stat)	4 ME (t-stat)	5 ME (t-stat)
Introduction of performance related pay	-0.0082 (-1.46)	-0.0103 (-1.4)	-0.0088 (-1.45)	0.0124 (1.45)	0.0148 (1.45)
Introduction or upgrading of new technology	0.0009 (0.29)	0.0011 (0.29)	0.0010 (0.29)	-0.0014 (-0.29)	-0.0016 (-0.29)
Changes in working time arrangements	0.0059 (1.90)	0.0074 (1.90)	0.0063 (1.90)	-0.0089 (-1.90)	-0.0107 (-1.90)
Changes in the organisation of work	0.0102 (3.28)	0.0127 (3.27)	0.0108 (3.27)	-0.0153 (-3.28)	-0.0183 (-3.27)
Changes in work techniques or procedures	0.0069 (2.15)	0.0085 (2.15)	0.0073 (2.13)	-0.0103 (-2.15)	-0.0124 (-2.14)
Introduction of initiatives to involve employees	0.0015 (0.51)	0.0019 (0.50)	0.0016 (0.51)	-0.0023 (-0.50)	-0.0027 (-0.51)
Introduction of technologically new/significantly improved product	0.0022 (0.72)	0.0027 (0.72)	0.0023 (0.72)	-0.0033 (-0.72)	-0.0039 (-0.72)
(ii) Index of Organisational Change	0.0042 (5.32)	0.0052 (5.30)	0.0044 (5.29)	-0.0063 (-5.31)	-0.0075 (-5.31)

PANEL D: Dependent variable = Are sincere in attempting to understand employees' views (t_4)

(ii) Organisational Change in Last two years:	1 ME (t-stat)	2 ME (t-stat)	3 ME (t-stat)	4 ME (t-stat)	5 ME (t-stat)
Introduction of performance related pay	-0.0005 (-1.49)	-0.0070 (-1.52)	-0.0124 (-1.52)	-0.0084 (-1.51)	0.0153 (1.52)
Introduction or upgrading of new technology	0.0000 (0.12)	0.0003 (0.12)	0.0006 (0.12)	0.0004 (0.12)	-0.0007 (-0.12)
Changes in working time arrangements	0.0004 (2.10)	0.0055 (2.15)	0.0098 (2.15)	0.0066 (2.14)	-0.0120 (-2.15)
Changes in the organisation of work	0.0006 (2.87)	0.0078 (3.03)	0.0139 (3.02)	0.0093 (3.01)	-0.0171 (-3.03)
Changes in work techniques or procedures	0.0004 (1.85)	0.0050 (1.90)	0.0088 (1.90)	0.0060 (1.90)	-0.0109 (-1.91)
Introduction of initiatives to involve employees	0.0001 (0.62)	0.0016 (0.62)	0.0027 (0.62)	0.0018 (0.62)	-0.0034 (-0.62)
Introduction of technologically new/significantly improved product	0.0002 (1.08)	0.0028 (1.09)	0.0049 (1.09)	0.0033 (1.09)	-0.0060 (-1.09)
(ii) Index of Organisational Change	0.0003 (4.67)	0.0034 (5.43)	0.0061 (5.44)	0.0041 (5.40)	-0.0075 (-5.44)

TABLE 5: Employee Trust and Organisational Change; Ordered Probit Analysis; WERS 2004

PANEL A: Dependent variable = Managers here can be relied upon to keep their promises (t_1)

(i) Organisational Change in Last two years:	1 ME (t-stat)	2 ME (t-stat)	3 ME (t-stat)	4 ME (t-stat)	5 ME (t-stat)
Introduction of performance related pay	-0.0009 (-0.21)	-0.0015 (-0.21)	-0.0007 (-0.21)	0.0019 (0.21)	0.0012 (0.21)
Introduction or upgrading of computers	-0.0088 (-2.36)	-0.0154 (-2.35)	-0.0066 (-2.33)	0.0191 (2.35)	0.0118 (2.35)
Introduction or upgrading of other technology	0.0019 (0.55)	0.0033 (0.54)	0.0014 (0.55)	-0.0040 (-0.55)	-0.0025 (-0.55)
Changes in working time arrangements	0.0066 (2.10)	0.0116 (2.09)	0.0050 (2.06)	-0.0143 (-2.09)	-0.0088 (-2.08)
Changes in the organisation of work	0.0102 (3.10)	0.0178 (3.08)	0.0076 (3.05)	-0.0220 (-3.07)	-0.0136 (-3.10)
Changes in work techniques or procedures	0.0012 (0.34)	0.0020 (0.34)	0.0009 (0.34)	-0.0025 (-0.34)	-0.0015 (-0.34)
Introduction of initiatives to involve employees	-0.0011 (-0.27)	-0.0020 (-0.27)	-0.0008 (-0.27)	0.0024 (0.27)	0.0015 (0.27)
Introduction of technologically new/significantly improved product	0.0090 (1.89)	0.0158 (1.89)	0.0067 (1.87)	-0.0195 (-1.89)	-0.0120 (-1.89)
(ii) Index of Organisational Change	0.0033 (4.16)	0.0058 (4.12)	0.0025 (4.02)	-0.0072 (-4.13)	-0.0045 (-4.11)

PANEL B: Dependent variable = Managers here deal with employees honestly (t_2)

(i) Organisational Change in Last two years:	1 ME (t-stat)	2 ME (t-stat)	3 ME (t-stat)	4 ME (t-stat)	5 ME (t-stat)
Introduction of performance related pay	-0.0020 (-0.53)	-0.0033 (-0.53)	-0.0025 (-0.53)	0.0041 (0.53)	0.0036 (0.53)
Introduction or upgrading of computers	-0.0082 (-2.42)	-0.0140 (-2.42)	-0.0103 (-2.42)	0.0173 (2.42)	0.0153 (2.43)
Introduction or upgrading of other technology	0.0019 (0.62)	0.0032 (0.62)	0.0023 (0.62)	-0.0040 (-0.62)	-0.0035 (-0.62)
Changes in working time arrangements	0.0071 (2.62)	0.0121 (2.61)	0.0089 (2.59)	-0.0149 (-2.62)	-0.0131 (-2.59)
Changes in the organisation of work	0.0054 (1.84)	0.0093 (1.84)	0.0068 (1.83)	-.0114 (-1.84)	-0.0101 (-1.84)
Changes in work techniques or procedures	0.0012 (0.43)	0.0022 (0.42)	0.0016 (0.43)	-0.0027 (-0.43)	-0.0024 (-0.43)
Introduction of initiatives to involve employees	0.0009 (0.24)	0.0015 (0.24)	0.0011 (0.24)	-0.0018 (-0.24)	-0.0016 (-0.24)
Introduction of technologically new/significantly improved product	0.0066 (1.58)	0.0113 (1.58)	0.0083 (1.57)	-0.0140 (-1.58)	-0.0123 (-1.58)
(ii) Index of Organisational Change	0.0026 (3.65)	0.0044 (3.61)	0.0032 (3.57)	-0.0054 (-3.62)	-0.0048 (-3.60)

TABLE 5: Employee Trust and Organisational Change; Ordered Probit Analysis; WERS 2004 (Continued)

PANEL C: Dependent variable = Managers here treat employees fairly (t_3)

(i) Organisational Change in Last two years:	1 ME (t-stat)	2 ME (t-stat)	3 ME (t-stat)	4 ME (t-stat)	5 ME (t-stat)
Introduction of performance related pay	-0.0026 (-0.59)	-0.0033 (-0.59)	-0.0026 (-0.59)	0.0041 (0.59)	0.0043 (0.59)
Introduction or upgrading of computers	-0.0120 (-3.16)	-0.0153 (-3.16)	-0.0121 (-3.13)	0.0192 (3.15)	0.0203 (3.16)
Introduction or upgrading of other technology	0.0013 (0.37)	0.0016 (0.37)	0.0013 (0.37)	-0.0020 (-0.37)	-0.0021 (-0.37)
Changes in working time arrangements	0.0089 (2.72)	0.0113 (2.71)	0.0090 (2.69)	-0.0142 (-2.72)	-0.0150 (-2.70)
Changes in the organisation of work	0.0047 (1.38)	0.0060 (1.38)	0.0047 (1.37)	-0.0075 (-1.38)	-0.0079 (-1.38)
Changes in work techniques or procedures	0.0003 (0.08)	0.0004 (0.08)	0.0003 (0.08)	-0.0004 (-0.08)	-0.0005 (-0.08)
Introduction of initiatives to involve employees	-0.0002 (-0.06)	-0.0003 (-0.06)	-0.0003 (-0.06)	0.0004 (0.06)	0.0004 (0.06)
Introduction of technologically new/significantly improved product	0.0104 (2.08)	0.0133 (2.08)	0.0105 (2.06)	-0.0166 (-2.07)	-0.0175 (-2.07)
(ii) Index of Organisational Change	0.0024 (2.84)	0.0030 (2.82)	0.0024 (2.82)	-0.0038 (-2.82)	-0.0040 (-2.83)

PANEL D: Dependent variable = Are sincere in attempting to understand employees' views (t_4)

(ii) Organisational Change in Last two years:	1 ME (t-stat)	2 ME (t-stat)	3 ME (t-stat)	4 ME (t-stat)	5 ME (t-stat)
Introduction of performance related pay	-0.0003 (-0.96)	-0.0034 (-0.98)	-0.0060 (-0.98)	-0.0035 (-0.98)	0.0076 (0.98)
Introduction or upgrading of computers	-0.0009 (-2.67)	-0.0093 (-2.76)	-0.0161 (-2.75)	-0.0094 (-2.75)	0.0205 (2.76)
Introduction or upgrading of other technology	0.0002 (0.72)	0.0022 (0.73)	0.0038 (0.73)	0.0022 (0.73)	-0.0049 (-0.73)
Changes in working time arrangements	0.0008 (2.74)	0.0078 (2.82)	0.0135 (2.81)	0.0079 (2.79)	-0.0173 (-2.82)
Changes in the organisation of work	0.0007 (2.29)	0.0070 (2.38)	0.0121 (2.36)	0.0071 (2.36)	-0.0154 (-2.36)
Changes in work techniques or procedures	-0.0001 (-0.26)	-0.0008 (-0.26)	-0.0014 (-0.26)	-0.0008 (-0.26)	0.0017 (0.26)
Introduction of initiatives to involve employees	-0.0001 (-0.29)	-0.0011 (-0.29)	-0.0019 (-0.29)	-0.0011 (-0.29)	0.0024 (0.29)
Introduction of technologically new/significantly improved product	0.0008 (1.85)	0.0081 (1.88)	0.0139 (1.87)	0.0082 (1.87)	-0.0178 (-1.87)
(ii) Index of Organisational Change	0.0002 (3.15)	0.0023 (3.28)	0.0040 (3.24)	0.0024 (3.22)	-0.0051 (-3.26)