

# Employee Commitment and Wages in the Private Sector

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*Abstract.* This paper evaluates the link between employee affective commitment and wages using a theoretical model predicting that affective commitment and wages can be complements. We estimate simultaneous quantile regressions based on a matched worker–employer sample of private sector workers from the UK’s Workplace Employment Relations Survey 2004. Our results suggest that wages increase with increasing levels of affective commitment, consistent with the idea that the two are complements.

## 1. Introduction

A growing number of economic theories on behavioral agency emphasize the importance of workers’ behaviors, attitudes, and their decisions and their relation to organizational productivity. The literature contains two main approaches. The social preference approach studies how other regarding motives including altruism (Akerlof, 1982; Benabou and Tirole, 2006), reciprocity or fairness (Bellemare and Shearer, 2009; Fehr and Goette, 2007), intrinsic motivation (Besley and Ghatak, 2005; Francois, 2007; Glazer, 2004; Prendergast, 2008), and identity (Akerlof and Kranton, 2000, 2005) affect worker effort and wages. The social esteem approach focuses on the effects of self-regarding motives such as pride, self-respect, trust, and shame and their contribution to pro-social behavior (Benabou and Tirole, 2006; Ellingsen and Johannesson, 2008). The two approaches overlap to some extent, but this paper focuses on affective commitment, a form of social preference.

In contrast to extant studies mentioned above that have focused on identity and intrinsic motivation, we focus on affective commitment by workers, which has received less attention. Brown *et al.* (2011) use the Workplace and Employee Relations Survey (WERS) data and assessed how affective commitment influences firm performance, but did not consider the link between affective commitment and wages, which is our focus. Several researchers have treated

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identity and commitment as synonymous (see Mathieu and Zajac, 1990) or overlapping (Dutton *et al.*, 1994), whereas some assert that the two constructs are empirically distinct (Ashforth and Mael, 1989; Pratt, 1998; Riketta, 2005). Employee identity ‘is the perception of oneness with or belongingness to the organization’ (Ashforth and Mael, 1989, p. 34). It captures how employees feel about themselves in relation to the organization (Ashforth *et al.*, 2008; Ashforth and Mael, 1989).<sup>1</sup> It relates to the question ‘How do I perceive myself in relation to my organization?’ In contrast, employee commitment reflects a dedication to the purpose and values of an organization (Allen and Meyer, 1990). Allen and Meyer (1990) identified three currently well-accepted forms of commitment to the organization: affective, normative, and continuance.<sup>2</sup> Affective commitment — our focus here — is defined as ‘an emotional attachment to, identification with, and involvement in the organization’ (Allen and Meyer, 1990, p. 1). It is shaped by personal characteristics (Mathieu and Zajac, 1990), organizational policies such as employee empowerment, communication, and involvement in decision making (Ashforth and Mael, 1989; Ooi *et al.*, 2006) and work experiences including work relations and job tasks (Mowday *et al.*, 1982). Affectively committed employees are more likely to be motivated and willing to expend extra effort on behalf of the organization and show a desire to remain with the organization (Mowday *et al.*, 1982).

Our paper builds on and contributes to the literature that has focused on identity, intrinsic motivation, employee rewards, and work behaviors. These studies show that self-motivation and identification with a firm are equally important to higher and lower ranked workers (Akerlof and Kranton, 2005). As well, while workers commonly care about the wages they earn, workers who derive non-pecuniary benefits such as pride in their work and identity from their job may commit to working for lower overall pay. The implication is that identity/intrinsic motivation and wages can be substitutes (Akerlof and Kranton, 2005; Besley and Ghatak, 2005; Francois, 2007; Glazer, 2004; Prendergast, 2008). This is consistent with the compensating wage differentials theory (Rosen, 1974) in which, workers facing good working conditions receive lower pay.

However, there is one aspect on identity and monetary incentives that has not received much attention. In their model of identity in organizations, Akerlof and Kranton, (2005, p. 15)<sup>3</sup> also suggest that identity and monetary incentives can be complements. The argument is that because a sense of identity with the firm will reduce the worker’s cost of effort, the firm will have an incentive to increase the variation in compensation used to motivate employee so that monetary incentives and motivation by identity can be complements (Akerlof and Kranton, 2005). They did not, however, develop a model nor empirically test this idea. We take up this issue and focus on affective commitment and wages. In this regard, we add to the previous literature that has exclusively focused on monetary rewards and identity/intrinsic motivation as substitutes. We focus on one mechanism where workers are heterogeneous in their commitment on the job and the firm may choose to pay them differently, so that there is a positive correlation between commitment and wages. Other mechanisms include, for example, management practices in general that may induce a positive correlation between commitment and wages and the possibility that heterogeneous managers may elicit different levels of commitment from workers, so that the firm will pay workers of good managers better. We, however, leave an analysis of these other mechanisms for future work.

The rest of the paper is structured as follows: In Section 2, we develop a model on affective commitment and wages, followed by the empirical model and description of data in Section 3, discussion of regression results in Section 4, and conclusion in Section 5.

## 2. Affective commitment and wages model

In this section, we demonstrate theoretically that affective commitment and wages can also be complements. As discussed above, affective commitment is an employee's attachment to the workplace. Affective commitment will influence an employee's marginal cost of effort and therefore their level of productivity for a number of reasons. Employees who develop a positive sentiment for the firm are more likely to expend extra effort on its behalf and show a desire to remain with the organization (Mowday *et al.*, 1982), even if there is no threat of dismissal. In addition, affective commitment can act to reduce principal-agent problems, in so far, as the interests of committed employees and their employer may be aligned (Besley and Ghatak, 2005; Prendergast, 2008). This reduces agency costs associated with shirking, quit intentions, supervision, turnover, and disruption that occurs when trained workers quit and new workers have to be trained. This can increase firm output and profits.

A number of economic channels would lead to a positive correlation between affective commitment and wages. One such economic mechanism is management practices. The other, which we specifically address here, is whereby workers are heterogeneous in their commitment and firms choose to pay them differently to, in some cases, elicit more effort.

Let a firm's production function be  $y = F(e)$ , where  $F(e)$  is strictly increasing and strictly concave in  $e$  and  $e$  is the effort of the firm's worker;  $F_e > 0$  and  $F_{ee} < 0$ . Suppose that the firm pays the worker as a piece-rate of  $w > 0$  for each output produced. Let  $\alpha C(e)$  be the worker's cost of effort, where  $\alpha > 0$  and  $C(e)$  is strictly increasing and convex in  $e$ .

Given that the worker's cost of effort is  $\alpha C(e)$ , his marginal cost of effort is  $MC = \alpha C_e > 0$ . Note that  $\partial MC / \partial \alpha = C_e > 0$ . This means that a higher  $\alpha$  leads to an increase in the worker's marginal cost of effort and a smaller  $\alpha$  leads to a fall in the worker's marginal cost of effort.

Why would one worker have a smaller marginal cost of effort than another worker? One reason is a difference in innate ability wherein one worker has a higher ability than another worker. Another reason is a difference in the workers' level of commitment to the job or intrinsic motivation. A worker with a higher level of commitment to the job will have a smaller (psychological) effort of exerting effort. Therefore, we can interpret a smaller  $\alpha$  as reflecting a higher level of commitment.

We can think of this problem in the following stages:

Stage 1: the firm chooses the wage,  $w$ , and makes it known to the worker.

Stage 2: based on  $w$ , the worker chooses his effort,  $e$ .

We solve this problem backwards. So we start from stage 2. We can write the worker's payoff as

$$U(e) = wF(e) - \alpha C(e). \quad [1]$$

The first-order condition is:

$$U_e = wF_e - \alpha C_e = 0. \quad [2]$$

The second-order condition for a maximum is:

$$U_{ee} = wF_{ee} - \alpha C_{ee} < 0. \quad [3]$$

The condition in [3] holds given our assumptions that  $F_{ee} < 0$  and  $C_{ee} > 0$ .

From [1], we get  $\hat{e} = \hat{e}(\alpha, w)$ . Since the worker's objective function  $U(e)$  is strictly concave, it follows that  $\hat{e} = \hat{e}(\alpha, w)$  is a unique maximum. By the implicit function theorem, we get

$$\hat{e}_\alpha \equiv \frac{\partial \hat{e}}{\partial \alpha} = \frac{C_e}{U_{ee}} < 0 \quad \text{and} \quad \hat{e}_w \equiv \frac{\partial \hat{e}}{\partial w} = -\frac{F_e}{U_{ee}} > 0. \quad [4]$$

Define the worker's total wage payment as:  $S = wF(e)$ . Then given the result in [4] and  $\partial S/\partial e = wF'(e) > 0$ , we get

$$\frac{\partial \hat{S}}{\partial \alpha} = \frac{\partial \hat{S}}{\partial e} \frac{\partial \hat{e}}{\partial \alpha} < 0, \quad [5]$$

where  $\hat{S} = wF(\hat{e})$ .

The result in [5] means that, *holding  $w$  fixed*, a fall in  $\alpha$  (a higher level of commitment) results in an increase in the worker's total wage payment because the worker exerts a higher level of effort if his level of commitment rises.

Now we go to stage 1. Let  $p$  be the price of the firm's product. Then the firm chooses  $w$  to maximize

$$\Pi = pF(\hat{e}) - wF(\hat{e}), \quad [6]$$

where we require that  $p > w$  to ensure that the firm's profit is not always zero regardless of the wage chosen. The First Order Condition (FOC) is:

$$\frac{\partial \Pi}{\partial w} = pF_e \hat{e}_w - F(\hat{e}) - wF_e \hat{e}_w = 0. \quad [7]$$

The second-order condition is  $\partial^2 \Pi / \partial w^2 \equiv \Pi_{ww} < 0$ .

From [7], we can write  $w^* = w^*(\alpha)$ . Put this into [7] and differentiate with respect to  $\alpha$ . Noting that  $\hat{e} = \hat{e}[\alpha, w^*(\alpha)]$ , the implicit function theorem gives:

$$\frac{\partial w^*}{\partial \alpha} = -\frac{(p - \hat{w})(\hat{e}_w \hat{e}_\alpha F_{ee} + \hat{e}_{w\alpha} F_e) + \hat{e}_\alpha F_e}{\Pi_{ww}}. \quad [8]$$

The derivative in [8] has an ambiguous sign. One reason is that when a worker's level of commitment increases, a firm can pay him a lower wage and still get a higher effort from him. It *depends* on the strength of the increase in his level of commitment.

To investigate the above issue, we note that by the second-order condition,  $\Pi_{ww} < 0$ . Therefore, for an increase in commitment (i.e. a lower  $\alpha$ ) to lead to an increase in wage,  $w^*$ , we require that the numerator of the expression in [8] is negative. That is, we want:

$$(p - \hat{w})(\hat{e}_w \hat{e}_\alpha F_{ee} + \hat{e}_{w\alpha} F_e) + \hat{e}_\alpha F_e < 0. \quad [9]$$

Note that  $\hat{e}_\alpha F_e < 0$ . Therefore, the required condition for [9] to hold is that  $p - \hat{w} > 0$  is sufficiently small.<sup>4</sup> In this case, the first term on the left-hand-side of [9] will be sufficiently small relative to the second term,  $\hat{e}_{w\alpha} F_e$ , which is negative. At higher levels of productivity, the value of an employee's affective commitment to the firm increases, and the firm may find it more optimal to offer more rewards making affective commitment and wages complements.

### 3. Empirical strategy

The empirical analysis estimates the link between an employee's affective commitment and their wages. We use quantile regression (Koenker and Bassett, 1978; Koenker and Hallock, 2001) so that we can trace the relationship between affective commitment and wages across different quantiles of the wage distribution. Consider a regression of wages on affective commitment. The relevant quantile regression model (Buchinsky, 1998; Koenker and Bassett, 1978) can be written:

$$y_i = x_i' \beta_\theta + \mu_{\theta i} \text{ with } \text{Quant}_\theta(y_i | x_i) = x_i' \beta_\theta \quad [10]$$

where  $y_i$  is the dependent variable,  $x$  is a vector of explanatory variables that include workplace affective commitment,  $\beta$  is the vector of parameters to be estimated with  $\mu$  as the vector of residuals.  $\text{Quant}_\theta(y_i | x_i)$  is the  $\theta$ th conditional quantile of  $y_i$  given  $x_i$ . The  $\theta$ th regression quantile,  $0 < \theta < 1$ , solves the following problem:

$$\min_{\beta} \frac{1}{n} \left\{ \sum_{i: y_i \geq \beta x_i} \theta |y_i - \beta x_i| + \sum_{i: y_i < \beta x_i} (1-\theta) |y_i - \beta x_i| \right\} = \min_{\beta} \frac{1}{n} \sum_{i=1}^n \rho_\theta(\mu_{\theta i}) \quad [11]$$

where  $\rho_\theta(\cdot)$ , the *checkout function* (Buchinsky, 1998) is defined as

$$\rho_\theta(\mu_{\theta i}) = \begin{cases} \mu_{\theta i} & \text{if } \mu_{\theta i} \geq 0 \\ (\theta - 1)\mu_{\theta i} & \text{if } \mu_{\theta i} < 0 \end{cases} \quad [12]$$

Solving equation [12] is done through linear programming methods. As one increases  $\theta$  continuously from 0 to 1, the entire conditional distribution of  $y$ , is traced conditional on  $x$  (Buchinsky, 1998). Our main quantile regression equation takes the form:

$$y_{ij} = \alpha + AC_{ij}\tau + x_{ij}\beta + K_j\gamma + \mu_{ij} \quad [13]$$

where the dependent variable  $y_i$  is the wage of the  $i$ th worker in the  $j$ th workplace. The variable  $AC$  is affective commitment and  $\tau$  is the coefficient estimate. The vector  $X$  includes individual controls with  $\beta$  is the vector of coefficient estimates, whereas  $K$  is a firm-specific fixed effect for the workplace<sup>5</sup>  $j$ , with  $\gamma$  as vector of coefficient estimate and  $\mu_{ij}$  is the error term.

#### 3.1 Data

The data come from the WERS 2004, a national survey of British workplaces with five or more employees. The survey covered establishments from all industry sectors except those in primary industries and private households with domestic staff. For each workplace, an interview was conducted with the senior person responsible for industrial relations, employee relations, or personnel matters and with the most senior representative of the trade union with the largest number of members at the workplace, or with the most senior employee representative who sat on a workplace-level consultative committee. The survey included 25 workers randomly chosen within each organization. The data set contains 22,451 employees from 2,295 workplaces, but because we only focus on private sector employees, the sample used for the resulting econometric analysis only includes 12,230 observations from 1,159 workplaces.

### 3.2 Variables

The dependent variable is a log of hourly earnings for each employee. WERS respondents had to indicate their wages through (1) 14 banded categories for weekly wages (before taxes and other deductions) including overtime payments and (2) four banded categories for hourly wages. The estimations are based on hourly wages calculated from the 14-banded categories. In our analysis, the wages of each worker is coded as the midpoint of the range reported, and for the top-coded range, we use 150 per cent of the unbounded top range.<sup>6</sup> This approach of coding the highest wage bracket using 1.5 times the highest wage bracket is consistent with extant studies (Brochu *et al.*, 2012; Phipps *et al.*, 2001). This value is then divided by the respondent's usual weekly work hours (including overtime and extra hours), resulting in a continuous hourly wage measure. As in Drolet and Mumford (2012), we exclude from the analysis workers earning an hourly wage rate below £1 or above £100.

The explanatory variable of interest is employee affective commitment. The survey included three items from the Organizational Commitment Questionnaire of Lincoln and Kalleberg (1990)<sup>7</sup> and have been used in previous studies (Brown *et al.*, 2011; Green, 2008), but our focus is on affective commitment. For affective commitment, respondents had to state their agreement with the following statement: 'I share many of the values of my organization'. Responses to this question yield information pertaining to the individual's affective commitment to his or her employer. They could answer on a 5-point scale (1 = strongly agree, 2 = agree, 3 = neither agree nor disagree, 4 = disagree, 5 = strongly disagree). The codes were reversed to enable easier interpretation so that a higher number reflects more affective commitment.<sup>8</sup>

As control variables, we use indicators of gender, race, age, education, marital status, having children in the home, disability status, tenure in the workplace, union membership, if the respondent holds a supervisory position, employment status (permanent), and region of residence. In addition, we control for the perceived relationship between workers and management, which is an important antecedent of organizational commitment (Logan and Ganster, 2008; Maynard *et al.*, 2012).<sup>9</sup> Responding workers had to indicate the extent to which they thought 'managers dealt with employees honestly' and was measured on a 5-point scale (from 1 = strongly agree to 5 = strongly disagree). The variable is reversed so that so that '1' reads (strongly disagree) and '5' reads (strongly agree).

In addition, the data from the managers' questionnaire containing a rich set of establishment-level factors have important effects on both workers' affective commitment and their wages (Logan and Ganster, 2008; Wallace *et al.*, 2011). Controlling for establishment level factors is important to reduce omitted variables bias. We use firm-level fixed effects instead of controlling for all possible firm-specific controls. The descriptive statistics for all the variables used in the analysis are included in Appendix A.

## 4. Results

We estimate simultaneous quantile regressions. The results are in Table 1, with the pooled sample in column 1, males and females in columns 2 and 3, respectively. For space considerations, we only report the coefficients for variable of interest (affective commitment). All estimates are for the 10, 25, 50, 75, and 90 per cent quantiles of the distribution of the dependent variable, with pseudo  $R^2$  for every quantile and standard errors bootstrapped with 300 replications. The full results are in Appendix B.

Evaluated at the median (i.e. 50th per cent quantile) we see that the main variable of interest is positively associated with wages across the three columns. When we trace the different parts

**Table 1.** Quantile regression results (bootstrapped, 300 replications)

	Total		Men		Women	
	Est	SE	Est	SE	Est	SE
q10						
Affective commitment	0.0455*	0.0087	0.0420*	0.0107	0.0454*	0.0104
Constant	0.7502*	0.0752	0.9366*	0.1126	0.8280*	0.0919
q25						
Affective commitment	0.0551*	0.0068	0.0596*	0.0115	0.0540*	0.0080
Constant	1.0618	0.0548	1.1481*	0.0809	1.1226*	0.0667
q50						
Affective commitment	0.0615*	0.0056	0.0632*	0.0088	0.0542*	0.0082
Constant	1.3518*	0.0470	1.3876*	0.0815	1.4720*	0.0610
q75						
Affective commitment	0.0577*	0.0065	0.0607*	0.0109	0.0533*	0.0094
Constant	1.6414*	0.0484	1.6900*	0.0914	1.7694*	0.0701
q90						
Affective commitment	0.0709*	0.0111	0.0972*	0.0182	0.0399**	0.0179
Constant	1.8490*	0.1127	1.8519	0.1721	2.1183*	0.1525
0.10 Pseudo R <sup>2</sup>	0.1448		0.1546		0.1151	
0.25 Pseudo R <sup>2</sup>	0.1665		0.1716		0.1366	
0.50 Pseudo R <sup>2</sup>	0.1866		0.1816		0.1547	
0.75 Pseudo R <sup>2</sup>	0.1812		0.1759		0.1542	
0.90 Pseudo R <sup>2</sup>	0.1543		0.1524		0.1125	
N	12,230		5,676		6,554	

Notes: \*, \*\* Indicate significance at 1 and 5 per cent level, respectively. Dependent variable derived from the midpoints of the log-hourly wage. Covariates include the following variables: affective commitment, age, gender, race, education, children, union status, supervisory status, tenure in workplace, permanent status, disability status, region of residence, firm size and age, sector, and firm-specific fixed effects.

of the conditional wage distribution, we find that affective commitment coefficient is positive and increasing across all the wage quantiles and the association is statistically significant. This is consistent with our model prediction that affective commitment and wages can be complements.

We then estimated separate wage regressions in which we explicitly control for the varying levels of affective commitment through dummy variables (i.e. 1 = completely disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree and 5 = completely agree) with 'completely agree' as the omitted category. This approach separates the role of different categories of affective commitment and affirms the link between affective commitment and wages. In Table 2, we only report estimates of our variables of interest: the different levels of affective commitment. We find that relative to the individuals who indicated high affective commitment, those with lower levels of commitment tend to have significantly lower wages at higher quantiles. That is, higher levels of affective commitment are associated with higher wages, which falls in line with model prediction, which suggests that affective commitment and wages can be complements. The full results are in Appendix C. The graphical plots of the coefficients across the quantiles for the total male and female samples are shown in Appendix D. These plots clearly show that individuals who indicate lower levels of commitment earn significantly lower wages relative to those who indicated higher levels of affective commitment.

**Table 2.** Quantile regression results (bootstrapped, 300 replications)

	Total		Male		Female	
	Est	SE	Est	SE	Est	SE
q10						
Affective commitment agree (=4)	0.0156	0.0193	0.0329	0.0320	0.0013	0.0261
Neither agree/disagree (=3)	-0.0608**	0.0214	-0.0363	0.0351	-0.0594**	0.0281
Affective commitment disagree (=2)	-0.0514	0.0343	0.0096	0.0447	-0.1025	0.0460
Affective commitment strongly disagree (=1)	-0.1092	0.0427	-0.1017	0.0512	-0.0977	0.0663
Constant	0.9327*	0.0704	1.0091*	0.1037	1.0051*	0.0887
q25						
Affective commitment agree (=4)	0.0120	0.0155	0.0141	0.0216	0.0138	0.0220
Neither agree/disagree (=3)	-0.0588*	0.0161	-0.0567*	0.0259	-0.0554*	0.0226
Affective commitment disagree (=2)	-0.0731*	0.0214	-0.0373	0.0335	-0.1068*	0.0331
Affective commitment strongly disagree (=1)	-0.1649*	0.0385	-0.1605*	0.0486	-0.1248*	0.0596
Constant	1.2696*	0.0486	1.3758*	0.0667	1.3416*	0.0630
q50						
Affective commitment agree (=4)	-0.0282	0.0156	-0.0678*	0.0252	-0.0182	0.0171
Neither agree/disagree (=3)	-0.0883*	0.0174	-0.1112*	0.0272	-0.0814*	0.0205
Affective commitment disagree (=2)	-0.1030*	0.0218	-0.1092*	0.0331	-0.1072*	0.0281
Affective commitment strongly disagree (=1)	-0.1800*	0.0361	-0.2269*	0.0436	-0.1366**	0.0477
Constant	1.6218*	0.0469	1.7070*	0.0659	1.7260*	0.0589
q75						
Affective commitment agree (=4)	-0.0544*	0.0193	-0.0818**	0.0329	-0.0321	0.0218
Neither agree/disagree (=3)	-0.1216*	0.0191	-0.1536*	0.0335	-0.0959*	0.0254
Affective commitment disagree (=2)	-0.1245*	0.0257	-0.1372*	0.0409	-0.1159*	0.0343
Affective commitment strongly disagree (=1)	-0.1481*	0.0391	-0.2038*	0.0470	-0.1143	0.0611
Constant	1.9346*	0.0495	2.0247*	0.0816	2.0155*	0.0722
q90						
Affective commitment agree (=4)	-0.0843*	0.0300	-0.0929**	0.0461	-0.0728**	0.0364
Neither agree/disagree (=3)	-0.1521*	0.0338	-0.2213*	0.0519	-0.0717	0.0411
Affective commitment disagree (=2)	-0.1484*	0.0470	-0.2092*	0.0651	-0.1097	0.0633
Affective commitment strongly disagree (=1)	-0.2383*	0.0711	-0.3327*	0.0918	-0.0989	0.1289
Affective commitment agree (=4)	2.2226*	0.0957	2.3260*	0.1616	2.3014*	0.1341
0.10 Pseudo R <sup>2</sup>	0.1483		0.1604		0.1172	
0.25 Pseudo R <sup>2</sup>	0.1697		0.1773		0.1397	
0.50 Pseudo R <sup>2</sup>	0.1903		0.1882		0.1583	
0.75 Pseudo R <sup>2</sup>	0.1854		0.1819		0.1585	
0.90 Pseudo R <sup>2</sup>	0.1567		0.1565		0.1174	
N	12,230		5,676		6,554	

Notes: \*, \*\* Indicate significance at 1 and 5 per cent level, respectively. Covariates include the following variables: affective commitment ('strongly agree' is the omitted category), age, gender, race, education, children, union status, supervisory status, tenure in workplace, permanent status, disability status, region of residence, firm size and age, sector, and firm-specific fixed effects.



#### 4.1 The determinants of affective commitment

Given that the findings above indicate a positive link between employee commitment and wages, it is important to ascertain the extent to which employee factors and workplace policies influence affective commitment. Given that the employee commitment measure is an ordered 5-point scale, we use a generalized ordered probit model. The advantage of a generalized ordered probit model is that it overcomes the rigid parametric structure of the standard ordered probit model by allowing the cutoff points to vary between individuals (Boes and Winkelmann, 2010; Williams, 2006).<sup>10</sup> We estimate the following model:

$$AC_{ij}^* = \alpha + X_{ij}\gamma + \varepsilon_{ij} \quad [14]$$

where  $AC_{ij}^*$  is a latent employee commitment measure denoting the propensity of employee  $i$  to be affectively committed in workplace  $j$ .  $AC_{ij}$  is the employee's observed level of affective commitment, with  $X_{ij}$  as a vector of factors that many influence affective commitment including employee characteristics and workplace policies, whereas  $\varepsilon_{ij}$  is an error term. The standard errors are clustered at the workplace level.

In terms of workplace policies, studies have shown that communication between employees and management (Ooi *et al.*, 2006), employee participation and involvement (Logan and Ganster, 2008; Maynard *et al.*, 2012; Ooi *et al.*, 2006), and employee trust in the organization (Ooi *et al.*, 2006) jointly influence affective commitment. To control for communication between workers and the organization, we include four 5-point indices (1 = very poor to 5 = very good) that control for employees' perception about the extent to which managers keep workers informed about: changes to how the organization is run; changes in staffing; changes to workers job tasks; and financial matters including profits and budgets. In order to control for the extent to which employees are involved in decision making, we include three 5-point indices (1 = very poor to 5 = very good) on how good managers are at seeking views of employees or employee representative; responding to suggestions from employees or employee representatives; and allowing employees or employee representatives at influencing financial decisions. In addition, we include two 5-point items (1 = very satisfied to 5 = very dissatisfied) on the extent to which employees feel satisfied with the sense of achievement they get from their work and the amount of influence they have over their job. The codes for these two variables were reversed to enable easier interpretation so that higher numbers reflect more work satisfaction and influence.

In terms of organizational trust, we include five 5-point indices (1 = strongly agree to 5 = strongly disagree) that control for the extent to which employees feel that their managers: can be relied upon to keep their promises; are sincere in attempting to understand employees views; deal with employees honestly; encourage people to develop their skills; and treat employees fairly. The coding was also reversed to enable easier interpretation so that a higher number reflects more trust. Other workplace factors include workplace size and firm age and a dummy variable denoting if the organization is an equal opportunity employer.

Table 3 reports the results from the generalized ordered probit model for the total sample. Given that the coefficients are not readily interpretable, we focus on marginal effects for each category from the lowest through to the highest, that is, categories 1 to 5, where the two extreme categories denote 'completely disagree' and 'completely agree', respectively. It is

**Table 3.** The determinants of employee affective commitment: total sample

	AC = 1		AC = 2		AC = 3		AC = 4		AC = 5	
	ME	SE	ME	SE	ME	SE	ME	SE	ME	SE
Male	0.0014*	0.0008	0.0031	0.0042	0.0002	0.0100	-0.0034	0.0104	-0.0011	0.0046
White	-0.00037	0.0023	0.0089	0.0081	-0.0295	0.0218	0.0191	0.0221	0.0052	0.0096
Age	0.0000	0.0000	-0.0002	0.0002	-0.0041*	0.0005	0.0031*	0.0005	0.0012*	0.0002
University	-0.0019*	0.0008	-0.0096**	0.0045	-0.1212*	0.0108	0.0894*	0.0117	0.0432*	0.0059
Married	-0.0005	0.0008	-0.0110**	0.0049	-0.0110	0.0116	0.0248**	0.0121	-0.0022	0.0055
Children	-0.0002	0.0007	-0.0090**	0.0043	-0.0184	0.0105	0.0165	0.0109	0.0109**	0.0048
Disabled	0.0009	0.0009	-0.0020	0.0048	-0.0030	0.0120	0.0095	0.0126	-0.0053	0.0053
Permanent	-0.0021	0.0020	-0.0058	0.0088	0.0493	0.0190	-0.0355	0.0201	-0.0059	0.0090
Tenure <2 years	0.0010	0.0012	-0.0019	0.0063	-0.0259	0.0152	0.0241	0.0157	0.0027	0.0068
Tenure 2-5 years	0.0006	0.0010	-0.0075	0.0055	-0.0441*	0.0138	0.0383**	0.0144	0.0126	0.0066
Tenure 5-10 years	0.0003	0.0011	-0.0049	0.0058	-0.0345**	0.0146	0.0375**	0.0154	0.0016*	0.0069
Supervisor	-0.0004	0.0008	-0.0011	0.0045	-0.0757*	0.0105	0.0395*	0.0110	0.0377**	0.0053
Unionized	0.0001	0.0007	0.0027	0.0044	-0.0447*	0.0106	0.0274**	0.0111	0.0146	0.0050
Informed of changes in how organization is run	-0.0017*	0.0006	-0.0125*	0.0032	-0.0150	0.0080	0.0122	0.0085	0.0169	0.0042
Informed of changes in staffing	0.0004	0.0006	-0.0008	0.0033	-0.0071	0.0080	0.0064	0.0084	0.0010	0.0039
Informed of changes in job tasks	0.0001	0.0005	0.0006	0.0033	-0.0024	0.0084	0.0098	0.0089	-0.0081	0.0045
Influence on the job	-0.0014*	0.0006	-0.0045	0.0028	0.0079	0.0071	-0.0075	0.0075	0.0055	0.0037
Sense of achievement from work	-0.0020	0.0005	-0.0284*	0.0027	-0.0769*	0.0074	0.0640*	0.0079	0.0432*	0.0042
Managers seek employee views	-0.0004**	0.0006	-0.0108*	0.0035	-0.0253*	0.0083	0.0344*	0.0088	0.0021	0.0045
Managers respond to employee concerns	-0.0013	0.0006	-0.0064**	0.0035	-0.0096**	0.0086	0.0097	0.0091	0.0077	0.0047
Managers can be relied upon to keep promises	-0.0017	0.0006	-0.0170*	0.0034	-0.0209**	0.0086	0.0279*	0.0091	0.0117	0.0045
Managers are sincere in understanding employee views	-0.0008	0.0006	-0.0037	0.0036	-0.0383*	0.0093	0.0212	0.0099	0.0216**	0.0051
Managers deal with employees honestly	0.0000	0.0006	-0.0049*	0.0035	0.0016	0.0093	0.0004	0.0100	0.0029	0.0052
Managers encourage workers to develop their skills	-0.0012*	0.0005	-0.0122*	0.0026	-0.0288*	0.0070	0.0272*	0.0076	0.0150*	0.0040
Managers treat employees fairly	-0.0016	0.0006	-0.0124	0.0030	-0.0160*	0.0078	0.0203**	0.0084	0.0097**	0.0045
Equal opportunity employer	0.0005	0.0010	-0.0110	0.0077	0.0068	0.0162	-0.0026	0.0169	0.0062	0.0072
Percentage of dismissals	0.0001	0.0008	0.0017	0.0048	-0.0098	0.0120	0.0082	0.0125	-0.0002	0.0054
Log firm size	0.0000	0.0003	-0.0001	0.0016	-0.0005	0.0039	-0.0033	0.0040	0.0039**	0.0017
Log firm age	0.0004	0.0003	-0.0006	0.0019	-0.0040	0.0047	0.0093	0.0048	-0.0055**	0.0021

Notes: \*, \*\* Indicate significance at 1 and 5 per cent level respectively.

important to note that for most of the coefficient, the signs of the marginal effects change as we move from lower affective commitment ('completely disagree' category) to higher affective commitment ('completely agree' category). This justifies the use of a generalized ordered probit model rather than the standard ordered probit model (Boes and Winkelmann, 2010; Williams, 2006).

The results indicate that employees that are older, have a university education, and have supervisory roles are more likely to indicate greater affective commitment in terms of the magnitude of the marginal effects across the affective commitment thresholds. For example, older workers are more likely to respond in the top category of AC by about 0.1 percentage points, whereas university-educated employees are more likely to respond in highest AC category by 4 percentage points. Conversely, such individuals are less likely to respond in the lowest AC category by 0.2 percentage points. In addition, employees with supervisory roles are more likely to respond in the top category of AC by about 4 percentage points. In term of job attributes, we find that those who indicated being highly satisfied with the sense of achievement they get from their work are more likely to respond in the top category of AC by about 4 percentage points.

A good working relationship between employees and managers is associated with a higher level of affective commitment. For example, respondents who said that their managers are sincere when dealing with the views of employees are more likely to answer in the top category of AC by about 2 percentage points. Those who said that their managers encourage them to develop their skills, and treat them fairly are likely to respond in the top category of AC by about 1.5 and 1 percentage points, respectively. We conducted separate analyses for male (Table 4) and female (Table 5) subsamples, and the results are in line with those from the total sample.

## 5. Conclusion

In this paper, we have looked at the relatively understudied factor of employee commitment and estimated the link with individual wages. Specifically, we developed a model suggesting that employee affective commitment and wages may be complements and apply it to data from a matched employer–employee survey. Simultaneous quantile regression analysis shows that wages are increasing in the level of the employee's affective commitment. Thus, our model and empirical evidence sheds more light on why organizations may reward committed workers through higher wages; a ubiquitous practice in organizations. We also considered the determinants of employees' affective commitment and found that age, education level, and supervisory roles are associated with a greater propensity to indicate higher affective commitment. In addition, a good working relationship between managers and workers is associated with workers reporting a higher sense of commitment in the workplace.

One limitation is that we only focused on affective commitment and not specific behaviors such as helping out, etc. It could be that specific behaviors may matter as well (Heilman and Chen, 2005). Another limitation of the study is its sole focus on earnings and the private sector. It would also have been informative to consider whether affective commitment affects other career outcomes such as career fulfillment, but the data lacked the necessary information to assess these outcomes. Future research could test the robustness of these findings using panel data and data from other countries.

**Table 4.** The determinants of employee affective commitment: male

	AC = 1		AC = 2		AC = 3		AC = 4		AC = 5	
	ME	SE	ME	SE	ME	SE	ME	SE	ME	SE
White	-0.0050	0.0044	0.0166	0.0125	-0.0098	0.0315	0.0046	0.0318	-0.0063	0.0148
Age	0.0000	0.0001	0.0001	0.0003	-0.0034*	0.0007	0.0021*	0.0007	0.0012*	0.0003
University	-0.0024	0.0016	-0.0167**	0.0072	-0.0951*	0.0158	0.0790*	0.0166	0.0353*	0.0075
Married	-0.0013	0.0018	-0.0203**	0.0088	-0.0412**	0.0187	0.0697*	0.0190	-0.0068	0.0085
Children	0.0007	0.0015	-0.0163**	0.0072	-0.0206	0.0160	0.0305	0.0164	0.0057	0.0067
Disabled	0.0009	0.0017	-0.0162	0.0074	-0.0105	0.0174	0.0186	0.0180	0.0072	0.0075
Permanent	-0.0058	0.0050	0.0005	0.0146	0.0404	0.0306	-0.0288	0.0319	-0.0063	0.0137
Tenure <2 years	0.0014	0.0026	-0.0023	0.0104	-0.0457**	0.0226	0.0405	0.0231	0.0060	0.0097
Tenure 2-5 years	0.0019	0.0021	-0.0052	0.0094	-0.0794*	0.0204	0.0709*	0.0210	0.0118	0.0090
Tenure 5-10 years	0.0030	0.0025	0.0038	0.0104	-0.0704*	0.0215	0.0648*	0.0223	-0.0012	0.0093
Supervisor	-0.0007	0.0014	0.0062	0.0072	-0.0672*	0.0153	0.0204	0.0160	0.0413*	0.0072
Unionized	0.0000	0.0015	-0.0003	0.0073	-0.0126	0.0161	0.0016	0.0166	0.0114	0.0070
Informed of changes in how organization is run	-0.0015	0.0011	-0.0104**	0.0050	-0.0188	0.0115	0.0152	0.0121	0.0154*	0.0057
Informed of changes in staffing	0.0014	0.0012	-0.0023	0.0053	-0.0015	0.0117	0.0061	0.0121	-0.0038	0.0052
Informed of changes in job tasks	-0.0005	0.0012	-0.0018	0.0053	-0.0046	0.0120	0.0050	0.0126	0.0020	0.0060
Influence on the job	-0.0012	0.0011	-0.0052	0.0044	0.0050	0.0104	-0.0078	0.0110	0.0092	0.0051
Sense of achievement from work	-0.0040*	0.0010	-0.0349*	0.0045	-0.0663*	0.0108	0.0693*	0.0114	0.0359*	0.0056
Managers seek employee views	-0.0002	0.0013	-0.0122**	0.0054	-0.0225**	0.0119	0.0326	0.0125	0.0022	0.0063
Managers respond to employee concerns	-0.0032**	0.0013	-0.0071	0.0056	-0.0025	0.0125	0.0040	0.0131	0.0088	0.0063
Managers can be relied upon to keep promises	-0.0022**	0.0012	-0.0221*	0.0055	-0.0100	0.0127	0.0291**	0.0133	0.0051	0.0064
Managers are sincere in understanding employee views	-0.0015	0.0013	0.0015	0.0060	-0.0250	0.0137	0.0077	0.0143	0.0173*	0.0066
Managers deal with employees honestly	-0.0010	0.0011	-0.0153*	0.0057	-0.0167	0.0136	0.0293**	0.0143	0.0036	0.0070
Managers encourage workers to develop their skills	-0.0028*	0.0011	-0.0118*	0.0043	-0.0339*	0.0102	0.0324	0.0109	0.0162	0.0055
Managers treat employees fairly	-0.0009	0.0011	-0.0106	0.0049	-0.0136	0.0116	0.0217	0.0123	0.0034	0.0062
Equal opportunity employer	0.0001	0.0021	-0.0175	0.0129	0.0189	0.0239	-0.0140	0.0246	0.0125	0.0093
Percentage of dismissals	0.0004	0.0016	0.0048	0.0077	-0.0194	0.0176	0.0032	0.0180	0.0109	0.0075
Log firm size	0.0000	0.0005	0.0017	0.0027	0.0016	0.0058	-0.0087	0.0060	0.0054	0.0024
Log firm age	0.0014**	0.0007	-0.0026	0.0033	-0.0037	0.0071	0.0116	0.0073	-0.0067	0.0029

Notes: \*, \*\* Indicate significance at 1 and 5 per cent level, respectively.

**Table 5.** The determinants of employee affective commitment: female

	AC = 1		AC = 2		AC = 3		AC = 4		AC = 5	
	ME	SE	ME	SE	ME	SE	ME	SE	ME	SE
White	-0.0018	0.0017	0.0022	0.0105	-0.0526	0.0301	0.0352	0.0308	0.0171	0.0117
Age	0.0000	0.0000	-0.0004	0.0002	-0.0047*	0.0006	0.0038*	0.0007	0.0013*	0.0003
University	-0.0011**	0.0006	-0.0046	0.0057	-0.1398*	0.0150	0.0929*	0.0166	0.0525*	0.0091
Married	-0.0003	0.0006	-0.0050	0.0056	0.0112	0.0149	-0.0074	0.0157	0.0015	0.0071
Children	-0.0004	0.0006	-0.0038	0.0052	-0.0148	0.0139	0.0039	0.0146	0.0152**	0.0068
Disabled	0.0005	0.0007	0.0090	0.0066	0.0056	0.0166	0.0043	0.0174	-0.0193*	0.0072
Permanent	-0.0003	0.0013	-0.0097	0.0107	0.0557**	0.0241	-0.0391	0.0258	-0.0067	0.0118
Tenure <2 years	0.0005	0.0009	-0.0030	0.0076	0.0008	0.0208	0.0000	0.0217	0.0017	0.0096
Tenure 2-5 years	-0.0002	0.0007	-0.0088	0.0066	-0.0093	0.0188	0.0025	0.0200	0.0158	0.0097
Tenure 5-10 years	-0.0007	0.0007	-0.0120**	0.0064	0.0003	0.0202	0.0058	0.0215	0.0066	0.0102
Supervisor	-0.0001	0.0006	-0.0066	0.0056	-0.0846*	0.0144	0.0535*	0.0154	0.0377*	0.0078
Unionized	0.0002	0.0006	0.0052	0.0054	-0.0647*	0.0143	0.0430*	0.0151	0.0164**	0.0069
Informed of changes in how organization is run	-0.0013**	0.0006	-0.0151	0.0042	-0.0124	0.0113	0.0100	0.0119	0.0187*	0.0061
Informed of changes in staffing	-0.0001	0.0004	0.0002	0.0041	-0.0144	0.0110	0.0083	0.0115	0.0059	0.0055
Informed of changes in job tasks	0.0002	0.0004	0.0032	0.0041	0.0033	0.0118	0.0122	0.0125	-0.0190*	0.0065
Influence on the job	-0.0009**	0.0005	-0.0041	0.0036	0.0097	0.0097	-0.0070	0.0103	0.0023	0.0052
Sense of achievement from work	-0.0007	0.0003	-0.0226*	0.0034	-0.0858*	0.0101	0.0601*	0.0109	0.0490*	0.0061
Managers seek employee views	-0.0005	0.0005	-0.0095**	0.0047	-0.0280**	0.0116	0.0365*	0.0123	0.0015	0.0060
Managers respond to employee concerns	-0.0001	0.0005	-0.0051	0.0045	-0.0178	0.0120	0.0160	0.0127	0.0070	0.0068
Managers can be relied upon to keep promises	-0.0010**	0.0005	-0.0143*	0.0042	-0.0315*	0.0117	0.0285**	0.0125	0.0183**	0.0064
Managers are sincere in understanding employee views	-0.0005	0.0004	-0.0072	0.0045	-0.0520*	0.0128	0.0336**	0.0139	0.0260*	0.0076
Managers deal with employees honestly	0.0004	0.0004	0.0029	0.0042	0.0210	0.0127	-0.0250	0.0138	0.0006	0.0075
Managers encourage workers to develop their skills	-0.0003	0.0003	-0.0120*	0.0033	-0.0239**	0.0098	0.0213**	0.0106	0.0149*	0.0057
Managers treat employees fairly	-0.0014*	0.0005	-0.0138*	0.0037	-0.0170	0.0106	0.0170	0.0115	0.0151**	0.0063
Equal opportunity employer	0.0005	0.0008	-0.0056	0.0091	-0.0019	0.0219	0.0070	0.0230	0.0000	0.0107
Percentage of dismissals	0.0000	0.0006	-0.0008	0.0061	-0.0039	0.0166	0.0135	0.0174	-0.0088	0.0078
Log firm size	0.0001	0.0002	-0.0012	0.0019	-0.0022	0.0052	0.0005	0.0054	0.0028	0.0024
Log firm age	-0.0001	0.0002	0.0000	0.0023	-0.0039	0.0062	0.0076	0.0065	-0.0036	0.0030

Notes: \*, \*\* Indicate significance at 1 and 5 per cent level, respectively.

**Appendix A: Descriptive statistics of the variables used in the analysis**

	Male		Female	
	Mean	SD	Mean	SD
Log hour wages(midpoints of 14 categories)	2.339	0.618	2.085	0.573
Affective commitment (5-point scale)	3.483	0.951	3.592	0.881
Affective commitment (strongly agree =5)	0.115	0.319	0.126	0.332
Affective commitment (agree = 4)	0.405	0.491	0.437	0.496
Affective commitment (neither agree/disagree = 3)	0.315	0.464	0.314	0.464
Affective commitment (disagree = 2)	0.125	0.307	0.089	0.271
Affective commitment (strongly disagree = 1)	0.032	0.178	0.017	0.130
White	0.941	0.236	0.943	0.230
Age	41.023	12.138	39.741	12.333
University	0.301	0.458	0.243	0.429
Married	0.707	0.455	0.664	0.472
Children	0.435	0.496	0.395	0.489
Disabled	0.242	0.428	0.202	0.402
Permanent	0.938	0.241	0.917	0.275
Tenure <2 years	0.242	0.429	0.282	0.449
Tenure 2–5 years	0.265	0.441	0.288	0.453
Tenure 5–10 years	0.185	0.389	0.190	0.392
Supervisor	0.424	0.494	0.309	0.462
Unionized	0.396	0.489	0.378	0.485
Informed of changes in how organization is run	3.210	1.184	3.426	1.106
Informed of changes in staffing	3.099	1.160	3.318	1.109
Informed of changes in job tasks	3.215	1.071	3.453	1.008
Influence on the job	3.512	0.988	3.552	0.923
Sense of achievement from work	3.687	0.969	3.811	0.915
Managers seek employee views	3.102	1.175	3.338	1.108
Managers respond to employee concerns	3.005	1.135	3.263	1.077
Managers can be relied upon to keep promises	3.147	1.112	3.340	1.024
Managers are sincere in understanding employee views	3.229	1.097	3.471	1.029
Managers deal with employees honestly	3.300	1.093	3.485	1.020
Managers encourage workers to develop their skills	3.398	1.096	3.623	1.004
Managers treat employees fairly	3.334	1.145	3.486	1.066
Equal opportunity employer	0.894	0.308	0.895	0.305
Percentage of dismissals	0.559	0.496	0.575	0.494
Log firm size	4.886	1.543	4.858	1.606
Log firm age	3.286	1.061	3.328	1.081
<i>Region</i>				
North east region	0.035	0.184	0.041	0.198
North west region	0.158	0.364	0.120	0.326
Yorkshire	0.084	0.278	0.088	0.284
East midlands	0.077	0.267	0.075	0.263
West midlands	0.107	0.309	0.103	0.304
East England	0.096	0.295	0.109	0.312
London	0.142	0.349	0.171	0.377
South east	0.134	0.341	0.113	0.316
Scotland	0.064	0.244	0.055	0.229
Wales	0.045	0.207	0.046	0.210
<i>Sector</i>				
Manufacturing	0.225	0.417	0.223	0.417
Construction	0.006	0.053	0.005	0.051
Wholesale	0.083	0.243	0.098	0.214
Hotels	0.262	0.440	0.255	0.436
Transport	0.130	0.237	0.108	0.214
Finance	0.067	0.249	0.088	0.252
Education	0.007	0.050	0.007	0.085
Other businesses	0.098	0.297	0.126	0.308

**Appendix B: Full results for Table 1**

	Total		Men		Women	
	Est	SE	Est	SE	Est	SE
q10						
Affective commitment	0.0455*	0.0087	0.0420*	0.0107	0.0454*	0.0104
Male	0.1635*	0.0147				
White	0.1415*	0.0312	0.1743*	0.0471	0.1062**	0.0436
Age	0.0018*	0.0006	0.0016	0.0009	0.0016	0.0009
University	0.3897*	0.0159	0.3910*	0.0225	0.3678*	0.0212
Married	0.0921*	0.0187	0.1432*	0.0278	0.0374	0.0211
Children	0.0434*	0.0156	0.0968*	0.0227	-0.0098	0.0185
Disabled	-0.0643*	0.0178	-0.0675*	0.0228	-0.0643	0.0266
Permanent	0.1820*	0.0348	0.1600*	0.0520	0.1942*	0.0435
Tenure <2 years	-0.1243*	0.0213	-0.2071*	0.0310	-0.0629	0.0305
Tenure 2–5 years	-0.0556*	0.0197	-0.1103*	0.0264	-0.0093	0.0248
Tenure 5–10 years	-0.0446*	0.0194	-0.0818**	0.0283	0.0024	0.0257
Supervisor	0.1941*	0.0160	0.1985*	0.0202	0.1740*	0.0199
Unionized	0.1503*	0.0158	0.1141*	0.0201	0.1817*	0.0186
Manager honest	0.0331**	0.0115	0.0155	0.0136	0.0515*	0.0128
Managers reliable	-0.0170	0.0112	-0.0219	0.0137	-0.0244	0.0131
Constant	0.7502*	0.0752	0.9366*	0.1126	0.8280*	0.0919
q25						
Affective commitment	0.0551*	0.0068	0.0596*	0.0115	0.0540*	0.0080
Male	0.1716*	0.0103				
White	0.1033*	0.0234	0.1125**	0.0372	0.0902*	0.0342
Age	0.0017*	0.0005	0.0038*	0.0008	0.0004	0.0006
University	0.3954*	0.0112	0.3990*	0.0172	0.3854*	0.0183
Married	0.0738*	0.0119	0.0981*	0.0199	0.0526*	0.0154
Children	0.0501*	0.0110	0.1077*	0.0157	0.0069	0.0141
Disabled	-0.0597*	0.0131	-0.0669*	0.0181	-0.0489*	0.0182
Permanent	0.0825*	0.0206	0.0884*	0.0288	0.0928*	0.0237
Tenure <2 years	-0.1310*	0.0162	-0.1997*	0.0210	-0.0720*	0.0225
Tenure 2–5 years	-0.0523*	0.0135	-0.0766*	0.0233	-0.0193	0.0194
Tenure 5–10 years	-0.0560*	0.0149	-0.0761*	0.0233	-0.0408	0.0223
Supervisor	0.2226*	0.0120	0.2102*	0.0164	0.2184*	0.0161
Unionized	0.1328*	0.0100	0.0829*	0.0173	0.1614*	0.0154
Manager honest	0.0327*	0.0077	0.0209**	0.0106	0.0398*	0.0100
Managers reliable	-0.0129	0.0075	-0.0169	0.0115	-0.0072	0.0102
Constant	1.0618	0.0548	1.1481*	0.0809	1.1226*	0.0667
q50						
Affective commitment	0.0615*	0.0056	0.0632*	0.0088	0.0542*	0.0082
Male	0.1794*	0.0093				
White	0.0499	0.0237	0.0696*	0.0326	0.0351	0.0274
Age	0.0033*	0.0004	0.0050*	0.0008	0.0020*	0.0005
University	0.4046*	0.0109	0.3956*	0.0157	0.3956*	0.0154
Married	0.0634*	0.0115	0.0825*	0.0183	0.0316	0.0138
Children	0.0478*	0.0096	0.1089*	0.0154	0.0047	0.0135
Disabled	-0.0512*	0.0107	-0.0666*	0.0163	-0.0376	0.0148
Permanent	0.0527*	0.0202	0.0693	0.0299	0.0445	0.0236
Tenure <2 years	-0.1279*	0.0152	-0.1612*	0.0232	-0.0945*	0.0223
Tenure 2–5 years	-0.0430*	0.0132	-0.0396	0.0200	-0.0422	0.0196
Tenure 5–10 years	-0.0761*	0.0134	-0.0747*	0.0206	-0.0604*	0.0196
Supervisor	0.2652*	0.0105	0.2718*	0.0160	0.2506*	0.0152
Unionized	0.0885*	0.0099	0.0508*	0.0155	0.1285*	0.0136
Manager honest	0.0311*	0.0068	0.0049	0.0088	0.0410*	0.0089

## Appendix B. Continued

	Total		Men		Women	
	Est	SE	Est	SE	Est	SE
Managers reliable	-0.0104	0.0068	0.0025	0.0097	-0.0106	0.0090
Constant	1.3518*	0.0470	1.3876*	0.0815	1.4720*	0.0610
q75						
Affective commitment	0.0577*	0.0065	0.0607*	0.0109	0.0533*	0.0094
Male	0.2050*	0.0111				
White	0.0146	0.0222	0.0036	0.0445	0.0097	0.0311
Age	0.0055*	0.0005	0.0080*	0.0009	0.0039*	0.0006
University	0.4149*	0.0127	0.4002*	0.0199	0.4095*	0.0173
Married	0.0535*	0.0133	0.0922*	0.0231	0.0178	0.0146
Children	0.0670*	0.0118	0.1098*	0.0191	0.0226	0.0151
Disabled	-0.0377*	0.0140	-0.0579*	0.0206	-0.0320	0.0179
Permanent	0.0290	0.0194	0.0007	0.0430	0.0244	0.0262
Tenure <2 years	-0.0913*	0.0151	-0.1138*	0.0295	-0.0887*	0.0189
Tenure 2–5 years	-0.0196	0.0151	-0.0130	0.0242	-0.0216	0.0197
Tenure 5–10 years	-0.0473*	0.0163	-0.0249	0.0257	-0.0614*	0.0221
Supervisor	0.2994*	0.0120	0.3189*	0.0198	0.2635*	0.0154
Unionized	0.0396*	0.0116	-0.0113	0.0192	0.0778*	0.0147
Manager honest	0.0087	0.0082	-0.0124	0.0131	0.0290*	0.0108
Managers reliable	-0.0014	0.0085	0.0039	0.0134	-0.0082	0.0110
Constant	1.6414*	0.0484	1.6900*	0.0914	1.7694*	0.0701
q90						
Affective commitment	0.0709*	0.0111	0.0972*	0.0182	0.0399**	0.0179
Male	0.2306*	0.0192				
White	-0.0178	0.0453	0.0118	0.0543	-0.0329	0.0691
Age	0.0074*	0.0010	0.0086*	0.0016	0.0062*	0.0013
University	0.4190*	0.0206	0.3372*	0.0302	0.4491*	0.0291
Married	0.0440	0.0232	0.0744	0.0388	0.0193	0.0264
Children	0.0694*	0.0213	0.1344*	0.0292	-0.0013	0.0248
Disabled	-0.0173	0.0234	-0.0737	0.0331	0.0109	0.0340
Permanent	-0.0333	0.0448	-0.1128	0.0907	0.0021	0.0533
Tenure <2 years	-0.0889*	0.0306	-0.0700	0.0437	-0.1021	0.0337
Tenure 2–5 years	0.0029	0.0277	-0.0151	0.0386	0.0173	0.0348
Tenure 5–10 years	-0.0624**	0.0286	-0.0553	0.0381	-0.0678	0.0391
Supervisor	0.3201*	0.0224	0.3602*	0.0331	0.2968*	0.0273
Unionized	-0.0087	0.0200	-0.0625**	0.0295	0.0383	0.0230
Managers honest	0.0080	0.0147	-0.0175	0.0219	0.0349	0.0180
Managers reliable	0.0020	0.0144	0.0356	0.0205	-0.0246	0.0185
Constant	1.8490*	0.1127	1.8519	0.1721	2.1183*	0.1525
Region-effects	Yes		Yes		Yes	
Sector-effects	Yes		Yes		Yes	
Firm-level effects	Yes		Yes		Yes	
0.10 Pseudo R <sup>2</sup>	0.1448		0.1546		0.1151	
0.25 Pseudo R <sup>2</sup>	0.1665		0.1716		0.1366	
0.50 Pseudo R <sup>2</sup>	0.1866		0.1816		0.1547	
0.75 Pseudo R <sup>2</sup>	0.1812		0.1759		0.1542	
0.90 Pseudo R <sup>2</sup>	0.1543		0.1524		0.1125	
N	12,230		5,676		6,554	

Notes: \*, \*\* Indicate significance at 1 and 5 per cent level, respectively. Covariates include the following variables: affective commitment, age, gender, race, education, children, union status, supervisory status, tenure in workplace, permanent status, disability status, region of residence, firm size and age, sector, and firm-specific fixed effects.



## Appendix C: Full results for Table 2

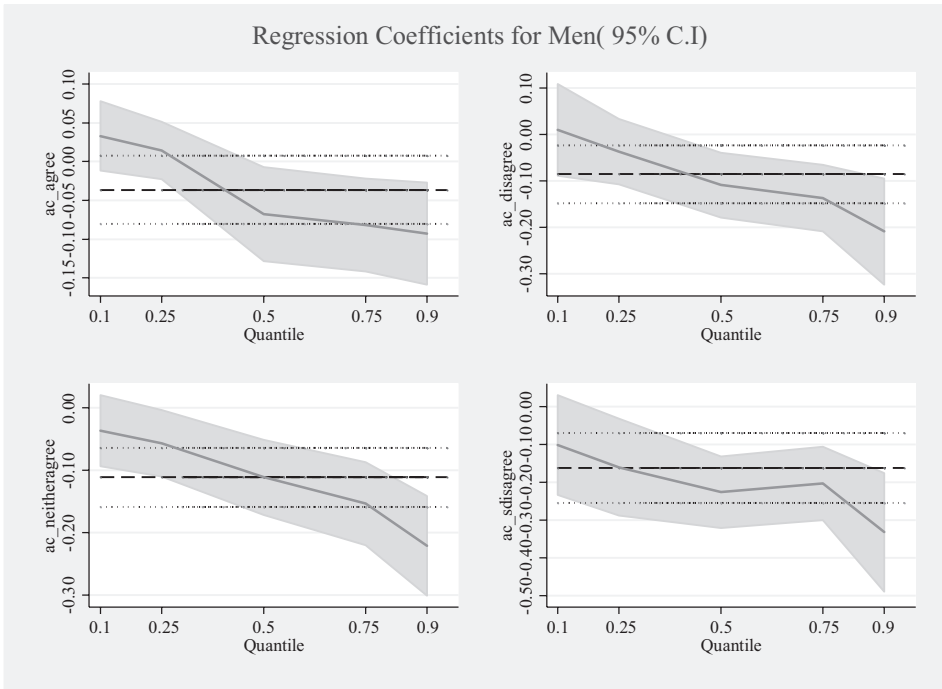
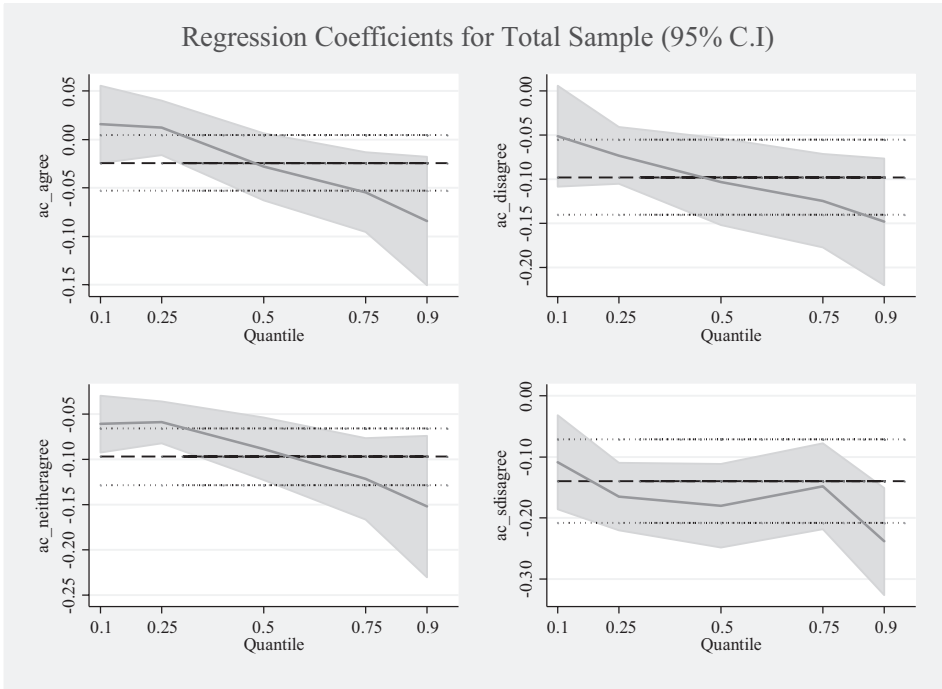
	Total		Male		Female	
	Est	SE	Est	SE	Est	SE
Affective commitment agree (=4)	0.0156	0.0193	0.0329	0.0320	0.0013	0.0261
Neither agree/disagree (=3)	-0.0608**	0.0214	-0.0363	0.0351	-0.0594**	0.0281
Affective commitment disagree (=2)	-0.0514	0.0343	0.0096	0.0447	-0.1025**	0.0460
Affective commitment strongly disagree (=1)	-0.1092	0.0427	-0.1017*	0.0512	-0.0977	0.0663
Male	0.1591*	0.0135				
White	0.1492*	0.0311	0.1941*	0.0444	0.0972**	0.0437
Age	0.0020*	0.0006	0.0023*	0.0008	0.0017	0.0008
University	0.4040*	0.0156	0.3978*	0.0211	0.3818*	0.0212
Married	0.0920*	0.0184	0.1425*	0.0248	0.0436**	0.0179
Children	0.0512*	0.0148	0.0891*	0.0219	-0.0053	0.0206
Disabled	-0.0635*	0.0174	-0.0740*	0.0228	-0.0609**	0.0268
Permanent	0.1848*	0.0369	0.1823*	0.0455	0.1902**	0.0412
Tenure <2 years	-0.1165*	0.0188	-0.1902*	0.0307	-0.0554	0.0321
Tenure 2–5 years	-0.0519*	0.0193	-0.1051*	0.0297	-0.0026	0.0275
Tenure 5–10 years	-0.0434*	0.0181	-0.0831*	0.0299	0.0029	0.0254
Supervisor unionized	0.1975*	0.0152	0.2079*	0.0198	0.1790*	0.0207
Managers honest	0.1525*	0.0130	0.1107*	0.0183	0.1825*	0.0204
Managers reliable	0.0308*	0.0119	0.0112	0.0141	0.0508*	0.0130
Constant	-0.0211	0.0110	-0.0206	0.0132	-0.0223	0.0131
q25	0.9327*	0.0704	1.0091*	0.1037	1.0051*	0.0887
Affective commitment agree (=4)	0.0120	0.0155	0.0141	0.0216	0.0138	0.0220
Neither agree/disagree (=3)	-0.0588*	0.0161	-0.0567*	0.0259	-0.0554*	0.0226
Affective commitment disagree (=2)	-0.0731*	0.0214	-0.0373	0.0335	-0.1068*	0.0331
Affective commitment strongly disagree (=1)	-0.1649*	0.0385	-0.1605*	0.0486	-0.1248*	0.0596
Male	0.1690*	0.0106				
White	0.1029*	0.0233	0.1118*	0.0403	0.0889*	0.0331
Age	0.0019*	0.0005	0.0038*	0.0006	0.0006	0.0006
University	0.4038*	0.0115	0.4089*	0.0169	0.3926*	0.0176
Married	0.0756*	0.0126	0.0965*	0.0182	0.0559*	0.0169
Children	0.0551*	0.0100	0.1128*	0.0152	0.0053	0.0155
Disabled	-0.0585*	0.0136	-0.0582*	0.0172	-0.0443**	0.0200
Permanent	0.0882*	0.0218	0.0741**	0.0340	0.0945*	0.0259
Tenure <2 years	-0.1271*	0.0156	-0.1879*	0.0200	-0.0718*	0.0233
Tenure 2–5 years	-0.0407*	0.0141	-0.0636*	0.0244	-0.0174	0.0209
Tenure 5–10 years	-0.0500	0.0162	-0.0603*	0.0221	-0.0391	0.0225
Supervisor unionized	0.2298*	0.0104	0.2200*	0.0162	0.2251*	0.0159
Managers honest	0.1329*	0.0105	0.0910*	0.0153	0.1648*	0.0159
Managers reliable	0.0248*	0.0080	0.0097	0.0107	0.0423*	0.0101
Constant	-0.0122	0.0077	-0.0161	0.0117	-0.0173	0.0103
q50	1.2696*	0.0486	1.3758*	0.0667	1.3416*	0.0630
Affective commitment agree (=4)	-0.0282	0.0156	-0.0678*	0.0252	-0.0182	0.0171
Neither agree/disagree (=3)	-0.0883*	0.0174	-0.1112*	0.0272	-0.0814*	0.0205
Affective commitment disagree (=2)	-0.1030*	0.0218	-0.1092*	0.0331	-0.1072*	0.0281
Affective commitment strongly disagree (=1)	-0.1800*	0.0361	-0.2269*	0.0436	-0.1366**	0.0477
Male	0.1780*	0.0094				
White	0.0498	0.0241	0.0624**	0.0299	0.0360	0.0287
Age	0.0033*	0.0004	0.0051*	0.0007	0.0019*	0.0005
University	0.4122*	0.0112	0.4078*	0.0161	0.3996*	0.0145
Married	0.0661*	0.0106	0.0906*	0.0178	0.0329**	0.0146
Children	0.0487*	0.0096	0.1129*	0.0140	0.0038	0.0135
Disabled	-0.0545*	0.0109	-0.0690*	0.0143	-0.0389*	0.0137
Permanent	0.0512*	0.0201	0.0705*	0.0317	0.0403	0.0254
Tenure <2 years	-0.1184*	0.0146	-0.1633*	0.0243	-0.0994*	0.0208
Tenure 2–5 years	-0.0352*	0.0141	-0.0355	0.0200	-0.0461*	0.0184
Tenure 5–10 years	-0.0656*	0.0145	-0.0652*	0.0191	-0.0615*	0.0193
Supervisor unionized	0.2733*	0.0102	0.2735*	0.0152	0.2580*	0.0143
Managers honest	0.0913*	0.0099	0.0531*	0.0156	0.1279*	0.0135
Managers reliable	0.0263*	0.0068	0.0044	0.0093	0.0386*	0.0089

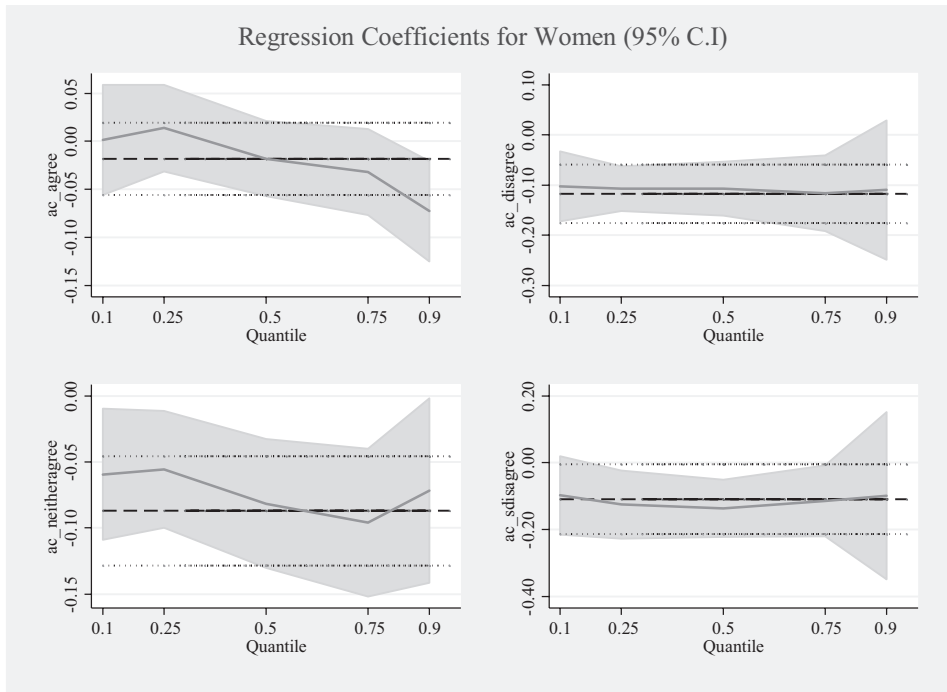
## Appendix C. Continued

	Total		Male		Female	
	Est	SE	Est	SE	Est	SE
Managers reliable	-0.0129*	0.0064	-0.0066	0.0098	-0.0149	0.0090
Constant	1.6218*	0.0469	1.7070*	0.0659	1.7260*	0.0589
q75						
Affective commitment agree (=4)	-0.0544*	0.0193	-0.081**	0.0329	-0.0321	0.0218
Neither agree/disagree (=3)	-0.1216*	0.0191	-0.1536*	0.0335	-0.0959*	0.0254
Affective commitment disagree (=2)	-0.1245*	0.0257	-0.1372*	0.0409	-0.1159*	0.0343
Affective commitment strongly disagree (=1)	-0.1481*	0.0391	-0.2038*	0.0470	-0.1143	0.0611
Male	0.2023*	0.0111				
White	0.0150	0.0248	0.0146	0.0426	0.0163	0.0347
Age	0.0053*	0.0005	0.0074*	0.0008	0.0039*	0.0006
University	0.4224*	0.0117	0.4118*	0.0206	0.4154*	0.0181
Married	0.0604*	0.0130	0.1090*	0.0199	0.0187	0.0160
Children	0.0618*	0.0129	0.1113*	0.0175	0.0179	0.0145
Disabled	-0.0375*	0.0141	-0.0665*	0.0200	-0.0348	0.0183
Permanent	0.0255	0.0200	-0.0082	0.0432	0.0258	0.0279
Tenure <2 years	-0.0955*	0.0161	-0.1203*	0.0251	-0.0859*	0.0211
Tenure 2-5 years	-0.0226	0.0148	-0.0127	0.0239	-0.0196	0.0216
Tenure 5-10 years	-0.0518*	0.0188	-0.0330	0.0250	-0.0564	0.0225
Supervisor	0.2999*	0.0123	0.3110*	0.0203	0.2693*	0.0169
Unionized	0.0407*	0.0116	-0.0011	0.0191	0.0799*	0.0149
Managers honest	0.0081	0.0085	-0.0119	0.0128	0.0255**	0.0112
Managers reliable	-0.0057	0.0090	0.0001	0.0127	-0.0093	0.0100
Constant	1.9346*	0.0495	2.0247*	0.0816	2.0155*	0.0722
q90						
Affective commitment agree (=4)	-0.0843*	0.0300	-0.092**	0.0461	-0.0728**	0.0364
Neither agree/disagree (=3)	-0.1521*	0.0338	-0.2213*	0.0519	-0.0717	0.0411
Affective commitment disagree (=2)	-0.1484*	0.0470	-0.2092*	0.0651	-0.1097	0.0633
Affective commitment strongly disagree (=1)	-0.2383*	0.0711	-0.3327*	0.0918	-0.0989	0.1289
Male	0.2302*	0.0202				
White	-0.0317	0.0420	0.0136	0.0589	-0.0246	0.0676
Age	0.0074*	0.0010	0.0090*	0.0016	0.0069*	0.0013
University	0.4204*	0.0213	0.3455*	0.0327	0.4623*	0.0291
Married	0.0460	0.0222	0.0729	0.0344	0.0046	0.0286
Children	0.0651*	0.0210	0.1305	0.0287	-0.0236	0.0249
Disabled	-0.0312	0.0234	-0.0683*	0.0301	-0.0003	0.0315
Permanent	-0.0298	0.0442	-0.1466	0.0877	-0.0014	0.0524
Tenure <2 years	-0.0715*	0.0279	-0.0754	0.0436	-0.0859*	0.0303
Tenure 2-5 years	0.0130	0.0277	-0.0096	0.0380	0.0214	0.0338
Tenure 5-10 years	-0.0529	0.0254	-0.0555	0.0394	-0.0584	0.0353
Supervisor	0.3253*	0.0227	0.3644*	0.0344	0.3021*	0.0259
Unionized	-0.0029	0.0197	-0.0556	0.0317	0.0409	0.0239
Managers honest	0.0033	0.0145	-0.0129	0.0229	0.0284	0.0195
Managers reliable	0.0004	0.0135	0.0281	0.0211	-0.0263	0.0186
Constant	2.2226*	0.0957	2.3260*	0.1616	2.3014*	0.1341
Region-effects	Yes		Yes		Yes	
Sector-effects	Yes		Yes		Yes	
Firm-Level effects	Yes		Yes		Yes	
0.10 Pseudo R2	0.1483		0.1604		0.1172	
0.25 Pseudo R2	0.1697		0.1773		0.1397	
0.50 Pseudo R2	0.1903		0.1882		0.1583	
0.75 Pseudo R2	0.1854		0.1819		0.1585	
0.90 Pseudo R2	0.1567		0.1565		0.1174	
N	12,230		5,676		6,554	

Notes: \*, \*\* Indicate significance at 1 and 5 per cent level, respectively. Covariates include the following variables: affective commitment ('strongly agree' is the omitted category), age, gender, race, education, children, union status, supervisory status, tenure in workplace, permanent status, disability status, region of residence, firm size and age, sector, and firm-specific fixed effects.

Appendix D: Quantile regression plots





**Notes**

<sup>1</sup> Identification occurs when one comes to integrate beliefs about one’s organization into one’s identity’ (Pratt, 1998, p. 172). It is the psychological attachment to the organization experienced by employees that occurs when members of an organization take the defining characteristics of the organization as defining characteristics of themselves (Dutton *et al.*, 1994). In this case they ‘come to see the organization as part of themselves’ (Dutton *et al.*, 1994, p. 242) and perceive a ‘oneness’ with the organization’s values, ideology, and culture (Ashforth *et al.*, 2008; Ashforth and Mael, 1989).

<sup>2</sup> According to Meyer and Allen (1991), normative commitment is about having a sense of obligation to remain with the organization, and continuance commitment reflects the perceived costs associated with leaving the organization.

<sup>3</sup> They wrote: ‘Identity flattens the optimal wage schedule, indicating identity and monetary incentives are substitutes; but this is not a general result. In a model with more than two effort levels, if identity reduces the employee’s effort costs, the firm may find it optimal to elicit yet higher effort. In this case, we could well imagine that when a worker is an insider (i.e. *identifies with the firm*), the firm would increase rather than decrease the variation in compensation used to motivate the employee. In this sense, monetary incentives and motivation by identity can be complements, rather than substitutes’ (p. 15).

<sup>4</sup> We make the following reasonable assumptions for there to be a positive link between affective commitment and wages: First, we assume that worker’s level of commitment is observable so that the firm can reciprocate by rewarding affectively committed workers. This is consistent with the literature on discretionary bonuses and employee performance (Suvorov and van de Ven, 2009). Second, we assume that firm uses monetary incentives only. This is reasonable even though firms can use a variety of incentives (such as holidays, coupons, cars, etc). Focusing on wages only allows us to connect the theory and empirical analysis, which has wages as the only observable incentive. Third, whereas commitment and innate ability can be negatively correlated, we assume a positive correlation. In standard efficiency wage models, cost of effort is decreasing in ability. In addition, workers who are highly committed to

their job will have a lower cost of exerting effort. By extension, we assume that the surplus generated through commitment increases with ability and that the firm is committed to keeping its valuable employees. Indeed, our data show that commitment is equally important for lowly and highly skilled workers. Akerlof and Kranton (2005) make a similar observation.

<sup>5</sup> In applied quantile regression, fixed effects estimation is achieved by entering dummy variables in the regression (Koenker, 2004). We adopt this approach rather than control for all possible firm-specific controls.

<sup>6</sup> The highest wage range in the WERS is coded '£871 or more per week or £45,421 or more per year'. Thus for wages of £871 or more per week we input £1,306.5 per week, which is equivalent to £32.66/hour for a 40-hour working week. The top value we derive for this paper is however higher than the official weekly average in the Finance and Insurance sector of £1,203 for January 2005 (see time series EARN03 Average Weekly Earnings by Sector: National Statistics Office <http://www.ons.gov.uk/ons/rel/lms/labour-market-statistics/october-2014/dataset-earnings.html>). The results do not change when we exclude these top earners from the analysis.

<sup>7</sup> The Lincoln and Kalleberg instrument has the following items: 'My values and the values of this company are similar'; 'I feel very little loyalty to this company'; 'I am proud to work for this company'; 'I am willing to work harder than I have to in order to help this company succeed'; 'I would take any job in order to continue working for this company'; 'I would turn down another job for more pay in order to stay with this company'. The WERS items were 'I share many of the values of my organization'; 'I feel loyal to my organization', and 'I am proud to tell people who I work for'.

<sup>8</sup> Extant studies based on the same data have created a commitment–loyalty index by averaging items on commitment and loyalty. The argument for combining the two is that respondents may find it difficult to distinguish between their commitment and loyalty to the organization (Brown *et al.*, 2011; Green, 2008).

<sup>9</sup> Perceived relationships impact honesty and trust through open communication, empowerment as well as sharing important information with workers among other workplace practices (Logan and Ganster, 2008; Maynard *et al.*, 2012).

<sup>10</sup> The standard ordered response model has limitations when analysing marginal effects due to three assumptions. The first is the single index assumption, second, the constant threshold assumption, and third, the distributional assumption which does not allow for additional individual heterogeneity between individual realizations (Williams, 2006).

## References

- Akerlof G. (1982) 'Labor Contracts as a Partial Gift Exchange', *Quarterly Journal of Economics* 97: 543–569.
- Akerlof G. and Kranton R. (2000) 'Economics and Identity', *Quarterly Journal of Economics* 105(3): 715–753.
- Akerlof G. and Kranton R. (2005) 'Identity and the Economics of Organizations', *Journal of Economic Perspectives* 19(1): 9–32.
- Allen N. J. and Meyer P. (1990) 'The Measurement and Antecedents of Affective, Continuance and Normative Commitment to the Organization', *Journal of Occupational Psychology* 63: 1–18.
- Ashforth B., Harrison S. and Corley K. (2008) 'Identification in Organizations: An Examination of Four Fundamental Questions', *Journal of Management* 34(3): 325–374.
- Ashforth B. E. and Mael F. (1989) 'Social Identity Theory and the Organization', *Academy of Management Review* 14: 20–39.
- Bellemare C. and Shearer B. (2009) 'Gift Giving and Worker Productivity: Evidence from a Firm-level Experiment', *Games and Economic Behavior* 67: 233–244.
- Benabou R. and Tirole J. (2006) 'Incentives and Prosocial Behavior', *The American Economic Review* 96: 1652–1678.
- Besley T. and Ghatak M. (2005) 'Competition and Incentives with Motivated Agents', *The American Economic Review* 95(3): 616–636.

- Boes S. and Winkelmann R. (2010) 'Income and Happiness: New Results from Generalized Threshold and Sequential Models', *Social Indicators Research* 95(1): 111–128.
- Brochu P., Deri Armstrong C. and Morin L. P. (2012) 'The Trendiness' of Sleep: An Empirical Investigation into the Cyclical Nature of Sleep Time', *Empirical Economics* 43(2): 891–913.
- Brown S., McHardy J., MacNabb R. and Taylor K. (2011) 'Workplace Performance, Worker Commitment, and Loyalty', *Journal of Economics and Management Strategy* 20(3): 925–955.
- Buchinsky M. (1998) 'Recent Advances in Quantile Regression Models: A Practical Guideline for Empirical Research', *The Journal of Human Resources* 33(1): 88–126.
- Drolet M. and Mumford K. (2012) 'The Gender Pay Gap for Private-Sector Employees in Canada and Britain', *British Journal of Industrial Relations* 50(3): 529–553.
- Dutton J., Dukerich J. and Harquail C. V. (1994) 'Organizational Images and Member Identification', *Administrative Science Quarterly* 39(2): 239–262.
- Ellingsen T. and Johannesson M. (2008) 'Pride and Prejudice: The Human Side of Incentive Theory', *The American Economic Review* 98(3): 990–1008.
- Fehr E. and Goette L. (2007) 'Do Workers Work More if Wages Are High? Evidence from a Randomized Field Experiment', *The American Economic Review* 97: 298–317.
- Francois P. (2007) 'Making a Difference', *RAND Journal of Economics* 38(3): 714–732.
- Glazer A. (2004) 'Motivating Devoted workers', *International Journal of Industrial Organization* 22: 427–440.
- Green F. (2008) 'Leeway for the Loyal: A Model of Employee Discretion', *British Journal of Industrial Relations* 46(1): 1–32.
- Heilman M. E. and Chen J. J. (2005) 'Same Behavior, Different Consequences: Reactions to Men's and Women's Altruistic Citizenship Behavior', *Journal of Applied Psychology* 90(3): 431–441.
- Koenker R. (2004) 'Quantile Regression for Longitudinal Data', *Journal of Multivariate Analysis* 91: 74–89.
- Koenker R. and Bassett G. (1978) 'Regression Quantiles', *Econometrica: Journal of the Econometric Society* 46: 33–50.
- Koenker R. and Hallock R. (2001) 'Quantile Regression: An Introduction', *Journal of Economic Perspectives* 15: 143–156.
- Lincoln J. R. and Kalleberg A. L. (1990) *Culture, Control and Commitment. A Study of Work Organization and Work Attitudes in the United States and Japan*, Cambridge: Cambridge University Press.
- Logan M. S. and Ganster D. C. (2008) 'The Effects of Empowerment on Attitudes and Performance: The Role of Social Support and Empowerment Beliefs', *Journal of Management Studies* 44: 1523–1550.
- Mathieu J. E. and Zajac D. M. (1990) 'A Review and Meta-analysis of Antecedents, Correlates and Consequences of Organizational Commitment', *Psychological Bulletin* 108: 171–1914.
- Maynard T. M., Gilson L. and Mathieu J. E. (2012) 'Empowerment-Fad or Fab? A Multilevel Review of the Past Two Decades of Research', *Journal of Management* 38(4): 1231–1281.
- Meyer J. P. and Allen N. J. (1991) 'A Three-component Conceptualization of Organizational Commitment', *Human Resource Management Review* 1(1): 61–89.
- Mowday R. T., Porter L. W., and Steers R. M. (1982) *Employee-organization linkages: The Psychology of Commitment, Absenteeism, and Turnover*, New York: Academic Press.
- Ooi K. B., Safa M. S. and Arumugam V. (2006) 'TQM Practices and Affective Commitment: A Case of Malaysian Semiconductor Packaging Organizations', *International Journal of Management and Entrepreneurship* 2(1): 37–55.
- Phipps S., Burton P. and Lethbridge L. (2001) 'In and Out of the Labour Market: Long-term Income Consequences of Child-related Interruptions to Women's Paid Work', *The Canadian Journal of Economics* 34(2): 411–429.
- Pratt M. G. (1998) 'To Be or Not to Be: Central Questions in Organizational Identification' in Whetten D. A. and Godfrey P. C. (eds.) *Identity in Organizations*, Thousand Oaks, CA: Sage: 171–207.

- Prendergast C. (2008) 'Intrinsic Motivation and Incentives', *The American Economic Review: Papers and Proceedings* 98(2): 201–205.
- Ricketta M. (2005) 'Organizational Identification: A Meta-analysis', *Journal of Vocational Behavior* 66: 358–384.
- Rosen S. (1974) 'Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition', *Journal of Political Economy* 82(1): 34–55.
- Suvorov A. and van de Ven J. (2009) 'Discretionary Rewards as a Feedback Mechanism', *Games and Economic Behavior* 67: 665–681.
- Wallace C. J., Johnson P. D., Mathe K. and Paul J. (2011) 'Structural and Psychological Empowerment Climates, Performance, and the Moderating Role of Shared Felt Accountability', *Journal of Applied Psychology* 96: 840–850.
- Williams R. (2006) 'Generalized Ordered Logit/Partial Proportional Odds Models for Ordinal Dependent Variables', *The Stata Journal* 6(1): 58–82.