Discussion Paper

No 144

June 2011

Union influence in post-socialist Europe

Richard Croucher and Marian Rizov

Union influence in post-socialist Europe

Abstract

We examine enterprise level union influence in post-socialist countries. We hypothesise that 'calculative' HRM is more strongly associated with low levels of union influence than 'collaborative' HRM, using the UK as a benchmark. We find that calculative HRM is indeed more damaging to union influence than collaborative, although to a much lesser extent than in the UK. We find that union influence corresponds to enterprise union density and is most apparent when the business cycle is unfavourable. We explain our findings by reference to East European members' continued attachment to unionism for non-bargaining reasons.

Introduction

We examine enterprise-level union influence in post-socialist countries (PSCs), seeking to discover its antecedents. Research on union influence at enterprise level in post-socialist Europe is sparse, despite unions retaining highly decentralised structures and funds. Yet influential unions at enterprise level are more likely to provide a solid basis for the European Union (EU) 'social dialogue' processes; conversely, uninfluential unions at this level may eventually erode the 'European model'. We find that union density, collaborative HRM and the business cycle are all significant antecedents of union influence and that previous national level estimates are a useful but imprecise guide to enterprise level influence.

We begin by explaining management and union roles pre-1989. Next, we outline contextual changes for unionism during 'transition', arguing that different forms of HRM will be associated with different levels of union influence. Next, we introduce our data and analytic methods. Finally, we outline our findings and offer tentative explanations for them.

Management and unions before 1989

Many researchers suggest (Trif, 2008; Woolfson, 2007; Meardi, 2007a; 2007b; Vos, 2006; Knell and Srholec, 2007) that soviet management legacies remain influential in PSCs. Labour management, like unions, had major political roles within the socialist system (Tung and Havlovic, 1996), which emphasised the need to build socialism through efficient production (Kornai, 1992). Unions were part of enterprise management. Little importance was accorded to the personnel function which consisted of selection, discipline and, to some extent, training. Although the personnel function is now widely referred to as 'HRM', it often has no strategic role. In many PSCs much of this system remains (Brewster et al., 2005).

Trade unionism remains marked by the communist experience (Soulsby and Clark, 2007; Noelke and Vliegenhart (2009); union roles may in some countries still be filled by managers (Trif, 2008). Pre-1989 union functions were essentially corporatist: to integrate and motivate workers. Unions also had major political roles as 'transmission belts' for Communist policy, which currently creates legitimacy problems (Meardi, 2006). Although they acquired minor representational functions under communism (Kornai, 1992), they also had large legal departments which remain important in many unions (Trif, 2005; Meardi, 2006). Membership was compulsory and unions stood largely aloof from workers' informal bargaining over piece rates (Haraszti, 1978). They had important welfare functions, allocating resources to providing workers with holidays for themselves and their families, housing, and money when they had particular needs. Workers were encouraged to identify with the 'labour collective', an ideological construct acquiring concrete reality through collective workplace events and the union itself. Current union membership can reflect continuing identification with these functions even though union resources in the welfare area

are much diminished and no longer include housing (Trif, 2005). The 'social movement' unionism which emerged in some countries pre-1989 was superimposed on this situation.

Trade unions since 1989

Union influence pre-1989 was simply exercised, if at all, as part of the management function. When a market system began to be implemented, this disappeared: management was then influenced by their perceptions of unions' capacity to mobilise their members. We term this 'direct' union influence. However, unions might also retain some influence through their capacity to shape members' views and hence their levels of commitment to management initiatives. Their legal watchdog role may also allow pressure to be put on management. We call these forms 'indirect' influence because they are less reliant on mobilisation capacity. The basis for this in members' perceptions of union functions is likely to be stronger in the PSCs than elsewhere where union bargaining functions are more central.

PSCs have been strongly exposed to global markets and financial institutions, bringing mass privatisation, unemployment and 'informalisation' (Bohle and Greskovits, 2007; Baranowska and Gebel, 2008; Psychogios et al. 2010; Williams, 2010). Workers are therefore invariably in weak positions except where skill shortages exist and this is reflected in unions' low mobilisation capacity (Psychogios et al., 2010). Their direct influence is therefore weak.

Unions were initially seen in 1989-90 as a possible focus for social unrest, likely to defend privileges accorded the working class under Communism. In that brief period, they were brought into tripartite discussion (Casale, 1999). Yet tripartism was gradually set aside, giving way to a long period of neo-liberally inspired legislation and employer hostility. The international financial institutions insisted on labour market reform, explicitly linking it to a need to reduce union influence (Giacobbe-Miller et al., 1998).[1] By the mid-2000s, discussion

centred on unions' incapacity to act as credible 'social partners' within the EU. (Meardi, 2006).

PSCs show considerable diversity, but they share common features corrosive of union membership and influence. EU legislation and influence has had liberalising effects (Woolfson, 2007; Meardi, 2007b) although some suggest that EU influence simply reproduces *prior* levels of joint regulation (Trif, 2008). Wage bargaining is often decentralised and may in some countries be conducted by employee representatives instead of unions, works councils where they exist have only weak consultation powers, and industrial action is rare (ILO, 2000; Funk and Lesch, 2004). In the one country with a relatively strong union movement, Slovenia, tripartism has operated successfully since the mid-1990s (Fraile, 2009). Elsewhere, experts judge unions to be much weaker (cf the ILO view: Dimitrova and Vilrokx, 2005). National-level tripartism is much less effective than in Western Europe since it was instituted through a top-down process (Mailand and Due, 2004). Ost (2000) describes it as 'illusory corporatism': driven by new elites, it serves their liberalising purposes. While these arrangements give formal 'voice' to unions, Ost argues that labour is complicit in a process that diminishes its own influence. Outside of sectors protected from competition, many unions are too weak to insist on observance of any agreement, still less to bargain supplements to national agreements as legally permitted in Romania (EFILWC, 2009; Trif, 2005). Enterprise agreements on occasion specify worse terms and conditions than legal minima (Bernaciak et al., 2010).

Most national union density estimates fall between 16 and 22% (for Bulgaria, Czech Republic, Estonia, Hungary, Slovakia, and Slovenia), with two outliers: Slovenia at 44% and Estonia at 7.6% (EIRO, 2010). Slovenian strength and Baltic weakness is reflected in other findings in terms of union wider capacities (Buchen, 2007; Stockhammer and Onara, 2009),

their ability to conduct social dialogue (Mailand and Due, 2004), to carry out extra-judicial action (Welz and Kauppinen, 2005) and to defend women members (Pollert, 2005).

Unions made efforts to become more mobilising and bargaining bodies after 1990 (Gennard, 2007; Croucher and Cotton, 2009). Yet extensive qualitative functional change has proved difficult and it remains unclear how far their efforts have succeeded, drawing mixed verdicts from experts. Thirkell et al. (1998) cited MSzOSz in Hungary and CITUB in Bulgaria as reformed federations, which were stronger than previously. Gennard (2007), analysing print unions' positions, passed a more qualified judgement. Crowley (2004) went further, arguing that many unions remained unreformed, helping explain labour quiescence, while King (2007) characterises Central European unions as highly ineffective.

Unions at enterprise level may have certain limited resources buttressing their influence. First, high union density may provide representative legitimacy and underpin some prospect of direct influence (Vernon, 2006). Second, management can concede union influence to help them effect change (Crowley, 2004; Croucher, 2010). This may be buttressed by the legal watchdog role, union welfare functions and continued identification with it as an institutional embodiment of the 'labour collective'. The legal watchdog role acquires particular significance where relatively strong worker protection remains in place, as in some countries (Trif, 2005). Finally, they may exercise indirect influence on management by diffusing discontent on the shop floor (Gomez-Mejia and Welburne, 1994).

In short, union influence may be based either on direct or indirect influence; management may use the latter to shape a form of unionism presenting little challenge to management prerogative.

Forms of HRM

'HRM' is used by Western companies, to some extent by private companies and even occasionally in the state sector (Brewster et al., 2005). Forms of HRM all emphasise alignment of employer and employee interests, but vary considerably. Gooderham et al. (1999; 2006) identified two forms that reflect on the one hand American and on the other West European approaches: 'calculative' and 'collaborative' HRM. 'Calculative' HRM treats labour as an abstract factor of production, stressing individualised reward, appraisal and employee development monitoring systems. 'Collaborative' approaches have a more humanistic orientation, viewing employees as active partners, and emphasising intensive downward communication with all levels of employee (Gooderham et al., 1999). Collaborative approaches are part of 'relational' policies (Gospel and Pendleton, 2005) and, as Gooderham et al. acknowledge, have much in common with 'soft' HRM (Storey, 2001). The Gooderham et al. typology does not reflect a full set of 'soft' HRM practices; the 'soft' characterisation explicitly includes an attitude to unionisation.

We adopt this conceptualisation because it captures two paradigmatic sets of practices. We prefer the Gooderham et al. conceptualisation to the vaguer, normative/prescriptive 'hard' and 'soft' HRM dichotomy (see for example Storey, 2001). The Gooderham et al. typology (unlike the 'hard' and 'soft' conceptualisation) also has the advantage that it treats unions as exogenous and there is therefore no problem of endogeneity in measurement.

'Calculative' HRM, as we show below, is the form usually adopted by private companies in the PSCs. It allows and reflects, as the concept's authors explain, higher levels of management choice. Gooderham et al. (1999) argue that calculative HRM is strongly linked to managements' wish to increase their autonomy and scope for initiative. Individualised pay systems have been adopted and promoted to other companies by MNCs operating in the PSCs (EFILWC, 2009). Gooderham et al. (1999) suggest that calculative

HRM is closely associated with reduced union influence in Western Europe; unions resist it, but not the collaborative form. This is because it is based on a negative view of collective representation and emphasises individual assessment and reward. This may also have an effect in the PSCs, both by concrete results such as reducing the material significance of collective bargaining and also in a more diffuse way by sending the message to employees that collective institutions are unwelcome.

However, as we outlined above, in the PSCs both union functions and members' perceptions of what these should be, are fundamentally different from that in much of the rest of the world. In other societies, and especially in the liberal market economies, we would not expect welfare and affective considerations to have similar relevance. In our analysis we therefore include the UK as a benchmark, since we expect calculative HRM to have a marked negative effect on union influence there, as Gooderham et al.'s theory predicts.

We therefore propose the hypothesis: *In PSCs, Calculative HRM is associated with lower union influence than the Collaborative form, but less so than in the UK benchmark.*

Data and variables

Our data derive from the 2003/2004 round of CRANET, an international enterprise level survey of HRM practices conducted at regular intervals since 1989 across a large number of countries by a well-established international research network. CRANET is by far the most comprehensive international survey of HR policies and practices at the organizational level. The survey encompasses all areas of economic activity, but excludes firms employing less than 100 staff and targets organizations employing more than 200. Respondent firms are chosen to reflect the broad industrial composition by employment within each country surveyed. It covers private and public organizations in 22 European countries, as well as some dozen others (Brewster et al., 2005). It is directed at HR managers or, in the absence of

a HR manager, the senior manager responsible for HR issues, and predominantly uses closed questions on policies and practices rather than attitudes. This ensures unambiguous responses on actual policies and practices. The questions are agreed by the network, translated into the appropriate language and then back-translated into English to identify any problems with international meaning and comparability. In the countries involved in our sample, the survey was administered by post. Data collection in these countries poses considerable and specific difficulties (Drzewiecka, 2007). There is a tradition of secrecy (Danilovich and Croucher, 2011), partially overcome by using local researchers in each country. Full technical details are available in Brewster et al. (2005).

We use data from all the available PSCs (Bulgaria, Czech Republic, Estonia, Hungary, Slovakia, and Slovenia) and, as a liberal market economy benchmark, from the UK. These countries exhibit diverse institutional settings and include a Balkan country (Bulgaria) as well as a Baltic one (Estonia) and a group of significant Central European economies. All are members of the EU. We also include in our sample firms that are part of multinational companies (MNCs). The incidence of MNCs in our sample exhibits a pattern consistent with aggregate statistics on MNCs' presence in the region (WIIW, 2003).

Our main dependent variable is union influence at firm level (*TUIN*) measured as a dichotomous variable with a value of 1 when managers report some union influence and zero otherwise. Managers are asked whether union influence has increased, decreased or remained the same over the previous three years, or if no union influence existed. We classify the first three categories as 'some influence' and the last as 'no influence'. We believe that treating the question in this way provides reliable information; we experimentally re-defined the variable by excluding the 'decreased' category but the results, available on request, remained qualitatively the same. It is impossible using these data to distinguish between 'direct' and 'indirect' influence as we do on the theoretical level. We also analyse

unions' presence (*TUPR*) in firms which is measured as a scale with six categories according to the share of firm employees in union membership. [2] Verma et al. (2002) argue that union density is the best overall indicator of union influence. Thus, by using both *TUIN* and *TUPR* we believe that we achieve the most reliable indication of whether union influence exists. Table 1 demonstrates the high correlations (Pearson correlation coefficients) of *TUIN* and *TUPR* both by country and for the total PSCs and UK samples.

- Table 1 about here -

In extended regressions, we use two measures of the two major types of labour management practices as formulated by Gooderham et al. (1998; 1999), calculative HRM (*CALC*) and collaborative HRM (*COLL*) as control variables. We augment the collaborative HRM measure with group practice components following Rizov and Croucher (2009). The calculative HRM measure is also augmented, by use of a compulsory redundancy component. We note that in this analysis we use *CALC* and *COLL* to control for HRM practices' impact on union influence, rather than study the practices themselves in depth. Composite scales are used for *CALC* and *COLL*, comprised of indicators of HRM practices of fifteen and thirteen components respectively. In identifying the components of each scale we pay attention to the contexts of both the PSCs and the UK.

The *CALC* scale is a composite of indicators for base and variable pay directly related to performance for all employee categories, regular formal appraisal for managers, professionals, clerical, and manual workers, use of formal appraisal in informing career and pay decisions as well as use of compulsory redundancies. We were unable to reproduce all of the original Gooderham et al. calculative scale because the two items on monitoring training

9

effectiveness were not used in the 2004 questionnaire; however, it seems likely that the use of the appraisals questions may to some extent mitigate this issue.

The *COLL* scale comprises indicators for formal strategy briefings of all categories of employees and the presence of a written mission and corporate values statement, extended by measures for minority inclusion, career development through team work, the presence of mechanisms for two-way communication at team level and the existence of a works council/joint consultative committee.

Each HRM indicator is an ordinal categorical variable. We apply Mokken's nonparametric scaling model (Mokken and Lewis, 1982) to compute our synthetic HRM indices as in Gooderham et al. (1999). The unweighted sum of item scores must be monotonously related to the latent true scores, as demonstrated by Sjitsma et al. (1990). This implies that Mokken's model only provides estimates of the scale scores at ordinal level. The primary scaling criterion is Loevinger's H-coefficient of homogeneity. A set of items constitutes a scale if the aggregate has an H-value exceeding 0.30; values above 0.50 indicate strong scales. The consistency of the scales is also verified by Cronbach's Alpha which increases as the intercorrelations among scale items increase, and is thus known as an internal consistency estimate of the scale's reliability. Because intercorrelations among test items are maximized, when all items measure the same construct, Cronbach's Alpha is taken as indirectly indicating the degree to which a set of items measures a single unidimensional latent construct. Alpha values above 0.70 indicate a strong scale. Details of the items included in the scales, results of the scaling, and our reliability analysis are reported in the Appendix, Tables A1a and A1b for the PSC and UK samples respectively.

In Table 2 we report summary statistics on union influence, the prevalence of calculative and collaborative HRM practices, on MNC presence (measured as a share of surveyed firms) and the importance of private ownership by country, for all PSCs in our

sample. The summary statistics confirm that our data approximate to the empirical facts established by other studies using different data sources.

- Table 2 about here -

Following the conceptual frameworks of Gooderham et al. (1998; 1999) and of Rizov and Croucher (2009), we control in our regression analysis for firm characteristics affecting union influence and the prevalence of HRM practices. These are: log of firm size (*Firm size*), log of firm age (*Firm age*) and a dummy variable indicating private ownership (*Private firm*). In all regressions a control dummy variable for foreign ownership and management in large organisations is also included (*Multinational firm*). Market conditions are controlled for by a three-step ordinal scale indicating whether the firm's market is declining, steady or growing (*Business cycle*). Industrial sector information – a set of industry dummy variables (*Primary industries*, *Manufacturing*, and *Construction*) - is included in extended regression specifications (*Services* is the reference category). Finally, cross-country differences are captured by country dummy variables, used in extended regression specifications to control for variations in institutional settings. Summary statistics and short definitions of all regression variables are reported in Table 3. Correlation matrices for selected regression variables are presented in the Appendix, Tables A2a and A2b for PSCs and UK samples respectively. The low correlations between regression variables indicate no endogeneity problems.

- Table 3 about here -

Econometric analysis

Determinants of union influence

Given that the dependent variable of main interest (union influence) is dichotomous we first estimate relationships by a Probit regression and report the estimation results (marginal effects) in Table 4a for the PSCs and in Table 4b for the UK. Following Gooderham et al. (1999) and Rizov and Croucher (2009) we start with a base specification where the explanatory variables are simply the main firm characteristics. In a second extended specification we add information on private and foreign ownership. Next, the specification (in Table 4a) also includes a set of PSCs dummy variables which capture variations in institutional specificities across countries, with reference to the Czech Republic. We further extend the specification with a measure of market conditions, and subsequently add a set of industry dummy variables with aggregate services as the reference category. The stability of coefficients in all regressions when introducing stepwise explanatory variables indicates no endogeneity problems. [3] Nevertheless, we are cautious in drawing conclusions regarding causality and interpret our results simply as evidence of correlations between variables. We conceptualise the results as showing a mutually-determined relationship; since management clearly has control, its policies are of great significance but union policies and practices are likely to have some impact on the relationships.

- Table 4a about here-

- Table 4b about here-

Comparing overall results for the UK and the PSCs, the effects' signs are the same, except for the *Multinational firm* variable. However, for some variables the level of significance is higher and magnitudes of the coefficients appear larger for the PSCs sample. [4]

For the PSC sample firm size and age have positive and statistically significant impacts on union influence. Union influence, however, is significantly statistically weaker in foreign-owned and private firms. Using the Czech Republic as the reference country, firms in Bulgaria, Hungary and Estonia are characterised by weaker union influence. In Slovenia, union influence is, as expected, stronger while influence in Slovakia is similar to that in the Czech Republic. All results are consistent with other researchers' national findings and remain robust when we control for business cycle and market conditions.

Significantly, the business cycle is negatively correlated with union influence in PSCs: in periods of favourable market conditions influence is low but *increases* when the business cycle moves unfavourably. Adding a set of industry controls reproduces the results from previous specifications and also suggests important differences across industries. Given aggregate services as a reference category, union influence is stronger in primary industries and manufacturing, while in the construction sector it is similar to services.

Finally, in this section we extend the last specification, considering the association of HRM with union influence and report our results in column (6), Table 4a and column (5), Table 4b for the PSCs and the UK samples respectively. Interestingly, the two HRM scales' coefficients exhibit the same pattern but differ in magnitudes for the two samples as verified by Wald tests, which are significant at 5 percent level. For the PSC sample the coefficients of *COLL* and *CALC* are smaller in magnitude, confirming our discussion above about the processes and their probable effects on union influence. For the UK sample, the pattern is as expected: the coefficient of *COLL* is positive while the coefficient of *CALC* is negative; both are highly statistically significant.

Extensions and robustness analysis

We now consider the possibility that union influence and HRM practices as measured by the *CALC* and *COLL* scales are simultaneously determined. We conceive of union influence as arising from interactive, negotiated processes between management and unions. To test and control for simultaneity we specify a system of three equations and estimate it by SURE (seemingly unrelated regression). SURE uses the asymptotically efficient, feasible, GLS algorithm (described in Greene, 2003, pp. 340-362) and jointly estimates the three regressions, each with its own error term as errors are allowed to be correlated. Stepwise expansion of the equation specifications follows the same pattern as in Tables 4a and 4b. Estimation results for the union influence equation are reported in Tables 5a and 5b for the PSCs and the UK samples respectively, while the (auxiliary) results for the HRM practices equations are reported in the Appendix: Tables A3a, A3b, A4a and A4b. Comparing results for the determinants of union influence in the UK and in the PSCs, the signs of the effects are the same, except for the *Multinational firm* variable. The main conclusion from Tables 5a and 5b is that the coefficients appear very similar to those reported in Tables 4a and 4b respectively. The fact that the coefficient signs are the same and the magnitudes are very similar suggests that our results are robust. Further, a Breusch-Pagan test (Breusch and Pagan, 1980) of independence (no correlation of residuals) rejects the hypothesis of zero correlation of the residuals and implies that union influence and HRM practices indeed are correlated and likely to be simultaneously determined. [5]

- Table 5a about here -

- Table 5b about here -

As a further robustness check we estimate SURE regressions with a measure of union presence (*TUPR*) rather than influence, for both samples. Although our main variable of interest is union influence, we consider union presence a necessary condition and the best proxy for influence (Vernon, 2006 and Verma et al., 2002). Therefore, estimating regressions with *TUPR* can reveal if there is a gap between (necessary) conditions and realisation. The results are reported in Tables 6a and 6b, and appear qualitatively similar to the results for union influence reported in Tables 5a and 5b. The dependent variable, *TUPR* is a scale with six categories rather than a dichotomous one, meaning that the coefficients are not directly comparable in terms of magnitudes. [6] The signs of the estimated coefficients are the same while the coefficient magnitudes appear proportionately similar. This qualitative similarity indicates that the degree of unions' presence likely approximates to their influence.

- Table 6a about here-

- Table 6b about here-

Discussion and conclusions

The paper's main contribution is to show the antecedents of union influence at enterprise level in the PSCs. While both forms of HRM have the expected associations with union influence, these are more muted than in the UK. Union influence is also associated with high union density, negative movements in the business cycle and institutional specificities in certain countries. National patterns are broadly as anticipated from national-level studies, but the relationship between national and enterprise influence is not entirely symmetrical.

Our attempts to explain our findings relate to the continued and positive importance of legacy union functions in the PSCs. Unions have certain positive resources: *indirect* union influence may derive, particularly among older workers, from conceptions of the union as

welfare provider and this may be more relevant than pre-1989 as job security is now hugely reduced. It may also reflect continued identification with the union as an institutional embodiment of the labour collective. Collaborative HRM reflects an approach that is more positive towards institutional forms of employee voice but its weaker effects than in the UK may also reflect the welfare orientation.

The country results confirm that our outliers in terms of national level considerations, Slovenia and Estonia, show high and low enterprise level union influence respectively, reflecting common estimates of their national influence. In the national 'middle range', union influence in enterprises is similar in both parts of the ex-Czechoslovakia despite Slovakia's relatively 'highly-organised' industrial relations (Stockhammer and Onaran, 2009), suggesting the relevance of these countries' shared historic legacy.

Extrapolation from national level estimates of union influence is not universally valid. The marked weakness of Bulgarian enterprise level union influence is noteworthy. While consistent with estimates from Global Union Federations' local projects (ICEM/IUF, 2009), it is also surprising in view of Thirkell et al.'s (1998) earlier judgement and from the modest level of transformation in that economy (Lane, 2006).

We find a strong relationship between union influence and membership levels which supports Verma et al. (2002). Where union density is zero, the result is hardly surprising since no influence can be expected, but influence becomes more common with higher density. This may be interpreted in different ways and our 'no influence' finding may be more useful than the 'influence' one, being clearer in its meaning. This constitutes a limitation of our analysis since the latter undifferentiated category may conceal much variation. On the other hand, requesting nuanced responses would introduce a major inter-rater reliability problem. Reaching a nuanced and context-sensitive assessment of union influence requires case study work.

Union influence is negatively correlated with the business cycle, especially in the PSCs, consistent with the thesis that union legal watchdog and welfare functions remain significant: employer and worker demands for these services will likely be higher when enterprises are in difficulty. It underlines the continuing significance of legal requirements that unions are consulted on redundancies in some countries (Broughton, 2009). The finding is consistent with Bulgarian findings that the onset of redundancy increases levels of union bargaining over its terms (Tomev et al., 2008). Private ownership of all types is also negatively associated with union influence. This suggests that private companies, including MNCs, are establishing employment relationships that tend to reduce union influence. It also implies that union influence in state enterprises is unlikely to survive further privatisation and foreign direct investment in the post-socialist countries.

Overall, our findings lend little support to conceptions of convergence in Europe between East and West. Europe remains in this sense divided.

Notes

[1] In several studies the elimination of labour hoarding is identified as an important (necessary) component of enterprise restructuring policies, promoted by international financial institutions. Another important (sufficient) component is new investment in productive assets rather than using funds for enterprise survival. The success of restructuring policies is conditional on eliminating the soft budget constraints (Konings et al., 2003; Rizov, 2005), directly linked to abandoning the state's role in ensuring full employment.

[2] The six categories are defined as follows: category 0 corresponds to 0 percent share, 1 – 1-10 percent, 2 – 11-25 percent, 3 – 26-50 percent, 4 – 51-75 percent and 5 - 76-100 percent.

[3] In all regressions we have included as controls for a possible measurement error, due to self-reporting, variables describing key respondent characteristics. The individual-level control variables are gender, education, years of service in the organization and we assume that they are not correlated with the firm-level variables. Individual-level controls were neither individually nor jointly statistically significant in any regression and therefore their coefficients were not reported.

[4] We test for differences in coefficients for the PSC and UK samples using Wald tests and find that jointly for all coefficients the differences are significant at 10 percent level or better for the majority of the models.

[5] The Breusch-Pagan Chi-square statistic – a Lagrange Multiplier statistic – rejects the null hypothesis of no correlation in all regressions and is significant at 1 percent level or better.

[6] The results for the HRM practices equations are reported in the Appendix, Tables A5a, A5b, A6a and A6b and are quite similar to the SURE results with union influence.

References

Baranowska, A. and M. Gebel. 2008. "Temporary employment in Central and Eastern Europe: individual risk patterns and temporary employment." University of Mannheim Working Paper 106.

Bernaciak, M., A. Duman, and V. Scepanovic. 2010. "Employee welfare and collective bargaining in exposed and protected sectors: evidence from Poland and Serbia." RECWOWE Publication, Dissemination and Dialogue Centre, Edinburgh: REC-WP 04/2010.

Bohle, D. and B. Greskovits. 2007. "The state, internationalization, and capitalist diversity in Eastern Europe." *Competition and Change,* 11 (2): 89-115.

Breusch, T. and A. Pagan. 1980. "The LM test and its applications to model specification in econometrics." *Review of Economic Studies,* 47: 239-254.

Brewster, C., W. Mayrhofer, and M. Morley. (eds.) 2005. *Human Resource Management in Europe: Evidence of Convergence?* Oxford: Elsevier Butterworth-Heinemann.

Broughton, A. 2009. *Guidelines on Socially-Sensitive Labour Force Restructuring in South Eastern Europe*. Geneva: ILO.

Buchen, C. 2007. "Estonia and Slovenia as Antipodes." In D. Lane and M. Myant, eds., *Varieties of Capitalism in Post-Communist Countries,* pp. 65-85. London: Palgrave.

Casale, G.1999. "Tripartism and industrial relations in Central and Eastern European countries", in Casale, G. (ed.), *Social Dialogue in Central and Eastern Europe*. Geneva: International Labour Office: 1-36.

Croucher, R. and E. Cotton. 2009. *Global Unions, Global Business: Global Union Federations and International Business.* London: Middlesex University Press.

Croucher, R. 2010. "Employee involvement in Ukraine." *International Journal of Human Resource Management,* 21(14): 2659-2676.

Crowley, S. 2004. "Explaining labour weakness in post-communist Europe: Historical legacies and comparative perspective." *East European Politics and Societies,* 18(3): 394-429.

Danilovich, H. and R. Croucher. 2011. "Labour management in Belarus: Transcendent retrogression." *Communist Studies and Transition Politics,* 27(2): 241-262.

Dimitrova, D. and J. Vilrokx. (eds.) 2005. *Trade union strategies in Central and EasternEurope: Towards decent work.* Geneva and Budapest: International Labour Office.

Drzewiecka, A. 2007. "The joys and perils of conducting field research in Eastern Europe." *European Political Science,* 6: 295-301.

EFILWC (European Foundation for the Improvement of Living and Working Conditions). 2009. *Multinational Companies and Collective Bargaining*. Dublin: EFILWC (online publication: eurofound.europa.eu, downloaded 11 March, 2010)

EIRO (European Industrial Relations Observatory Online). 2010. Country profiles.

Fraile, L. (ed.) 2009. *Blunting Neoliberalism: tripartism and economic reforms in the developing world.* Basingstoke: Palgrave Macmillan.

Funk, L. and H. Lesch. 2004. "Industrial relations in Central and Eastern Europe: Organisational characteristics, co-determination and labour disputes." *Intereconomics,* September/October: 264-70.

Gennard, J. 2007. "Managing membership decline in a hostile environment: the case of the print unions in the Czech Republic, Slovakia and Hungary." *European Journal of Industrial Relations,* 13 (1): 89-108.

Giacobbe-Miller, J., D. Miller, and V. Victorov. 1998. "A comparison of Russian and US pay allocation decisions, distributive justice judgements, and productivity under different payment conditions." *Personnel Psychology,* 51: 137-63.

Gomez-Mejia, L. and T. Welbourne. 1994. "Compensation strategies in a global context." In R. Noe, J. Hollenbeck, B. Gerhart and P. Wright, eds., *Readings in Human Resource Management,* pp. 561-562. Homewood, IL: Irwin Publishing Co.

Gooderham, P., O. Nordhaug, and K. Ringdal. 1998. "When in Rome, do they do as Romans? HRM practices of US subsidiaries in Europe." *Management International Review,* 38: 47-63.

Gooderham, P., O. Nordhaug, and K. Ringdal. 1999. "Institutional and rational determinants of organizational practices: Human resource management in European firms." *Administrative Science Quarterly,* 44: 507-31.

Gooderham, P., O. Nordhaug, and K. Ringdal. 2006. "National embeddedness and HRM in US Subsidiaries in Europe and Australia." *Human Relations,* 59(1): 1491-513.

Gospel, H. and A. Pendleton. 2005. "Corporate governance and labour management: International comparison." In H. Gospel and A. Pendleton, eds., *Corporate Governance and Labour Management: International Comparison*, pp. 1-32. Oxford: Oxford University Press.

Greene, W. 2003. *Econometric Analysis*, 5th ed. NJ: Prentice Hall.

Haraszti, M. 1978. *A Worker in a Worker's State.* Translated by Michael Wright. New York: Universe Books.

ICEM/IUF. 2009. Report no. 14/09: Bulgaria. Document in authors' possession.

ILO (International Labour Organisation). 2000. *World Labour Report: Income Security and Protection in a Changing World.* Geneva: ILO.

King, L. P. 2007. "Central European capitalism in comparative perspective." In B. Hancké, M. Rhodes, and M. Thatcher, eds., *Beyond Varieties of Capitalism: Conflict, Contradictions and complementarities in the European Economy*, Oxford: Oxford University Press.

Knell, M. and M. Srholec. 2007. "Diverging pathways in Central and Eastern Europe." In D. Lane and M. Myant, eds., *Varieties of Capitalism in Post-Communist Countries*, pp. 40-44. London: Palgrave.

Konings, J., M. Rizov, and H. Vandenbussche. 2003. "Investment and financial constraints in transition economies: Micro evidence from Poland, the Czech Republic, Bulgaria and Romania." *Economics Letters,* 78(2): 253-58.

Kornai, J. 1992. *The Socialist System: The Political Economy of Communism.* Princeton: Princeton University Press.

Lane, D. 2006. "Post-state socialism: a diversity of capitalisms?" In D. Lane and M. Myant, eds., *Varieties of Capitalism in Post Communist Countries*, pp. 13-39. London: Palgrave.

Mailand, M. and J. Due. 2004. "Social dialogue in Central and Eastern Europe: Present state and future development." *European Journal of Industrial Relations,* 10(2): 179-98.

Meardi, G. 2006. "I sindacati nell'Europa postcomunista: attori scomparsi? Guida ai paesi dell'Europa centrale, orientale e balcanica." Ed. L. Chiodi and F. Privitera. Bologna: Il Mulino: 15-24.

Meardi, G. 2007a. "Multinationals in the new EU member states and the revitalisation of trade unions." *Debatte: Journal of Contemporary Central and Eastern Europe,* 15(2): 177-93.

Meardi, G. 2007b. "More voice after more exit? Unstable industrial relations in Central Eastern Europe." *Industrial Relations Journal,* 38(6): 503–23.

Mokken, R. and C. Lewis. 1982. "A nonparametric approach to the analysis of dichotomous item responses." *Applied Psychological Measurement,* 6: 417-30.

Noelke, A. and A. Vliegenhart. 2009. "Enlarging the varieties of capitalism: The emergence of dependent market economies in East Central Europe." *World Politics,* 61: 670-702.

Ost, D. 2000. "Illusory corporatism in Eastern Europe: Neoliberal tripartism and postcommunist class identities." *Politics and Society,* 28 (4): 503-530.

Pollert, A. 2005. "Gender, transformation and employment in Central Eastern Europe." *European Journal of Industrial Relations,* 11(2): 213-30.

Psychogios, A., L. Szamosi, and G. Wood. 2010. "Introducing employment relations in South-Eastern Europe", *Employee Relations*, 32(3): 205-211.

Rizov, M. 2005. "Transition and enterprise restructuring: The role of budget constraints and bankruptcy costs." *Economics Letters,* 86(1): 129-34.

Rizov, M. and R. Croucher. 2009. "Human resource management and performance in European firms." *Cambridge Journal of Economics,* 33(2): 253-72.

Soulsby, A. and E. Clark. 2007. "Organisation theory and the post-socialist transformation: Contributions to organisational knowledge." *Human Relations,* 60(10): 1419-42.

Sjitsma, K., P. Debets, and I. Molenaar. 1990. "Mokken scale analysis for polytomous items: Theory, a computer program and an empirical application." *Quality and Quantity,* 24: 173-88.

Stockhammer, E. and O. Onaran. 2009. "National and sectoral influences on wage determination in Central and Eastern Europe." *European Journal of Industrial Relations,* 15(3): 317-38.

Storey, J. 2001. "Human resource management today: An assessment." In J. Storey, ed., *Human Resource Management: A Critical Text*. London: Thomson Learning.

Thirkell, J., K. Petkov, and S. Vickerstaff. 1998. *The Transformation of Labour Relations: Restructuring and Privatisation in Eastern Europe and Russia.* Oxford: Oxford University Press.

Tomev, L., N. Daskalova, T. Mihailova, and V. Ivanova. .2008. "Wages and collective bargaining in Bulgaria." *South East Europe Review,* 2: 219-37.

Trif, A. 2005. "Change and continuity in the role of industrial relations actors in Romania: Case study evidence." Centre for International Business paper 2-05.

Trif, A. 2008. "Opportunities and challenges of EU accession: industrial relations in Romania." *European Journal of Industrial Relations,* 14(4): 461-78.

Tung, R.L. and S.J. Havlovic. 1996. "Human resource management in transitional economies: The case of Poland and the Czech Republic." *International Journal of Human Resource Management,* 7 (1): 1-19.

Verma, A., T.A. Kochan, and S. Wood. 2002. "Union Decline and Prospects for Revival." *British Journal of Industrial Relations*, 40(3): 373-384.

Vernon, G. 2006. "Does density matter: The significance of comparative historical variation in unionization." *European Journal of Industrial Relations,* 12(2): 189-209.

Vos, K. 2006. "Europeanization and convergence in industrial relations." *European Journal of Industrial Relations,* 12(3): 311-28.

Welz, C. and T. Kauppinen. 2005. "Industrial action and conflict resolution in the new member states." *European Journal of Industrial Relations,* 11(1): 91-106.

WIIW (Wiener Institut für Internationale Wirtschaftsvergleiche). 2003. *Annual Database Eastern Europe.* Accessed December, 2009 at www.wiiw.ac.at.

Williams, C.C. 2010. "Beyond the formal/informal jobs divide: evaluating the presence of hybrid 'under-declared employment in South East Europe." *International Journal of Human Resource Management,* 21 (14): 2529-2546.

Woolfson, C. 2007. "Labour standards and migration in the New Europe: Post-Communist legacies and perspectives." *European Journal of Industrial Relations,* 13(2): 199-218.

Table 1 Correlation of union influence and presence in PSCs and UK

	Bulgaria	Hungary	Estonia	Slovenia	Slovakia	Czech Republic	Total PSCs	UK
Correlation coefficient	0.64	0.85	0.66	0.68	0.80	0.70	0.76	070

Note: All (Pearson) correlation coefficients are significant at p<0.001 level.

Table 2 Union influence, ownership, and HRM practices in the PSCs

	TUIN	MNC	PRIV	CALC	COLL
Bulgaria	0.58	0.17	0.64	0.56	0.47
	(0.49)	(0.38)	(0.48)	(0.30)	(0.31)
Czech Republic	0.82	0.22	0.86	0.74	0.78
	(0.39)	(0.42)	(0.35)	(0.26)	(0.25)
Estonia	0.38	0.15	0.62	0.44	0.68
	(0.49)	(0.35)	(0.49)	(0.29)	(0.27)
Hungary	0.60	0.27	0.62	0.50	0.61
	(0.49)	(0.44)	(0.49)	(0.30)	(0.32)
Slovakia	0.55	0.20	0.82	0.56	0.58
	(0.50)	(0.40)	(0.39)	(0.29)	(0.29)
Slovenia	0.91	0.12	0.63	0.70	0.67
	(0.29)	(0.30)	(0.48)	(0.27)	(0.27)

Notes: Means and standard deviations are reported (in parentheses). CALC and COLL indices are normalised to the interval [0, 1]. Abbreviations: TUIN- union influence; MNC-multinational firm; PRIV-private firm; CALC-calculative HRM; COLL-collaborative HRM.

Table 3 Summary statistics

Variable	Definition	PSCs	UK
TUIN	Union influence dummy variable equal to 1 and 0 otherwise	0.63 (0.37)	0.64 (0.48)
TUPR	Union presence scale ranging between 0 and 5 (low-high)	2.13 (1.26)	1.90 (1.67)
CALC	Calculative HRM composite scale ranging between 0 and 15	8.86 (2.92)	7.94 (3.27)
COLL	Collaborative HRM composite scale ranging between 0 and 13	7.21 (2.95)	8.38 (2.63)
Firm size	Log of firm size (total labour force)	5.78 (1.23)	6.46 (1.28)
Firm age	Log of firm age (years)	2.83 (1.03)	3.54 (1.13)
Multinational firm (MNC)	Dummy variable which is 1 if the firm is a foreign multinational and 0 otherwise	0.16 (0.37)	0.14 (0.35)
Private firm	Dummy variable which is 1 if the firm is private and 0 otherwise	0.70 (0.46)	0.70 (0.46)
Business cycle	Scale of business cycle conditions ranging between 1 and 3 (recession-expansion)	2.38 (0.68)	2.28 (0.75)
Primary industries	Dummy variable which is 1 for primary industries and 0 otherwise	0.10 (0.30)	0.03 (0.18)
Manufacturing	Dummy variable which is 1 for manufacturing and 0 otherwise	0.23 (0.42)	0.31 (0.46)
Construction	Dummy variable which is 1 for construction and 0 otherwise	0.04 (0.19)	0.03 (0.18)
Services	Dummy variable which is 1 for services retail and wholesales and 0 otherwise	0.63 (0.84)	0.51 (0.50)
Bulgaria	Dummy variable which is 1 if the firm is in Bulgaria and 0 otherwise	0.18 (0.38)	
Czech Republic	Dummy variable which is 1 if the firm is in Czech Republic and 0 otherwise	0.08 (0.28)	
Hungary	Dummy variable which is 1 if the firm is in Hungary and 0 otherwise	0.11 (0.32)	
Estonia	Dummy variable which is 1 if the firm is in Estonia and 0 otherwise	0.14 (0.34)	
Slovakia	Dummy variable which is 1 if the firm is in Slovakia and 0 otherwise	0.30 (0.46)	
Slovenia	Dummy variable which is 1 if the firm is in Slovenia and 0 otherwise	0.19 (0.39)	

Note: Means and (Standard Deviations) are reported. Number of observations used in calculating summary statistics is 747 for PSC sample and 800 for the UK.

Table 4a Determinants of union influence in the PSCs (Probit estimator)

Variables	Models					
	(1)	(2)	(3)	(4)	(5)	(6)
Firm size	0.165 ***	0.175 ***	0.166 ***	0.170 ***	0.153***	0.149 ***
	(0.018)	(0.018)	(0.020)	(0.020)	(0.020)	(0.021)
Firm age	0.094 ***	0.077 ***	0.062 ***	0.056 ***	0.056 ***	0.055 ***
	(0.019)	(0.020)	(0.021)	(0.021)	(0.021)	(0.021)
Multinational firm		-0.166 ***	-0.155 ***	-0.145 ***	-0.161 ***	-0.164 ***
		(0.054)	(0.056)	(0.056)	(0.057)	(0.058)
Private firm		-0.152 ***	-0.179 ***	-0.162 ***	-0.170 ***	-0.164 ***
		(0.042)	(0.042)	(0.043)	(0.046)	(0.046)
Bulgaria			-0.331 ***	-0.320 ***	-0.330 ***	-0.310 ***
			(0.086)	(0.087)	(0.089)	(0.092)
Hungary			-0.201 **	-0.194 **	-0.195 **	-0.196 **
			(0.097)	(0.097)	(0.099)	(0.099)
Estonia			-0.379 ***	-0.374 ***	-0.369 ***	-0.399 ***
			(0.088)	(0.088)	(0.090)	(0.089)
Slovenia			0.153 *	0.158 *	0.160 *	0.143 *
			(0.077)	(0.077)	(0.078)	(0.079)
Slovakia			-0.093	-0.086	-0.094	-0.085
			(0.082)	(0.082)	(0.083)	(0.083)
Business cycle				-0.088 ***	-0.070 **	-0.074 **
				(0.030)	(0.030)	(0.031)
Primary industries					0.185 ***	0.176 ***
					(0.052)	(0.053)
Manufacturing					0.113 ***	0.112 ***
					(0.044)	(0.044)
Construction					0.088	0.080
					(0.082)	(0.083)
COLL						0.103 **
						(0.050)
CALC						-0.116 *
						(0.067)
Pseudo R_squared	0.21	0.28	0.40	0.41	0.46	0.49
Number observations	747	747	747	747	747	747

Notes: Coefficients reported represent marginal effects. Reference country is Czech Republic and reference industry is 'Services'. Level of significance of estimated coefficients is indicated as follows: 1 percent ***, 5 percent **, 10 percent *. COLL and CALC HRM scales are in logs.

Table 4b Determinants of union influence in the UK (Probit estimator)

Variables	Models				
	(1)	(2)	(3)	(4)	(5)
Firm size	0.120 ***	0.117 ***	0.118 ***	0.118 ***	0.116 ***
	(0.015)	(0.016)	(0.016)	(0.016)	(0.016)
Firm age	0.033 **	0.031 **	0.031 **	0.026	0.020
	(0.016)	(0.016)	(0.016)	(0.016)	(0.017)
Multinational firm		0.063	0.059	0.043	0.055
		(0.046)	(0.047)	(0.048)	(0.047)
Private firm		-0.275 ***	-0.285 ***	-0.346 ***	-0.285 **
		(0.034)	(0.034)	(0.033)	(0.038)
Business cycle			-0.033	-0.026	-0.024
			(0.023)	(0.024)	(0.024)
Primary industries				0.202 ***	0.199 ***
				(0.064)	(0.060)
Manufacturing				0.243 ***	0.228 ***
				(0.036)	(0.036)
Construction				0.082	0.082
				(0.087)	(0.082)
COLL					0.243 ***
					(0.050)
CALC					-0.306 ***
					(0.054)
Pseudo R_squared	0.15	0.21	0.21	0.26	0.32
Number observations	800	800	800	800	800

Notes: Coefficients reported represent marginal effects. Reference industry is 'Services'. Level of significance of estimated coefficients is indicated as follows: 1 percent ***, 5 percent **, 10 percent *. COLL and CALC HRM scales are in logs.

Table 5a Determinants of union influence in the PSCs (SUR estimator)

Variables	Models				
	(1)	(2)	(3)	(4)	(5)
Firm size	0.136 ***	0.138 ***	0.126 ***	0.128 ***	0.114 ***
	(0.013)	(0.013)	(0.013)	(0.013)	(0.014)
Firm age	0.080 ***	0.067 ***	0.049 ***	0.045 ***	0.044 ***
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
Multinational firm		-0.140 ***	-0.125 ***	-0.116 ***	-0.131 **
		(0.044)	(0.042)	(0.042)	(0.042)
Private firm		-0.123 ***	-0.138 ***	-0.124 ***	-0.137 ***
		(0.037)	(0.036)	(0.036)	(0.039)
Bulgaria			-0.260 ***	-0.248 ***	-0.245 ***
			(0.065)	(0.064)	(0.064)
Hungary			-0.151 **	-0.146 **	-0.136 **
			(0.068)	(0.068)	(0.067)
Estonia			-0.313 ***	-0.307 ***	-0.290 ***
			(0.068)	(0.068)	(0.067)
Slovenia			0.096	0.095	0.100 *
			(0.062)	(0.062)	(0.061)
Slovakia			-0.088	-0.083	-0.086
			(0.060)	(0.059)	(0.059)
Business cycle				-0.067 ***	-0.059 ***
				(0.022)	(0.023)
Primary industries					0.162 ***
					(0.049)
Manufacturing					0.107 ***
					(0.036)
Construction					0.060
					(0.064)
R_squared	0.23	0.30	0.46	0.47	0.51
Number observations	747	747	747	747	747

Notes: Coefficients reported represent marginal effects. Reference country is Czech Republic and reference industry is 'various services'. Level of significance of estimated coefficients is indicated as follows: 1 percent ***, 5 percent **, 10 percent *.

Table 5b Determinants of union influence in the UK (SUR estimator)

Variables	Models			
	(1)	(2)	(3)	(4)
Firm size	0.102 ***	0.088 ***	0.088 ***	0.103 ***
	(0.013)	(0.012)	(0.012)	(0.012)
Firm age	0.033 **	0.030 **	0.030 **	0.024 *
	(0.014)	(0.014)	(0.014)	(0.014)
Multinational firm		0.067	0.063	0.053
		(0.046)	(0.046)	(0.045)
Private firm		-0.270 ***	-0.282 ***	-0.296 ***
		(0.038)	(0.039)	(0.040)
Business cycle			-0.031	-0.024
			(0.022)	(0.022)
Primary industries				0.225 ***
				(0.084)
Manufacturing				0.252 ***
				(0.038)
Construction				0.074
				(0.085)
R_squared	0.22	0.28	0.28	0.38
Number observations	800	800	800	800

Notes: Coefficients reported represent marginal effects. Reference industry is 'Services'.
Level of significance of estimated coefficients is: 1 percent ***, 5 percent **, 10 percent *.

Table 6a Determinants of union presence in the PSCs (SUR estimator)

Variables	Models				
	(1)	(2)	(3)	(4)	(5)
Firm size	0.479 ***	0.489 ***	0.468 ***	0.418 ***	0.393 ***
	(0.052)	(0.051)	(0.050)	(0.050)	(0.050)
Firm age	0.465 ***	0.415 ***	0.312 ***	0.296 ***	0.296 ***
	(0.063)	(0.063)	(0.059)	(0.059)	(0.058)
Multinational firm		-0.473 ***	-0.403 ***	-0.390 ***	-0.419 ***
		(0.170)	(0.157)	(0.157)	(0.154)
Private firm		-0.515 ***	-0.559 ***	-0.510 ***	-0.559 ***
		(0.144)	(0.134)	(0.134)	(0.142)
Bulgaria			-0.412 *	-0.368	-0.347
			(0.242)	(0.240)	(0.234)
Hungary			-0.267	-0.247	-0.198
			(0.248)	(0.247)	(0.240)
Estonia			-1.325 ***	-1.299 ***	-1.206 ***
			(0.246)	(0.245)	(0.238)
Slovenia			0.974 ***	0.975 ***	1.005 ***
			(0.225)	(0.224)	(0.219)
Slovakia			-0.100	-0.077	-0.098
			(0.218)	(0.216)	(0.210)
Business cycle				-0.257 ***	-0.226 ***
				(0.083)	(0.082)
Primary industries					0.969 ***
					(0.174)
Manufacturing					0.577 ***
					(0.133)
Construction					0.133
					(0.242)
R_squared	0.27	0.34	0.51	0.52	0.58
Number observations	680	680	680	680	680

Notes: Coefficients reported represent marginal effects. Reference country is Czech Republic and reference industry is 'various services'. Level of significance of estimated coefficients is: 1 percent ***, 5 percent **, 10 percent *.

Table 6b Determinants of union presence in the UK (SUR estimator)

Variables	Models			
	(1)	(2)	(3)	(4)
Firm size	0.319 ***	0.262 ***	0.265 ***	0.352 ***
	(0.046)	(0.045)	(0.045)	(0.043)
Firm age	0.130 ***	0.135 ***	0.130 **	0.082 *
	(0.053)	(0.052)	(0.052)	(0.049)
Multinational firm		0.210	0.189	0.086
		(0.164)	(0.164)	(0.152)
Private firm		-0.908 ***	-0.915 ***	-0.960 ***
		(0.140)	(0.143)	(0.140)
Business cycle			-0.072	-0.052
			(0.080)	(0.075)
Primary industries				0.710 **
				(0.298)
Manufacturing				1.426 ***
				(0.132)
Construction				0.064
				(0.310)
R_squared	0.25	0.34	0.34	0.47
Number observations	800	800	800	800

Notes: Coefficients reported represent marginal effects. Reference industry is 'various services'. Level of significance of estimated coefficients is: 1 percent ***, 5 percent **, 10 percent *.

Appendix

Table A1a HRM practices scales, PSCs

Scale/Variable		MSP	Alpha
	Mean	H	
Calculative scale (*CALC*)		0.71	0.78
Using compulsory redundancies	0.26	0.30	0.78
Regular formal appraisal for manual workers	0.31	0.77	0.76
Regular formal appraisal for clerical staff	0.40	0.71	0.76
Regular formal appraisal for professionals	0.40	0.74	0.75
Regular formal appraisal for managers	0.43	0.74	0.76
Variable pay based on performance for manual workers	0.62	0.66	0.77
Variable pay based on performance for clerical staff	0.65	0.74	0.76
Base pay determined at individual level for clerical	0.68	0.81	0.77
Base pay determined at individual level for professionals	0.69	0.80	0.77
Base pay determined at individual level for manual workers	0.70	0.73	0.77
Variable pay based on performance for professionals	0.70	0.74	0.76
Formal appraisal used to inform career progress and pay	0.73	0.46	0.77
Variable pay based on performance for managers	0.74	0.73	0.76
In appraisal no input by the employee	0.78	0.30	0.78
Base pay determined at individual level for managers	0.78	0.68	0.78
Collaborative scale (*COLL*)		0.62	0.73
Action programme for inclusion of minorities	0.30	0.30	0.73
Formal briefings for manual workers	0.31	0.82	0.70
Non-managerial career development by project team work	0.37	0.57	0.71
Presence of joint consultative committee	0.44	0.30	0.73
Formal briefings for clerical staff	0.46	0.72	0.70
Managerial career development by project team work	0.50	0.49	0.70
Procedure for employees to communicate to managers	0.54	0.48	0.71
Strategy for communication to employees	0.59	0.58	0.71
Formal briefings for professionals	0.64	0.69	0.69
Employee-employer communication by team briefings	0.69	0.55	0.70
Employer-employee communication by team briefings	0.72	0.58	0.70
Written mission and corporate values statement	0.72	0.49	0.71
Formal briefings for managers	0.92	0.70	0.72

Notes: MSP denotes Mokken Scaling Program. H is Loevinger's coefficient of homogeneity (weighted); all H-coefficients are significantly different from zero at the 0.001 level. Alpha is Cronbach's Alpha measure of reliability for the scale; for each item the Alpha is for the scale minus the item.

Table A1b HRM practices scales, UK

Scale/Variable		MSP	Alpha
	Mean	H	
Calculative scale (*CALC*)		0.69	0.80
In appraisal no input by the employee	0.14	0.30	0.79
Using compulsory redundancies	0.31	0.30	0.78
Variable pay based on performance for professionals	0.38	0.72	0.77
Regular formal appraisal for manual workers	0.40	0.74	0.80
Variable pay based on performance for manual workers	0.44	0.64	0.79
Variable pay based on performance for clerical staff	0.47	0.71	0.78
Variable pay based on performance for managers	0.48	0.69	0.78
Regular formal appraisal for clerical staff	0.60	0.79	0.78
Regular formal appraisal for professionals	0.62	0.79	0.78
Regular formal appraisal for managers	0.64	0.76	0.78
Base pay determined at individual level for manual workers	0.69	0.50	0.79
Base pay determined at individual level for clerical	0.75	0.66	0.78
Base pay determined at individual level for professionals	0.76	0.67	0.78
Formal appraisal used to inform career progress and pay	0.79	0.40	0.79
Base pay determined at individual level for managers	0.81	0.70	0.78
Collaborative scale (*COLL*)		0.60	0.71
Non-managerial career development by project team work	0.27	0.67	0.71
Action programme for inclusion of minorities	0.37	0.35	0.71
Managerial career development by project team work	0.41	0.67	0.70
Formal briefings for manual workers	0.47	0.76	0.67
Presence of joint consultative committee	0.55	0.35	0.70
Procedure for employees to communicate to managers	0.54	0.62	0.71
Formal briefings for clerical staff	0.60	0.75	0.66
Strategy for communication to employees	0.73	0.62	0.69
Formal briefings for professionals	0.76	0.65	0.66
Written mission and corporate values statement	0.84	0.31	0.69
Employee-employer communication by team briefings	0.89	0.33	0.70
Employer-employee communication by team briefings	0.90	0.34	0.70
Formal briefings for managers	0.94	0.60	0.69

Notes: MSP denotes Mokken Scaling Program. H is Loevinger's coefficient of homogeneity (weighted); all H-coefficients are significantly different from zero at the 0.001 level. Alpha is Cronbach's Alpha measure of reliability for the scale; for each item the Alpha is for the scale minus the item.

Table A2a Correlation matrix for selected regression variables: PSCs

	TUPR	TUIN	Firm Size	Firm Age	MNC	Private Firm	COLL
TUIN	0.76 (0.001)	1.00					
Firm Size	0.39 (0.001)	0.40 (0.001)	1.00				
Firm Age	0.34 (0.001)	0.27 (0.001)	0.27 (0.001)	1.00			
MNC	-0.14 (0.00)	-0.12 (0.001)	0.04 (0.21)	-0.09 (0.02)	1.00		
Private Firm	-0.22 (0.001)	-0.19 (0.001)	-0.08 (0.02)	-0.15 (0.001)	0.21 (0.001)	1.00	
COLL	0.06 (0.09)	0.13 (0.001)	0.22 (0.001)	0.09 (0.01)	0.14 (0.001)	-0.09 (0.01)	1.00
CALC	-0.08 (0.03)	-0.03 (0.34)	0.10 (0.001)	-0.03 (0.43)	0.19 (0.001)	0.25 (0.001)	-0.03 (0.001)

Note: Pearson correlation coefficients and significance levels (p) are reported. MNC denotes Multinational firm.

Table A2b Correlation matrix for selected regression variables: UK

	TUPR	TUIN	Firm Size	Firm Age	MNC	Private Firm	COLL
TUIN	0.70 (0.001)	1.00					
Firm Size	0.25 (0.001)	0.28 (0.001)	1.00				
Firm Age	0.03 (0.46)	0.03 (0.44)	0.01 (0.88)	1.00			
MNC	-0.02 (0.62)	-0.001 (0.90)	0.04 (0.26)	0.06 (0.06)	1.00		
Private Firm	-0.33 (0.001)	-0.28 (0.001)	-0.15 (0.001)	0.16 (0.00)	0.22 (0.001)	1.00	
COLL	0.20 (0.09)	0.24 (0.001)	0.14 (0.001)	-0.07 (0.03)	0.06 (0.05)	-0.22 (0.001)	1.00
CALC	-0.30 (0.03)	-0.26 (0.34)	0.19 (0.001)	0.02 (0.55)	0.21 (0.001)	0.40 (0.001)	-0.07 (0.02)

Note: Pearson correlation coefficients and significance levels (p) are reported. MNC denotes Multinational firm.

Table A3a Determinants of collaborative practices in PSCs (with union influence)

Variables	Models				
	(1)	(2)	(3)	(4)	(5)
Firm size	0.544 ***	0.526 ***	0.515 ***	0.502 ***	0.479 ***
	(0.085)	(0.085)	(0.085)	(0.085)	(0.088)
Firm age	0.061	0.112	0.121	0.065	0.062
	(0.103)	(0.104)	(0.100)	(0.100)	(0.100)
Multinational firm		0.799 ***	0.761 ***	0.711 ***	0.710 **
		(0.281)	(0.268)	(0.267)	(0.270)
Private firm		0.524 **	0.502 **	0.424 *	0.250
		(0.239)	(0.230)	(0.230)	(0.250)
Bulgaria			-2.173 ***	-2.242 ***	-2.249 ***
			(0.411)	(0.410)	(0.409)
Hungary			-0.304	-0.335	-0.284
			(0.432)	(0.431)	(0.430)
Estonia			0.580	0.545	0.522
			(0.431)	(0.429)	(0.429)
Slovenia			0.542	0.543	0.506
			(0.393)	(0.391)	(0.392)
Slovakia			-1.158 ***	-1.189 ***	-1.183 ***
			(0.379)	(0.377)	(0.376)
Business cycle				0.384 ***	0.426 ***
				(0.143)	(0.146)
Primary industries					0.348
					(0.311)
Manufacturing					0.627 ***
					(0.232)
Construction					-0.119
					(0.412)
R_squared	0.11	0.13	0.23	0.24	0.40
Number observations	747	747	747	747	747

Notes: Coefficients reported represent marginal effects. Reference country is Czech Republic and reference industry is 'Services'. Level of significance of estimated coefficients is indicated as follows: 1 percent ***, 5 percent **, 10 percent *.

Table A3b Determinants of collaborative practices in the UK (with union influence)

Variables	Models			
	(1)	(2)	(3)	(4)
Firm size	0.268 ***	0.193 ***	0.191 ***	0.236 ***
	(0.072)	(0.072)	(0.072)	(0.073)
Firm age	-0.112	-0.109	-0.107	-0.115
	(0.083)	(0.083)	(0.083)	(0.083)
Multinational firm		0.764 ***	0.774 ***	0.671 **
		(0.264)	(0.265)	(0.266)
Private firm		-1.260 ***	-1.226 ***	-1.370 ***
		(0.217)	(0.223)	(0.236)
Business cycle			0.089	0.135
			(0.126)	(0.126)
Primary industries				0.838 *
				(0.491)
Manufacturing				0.570 **
				(0.226)
Construction				-0.766
				(0.502)
R_squared	0.07	0.12	0.13	0.22
Number observations	800	800	800	800

Notes: Coefficients reported represent marginal effects. Reference industry is 'Services'.
Level of significance of estimated coefficients is: 1 percent ***, 5 percent **, 10 percent.

Table A4a Determinants of calculative practices in the PSCs (with union influence)

Variables	Models				
	(1)	(2)	(3)	(4)	(5)
Firm size	0.329 ***	0.315 ***	0.258 ***	0.253 ***	0.286 ***
	(0.087)	(0.084)	(0.088)	(0.088)	(0.091)
Firm age	-0.098	-0.076	-0.068	-0.057	-0.067
	(0.105)	(0.103)	(0.104)	(0.104)	(0.104)
Multinational firm		1.087 ***	0.969 ***	0.947 ***	0.906 ***
		(0.279)	(0.276)	(0.277)	(0.280)
Private firm		1.319 ***	1.152 ***	1.117 ***	0.999 ***
		(0.238)	(0.237)	(0.239)	(0.260)
Bulgaria			-2.010 ***	-2.040 ***	-2.054 ***
			(0.424)	(0.425)	(0.425)
Hungary			-1.623 ***	-1.637 ***	-1.639 ***
			(0.446)	(0.446)	(0.446)
Estonia			-2.196 ***	-2.212 ***	-2.216 ***
			(0.445)	(0.445)	(0.445)
Slovenia			-2.062 ***	-2.062 ***	-2.148 ***
			(0.405)	(0.405)	(0.408)
Slovakia			-1.490 ***	-1.504 ***	-1.479 ***
			(0.391)	(0.391)	(0.391)
Business cycle				0.167	0.139
				(0.148)	(0.151)
Primary industries					-0.648 **
					(0.323)
Manufacturing					-0.076
					(0.241)
Construction					-0.246
					(0.428)
R_squared	0.08	0.12	0.30	0.31	0.34
Number observations	747	747	747	747	747

Notes: Coefficients reported represent marginal effects. Reference country is Czech Republic and reference industry is 'Services'. Level of significance of estimated coefficients is: 1 percent ***, 5 percent **, 10 percent *.

Table A4b Determinants of calculative practices in the UK (with union influence)

Variables	Models			
	(1)	(2)	(3)	(4)
Firm size	-0.420 ***	-0.325 ***	0.325 ***	0.337 ***
	(0.088)	(0.082)	(0.083)	(0.084)
Firm age	-0.122	-0.167 *	-0.167 *	-0.139
	(0.101)	(0.094)	(0.095)	(0.096)
Multinational firm		1.370 ***	1.368 ***	1.331 ***
		(0.303)	(0.304)	(0.306)
Private firm		2.403 ***	2.398 ***	2.567 ***
		(0.249)	(0.256)	(0.271)
Business cycle			-0.013	-0.034
			(0.145)	(0.146)
Primary industries				-0.834
				(0.566)
Manufacturing				-0.422 *
				(0.260)
Construction				-0.668
				(0.577)
R_squared	0.08	0.23	0.23	0.26
Number observations	800	800	800	800

Notes: Coefficients reported represent marginal effects. Reference industry is 'Services'.
Level of significance of estimated coefficients is: 1 percent ***, 5 percent **, 10 percent.

Table A5a Determinants of collaborative practices in the PSCs (with union presence)

Variables	Models				
	(1)	(2)	(3)	(4)	(5)
Firm size	0.505 ***	0.488 ***	0.480 ***	0.464 ***	0.447***
	(0.089)	(0.089)	(0.089)	(0.089)	(0.091)
Firm age	0.056	0.112	0.051	0.043	0.056
	(0.108)	(0.109)	(0.106)	(0.106)	(0.106)
Multinational firm		0.821 ***	0.993 ***	0.936 ***	0.840 ***
		(0.293)	(0.281)	(0.280)	(0.283)
Private firm		0.582 **	0.536 **	0.454 *	0.298
		(0.249)	(0.240)	(0.240)	(0.261)
Bulgaria			-1.981 ***	-2.056 ***	-2.074 ***
			(0.432)	(0.431)	(0.430)
Hungary			-0.163	-0.198	-0.139
			(0.444)	(0.442)	(0.441)
Estonia			0.657	0.614	0.661
			(0.440)	(0.438)	(0.437)
Slovenia			0.660 *	0.658 *	0.636
			(0.403)	(0.401)	(0.402)
Slovakia			-1.098 ***	-1.136 ***	-1.140 ***
			(0.389)	(0.387)	(0.386)
Business cycle				0.432 ***	0.455 ***
				(0.148)	(0.151)
Primary industries					0.240
					(0.319)
Manufacturing					0.664 ***
					(0.244)
Construction					0.107
					(0.444)
R_squared	0.10	0.12	0.27	0.28	0.38
Number observations	680	680	680	680	680

Notes: Coefficients reported represent marginal effects. Reference country is Czech Republic and reference industry is 'various services'. Level of significance of estimated coefficients is: 1 percent ***, 5 percent **, 10 percent *.

Table A5b Determinants of collaborative practices in the UK (with union presence)

Variables	Models			
	(1)	(2)	(3)	(4)
Firm size	0.300 ***	0.226 ***	0.225 ***	0.272 ***
	(0.074)	(0.074)	(0.074)	(0.075)
Firm age	-0.131	-0.123	-0.122	-0.135
	(0.085)	(0.085)	(0.086)	(0.086)
Multinational firm		0.801 ***	0.808 ***	0.702 ***
		(0.267)	(0.268)	(0.269)
Private firm		-1.239 ***	-1.218 ***	-1.378 ***
		(0.228)	(0.234)	(0.246)
Business cycle			0.055	0.117
			(0.131)	(0.131)
Primary industries				0.838
				(0.524)
Manufacturing				0.610 ***
				(0.232)
Construction				0.824
				(0.546)
R_squared	0.08	0.12	0.12	0.20
Number observations	800	800	800	800

Notes: Coefficients reported represent marginal effects. Reference industry is 'Services'.
Level of significance of estimated coefficients is: 1 percent ***, 5 percent **, 10 percent.

Table A6a Determinants of calculative practices in the PSCs (with union presence)

Variables	Models				
	(1)	(2)	(3)	(4)	(5)
Firm size	0.329 ***	0.307 ***	0.249 ***	0.242 ***	0.268 ***
	(0.091)	(0.088)	(0.091)	(0.092)	(0.095)
Firm age	-0.118	-0.094	-0.083	-0.073	-0.076
	(0.111)	(0.109)	(0.110)	(0.110)	(0.110)
Multinational firm		1.096 ***	0.987 ***	0.964 ***	0.916 ***
		(0.292)	(0.290)	(0.291)	(0.295)
Private firm		1.309 ***	1.131 ***	1.098 ***	1.041 ***
		(0.248)	(0.248)	(0.250)	(0.271)
Bulgaria			-1.882 ***	-1.912 ***	-1.925 ***
			(0.446)	(0.447)	(0.447)
Hungary			-1.675 ***	-1.689 ***	-1.711 ***
			(0.459)	(0.459)	(0.459)
Estonia			-2.065 ***	-2.082 ***	-2.097 ***
			(0.454)	(0.455)	(0.455)
Slovenia			-1.977 ***	-1.978 ***	-2.042 ***
			(0.416)	(0.416)	(0.418)
Slovakia			-1.399 ***	-1.414 ***	-1.384 ***
			(0.402)	(0.402)	(0.402)
Business cycle				0.176	0.159
				(0.154)	(0.157)
Primary industries					-0.602 *
					(0.332)
Manufacturing					-0.334
					(0.254)
Construction					-0.521
					(0.463)
R_squared	0.07	0.14	0.23	0.24	0.28
Number observations	680	680	680	680	680

Notes: Coefficients reported represent marginal effects. Reference country is Czech Republic and reference industry is 'various services'. Level of significance of estimated coefficients is indicated as follows: 1 percent ***, 5 percent **, 10 percent *.

Table A6b Determinants of calculative practices in the UK (with union presence)

Variables	Models			
	(1)	(2)	(3)	(4)
Firm size	-0.412 ***	-0.306 ***	-0.306 ***	0.326 ***
	(0.094)	(0.087)	(0.087)	(0.089)
Firm age	-0.078	-0.130	-0.130	-0.104
	(0.107)	(0.100)	(0.101)	(0.101)
Multinational firm		1.295 ***	1.291 ***	1.272 ***
		(0.314)	(0.316)	(0.318)
Private firm		2.588 ***	2.576 ***	2.778 ***
		(0.268)	(0.276)	(0.292)
Business cycle			-0.031	-0.062
			(0.154)	(0.155)
Primary industries				-0.366
				(0.620)
Manufacturing				-0.516 *
				(0.274)
Construction				-0.895
				(0.645)
R_squared	0.08	0.14	0.19	0.24
Number observations	800	800	800	800

Notes: Coefficients reported represent marginal effects. Reference industry is 'Services'. Level of significance of estimated coefficients is indicated as follows: 1 percent ***, 5 percent **, 10 percent.