

**Charting the Contours of Multinationals in Britain:
Methodological challenges arising in survey-based research**

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Editors Foreword

The Warwick Papers in Industrial Relations series publishes the work of members of the Industrial Relations Research Unit (IRRU) and people associated with it. Papers may be of topical interest or require presentation outside of the normal conventions of a journal article. A formal editorial process ensures that standards of quality and objectivity are maintained.

Multinational companies are amongst the most important influences on developing employment practice, particularly in open economies like Britain. This paper arises from a multi-centre project developed by members of the Industrial Relations Research Unit and colleagues from Kings College London and De Montfort University Leicester.

Here the authors reflect on the methodological challenges involved in gathering properly comprehensive data on multinational companies. Difficulties stem from the breadth and the depth of the information necessary to support authoritative conclusions. This project used a multi-method approach, using both survey and interview techniques. The paper presents the authors' experience of developing the survey sample and instruments and makes an important contribution to methodology in this increasingly important area of research.

Trevor Colling

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Introduction

The importance of multinational companies (MNCs) in the UK economy is not in question. One way in which this is evident is that Britain is a major recipient of foreign direct investment (FDI) by MNCs, accounting for 8.7% of the inward stock of global FDI. In addition, large numbers of multinationals originate in Britain; the UK accounts for 14.2% of the stock of outward FDI (UN, 2006). In both cases the UK is the second largest individual country, behind the USA. The prevalence of MNCs means that they have significant scope to influence the 'rules of the game' within the country.

Against this backdrop, it is not surprising that there have been numerous studies of the impact of MNCs on employment practice. Yet, as we show below, many of the studies that have used a survey to address this issue have been partial in coverage, based on small numbers and failed to assess the limitations of their population listings and sampling frames. This paper summarises the background to a new survey of employment policy and practice in MNCs, which we believe to be the most comprehensive study of these issues in the UK. The purpose of the paper is to describe the challenges encountered in carrying out the three main phases of the research, specifically the construction of the population, the screening of this population and the conduct of the main survey itself.

The Context

Much of the literature on MNCs in business and management studies is case-study based. While this approach has contributed much to our understanding of the way that MNCs are structured and organised, one danger with case studies is that they concentrate on a few high profile but not typical MNCs. As Collinson and Rugman (2005) note, this form of research has tended to disproportionately focus on firms that are: more globalised and larger than is the norm; American in origin; in the manufacturing sector; in dominant positions in their sector; mature; and characterised by a recognisable brand.

The value of case studies does not depend completely on whether the cases are representative of a wider group of firms; indeed, there may well be sound reasons for investigating an atypical firm in order to explore a phenomenon in distinctive circumstances. In contrast, a high degree of generalisability is a requirement for survey research to have much value. Devising a population listing that is comprehensive and reliable is an essential first step if such an aim is to be fulfilled. Since there is no publicly available database of MNCs in the UK, this task involves considerable challenges. Despite this, the nature of the population listing tends to receive only the briefest of mentions in the literature. This raises doubts about the extent to which many of the survey-based studies are truly representative.

Some of these survey-based studies focus on a particular group of MNCs rather than all of those in the UK. For example, some are regional in remit (e.g. Innes and Morris, 1995; Peck and Stone, 1992), others examine a particular nationality of MNCs (e.g. Beaumont *et al.*, 1990; Hamill, 1983; Oliver and Wilkinson, 1988) while others combine these two criteria by examining a particular nationality of MNCs in a region (Wilkinson *et al.*, 1993). This focus on a sub-group of MNCs is not a problem in itself so long as the analysis and interpretation of the findings only relate to that region or nationality, but the issue of how the relevant populations were constructed is not discussed satisfactorily in these strands of the literature. In some of the studies there are simply no details on this. For example, Innes and Morris (1995: 28) carried out a postal questionnaire that was sent to 'all German-, Japanese- and US-owned manufacturing operations in Wales'. However, the

researchers provided no details regarding the list from which this population was constructed and whether the listing was cross-checked against others. Another example of this problem is Hamill's (1983) survey of 'all American-owned and indigenous firms operating in three British industries, namely chemicals, electrical engineering and mechanical engineering' but we are not told about how the list was compiled or whether it was checked against other sources. In other studies we are told of the population listing but not about whether this was verified by any cross-checks. Examples of this are the studies by Beaumont *et al.* (1990), who examined German MNCs in Britain, and Tuselmann *et al.* (2003), who studied German-owned workplaces in the north-west region. Both of these used the directory produced by the German Chamber of Commerce, but there is no discussion of whether this is comprehensive or up-to-date.

Another strand of the literature concerns the mode of entry; investing in greenfield operations has been seen as offering more scope for inward diffusion of employment practice than acquisition, where inward investors inherit established practices. Studies in this category tend to devote rather more attention to the issue of cross-checks between listings. For instance, Guest and Hoque (1996: 56) examined 'greenfield' sites and compared those owned by American, Japanese, German and British firms. Their population was constructed through multiple listings of firms – 'the sample of Greenfield sites was obtained from a number of sources including embassies, trade associations and regional development agencies' . The study of acquisitions in the UK by foreign firms carried out by Faulkner *et al.* (2002) was also based on multiple listings of acquisitions, specifically these included the British press, the Reuters Textline database, Invest in Britain Bureau and the Central Statistical Office. However, in neither of these studies was there any explicit discussion of the inconsistencies between these, or how such inconsistencies were resolved.

A further category is those studies that are 'spin-offs' from other studies that were not specifically designed to explore employment policy and practice in MNCs. One sub-category of this is those studies which were conducted at *workplace* level, and amongst these the periodic Workplace Employee Relations Surveys (WERS) have been a prime data source (e.g. Buckley and Enderwick 1985; Milner and James

1994). The sampling frame for WERS is widely seen as a highly reliable and comprehensive listing of operating workplaces, the Inter-Departmental Business Register held by the Office for National Statistics. One limitation to using this data source is that while the number of workplaces is large (around 2,000) the numbers of workplaces belonging to overseas-based MNCs has tended to be reasonably small. As a result, overseas-based MNCs are often treated as a homogenous group, with comparison restricted to contrasts with indigenous companies and diversity among MNCs cannot be fully explored. Moreover, given that the focus of the series is not specifically on MNCs, the data tell us only about workplace practice and not about the structure of the MNCs or policies within them. Another sub-category amongst the 'spin-offs' is those studies which are based at *company* level, with the CLIRS (Company-level Industrial Relations Surveys) one such source (e.g. Purcell et al, 1987; Marginson et al. 1995; Edwards *et al.*, 1996). The two surveys in this series are based on carefully constructed and reliable population listings of multi-site firms in the UK. (The first of these traced the UK corporate level of organisations from a population listing of establishments drawn from the official local authority business rate database. The second identified companies directly, commencing with an initial listing drawn from FAME and Dun and Bradstreet's 'Who Owns Whom?', which involved cross-checking, and then supplementing the listing with information from further databases for sectors, such as financial services and the utilities, where coverage appeared incomplete. The composite listing was then verified by a telephone screening exercise). However, similar limitations to the WERS spin-offs apply, namely that numbers of MNCs have been limited (at around 100 when overseas- and UK-owned MNCs are combined) and only a sub-set of the questions were specifically about the firms as multinationals as opposed to about them as large companies in the UK.

Another strand of the literature looks at particular forms of control within MNCs. For example, Harzing's (1999) study of MNCs of various nationalities examined a range of control mechanisms while Young et al. (1985) considered the degree of centralisation of decision making over industrial relations issues in MNCs. While these studies are useful in shedding light on relations between levels of management concerning the handling of employment matters, they do not directly address policies and practices on substantive HR and IR matters. As a

consequence it is difficult to gain insights into the pattern of HRM or IR practice across a set of issues within the same companies as opposed to isolating 'exceptional' practice in one or a small number of HR/IR areas.'

In sum, there is a range of weaknesses in existing survey-based studies. These relate to: relatively small sample size in more general workplace and company surveys, whose representativeness is well established; limited data on employment relations and HR in surveys primarily conducted for other purposes; and, above all, a lack of transparency about the population listings from which samples were generated in many surveys.

McDonnell et al (2007) point to the difficulties of establishing such a listing. They argue that studies of MNCs in Ireland suffer from the problem of the population being constructed from information provided by the industrial promotions agencies, the bodies that provide grants to MNCs. Since not all foreign MNCs receive grants, this is not a comprehensive listing. The significance of this, they argue, is that it introduces a source of bias; those MNCs that are not dependent on the agencies for grants are likely to have a freer hand in their approach to employment relations. In addition, their painstaking attempts to construct an accurate population of MNCs in Ireland revealed deficiencies in any one listing: none of them were comprehensive (for example, McDonalds and LIDL did not appear in the lists provided by state agencies that promote FDI); there were many duplicates (that is, firms that appear on the same list twice or more as they have subsidiaries with different names); and all of them contained some inaccuracies in the data, particularly relating to employment size. Their use of multiple sources and cross-checks pointed to the time needed to construct populations of MNCs that have a high degree of accuracy. It is these challenges in the British context that we turn to in the next section.

Constructing the Population

In constructing a population our aim was to establish two separate listings, one of foreign firms that employ at least 500 employees worldwide and at least 100 in the UK, and the other of UK-owned MNCs that employ at least 500 worldwide with at

least 100 of these outside Britain. We encountered many challenges in constructing these listings.

Perhaps the most fundamental challenge was the incomplete nature of any one database. Our searches began with two of the best-known company databases, FAME and AMADEUS. With the former, it was not possible to run simultaneous searches of foreign firms for our size thresholds. Moreover, the data for the world-wide operations were often incomplete, a problem that was also in evidence with AMADEUS. Added to these problems, the databases produced lists of MNCs that varied significantly from each other. In fact, the initial searches on FAME produced different numbers of foreign MNCs from the CD-ROM version (3,339) and the DVD version (3,185). The initial search with AMADEUS produced a different figure again (3,465), but the striking feature here was the lack of overlap between the two; the AMADEUS search produced about 1,000 'new' companies that FAME had not identified with no obvious pattern that might have explained the differences. Consequently, we searched other sources to complement these two, including some hard copy sources (FT Top 500 companies, The Personnel Managers' Yearbook 2001/2, ETUI Multinationals Database 2000) and many internet sources (Hoover Online, Lexis-Nexis Professional, Global Access, FT company online facility, Datastream and individual company websites).

One specific problem was that neither main source was necessarily providing the 'ultimate controlling company' (UCC) but rather they were listing subsidiary and intermediate companies. Therefore, there was a real danger that one multinational was appearing several times. In order to try to resolve this there was no alternative but to carry out a laborious company-by-company search to check the list and exclude those firms which were not the UCC. This produced a list of 2,525 foreign-owned firms that met the employee size thresholds. In addition, there were a further 109 companies with missing employee data whose status remained unresolved.

Another problem related to difficulties in establishing the nationality of foreign-owned firms. 180 firms were characterised as having 'shared parentage', with it being unclear how ownership was divided between firms in different countries.

Even more problematic was the large number of firms — totalling over 200 - where the nationality was apparently a 'flag of convenience', such as Bermuda and the Virgin Islands; it was inconceivable that such a large number of MNCs would have their operational HQ in these countries. In addition, there was a suspiciously large number of firms classified as from the Netherlands.

For UK-owned firms, a further problem was the lack of reliable data on international operations. FAME was not at all useful for this group of firms, but AMADEUS was more so. A search of 'UK parent company/holding companies' and 'overseas subsidiaries' with the relevant size thresholds applied provided an initial listing of 1,861 British MNCs. However, this fell very sharply when case-by-case checks were undertaken, leaving the final figure at 577 UK multinationals with at least 500 employees worldwide and at least 100 outside the UK.

The database was constructed in early 2002 and contained 3102 companies in total. Owing to the gap between this and the commencement of the project proper, there was a need to update the database and this occurred during the autumn of 2004 and early part of 2005. A series of checks were undertaken to ensure the original database took into account any new companies that may have entered the UK since 2002. Four sources were drawn upon. First, issues of *Acquisitions Monthly* covering the period from the beginning of 2001 to the middle of 2004 were searched in order to identify all recorded acquisitions involving a UK firm acquiring a firm abroad and those involving an overseas-owned firm acquiring one in the UK. Firms involved were added to the database if they were not already on the list. This exercise resulted in the addition of 22 UK-owned MNCs and 12 overseas owned MNCs to the database.

Second, the team drew on the UKTI database which contained information on 1478 quotable companies for the period 2001 through to 2004. A total of 568 (38%) of these companies were checked against our overseas database. The remaining 910 (68%) of companies were given low priority status and not checked on the basis that either they had a UK workforce falling significantly below our 100 plus size criteria (518 companies) and therefore would not qualify as part of our sample, or that they involved mergers and acquisitions that had led to the creation of no

new jobs (492 companies) and therefore would have been picked up during the initial compilation of the database. Many of the 568 companies that were checked were already on the overseas file (160) and some were found to fall below the size thresholds (59). Over half (314) had missing or insufficient data on FAME to allow us to establish their size and position within the multinational company. However, there were 35 companies that were identified as not already existing in our overseas file and met the size criteria for inclusion. These were added to our database.

Third, in order to increase the number of firms on the database which had contact details for an appropriate respondent, the *Personnel Managers Handbook* for 2004-5 was searched. This resulted in the addition of just over 650 contact details for individual HR managers or directors.

Fourth, the companies on our database were checked against the *Dun & Bradstreet* and *UK Changes* listings for companies in order to ensure that contact details were as accurate as possible. The former listing resulted in a match for just over 2,000 companies, providing an alternative phone number for these cases should the initial number be out-of-date. The search of *UK Changes* resulted in new contact details being added to the database for 326 firms. During the telephone 'screening' exercise, both the original and the new telephone numbers produced by this exercise were used where necessary to establish contact with the respondents.

The database was also checked to ensure no company was listed more than once. At the end of this process the company database contained 3099 companies of which were 2242 were Overseas- owned, 681 were UK-owned and 176 were joint UK/overseas-owned.

Overall, the exercise demonstrated the importance of cross-checking between several databases and carrying out further checks with the companies' individual websites, unavoidably a laborious and time-consuming process. This suggests that surveys of MNCs based on a single listing, whichever one it is, and that do not invest time in extensive cross-checks are likely to be some way from

comprehensive or reliable. We know from the previous section that there are a number of such studies. Our survey in contrast has a strong claim to score well on these counts.

The ‘Screening’ Telephone Survey

The survey itself was constructed around two principal stages, the first of which consisted of a telephone ‘screening’ survey which served the purposes of checking the initial listing for reliability, resolving incomplete information and generating some additional data concerning key aspects of the firms, such as the sector they operated in, the representation of HR on the main management board, the reporting relationship between HR managers at national level and those at the corporate HQ, and the existence and nature of a code on corporate social responsibility. It was decided that any member of the HR function or a manager from another function would be able to answer the questions relating to the first purpose, but the second required a senior HR respondent. Thus a short version of the questionnaire was constructed for junior HR or non-HR respondents and a longer version for senior HR respondents, defined as those with a job title of HR/Personnel Director, Senior Manager, Manager or Senior Officer (or another title that was seen by the respondent as equivalent to these).

The interviews were conducted by the survey company GfK NOP using computer-assisted telephone interviewing (CATI). This has the capability to cross-check responses for consistency in real time (i.e. when the interview is being conducted), enables complex filters to be administered automatically and records and stores the data instantly, removing the need for them to be entered subsequently. The long interviews lasted approximately eleven minutes and the shortened interviews took nine minutes.

Contact was sought with all 3099 MNCs in the database. As is evident from the discussion in the previous section, there were a large number of companies for which the information in the database contained some uncertainties, such as the nationality of the firm being unclear in cases of ‘flags of convenience’ and the employee size data being either missing or ambiguous. (In many cases different

sources had produced different employment figures and where there was ambiguity as to whether the firm met the size thresholds we included them in the knowledge that they might subsequently drop out after the screening process.) The screening interview allowed a check to be made for the nationality of the company by asking where the UCC was based and a check on the employment figures, both worldwide and in the UK. In addition, it presented the opportunity to carry out another check that the level at which the interview was being carried out was indeed at the HQ of the UCC, something that was crucial given the experience in the compilation of the database of finding many subsidiary or intermediate companies. Accordingly, respondents were asked whether they were located at the UK HO of the UCC. The outcomes of the telephone screening exercise are charted in Table 1 (and a full breakdown is provided in Appendix 1).

Table 1: Outcomes of the Telephone Survey

	N	Sub-totals
<i>Useable:</i>	903	
<i>Non-useable responses</i>	28	
<i>Non-response I (Refusal)</i>	761	
<i>Non-response II (Access failure)</i>	456	
POTENTIAL ELIGIBLE LISTING		2148
<i>Not part of the population (e.g. screened out, duplicates etc)</i>	951	
TOTAL LISTING		3099

These checks led to some companies being screened out of the survey. The telephone interviews revealed that just over 16% (488) of the companies turned out to not fulfil the size criteria. A further 15% (463) were found not to be part of the MNC population of interest on the basis that either they had closed down, were a duplicate (i.e. the company was already represented in the database by another subsidiary or intermediate company), they were not a multinational organisation or despite additional checks during the survey fieldwork they were deemed to be non-traceable. In the case of the non-traceable companies this referred to companies that during the screening fieldwork could not be contacted. For example, some of the telephone numbers were residential numbers, or the phone rang but there was no pick-up or the number was unobtainable. In total no contact was made with 577 companies initially. Therefore further checks were undertaken which involved case-by-case company searches using web browsers, electronic telephone directories and the Companies House database to try and identify alternative numbers. As a result of this process, 277 companies could either not be traced or no alternative contact details could be found and were thus categorised as ‘non-traceable’. In the case of the remaining 300 companies contact was successful and we were able to establish if they screened in or screened out. This meant that the number of potentially eligible companies in the database fell from 3099 to 2148.

Of the potentially eligible companies contacted, 761 refused to participate and in 456 cases contact was made with the company on numerous occasions but not with the respondent. A total of 931 companies agreed to participate, although in 28

cases an interview commenced but the data were not useable. This was because contradictory answers to the screening questions indicated that the data were unreliable. This left 903 useable interviews. The long or full questionnaire was completed by 665 respondents and the short version by 238.

The nominal response rate for the screener phase was 43% (i.e. total returns as a percentage of the total eligible sample). From the total sample drawn the size threshold was validated for 1419 organisations (i.e. 931 completed returns and 488 MNCs that screened out for failing to meet the size thresholds). Assuming a similar proportion of companies in the non-validated sample would screen out on the basis of their size it is possible to calculate a more accurate and realistic response rate for the screening survey of 54%ⁱ.

The reliability of the data for the 903 screener respondents was further scrutinized. First, checks were undertaken to ascertain the degree of concordance between the organisational data obtained from the survey and that obtained from our database on four key organisational indicators:

- country of origin (i.e. France, Germany, Nordic, UK, Rest of Europe, Japan, US, East Asia, and Rest of World)
- the industrial sector of the UK operations (i.e. manufacturing, services and other/multi-sector)
- the employment size of the UK operations (i.e. 100-499, 500-999, 1000-4999, 5000+)
- the employment size of the worldwide company (i.e. 500-999, 1000-4999, 5000+).

There were a number of reasons for expecting a degree of non-concordance between these data. For example, there was a time lapse between when the information incorporated from the multiple data sources we drew upon to compile the database was collected and when the information in the field was collected. Given the increase in mergers and acquisitions activity, joint venturing and the dynamics of competitive markets it would not be unreasonable to expect key organisational details such as those we focused on to change. It was also very

difficult to ascertain from database information the ultimate controlling company due to an absence of precise definitions. As a result we know that some of the country of origin details listed related to 'tax havens' or holding companies. Identifying the nature of these differences would further our understanding of the dynamic character of our organisational field.

The results from the concordance checks revealed that for country of origin 84% (n=870) of the companies had details that matched across the two data sources. Significant non-concordance was associated with US and UK ownership (chi-square 61.315, df 8, p .000, n=870): 32 companies were identified in the screener as US, but in the database 18 were identified as UK and 14 as Rest of Europe; 11 companies were identified in the screener as UK, but in the database they were US. The industrial sector comparisons revealed a 75% (n=903) match across the two data sources. The matched and non-matched groups significantly differed (chi-square 14.321, df 2, p .001, n=903) with the non-matched sample having a larger proportion of companies classified as 'other' (i.e. agriculture, utilities and construction) and a smaller proportion identified as manufacturing. This discrepancy might be explained by the fact that the database information identified industrial sectors associated with imprecisely defined ultimate controlling companies which differed to those identified subsequently through our screening criteria. Comparisons of the size of the UK operations found a 63% (n=832) match across the two data sources. We experienced difficulties in obtaining size data to include on the database, resulting in missing information for 71 companies. Significant differences between the size profiles of the matched and non-matched groups (chi-square 134.46, df 3, p .000, n=832) confirmed the dynamic nature of this type of data – for potentially some of the reasons mentioned above. Checks on the worldwide employment size data indicated no significant differences (chi-square .781, df 2, p .677, n=241). These data were particularly difficult to access when compiling the database and it was an issue respondents found difficult to answer during the screening phase. As a result only 241 cases had data available for analysis across the two sources, of these the information matched for 175 cases. The number of matching and non-matching cases and concordance rates are detailed in table 2.

Table 2 : Summary of the consistency in the MNC profile information obtained through the screener survey and used to compile the population listing

	Country of Origin	Sector	Size - UK employment	Size - WW employment
Concordance	84%	75%	63%	73%
Non-concordance	16%	25%	37%	27%
Sub-total	100% (870)	100% (903)	100% (832)	100% (241)
Cases with missing data	172	0	71	662
Total cases	903	903	903	903

Note: concordance rates exclude cases where data are missing from either the database information or from the screener.

Secondly to assess whether any of the non-concordance influenced our screener survey results, checks were carried out on responses to a sample of screener questions. For example, the country of origin comparisons highlighted non-concordance in the classification of US companies across the two data sources. Therefore in these additional checks the survey responses of US companies that were classified consistently across the two data sources were compared to those that were not. The sample questions were selected to cover key variables of interest not only at the screener stage, but also the main survey stage. The questions examined related to subsidiary discretion, parent involvement in career development and employee involvement policy, HR parent-subsidiary reporting relationships, and corporate social responsibility. The analysis revealed no significant differences between company responses.

In conclusion, while some non-concordance on country of origin, industrial sector and company size information between the database and the screener was detected this appeared not to bias the firms' survey responses to issues of organisational structure or employment policy and practice.

The Main Survey

The third and main stage of the research involved a face-to-face interview with a senior HR respondent. The purpose of this was to discover much more about the way the multinationals were organised and structured and to shed light on HR policies and practices in a number of areas.

On the first of these, respondents were asked a series of questions about the following issues (among others):

- the way the company was structured e.g. around international divisions, regions, business functions or national subsidiaries
- the nature of the HR function e.g. concerning the monitoring of operating units and bodies that form international HR policies
- the geographical distribution of employment across regions
- the extent to which the firms were diversified across sectors
- the way in which the firms were integrated across borders in production or service provision
- the ways in which the firms had grown e.g. acquisitions, joint ventures, greenfield sites

On the second, the questionnaire contained a series of questions on each of the following issues:

- Pay and performance management
- Training, development and organisational learning

- Employee involvement and communication
- Employee representation and consultation

An innovation in this survey was to make a threefold distinction between different occupational groups. The first of these is managers. The identification of internationally mobile managers, and the provision of international career development that will generate skills and experience, are important aspects of the way that many MNCs operate. Companies which have a policy of developing a cadre of 'international managers' to promote cross-border integration of strategy and operations might be expected to place emphasis on internationalising remuneration schemes and career development programmes for managerial staff. The second group is non-managerial employees. There is growing evidence that the way that these employees are managed is shaped by the cross-border context of the companies (Edwards, 2004). In practical terms, following the 1998 and 2004 WERS, the 'largest occupational group' (LOG) was identified. Third, a simple distinction between managers and other employees may be too stark; firms may have other key groups of employees, for example research staff or product designers, who are critical to organisational learning and competitive advantage. Thus in this survey a key innovation is that we ask about the existence of a 'key' group of staff. These are defined as employees that firm identifies as critical to its 'core competence' such as R&D staff, product designers, major account handlers or developers of new markets. In this way the firm's core competence is not pre-defined by the researchers, but does relate to resources generated by employees as opposed to competence inherent in technology or physical resources..

The fieldwork for this phase of the research took place in late 2005 and early 2006. The questionnaire was rigorously tested during several pilot stages. The interviews were carried out by trained and fully briefed interviewers using computer-assisted programmed interviewing (CAPI) with senior HR respondents. Like its telephone-based counterpart (CATI), this has the advantages of allowing real-time checks for consistency in responses, automatically routing the interviewer through complex

filters and immediate storage of the data. The questionnaire was very detailed, with interviews lasting around one hour and ten minutes on average.

The main survey consisted of 302 interviews, a response rate of 33% from the screener stage to the main stage. The research team was anxious to check that the key characteristics of the firms taking part in the two stages were similar and to this end the two datasets were profiled against one another.

Although the results, which are shown in the table below, were generally reassuring there was some discrepancy in the sectoral profile between the screener and the main survey. MNCs in services are comparatively under-represented in the main survey as compared with the screener, whilst MNCs in manufacturing are comparatively over-represented.

Table 2 – The Profiles of the Screener and Main Stage Surveys

	Screener		Main	
Sector				
Manufacturing	412	46%	152	50%
Services	426	47%	129	43%
Production non-manufacturing	53	6%	17	6%
Multi-sector	12	1%	4	1%
UK emp *				
100-499	395	46%	125	42%
500-999	154	18%	54	18%
1000-4999	228	27%	95	32%
5000+	78	9%	26	9%
WW emp **				
100-499	0	0%	0	0%
500-4999	214	35%	93	35%
5000+	389	65%	178	65%
Origin				
UK	166	18%	44	15%
Rest of Eur	272	30%	94	31%
N. America	347	38%	123	41%
East Asia	69	8%	23	8%
Rest of World	49	6%	18	6%
Total	903	100%	302	100%

* - for the figures for UK employment, 48 respondents at the screener stage and 2 at the main stage were unable to place the firm into one of the size categories

** - for the figures for WW employment, 300 respondents at the screener stage and 31 at the main stage were unable to place the firm into one of the size categories

To correct for this, a weighting variable was constructed which has the effect of weighting main survey cases to reflect the screener profile by sector. As shown

below, the weighting variable takes four values according to the sector in which a case is located:

Sector	Weight	No of unweighted cases	No of weighted cases
Manufacturing	0.91	152	137
Services	1.10	129	143
Other Production	1.04	17	18
Multi-sector	1.00	4	4

When applied, these sectoral weights correct for under-response amongst service (and other production) sector MNCs as compared to those in manufacturing. Such correction is important when reporting findings about the proportion of MNCs which have a given structure or adopt a particular policy approach. Checks confirmed that application of this weighting variable did not affect the profile of the main survey sample by country of origin or the two employment size variables.

Discussion

One of the primary benefits of survey research is derived from the inferences that can be drawn from results to the wider population of interest, in this instance MNCs. We have illustrated however that some of the survey work on MNCs in the UK to-date has weaknesses which impact on the population inferences that can be drawn. Our research attempts to address these. Firstly, the reliability and validity of sampling frames or company lists which are used as proxies for the MNC population of interest are often poor or not adequately addressed. Our experiences demonstrate the dangers of relying solely on one data source. Instead, the population list of MNCs in the UK compiled for this study involved using multiple listings from a variety of sources including professional associations (e.g. Personnel Managers Yearbook), government department listings (.e.g. UKTI), specialist listings (Acquisitions Monthly), official government lists (e.g. companies house); and company databases (e.g. AMADEUS, FAME, Dun & Bradstreet). This ensured we gained comprehensive coverage of the MNC population.

Second, and linked to the first point, the representativeness of MNC survey data has often received little attention by authors of previous work. In this study we have

explicitly addressed the issue. We have done this by assessing the representativeness of the main study survey data in comparison with the screener survey data. The results indicate that in the MNC profile in terms of its sector, size and country of origin, is consistent across the two surveys. This is reassuring as it suggests no bias has crept in when moving from a sample of over 900 companies to one of just over 300. Checks were also undertaken to examine the consistency between the sector, size and country of origin information obtained from the companies taking part in the screener survey with that used to compile the population list. Concordance overall ranged from around 84% to 63%. A number of significant differences were found between the MNC profile of concordant and non-concordant cases. While some non-concordance was anticipated and found further analysis suggested this did not introduce any bias in how companies responded to employment phenomena of interest and focus in this study.

Third, we undertook multiple checks involving direct contact with the company, or case by case company searches aimed at ensuring the database was as up-to-date as possible prior to fieldwork and to verify the eligibility of the company for inclusion on the database. This process revealed that many companies originally listed as part of our population list, on the basis of database information, were in fact not eligible. In some cases companies had closed down, or, employee numbers listed on the database were inaccurate or out of date and as a result the company was screened out. In all approximately one third of the companies originally listed as part of the population were found to be ineligible. This type and level of inaccuracy is important in terms of its potential impact when estimating how representative sample parameters are of the population.

Fourth, we recognised that previous studies had not always been designed to look specifically at the MNC population and as a result the sample of MNCs tended to be small. This had the consequence of limiting the inferences to the wider population and also limited the comparative analysis within the MNC sample. Our research has yielded two samples: a screening survey sample of 904 companies and a main stage survey of 302 companies. In addition, we paid particular attention to a number of key MNC characteristics, e.g. size, sector and country of origin, likely to be important explanatory factors in any comparative analysis. The

relatively large sample sizes we have achieved make comparative analysis based on these parameters feasible. This will enable a more detailed and nuanced profile of MNCs in the UK to be revealed than previous studies have allowed.

Fifth, this study covers a comprehensive range of substantive HR and IR policy and practice issues at the level of the MNC organisation. As such it provides insights into areas of policy that previous studies have been unable to attend to. The preliminary findings from the screener survey have already illustrated the heterogeneity of MNCs in the UK in terms of the HR and IR policies they pursue and these issues will be explored further in the main study.

In conclusion, this paper has outlined the process undertaken in constructing and verifying our population list for MNCs in the UK. Our analysis of this process has demonstrated the inaccuracies inherent in 'ready-made' lists, which are often, adopted wholesale by researchers. We have also illustrated how such limitations can be addressed, although this is both time and cost intensive. However, as a result we have been able to identify, with a high degree of reliability and validity, a valid population of 2148 MNCs in the UK, and engaged 903 in a screener survey from which a further 302 have undertaken our main survey. This yields one of the most robust and comprehensive survey data sets of HR and IR policy and practice of MNCs in the UK.

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Appendix 1: Detailed Breakdown of the Telephone Screening Survey

	N	Sub-totals
<i>Useable:</i>		903
Short interviews completed	238	
Long interviews completed	665	
<i>Non-useable responses:</i>		28
Rejected	28	
<i>Non-response I (Refusal)</i>		761
Company policy not to participate	418	
Refusal to participate	300	
Stopped interviews	2	
Quit	20	
Other – cannot continue	21	
<i>Non-response II (Access failure)</i>		456
Arrange callback	187	
Leave questionnaire	2	
Not available during fieldwork	25	
Referred elsewhere	10	
Reached maximum number of calls	214	
Voicemail	10	
Busy/ engaged	2	
No eligible respondent	6	
Potential Eligible Sample	2148	2148
<i>Not part of the population</i>		951
Did not meet screening criteria	488	
Duplicate numbers/ companies	152	
Duplicate interview	16	
Closed down	12	
Not a Multinational company	6	
Non-traceable	277	
TOTAL SAMPLE DRAWN	3099	3099

Appendix 2: Methods used in Survey-based Studies of Employment Policy and Practice in MNCs

Authors	Focus	Unit of Analysis	Form of Gathering Data	Respondent	Population Listing	N	Response Rate
Beaumont, Cressey & Jakobsen (1990)	German MNCs employing at least 25 people in Britain in all sectors	Establishments	Telephone interviews and postal questionnaire	To telephone interviews: Senior in HR or General Manager. Unclear for the questionnaires	Directory produced by German Chamber of Commerce	306	46%
Buckley & Enderwick (1985)	Foreign-owned & indigenous plants in Britain in production/manufacturing industries	Establishments	Secondary data - face-to-face interviews	Management and worker representatives	WIRS Survey Data (1980)	702	n/a
Edwards et al (1996)	British and overseas owned in the UK (with 1000+ employees in UK & at least 2 sites in UK)	Company level (in Britain)	Personal interviews with 2 respondents at each firm	Senior executive responsible for Personnel & Industrial relations and the Senior Finance Executive	CLIRS2	176	28%
Faulkner, Pitkethly & Child (2002)	Acquisitions in the UK by foreign firms. Specifically, USA, Japan, Germany & France in varied	Company level	Postal survey questionnaire & semi-structured	Interviews: Senior Managers [General	Multiple sources: British press, Reuters Textline database,	201	201 were chosen from a potential 1122.

	sectors		in-depth interviews	managers or MDs]	Invest in Britain Bureau & Central Statistical Office. Journal: Acquisitions Monthly		
Guest & Hoque (1996)	Greenfield sites in the UK owned by American, Japanese, German & British firms (plus a few from EC & EFTA countries). Predominantly manufacturing	Establishments	Postal survey	Chief Exec or Person responsible for HRM	Multiple including: embassies, trade associations, regional development agencies	148	?
Hamill, J (1983)	US-owned firms in the UK in the chemicals, electrical engineering & mechanical engineering sectors	Establishments	Postal Questionnaire	No details provided	No details provided	84 US firms & 50 indigenous (UK) firms	30% of US & 21% of indigenous
Hamill, J (1984)	Foreign-owned firms in the UK in the chemicals, electrical engineering & mechanical engineering sectors	Establishments	Face to face interviews (semi-structured)	Personnel Director/Manager at the UK Headquarters	No details provided	30	?
Innes & Morris (1995)	German, Japanese and US-owned firms in Wales. Covered chemicals, electronics and other manufacturing	Establishments	Postal	No details provided	No details provided	48	44%
Marginson et al (1995)	The extent to international HR policy coordination and its link	Overseas and UK MNCs with 2 or	Face-to-face interviews	Senior executives responsible for	CLIRS 2	101	28%

	with company strategy and structure	more sites and 1,000+ employees in Britain		personnel / IR and finance			
Milner & James (1994)	Foreign-owned companies in manufacturing & services	Workplaces	Secondary data – face-to-face interviews	Management and worker representatives	WIRS (90) and BIMS (90)	1405	n/a
Oliver & Wilkinson (1988)	British & American owned firms with operations in the UK (which are emulating Japanese practice) in the manufacturing sector	Company level	Postal questionnaire	Not given	All companies in the Times 1000 index known to have manufacturing operations	66	18%
Peck & Stone (1992)	Foreign manufacturing plants in the Northeast of England	Establishments	Postal plus face to face interviews	Senior executives and personnel specialists	No details provided	84	90%
Purcell et al. (1987)	The industrial relations practices of multi-plant foreign owned firms in the UK . 4 manufacturing & 2 Service sector industries. Firms were North American, Japanese & Western European	UK company level of foreign MNCs	Face-to-face interviews	HR Director or Senior Manager	CLIRS 1	19	?

Steuer & Gennard (1971)	Industrial relations, labour disputes, & labour utilization in UK and foreign-owned firms in the UK employing 200 people (electrical engineering sector)	Establishments	Interviews	Not given	Not given. However, data is taken from another study carried out by the Higher Education Research Unit at the LSE	68	12%
Tuselmann et al. (2003)	German-owned workplaces in north-west region of England across multiple sectors	Workplaces	Postal survey questionnaire and telephone interviews with parent company of a sub-sample	Managing Director or HR Director of subsidiaries	Directory produced by German-British Chamber of Industry & Commerce	40	38% (To questionnaire) 100% (To interviews)
Wilkinson, Morris & Munday (1993)	Japanese MNCs in Wales in manufacturing	Company level	Mainly interviews (though supplemented with some other sources)	Managers of the companies	Authors' listing 1992	23	82% (interviewed 23 out of the 28 Japanese manufacturing companies in Wales)

Wood & Fenton-O'Creevy (2005)	European Operations of UK MNCs, including UK, France, Germany, Netherlands and Spain	Not specified	Postal questionnaire (separate ones to HQ and country operations). Interviews too	Questionnaires to Senior Management at company headquarters. Interviews to Trade unions and works council representatives	The companies were all members of the European Study Group (a not for profit association of companies)	25	56%
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ⁱ 1419 companies were screened for the size criteria, with the result that 931 were confirmed as in scope and 488 out of scope. In other words 65.6% of companies screened were in scope.

The upper limit of the potentially eligible population is 2148 companies, which comprises 931 companies screened as within scope and 1217 companies which were not screened.

The upper bound on the response rate would be if all companies that were not screened had screened out. In which case the response rate would have been 931 out of 931, which is 100%.

The lower bound on the response rate would be if all companies that were not screened had screened in. In which case the response rate would have been 931 out of 2148, which is 43.3%.

The likely response rate if we had managed to screen all companies would lie somewhere in between, and the best assumption to make is that companies not screened would have screened out in the same proportion as those which were screened. In other words, 65.6% of the 1217 would have fallen within scope = 798 companies.

This gives a denominator of 1729 and a response rate of 53.8% (54% rounded).