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Workplace flexibility practices and corporate performance: evidence from the British private sector*

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Workplace flexibility practices and corporate performance: evidence from the British private sector

Abstract

This paper investigates the relationship between workplace flexibility practices (WFPs) and corporate performance using data from the British Workplace Employment Relations Survey 2004. Disaggregating WFPs into numerical, functional and cost aspects, enables the analysis of their relationships to an objective measure of corporate performance, namely workplace financial turnover. Furthermore separate analyses are presented for different types of workplace: differentiated by workforce size; ownership; age; wage level and unionisation. Results show that different types of workplaces need to pay attention to the mix of WFPs they adopt. We find that certain cost WFPs (profit-related pay, merit pay and payment-by-results) have strong positive relationships with corporate performance. However, training delivers mixed corporate performance results, while the extent of job autonomy and the proportion of part-time employees in a workplace have an inverse association with corporate performance. Given the limited existing research examining disaggregated measures of WFPs and objectively measured corporate performance, this paper offers useful insights for firms, policy makers and the overall economy.

Keywords

Workplace flexibility practices; corporate performance; financial turnover; WERS 2004; private sector; Great Britain.

Introduction

The wide range of workplace flexibility practices (WFPs) – such as part-time work, flexitime, working from home – has increased significantly in Britain against the backdrop of heightened competitive pressures in the overall economy. Hence, it is vital that firms know which WFPs are most likely to improve corporate performance. Moreover, this information is most useful if tailored specifically to workplace characteristics such as workforce size, age or ownership. However, there is relatively little research on workplace flexibility provision which disaggregates WFPs and thereby enables the relationship between each individual component and corporate performance to be examined. Thus, this paper puts forward analyses of a large variety of WFPs and focuses directly on their relationship with corporate performance according to specific workplace types. The paper addresses two intertwined research problems, relating to both the application of WFPs and its limited coverage in the literature. It seeks to clarify the effectiveness of employers' and policy makers' choices of WFPs. Therefore, it provides added value to practitioners by tailoring results to different workplace types.

In relation to the limited coverage in the literature, the paper makes three contributions. Firstly, it moves beyond existing limitations through the development of a disaggregated model of WFPs. Secondly, this approach enables the analysis of previously hidden variations in WFPs with regard to corporate performance. Finally, it rejects the use of subjective measures of corporate performance and adopts an objective measure in the form of financial turnover.

The wide diversity of workplace flexibility initiatives can be classified into numerical, functional and cost flexibility. Numerical (or temporal) flexibility relates to the adjustment of the number of workers or their working time, by using WFPs such as part-time working, shift working, flexitime or job sharing. Functional flexibility focuses on the adjustment of the job content or how employees are expected to perform their jobs; examples of such practices include training and job autonomy. Cost (or wage) flexibility refers to the determination of remuneration and examples include merit pay and performance-related pay.

Given the potential benefits of implementing WFPs, the increase in employer provision of WFPs, policy makers' interests in flexible working and the related academic literature are not unsurprising. In

Britain, it is estimated that the vast majority of workplaces (96%) implement some form of flexible working and the most widespread WFPs are part-time working (88%), working from home on a regular basis (54%), and flexitime (50%) (CIPD, 2012). Flexible work has been associated with a number of micro- and macroeconomic outcomes, emphasising the potential of flexibility to contribute to superior financial performance (DTI, 2003), economic development, or recovery from recession. These might be achieved by reducing labour market rigidities, attracting foreign direct investment, or creating a modern and competitive working climate (CBI, 2010; Whyman, 2006). Indeed, more than two thirds of firms in Britain during the 2008 ‘credit crunch’ recession have adopted one or more WFPs in order to resolve difficult trading pressures (CBI, 2009). Additionally, WFPs may deliver improved work-life balance to employees (CBI, 2010; Wooden, Warren and Drago, 2009).

This paper’s originality and value lie in identifying and responding to existing gaps in the literature, specifically on the relationship between disaggregated measures of workplace flexibility and an objective measure of corporate performance. The paper offers three main value-adding contributions. First, it moves beyond existing empirical limitations through the development of a disaggregated model of WFPs, with flexibility categorised into numerical, functional and cost areas. The main reason for this is that it covers the full spectrum of flexible working initiatives available to an employer. Analyses which use disaggregated WFPs, organised into classifications, are potentially beneficial in clarifying employers’ and policy makers’ choices and trade-offs between practices. Only studies employing this approach can ensure that a full range of workplace flexibility options and their benefits are examined. Evidently, this classification constitutes the backbone of this study.

Second, this approach is a step-change in the analysis of WFPs, as it is able to showcase previously hidden variations in WFPs *with regard to corporate performance*, whilst indicating both the impact and potential trade-offs involved in developing a particular mix of WFPs. Of further value to practitioners and academic research is the analyses and presentation of results by workplace types. To this purpose, the disaggregated set of flexibility practices is assessed within a range of workplace characteristics, explicitly: workforce size; nationality of ownership; workplace age; workplace wage level; and unionisation. Therefore, rather than treating flexibility as a unitary concept uniformly applied across workplaces, this study distinguishes those WFPs which work better in different circumstances.

Third, the paper rejects the use of subjective measures of corporate performance, which are likely to suffer from reliability issues given the inherent problems of interpreting such indicators. Thus, an objective measure in the form of financial turnover is used to capture corporate performance. This measure allows for a more valuable and consistent set of recommendations to be derived. In this way, the paper highlights the importance of the composition of flexibility schemes aimed at optimising corporate performance.

The paper is structured as follows. The review of the literature emphasises the way in which this paper directly addresses weaknesses in the extant research on WFPs. The empirical analysis presents the method, methodology and data used. Results are tailored to workplace types; the discussion of results exposes the ways in which numerical, functional and cost WFPs link to corporate performance. The final section concludes.

Review of the Literature

Benefits of workplace flexibility. WFPs are associated with varied outcomes for both employees and employers. Some of the main reasons for promoting WFPs are to allow employees to achieve better work-life balance, improve employee attendance, or increase job satisfaction and commitment while reducing stress (Böckerman, Bryson and Ilmakunnas, 2012; Glover and Butler, 2012; Jones *et al.*, 2009; Russell, O'Connell and McGinnity, 2009). The inference is that employee benefits may result in positive outcomes for the firm, for instance higher retention rates, lower retraining costs, increased loyalty and morale, higher work productivity, and reduced incidences of accidents and grievances (CIPD, 2012; Dex and Schreibl, 2001; Kelliher and Anderson, 2010; Poelmans, Chinchilla and Cardona, 2003). Consequently, each of these outcomes has the potential to enhance corporate performance. Indeed, one significant conclusion from the literature is that, on balance, there is positive association between the use of certain WFPs and organisational outcomes (Bryson and Freeman, 2008; Dex and Smith, 2002; Kleinknecht *et al.*, 2006; Michie and Sheehan-Quinn, 2001; Stavrou, Brewster, and Charalambous, 2010; Whyman and Petrescu, 2013).

Linking workplace flexibility to the high-performance and HRM literature. WFPs may be introduced as part of a shift towards the creation of 'high performance' work practices (HPWPs). Examples of

HPWPs include autonomous work teams, problem-solving groups, job autonomy and incentive pay. An important facet of the HPWPs literature is the assessment of how different practices may fit more appropriately with the prevailing business strategy (Addison and Belfield, 2001; Appelbaum *et al.*, 2000; Fernie and Metcalf, 1995; Ichniowski *et al.*, 1996). This HPWPs literature is part of the wider area of human resource management (HRM) research, which similarly focuses much attention on highlighting the potential link between HRM practices and better corporate performance (Arthur, 1994; Batt, 2002; Buller and McEvoy, 2012; Delery and Doty, 1996; Guest, 2011; Huselid, 1995; Lazear, 2000; Stavrou, Brewster and Charalambous, 2010). Thus, HRM practices are also seen as a form of competitive advantage, with an important strategic role of achieving business success.

Borrowing from the HRM theory to study WFPs. Research into WFPs and performance is advanced primarily via empirical analyses, as opposed to theory. This is possibly because theoretical conceptualisation of WFPs can be seen as akin to HRM theory, the latter being much developed yet in turmoil with regard to the precise theoretical underpinnings of the HRM-performance link. It is suggested in this paper that WFPs research can take advantage of similar theoretical features existent within the burgeoning HRM literature. This is because, to a large extent, both WFPs research and the HRM literature focus essentially on a common object of study, namely workplace practices. Thus, there is potential for WFPs research to borrow and utilise theoretical foundations from the HRM literature.

In particular, Barney (1991) proposes the resource-based view of the firm, which posits that HRM practices are a competitive means for firms. The related literature emphasises that HRM practices act as rare, inimitable and valuable organisational resources (Huselid, 1995; Wright, Dunford and Snell 2001; Stavrou, Brewster and Charalambous, 2010). Similarly, in this paper, WFPs is theoretically conceptualised as a competitive tool for firms. Hence, this paper proposes an investigation into how WFPs link to corporate performance in view of workplaces being able to potentially outsmart competitors by implementing a superior mix of WFPs that enables them to achieve better outcomes.

However, it is worthwhile highlighting that the HRM literature does not establish clearly the theoretical (or empirical) ways in which workplace practices may affect performance. Indeed, there are significant on-going theoretical debates concerning the establishment of a theoretical framework for a HRM-performance link (Buller and McEvoy, 2012; Glover and Butler, 2012; Guest, 2011; Whyman *et*

al., 2009). For instance, Guest (2011) recognises the complexity of theoretical and empirical research on HRM and performance through providing an analysis of the past two decades of this research. Guest (2011) concludes that the empirically demonstrated association between HRM and performance has reached sophistication, whilst the HRM theoretical debate has not achieved consensus and, instead, has many challenges ahead. Thus, no generally accepted theory exists in the HRM literature on the topic of linking workplace practices and performance, while the empirical literature on this topic increases albeit with mixed results (Buller and McEvoy, 2012; Glover and Butler, 2012; Guest, 2011; Stavrou, Brewster and Charalambous, 2010).

This paper extends the theoretical framework of the resource-based firm (Barney, 1991) by applying this HRM theory to study workplace flexibility. Figure 1 shows in detail the way in which workplace flexibility is theorised in our paper, with WFPs mapped according to the classification of numerical, functional and cost types of practices.

FIGURE 1 NEAR HERE

Empirical findings on some numerical, functional and cost WFPs. There is considerable potential in empirical developments of WFPs research and it is in this regard that this paper makes one of its contributions. Empirical findings are summarised according to studies on numerical, functional and cost WFPs, as follows. In some empirical studies analysing *numerical or temporal* WFPs, the literature indicates a potential positive link with performance. For instance, working from home or the use of internal labour markets (Doeringer and Piore, 1971) link to better organisational outcomes, at least through increased employee job satisfaction, lower labour turnover or lower absenteeism (Dex and Smith, 2002; Gariety and Shaffer, 2007). However, it is found that part-time working, shift work and job sharing may have more of an indeterminate relationship with organisational outcomes, depending on whether the uptake of these WFPs is voluntary or imposed on employees. The respective beneficial outcomes might also depend on whether these WFPs negatively affect employee wages and career prospects, despite enabling a better work-life balance (Hirsch, 2005; Manning and Petrongolo, 2008; Russell, O'Connell and McGinnity, 2009; Stevens, Brown, and Lee, 2004; Wooden, Warren and Drago, 2009). Yet, based on the few existing relevant studies on WFPs, a more explicit transmission mechanism, by which numerical or temporal WFPs translate into objective corporate performance,

remains unknown. For instance, the link between flexitime and performance is disputed (Russell, O'Connell and McGinnity, 2009).

The empirical attempt to establish the relationships between *functional* WFPs and performance involves the assessment of a relatively large number of practices. Some functional WFPs, such as teamwork or job autonomy, are analysed in the high-performance HRM literature, where studies report mixed results (see Berg, Kalleberg and Appelbaum, 2003). Though not without their critics (e.g. Godard, 2004), functional WFPs are mostly linked to superior performance by providing employees with a greater sense of personal control and efficacy. This arguably creates a motivated and committed workforce, which in turn has a positive effect on corporate performance (Appelbaum *et al.*, 2000; Arthur, 1994; Berg, Kalleberg and Appelbaum, 2003; Huselid, 1995; Ichniowski *et al.*, 1996).

Finally, the empirical literature suggests that *cost* WFPs would be expected to have a positive association with corporate performance, by linking rewards to performance, but the evidence here is also mixed. It remains unclear whether individual or group-based cost WFPs lead to better performance. The former may encourage employees to be more productive in return for clearly recognised performance. Individual performance can be easily traced, in theory, and rewarded accordingly by using merit pay or pay related to performance (Fernie and Metcalf, 1995; Lazear, 2000). However, certain group-based cost WFPs, particularly employee profit-sharing or shareholding, have met resistance, such as from trade unions. In the UK, unions continue to have an important role in wage formation in both public and private sectors (Blanchflower and Bryson, 2010). Resistance to group-based WFPs is at least in part due to the employer difficulties in specifying precisely the ways in which profit-sharing or shareholding are to be implemented. These potentially give rise to greater managerial discretion on pay, or bias in the managerial assessment of performance. A further drawback of group-based rewards is that work is not linked directly to an employee's distinct performance, but more directly to workforce collective effort. This may provide perverse incentives for individual employees to shirk, thereby resulting in poorer organisational performance. Indeed, in establishments implementing the collective cost WFPs of setting pay through unions, the link between WFP and performance may be weakened (Marginson, Arrowsmith and Gray, 2008).

Critique. There are a number of weaknesses in the research on workplace practices, with many studies highlighting the need for further work (Berg, Kalleberg and Appelbaum, 2003; Ichniowski *et al.*, 1996; Kalleberg, 2001; Stavrou, Brewster and Charalambous, 2010). One pervasive weakness pertains to the disjointed nature of the literature that negates comparative work. There is extensive variation in definitions of practices and performance measures, which has long been a cause of concern (Ichniowski *et al.*, 1996). Data availability with sufficient coverage of workplace flexibility issues and objective measures of performance needs to improve, since too much research is based on case studies in a particular industry setting (Guest 2011; Stavrou, Brewster and Charalambous, 2010).

Subjective measures of performance are more commonly used than objective measures, presumably because they are more readily available. Consequently, numerous studies use subjective performance indicators, such as manager-rated financial performance, or less quantifiable measures of performance such as employee morale, organisational commitment and job satisfaction (Dex and Scheibl, 2001; Giardini and Kabst, 2008; Origo and Pagani, 2008). The downside of using subjective performance measures is that they are potentially less reliable. For instance, in the data used in this paper, there was only a very weak correlation (with a statistically significant Pearson correlation coefficient below 0.10) between the chosen objective performance measure (annual financial turnover) and a typical subjective performance measure (workplace performance was rated by the manager in relation to the manager-perceived industry average).

A further weakness in the literature is its focus only on one particular aspect of workplace flexibility, such as working from home (Gariety and Shaffer, 2007), or analysing a limited set of WFPs (Stavrou and Kilaniotis, 2010). These approaches, therefore, do not offer a comprehensive view of the effects of WFPs on performance. Furthermore, it is certainly conceivable that different bundles of WFPs might optimise performance gains for different workplace types. Yet, the existing literature does not extend the analysis to examine the workplace characteristics which may themselves affect WFPs' impact. Consequently, it is not possible to ascertain the relative importance of distinct WFPs in a workplace, or the different ways in which heterogeneous workplaces may benefit from WFPs.

This literature review highlights a clear need to advance the study of WFPs in order to examine the way in which the range of numerical, functional and cost WFPs are related to corporate performance

across different workplace types. The HRM literature has previously examined certain of these relationships, however the extant studies do not implement a comprehensive framework of research with regard to the numerical, functional and cost classification of WFPs. Therefore, their main limitation lies in not being able to assess and clarify the detailed role and usefulness of WFPs.

Contributions made by this paper. In view of the weaknesses identified in the literature, this paper advances WFPs research in the following ways. First, it analyses the link between WFPs and an objective measure of corporate performance; hence, contributing this under-researched topic (Giardini and Kabst, 2008; Whyman and Baimbridge, 2006; Whyman and Petrescu, 2013). Second, it distinguishes between different types of flexibility areas (numerical, functional, and cost), since such a distinction is important in providing decision makers with the information required to choose the appropriate types and mix of WFPs. The disaggregation of WFPs is used to ascertain the multi-faceted nature of workplace flexibility as opposed to treating flexibility as a homogenous phenomenon. Thus, this research allows for potential conflict between diverse types of types of flexibility to be accessed by noting that one practice may contribute to, while another detract from, corporate performance. Third, the literature does not usually distinguish the differences in results when assessing the use of WFPs in various types of workplaces, whereas here results are tailored to particular workplace types. This enables an estimation of the importance of enterprise characteristics in the design of flexibility initiatives. Fourth, the study accounts for the implementation extent of some WFPs as opposed to merely considering whether the practice is or not implemented. Thus, the paper responds to the repeatedly identified need of improvement in the measurement of practices, which can bring to light new and better informed research (Bryson, Green and Whitfield, 2008; Petrescu and Simmons, 2008). Finally, the timing of the analysis is relevant, as more research is needed under recessionary pressures in order to advance the current understanding of WFPs and their potential to influence corporate performance.

Empirical Analysis

Data. The data for this study was taken from the management and financial datasets of the nationally representative Workplace Employee Relations Survey 2004 (WERS 2004) (DTI, 2005). The WERS 2004 management data set is cross-sectional and comprises 2,300 British workplaces with a workforce larger than five employees. A workplace was described as the organisation of work comprising the activities of a single employer carried out at one or more premises. Data was collected via questionnaires and the respondent is the workplace manager. As a national dataset, the WERS 2004 data set has the advantage of collecting information on WFPs in diverse institutional environments (Stavrou and Ierodiakonou, 2011; Stavrou and Kilaniotis, 2010). Combining the management and the financial datasets reduced the number of observations, as financial data for all workplaces were not available. However, this paper argues that the drawback of a reduced sample size was more than outweighed by having an objective measure of performance. Once missing observations and public sector workplaces (where financial turnover reporting does not apply) were excluded, the final data sample consisted of 556 observations. Excluding public sector workplaces from analysis was also important, since there are entrenched differences in the application of WFPs between the public and the private sectors (Gray, 2002; Millward and Machin, 2007); although the merits of WFPs within the public sector are of interest, they fall beyond the scope of the current study.

Model Specification. The empirical model drew upon a disaggregated set of variables associated with workplace flexibility (see Figure 1) and analysed their relationship with corporate performance. The model is formally expressed as:

$$\ln(T) = \alpha + \beta X + \theta \text{Numerical} + \mu \text{Functional} + \rho \text{Cost} + \varepsilon \quad (1)$$

where T is workplace financial turnover. The logarithm of annual turnover reported by the manager for the period 2003-2004 is the *dependent* variable used in this paper. A logarithmic transformation of financial indicators is a common feature of the literature and normalises this variable (Almeida-Santos and Mumford, 2005; Forth and Millward, 2004). The clear advantage of using the WERS 2004 financial data is that it offered an objective measure of organisational outcomes. The mean turnover is £0.7 million with standard deviation £3.7 million.

X is a vector of *control* variables for workplace characteristics. More specifically, these were the headcount of employees (along with its square), the ownership of the status (British or non-British), the age of the workplace, the proportion of low waged employees, whether the work force is unionised and a dummy variable to capture workplaces with fewer than 50 employees. As well as featuring as control variables across the various empirical models, these variables were used to disaggregate the data allowing more than one model to be estimated. The rationale for disaggregating the data and estimating multiple models is that the effects of the independent variables on financial turnover may differ across various types of workplaces. For example, the effects of *working from home* on financial turnover may be different across workplaces that are unionised and those that are not. Thus, the disaggregation of the data offered a more detailed and insightful perspective on the relationships between WFPs and corporate performance. Table 1 illustrates the disaggregation of the overall sample according to these five variables and resultant subsamples.

TABLE 1 NEAR HERE

Numerical, *Functional* and *Cost* are vectors of WFPs taken from the data; α is the constant term; β , θ , μ and ρ are coefficients to be determined; while ε is the error term. The rationale is to examine aspects of workplace flexibility so that these can be contrasted and compared with respect to their relative importance across different types of workplaces. The selection of *independent variables* across numerical, functional and cost flexibility in equation 1 is organised in accordance with the model illustrated in Figure 1. It encompasses as much of the variety and diversity of WFPs as possible, given limitations presented by data availability and the need to ensure model rigour. Table 2 provides summary statistics of the variables and illustrates that the WERS 2004 offers a good range of WFPs.

TABLE 2 NEAR HERE

Results

The results of the empirical analyses are presented in Table 3 across 12 regression models to allow comparison. The main regression is based on the entire sample of 556 workplaces in model 1, while the adjacent models are organised with respect to the workplace types noted in Table 1.

Model testing. The series of linear multiple regression analyses are performed with diagnostic tests for multicollinearity, homoscedasticity, linearity and model specification, following established WERS studies (e.g. Green, 2008; Jones *et al.*, 2009). Details of each test are shown at the end of Table 3. Firstly, variance inflation factor (VIF) is used as a test for multicollinearity. If the value of the VIF test statistic is greater than 10.0, then multicollinearity is an issue. However, VIF has values ranging from 1.65 to 3.74, significantly below the threshold value. Therefore, multicollinearity is not a concern. Secondly, in relation to heteroscedasticity, the White test indicates this is absent from our models; the p-values for each of the models were not significant. Thirdly, endogeneity is examined through the standard procedure of testing for association between the estimated residuals and independent variables. The absence of any significant relationships also dispels econometric-based concerns here. Additionally, a theoretical-based ground for rejecting endogeneity is the literature suggesting that WFPs have an impact on organisational outcomes and not vice-versa (Stavrou, Brewster and Charalambous, 2010; Stavrou and Kilaniotis, 2010). Thus, even if causality cannot be assessed because of the cross-sectional nature of WERS 2004, it can be implied that WFPs have an impact on financial turnover, rather than the reverse. Lastly, in estimations available from authors, model stability is tested via alternative ways of modelling, where estimated coefficient sizes and signs remain the same.

TABLE 3 NEAR HERE

Discussion of Results

The results validate the need for this study by highlighting the existence of potential benefits that derive from ascertaining the relationships between some WFPs - distributed across numerical, functional, and cost flexibility areas - and financial turnover. Results show that a number of WFPs are associated with significant changes in financial turnover. In some instances, the changes in financial turnover are positive, therefore significant support for some WFPs can be offered. However, in other instances, support is limited.

The relationships between financial turnover and the control variables used in the empirical analysis are of note. *Workplace size*, measured as the number of employees in the workplace, controls for the effect of workforce size on financial turnover. Larger workplaces, by their very nature, will have larger

financial turnover, but the relationship between workforce size and turnover is unlikely to be monotonic. Instead, there are likely to be diminishing returns such that, beyond a threshold, the increased returns from recruiting an extra employee diminish and continue to do so up until the cost of recruiting extra labour outweighs any increase in turnover. Another reason for the inclusion of this control variable was that, without doing so, the estimates of the independent variables were likely to be biased, given that WFPs were likely to be more prevalent across different workplace sizes. For instance, larger workplaces have more resources to implement WFPs (Golden, 2009; Michie and Sheehan-Quinn, 2001). Findings showed that workplace size is significant in all models. The sign of the coefficients for its quadratic is negative, as hypothesized, suggesting an inverse U-shape relationship exists between workplace size and financial turnover; as workforce size increases, financial turnover increases, but at a diminishing rate until the turning point, thereafter an inverse relationship occurs.

Workplaces that are *fully British owned*, generated lower levels of financial turnover at the mean compared to those workplaces that are not fully British owned. Across all but two models, the coefficient was significant but negative. However, it is difficult to justify why wholly British owned workplaces should systematically under-perform compared with those that are not fully British owned.

Two further control variables captured workplace longevity: *Workplace age (up to 9 years)* and *Workplace age (10 to 24 years)*. *Workplace age (25 or more years)* was the reference group and excluded for collinearity reasons. Compared to the reference group, these two groups, representing relatively younger workplaces, showed significant differences where workplaces were non-unionised (model 10) and where workplaces had fewer than 50 employees (model 11). Further, there is a significant difference in the coefficient of workplaces aged 10 to 24 years, compared with the reference group for the model for Fully British owned workplaces (model 2). In all these instances, workplaces aged 25 years or more had a superior financial turnover. Where variations proved to be statistically significant, older workplaces had superior financial turnover to younger ones. It is likely that these differences were capturing first-mover advantages that older workplaces had over their younger counterparts in the respective sectors.

The final control variable worthy of comment was *Workplace size: under 50 employees*. Across all models, the coefficients were significant at the conventional levels, but are negative. The effects captured by this variable were over and above the diminishing returns resulting from the effects of workforce size (as noted earlier). The negative coefficient further emphasised that small workplaces with fewer than 50 employees generate significantly lower financial turnover than those with 50 or more employees.

The rest of this section presents and discusses the results for WFPs, by flexibility area.

Numerical WFPs and Financial Turnover. The WFP relating to *working from home* is positive and statistically significant in non-unionised workplaces, but otherwise this WFP did not have a significant association with financial turnover. This finding might reassure those managers who remain uneasy about the shirking possibilities arising from the provision of working from home. However, its significance in only the non-unionised model may have captured a dual benefit, as follows. Firstly, employees may view this WFP as a privilege and, in turn, respond via better performance. Secondly, unions, which could be offering a layer of employee job protection that may encourage shirking, are absent; thus employees may be more productive due to job insecurity. Given that in excess of a quarter of the British labour force is estimated to complete a proportion of their work from home, studies of this WFP has remained limited with debates in the literature on its ability to improve work-life balance (Felstead, Jewson and Walters, 2002; Gariety and Shaffer, 2007; Russell, O’Connell and McGinnity, 2009).

Within the group of numerical flexibility, the only significant WFPs of note are *shift working* and *job sharing* among those workplaces aged between 10 and 24 years; the coefficients of these two variables were positive and negative respectively. These results suggested that shift working had the desired impact on financial turnover, whilst job sharing reduced financial turnover for those workplaces (aged between 10 and 24 years) compared with the same group of workplaces that did not employ these WFPs. With respect to shift working, not all employees have the same degree of freedom to engage in shift working, since in some workplaces this WFP may simply not be available. However, for those workplaces providing the option of shift working, there was a significant and positive effect on financial turnover. The finding potentially implies that workplaces using job sharing were able to employ from a

wider pool of people with a preference for different work patterns. Therefore, they gained an advantage over similar workplaces that were restricted in not just the pattern of work, but also their recruitment pool. The associated literature is mixed, with indeterminate effects suggested in relation to shift working and alternative measures of performance, such as absenteeism (Dionne and Dostie, 2007; Frick and Malo, 2008) or job satisfaction (Schiels and Price, 2002). Nevertheless, there is support for the contention that shift working had a positive relationship to corporate performance, such as through facilitating continuous use of capital equipment, decreased employee absence and/or superior reactions to changes in patterns of demand (Frick and Malo, 2008; Mayshar and Halevy, 1997).

With respect to *job sharing*, the information collected in the WERS 2004 refers to a full-time job being shared with another employee, as opposed to the reduction of working time for workers under contract in order to create jobs. The latter has been extensively used by European OECD countries and adopted in Nordic countries in order to reduce unemployment (Miyakoshi, 2001). However, this study suggested sharing the same job is relatively inefficient as far as financial turnover is concerned.

In two of the models, non-unionised (model 10) and under 50 employees (model 11), the *proportion of part-time workers* in total workers was negatively associated with financial turnover. This is not entirely surprising, as full-time workers are more likely to be committed to their job than part-time workers. Therefore, full-time workers would offer greater levels of productivity, which may lead to better financial turnover. Another consideration might be that part-time work is unattractive for the most productive workers, particularly within a high-wage workplace. This may be due to employees associating part-time jobs with penalties (i.e. fewer career development or training opportunities) when compared to full-time jobs (Booth and Wood, 2008; Connolly and Gregory, 2008; Tilly, 1991; Tilly, 1992).

Overall, the lack of significance across numerous numerical WFPs suggests that workplaces are structured in ways that mitigate against comparative advantages that might normally be accrued from such practices.

Functional WFPs and Financial Turnover. The WFP measuring whether the majority of employees had received time off for training (*training extent*) exhibited a change of sign depending on the age of the

workplace. Younger workplaces (models 4 and 5) show a negative association with this variable, while more established (older) establishments have a positive association. This implies that workplace age leads to differences in organisational needs for training. It also reinforced the idea that training programmes, if not properly specified and targeted, may not always be effective. Alternatively, it is possible that a substitution effect existed, if flexible forms of employment led to a reduction in both the incidence and intensity of employer paid training (Arulampalam and Booth, 1998; Draca and Green, 2004). In view of positive associations between training and various measures of performance, as found extensively in the literature (Jones *et al.*, 2009; Pfeffer, 1998; Russell, Terborg and Powers, 1985; Stavrou, Brewster and Charalambous, 2010), the negative association between training and financial turnover in this paper is unexpected, but not unique (Cunha *et al.*, 2002; Delery and Doty, 1996). It is also possible that the construct for training failed to capture the way in which the need of training are assessed, its quality, or whether it is fit for purpose.

The analysis produced a similarly unexpected result related to time-off for training (*training length*). This raised questions over two aspects, namely the quality of the training and the appropriateness of off-the-job training. Although neither of these aspects was captured by the WERS 2004 dataset, the literature usually found that the broad provision of training across a workforce is positively associated with improvement in financial turnover, whereas time-off for training had either a negative or an inconsistent association with financial turnover (Almeida-Santos and Mumford, 2005; Arulampalam and Booth, 1998). Hence, it appeared that the content and quality of the training, as well as access to training for the right employees, are more important than the fact that training had been offered *per se* (Almeida-Santos and Mumford, 2005; Arulampalam and Booth, 1998).

Job enrichment (*job enrichment supported by formal training*) was positively associated with financial turnover for unionised workplaces, albeit with a relatively small sized coefficient. The result could be due to job enrichment generating job variety which potentially motivated employees to achieve high performance. Moreover, the risks from labour turnover could be lower if the workforce shared skills and could step-in at short notice to replace colleagues, which could be beneficial to financial turnover. Additionally, given that not all training variables proved to be significant in the analysis, this

result appeared to suggest that broadening the spread of training across the workforce is potentially more important than the provision of time away from the workplace for off-the-job training.

The *quality circles* variable focused on the notion of problem-solving and sharing of innovative ideas. It was significant in non-fully British owned and relatively low-wage workplaces. Its negative association with financial turnover in high-wage workplaces was rather unexpected, because it differed from reports on the positive association between quality circles and the up-skilling of the workforce (Green, Felstead and Gallie, 2003), theoretically leading to higher wages. An explanation for this result could be that in the long-term, quality circles turn out to benefit the workplace via improved skills and performance, but those positive effects cannot be noted in this cross-sectional study. Alternatively, further detail on the implementation of quality circles could hold the answer as to whether this WFP had a positive or negative association with performance (Hill, 1991).

The relatively large, yet only marginally significant, effect of *outsourcing temporary vacancy filling* in mature workplaces of age 10-24 years appeared to lack robustness, since its effect changed to being negative if workplaces had over 25 years in operation. This could be interpreted as a consequence of increased workforce specialisation in the most mature workplaces. Indeed, successful outsourcing depends on the existence, suitability and alignment of the external expertise with in-house needs (Sako and Tierney, 2007). Hence, outsourcing could pose a higher challenge if work processes are more complex, such as may be the case in more mature workplaces. For instance, a greater difficulty would be faced with regard to sourcing suitable candidates if recruitment were outsourced. Similarly, a *relatively low volume of outsourcing* was negatively associated with financial turnover. The finding implies that outsourcing could be directly linked to financial turnover, thus, outsourcing contracts if workplaces have a poor performance record.

The *extent of job autonomy*, when significant, had a consistent and negative relationship with financial turnover. This would appear perverse, given the relative consensus within the literature that job autonomy facilitated the creation of a motivated and committed workforce (Appelbaum *et al.*, 2000; Arthur, 1994; Berg, Kalleberg and Appelbaum, 2003; Petrescu and Simmons, 2008). One possibility is that the result reflected the use of job autonomy to reduce work intensity and to increase shirking.

Alternatively, the variable may not have effectively captured the essence of the practice, given that it derives from arguably the most subjective interpretation of WFPs included in this study. Indeed, simply because a manager *perceives* employees as having job autonomy, does not imply that employees concur. This uncertainty may justify further research, using a more tightly-controlled data-gathering instrument, in order to improve the quality of the dataset.

Finally, when *teamwork is used in more than 40% of the workforce*, this variable was found to be positive and significant in workplaces that had some degree of foreign ownership. Caution should be exercised given that the data did not allow an assessment of the level of autonomy that teams possess, while autonomy was considered an important determinant of teamwork success (Batt, 2004). Nevertheless, building upon previous studies, the results tended to validate the use of teamwork as an effective form of functional flexibility (Appelbaum *et al.*, 2000; Banker *et al.*, 1996; DeVaro, 2006).

Cost WFPs and Financial Turnover. The WFP *setting pay through trade unions* had a negative association with financial turnover in not fully British owned (model 3) and unionised (model 9) workplaces. Given that firms would be highly unlikely to include trade unions in wage formation in workplaces which are not unionised, the latter distinction is not surprising. However, the negative relationship with performance is worth noting because of the lack of firm consensus in the literature. For example, whilst it is generally accepted that union wage differentials exist (Blanchflower, 1991; McKinley, 2008), and this has a significant negative impact upon profitability (Machin, Stewart and van Reenan, 1993), there is general disagreement over impacts upon investment and turnover (Denny and Nickell, 1992; Machin and Wadhvani, 1991). Moreover, the finding that non-British firms are more affected by this phenomenon than British-owned firms is perhaps surprising, given that inward investors into the UK have differing relationships with trade unions. For example, while trade union involvement in wage formation in the USA might be lower than in the UK, this is not the case in many European economies, whilst Japan is characterised by a significant degree of wage coordination (Calmfors and Driffill, 1988). Consequently, it would appear to be reasonable to treat these findings with caution pending further investigation.

Finally, the results pertaining to *profit-related payments* and *merit pay or payment by results* indicated the potential for cost-related WFPs to offer amongst the most significant contributions to financial turnover. Whilst their coefficients were not statistically significant in all of the models, the two variables had a key role to play in many of them. Collectively, this would suggest that for many workplaces, the flexibility to reward employees for group-based profit-related performance, or individual-based performance, induce better corporate performance. The empirical results are perhaps not too surprising since the objectives of the firm and those of the employees become somewhat aligned by implementing these WFPs; employees had the objective of maximising earnings while, simultaneously, employers had the incentive of maximising financial turnover. The relevance of *profit-related payments* and *merit pay or payments by results*, reinforces the existing literature which highlights the potential benefits resulting from implementing contingency forms of remuneration based upon labour productivity and organisational performance (Addison and Belfield, 2001; Fernie and Metcalf, 1995; Heywood, Siebert and Wei, 1997; Lazear, 2000).

Conclusions

This study poses a vital question regarding the business pursuit of competitive advantage in the private sector: how are workplace flexibility practices (WFPs) associated with corporate performance? The paper advances the on-going debate in relation to the important relationship between WFPs and the vital issue of corporate performance. This is especially crucial in times of economic distress when it is ever more vital for companies to enact policies that increase their potential for success.

A range of workplace practices are matched to the full spectrum of numerical, functional and cost WFPs. These practices are assessed with regard to their link to an objective measure of corporate performance, depending on workplace types.

Findings offer multiple value-added insights to organisations and policy makers. By utilising a disaggregated model of workplace flexibility to produce results tailored to various workplace characteristics (ownership, workplace age, wage levels, unionisation and size), this paper brings to light previously unknown connections between WFPs and the key issue corporate performance. Additionally,

the study uses an objective measure of performance, namely financial turnover, which is generally accepted to be a superior, less controversial, marker of corporate performance than subjective measures. In fact, in the data, there are very weak correlations between financial turnover and subjective measures of performance. This shows that subjective measures are indeed different to objective ones, and validates the choice of using only an objective measure of performance.

The knowledge deriving from our detailed analysis is also important since it essentially permits scrutiny of precisely which WFPs have implications for corporate performance. Results show that WFPs offer a mixed recipe of success, with potential pitfalls in that some could be associated with high or low corporate performance. Approximately half of the 19 WFPs studied are positively associated with corporate financial turnover, meaning that their implementation is more likely to lead to better financial organisational outcomes. This finding is especially relevant for cost WFPs, including contingency pay methods such as *merit pay*, *payment by results*, *profit-related pay* and *shift work*. Moreover, *operating an internal labour market regarding recruitment* is a numerical WFP that may offer performance advantages.

Most relationships are, however, sensitive to the particular workplace type. For instance, the relationship between performance and *training extent (coverage)*, *outsourcing temporary vacancy filling* or *pay settlement via union negotiations* fluctuates depending on workplace age and/or ownership. Importantly, a number of key findings are contrary to expectations concerning WFPs and corporate performance, such as the strong negative association for *job autonomy*, the *use of part-time workers*, and *length of time given off for training*. Consequently, the results suggest that a workplace's choice of WFPs needs to be carefully assessed and suitably targeted, whereby different forms of workplace flexibility may fit more appropriately with the respective workplace type. The finding that WFPs can be a double-edged sword, validates reasons to encourage additional research.

Results are in line with the proposed resource-based view (RBV) conceptualisation of the firm, supporting the assumption that WFPs are rare and valuable organisational resources. This paper finds that WFPs are sources of competitive advantage with particular regard to their potential to be associated with high corporate performance. By building flexible capabilities in the workplace, WFPs allow firm resources to be deployed more efficiently. For instance, the cost flexibility of linking pay to results, or

the temporal flexibility of job sharing may mean that the workforce is incentivised and able to respond better and faster to demand. The implications of these empirical findings are that workplaces implementing a certain mix of WFPs may outsmart their competitors. Interpreting the findings within the prism of the RBV also reinforces the heterogeneous nature of resources and capabilities for the firm, which, again, resonates in line with the results of this paper. WFPs are found to be diverse tools within the workplace, their association with corporate performance depending on workplace types. Thus, our results point to the importance of the diverse nature of WFPs and workplace heterogeneity.

The results also shed light upon the very real world practicalities of how WFPs can enhance corporate performance in different workplaces. Therefore, this research possesses utility for both individual workplaces and the overall economy. Nevertheless, our analysis is limited by the type of the data available, in particular its cross-sectional nature and the fact that incomplete responses to the WERS 2004 financial questionnaire have unnecessarily curtailed the sample. Hence, we signal the need for improved data availability on WFPs and objective performance measures, while longitudinal research would enable further informative analysis.

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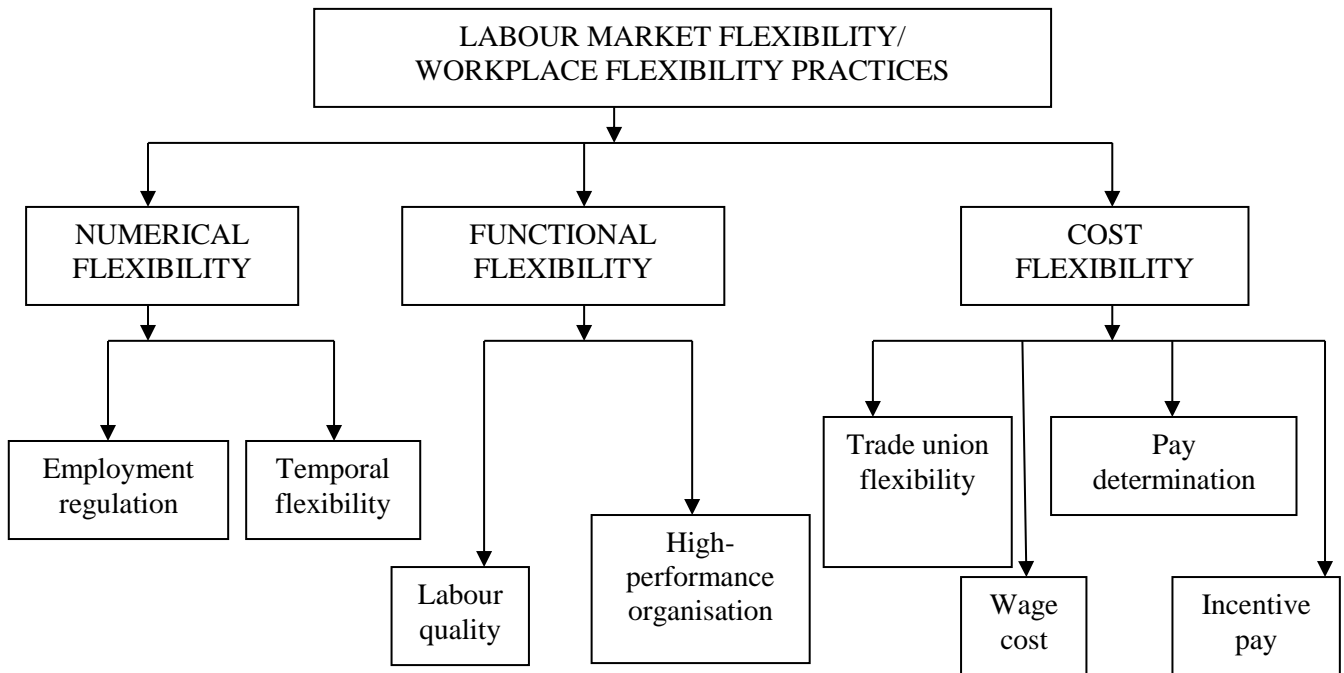
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Figures and Tables

Figure 1. Theoretical view of labour market flexibility / workplace flexibility practices



Source: Adapted from Whyman and Baimbridge (2006).

Table 1. Descriptive statistics for workplaces in the sample^a

Variables according to which the sample is split ^b	Resulting sub-samples	Percent in total sample	Number of workplaces
1. Workplace ownership	Fully UK owned ^c	71	397
	Not fully UK owned	29	159
2. Workplace age	Up to 9 years	22	122
	10 to 24 years	28	156
	25 or more years	50	278
3. Workplace wage level ^d	Relatively high	61	341
	Relatively low	39	211
4. Workplace unionisation	Unionised	46	256
	Non-Unionised	54	300
5. Workplace size (employee headcount)	Under 50 employees	40	224
	50 or more employees	60	332

Source: Data derived from WERS 2004.

Notes: ^aThe total sample used in this paper has 556 workplaces.

^bThis column shows the five variables according to which the sample of 556 workplaces used in this paper is split into sub-samples in order to tailor the results to workplace ownership, age, wage level, unionisation and size.

^cUK stands for United Kingdom.

^dA workplace is categorized as ‘relatively high’ wage if all employees earn more than £5.01 per hour, and as ‘relatively low’ wage if the proportion of employees in the workplace earning under £5.01 per hour is greater than zero. On average, private sector workplaces had 9.6 percent of their workforce earning wages under £5.01 per hour.

Table 2. Workplace flexibility areas, subareas, and practices analysed in this paper

Area	Subarea	Workplace flexibility practices (WFPs)	Question (Q) asked of the workplace manager and answer options (A) in the WERS 2004 questionnaire	Cases when WFPs take value 1	Mean	Std. Dev.	
Numerical flexibility	Employment regulation	1. Working from home	Q. Do you have any of the following working time arrangements for any employees at this workplace? A. Working at or from home in normal working hours.	if yes	0.40	0.49	
		Supply of labour	2. Internal labour market used for filling vacancies	Q. Which of these statements best describes your approach to filling vacancies at this workplace? A. a) Internal applicants are only source, no external recruitment; b) Internal applicants are given preference, other things being equal.	if yes to a) or b)	0.34	0.47
	Temporal flexibility		3. Shift working	Q. Do you have any of the following working time arrangements for any employees at this workplace? ...A. Shift working.	if yes	0.51	0.50
			4. Flexitime	...A. Flexi-time (where an employee has no set start or finish time but an agreement to work a set number of hours per week or per month).	if yes	0.40	0.49
		5. Job sharing	...A. Job sharing schemes (sharing a full-time job with another employee).	if yes	0.34	0.48	
	Labour quality	Part-time workers' proportion in total workers	6. Part-time workers' proportion in total workers	Q. How many employees at this establishment work part-time (fewer than 30 hours per week)?	-	0.23	0.27
			Labour quality	7. Training extent: time off for over 60% of employees	Q. What proportion of employees have been given time off from their normal daily work duties to undertake training over the past 12 months?	if A ≥ 60	0.51
		8. Training length: two or more days off		Q. On average, how many days of training did employees undertake over the past 12 months?	if A ≥ 2	0.65	0.48
		9. Job enrichment in an ad-hoc manner		Q. We frequently ask employees at our workplace to help us in ways not specified in their job description.	if A is "agree" or "strongly agree"	0.57	0.50
		10. Job enrichment via formal training		Q. What proportion of employees are formally trained to be able to do jobs other than their own?	if A ≥ 40	0.28	0.45
		11. Investors in People award		Q. Is your organisation accredited as an Investor in People?	if yes	0.44	0.50
		High-performance organisation	Quality circles	12. Quality circles	Q. Do you have groups of non-managerial employees at this workplace that solve specific problems or discuss aspects of performance or quality?	if yes	0.34
	Outsourcing of temporary vacancies filling			13. Outsourcing of temporary vacancies filling	Q. Are any activities or services on this card carried out for this workplace by independent contractors? ...A. Temporary filling of vacant posts at this workplace	if yes	0.29
			14. Outsourcing extent: fewer than five out of ten most commonly outsourced activities	...A. Cleaning of building and premises; Security; Catering; Building maintenance; Printing/photocopying; Payroll; Transport of documents/goods; Computing services; Training; Recruitment.	if fewer than 5 yes answers	0.52	0.50
			15. Job autonomy extent: a lot of job discretion or involvement in jobs	Q. To what extent would you say that individual employees here have ... A. a) discretion over how they do their work?; b) involvement in decisions over how their work is organized?	if A is "a lot" to a) or b)	0.31	0.46
	Teamwork	Teamwork	16. Teamwork extent: over 40% of employees work in teams	Q. What proportion, if any, of employees at this workplace work in formally designated teams?	if A ≥ 40	0.75	0.43
Industrial relations			17. Pay set through negotiations with trade unions	Q. What proportion of all employees here have their pay set through negotiations with trade unions, either at this workplace or at a higher level?	if A > 0	0.35	0.48
			Incentive pay	18. Profit-related payments	Q. Do any employees at this workplace receive profit-related payments or profit-related bonuses?	if yes	0.44
19. Merit pay or payment by results	Q. Do any of the employees in this establishment get paid by results or receive merit pay? A. a) Payment by results; b) Merit Pay; c) Neither.	if yes to a) or b)		0.51	0.50		

Source: Data derived from WERS 2004.

Notes: N = 556 workplaces. Part-time worker's proportion is a continuous variable. Questions are asked in relation to employees defined in WERS 2004 as "experienced [largest occupational group]" (DTI, 2005).

Table 3. Relationships between workplace flexibility practices and financial turnover

	All workplaces	1. Workplace ownership		2. Workplace age			3. Workplace wage level		4. Workplace unionisation		5. Workplace size	
		Fully British owned	Not fully British owned	Up to 9 years	10 to 24 years	25 or more years	Relatively high wage	Relatively low wage	Unionised	Non-unionised	Under 50 employees	50 or more employees
Workplace flexibility practices	1	2	3	4	5	6	7	8	9	10	11	12
Workplace size: employee headcount	0.002*** (7.638)	0.002*** (6.239)	0.001*** (4.575)	0.003** (4.417)	0.003*** (4.925)	0.002*** (5.899)	0.002*** (5.650)	0.002*** (3.955)	0.002*** (8.422)	0.002*** (3.889)	-	-
Workplace size (squared)	-1.25e-07*** (-4.345)	-3.28e-07*** (-3.512)	-8.91e-08*** (-3.064)	-2.35e-07*** (-3.630)	-5.97e-07*** (-3.814)	-3.61e-07*** (-3.527)	-1.34e-07*** (-4.130)	-2.08e-07** (-2.351)	-1.42e-07*** (-5.689)	-4.50e-07*** (-2.871)	-	-
NUMERICAL FLEXIBILITY												
Employment regulation												
Working from home	0.144 (0.920)	0.112 (0.573)	0.207 (0.825)	0.034 (0.088)	-0.040 (-0.135)	0.156 (0.731)	0.220 (1.043)	-0.131 (-0.470)	-0.222 (-1.055)	0.653*** (2.702)	0.333 (1.096)	0.042 (0.228)
Supply of labour												
Internal labour market used for filling vacancies	0.282 (1.617)	0.059 (0.257)	0.162 (0.652)	0.343 (1.161)	0.582* (1.852)	0.016 (0.064)	0.200 (0.877)	0.337 (1.200)	0.071 (0.324)	0.424* (1.654)	0.352 (0.985)	0.128 (0.666)
Temporal flexibility												
Shift working	0.220 (1.313)	0.226 (1.161)	0.091 (0.300)	-0.163 (-0.515)	0.655** (2.042)	0.165 (0.606)	0.102 (0.441)	0.246 (0.940)	0.023 (0.076)	0.318 (1.528)	0.366 (1.204)	-0.026 (-0.124)
Flexitime	-0.114 (-0.703)	-0.110 (-0.527)	0.052 (0.211)	-0.609* (-1.666)	0.383 (1.128)	0.119 (0.530)	-0.103 (-0.480)	-0.010 (-0.349)	-0.144 (-0.639)	0.036 (0.160)	0.265 (0.798)	-0.162 (-0.920)
Job sharing	-0.009 (-0.050)	-0.131 (-0.572)	0.296 (0.983)	0.261 (0.534)	-0.849** (-2.364)	0.059 (0.237)	-0.013 (-0.055)	0.018 (0.061)	-0.072 (-0.316)	0.211 (0.803)	-0.301 (-0.830)	0.105 (0.511)
Part-time workers' proportion in total workers	-0.589* (-1.765)	-0.543 (-1.474)	-1.030 (-1.382)	-1.172* (-1.886)	0.108 (0.193)	-0.941* (-1.725)	-0.670 (-1.515)	-0.588 (-1.172)	-0.246 (-0.480)	-0.938** (-2.181)	-1.109** (-2.224)	-0.306 (-0.626)
FUNCTIONAL FLEXIBILITY												
Labour quality												
Training extent: time off for over 60% employees have	-0.023 (-0.153)	0.084 (0.443)	-0.251 (-0.986)	-0.750** (-2.108)	-0.847*** (-3.043)	0.467* (1.851)	-0.038 (-0.186)	0.010 (0.035)	-0.268 (-1.228)	0.006 (0.030)	0.132 (0.509)	-0.021 (-0.113)
Training length: two or more days off	-0.521*** (-3.034)	-0.568*** (-2.591)	-0.367 (-1.385)	0.079 (0.200)	-0.827*** (-2.933)	-0.623*** (-2.623)	-0.609** (-2.518)	-0.433* (-1.758)	-0.280 (-1.227)	-0.742*** (-3.310)	-0.776*** (-2.851)	-0.223 (-1.094)
Job enrichment in an ad-hoc manner	-0.161 (-1.092)	-0.195 (-1.07)	-0.222 (-0.854)	0.169 (0.564)	-0.282 (-1.172)	-0.361 (-1.622)	-0.148 (-0.768)	-0.043 (-0.168)	-0.076 (-0.338)	-0.277 (-1.366)	0.012 (0.049)	-0.263 (-1.409)
Job enrichment via formal training	0.029 (0.187)	0.213 (1.099)	-0.227 (-0.834)	0.620 (1.614)	-0.253 (-0.794)	0.113 (0.527)	0.081 (0.406)	-0.240 (-0.874)	0.379* (1.815)	-0.279 (-1.224)	-0.133 (-0.456)	0.075 (0.436)
Investors in People award	0.199	0.179	0.291	0.182	0.280	0.222	0.180	0.281	0.167	0.237	0.075	0.227

(1.341) (0.956) (1.258) (0.569) (1.022) (1.056) (0.908) (1.097) (0.834) (1.093) (0.295) (1.324)

Table 3. (Cont.)

	All workplaces	1. Workplace ownership		2. Workplace age			3. Workplace wage level		4. Workplace unionisation		5. Workplace size	
		Fully British owned	Not fully British owned	Up to 9 years	10 to 24 years	25 or more years	Relatively high wage	Relatively low wage	Unionised	Non-unionised	Under 50 employees	50 or more employees
	1	2	3	4	5	6	7	8	9	10	11	12
Workplace flexibility practices												
FUNCTIONAL FLEXIBILITY (cont.)												
High-performance organisation												
Quality circles	-0.048 (-0.299)	0.175 (0.930)	-0.438* (-1.707)	-0.008 (-0.017)	-0.168 (-0.543)	0.045 (0.210)	0.202 (0.959)	-0.598** (-2.251)	-0.016 (-0.071)	-0.096 (-0.426)	-0.019 (-0.062)	0.032 (0.161)
Outsourcing of temporary vacancies filling	-0.144 (-0.801)	-0.265 (-1.230)	0.295 (0.900)	-0.097 (-0.298)	0.807* (1.691)	-0.646*** (-3.206)	-0.287 (-1.459)	0.068 (0.169)	-0.226 (-1.020)	-0.099 (-0.358)	-0.096 (-0.216)	-0.239 (-1.291)
Outsourcing extent: fewer than five out of ten most commonly outsourced activities	-0.271* (-1.752)	-0.142 (-0.828)	-0.481* (-1.716)	-0.313 (-0.926)	0.018 (0.058)	-0.084 (-0.385)	-0.146 (-0.720)	-0.377 (-1.442)	-0.366* (-1.662)	-0.085 (-0.379)	0.257 (1.037)	-0.658*** (-3.510)
Job autonomy extent: a lot of job discretion or involvement in jobs	-0.424** (-2.518)	-0.610*** (-3.024)	0.053 (0.186)	-0.515* (-1.776)	-0.533** (-2.235)	-0.170 (-0.638)	-0.390* (-1.772)	-0.448 (-1.592)	-0.347 (-1.469)	-0.639*** (-2.939)	-0.765** (-2.557)	-0.082 (-0.417)
Teamwork extent: over 40% of employees in teams	0.115 (0.563)	0.032 (0.127)	0.870** (2.457)	-0.506 (-1.603)	0.267 (0.789)	0.314 (0.945)	0.025 (0.092)	0.260 (0.872)	0.273 (0.938)	0.082 (0.301)	0.073 (0.238)	-0.023 (-0.082)
COST FLEXIBILITY												
Industrial relations												
Pay set through negotiations with trade unions	-0.341 (-1.319)	-0.290 (-0.984)	-1.235*** (-2.669)	-0.012 (-0.0287)	-0.873** (-2.250)	-0.382 (-0.895)	-0.631** (-2.081)	0.149 (0.289)	-0.570** (-2.190)	-	-0.015 (-0.032)	-0.387 (-1.527)
Incentive pay												
Profit-related payments	0.311** (2.231)	0.420** (2.426)	-0.270 (-1.058)	0.501 (1.546)	0.173 (0.595)	0.229 (1.195)	0.379** (2.106)	0.068 (0.261)	0.567*** (2.681)	-0.005 (-0.024)	0.203 (0.759)	0.276* (1.744)
Merit pay or payment by results	0.364** (2.287)	0.349* (1.822)	0.362 (1.437)	-0.160 (-0.449)	1.088*** (3.544)	0.287 (1.232)	0.383* (1.745)	0.375 (1.463)	0.436** (2.073)	0.208 (0.905)	0.358 (1.279)	0.449** (2.486)

Table 3. (Cont.)

	All workplaces	1. Workplace ownership		2. Workplace age			3. Workplace wage level		4. Workplace unionisation		5. Workplace size	
		Fully British owned	Not fully British owned	Up to 9 years	10 to 24 years	25 or more years	Relatively high wage	Relatively low wage	Unionised	Non-unionised	Under 50 employees	50 or more employees
Workplace flexibility practices												
Control variables												
Fully British owned	-0.715*** (-4.281)	-	-	-0.572 (-1.299)	-0.889** (-2.587)	-0.807*** (-3.629)	-1.041*** (-4.710)	-0.271 (-0.954)	-1.266*** (-5.207)	-0.410* (-1.766)	-0.926** (-2.548)	-0.696*** (-3.369)
Workplace age: up to 9 years	-0.340 (-1.642)	-0.368 (-1.463)	-0.644* (-1.880)	-	-	-	-0.232 (-0.835)	-0.640* (-1.949)	0.223 (0.737)	-0.768*** (-2.974)	-0.802** (-2.481)	-0.024 (-0.088)
Workplace age: 10 to 24 years	-0.344* (-1.919)	-0.452** (-2.133)	-0.019 (-0.056)	-	-	-	-0.485* (-1.946)	-0.282 (-1.044)	0.029 (0.112)	-0.613** (-2.453)	-0.864** (-2.479)	0.089 (0.444)
Proportion of emp. in wage bands A or B (low wage)	-0.004 (-0.712)	-0.003 (-0.462)	-0.004 (-0.324)	-0.011 (-1.519)	-0.004 (-0.486)	-0.007 (-1.000)	-	-	-0.009 (-1.005)	-0.0004 (-0.075)	0.001 (0.132)	-0.008* (-1.664)
Workplace is unionised	0.098 (0.428)	-0.337 (-1.435)	1.926*** (3.725)	0.191 (0.522)	0.311 (0.832)	0.027 (0.071)	0.164 (0.593)	0.010 (0.023)	-	-	-0.683* (-1.690)	0.427* (1.694)
Workplace size: under 50 employees	-1.342*** (-7.375)	-1.376*** (-6.454)	-0.621* (-1.722)	-1.316*** (-4.015)	-1.218*** (-3.516)	-0.835*** (-2.886)	-1.374*** (-5.769)	-1.421*** (-4.403)	-1.605*** (-4.560)	-0.751*** (-3.094)	-	-
Constant	9.839*** (30.48)	9.257*** (25.42)	8.828*** (13.85)	9.827*** (14.79)	9.079*** (15.30)	9.553*** (22.62)	10.19*** (24.85)	9.422*** (18.47)	10.21*** (22.60)	9.474*** (19.10)	8.307*** (12.10)	9.746*** (26.68)
Observations	484	346	138	110	140	234	301	183	219	265	211	273
R-Squared	0.528	0.471	0.655	0.646	0.671	0.517	0.550	0.543	0.644	0.442	0.281	0.462
Value of F test	26.12***	16.92***	11.72***	17.52***	17.82***	16.23***	19.63***	16.80***	21.05***	13.49***	5.20***	13.24***
P-Value for F test	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
VIF	1.65	1.85	2.16	3.74	2.69	2.20	1.75	2.09	1.75	1.98	2.80	1.71
White test	392.07	346.00	138.00	110.00	140.00	234.00	301.00	183.00	219.00	265.00	211.00	273.00
P-Value for White test	0.324	0.475	0.460	0.482	0.460	0.469	0.473	0.465	0.468	0.471	0.468	0.472

Source: Data derived from WERS 2004. ***Statistically significant at 0.010 level; **at 0.050 level; *at 0.100 level.

Notes: *t*-Stats in parentheses. Linear regressions are run with robust standard error option. *Workplace size* was not entered in models where data was split according to this variable; similarly, while *pay set via unions* is not entered in the regression related to non-unionised workplaces. Results are consistent and robust. Further details are available from the authors upon request.