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Human Resource Management and Performance: A Comparative Study of Ireland and the Netherlands**

In this article, we compare the effects of 'high performance human resource management' (HPHR) on employee and company performance between Ireland and the Netherlands. Key hypotheses are, first, that companies using the HPHR system exhibit higher levels of employee and company performance than companies that do not. Second, we expect that these relationships are stronger for Ireland than for the Netherlands as the societal context (skill formation, industrial relations and value systems) consistently support the working of HPHR in Ireland but in the Netherlands these institutions restrict the potential contribution of HPHR to performance improvements. These hypotheses are tested on company-level data from Ireland and the Netherlands. The main finding is that HPHR is associated with higher performance levels in Ireland but not in the Netherlands. Comparing the effects of single HR domains between the two countries further supports the institutional context hypothesis.

Key words: Human Resource Management, Performance, Societal Effect, Ireland, the Netherlands

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Introduction

A substantial and growing body of research claims that substantial economic returns can be obtained through the implementation of what are variously called flexible production systems (MacDuffie 1995; Pil/MacDuffie 1996), high involvement (Lawler et al. 1998), high commitment (Walton 1985), high performance work systems (Appelbaum et al. 2000) and high performance human resource management (Becker and Huselid 1998; Pfeffer 1994). All of these share the idea that the practices are valued for their strategic quality. That is to say, when compared to traditional forms of personnel management, they are unsurpassable in their ability to forge for the firm a skilled and flexible workforce and to create more co-operative labour-management relations that encourage employees to work harder (Appelbaum et al. 2000). Many argue that while high performance HR management increases a company's productivity and profits (e.g., Ichniowski/Shaw/Prennushi 1997; Huselid 1995), the effect is even more pronounced when complementary bundles are used together (e.g., Ichniowski et al. 1997, Hoque 1999).

The important question whether the working of high performance human resource management (HPHR) depends on certain cultural and institutional conditions has been largely neglected in the literature. However, for many, 'human resource management' evokes a strong association of being 'an American invention' and being from a culture dominated by 'the right to manage'. Consequently, there is widespread belief that 'human resource management' is de facto neither practical nor espoused in Europe (Brewster 1992). Within Europe, the effects of HPHR have been most intensively studied in the United Kingdom. Although mixed in their degree of support, these studies generally uphold the view that HPHR is associated with improved company performance (e.g., Hoque 1999; Michie/Sheehan 2001; cp. Wood/De Menzes 1998; Guest et al. 2003). This paper contributes to this question by examining whether similar support can be found for other European countries, in particular those less similar to the US in their cultural heritage and institutional set-up than the UK. We examine the effectiveness of HPHR in Ireland and the Netherlands. Both of these European countries have small, open economies, and the companies operating within them are strongly exposed to the globalization of the economy. Consequently, they are bombarded with pressure to re-structure and find new, challenging techniques for managing their human resources (e.g., Looise/Pauwe 2001; Gunnigle et al. 1994; 1997). Ireland and the Netherlands, however, demonstrate distinct differences in cultural orientation and reflect very different approaches to the employment of people and the provision of education and training. Ireland is a country that has had strong historical and cultural links with the US and the UK. The Netherlands in contrast, with its elaborate welfare state, corporatist industrial relations and egalitarian values, has developed more in line with Scandinavia and Germany. In this study, we aim to show that the societal context is the decisive factor determining how effectively HPHR improves employee performance and that this also shapes also the contribution high performance human resource management can make to the economic success of the companies.

High performance human resource management

Although studies on the effectiveness of high performance human resource management vary with regard to the number and specific nature of the practices that constitute these systems, there is general agreement that the practices included should facilitate the development of skills and knowledge, provide training and performance incentives, 'empower' the workforce, allow workers to share in benefits and recruiting in a discerning fashion. Based on this literature, we conceptualize high performance human resource management as a concerted effort in five domains or dimensions of human resource management - selection and allocation of the workers, provision with training, sharing arrangements such as high wages, profit-sharing or fringe benefits, incentives structuring and guidance activities. The effect of the high performance HR management at the employee level can be traced to the impact which each of its five domains exerts on different aspects of employee performance: Careful *selection* assures a good fit between company and employees and between job demands and employee profile. *Training* enhances the knowledge and skills of employees. *Sharing arrangements* establish an atmosphere of co-operation and trust and mobilise a gift exchange that is essential to a high effort work culture. *Incentives* offer employees the possibility of securing rewards for improving their work effort. *Guidance* strengthens the incentive effect by making explicit which types of work effort are most valued by the employer and are thus most likely to be rewarded. These guidance practices not only cover the operating of incentives but also include familiarising employees with the work norms and values of the organisation. The practices help to integrate employees into the company's social system and thereby building valuable collective social capital. These five HR components when applied together are mutually reinforcing and it is this complementarity effect within HPHR that is expected to explain improvements in employee performance (see Horgan/Muhlau 2003; cp. Ichniowski et al. 1997; Becker/Huselid 1998). When applied consistently and competently, this strategy is expected to enhance the task and contextual performance of employees, regardless of the particularities of the company and its institutional embeddedness:

Hypothesis 1: Companies that systematically implement high performance human resource management will exhibit a higher level of employee performance than companies that use other systems of human resource management

Moreover, it is expected that this improved performance at the employee level will be reflected in improved financial and economic company performance (see, e.g., Becker and Huselid, 1998; Appelbaum et al., 2000). With the increased levels of employee work commitment and co-operation associated with the use of the high performance HR, production operations are less likely to be affected by problems such as absenteeism and negligence. Additionally, improved training, tacit knowledge and experience mean that employees have a better conceptual grasp of the production process and are better equipped to deal with direct work problems when encountered. Improved work motivation and skills and knowledge will impact upon production system performance in terms of quality of service and products and the 'absorptive capacity' for product and process innovations. Given the important role played by employee motivation

and skill in systems of continuous improvement and other forms of organizational learning, it is expected that productivity development may also be enhanced. Improved work motivation and better skills also facilitate better task performance and a higher quantity as well as quality of work effort which may be reflected in better productivity levels. The effectiveness of the company's production operations in turn is an important determinant of company performance. Regardless of industry, a company's market share and financial well-being depend greatly on how well the company brings quality and innovation to the market and on being able to organize production in a cost-effective way. To this end, the integration and co-ordination of the firm's technology, resources and production activities are all crucial. Moreover, employee performance also affects corporate performance in ways that are not mediated by the performance of the production system. First, company performance depends not only on how well the production department functions but also on the contribution of other supportive functions in the company (for example the marketing, sales, customer service, administration, and technical support staff). Improved employee performance in these supportive functions would be captured by the direct relationship between employee and corporate performances. Second, persistent problems as well as single events related to issues such as employee misbehaviour, negligence and unrest could inflict substantial harm on a company. This is particularly likely in the case of reputation sensitive and high-risk lines of business, although these problems may only affect company productivity only marginally. A third aspect of the employee-corporate performance link consists of the adverse effects of management preoccupation with handling such 'employee misbehaviour' problems. Being distracted by internal affairs implies that less time and effort is available for core management activities such as strategy development and implementation or for managing external relations. The assumption is that the sum of these benefits outweighs the costs associated with the set up and running of intensive human resource management systems and hence will be reflected in improved economic company performance. This relationship however is expected to be weaker than the relationship between high performance human resource management and employee performance – first the link is indirect, being mediated by employee performance, and second account should be taken of the fact that company performance is affected by a multitude of other factors associated with the firm's capabilities, its competitive position and random influences on economic outcomes. Taken together, we expect:

Hypothesis 2: Companies that systematically implement high performance human resource management exhibit higher levels of economic company performance than companies that use other systems of human resource management and this relationship will be mediated by the effect on employee performance.

HPHR and 'Societal Effect'

The high performance work systems literature appears to assume, albeit implicitly, that high performance human resource management has a universal enhancing effect, i.e. improves performance independent of the particular societal and cultural context, performance. Empirical evidence to support this claim however, is surprisingly scarce as

most of the studies are confined to single countries. Comparative studies of work relations have pointed to systematic between-country variation with regard to work practices and explain the diversity in organising work by path dependencies and institutional isomorphism. For example, the societal effect approach emphasises the distinctive nature of country-specific configurations of work systems, the persistence of strong cross-national differences and the continuing importance of diverging forces in the co-evolution of work systems and social institutions (Maurice et al. 1986; Maurice et al. 1980; Sorge/Warner 1986; Sorge 1991; Lane 1989). Three aspects of the social structure in particular are considered to shape the organisation of work - the educational and skill formation systems, the industrial relations and labour markets institutions and the patterns of cultural values. In concert, these exert a strong 'societal effect'. Although the societal effect approach is not specific with regard to the micro-processes that reproduce the match between societal institutions and work systems, selection on the basis of the effectiveness of the practices which varies with the specific contexts, appears to be an obvious and important mechanism.

Human resource systems are bundles of practices or concerted activities of human resource management. As internal consistency of these practices has been shown to improve their effectiveness, external consistency with societal institutions is similarly expected to be a moderating factor. Multiple sets of institutions are relevant for the working of human resource management, the skill formation, the industrial relations and the value system being the most important ones. We posit that these institutions in Ireland consistently create conditions that make HPHR management more crucial for leveraging employee performance. In the Netherlands in contrast, the institutional set up is such that HPHR leaves little mark on the performance of employees. In the following, we briefly contrast the skill formation, industrial relations and value systems of Ireland and the Netherlands and point to the consequences of these differences for the effectiveness of high performance human resource management:

Skill formation: The form of education differs between Ireland and the Netherlands. In Ireland the main emphasis is on the provision of a general education and relatively few students pursue vocational educational training (VET). The Netherlands in contrast has a long tradition of vocational training and 70% of Dutch students participate in VET (European Commission 1998). Moreover, VET appears to be more effective and tailored to the skill needs of companies in the Netherlands (European Commission 1998). This implies that there is less need for company training in the Netherlands when compared with Ireland. Hence when company training is provided in the Netherlands, its impact on employee performance is expected to be smaller. The differences in the organisation of education in Ireland and the Netherlands also have consequences for the selection of employees into the company. The highly differentiated, streamed and specific nature of the Dutch educational system means that employers can use educational credentials as a reliable signal of the quality of the graduates from that system. This refers not only to the technical and vocational skills in the narrow sense but also to more general work-related attitudes and competencies. The more general nature of the Irish education system, which focuses on academic skills and training, is less closely connected to specific skills and behavioural codes. Although grades are also important selection criteria in the Irish context (Hannan et al.

1998), the information represented in the grades may not be sufficient for the employer to match applicants with tasks and careers. Consequently, a high performance strategy depends more on the careful selection of employees in Ireland than in the Netherlands.

Industrial relations. Another important factor in terms of societal effects differentiating the Dutch from the Irish is the prevailing labour market institutions. Dutch industrial relations are traditionally characterised by neo-corporatist arrangements (Visser 1992). Consequently in the Netherlands many labour standards regarding fringe benefits, employment protection and employee representation are mandatory or governed by collective agreements at the industry level (OECD 1994). Moreover, wage differences among firms are comparatively small (Teulings/Hartog 2000). The relative benefits to employee performance associated with high performance HR are expected to be lower in the Netherlands, where inter-company differences are smaller and where labour market conditions are in general more secure. Moreover, Dutch employees, undergirded by a generous and elaborate welfare system, are less dependent on company-provided insurance and pensions than the Irish are. Additionally, the collective experience of long-term massive unemployment in Ireland should lead the Irish to place a particularly high value on long-term commitment given by companies.

Value system. Finally, the emphasis on performance-contingent incentives, as part of the HPHR package, appears to be more in line with work related values and expectations of the Irish than that of the Dutch. Extrinsic rewards such as high wages and promotions are more motivating for Irish than Dutch employees who in turn, place greater value on intrinsic rewards, in particular on the quality of social relations at work (see Horgan 2003: 68, 69 for a discussion of the evidence). This is in keeping with Hofstede's (1984) finding that the Dutch score higher than the Irish on the femininity/masculinity dimension of cultural values. The associated aversion to competitive relations in the workplace together with a de-emphasis of monetary outcomes represents a climate that is ill-suited to the working of incentives. Considerable differences also exist with regard to the extent of uncertainty avoidance: The Dutch feel less easy in ambiguous and unstructured situations than the Irish (Hofstede 1984). In uncertainty avoidance cultures, rules and regulations provide a sense of structure in what would otherwise be perceived to be unclear environments. Further, uncertainty avoidance triggers a strong need for behavioural confirmation and for approval from fellow workers and supervisors. The clarification of work-related expectations is therefore an essential component of employee well being. A company can prevent the occurrence of role ambiguity and provide orientation and support to the employee by taking an active role, for example, in the development of employees' futures, their jobs and their careers. Companies can also take steps to embed their employees in the prevailing organisational culture. Such efforts are referred to as 'guidance'. Unlike the other components of the high performance HR bundle, guidance is therefore expected to be more important and more effective in the Netherlands than in Ireland.

This reasoning leads to the following set of hypotheses: First, differences in the organization and outcome pattern of the skill formation system will render company training and selection to be more effective in Ireland than the Netherlands:

Hypothesis 3a: Selection activities will be more strongly associated with employee performance in Ireland than the Netherlands.

Hypothesis 3b: Training activities will be more strongly associated with employee performance in Ireland than the Netherlands.

Second, differences with regard to the industrial relations institutions and the welfare system leave more room for companies in Ireland to distinguish themselves by the use of sharing arrangements and also amplify the effect of company-specific benefits in Ireland:

Hypothesis 3c: Sharing arrangements will be more strongly associated with employee performance in Ireland than the Netherlands.

Third, the value system supports performance incentives in Ireland but discourages them in the Netherlands:

Hypothesis 3d: Incentives structuring will be more strongly associated with employee performance in Ireland than the Netherlands.

Finally, we expect that the higher uncertainty avoidance of Dutch employees will render guidance activities more important in the Dutch than the Irish context:

Hypothesis 3e: Guidance activities will be more strongly associated with employee performance in the Netherlands than in Ireland.

As activities in four of the five human resource management dimensions are better supported by the institutional and cultural context of Ireland - only one being supported by the cultural context of the Netherlands (and there is no a priori reason to assume stronger complementarities among activities in the different domains in either country), we expect that given that high performance human resource systems is the concerted effort in the five dimensions, these practices will be more effective in mobilizing employee performance in Ireland than in the Netherlands:

Hypothesis 4: The relationship between high performance human resource management and employee performance will be weaker in the Netherlands than in Ireland

As we expect that the effects of human resource management systems on economic performance of the company will be mediated by employee performance, a weaker link between human resource management activities and employee performance should also be reflected in a weaker relationship with company performance:

Hypothesis 5: The relationship between high performance human resource management and company performance will be weaker in the Netherlands than in Ireland

Data, operationalization and measurement

The data used to test the hypotheses were obtained from the *Careers Management 2000* survey conducted in Ireland and the Netherlands. This data was collected during July 2000 - January 2001. A detailed questionnaire covering a range of human resource practices was sent to senior management/human resource officers in companies (+ 50 employees). A total of 81 usable questionnaires were returned from Ireland, yielding a response rate of nine percent. In the Netherlands, 311 usable questionnaires were returned, yielding a re-

response rate of 6.3 percent. This is somewhat below the average of some other postal surveys, but there are no indications of response bias (see Horgan 2003).

Key concepts

HPHR: High performance human resource management is operationalised by the extent to which companies use the following practices:

1. *Incentives structuring:* this refers to the importance of performance and skill in determining the compensation and promotion opportunities given to core employees.
2. *Training:* the extent to which firms provide in-house or external training to their core employees.
3. *Selection:* the extent to which companies apply rigorous selection criteria in the recruitment and promotion of their core employees.
4. *Guidance:* the extent to which companies provide core employees with guidance and support in the development of their jobs and careers
5. *Sharing Arrangements:* the level of pecuniary and non-pecuniary benefits provided by a company to its core employees (see Table 1 for details).

These five HR domains were submitted to a two-stage cluster analysis that combined hierarchical clustering with k-means clustering (see Horgan 2003). The cluster analyses demonstrated that six different types of human resource management are used by the companies in Ireland and the Netherlands. Only one type involves intensive efforts of companies in all five dimensions of human resource management. This version is referred to as the High Performance Human Resource system. Fourteen percent of the Irish and nine percent of the Dutch companies belong to this category. A second group of companies invests in a selective set, using some but not all, of the practices. Two types can be distinguished here: one type involves using incentives, training and selectivity [Select (inc, tr, sel); Ireland: 22 percent, Netherlands: 13 percent] and a second type involves the use of incentives, sharing arrangements and selectivity [Select (inc, sa, sel), Ireland: 20 percent, Netherlands: 21 percent]. 42 percent of the Irish and 36 percent of the Dutch companies belong to these two variants selective adopters of high performance human resource management. A third group is characterised by remarkably low levels of all the practices. In this group are companies that use none of the HR practices [Low; Ireland: 9 percent, Netherlands: 10 percent], companies that use only selection practices [Low (sel); Ireland: 22 percent, Netherlands: 30 percent] and companies that use only sharing arrangements [Low (sa); Ireland: 14 percent; Netherlands: 17 percent].

Performance measures: Two different aspects of performance are distinguished, the task and contextual performance of employees (employee performance) and the profitability, turnover and market share of the company (economic company corporate performance). A principal components analysis corroborated the expectation that these performance aspects form different dimensions of 'organisational performance'.

Employee performance is an aggregate of three constructs: the first is a 5-point item which asks: "Compared to other similar companies in this country how would you rate this company's performance over the past 3 years in terms of employees' work performance" (1=much worse; 5=much better). The second construct used was a measurement of between

employee cooperation and this was operationalised with “*Compared to other similar companies in this country how would you rate this company’s performance over the past 3 years in terms of relations between employees?*” (1=much worse; 5=much better). The third construct is a 4-item scale measuring different aspects of employee discipline (*Discip*). The question asked was: “*How would you describe this company’s experience of the following... (i) Theft by employees, (ii) workplace aggression; (iii) workplace aggression and; (iv) employee drug and/or alcohol problems?*” (1=Severe problems; 4= No problems). Given the difference in response categories across these measurements, the variables were standardised before aggregation.

Table 1: Measurement of HR dimensions and Performance

HR dimension	Items	Type
Training	Internal training programmes used	Yes/No
Index of z-scores (4-items)	Share of workers receiving: <ul style="list-style-type: none"> • on-the-job in-house training; • off-the-job in house training; • funding further education 	Percentage
Incentives	Importance of merit/job performance for <ul style="list-style-type: none"> • promotion • compensation 	(1-5 ordinal)
Index of z-scores (9-items)	Use of performance related pay performance appraisals	Yes/No
	Bonuses for <ul style="list-style-type: none"> • individual performance • team performance 	Yes/No
	Importance of <ul style="list-style-type: none"> • skills for compensation • variety of skills for promotion • specific skills for promotion 	Yes/No All 1-5 ordinal
Selectivity	Importance for recruitment: <ul style="list-style-type: none"> • education credentials • technical skills • work experience • willingness to learn new skills • Ability to work with others • Ambition 	All 1-5 ordinal
Scale of 13-items	Importance for promotion: <ul style="list-style-type: none"> • leadership quality • conscientiousness • hard working • innovativeness • autonomy • teamwork • commitment 	
Guidance	Use of career development practices	9 practices
Index of z-scores (2-scores)	Clarity of recruitment and promotion standards	Differentiation score
Sharing arrangements	Wage level	Lower-higher
Index of z-scores (3-scores)	Promotion rate	Ratio
	Fringe benefits	11 practices
Employee performance	Job performance	1-5 ordinal
Index of z-scores (3-scores)	Employee cooperation	
	Problems with <ul style="list-style-type: none"> • theft • drug and alcohol • absenteeism • negligence 	0-3 ordinal
Corporate performance	Relative sales volume	1-5 ordinal
Index of z-scores (3-scores)	Relative market share	
	Relative profitability	

Company performance is operationalised by the use of six 5-point Likert items. These items were as follows: “*Compared to other similar companies in this country, how would your company compare its past 3 year’s performance in terms of (i) Sales volume (ii) Market share*” and (iii) Profitability (1=*much worse*; 5=*much better*). These items were also standardised before being aggregated.

Controls: A vector of controls for company heterogeneity was also added to the regression. This vector includes company size (logged), company age (logged), percentage of unionised employees sector dummies and an indicator of flexible work organisation practices.

Methodology

As the dependent variables are approximately continuous and normally distributed, hypotheses have been tested within a multiple linear regression framework. Where appropriate, variables are standardized at the country level to facilitate comparisons. The analyses have been conducted on the separate samples. For test for differences between the samples, the pooled data have been also analyzed with country-specific estimates for the control variables and a country-specific dummy. As the number of data points is quite small, in particular in the case of the Irish data, we opted for a 10 percent significance level a threshold value in order to reduce the chance of Type II errors. As we have only directed hypotheses, the significance tests are conducted one-sided.

Results

Table 2 reports results for the regressions of employee performance (Model 1.1 [Ireland] and Model 2.1 [Netherlands] and company performance [Models 1.2 and 1.3 [Ireland] and Models 2.2 and 2.3 [Netherlands] on human resource management systems (clusters). As far as the Irish data are concerned, the results provide strong support for Hypothesis 1. Each of the selective and non-adopters exhibit significantly lower employee performance levels when compared with the high performance cluster. Not surprisingly, the high performance cluster is also associated with higher performance than the average of the other clusters. This estimate is strongly significant (see Model 1.1). The results of the Dutch data in contrast are only weakly supportive (and this despite the far higher number of cases in the Dutch sample). Although companies that adopt high performance practices either selectively or not at all show poorer employee performance than companies with high performance human resource management, the estimates for these differences are small and insignificant. The same holds for the difference between the high performance cluster and the average of the other companies (see Model 2.1). Although we expected that high performance human resource management would impact on employee performance in both countries (and not only in Ireland), these results are in line with Hypothesis 4, that the relationship between high performance human resource management and employee performance is stronger for Ireland than for the Netherlands. This hypothesis has been formally tested by means of a regression of employee performance on the high performance cluster contrasted with the average of the other clusters (with country-specific estimates for the control variables and a country-specific intercept; not re-

ported). This test reveals that the estimate for the Irish data is significantly larger at the 5%-level than the estimate for the Dutch data.

Table 2: Regressions of Performance Indicators on Human Resource Management Systems

Country	Ireland						The Netherlands					
	Employee Performance		Company Performance		Company Performance		Employee Performance		Company Performance		Company Performance	
Model	Model 1.1		Model 1.2		Model 1.3		Model 2.1		Model 2.2		Model 2.3	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Constant	1.68	.50	-.46	.67	-1.22	.65	.60	.47	-.44	.46	-.55	.45
Union Density	-.12	.29	-.05	.40	-.05	.43	-.39	.24	-.57	.23	-.50	.23
Company Size (logged)	-.07	.09	.29	.15	.28	.13	-.09	.07	.09	.07	.11	.07
Company Age (logged)	-.18	.12	-.08	.21	-.10	.20	-.01	.07	.03	.07	.03	.07
Process Industry	.18	.33	-.77	.44	-.89	.40	.16	.18	-.25	.18	-.26	.17
Food Industry	.33	.35	-.27	.47	-.54	.43	.13	.16	-.01	.16	-.03	.16
Service Industries	.06	.08	-.29	.13	-.37	.12	-.06	.06	-.04	.06	-.03	.06
<i>Human Resource Systems</i>												
Selective (Inc, sa, sel) ¹	-.64*	.38	-.16	.55	.21	.51	-.03	.23	.20	.23	.19	.23
Selective (Inc, tr, sel) ¹	-.90***	.37	-.29	.49	.09	.46	-.01	.26	.04	.26	.02	.25
Low ¹	-.14***	.46	-.56	.62	-.12	.58	-.19	.27	-.07	.26	-.05	.26
Low (sel) ¹	-.11***	.38	-.61	.53	-.08	.51	-.11	.23	.08	.23	.08	.22
Low (sa) ¹	-.126***	.43	-.89*	.57	-.37	.54	-.08	.26	.07	.24	.07	.23
High. ²	[.97***]	[.31]	{.46}	.40	[.00]	[.39]	[.07]	[.20]	[-.09]	[.20]	[-.09]	[.20]
Employee Performance					.49***	.15					.19***	.06
Explained Variance	.287		.246		.390		.035		.043		.079	
N	80		59		59		299		290		290	

¹ Reference Category: High Performance Human Resource Management System

² Other HR systems (i.e., average of the other five systems [estimate if five dummies for other system replaced by High Performance system dummy

*p < .10 one-sided ** p < .05 one-sided *** p < .01 one-sided

The company performance regressions are needed to evaluate the support for Hypothesis 2 and 5. In models 1.2 and 2.2, the clusters have been directly regressed on company performance. In models 1.3 and 2.3, this relationship has been controlled for the effect of employee performance in order to estimate the degree to which the link between human resource management systems and company performance is mediated by employee performance. Again it is useful to discuss the results for the countries separately. With regard to Ireland, we see that companies with high performance human resource management outperform each of the other clusters and, consequently,

do better than the average of the other companies. In line with the reasoning that the impact of human resource practices should be primarily felt at the employee level and that the effect on economic performance of the company is only indirect and more subject to random influences, the effects are only about half as large as the effects on employee performance. As a consequence, the estimates are, with one exception, not significant (see Model 1.2). As the results of Model 1.3 indicate, the impact of high performance human resource management is fully mediated by employee performance. The performance differences between the high performance cluster and the other clusters become tiny and insignificant and on average zero. Hypothesis 3, in particular the mediation part of this hypothesis, is thus fully supported by the Irish data (with the disclaimer that the strength of the relationship between HRM clusters and company performance, largely due to the small number of cases, is below conventional levels of significance).

According to the results of the Dutch sample, high performance human resource management does not have a positive impact on company performance at all. If any, this effect is negative as four of the five other clusters do slightly better (although none of differences is significant, see Model 2.2). Additional controls for employee performance do not affect the estimates qualitatively. These results are clearly a rejection of Hypothesis 2. In conjunction with the earlier finding of a very weak relationship between high performance human resource management and employee performance, these findings make sense: when costly human resource practices do not improve the performance of the employees, they should have a negative effect on company performance - the set-up and running costs of these human resource systems all add to the company's expenses but are not offset by improvements in workforce performance.

The acceptance of Hypothesis 2 for the Irish and the rejection of this hypothesis for the Dutch data provide preliminary support for Hypothesis 5 - that the relationship between high performance human resource management and company performance is weaker for the Netherlands than for Ireland. A formal test of this hypothesis confirms this. Regressions on the pooled data indicate that the estimate for the difference between the high performance cluster and the average of the other clusters is larger for the Irish sample in a weakly significant manner ($p < .10$; not reported).

While the results hitherto have provided support for the hypotheses regarding the differences between the effect of high performance human resource management on performance, the analyses reported in Table 3 give us an indication whether our suggested explanation of why this should be, also finds support in the data. The Table reports regressions of employee performance on the different dimensions of human resource management that together form the basis of the human resource clusters. In model 3.1, these dimensions are entered separately, while they are entered simultaneously in models 3.2. The reported regression coefficients are estimated by country-specific regressions. Our main interest, however, is the differences between the two countries. The standard errors of these differences have been estimated by pooled regression with country-specific estimates for the control variables and a country-specific dummy.

Table 3: Regressions of Employee Performance on Human Resource Management Domains

Model	Model 3.1						Model 3.2					
	Ireland		The Netherlands		Difference		Ireland		The Netherlands		Difference	
Country	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
<i>Human Resource Dimensions</i>												
Selection	.30***	.11	.09*	.06	.21*	.13	.21*	.13	.06	.07	.14	.15
Training	.09	.12	.08*	.06	.02	.13	.03	.12	.01	.07	.02	.14
Sharing Arrangements	.29**	.12	.12**	.06	.17*	.13	.19*	.13	.09*	.07	.10	.15
Incentives Structuring	.32***	.13	.06	.06	.26**	.14	.11	.16	-.02	.07	.13	.18
Guidance	.11	.13	.17***	.06	-.06	.14	.00	.12	.14**	.07	-.13	.14
Explained Variance	n.a.		n.a.		n.a.		.274		.064		n.a.	
N	80		299		379		80		299		379	

Controls as in regressions reported in Table 2

*p < .10 one-sided ** p < .05 one-sided *** p < .01 one-sided

According to hypothesis 3a, companies in Ireland should benefit more from a careful selection and allocation of employees in terms of performance than companies in the Netherlands. We find that the intensity of selection activities, when considered separately (model 3.1), is significantly positively related to employee performance in Ireland. In the Netherlands, the positive estimate is only weakly significant ($p < .10$) and, in accordance with the hypothesis, smaller than the estimate for the Irish data. This difference is weakly significant ($p < .10$). Hypothesis 3b pertains to the same pattern with regard to company-provided training. Training activities command a small positive effect for Ireland and the Netherlands, where the effect is weakly significant (although slightly smaller). In practical terms, there is no difference between the countries (model 3.1). Hypothesis 3c spelled out the expectation that employees of companies in Ireland when compared with the Netherlands should reciprocate sharing of the benefits from improved company performance to a stronger degree. Sharing arrangements are significantly associated with employee performance in Ireland as well as in the Netherlands. In line with this hypothesis, we find that the estimate of the Irish sample is weakly significantly stronger than the Dutch estimate ($p < .10$; Model 3.1). Hypothesis 3d outlined the expectation that incentives should be more effective in mobilizing employee performance in Ireland than in the Netherlands. When considered on their own, efforts in the dimension of incentives structuring are significantly associated with improved employee performance in Ireland; in the Netherlands the estimate is also positive, but below conventional significance levels. The difference between the two coefficients is significant which supports Hypothesis 3d (model 3.1). Hypothesis 3e, finally, is related to HR activities aiming to guide the employees. Unlike the other HR dimensions, we expected a larger effect of guidance activities for the Netherlands. In both countries we find a positive relationship which is significant for the Netherlands but not for Ireland. The difference between the two countries is in the expected direction but this is too small to command significance. When these

HR dimensions are entered simultaneously (Model 3.2), the coefficients become smaller due to the high positive intercorrelation among these HR dimensions. In the case of the Irish data, only selection activities and sharing arrangements are weakly significant. In the case of the Dutch data, only guidance activities exert a significantly positive effect. As a consequence of a weakening effect from the high intercorrelations, the country differences between the marginal contributions shrink also in size and none of these differences is significant. However, we regard the qualitative pattern of the estimates as fairly supportive for the set of hypotheses regarding the effects of the HR dimensions. The data are well in line with the suggested explanation of why there should be strong differences in the effectiveness of high-performance human resource management between Ireland and the Netherlands.

Summary and discussion

In this paper, we examined whether high performance human resource systems have effects on employee and company performance in Ireland and the Netherlands. There is a growing body of research on the effectiveness of high performance practices and related concepts. However, most of this research has been conducted in the US and the UK. Despite obvious differences, these countries show strong 'family resemblances' with regard to their culture and social and economic institutions. The question, whether these management systems can be successfully transferred to other societal contexts has therefore hitherto been neglected. In this paper, we attempted to develop an argumentation of why the effectiveness of high-performance management systems could be shaped by a 'societal effect'. We elaborated on how the different skill formation, industrial relations and value systems of the two countries under consideration support or discourage the mobilization of employee performance by high-performance human resource management. The reasoning lead us to expect that high-performance human resource management would be 'universally' (i.e. in both countries) effective in improving employee performance and that this would work through to affect indirectly the economic performance of the companies. However, we expected also that the mark of high performance human resource management on employee performance would be systematically weaker in the Netherlands than in Ireland and consequently would also make a smaller contribution to company performance.

These hypotheses were tested using the data from a postal survey of establishments of medium to large companies in Ireland and the Netherlands. In this survey, performance variables and human resource management systems were measured in an identical way to permit cross-country comparisons. The analyses revealed that high-performance human resource management had a substantial effect on employee performance and indirectly on economic performance of the companies in Ireland but not in the Netherlands. Moreover, the data supported the hypothesis that the impact of high performance human resource management is weaker in the Netherlands when compared to Ireland. In order to further support our theoretical argumentation we examined the effects of human resource activities in the single domains. These analyses revealed that incentives structuring, selection efforts and sharing arrangements were more strongly associated with employee performance in Ireland than the Netherlands as predicted by our theoretical sketch. Further, training activities proved to be slightly

more important and guidance activities less important in Ireland than in the Netherlands. These results were also in line with our expectations; however they failed to reach conventional levels of significance. Taken together, however, these analyses provided further support for the theoretical argument.

The data we used are unique, as they permit the first comparative analyses of the performance effects of high performance human resource management. They have however, and naturally, also strong limitations. First, the response rates were quite low. All surveys with less than full response can be affected by a self-selection bias and intuitively, this problem appears to be more severe the lower the response rate. However comparisons of the distribution across industries and size-classes with population data and other surveys gave no indication of unrepresentative sampling (see Horgan, 2003: 87-90). Selection effects are more severe for the estimation of unconditional means than for conditional means (i.e., regression coefficients) as long as the sample is not selected on the dependent variable. The distribution of the dependent variable (employee and economic performance) however does not differ systematically from the results of other surveys that work with a similar methodology – hence we see no indication for obvious selection biases. Moreover, as the response rates are quite similar in both countries, they should be affected equally which poses less obstacles for the comparative analyses.

As a consequence of the response rates, the samples, in particular the Irish one, were quite small. Small sample sizes primarily affect the ‘power’ of statistical tests, i.e. the chance that a null-hypotheses is not rejected while there is a relationship in the population. In order to reduce the chance of a ‘Type II error’, we worked with significance levels of 10 percent and also took the qualitative results into account when we assessed the support for the hypotheses. In this context, it should be noted that most of the hypotheses were confirmed at higher significance levels for the smaller Irish dataset and that most of the country differences proved to be significant. Moreover, the estimated effects of high-performance human resource management in the Netherlands were so small that even if they were to gain statistical significance in a larger sample, they would be nevertheless practically insignificant and inconclusive for practical recommendations.

The study employed a single-informant design although it is of course desirable to acquire the information about dependent and independent variables from separate sources and validate both types of information by multiple informants. Moreover, performance information was subjectively measured rather than by administratively generated ‘objective’ data. As recent research shows, the problems of subjective measurement of performance may be overestimated (see Wall et al. 2004). Moreover, upward biases of estimated relationships due to ‘common method variance’ and downward biases due to high measurement errors should affect both samples equally and are therefore unlikely to account for the differences between the samples.

Finally, the hypotheses have been tested using cross-sectional data rather than panel data. In the discussion about the performance effects of work practices, doubts about the causality are ubiquitous. Is the relationship between work practices and outcome variables spurious – for example does smart management account for above-average performance and do these types of managers also tend to adopt fancy human

resource systems? Or could the causality even be reversed – for example can successful companies afford to employ costly yet futile work practices? Our analyses provide some indications that these interpretations are not very likely: The relationship between high-performance human resource management systems is for both datasets stronger for employee performance than for company performance and fully mediated by employee performance. In the case of spuriousness and even more so in the case of reversed causality, the practices should be more strongly associated with company performance than with employee performance. Nevertheless, panel data, in conjunction with much larger samples, would have been helpful to clarify these issues - they permit a quasi-experimental design to evaluate whether the implementation of practices during the period of observation makes a difference while controlling for the effect of stable unobservable characteristics. However, it should be noted that panel analyses are less decisive than frequently assumed as they typically maps short-term improvements that may be not sustainable in the long-term ('Hawthorne-type effects') or short-term reorganization problems that may turn into successes in the long-term (as many changes have a J-curve effect on performance over time).

These data limitations notwithstanding, we think that our study puts to an important, but neglected issue on the research agenda: Is the effectiveness of high-performance practices limited to economies with a specific, supportive institutional make-up?

References

- Appelbaum, E./Bailey, T./Berg, P./Kalleberg, A. L. (2000): *Manufacturing advantage: Why high performance work systems pay off*. London, Cornell University Press.
- Arthur, J. B. (1994): Effects of human resource systems on manufacturing performance and turnover. In: *Academy of Management Journal*, 37: 670-687.
- Becker, B./Gerhart, B. (1996): The Impact of Human Resource Management on Organizational Performance: Progress and Prospects. In: *Academy of Management Journal*, 39(4): 779-801.
- Becker B./Huselid, M. (1998): High Performance work systems and firm performance: a synthesis of research and managerial implications. In: Ferris, G. R. (ed.): *Research in Personnel and Human Resources*, 16. Stamford CT: JAI Press: 53-101.
- Brewster C. (1993): Developing a 'European' model of human resource management.. In: *The International Journal of Human Resource Management*, 4(4): 765-784.
- European Commission (1998): *Continuing training in enterprises: facts and figures: A report on the results of the continuing vocational training survey carried out in the enterprises of the Member States of the European Union in 1994*. European Commission, The Continuing Vocational Training Survey (CVTES), Brussels.
- Guest, D. E./Michie, J./Conway, M./Sheehan, M. (2003): Human resource management and performance in the UK. In: *British Journal of Industrial Relations*, 41: 291-314.
- Gunnigle, P./Flood, P./Morley, M./Turner, T. (1994): *Continuity and change in Irish employee relations*. Dublin: Oak Tree Press.
- Gunnigle, P./Flood, P./Morley, M./Turner, T. (1997): Challenging Collectivist traditions: Individualism and the management of industrial relations in Greenfield sites. In: *Economic and Social Review*, 28(2): 105-134.
- Hannan, D. F./McCabe, B./McCoy, S. (1998): *Trading Qualifications for Jobs: Overeducation and the Irish Youth Labour Market*. ESRI General Research Series 171 Published by Oak Tree Press in association with ESRI Dublin.
- Hoque, K. (1999): Human resource management and performance in the UK hotel industry. In: *British Journal of Industrial Relations*, 37(3): 419-443.

- Hofstede, G. (1984): *Culture's Consequences: International Differences in Work related values*. Beverly Hills C.A.: Sage.
- Horgan, J. (2003): *High Performance Human Resource Management in Ireland and the Netherlands: Adoption and Effectiveness*. Amsterdam: Rozenberg/Thela.
- Horgan, J./Mühlau, P. (2005): *Human Resource Systems and Performance: A Test of the Complementarity Hypothesis*. In: *International Journal of Human Resource Management*, forthcoming.
- Horgan, J./Mühlau, P. (2003): *The adoption of High Performance Human Resource Practices in Ireland: An Integration of Contingency and Institutional Theory*. In: *Irish Journal of Management*, 24(1): 26-47.
- Huselid, M. (1995): *The impact of human resource management practices on turnover, productivity and corporate financial performance*. In: *Academy of Management Journal*, 38: 635-672.
- Ichniowski, C./Shaw, K./Premushi, G. (1997): *The effects of Human Resources Management Practices on Productivity: A Study of Steel Finishing Lines*. In: *The American Economic Review*, 87(3): 291-314.
- Lane, C. (1989): *Management and Labour in Europe: The Industrial Enterprise in German, Britain and France*. UK: Edward Elgar.
- Lawler, E. E./Mohrman, S. A./Ledford, G. E. Jr. (1998): *Strategies for High Performance Organizations*. San Francisco: Jossey-Bass.
- Looise, J. K./Pauwe, J. (2001): *HR research in the Netherlands: imitation and innovation*. In: *International Journal of Human Resource Management*, 12(7): 1203-1217.
- MacDuffie, J. P. (1995): *Human resource bundles and manufacturing performance: Organizational logic and flexible production systems in the world auto industry*. In: *Industrial and Labor Relations Review*, 48: 197-221.
- Maurice, M./Sellier, F./Silvestre, J. J. (1986): *Bases of Industrial Power*. Cambridge, Mass: MIT Press.
- Maurice, M./Sorge, A./Warner, M. (1980): *Societal differences in Organizing Manufacturing Units: A Comparison of France, West Germany and Great Britain*. In: *Organization Studies*, 1: 59-86.
- Michie, J./Sheehan, M. (2001): *Labour market flexibility, human resource management and corporate performance*. In: *British Journal of Management*, 12: 287-306
- Mühlau, P./Horgan, J. (2001): *Labour Market Status and the Wage Position of the Low Skilled: The Role of Institutions and of Demand and Supply*. Amsterdam, LoWER (European Low Wage Employment Research Network): Working Paper No. 05.
- OECD (1994): *The OECD jobs study: Labour market trends and underlying forces of change. The adjustment potential of the labour market; Evidence and explanations*. Paris.
- Pfeffer, J. (1994): *Competitive advantage through people*, Boston, Mass.: Harvard Business School.
- Pil, F. K./MacDuffie, J. P. (1996): *The Adoption of High-Involvement Work Practices*. In: *Industrial Relations*, 35(3): 423-454.
- Sorge, A. (1991): *Strategic Fit and the Societal Effect: Interpreting Cross-National Comparisons of Technology, Organization and Human Resources*. In: *Organization Studies*, 12(2): 161-190.
- Sorge, A./Warner, M. (1986): *Comparative factory organization. An Anglo German Comparison of Management and Manpower in Manufacturing*. WZB Publications Gower.
- Teulings, D./Hartog, J. (2000): *Wages and the bargaining regime in a corporatist setting: The Netherlands*. In: Discussion paper, Rotterdam: Erasmus University, Tinbergen Institute.
- Visser, J. (1992): *Works Councils in the Netherlands: from paternalism to representation?*, Amsterdam Working Paper No. 92/1.
- Wall, E. D./Michie, J./Patterson, M./Wodd, S. J./Sheehan, M./Glegg, C. W./West, M. (2004): *On the validity of subjective measures of company performance*. In: *Personnel Psychology*, 57: 95-118
- Walton, R. (1985): *From 'control' to 'commitment' in the workplace*. In: *Harvard Business Review*, 63(2): 77-84.
- Wood, S./De Menezes, L. (1998): *High commitment management in the UK: evidence from the Workplace Industrial Relations Survey and Employers' Manpower and Skills Practices Survey*. In: *Human Relations*, 51(4): 485-515.