

# Why Are Some Subsidiaries of Multinationals the Source of Novel Practices while Others Are Not? National, Corporate and Functional Influences

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**It has frequently been argued that multinational companies are moving towards network forms whereby subsidiaries share different practices with the rest of the company. This paper presents large-scale empirical evidence concerning the extent to which subsidiaries input novel practices into the rest of the multinational. We investigate this in the field of human resources through analysis of a unique international data set in four host countries – Canada, Ireland, Spain and the UK – and address the question of how we can explain variation between subsidiaries in terms of whether they initiate the diffusion of practices to other subsidiaries. The data support the argument that multiple, rather than single, factor explanations are required to more effectively understand the factors promoting or retarding the diffusion of human resource practices within multinational companies. It emerges that national, corporate and functional contexts all matter. More specifically, actors at subsidiary level who seek to initiate diffusion appear to be differentially placed according to their national context, their place within corporate structures and the extent to which the human resource function is internationally networked.**

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## Introduction

Multinational companies (MNCs) are commonly argued to be moving towards network forms in which subsidiaries take on key roles, sharing practices with the rest of the company (Birkinshaw, 1997; Birkinshaw, Hood and Jonsson, 1998; Frost and Zhou, 2005; Govindarajan and Ramamurti, 2011; Nohria and Ghoshal, 1997; Veliyath and Sambharya, 2011). Persistent national diversity in the context in which organizations operate presents the opportunity for MNCs to capitalize on local patterns of distinctive practices and spread these internationally. As Cantwell and Zhang (2009) put it, given that expertise 'is in part location-specific as well as firm-specific, the MNC has come increasingly to draw upon a diversified locational portfolio of capabilities' (p. 46). There is growing evidence that the competitive position of MNCs can be enhanced through the effective utilization of knowledge developed in different parts of their worldwide operations rather than adopting an ethnocentric attitude (e.g. Doz, Santos and Williamson, 2001; Minbaeva, 2007). Realizing the benefits of the diverse capabilities and knowledge that reside within the firm, however, is far from straightforward (Gupta and Govindarajan, 2000; Whitley, 2009).

The diffusion of human resource (HR) practices is a key part of MNCs' attempts to fully exploit at the international level the diverse capabilities and knowledge that they possess at subsidiary level. HR activities such as training and development are central to the development of skilled and knowledgeable staff, for example, while others such as communication and consultation are key elements of management style (e.g. Bjorkman and Lervik, 2007). Whilst strategically important, HR practices are also strongly shaped by firms' context, arguably more so than practices in other areas of management (Rosenzweig and Nohria, 1994), giving them a degree of 'stickiness' (Jensen and Szulanski, 2004; Szulanski, 1996).

In this paper we explore the diffusion of HR practices from the foreign operations of MNCs to the rest of the firm. This has been termed reverse diffusion (RD) in the sense that the direction of diffusion is inverted from that which is the main focus of research concerning MNCs. It has been broken down into strict RD (Edwards, 1998) whereby practices from subsidiaries are trans-

ferred to the domestic operations and horizontal diffusion in which practices from subsidiaries are diffused to other foreign operations (Boussebaa, Sturdy and Morgan, 2014). For simplicity, we use the term RD to capture both elements of this phenomenon. The RD literature has almost entirely employed the case study research method, which has revealed much about how it occurs and the importance of actors' interests and power in either initiating or blocking RD (see, for example, Edwards and Tempel, 2010; Edwards *et al.*, 2005). This scholarship has also suggested that RD is promoted by certain corporate characteristics, such as an international growth strategy focused on achieving synergies between worldwide operations and the presence of international management structures (Edwards, 1998). However, there are two main gaps in this literature. Theoretically, the literature has generated only the most basic understanding of how national context shapes the position of MNC subsidiaries to initiate diffusion. Empirically, there are rather few studies that distinguish between the various directions that diffusions can take and, amongst those that do, hardly any quantitative evidence concerning the factors which promote or retard RD or draw on data from multiple countries (Michailova and Mustafa, 2012).

This paper helps fill these gaps by examining how the national context of the subsidiary creates variation in the potential for subsidiaries to initiate diffusion within MNCs through analysis of a unique, representative, cross-country data set. We consider the role of the national context alongside other explanations for variation in the incidence of RD and argue that the national, corporate and functional contexts all matter, demonstrating the benefits in adopting a multiple, rather than single, factor explanation (Hansen and Lovas, 2004). Specifically, actors at subsidiary level who initiate diffusion are differentially placed according to their national context, their place within corporate structures and the extent to which the HR function is internationally networked.

The four countries that we study – Canada, Ireland, Spain and the UK – have important features that make them interesting contexts in which to investigate RD. All have established property rights and markets, prerequisites for a substantial amount of foreign direct investment (FDI) (Murtha and Lenway, 1994). Despite some

institutional differences, they all allow MNCs a considerable degree of freedom in experimenting with new practices. From the 1980s onwards the UK took a decisive 'liberal' turn towards a deregulated labour market and a significant weakening of organized labour. The Canadian economy is characterized by similarly liberal labour market structures and, notwithstanding the presence of industrial relations institutions above the level of the firm through national level coordination, Ireland also shares many of these characteristics. The institutional differences are apparently greater between these three countries and Spain, which possesses stronger employment protection laws (Amable, 2003) and a dual channel industrial relations system of worker representation of works committees and unions (Martínez Lucio, 1998). However, in reality these bodies and practices are malleable in the hands of big companies, thus providing considerable flexibility to MNCs in Spain in devising novel practices (Quintanilla, Susaeta and Sánchez-Mangas, 2008; Quintanilla *et al.*, 2009). Consequently in all four countries MNCs have substantial scope for experimentation with distinctive practices. This is an important pre-condition for the subsidiaries to exert influence within the wider MNC. Yet, the national contexts vary in other respects, particularly the position that each economy occupies within the major flows of cross-border economic activity, a point which we develop in the next section.

### **National, corporate and functional influences**

A commonly used approach to analysing transfer within MNCs focuses on the notion of 'institutional distance'. This approach seeks to measure the degree of difference between the regulative, normative and cognitive dimensions of institutions across borders (Xu and Shenkar, 2002) and has been used to explain why transfer does or does not occur between two countries (for a review see Ferner, Edwards and Tempel, 2012). Our aim is not to compare pairs of countries in which one is the donor and the other is the recipient but rather to compare the extent to which four countries contain donor units. Thus instead of focusing on the institutional distance approach, we adopt an eclectic approach drawing on three bodies of

theory. The first relates to the position of each country within the major flows of cross-border economic activity, particularly FDI (Dicken, 2011). The second focuses on the way in which MNCs are fragmenting their activities across countries resulting in internationally integrated production (e.g. Buckley, 2011). The third concerns the ways in which the HR function is characterized by effective networks that are capable of transferring different practices across the firm (e.g. Dickmann and Muller-Carmen, 2006). We take these in turn, building hypotheses from each.

#### *Position in the global economy*

It is well established that countries play different roles within the global economy and that this affects the dynamics of transfer within MNCs. As Almond (2011, p. 534) puts it, the dissemination of knowledge within global firms is 'dependent on the possibilities and supports offered by national and regional business systems'. Hansen and Lovas (2004) show that 'intra-corporate competence transfers' are influenced by teams in one part of an MNC approaching other teams which they know. We contend that a key factor shaping who is well connected within the firm concerns the position of the country within the major flows of international economic activity (Barrett, Cooper and Jamal, 2005; Boussebaa, Sturdy and Morgan, 2014). Countries that are host to a major financial and business centre occupy a more central or 'core' position within the firm since this creates multiple channels through which firms within the country can connect with those outside. Accordingly, Boussebaa, Sturdy and Morgan's (2014) study of international consulting firms found that knowledge transfer flowed from the offices in the largest consulting markets, with those in other countries finding themselves as recipients but not donors in this process. In other words, the process of knowledge transfer was 'shaped by the wider global geopolitical economy' (2014, p. 1237). In a similar vein, Dicken (2011, pp. 45–46) shows how the key 'growth axis' within Europe covers parts of the UK, Belgium, eastern France, Germany and northern Italy but excludes some countries whose economies performed well in the 1990s and early 2000s (e.g. Ireland and Spain). Even those who argue that the contemporary phase of globalization has novel elements acknowledge that 'this does not mean that specific sites of corporate

activity become irrelevant' (Sklair, 2001, p. 74). Overall, this suggests that MNC subsidiaries located in countries that are central to the major flows of economic activity are more favourably placed to be the source of RD.

In addition to the institutional environments all providing a degree of flexibility to MNCs, Britain, Canada, Ireland and Spain also share the characteristic of being major recipients of FDI. However, their position within the international economy differs. The UK has a long history of FDI, being the home of many of the earliest MNCs with the British Empire providing a supportive structure for internationalization and being highly open to inward FDI. Today, the UK receives the second largest share of the stock of inward FDI and is the second largest outward investor (United Nations, 2012). Moreover, within internationally networked firms it has often been accorded strategically important roles. It is the location of many regional HQs of MNCs originating outside the EU, partly influenced by London holding the 'pre-eminent position in European financial geographies' (Faulconbridge, 2004, p. 235) in which there are limited regulatory barriers and the presence of a part of the global managerial elite (Desai, 2009; Heenan, 1979; Sullivan, 1992). We view the influence of the British economy and the position of UK subsidiaries within networked MNCs as affording British managers scope to make their operations an 'important centre of gravity' within the firms and to spread their 'distinctive capabilities' elsewhere (Edwards *et al.*, 2005, p. 1262). Consequently, we use the UK as a counterpoint in developing our country-specific hypotheses.

Like the UK, Canada has a long history of FDI. Its position within MNCs is different, however, owing to its relationship with the dominant US economy (Arthurs, 2000, 2009). Canadian operations are less commonly the centre of regional hubs of networked MNCs while the country does not possess a financial or business centre like London. These factors may limit the influence of Canadian subsidiaries within MNCs. A factor that may compensate for this is that the Canadian operations are often closely tied to those in the USA, for good or otherwise, and this geographical proximity (Rugman and D'Cruz, 1993; Rugman and Oh, 2013) and 'embeddedness' in the same regional trading block is often reflected in regional corporate structures. Fur-

thermore, for some time Canadian public policies have facilitated FDI and encouraged Canadian subsidiaries to gain more strategic roles within foreign MNCs (Birkinshaw and Hood, 1998), thereby increasing the scope for them to contribute to the diffusion of distinctive practices to MNC operations. Owing to these competing factors we hypothesize that

*H1a:* There will be no significant difference between British and Canadian operations as sources of reverse diffusion.

Ireland is more distinct compared with the UK and Canada, with Irish industrial development a more recent phenomenon. It was not until the 1960s and the pursuit of an open, free-market, outward looking growth strategy that industrial development truly commenced (Buckley and Ruane, 2006; O'Malley, 1992). Consequently, FDI growth has been quite recent, with much of it occurring off the back of a distinctive industrial policy of actively encouraging investment by foreign, manufacturing-based MNCs through financial subsidies and a low rate of corporation tax (Gunnigle and McGuire, 2001). While the type of FDI became more varied in the last few decades – some strategic functions were located there as Irish subsidiaries sought to move up the internal value chain – the character of FDI in Ireland has predominantly been as an export platform for relatively cheap production (Barry, 2004; McDonnell, Lavelle and Gunnigle, 2014). Accordingly, Ireland has a more limited FDI profile than the UK. Combined with the economy being much smaller and therefore less central to the financial and business elite (Yang, Mudambi and Meyer, 2008), the ability of subsidiary actors to generate interest in their practices amongst the rest of the MNC operations is constrained. We therefore propose that

*H1b:* The British operations of MNCs will more commonly be the source of reverse diffusion than subsidiaries in Ireland.

FDI into Spain has also been a relatively recent development, expanding rapidly following the country's entrance into the EU. As argued above, Spain is not central to the major growth axis within Europe (Dicken, 2011). One distinguishing characteristic of FDI in Spain, which is arguably linked to this lack of centrality, is that it is focused on providing services to the domestic market

(Clifton, Díaz-Fuentes and Ruiz, 2011), while another is that MNCs in Spain have pursued strategies of accessing a distinctive market through acquisitions (Campa and Guillen, 1995). We might expect these features to lead to subsidiaries being more commonly managed in an ‘arms’-length’ way. The finding that those running Spanish subsidiaries are subject to less ‘social’ control than their counterparts in other developed economies (Edwards *et al.*, 2013) can be understood in this way, which may also be the result of language and cultural differences. Thus we propose that

*H1c:* The British operations of MNCs will more commonly be the source of reverse diffusion than those in Spain.

#### *Internationally integrated production in MNCs*

Dicken (2011, pp. 121–155) conceives MNCs as ‘networks within networks’, establishing the distinction between the internal networks of production and the externalized relationships with other firms as part of global production networks. We focus on the former, the interconnections within the firm. Some national subsidiaries may be independent or ‘stand-alone’, with their own domestic supply chains and selling products straight to the market. However, it appears that many MNCs are developing internationally integrated processes of production or service provision whereby national operations increasingly supply each other (e.g. Buckley, 2011; Edwards, 2011; Grossman, Helpman and Szeidl, 2003; Rangan and Sengul, 2009).

The relationship between internationally integrated forms of production and RD is multifaceted. It may be that the distinct role of each site created by a high level of integration means that subsidiaries are doing such different things that the scope for diffusion is limited (e.g. Wilkinson *et al.*, 2001). Alternatively, there may be much scope for practices to be transferred and the intra-firm trading creates channels through which this occurs (Edwards, 2000; Hakanson and Nobel, 2001; Holtbrugge and Mohr, 2011), a form of what Bjorkman and Lervik (2007) call ‘interaction ties’. Thus the role of a subsidiary in relation to others in terms of knowledge inflows and outflows is associated with product flows within the MNC (Gupta and Govindarajan, 2000; Harzing

and Noorderhaven, 2006). A particularly important case is where subsidiaries are supplying others since it is plausible that these flows of components or services facilitate corresponding flows of practices from that subsidiary to other parts of the firm, be they other foreign subsidiaries or operations in the home country. Being the recipient of components or services may also engender inter-subsidiary linkages that promote RD. Thus we hypothesize that

*H2a:* Subsidiaries with trading linkages with other parts of the network are most likely to engage in reverse diffusion.

A second aspect of integrated production networks that may shape RD is the workforce characteristics of subsidiaries. If subsidiaries are inter-dependent, performing different functions from one another, then it follows that the mix of occupational groups and skill levels will differ. As Ferner *et al.* (2013) put it: ‘host economies occupy distinctive positions in the international division of labour – as reservoirs of cheap and/or flexible labour, sources of primary inputs, springboards to wider continental markets, repositories of scarce and high-end skills and know-how’. We draw a distinction between operations that have a highly skilled workforce which gives them a distinguishing and elevated position in the network and those subsidiaries with a predominantly low-skilled workforce that is imitable and confers a lower status (Edwards, 2011). Accordingly, Harzing and Noorderhaven (2006) link the capabilities of a subsidiary to its role in initiating diffusion. Following this logic, the distinct roles of sites that give rise to these differences in terms of workforce characteristics may limit the scope for diffusion since some practices have limited applicability across different groups of employees. Where there is scope for practices to operate across different subsidiaries we might expect the flow to be more commonly from those operations with a high-skilled workforce. This leads us to propose that

*H2b:* Subsidiaries with highly skilled workforces are those most likely to engage in reverse diffusion.

#### *HR networks in MNCs*

The third category focuses on ‘the richness of transmission channels’ (Gupta and Govindarajan,

2000) in the HR function. Szulanski (1996) argued that the 'stickiness' of practices could partly be overcome were the parent firm to 'foster closer relationships between organizational units, and systematically understand and communicate practices' (1996, p. 37). Our focus is on the degree to which HR managers across the MNC are part of a network. Previous research highlighted the extent to which the HR function is characterized by a network capable of transferring knowledge across borders and how this can be crucial in the status of the HR function within the management structure of an MNC (Dickmann and Muller-Carmen, 2006). Additionally, the literature has shed some light on the struggles firms have in organizing across borders (Boussebaa, 2009) and the 'integrating modes' that MNCs use to coordinate their activities, highlighting the use of both 'information-based' and 'people-based' modes (Kim, Park and Prescott, 2003).

Concerning the nature of particular mechanisms at the level of the HR function, previous analysis has identified various 'organizational conduits' through which RD can occur. Some of these can be thought of as procedural-based mechanisms, including specialist HR information systems (Boussebaa, Sturdy and Morgan, 2014; Edwards *et al.*, 2010). These appear to be effective in storing codifiable knowledge and may operate in conjunction with virtual groups or task forces where communication between cross-country actors occurs electronically. Other mechanisms are people-based, such as the repatriation of staff who have spent time in the foreign subsidiaries (e.g. Collings *et al.*, 2010; Furuya *et al.*, 2008; Lazarova and Tarique, 2005; Oddou, Osland and Blakeney, 2008). These are well attuned to handling tacit knowledge, the effective transfer of which requires face-to-face contact. Some practices require both codifiable and tacit knowledge to be communicated if transferred practices are to operate effectively so procedural- and people-based mechanisms should be seen as complements not as substitutes. On this basis we propose that

*H3:* Subsidiaries within MNCs that possess a strong network consisting of multiple cross-border communication mechanisms within the HR function are those in which reverse diffusion is most likely to occur.

## Method

The paper is based on an innovative project using comparative, parallel national surveys of MNCs operating in four countries in which the research instrument was created collaboratively. Each survey was based on the most comprehensive listing of MNCs that has been constructed to date in each country. Strong emphasis was put on this stage because developing accurate, up-to-date population listings is often insufficiently considered in international human resource management (HRM) research (see Cascio, 2012). To compile the population listings, each country followed a labour-intensive process that incorporated a significant number of company data sources along with extensive cross-examination through web-checks and telephone interviews.<sup>1</sup> For this reason, the surveys have a very high level of representativeness, more so than other research in this field.

Domestic and foreign MNCs were included in the survey with foreign MNCs the focus here, defined as MNCs with a minimum of 500 employees worldwide with at least 100 in the host country.<sup>2</sup> The surveys used the national operation of the MNC as the unit of analysis, for which we use the shorthand 'subsidiary', and the respondent was the most senior HR person at this level.<sup>3</sup> The surveys used a structured questionnaire instrument, covering a range of aspects of HRM.<sup>4</sup> The questionnaire was primarily administered through a face-to-face interview, with an online or hard copy version used where geographical distances made this impractical (i.e. Canada).

<sup>1</sup>A detailed exposition of the research design and processes undertaken can be found in Bélanger *et al.* (2006) (Canada), McDonnell *et al.* (2007) (Ireland), Edwards *et al.* (2007) (UK), Quintanilla (2010) (Spain) and Edwards, Marginson and Ferner (2013) (comparative).

<sup>2</sup>Domestic MNCs were defined as having at least 500 employees worldwide with at least 100 in one or more countries outside the country of origin. Due to the nature of this study on RD, domestic MNCs are excluded in this paper.

<sup>3</sup>Our research design placed importance on seeking information from an individual who was able to speak for the national operations in question and this was achieved in around 90% of cases. Some MNCs did not have an operational HQ at national level with HR representation and here the pragmatic solution was to seek a respondent at the largest division or site.

<sup>4</sup>The questionnaire was translated into French and Spanish and back-translated for accuracy.

Reassuringly, we did not find any significant differences between the forms of administration, which is in line with existing research that confirms measurement equivalence between internet and hard copy questionnaires (e.g. De Beuckelaer and Lievens, 2009).

The study questionnaire drew on some established questions and measures, such as those that had been employed in the Workplace Employment Relations Surveys (WERS) series in the UK, as well as incorporating new questions emanating from previous case study research on MNCs in Europe (e.g. Almond and Ferner, 2006). The instrument was co-created by the national teams: initial interactions between the UK and Canadian teams were followed by a series of virtual and face-to-face exchanges with the Irish and Spanish researchers. Core questions were agreed upon, with some alterations to questions and options required to take account of cultural idiosyncrasies. The survey instrument was extensively piloted in each country with some alterations made which were again discussed and agreed on by the researchers.

This paper draws on the data from 883 foreign-owned MNCs (UK, 258; Canada, 165; Ireland, 213; Spain, 247). Response rates varied from just under 15% to over 50% with the highest response rates coming in the countries with the smallest populations. Extensive checks for the representativeness of the achieved samples in relation to the population were carried out according to the country of origin, size and industry of the MNC. In Canada and the UK, we found that there was a mild skew towards manufacturing MNCs, in Ireland the data were slightly skewed towards large MNCs, and in Spain there was a skew towards large MNCs and those in the services industry. Consequently, the data were weighted to correct for the mild imbalances found. These weights are solely used in the descriptive statistics. These checks together with the weights further enhance the strong claim on representativeness.

The potential for constrained variation existed because the same MNC could appear in multiple national surveys. Our checks indicated that just under 13% of the cases were matched to at least one other subsidiary of the same MNC (see Edwards, Marginson and Ferner (2013) for greater detail). To deal with this potential issue we ran the analysis with and without these subsidiaries. Doing this had no significant impact on the

models. We also controlled for when the interviews were conducted. The vast majority of the data were gathered in 2006–2007 but in Spain a small number of interviews were conducted in 2008–2009, including some following the financial crisis which may conceivably affect the results. We conducted the analysis with and without a time dummy and found that there was no significant impact on the model. Consequently, in the Results section we present the estimated models without the time dummy and with all of the cases (i.e. including duplicated subsidiaries).

Like most comparative HRM studies (e.g. Farndale, Brewster and Poutsma, 2008; Pudelko and Harzing, 2007) a single respondent design was used as seeking multiple respondents would have adversely affected the response rate (as occurred in Company Level Industrial Relations Survey – Marginson *et al.*, 1993), creating significant difficulty for comparative analysis and our ability to make valid generalizations. The single respondent does raise the potential issue of common method variance (CMV) whereby bias is introduced through key variables being derived from the same respondent (Chang, Witteloostuijn and Eden, 2010). CMV is viewed as particularly problematic in behavioural research, ‘in those situations in which respondents are asked to provide retrospective accounts of their attitudes, perceptions and/or behaviors’ (Podsakoff, MacKenzie and Lee, 2003, p. 881). While the risks of CMV are sometimes overstated (Conway and Lance, 2010; Spector, 2006), we nevertheless took certain steps to reduce the likelihood of it occurring. Our main variables were primarily focused upon the use (or absence) of specific HR policies and practices and how the company was configured and structured. In other words, rather than drawing strongly from retrospective or perceptual measures, we focused on more objective items. Consequently, we view the potential for CMV to be low. Beyond CMV, the reliance on a single respondent can still result in measurement error. In attempting to minimize such error, we followed the advice of Wright *et al.* (2001), through ensuring that the most knowledgeable and authoritative respondent was used; being sensitive to the information demands on the respondent; communicating in advance the kind of information that would be required, varying the scales and anchors throughout the questionnaire; and keeping the questions specific, simple and concise (Tourangeau, Rips and Rasinski, 2000),

facilitated by the project teams devoting considerable time to the wording of the items and piloting of the instrument.

## Variables

### *The dependent variables*

The dependent variables were constructed from questions that asked respondents whether the subsidiary 'has provided any new practices in the following areas that have been taken up elsewhere in the worldwide company' (code 1 = yes; 0 = no). If respondents answered yes, then they were asked to indicate whether the practice spread to 'a few parts of the firm', 'to major businesses' or was 'taken up globally'. Due to very small cell sizes for the second and third of these options, the three options were combined into one category, creating a binary variable. We asked this question about training and development (T&D) and employee consultation and these form our two dependent variables. These dependent variables provide a useful contrast in two respects. First, the importance of T&D in developing capabilities, particularly the ability to generate and absorb tacit knowledge, is likely to make this issue a more strategic one than consultation in that higher levels of management are more likely to be involved in setting policy. Second, the constraints of the host country institutional setting are more marked concerning consultation practices, indicating that they are likely to face more significant institutional barriers to diffusion. Thus these two aspects of HRM practice provide a good test of whether or not the same factors explain variation in the diffusion of different HR practices.

### *The explanatory variables*

*Country dummies.* There were three dummies for Canada, Ireland and Spain with the UK as the reference category.

*Integrated production.* Integrated production was operationalized as a binary variable, whereby 1 represented subsidiaries in the host country that both supply other parts of the MNC with components or services and are supplied by other parts of the MNC and 0 incorporated the rest. We explored the possibility of using a scale for this issue (e.g. Mauri and Phatak, 2001). The problem

with such measures in our context was that the precision required was likely to be challenging for a respondent in HR given that the issue of flows of components is outside their main responsibility. Consequently, in the pilot survey we tried a scale on this issue and this confirmed that there would be a substantial number of missing cases for this variable; a dichotomous scale, in contrast, generated far fewer missing cases. Thus, the pragmatic decision on integrated production was to use a dichotomous question, a process that is in line with that recommended by Tourangeau, Rips and Rasinski (2000) concerning keeping questions specific, simple and concise.

*Skills.* Respondents were asked about their largest occupational group (LOG). Using the Standard Occupational Classification<sup>5</sup> we coded these qualitative data into a high skill group (comprising professional, associate professional and technical and skilled trades), an intermediate group (sales and customer service staff) and a low skill group (mainly operatives with some in administrative, personal care and elementary occupations). The high skill and intermediate skill groups are included as dummies, leaving the low skill group as the comparator.

*HR network intensity.* To indicate HR network intensity we derived a composite measure of four mechanisms (regular meetings, international conferences, task forces and virtual groups) that enable HR managers to be brought together across borders (face-to-face and/or electronically). Respondents were asked whether these mechanisms were utilized and how frequently they occurred. The resulting variable measures how many of these elements were used at least annually, taking on values between 0 and 4.

*Controls.* Sector and size are standard variables to control for in analysing HRM practice. The former is a dummy for the service sector (with manufacturing and other production as the reference category). Size is also a dummy whereby 1 is

<sup>5</sup>The Standard Occupational Classification identifies nine groups: managers; professional staff; associate professional and technical; administrative; skilled manual workers; personal care staff; sales and customer service; operatives; and elementary occupations. For full details see <http://www.ons.gov.uk/about-statistics/classifications/current/soc2010/index.html>.

subsidiaries of 1000 or more employees and 0 is 100–999 employees. A further control captures the impact of US ownership (1 = US MNCs; 0 = others) given that US MNCs have been shown to have a centralized mode of operation that narrows the scope for subsidiary actors to instigate RD (Edwards *et al.*, 2005). The next set of controls relate to the nature of the product and corporate structures and include dummy variables for whether the product is adapted to national markets (as opposed to being standardized across countries); whether there are global business functions; and whether there is an international HR policy-making committee. Finally, we control for the presence of a union in the national operations<sup>6</sup> since union presence might shape the perceptions of senior management as to how innovative the subsidiary can be (Edwards and Tempel, 2010).

## Results

### *Descriptive statistics*

The frequencies and correlations between all of the variables are given in Tables 1 and 2.

The pattern for the dependent variables shows that T&D practices are more commonly diffused from subsidiaries than consultation practices. For both issues the UK subsidiaries are most frequently the source of new practices taken up elsewhere, followed by, in order, Canadian, Irish and Spanish. There are some similarities across the four countries regarding the explanatory variables, namely that trading linkages between subsidiaries and the rest of the firm constitute close to half of all subsidiaries in each country and that the low skill group is the most frequent in all nations. The degree to which the subsidiary is embedded in HR networks differs, however, with Canadian subsidiaries more commonly having connections to parts of the HR function in other countries and the Spanish least commonly.

### *Regression analysis*

We conducted binary logistic regression on the two dependent variables, the RD of T&D and

<sup>6</sup>We control for the existence of a recognized union in Canada, Ireland and the UK and, given the institutional differences, use the functional equivalent in Spain of the presence of a legally constituted employee representative structure.

Table 1. Frequencies

	UK	Canada	Ireland	Spain
Diffusion from subsidiaries				
T&D	49.81	41.27	31.36	29.58
Consultation	18.31	15.05	9.99	8.31
Linkages	55.62	41.01	48.81	45.70
Workforce skills				
High	26.19	24.03	21.25	22.37
Intermediate	6.40	24.02	20.90	26.88
Low	67.41	50.21	57.33	50.60
HR network intensity	1.50	2.27	1.76	1.28
US owned	40.61	55.44	42.07	19.83
Size (1000+ employees)	40.78	34.36	23.27	35.25
Sector (services)	48.17	43.34	55.11	47.27
Product adapted	25.28	31.79	31.81	24.27
Global business functions	68.37	71.15	62.72	64.06
International HR policy committee	53.19	67.00	57.62	63.47
Union recognition	46.99	46.50	58.49	82.97

*Notes:* The figures are based on weighted data for each country. The variable network intensity measures the number of networking activities performed. It takes values from 0 to 4 and the figure reported represents the sample mean. The rest of the variables are binary indicators and the figures reported represent the percentage of incidence, i.e. the sample proportion of 1s.

consultation practices (see Table 3). With list-wise deletion the N falls from 883 to 741 and 738 in the two models. The coefficients, standard errors, significance levels and average partial effects of each variable together with the fit statistics of the model are given in Table 3. The variables are entered in two blocks, the main independent variables and then the controls. Both of the estimated models are significant at the 1% level.

We now take each set of variables in turn. British subsidiaries are significantly more likely than those in Spain and Ireland to be the source of RD for both T&D and consultation, whilst there were no significant differences between Canada and the UK. This supports Hypotheses 1a, 1b and 1c. The probability that the Irish and Spanish subsidiaries provide new practices in T&D is on average 15 and 17 percentage points respectively lower than in British subsidiaries. For consultation practices the respective figures are 7 and 9 percentage points lower.

The impact of trading linkages is consistent and significant across both models, with those subsidiaries acting as a supplier and recipient of components and services more likely to be the origins of RD. Hence, Hypothesis 2a is supported. Other things equal, the probability that integrated

Table 2. Correlation matrix

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1 RD in T&D	1.00																		
2 RD in consultation	0.35*	1.00																	
3 Service sector	-0.02	-0.11*	1.00																
4 Size (≥ 1000 employees)	0.04	0.05	0.02	1.00															
5 US ownership	0.04	0.05	-0.04	-0.12*	1.00														
6 Product adapted	-0.10*	-0.07*	0.06*	0.03	-0.03	1.00													
7 Structure in global functions	0.07*	0.08*	-0.13*	-0.04	0.12*	-0.12*	1.00												
8 HR international committee	0.04	0.01	0.02	0.05	0.16*	-0.02	0.18*	1.00											
9 Union recognition	-0.10*	0.01	-0.21*	0.20*	-0.20*	-0.01	-0.03	0.01	1.00										
10 UK	0.15*	0.11*	-0.05	0.03	0.03	-0.03	0.02	-0.10*	-0.17*	1.00									
11 Spain	-0.09*	-0.09*	0.09*	0.11*	-0.15*	-0.06	0.00	0.10*	0.28*	-0.34*	1.00								
12 Ireland	-0.07*	-0.06	0.09*	-0.10*	0.01	0.07*	-0.09*	-0.04	-0.01	-0.30*	-0.36*	1.00							
13 Canada	0.01	0.04	-0.14*	-0.04	0.13*	0.03	0.07*	0.04	-0.12*	-0.30*	-0.32*	-0.27*	1.00						
14 Linkages (both ways)	0.09*	0.13*	-0.25*	-0.01	0.09*	-0.04	0.15*	0.12*	0.01	0.11*	-0.07*	-0.01	-0.03	1.00					
15 LOG high skill	0.04	-0.01	0.23*	-0.04	0.03	0.02	0.02	0.03	-0.21*	0.03	0.00	-0.02	-0.01	-0.01	1.00				
16 LOG intermediate skill	0.03	-0.04	0.30*	-0.03	-0.01	-0.04	-0.04	0.01	-0.06*	-0.21*	0.16*	0.02	0.03	-0.20*	-0.27*	1.00			
17 LOG low skill	-0.06	0.04	-0.44*	0.06	-0.02	0.01	0.02	-0.03	0.23*	0.15*	-0.13*	0.00	-0.02	0.17*	-0.63*	-0.57*	1.00		
18 HR network intensity	0.19*	0.13*	0.01	0.11*	0.23*	-0.02	0.19*	0.35*	-0.07*	-0.07*	-0.11*	0.03	0.18*	0.07*	0.03	0.06	-0.07*	1.00	

\*Statistically significant at the 0.05 level.

subsidiaries provide new practices in T&D is on average 8 percentage points higher than in other subsidiaries; for consultation practices, the probability is 7 percentage points higher. The impact of workforce skills did vary across the two models. For T&D, subsidiaries in which the LOG is a high or intermediate skilled group are significantly more likely to report RD than those in which it is composed of low skill workers. However, no significant differences were found for consultation practices meaning that Hypothesis 2b is partially supported. The probability that high skill and intermediate skill subsidiaries provide T&D practices is on average 9 and 14 percentage points respectively higher than in low skill subsidiaries.

Turning to the impact of HR network intensity, we find that having a range of forms of networking has a positive and significant effect on both models, supporting Hypothesis 3. Other things equal, using one more aspect of HR networking is associated with an average increase of 5 percentage points in the probability that subsidiaries provide new T&D practices. The equivalent figure for consultation is 3 percentage points. Thus, in both models, the higher the intensity of the HR networks, the greater the probability of RD.

Some of the controls were significant. Subsidiaries were more likely to be the source of RD in training where they are large, the main product or service is standardized across countries rather than adapted, and where no unions are present. For consultation, subsidiaries in the service sector were less likely than those in manufacturing to be the source of RD. The other controls were not significant in either model.

## Discussion and conclusion

The unique nature of the cross-national research design, particularly the comprehensive and representative dimensions of the surveys together with the closely coordinated process in which they were designed and implemented, has positioned us to go beyond what others studying the RD of HRM practices have been able to do. The primarily case-based literature had revealed much about the process through which RD occurs but had only hinted at factors that explain where it is most likely to happen. The data show that some subsidiaries of MNCs do indeed help the wider firm

Table 3. Estimation results of logit models for reverse diffusion in T&amp;D and consultation

Explanatory variables	T&D				Consultation			
	(i)		(ii)		(iii)		(iv)	
	Logit estimates	Average partial effects						
Constant	-0.343 (0.230)		-0.557** (0.276)		-2.008*** (0.340)		-2.511*** (0.410)	
Service sector	-0.225 (0.159)	-0.051 (0.036)	-0.300 (0.197)	-0.064 (0.041)	-0.646*** (0.237)	-0.070*** (0.025)	-0.532** (0.271)	-0.055** (0.028)
Size (≥ 1000 employees)	0.704*** (0.167)	0.164*** (0.038)	0.551*** (0.181)	0.120*** (0.040)	0.210 (0.226)	0.024 (0.027)	-0.095 (0.251)	-0.010 (0.026)
US ownership	0.072 (0.156)	0.016 (0.035)	-0.092 (0.171)	-0.019 (0.036)	0.330 (0.227)	0.037 (0.025)	0.119 (0.246)	0.013 (0.026)
Product adapted	-0.422** (0.177)	-0.094** (0.038)	-0.369* (0.190)	-0.077** (0.039)	-0.397 (0.273)	-0.041 (0.026)	-0.262 (0.285)	-0.027 (0.028)
Structure in global functions	0.290* (0.175)	0.065* (0.038)	0.230 (0.183)	0.049 (0.039)	0.450* (0.271)	0.047* (0.026)	0.434 (0.295)	0.043 (0.027)
HR international committee	0.080 (0.162)	0.018 (0.036)	-0.068 (0.183)	-0.014 (0.039)	-0.086 (0.235)	-0.010 (0.027)	-0.189 (0.271)	-0.020 (0.030)
Union recognition	-0.686*** (0.166)	-0.157*** (0.037)	-0.509*** (0.183)	-0.110*** (0.040)	-0.063 (0.229)	-0.007 (0.026)	0.152 (0.250)	0.016 (0.026)
Spain			-0.720*** (0.227)	-0.149*** (0.044)			-0.773** (0.318)	-0.074*** (0.028)
Ireland			-0.843*** (0.222)	-0.171*** (0.041)			-0.933*** (0.334)	-0.086*** (0.026)
Canada			-0.257 (0.256)	-0.053 (0.052)			-0.162 (0.332)	-0.017 (0.033)
Linkages (both ways)			0.393** (0.171)	0.084** (0.036)			0.691*** (0.250)	0.071*** (0.025)
LOG high skill			0.426** (0.217)	0.092* (0.047)			0.022 (0.321)	0.002 (0.034)
LOG intermediate skill			0.668*** (0.246)	0.144*** (0.052)			0.390 (0.335)	0.045 (0.041)
HR network intensity			0.243*** (0.063)	0.052*** (0.013)			0.261*** (0.091)	0.028*** (0.010)
N	781		741		778		738	
Model significance	***		***		***		***	
Vb. int. sig.			***				***	
McFadden R <sup>2</sup>	0.040		0.088		0.032		0.085	
Cragg & Uhler R <sup>2</sup>	0.071		0.151		0.046		0.118	

Notes: Robust standard errors in parenthesis. For the average partial effects, the standard errors have been computed through the Delta method.

Vb.int.sig., significance of the variables of interest.

\*, \*\*, \*\*\* represent significance at the 10%, 5% and 1% levels, respectively.

to ‘draw on a diversified locational portfolio of capabilities’ (Cantwell and Zhang, 2009) in HR, but far from all of them do so. This paper breaks new ground in explaining this variation.

Overall, there is strong support for our hypotheses; all three sets of factors have a significant impact on at least one of the two HR areas investigated. This vindicates our contention that there are multiple factors at different levels which shape

whether subsidiaries engage in the RD of HR practices. In adopting an approach using multiple factors, we are following a well-established tradition within this broad field. Eclectic approaches have been used within the field of international business to explain why firms internationalize (Dunning, 1988) and their choice of entry mode (Hill, Hwang and Kim, 1990). In relation to strategic international HR management, Schuler,

Dowling and De Cieri (1993) use 'several theoretical bases' to develop their 'integrative framework' while Taylor, Beechler and Napier (1996) draw on both the resource-based view of the firm and resource dependence theory to develop an 'integrative model'. More specifically to do with the transfer of HR practices in MNCs, Almond and Ferner (2006) emphasize the influence of both institutional and micro-political factors, while Bjorkman and Lervik (2007, p. 320) see transfer as 'a social process where the governance mechanisms used by the MNC, characteristics of the subsidiary HR systems, the social relationship between the subsidiary and MNC headquarters, and the transfer approach taken by headquarters management will influence the outcome of the process'. Whilst the ways in which different bodies of theory and concepts are combined are distinct in each case, they share the idea that multiple theoretical constructs need to be assessed to generate a full understanding of the issue in question. The adoption of this approach here has demonstrated that the actions of those who can initiate transfer are structured by multiple influences. Specifically, they are structured by the position of the subsidiaries within the major flows of cross-border economic activity; the nature of intra-firm inter-dependences in production; and the mechanisms of cross-border communication within the firm. We can see the significance of each of these effects in the presence of measures of the others as providing empirical support for our approach to building an explanation of this phenomenon. As such, by using a stronger data set than has been used hitherto, covering a wider range of countries, we have consolidated and extended our understanding of the various influences considered to affect the RD of HR practices that have emanated from previous, more exploratory, studies.

These factors appear to be common across different areas of HR. Concerning the country effect, previous work has emphasized the importance of the national context of the country of origin in shaping the barriers to RD (Edwards *et al.*, 2005; Thory, 2008). Further, scholarship has indicated that the perceptions of those in senior positions in the firm of the host institutional context condition the ability of subsidiaries to generate interest in their practices (Edwards and Tempel, 2010). We have extended this understanding of the role of country context by concentrating on the position

of the host country within the global economy. Depending on their centrality to the flows of global economic activity, the national operations are on more or less fertile ground for being the source of RD within the broader corporation. In other words, the ability of subsidiary actors to exert influence over HR practices diffused across MNCs is shaped by their economy's position in the global environment (Boussebaa, Sturdy and Morgan, 2014). Thus our interpretation of the British subsidiaries more commonly being the source of diffused practices than their Spanish and Irish counterparts focuses on the pivotal position that they have arising from their location within an economy with strong and varied links to other economies.

The importance of inter-connections between subsidiaries is also consistent across the two issues studied. The growing inter-linkages in production and service provision within MNCs have been well documented, resulting in many MNCs constituting internationally integrated networks (Buckley, 2011; Dicken, 2011). Our results show that the more subsidiaries are interconnected with other subsidiaries, as opposed to being self-standing, the more they are likely to generate RD in HR. We have interpreted this as indicating that where subsidiaries trade with one another then these flows of components or services facilitate corresponding flows of practices from that subsidiary to other parts of the firm (e.g. Holtbrugge and Mohr, 2011). Thus where a subsidiary is more central to internationally integrated production or service provision within the corporate environment then it is also more likely to be the source of new HR practices.

The third factor under investigation concerned the mechanisms within the HR function that facilitate contact between those performing similar roles in different countries. Building on work that has stressed the importance of the HR function being able to identify, transfer and absorb both codifiable and tacit knowledge (Dickmann and Muller-Carmen, 2006; Kim, Park and Prescott, 2003), we have argued that the intensity of mechanisms that enable networking between HR managers in the worldwide company is crucial in determining whether subsidiaries are the source of RD within the MNC. The results demonstrated that the transfer of practices goes hand-in-hand with a range of cross-border channels of communication. This suggests that MNCs

need both types of mechanism to handle different types of knowledge, a finding that could be pursued in further research.

Given the two distinct areas of HR investigated this suggests that these factors of the macro, corporate and functional context have a consistent impact across the function in general. The influence of some factors seems to be contingent, however. The impact of the skills variables is significant in relation to the diffusion of T&D but not consultation. If the effect is a contingent one, then it makes intuitive sense that skills would matter more for the diffusion of T&D practices. The non-significance on consultation raises the possibility that on some issues it is not so much that high skill subsidiaries will be those most likely to be the origins of cross-national diffusion but rather that subsidiaries will have most scope to initiate diffusion where other operations have similar activities and a skills profile. In other words, it is the relationship between the skills profile in a subsidiary and those in others that matters. This finding cautions against grand generalizations concerning the impact of influences on transfer and confirms the utility in comparing how these influences affect transfer outcomes differentially across areas of practice.

Overall, this paper has made a significant contribution to our understanding of the RD of HR practices. It has been eclectic in its approach, drawing on a range of bodies of theory to develop expectations concerning the influence of quite different factors. In this respect, we echo the conclusion of Hansen and Lovas (2004) on the related issue of technological competence development in MNCs who argued that studies that focus on a single determinant 'have yielded incomplete and potentially biased results' (p. 820). Moreover, the large, cross-national data set enabled us to test these expectations and shed fresh light on this under-explored issue. Hitherto, the impact of these macro, corporate and functional factors has been looked at in isolation or on individual companies. In this paper we have shown the significant impact on each of these factors even in the presence of the others and have been able to distinguish between effects that are common to both issues and those which are particular to one of them. Whitley (2009) is evidently right to argue that the development of novel capabilities should not simply be assumed. Indeed, the ability of actors in subsidiaries to share novel practices,

thereby helping the MNC to realize benefits from the diversity of settings in which it operates, is at least to some extent structured according to where they sit within the global economy, the production system of the firm and the nature of relationships in the HR function. There are practical implications of this. The role of actors is, of course, crucial; transfer from subsidiaries will not happen spontaneously but rather is dependent on actors' intentions (Chung, 2015) and interests (Edwards, 1998). However, it is clear from this paper that the preferences of actors are structured and conditioned by contextual and corporate factors. In particular, the ability of subsidiary actors to initiate the transfer of practices is facilitated or constrained by their national context, their position within the production network of the MNC and the corporate channels through which transfer may operate.

There are of course some limitations which may be addressed in future research. First, although we took the suggested steps to minimize CMV and measurement error from using a single respondent, future research could pursue the matching of respondents between subsidiaries and corporate HQ within the same firm. Second, while the  $R^2$ s are broadly in line with other studies (Yang, Mudambi and Meyer, 2008), the proportion of the variation that the models have explained is modest. Previous research has pointed to the crucial role of the power and interests of those in key positions in shaping whether RD occurs and our research design is not capable of addressing these aspects. Third, it is possible that there is variation within subsidiaries in terms of the origin of the practices that are diffused. It may be that some regions of countries, or some types of operating unit, are more commonly the source of diffused practices. A design that allows for comparisons between the sites of multi-site subsidiaries would be the ideal way to investigate this. Fourth, owing to the data collected here being part of a larger study investigating employment relations issues in MNCs, the single-respondent approach and the organizational level of the study (i.e. answering for all subsidiaries in a host country), we were constrained somewhat by the depth we could go into here. We recommend future research on this topic explore the feasibility of multiple respondents at multiple levels of the firm, perhaps permitting multi-item scales to be utilized. Fifth, an additional line of enquiry that

could be pursued would be to explore countries with quite different institutional environments. All four countries here allow considerable flexibility and scope for experimentation in practices. An extension to this research would be to introduce countries with more cohesive labour market institutions that present significant constraints on the actions of MNCs. This would allow for an investigation of the way in which contrasting institutional frameworks condition the scope for RD. Finally, these findings are of course only in the field of HRM and future research could usefully seek to compare the influences on reverse transfer across different areas of management practice.

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