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## The contact and response process in business surveys: lessons from a multimode survey of employers in the UK

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# THE CONTACT AND RESPONSE PROCESS IN BUSINESS SURVEYS: LESSONS FROM A MULTIMODE SURVEY OF EMPLOYERS IN THE UK

Peter Lynn and Emanuela Sala

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## ABSTRACT

On surveys of businesses, the processes of making contact and obtaining co-operation are quite different from those on more frequently studied types of surveys, such as those of households or private individuals. We describe experiences and outcomes on a multimode business survey, in particular analysing the nature and number of contacts made with sample businesses and their outcomes. We discuss lessons that can be learnt in order to maximise contact and co-operation rates on future surveys. Several practical conclusions are drawn regarding the design of surveys of this kind and the organisation of the data collection effort. In summary, we conclude that respectable response rates and response quality can be achieved, but that this requires considerable effort and a flexible approach to contact and response, allowing the preferences and requirements of the respondent (employing organisation) to dictate the methods used by the survey organisation.

**Key words:** Co-operation, non-contact, non-response, refusal, survey mode

## 1. Introduction

Establishment surveys have to deal with methodological issues that are quite different from the ones researchers normally face while carrying out other kinds of surveys. The process of making contact and obtaining co-operation, for example, is usually longer and more complicated, while the dynamics of the response process are specific to this kind of survey (Paxson et al., 1995). Additionally, in many - perhaps most - countries a large proportion of establishment surveys are carried out by National (or Regional) Statistical Institutes (Cox et al., 1995). These surveys typically have long-established processes, participation is compulsory, and they are viewed as administrative routines rather than surveys (Smith et al., 2003). Academic surveys of establishments are perhaps rare within the social sciences, being restricted mainly to business schools and the like. Consequently, there appears to be relatively little interaction between methodologists working on establishment surveys and those working on household surveys, and relatively little literature on the methodology of establishment surveys. Notable exceptions are chapter 10 of Dillman (2000) and the two International Conferences on Establishment Surveys (ICES in 1993 and ICES II in 2000), both held in Buffalo (New York), the first of which led to Cox et al. (1995).

The aim of the paper is to describe experiences and outcomes on a survey of businesses (employers) with respect to the processes of contact and co-operation and to discuss implications for design and implementation of establishment surveys.

The paper is divided into six sections. We begin by describing the methodological context for our employer survey (section 2), then we look at the response rates

obtained at the two stages of the survey (a postal stage and a telephone stage) and we discuss reasons for refusal (section 3). We then describe the contact and response process for the telephone stage (section 4) and we analyse the dynamics of the process, discussing in particular the role of gatekeepers in getting co-operation with the respondents (section 5). We also look at the costs of data collection and how these differ between the postal and telephone stages (section 6). Finally we draw several practical conclusions regarding the design of surveys of this kind and the organisation of data collection (section 7).

## **2. The ISMIE Project and the Employer Survey**

The employer survey upon which this paper is based is part of a large-scale methodological project known as *Improving Survey Measurement of Income and Employment (ISMIE)*<sup>1</sup>. The ISMIE project aims to develop and assess methods of collecting validation data with respect to key survey items, to make preliminary assessments of the validity of measures and, to assess alternative data collection strategies, particularly the use of dependent interviewing<sup>2</sup>.

In the context of this project, two validation studies were carried out. The aim was to validate data about income from social benefits and about employment conditions collected in a face-to-face household interview survey. The sample consisted of the 'low income' subsample of the UK part of the European Community Household Panel

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<sup>1</sup> A detailed description of the methodology of the ISMIE project is presented in Jäckle et al. (2004).

<sup>2</sup> For a review of dependent interviewing, see Lynn (2004); the effects of dependent interviewing on responses to questions on income sources are described in Lynn et al. (2004).

Study (ECHP)<sup>3</sup>. This sample was interviewed annually as part of the ECHP from 1994 to 2001. Funding for the ECHP expired in 2001, giving the opportunity to interview respondents once more in early 2003 for purely methodological purposes (ISMIE survey). Data about social security benefits (receipt *per se* and amount received) were validated using the records on benefits receipt held by the Department for Work and Pensions (DWP)<sup>4</sup> while data about current employment (earnings, hours worked, occupation, industry, etc.) were validated using data reported by the employers. The survey of employers reported in this paper was the means by which the second of these two sets of validation data were obtained.

All respondents to the ISMIE survey who were currently in employment (excluding the self-employed) were asked for written permission for the University of Essex research team to approach their employer to request some further details of their employment for purely statistical purposes. If permission was given, they were then asked to provide contact information for their employer. Of 434 employed ISMIE respondents, 254 consented to the employer survey, a consent rate of 59%<sup>5</sup>.

The contact details requested included the name of a person within the employing organisation who would know about the nature of the ISMIE respondent's employment and pay. As Christianson and Tortora (1995, p.243) put it, "*The main goal is to get the questionnaire into the hands of the proper person for accurate completion.*" At the postal stage of the employer survey – described below –

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<sup>3</sup> This is a random national (GB) sample of persons meeting one or more criteria associated with increased risk of low income. The criteria were broad and the sample therefore covers a wide range of population subgroups. For details, see Jäckle et al. (2004).

<sup>4</sup> For a discussion about the matching methods used in the benefit validation study, see Jenkins et al. (2004b).



questionnaires were mailed to the person who had been named by the ISMIE respondent. In a few cases where no name was provided, the questionnaire was addressed to “Human Resources.” In later sections of this paper, we refer to the “target respondent” within the employer organisation. Initially, this was the named person, though that could change as different information became available about who could best provide the required information.

The employer survey was designed as a multi mode survey, with a postal stage followed by a telephone follow up of non-respondents. This was done primarily with a view to maximising response rate for minimum cost (see section 6 below for an analysis of costs) and is in accordance with the conclusion of Paxson et al. (1995, p.314): “*The main suggestion for organizations without governmental mandatory authority are therefore to send business surveys to named individuals and to use telephone follow-up methods to encourage response or obtain the needed data.*” Employers were first sent a questionnaire by post (in July 2003), followed by a reminder letter (after two weeks) and eventually a second questionnaire (August 2003). Respondents who had not replied by this stage were then contacted by telephone (October 2003 - January 2004).

The mail questionnaire contained a subset of the questions that had been asked of the respondent in the ISMIE survey regarding their own employment situation. To ensure comparability, the original format of questions was maintained, although the wording was adapted to address the employer rather than the employee. The questionnaires were personalised, with pre-printed text fills in the instructions and

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<sup>5</sup> Regarding the validation of social benefits, of the 1033 ISMIE survey respondents, 77.4% consented to matching with DWP data. An analysis of survey respondents’ consent-to match propensities, covering both the DWP data and the employer survey, appears in Jenkins et al. (2004a).

question wording, referring to the employee's name and the date of the ISMIE interview, as a reference period for the information requested<sup>6</sup>. The aspects covered included information on the employer (industry, workplace size), job characteristics (occupation, employee/self-employed, managerial duties, usual working hours, working hours arrangements) and income (last gross/net pay, hourly rates of pay, rates for overtime, availability and membership of pension schemes).

Questionnaires were sent with a cover letter explaining the purpose of the study and containing contact details for queries and a reply-paid return envelope.

For the telephone stage, the postal questionnaire was used, with the addition of a coversheet for interviewers to record details of the process of making telephone calls. The coversheet was divided into four sections. The first one was pre-printed with information about the previous mailings (dates in which the questionnaires and the reminder letter were sent), for the interviewers reference. The second carried the employee and the employer details: name and date of birth of the employee, date when the ISMIE interview was carried out, name, address and telephone number of the employer, as provided by the employee. The third part was for interviewers to record the outcome of the attempts to gain an interview plus any comments that they thought may be useful. In the last section the interviewers recorded in a structured way details about the contact attempts (number dialled and/or whether questionnaire or permission form sent by post or fax, date and day of the week, time, name/position of the person spoken to and outcome of the call). The telephone interviews were carried out by two interviewers who went through an intensive

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<sup>6</sup> This was done as ISMIE respondents had been asked to provide information about the period immediately prior to the interview – for example, about the most recent occasion upon which they had

training programme and were provided with a tailored instruction manual. The first interviewer worked part-time for about 5 weeks, during which time she contacted 49.5% of the employers; the second one then took over and worked part-time for about 8 weeks, contacting 83.5% of the sample (so 33% of the employers were contacted at least once by each of them).

### **3. Response Rates and Reasons for Refusal**

In this section we examine the response rates obtained at the postal stage and the telephone stage of the employer survey and we describe reasons for refusal.

As already stated, of the 1033 respondents to the ISMIE survey 434 were employees, 59% of whom (254) consented to take part in the employer survey. One of the consenting employees did not provide any contact information for his employer, therefore the eligible sample consists of 253 employers.

Of the 253 employers issued during the postal stage of the survey, 129 returned the questionnaire, 33 explicitly refused to take part in the study, and 91 did not reply at all. The response rate and the explicit refusal rate obtained in the first phase of the study are therefore respectively 51% and 13%. It is of course impossible to know with a postal survey what proportion of the remaining 36% are non-contacts (i.e. the addressee or target respondent never received the questionnaire) and what proportion are refusals (the addressee or target respondent chose not to return it).

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been paid – and it was important that the employer information related to the same period/occasion if it were to serve as useful validation information.

The 91 employers from whom no reply was received at the postal stage of the survey were then contacted by telephone. Ultimately, 52 of these completed the questionnaire, 34 refused to take part in the study and 5 were not contacted. The response rate for the telephone stage (conditional upon having not responded to the postal stage) is therefore 57% while the refusal rate is 37%.

Overall, 181 employers completed the questionnaire; the total response rate obtained is therefore 72%, with a refusal rate of 26% and a non-contact rate of 2% (Table 1). This response rate compares favourably with many academic household surveys and with the (American) academic surveys of establishments reported in Dillman (2000, p.331) and Paxson et al. (1995, pp. 307-308).

Table 1 also presents a breakdown of response by each mailing within the postal stage of the survey. Almost half of the questionnaires that were ultimately received at the postal stage were received in response to the first mailing, before any reminders had been sent. Another third were received after the reminder letter and around one in five were received after the second reminder mailing. The overall response rate was therefore 24% after the first mailing, 41% after the first reminder mailing, 51% after the second reminder mailing and 72% after the telephone stage. We can conclude that each attempt to contact the sample members was successful in increasing the overall response rate. Furthermore, each postal reminder was successful in reducing the size of the sample that proceeded to the (more expensive) telephone stage. Nearly two-thirds of the sample (64%) reached a final outcome at the postal stage.

**Table 1. Response Rates for Employer Survey by Stages (Numbers and Percentages)**

<i>Stages of the survey</i>	<i>No.</i>	<i>%</i>	<i>%</i>	<i>%</i>
<i>1st stage: postal</i>				
Total eligible	253	100		
Questionnaires completed	129	51.0	100	
After initial mailing	60	23.7	46.5	
After first reminder mailing	44	17.4	34.1	
After second reminder mailing	25	9.9	19.4	
Questionnaires not completed	124	49.0		100
Refused	33	13.0		26.6
No reply	91	36.0		73.4
<i>2nd stage: telephone</i>				
Total issued	91	36.0	100	
Questionnaires completed	52	20.6	57.1	
Questionnaires not completed	39	15.4	42.9	100
Refused	34	13.4	37.4	87.2
Non-contact	5	2.0	5.5	12.8
<i>Overall</i>				
Questionnaires completed	181	71.5		
Questionnaires not completed	72	28.5		100
Refused	67	26.5		93.1
Non-contact	5	2.0		6.9

Some indication of the reasons for refusal is presented in Table 2. It should be noted that during the postal stage, these reasons were not collected in a systematic way. However, 33 employers communicated their reasons and we have coded those reasons to the categories presented in Table 2. During the telephone stage,

reasons were requested and recorded systematically. Despite this caveat, and the small sample sizes involved, some indication of the causes of refusal emerges. Four main types of refusals are identified: issues related to the employees (difficulties in chasing up/checking consent with the employees; problems in checking the records of the employees), issues related to the employers (no time, lack of motivation), company policies in relation to confidential matters, and general or non-specific refusals. Company policy issues appear less prevalent at the telephone stage. This may be because most companies where this applies had already refused at the postal stage and therefore did not enter the telephone stage. However, it could also be the case that concerns of the employers in relation to confidentiality were easier to overcome in the telephone mode. In 18% of the cases that entered the telephone stage, as we discuss in the next section, we provided the employers with the permission form signed by the employees during the ISMIE survey.

**Table 2. Reasons for Refusals by Stage of the Survey (Numbers)**

	Postal stage	Telephone stage
General refusal/No specific reasons	9	11
Company policy and confidentiality issues	10	2
Issues related to the employees (no permission from employees, employees unknown)	10	13
Issues related to the employers (no time, no incentives)	4	5
Others	-	3
<i>Total = All explicit refusals</i>	<i>33</i>	<i>34</i>

#### **4. Structure of the Contact Process at the Telephone Stage**

In this section we examine the contact process at the telephone stage of the employers survey. We first give an overview of the distribution of the number of contact attempts per sample member and the number of those attempts that were made by telephone (some contacts were made by fax or by post during the telephone stage). We then give a more detailed picture of how the different modes were combined during the telephone stage and how these combinations are associated with final outcome.

For most sample members, the response process was long and complicated. Respondents were typically contacted several times and by different modes (fax, post, and telephone). The intention had been that the second stage of the survey should be a telephone survey. Table 3 shows, on the contrary, that the telephone turned out to be a useful means to get in touch with the employers, and perhaps also to persuade them to co-operate, but it was less useful as a mode for data collection. Only one-third of the employers who responded at the telephone stage (35%) actually provided the data in a telephone interview. Almost 40% completed the questionnaire by post (subsequent to one or more phone calls) and 25% by fax. One respondent provided part of the data by telephone and part by fax. We had not planned explicitly to offer to send the questionnaire by post or fax during the telephone stage, but a large proportion of the employers requested that we do so (see Table 6 below).

**Table 3. Mode by which the Questionnaire was Completed**

	Numbers	Percent
Entirely by telephone	18	34.6
-of which one section missing	1	
Entirely by post	20	38.5
-of which one section missing	1	
Entirely by fax	13	25.0
Partly telephone, partly fax	1	1.9
<i>Base</i>	<i>52</i>	<i>100</i>

A considerable amount of effort was required to make contact and reach a final outcome with each sample member. It can be seen that the mean number of contact attempts (by all modes) to each sample member was 7.8 (Table 4), of which 6.1 were telephone calls (Table 5): a total of 553 calls were made to the 91 employers. Less than one quarter of the employers required fewer than four contact attempts while one in eleven required 14 or more attempts (Table 4) – the maximum being 30 contact attempts. Two thirds of the sample (64%) required at least four telephone calls and one third (33%) required at least seven calls (Table 5).

The complexity of the contact process is associated with the mode by which the questionnaire was ultimately completed (though note the small sample sizes). Cases in which the questionnaire was completed by post or fax required a longer and more complex contact process. For example, 41 per cent of the employers who answered the questions on the telephone required three or fewer contact attempts, compared with only 9 per cent of those who answered by post or fax (Table 4). The median number of contact attempts was 5 for telephone responders and 7 for post or fax



responders (means 7.2 and 8.4 respectively), while the median number of contact attempts by phone was 5 and 4 respectively.

Lynn et al. (2002, p.139) concluded that in the case of household surveys, there is no evidence of a relationship between ease of contact and reluctance to co-operate. We found, in the case of the employer survey, the same lack of association between ease of contact (as indicated by the number of contact attempts) and co-operation rate ( $P=0.85$ ). The same conclusion is drawn if number of telephone calls is used as the indicator of ease of contact ( $P=0.91$ ). In other words, we found no evidence that employers who are more difficult to contact are more or less reluctant than others to co-operate once contacted. This is encouraging evidence that can be used to motivate interviewers who may be sceptical of the merits of continuing to make contact attempts with sample members after many attempts have already been made.

**Table 4. Total Number of Contact Attempts by all Modes (Percentages)**

	Total number of contact attempts by all modes			
	Total sample	Respondents		
		Total	Responded by phone	Responded by post or fax
1-3	23	23	41	9
4-6	22	25	18	31
7-9	22	23	18	25
10-13	24	17	12	22
14-30	9	12	12	13
Mean	7.8	7.8	7.2	8.4
Median	7	7	5	7
<i>Base</i>	<i>91</i>	<i>52</i>	<i>17</i>	<i>32</i>

Note: Questionnaires with missing sections are excluded from the last two columns, as is the one sample member who completed the questionnaire partly by telephone and partly by fax.

**Table 5. Total Number Of Attempts By Telephone (Percentages)**

	Total number of telephone attempts			
	Total sample	Respondents		
		Total	Responded by phone	Responded by post or fax
1-3	36.3	40	41	38
4-6	30.8	31	18	38
7-9	16.5	10	18	6
10-13	11.0	14	12	16
14-30	5.5	6	12	3
Mean	6.1	6.0	7.2	5.7
Median	5	4.5	5	4
<i>Base</i>	<i>91</i>	<i>52</i>	<i>17</i>	<i>32</i>

Note: Questionnaires with missing sections are excluded from the last two columns, as is the one sample member who completed the questionnaire partly by telephone and partly by fax.

The extent of the contact attempts that were made by modes other than telephone is summarised in Table 6. It can be seen that 43 per cent of the employers asked for the questionnaire to be faxed, of which almost half required it to be faxed more than once, and in several cases the questionnaire was faxed three times or more<sup>7</sup>.

Questionnaires were posted to one third (34%) of the employers, and in most of these cases the questionnaire only needed to be posted once.

The sample members to whom the questionnaire was faxed and those to whom it was posted were not mutually-exclusive subsets. In 11 cases (12%) both modes were used<sup>8</sup>. As mentioned previously, the permission forms signed by the employees during the ISMIE survey were provided upon request to 18 per cent of the employers (by fax on 11 occasions and by post on 7 occasions).

**Table 6. Use of Fax and Post for Sending Questionnaires and Permission Forms**

	No	Once	Twice	Three times or more	Base
Questionnaires faxed	57.1	23.1	11.0	8.8	91
Questionnaires posted	65.9	30.8	3.3	-	91
Permission forms provided <sup>a</sup>	82.4	15.4	2.2	-	91

<sup>a</sup> 10 forms were sent once by fax, 4 were sent once by post, 1 was sent twice by post, 1 was sent once by post and once by fax

Consistent with the earlier finding regarding a lack of association between ease of contact and propensity to co-operate, there is no evidence of an association between

<sup>7</sup> There were some problems with transmission from the fax machine to which the researchers had access, and this may have contributed to the number of cases in which the fax had to be sent more than once. The reliability and capability of the machine had not been checked in advance, as sending questionnaires by fax had not been anticipated.

<sup>8</sup> In 9 cases the questionnaire was faxed once and posted once, in one case it was faxed once and posted twice, and in one case it was faxed twice and posted once.

whether a questionnaire was sent by fax or post and co-operation rate

(Fax:  $\chi_1^2 = 0.015$ ,  $P=0.90$ ; Post:  $\chi_1^2 = 0.330$ ,  $P=0.57$ ). As shown in Table 7, 56% of sample members sent a questionnaire by fax co-operated, *versus* 58% of the others; 61% of those to whom the questionnaire was posted during the telephone stage co-operated, *versus* 55% of others.

**Table 7. Response Rates, by Use of Fax and Post**

	Questionnaire sent			
	By fax		By post	
	Yes	No	Yes	No
Interview completed	56	58	61	55
Refusals or non contact	44	42	39	45
<i>Base</i>	<i>39</i>	<i>52</i>	<i>31</i>	<i>60</i>

The extensive use of fax and post as contact modes is reflected in the variety of sequences of contacts presented in Table 8. Only in a minority of cases (34%) were employers contacted solely by phone. In the other cases a mixed sequence of telephone contacts and questionnaires faxed or posted ensued. In 13% of cases, all 3 contact modes were employed. The combinations of contact modes were not very different for respondents compared with the whole sample, suggesting that a request to fax or post a questionnaire is not necessarily a good indicator that the sample member is likely to complete it.

**Table 8. Sequences of the Contact Attempts**

	Total sample		Respondents	
	Frequency	Percent	Frequency	Percent
Just telephone	31	34	17	33
Telephone and fax	27	30	14	27
Telephone and post	20	22	12	23
Telephone, fax and post	8	9	6	12
Telephone, post and fax	4	4	2	4
Telephone, fax and telephone	1	1	1	2
<i>Base</i>	<i>91</i>	<i>100</i>	<i>52</i>	<i>100</i>

## 5. Dynamics of the Response Process at the Telephone Stage

In this section we describe the dynamics of the telephone interview process. We look at the times at which telephone calls were made, the role played by the gatekeepers in getting co-operation with the respondents, and issues related to the completion of the questionnaire.

Over half (52%) of the telephone calls to sample members were made between 12:00 and 16:00 (Table 9) and very few were made outside of the hours 10:00 to 16:00. All but 5 calls (0.9%) were made on weekdays. It is noticeable that although a third of calls (32%) were made before 11:00, only 12% of the completed telephone interviews took place at this time. The lunch break and afternoon appear to have been the most productive times for completing interviews (but note the small sample sizes).

**Table 9. Time at which Phone Calls were Made (Percentages)**

Time of day	Number of calls attempts	
	All telephone calls	Calls that resulted in a completed telephone interview
	%	%
Up to 10:00	6.5	0
10:01-11:00	25.8	12
11:01-12:00	13.1	24
12:01-14:00	28.0	35
14:01-16:00	24.4	29
After 16:00	2.2	0
<i>Base</i>	<i>550</i>	<i>17</i>

Note: 3 calls for which the time was not recorded have been excluded

### 5.1 The role of gatekeepers at the telephone stage

Table 10 summarises who the interviewer spoke to at each call (“recipients of telephone calls”). The first striking feature is that about 75 per cent of the telephone calls resulted in a contact, in the sense that the interviewer got to speak to someone. The contact rate is about 68% at first call, rising to around 88% at the final call to each sample member. This contrasts starkly with the typical situation on household surveys. On the Welsh Assembly Election Survey (Nicolaas and Lynn, 2002), a random-digit dialling (RDD) telephone survey of households in Wales, the overall contact rate across all calls made was just 30%, being around 40% at first call and then falling steadily. Bennett and Steel (2000) report an overall contact rate of 31% on a RDD survey of households in Australia. Such low call contact rates on telephone surveys of households seem to be typical, though there are exceptions:

Kulka and Weeks (1988) report a 65% first-call contact rate on a 1986 RDD survey of households in the USA. On a face-to-face household survey, the UK Family Resources Survey, Purdon et al. (1997) found that contact rates were around 52% at first call, 42% at second call, and continued to fall the more calls that were made, dropping below 20% once 8 calls had been made. Though Purdon et al. do not present the overall contact rate across all calls, it can be inferred to be in the region of 42%.

Thus, we might conclude that it appears to be easier in general to make contact with employers at the work-place than with persons at home (higher overall call contact rate) and that the contact propensity seems to increase with the number of calls made to an employer, compared to a typical decrease in the propensity with increasing number of calls made to a household. This difference is most likely due to the rather different nature of the contact process. In the case of household surveys, additional calls are needed to make contact because there is often no-one at home. But it is rarer that there is no-one at a business during office hours: instead, many of the additional calls are needed because it was not possible to speak to the target respondent at an earlier call (though some contact may have been made with someone else) or because it was necessary to speak to other persons in order to establish who is the correct person to call.

**Table 10. The Recipients of Telephone Calls (Percentages)**

	Total	The first call	The last call
<i>Contact</i>	%	%	%
Target respondent	32.0	29	68
Receptionist/switchboard	16.1	17	10
Secretary	19.2	10	2
Someone else	8.2	13	8
<i>Non contact</i>			
Nobody			
- Target person's phone number	16.3	15	11
- Reception/switchboard phone number	8.3	17	1
<i>Base</i>	553	91	91

Indeed, it can be seen that only 32 per cent of the telephone calls were answered by the target respondent themselves; 43.5 per cent were, on the contrary, answered by a receptionist or switchboard operator, a secretary or someone else. The probability of talking to the target respondent increased from 29 per cent at the first call to 68 per cent at the final call. This reflects a decreasing role for gatekeepers such as receptionists and secretaries. Interviewers were able, with persistence, to get past the gatekeepers and continually increase the probability that they would speak directly with the target respondent.

A detailed breakdown of the telephone call outcomes is presented in Table 11. In 26% of calls, the interviewers did not speak to anybody. These were predominantly occasions on which the call connected to an answerphone, there was simply no reply, or the number was engaged. In 41% of calls, a contact was made but it



proved necessary to have to call back another time. This was predominantly because the target respondent was not available at that time. One quarter of calls (24%) resulted in the need for the interviewer to take some other form of action (sending a questionnaire by fax or post, chasing people). Small numbers of calls resulted in a final outcome: 2.7% resulted in a definitive non-response (inability or refusal to co-operate) and 4.5% resulted in a completed interview.

The progression of the contact and response process over calls is also evident in the detailed call outcomes. As well as getting past gatekeepers, interviewers were able to obtain information about the working hours and practices of the target respondent that would enable them to increase their chances of calling at a good time. This is evidenced by a reduction in the proportion of calls that resulted in a request to call again at a different time or on a different day, from 16% of first calls to 2% of last calls.

If we compare the outcomes of phone calls where contact was made with a receptionist or switchboard operator, a secretary and the target respondent, we are able clearly to identify the role each of them played at the telephone stage of the survey (Table 12). Outcomes of speaking to a secretary or a receptionist/switchboard operator are rather similar to one another. In the majority of cases it proves necessary to call again. Once contact has been established with the target respondent, it is most likely that a call will result in one of three outcomes: a request for the interviewer to send the questionnaire by fax or post (38%), a promise to return the questionnaire (15%), or a final outcome (refusal or completed interview, 20%). It is interesting to note that the interviewers were successful at avoiding the acceptance of a refusal from persons other than the target respondent: only one

such refusal took place. Rather, the interviewers persisted in attempting to speak to the target respondent.

## **5.2 Completing the questionnaire**

We report here on the mode used to complete the questionnaire. Additionally, we look at variations between the three sections of the questionnaire, which were on somewhat different topics and may have required information to be retrieved from different records or reported by different persons. The questionnaire is divided into three sections. The first one is about the organisation in which the employee works, and it is reasonable to expect that this section could be answered by any informed employee of the organisation. The second section is about the employee's employment situation (type of work done, employment status, managerial responsibilities, hours worked, working hours arrangements) and it is likely that these questions would be best answered by the employee's line manager or another relevant manager. The third section is about pay, including a request to report the gross and net pay of the employee on the most recent occasion on which they were paid prior to the date of the ISMIE interview, which could have been between 5 and 10 months prior to the telephone stage of the employer survey. It is to be expected that this information would only be known to payroll staff. Only in the smallest organisations is it likely that the information to respond to all three sections would be held by a single person.

**Table 11. Outcome of Phone Calls (Percentages)**

	In total	The first call	The last call
<b><i>Did not speak to anyone (Total)</i></b>	<b>26.4</b>	<b>34</b>	<b>12</b>
Wrong number	2.7	9	2
No reply	8.3	11	6
Telephone number engaged	4.0	7	1
Number not connected	0.5	1	
Answering machine, no message	7.8	4	1
Answering machine, left message	2.9	1	1
Can't call from university	0.2	1	1
<b><i>Call again (Total)</i></b>	<b>40.9</b>	<b>33</b>	<b>14</b>
Call back later (the same day)	8.0	2	1
Call back later (a different day)	8.0	14	1
Respondent is busy, in meetings, on the phone, bad time for calling	16.3	4	9
respondent is on holiday	4.7	8	1
Put on hold	0.2		
Respondent only works nights	0.7	1	
Someone else now dealing with us	3.1	3	2
<b><i>Action required (Total)</i></b>	<b>24.4</b>	<b>22</b>	<b>32</b>
Send questionnaire by fax	9.9	15	13
Send questionnaire by post	4.2	6	2
They will call back	4.3	1	1
They will return questionnaire	5.2		12
Will chase up people dealing with quest.	0.7		3
<b><i>Confidentiality problems</i></b>	<b>1.1</b>	<b>2</b>	<b>1</b>
<b><i>Refusals (Total)</i></b>	<b>2.7</b>	<b>4</b>	<b>14</b>
Employee not located within company	0.7	1	3
Adamant refusal	2.0	3	11
<b><i>Questionnaire Completed</i></b>	<b>4.5</b>	<b>4</b>	<b>26</b>
<i>Base</i>	553	91	91

**Table 12. Outcome of Phone Calls, by Recipient of the Call (Percentages)**

	Switchboard	Secretary	Target respondent
<b><i>Call again (Total)</i></b>	<b>87</b>	<b>83</b>	<b>19</b>
Call back later (the same day)	16	19	6
Call back later (a different day)	17	17	5
Respondent is busy, in meetings, on the phone, bad time for calling	42	35	3
Respondent is on holiday	6	12	-
Put on hold	1	-	-
Respondent only works nights	1	-	-
Someone else now dealing with us	4	-	5
<b><i>Action required (Total)</i></b>	<b>12</b>	<b>14</b>	<b>59</b>
Send questionnaire by fax	4	2	27
Send questionnaire by post	1	3	11
They will call back	6	8	5
They will return questionnaire	1	1	15
Will chase up people dealing with request	-	-	2
<b><i>Confidentiality problems</i></b>	<b>-</b>	<b>2</b>	<b>2</b>
<b><i>Refusals (Total)</i></b>	<b>1</b>	<b>-</b>	<b>7</b>
Adamant refusal	1	-	6
Employee not within company	-	-	2
<b><i>Questionnaire completed (Total)</i></b>	<b>-</b>	<b>1</b>	<b>13</b>
<i>Base</i>	<i>89</i>	<i>100</i>	<i>177</i>

Note: This analysis is restricted to calls where contact was made with someone.

Almost all the telephone stage respondents completed the whole questionnaire. In just two cases (out of 52) the questionnaire was filled in by two respondents: in both cases the first and the second part of the questionnaire were completed by one respondent while the third one was completed by a different person. Before answering the questionnaire, in at least four cases respondents needed to check the records about the employee's employment situation<sup>9</sup>.

As mentioned previously, the telephone stage of the employer survey was intended to be a telephone survey. In practice it turned out to be a multi mode-survey. Only one third (33%) of the telephone stage respondents completed the questionnaire as a telephone interview, while a further third (37%) returned a completed questionnaire by post and one quarter (25%) returned it by fax (Table 13).

Most respondents thus completed all sections of the questionnaire by a single mode. Just one respondent returned section 3 by fax after completing the first two sections as a telephone interview and two respondents did not return section 3 at all (1 of whom had completed the first two sections by phone and 1 of whom had completed them by post).

Finally, we comment on the issue of item non response. Sections one and two of the questionnaire had very little item missing data (typically one or two cases missing per item) while the last section (the one on pay) had a higher level of item non response. The highest levels of missing data in section three were for pay amounts, viz. 7 missing "gross pay" and 18 missing "take home pay". It is not too surprising to us that levels of item non-response are higher for these two items, given the need to be

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<sup>9</sup> We did not collect this piece of information in a systematic way. In four cases the interviewers

able to consult detailed pay records from some months previously. This corresponds with the model of Willimack et al. (2002), who suggest that the balance between response burden and business goals determines the response decision. For these questions, obtaining the requested data may have been too burdensome for some respondents. Additionally, an explanation for the difference in levels of item non-response between the gross and net pay items could be that gross pay could be calculated in many cases from knowledge of the employee's salary (information likely to be known to a manager, for example), whereas net pay would require specialist knowledge from the pay roll.

**Table 13. Mode Used to Complete the Different Sections of the Questionnaire**

Section 1	Section 2	Section 3	Number	Percentage
Telephone	Telephone	Telephone	17	33
Telephone	Telephone	Fax	1	2
Telephone	Telephone	Not completed	1	2
Post	Post	Post	19	37
Post	Post	Not completed	1	2
Fax	Fax	Fax	13	25
<i>Base</i>			52	

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recorded on the coversheets that the respondents needed to check the records about the employee's employment situation.

## 6. Data Collection Costs

An assessment of the effectiveness of the modes and strategies used on this survey requires consideration of relative costs. In this section, we provide some limited information on the marginal costs of data collection accruing to the different stages of the survey and the strategies within those stages.

First, we note that a large proportion of total survey cost is a fixed cost associated primarily with researcher time for design, analysis and reporting. These costs are independent of sample size and consequently they will swamp the variable (sample size – related) costs if the sample size is relatively small, as it was in the case of the survey reported here. Variable costs are those associated with printing, postage, telephone charges, data entry and processing, and the work of telephone interviewers and clerical assistants associated with the fieldwork (making telephone calls, preparing packages for posting and faxing, etc). There is also some variable element associated with the input of researchers, but we shall ignore that here as it is very small relative to total researcher time.

In Table 14 we summarise our estimates of the costs of data collection. All components other than “interviewer time” exclude costs of staff time. The realised mean cost of data collection per respondent employer was €21.38. It would have been €5.56 if we had only carried out the postal survey. These figures exclude costs of data entry, data processing and researcher time, as we assume these to be independent of the mode of data collection. Although the proportional marginal cost of including the telephone stage looks large (a three-fold increase in the unit cost), the absolute marginal cost is relatively small in the context of the entire survey cost

(just over €3,000 out of a total survey cost of at least €25,000 if all staff time is included). It is also clear that the mean unit cost of data collection would have been considerably greater if we had skipped the postal stage and carried out the survey entirely by telephone. Finally, it is interesting to note that the unit costs for each stage of the survey are similar if the cost of the telephone interviewers is ignored.

**Table 14. Costs of Data Collection**

Event	Unit cost (€)	Postal stage		Phone stage		Total Cost (€)
		# units	Total cost (€)	# units	Total cost (€)	
Send Qre by post	1.48	369	546.12	34	50.32	596.44
Receive Qre by post	0.42	162	68.04	20	8.40	76.44
Send Qre by fax	0.60	0	0	68	40.8	40.8
Receive Qre by fax	0.12	0	0	13.25	1.59	1.59
Send letter by post	0.57	178	101.46	0	0	101.46
Make phone call	0.38	4	1.52	553	210.14	211.66
Send PF by post	0.51	0	0	7	3.57	3.57
Send PF by fax	0.15	0	0	11	1.65	1.65
Interviewer time	2836.00			1	2715.00	2715
<b>Total</b>			<b>717.14</b>		<b>3152.47</b>	<b>3869.61</b>
Issued sample			253		91	253
Unit cost per issued			<b>2.83</b>		<b>34.64</b>	<b>15.29</b>
Respondent sample			129		52	181
Unit cost per respondent			<b>5.56</b>		<b>60.62</b>	<b>21.38</b>

Note: Each unit cost is composed of several sub-elements. For example, the cost of sending a questionnaire by post includes printing (€0.60), envelopes (€0.24) and postage (€0.64). All costs were recorded/estimated in GBP and converted to Euros at the rate of 1.51 €/£. "PF" indicates Permission Form; "Qre" indicates questionnaire.



## 7. Final Remarks and Lessons Learnt

We believe that several lessons can be learnt from our experiences in order to help in the design of surveys of this kind and in the organisation of the data collection effort, with a particular focus on how to maximise co-operation rates for future business surveys.

First, we found that the response rate to the survey of employers would have been rather low (51%) had the survey been carried out solely by post. The telephone stage was therefore vital in achieving a respectable response rate (72%). We cannot be sure what the response rate would have been if the postal stage had been skipped and the entire survey carried out by telephone, but it seems unlikely that it would have been lower than the achieved 72%. It may possibly have been slightly higher (i.e. a telephone approach may have been able to avoid some of the refusals received by post), but this is unknown. We suspect that any difference would have been small. As the postal stage greatly reduced the overall cost of the survey (compared to doing it all by telephone), we conclude that this two-stage mixed-mode approach was efficient.

Second, we have shown that the processes of making contact and obtaining co-operation were quite different from those on other types of surveys (of households or private individuals). At the telephone stage, the response process was shown to be rather long and complex. It is likely that the process was equally long and complex at the postal stage, but this process is hidden from the researcher in the case of a postal survey. We simply do not know the extent to which the recipient of the questionnaire may have passed it to a colleague, or requested certain information

from colleagues, etc. Indeed, the inability of the researcher to influence this process is likely to be one reason why response rates to a postal survey are likely to be lower than those to a telephone survey.

To achieve a good response rate, considerable effort and a flexible approach to the telephone stage were required. It is necessary to make contact with the organisation, to overcome gate keepers (usually receptionists or secretaries), to make contact with the respondents, to persuade them to co-operate, and to encourage and allow them to retrieve information that may be held by other persons within the organisation. A flexible approach was not too difficult to achieve on our survey, where the sample size was small. However, with a much larger sample size it would be necessary to plan systems for delivering the flexibility, for example setting up mechanisms for interviewers immediately to notify other staff who would be responsible for sending faxes or mailing extra copies of the questionnaire.

To deal with the gate keepers, a detailed training programme for the interviewers – and the production of a simple manual in which different strategies to overcome gatekeepers were suggested – turned out to be very useful. A detailed knowledge of the ISMIE project (aims, research design, use of the data, and so on) was required in order to answer the gatekeepers' questions and to overcome the first obstacles. The interviewers reported that the training was essential to enable them to perform their task effectively. We would therefore suggest that telephone interviewers for business surveys should be thoroughly versed in the design and objectives of the survey - perhaps more thoroughly than would typically be necessary for a household survey, as business survey respondents may represent a particularly informed study population.

Once contact with the target respondents was established, we found considerable variation in respondent preferences for how they should provide the required data. In particular – unanticipated by the researchers – there was a high demand for use of fax transmission of the questionnaire, both from research organisation to respondent and *vice versa*. Additionally, there were many requests for additional copies of the questionnaire to be sent by post. Given this variation in preferred modes of communication, we suggest that business survey respondents should be allowed to dictate the methods used for this purpose. The researcher should be prepared to offer a range of modes of communication, which, in addition to the modes reported here, might usefully include web (Clayton and Werking, 1998), automated telephone methods (Werking and Clayton, 1995), electronic data interchange (Ambler et al., 1995) or other electronic data collection modes. This is in accordance with the conclusion of Cox and Chinnappa (1995, p.10) that, “...*minimizing nonresponse and measurement error in business surveys requires advance planning and creative data collection approaches.*” We would note that the concerns about mode effects that relate to household surveys (de Leeuw, 1992; de Leeuw and Collins, 1997; Nicholls et al., 1997) are often likely to be less important for business surveys, where the data tend to be more factual in nature and therefore likely to be less susceptible to the kinds of measurement error that can vary between modes.

Additionally, in the case of our survey the permission forms signed by the employees turned out to play a vital role in overcoming some of the employers’ concerns regarding confidentiality and the legitimacy of the survey. In many cases, the forms were posted or faxed to the employers. This, like the use of the fax for transmitting questionnaires, had not been anticipated by the research team. Setting up in advance a system to enable easy transmission of such documents to sample

members would be worthwhile, especially for surveys with larger sample sizes, where the burden of such tasks on administrative staff could be considerable.

Alternatively, if the document is relatively small (as was the case with our permission form), it may have been more effective to include a copy with the postal mailing.

One finding with a practical implication is the apparent absence of a relationship between the ease of contact of the target respondent and the ultimate co-operation rate. Evidence of the lack of relationship could be a useful tool in interviewer training and on-going motivation during the field work period. However, our study is based upon a small sample and was carried out in a particular context. We would encourage other researchers to examine this relationship on surveys on other topics, in different countries, with different types of businesses and, preferably, with larger sample sizes.

Further issues in establishment surveys still need to be addressed. In order to understand better the dynamics of the contact and response process for business postal surveys, future postal surveys should collect in a more systematic way the reasons for refusal. Other methods such as debriefing interviews with sample members could be considered as ways of learning more about that part of the postal survey process that is internal to the company. This might enable researchers to develop better ways of addressing relevant issues on postal surveys of businesses and consequently improving either the quality or quantity of response.

The use of the coversheet for the telephone stage of our employer survey, in which information about the contact and response process was recorded in a detailed and systematic way, allowed us to study the dynamics of the process. The coversheet

proved relatively simple for the interviewers to administer and the information that it provided proved valuable. We would therefore recommend other researchers to collect and analyse this type of data on establishment surveys carried out by telephone. Additionally, we have identified some extra items of information that could usefully be collected. For example, it would have been informative to know which respondents checked records such as payroll records and which respondents requested and received information from colleagues prior to completing the questionnaire. The finding that a single respondent completed the questionnaire in almost all cases does not necessarily imply that the same single person was actually the provider of all the information.

In conclusion, this study has contributed to knowledge of the contact and response process in business survey in useful ways, but much remains to be learnt and we would encourage other researchers to take every opportunity to collect and analyse useful process and outcome data.

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