Title: Social Survey Response Rates: ONS(SPC)(07)10

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Social Survey Response Rates

Issue

1. EMG has asked what the appropriate level of social survey response is considering quality and cost considerations. A paper was presented to EMG (06)58 in May of 2006 suggesting several actions to take to address this question. These actions included a review of methods for calculating response rates to determine consistency and comparability across time in formula calculation for each survey and of bias created by the non-respondents to surveys. EMG noted that they were aware of some work on non-response but did not know the extent of that work and were interested in the effect of marginal changes in the response (either up or down).

Action Sought

2. EMG is asked to provide continuing support for several initiatives that will contribute to the ONS ability to address social survey response issues.

- Continuing support for the development of the survey case management system as it will allow ONS the ability to monitor response while survey data is being collected and to report on survey response in a consistent way,

- Support for a continuing response research programme that addresses further research on the topics discussed in the paper but also looks at the impact of marginal changes (either increase or decrease) in the response rates for social surveys, and the new survey initiative of responsive survey design.

Financial Implications

3. The Survey Case Management System is funded through the Odyssey Programme but still is in development. EMG needs to be aware of the importance of this programme in allowing ONS to monitor and effect its response while the survey is being conducted and to measure and report consistently on the response rates for further monitoring.

This paper presents a literature review of the work that has been conducted in the last few years jointly between the Methodology and Sources Directorates. The review indicates that there has been ongoing work addressing survey design, interviewer effects, household demographic factors, and the social context of survey taking. There is still need for improvements in our measurement capability and our monitoring of the field processes. This will allow us to respond quickly to changes at the data collection stage and in the design and estimation. Thus there is a need for an on-going programme of research devoted to social survey response issues.

Communication/Presentation Issues

4. Staff leading design and implementation of social surveys need to continually be aware of communication issues with respondents in relation to social survey data collection procedures. In particular, issues such as incentives for participation require attention.

Timing Issues.

5. Research needs to be cognisant of the time frame for each survey and determine when it can best be accommodated within that schedule. The issue raised here that has not been addressed – the impact of marginal changes in response – can possibly be addressed with existing data if appropriate codes are carried on the data files. If not, then an effort would need to be made to determine how to do that within the schedule of individual surveys.

Consultations

6. The Sources and Methodology Directorate worked jointly to examine this issue and have compiled the documents that they reviewed as part of their discussion in the form of a literature review. The next step is a well developed research plan going into the future.

Interdependencies

7. The Sources and Methodology Directorates were asked to examine the response rate issues for business surveys. The issues and appropriate approaches for business and social surveys are quite different. A report on the approach planned to address issues of response for business surveys was provided to SPC at its March meeting.

Diversity

8. The design and conduct of social surveys need to continually be aware of the diverse nature of the households from which ONS intends to collect data. This is brought out well in the discussion of the characteristics of non-respondents through the census-linked studies of survey non-response (see literature review, particularly Tables 1 and 2).

Reasoning behind recommendations

9. A large amount of work has been done by ONS over the past decade on household survey response rates. The literature review in the attachment provides information on the many reports that have been prepared discussing research efforts. A good summary is in the 2004 paper written by [redacted] (see attached literature review for citation). One of the most impressive pieces of work relates to the series of census-linked studies of survey non-response done after the past four censuses. These studies have identified characteristics of non-responding households (separately by non-contacts and refusals) for the housing unit, for household composition, and for the Household Reference Person. The 2001 project used more complex statistical analyses and involved researchers from the University of Southampton. These are all summarised in the attached literature review.

10. The census-linked studies have been followed with studies of how these characteristics could be incorporated into a non-response adjustment procedure as part of the survey weighting. These studies were done after both the 1991 and 2001 census-linked projects were completed.

11. Work has been done by ONS and other survey organisations on the standardisation of survey outcome codes and response rate definitions. ONS will not be able to completely implement the results of this work until the Survey Case Management System is operating. However, this work has informed our design efforts.

12. Recently the Methodology Directorate and the Social Data Collection and Administrative Sources Division have collaborated in extensive research relating to field data collection procedures including reissues, interviewer workload, incentives and avoiding refusal training. The results of this research is summarised in the literature review.

13. The Methodology Directorate work programme for 2007/2008 includes research into response issues. This will be oriented around current information collected from the various surveys leading to the launch of the IHS. This will be informed by the work of an ESRC placement doctoral student who will begin working with MD in the autumn of 2007 and on-going support and collaborations from academics at the University of Southampton.

14. The current direction of the programme is to conduct research on ways in which the data collection procedures can be improved with the anticipated effect of increasing or maintaining response rates.

15. Research has not been directed toward examining the implications of different response rates for a given survey on the non-response bias Such an effort could be incorporated into our programme but it would need to be specific to a given household survey. Since we will soon be launching the IHS with the SCMS it seems most appropriate to initiate it then. To do it now would depend on whether there were existing data files that provide information at different points in the data collection period. The effect of this research activity would be to determine the costs and resulting biases with specific data collection procedures associated with certain levels of response. This effort needs to involve MD, and both SVS and SDCAS in Sources.

16. Another new approach that bears watching is that of "responsive survey design" being developed by [redacted]. This approach proposes survey designs that can be adapted while data collection is in process depending on survey response and other indicators of response that are monitored. [redacted] had a paper in the Journal of the Royal Statistics Society (reference below); [redacted] presented a seminar on the approach recently at ONS.

References.

Groves, Robert M. and Steven G. Heeringa, "*Responsive Design for Household Surveys: Tools for Actively Controlling Survey Errors and Costs",* Journal of the Royal Statistical Society, Series A (Statistics in Society), Volume 169, Part 3, 2006.

Groves, Robert M and Mick P. Couper, "*Nonresponse in Household Interview Surveys*", Wiley Series in Probability and Statistics: Survey Methodology Section, New York, 1998.

Groves, Robert M, Don A. Dillman, John L. Eltinge, Roderick J. A. Little (editors), "*Survey Nonresponse*", Conference monograph, Wiley Series in Probability and Statistics, New York, 2002.

Groves, Robert M. and J. Michael Brick, "*Practical Tools for Nonresponse Bias Studies*", course presented at Q2006, April 2006.

Spicer, Pam, Heather Wagstaff, and Cynthia Clark, "*ONS Social Survey Response Research: Literature Review*", 2007. (attached)

[redacted]

15 May 2007

Appendix

ONS Social Survey Response Research: Literature Review

Unit response rates to household surveys in the UK have shown a downward trend over the past decade. This is a trend that has occurred in most European countries. A high unit response rate is usually regarded as an indicator of good survey quality. A high response rate does indicate the effectiveness of a fieldwork strategy in terms of the proportion of successful units achieved. An increase in response rate means an increase in the achieved sample size which can result in gains in the accuracy of estimation. However, another important quality concern is whether certain types of units are systematically being missed or under-represented in the survey.

ONS has conducted research relating to social survey response rates as well as a number of studies that provides insight into issues of data collection relevant to the response rate and characteristics of the non-respondents (to the extent that they can be determined). An understanding of these issues will assist ONS in either developing data collection procedures that minimise the non-response to the surveys or adjusting for the non-respondents to minimise the bias for the lack of data on these sample cases. This document provides a review of the results of these studies.

1. Measuring and Calculating Social Survey Response - Response Outcome Codes and Response Rate Definitions

[redacted]

"Recommended Standard Final Outcome Categories and Standard Definitions of Response Rate for Social Surveys, Version 2.0", Working Papers of the Institute for Social and Economic Research, 2005-xx. Colchester: University of Essex. Notes Link Response rates are an important indicator of survey quality and one of the indicators most likely to be reported. In order to be able to make valid comparisons between response rates obtained on different surveys and by different organisations, response rates must be defined and calculated in a standard way. Prior to the production of the first version of this document, in the UK there were no standards in this area. In consequence, practice varied considerably between surveys and between organisations. The first version of this document provided standards for face-to-face surveys of individuals and of households. These were adopted by *the Office for National Statistics* and the *National Centre for Social Research* as well as some other public sector surveys. This second version extends the guidance to include also telephone surveys, either based on random digit dialling (RDD) or a sample of named individuals. The standards set out in this paper are applicable to major government, academic and public sector surveys. The standards and definitions cover three key aspects of relating to the definition and calculation of response rates. These are:

- a list of final outcome categories, arranged hierarchically, for each of the four types of surveys;
- detailed definition of each category listed;
- specification of the calculation of different kinds of rates based on the outcome categories, with descriptions of how they should be used and interpreted.

[redacted] "***Response Rate Definitions – Measuring and Calculating Response Rates. SDCAS Survey Response Definitions",*** January 2005**,** Office for National Statistics Internal Report. Notes Link This paper discusses the ONS response and use of the definitions provided in the above cited ISER paper 2005-xx.

[redacted] "***Paper for Quality Measurement and Reporting Project Board on Standard Methods of Calculating Response Rates"***, 2002, Office for National Statistics Internal Report.Notes Link This paper provides a summary of the results of work to standardise response rate definitions so that ONS reports its rates according to standard survey practices.

[redacted], "***Recommended Standard Final Outcome Categories and Standard Definitions of Response Rate for Social Surveys***", Institute of Social & Economic Research, 2001. Notes Link Response rates are an important indicator of survey quality and one of the indicators most likely to be reported. In order to be able to make valid comparisons between response rates obtained on different surveys and by different organisations, response rates must be defined and calculated in a standard way. Prior to the production of the first version of this document, in the UK there were no standards in this area. In consequence, practice varied considerably between surveys and between organisations. This document provided standards for face-to-face surveys of individuals and of households. These were adopted by *the Office for National Statistics* and the *National Centre for Social Research* as well as some other public sector surveys.

2. Papers Relevant to Social Survey Response Issues.

[redacted] ***"Response Rate Improvement on Household Surveys: Methodology Group Contributions and Recommendations",*** ONS(OMB)(04)34 Notes Link**.** This paper reviewed methodological issues related to improving response rates and summarises past and present directorate work on response. Topics covered include a summary of work prior to 2004 on survey design (re-design of survey information and respondent burden issues, experiments with survey incentives, and questionnaire design); interviewers (interviewer and geographic effects on non-response, patterns of interviewer calls for making contact); operational improvements (improving and standardising non-response measurement). The paper identifies current and planned methodological research in survey design (work on reissues, work on incentives, redesign of survey information such as advance letters and survey leaflets); interviewers (census-survey link data to investigate interviewer, area and survey design effects, qualitative work with non-responders): social context (qualitative research on public confidence, calling strategies for making contact); and operational improvements (further work on measuring non-response, support for case management/survey information management). The paper makes a number of recommendations for additional research to address response rate improvements.

3. Analysis of Survey Non-Response through Census- linked Studies of Survey Non-respondents. Because survey non-respondents do not participate in voluntary survey data collection it is difficult to obtain information about their characteristics. However, once a decade in the U.K. all residents must respond to a mandatory census. ONS has taken advantage of this opportunity to learn about characteristics of survey non-respondents from their response to the

mandatory census. Over recent decades a substantial amount of information about non-respondents to household surveys carried out by the ONS has been derived from studies linked to the 1971, 1981, 1991 and 2001 censuses. These census-linked studies of survey non-response (CNRL) have provided a rich source of data on non-respondents to different ONS social surveys. The results of theses studies are summarised in the papers cited in this section.

[redacted], ***"Evaluating Non-response in Household Surveys,"*** 1998, GSS Methodology Series No. 8, Office for National Statistics Report. http://nswebcopy/downloads/theme_other/GSSMethodology_No_08_v2.pdf . This paper presents a comprehensive summary of the 1991 Census-linked Study of Survey Non-Response examining many aspects including characteristics of both non-contacts and refusals and total non-response. This report examines partial and incomplete response as well as the effect of the non-response on potential survey bias. The report results on correction factors that were implemented for survey non-respondents.

[redacted], "***Summary of the 2001 Census-linked Study of Survey Non-Response"***, 2004, Office for National Statistics Internal Report. Notes Link After the 2001 Census a project was conducted that linked data from twelve ONS surveys to the census. As with previous studies, the main aim of the latest CNRL was to compare the census characteristics of different categories of responding and non-responding households and to identify variables that are independently associated with non-response. Papers have been prepared providing the results for seven of the social surveys. An additional analysis was conducted using the combined dataset from the census and six of the social surveys.

The surveys in the 2001 study were all household surveys, but they did not necessarily include all household members. Surveys varied from one randomly selected adult per household to all household members including children. Respondent burden also varied and ranged from a one time face-to-face interview to an interview that was accompanied by a diary and physical and other measurements. The unit response rates varied from 46.5% to 77.1%. Associations between census characteristics and non-contact and refusal rates varied between surveys probably reflecting a wide range of survey subject matter, level of household involvement and respondent burden. The surveys included in the studies were: All Surveys (A), Expenditure and Food Survey (EFS - E), Family Resources Survey (FRS - F), General Household Survey (GHS - G), Labour Force Survey (LFS - L), National Travel Survey (NTS - N), Health Survey for England (HSE - H), and the Scottish Household Survey (SHS - S). There were some general patterns of household non-contact and refusals that emerged from the studies.

Characteristics of the housing unit, the household, and the Household Reference Person (HRP) for both non-contacts and for refusals are summarized in Table 1. Many of the characteristics of non-contacts were common across the seven surveys. The characteristics of refusals varied more across the surveys, likely having a relation to the content or burden of the survey. The studies also identified key variables associated with total non-response. These are also identified in the table.

TABLE 1

		Non-Contacts								Refusals							
		A	E	F	G	L	N	H	S	A	E	F	G	L	N	H	S
	Household Characteristics																
1	Live in purpose - built flat or converted home	x	×	×	×	×	×	×	×		×						
2	Live in detached or semi-detached house											×					
3	Rent accommodation from private landlord		×	×		×	×	×	×								
4	Registered social landlord										×						
5	Own home											×					×
6	Accommodation has fewer than 4 rooms		×	×	×	×	×	×	×		×		×		×		
7	Home not centrally heated												×				
8	Do not own a car		×	×	×		×	×	×	×	×		×		×		
	Composition of Household																
1	One adult	x	×	×	×	×	×	×	×								
2	Three or more adults									×	×						
3	No working adults	x															×
4	One adult in employment		×	×	×	×	×	×	×								
5	Three or more adults in employment										×						
6	Not a family unit		×	×	×	×	×	×	×								
7	2 adults															×	
8	No dependent children	x	×	×	×	×	×	×		×	×			×		×	
9	Live at same address as a year ago																×
		Non-Contacts								Refusals							
		A	E	F	G	L	N	H	S	A	E	F	G	L	N	H	S
	Characteristics of HRP																
1	Age is under 35		×	×	×	×	×	×	×								
2	Age is over 35										×						×
3	Age is over 65															×	
4	Single, separated or divorced		×	×	×	×	×	×	×								
5	Widowed										×				×		×
6	Unemployed, self-employed, or never worked		×	×	×				×	×	×				×		
7	Student			×							×				×		
8	Retired																×
9	Non white		×			×					×						
10	Born outside UK		×			×											
11	Degree level qualifications		×														
12	No academic qualifications									×	×			×	×	×	×

TABLE 2

		Non-response						
		E	F	G	L	N	H	S
	Variables Associated with Non-response							
1	GRO	×	×	×	×	×	×	×
2	Type of housing unit	×	×	×				×
3	Central heating			×				
4	Size of housing unit				×			
5	Ownership of car					×		
6	Years of residence			×				
7	Number of dependent children	×		×	×			
8	Age of younger dependent children		×					
9	Number in household			×			×	
10	Number of adults in household			×				
11	Marital status of HRP		×		×	×	×	×
12	Economic status of HRP	×	×					
13	Academic qualifications of HRP	×	×	×	×		×	×
14	Employment status of HRP				×	×		
15	Ethnicity of HRP	×						

[redacted] "***The Expenditure and Food Survey: Report of the 2001 Census-linked Study of Survey Non-respondents***", November 2003, Office for National Statistics Internal Report. Notes Link This report presents information on the characteristics of non-respondents to the Expenditure and Food Survey (EFS) sample from April to October 2001 linked to the 2001 Census. Census data were successfully linked to 94.7% of the EFS records included in the study. Table 1 summarises the characteristics that were found to be associated with non-contacts and refusals and the variables associated with total non-response. The final section of the report examines whether the household characteristics that were significantly associated with non-response were also related to a number of selected key EFS estimates of income and expenditure. The results show that, for fully co-operating survey households, the selected income and expenditure estimates were significantly associated with the census characteristics related to total non-response. In addition, the pattern of the relationships was also broadly similar. For example, both mean gross current income and mean total consumption expenditure were higher in households with dependent children than those without dependent children.

[redacted], ***"Family Resources Survey: Report of the 2001 Census-linked Study of Survey Non-response"***, February 2005, Office for National Statistics Internal Report. Notes Link This report presents information on the characteristics of non-respondents to the Family Resources Survey (FRS - F) using linked data from the 2001 Census and the FRS sample from April to June 2001. Census data were successfully linked to 94.2% of the FRS records included in the study. The results for non-contacts are in agreement with those from the other studies. The characteristics of refusals are unique in that refusals live in detached or semi-detached houses, and own home or had not moved in previous year. Total non-response including non-contacts and refusals were found to be associated with the variables:previously identified and, additionally, the number of dependent children, the age of the youngest dependent child in the household, and the economic status of the HRP.

[redacted], "***General Household Survey: Report of the 2001 Census-linked Study of Survey Non-response",*** October 2003, Office for National Statistics Internal Report **.** Notes Link This report presents information on the characteristics of non-respondents to the General Household Survey (GHS - G) using linked data from the 2001 Census and the GHS sample from April to September 2001. Census data were successfully linked to 94.6% of the GHS records included in the study. Non-contact was associated with the common variables previously identified except that there was no association with the rental status of the housing unit. Refusal was more likely to occur in households located in London and the West Midlands; whose accommodation was not centrally heating; who were living at the address a year before the Census. Total non-response was associated with the variables previously mentioned as well as whether the housing unit had central heating or not; the length of residence of the household at the address, the number of people in the household, and the number of adults in the household.

[redacted], "***Labour Force Survey: Report of the 2001 Census-linked Study of Survey Non-response"***, December 2004, Office for National Statistics Internal Report .Notes Link This report presents information on the characteristics of non-respondents to the Labour Force Survey (LFS - L) using linked data from the 2001 Census and the LFS sample

from April and June 2001. Census data were successfully linked to 94.2% of the LFS records included in the study. Non-contact household had the characteristics previously mentioned with the exception that ownership of a car was not a characteristic of non-contacts. Additionally, non-contacts for the LFS households had lived at the residence for less than one year; the HRP was not necessarily unemployed, but in addition to being under the age of 35, was single, non-white, and born outside the U.K. Households who refused to take part in the LFS were most likely to have no dependent children, have a widow in the household, and have an HRP with no academic qualifications or have qualifications other than a degree. Variables associated with non-response included those previously mentioned except for type of housing unit, although size of housing unit was relevant as well as the employment status of the HRP.

[redacted], ***"National Travel Survey: Report of the 2001 Census-linked Study of Survey Non-response"***, July 2004, Office for National Statistics Internal Report. Notes Link This report presents information on the characteristics of non-respondents to the National Travel Survey (NTS - N) using linked data from the 2001 Census and the NTS sample from April to December 2001. Census data were successfully linked to 95.0% of the NTS records included in the study. Non-contact households had the characteristics previously mentioned with the exception that the HRP was not necessarily unemployed. Refusals tended to occur in households: located in London; occupying accommodation containing with less than four rooms; not owning a car; with an HRP who was widowed, unemployed or self-employed or full-time student, with no academic qualifications. Total non-response was associated with the variables previously mentioned except size of housing unit and number of dependent children. The relevant variables additionally included the number in the household.

[redacted], "***Health Survey for England: Report of the Census-linked Study of Survey Non-response***", November 2003**,** Office for National Statistics Internal Report. Notes Link This report presents information on the characteristics of non-respondents to the Health Survey for England (HSE - H) using linked data from the 2001 Census and the HSE sample from April to September 2001. Census data were successfully linked to 94.5% of the HSE records included in the study. Non-contact households had the characteristics previously mentioned with the exception that the HRP was not necessarily unemployed. Refusals occurred in the East as well as in London and the Southeast, in households with two adults and no children, and where the HRP had no academic qualifications. Total non-response was associated with all of the summary variables previously mentioned with the exception of the type of housing unit, but also included the number of people in the household.

[redacted]**,** ***"The Scottish Household Survey: Report of the 2001 Census-linked Study of Survey Non-response",*** August 2004, Office for National Statistics Internal Report Notes Link. This report presents information on the characteristics of non-respondents to the Scottish Household Survey (SHS -S) using linked data from the 2001 Census and the SHS sample from April to June 2001. Census data were successfully linked to 90.2% of the records included in the study. The non-contact households had the same characteristics as the other household surveys except, the composition of the households only differed in that no dependent children was not a characteristic of these households, and the characteristics of the HRP were the same as in the other household surveys. Households who refused to take part in

the SHS were most likely to have no working adult or be living at the same address as a year ago. The Household Reference Person of refusing household tended to be older; widowed; not academically qualified or retired. Total non-response was associated with several geographic areas in Scotland -- Aberdeenshire, Clackmannanshire, Dumfries and Galloway, Dundee City, East Lothian, Falkirk, Fife, North Lanarkshire, South Ayrshire or Stirling. It was also associated with the type of housing unit, the marital status of the household members, and the academic qualifications of the HRP as for the other British social surveys.

[redacted], "***Analysis of Household Level Unit Non-response Using the ONS Survey Non-response Census Link Study***", 2006, Southampton University Report under contract with Office for National Statistics. The aim of this project was to investigate factors influencing household unit non-response in government surveys, and to develop better non-response models to improve the quality of survey data. The project used data from the 2001 Census combined with the six major English social surveys. The combined dataset was comprised of census variables at individual and household levels, information obtained from interviewers and data for both respondents and non-respondents. It also included interviewer observation data, information about the interaction between the interviewer and respondent at the doorstep, and interviewer's experience and attitude.

At a higher level, the findings from the combined dataset were similar in terms of non-contact and refusal to those observed from the analysis for individual surveys. Analysis of the combined dataset showed that non-contact sample units were more likely to:

- Live in a flat as opposed to a house.
- Be a single person household,
- Not have dependent children,
- Not have a pensioner present in household,
- No adult is in employment.

Refusals tended to occur in households that were::

- Located in London or in an urban area,
- Did not own a car,
- Were multiple adult households,
- Did not have dependent children,
- Had a HRP who had no formal qualification,
- Had a HRP who was unemployed or self-employed.

[redacted], "***Multilevel Modelling of Refusals and Noncontacts in Household Surveys: Evidence from Six UK Government Surveys***", March 2006, Southampton University Report under contract with Office for National Statistics. Notes Link This paper analyses household unit non-response and interviewer effects in the six major English government surveys using a multilevel multinomial modelling approach. The models were guided by current conceptual frameworks and theories of survey participation. One key feature of the analysis was the investigation of survey dependent and independent effects of household and interviewer characteristics, providing an empirical exploration of the leverage-salience theory. The analysis is based on the 2001 UK Census Link Study, which included response outcome

from the six household surveys to census data, interviewer observation data and interviewer information for respondents and nonrespondents.

4. Analysis of Adjustment Procedures for non-response Bias. Three studies have been conducted after the 2001 Census non-response Link Study results were available. The purpose of these studies was to determine whether the post-1991 Census adjustments for non-response bias (based on the 1991 Census linked study) in the ONS non-response weighting procedures appropriately accommodated for what was now known about non-response bias post 2001. Continued use of these weighting procedures implies that response has fallen at the same rate across the weighting classes and that the same structure of weighting classes is still appropriate. Theses papers investigate whether non-response patterns have changed since 1991 such that an updated non-response weighting system is required.

[redacted], "***Expenditure and Food Survey: Census-linked non-response Weighting"***, June 2006, Office for National Statistics Internal Report**.** Notes Link The post-1991 non-response weighting procedure for the Expenditure and Food Survey (EFS uses eight weighting classes. Using the matched data from the CNRL to EFS, households with similar response patterns were classified and then used to weight up those *least likely* to participate and vice versa. The study concluded that response changed at approximately the same rate over time for the majority of classes, and that the current weighting adjustment procedure was adequate. The paper recommends implementing the mixed model method, as this was shown to be robust overtime and over varying model structures resulting from using different datasets.

[redacted], ***"General Household Survey: Census-linked non-response Weighting",*** October 2005, Office for National Statistics Internal Report. Notes Link A study was initiated to determine whether separate non-response weights were required in addition to calibration weights to compensate for declining response rates in the General Household Survey (GHS). The GHS first applied a population weighting system in 2000. The study found that all 10 of the 11 weighting classes used in the GHS could continue to be used and that further reduction in bias would occur through calibration. The study analysed three methods of non-response adjustment and recommended the AnswerTree method. This method was shown to be robust overtime and over varying model structures resulting from using different datasets. The AnswerTree was selected in preference to the mixed method because of its variety in structure and variables used. This is an enhancement to the calibration rather than a repetition of variables used during calibration.

[redacted], ***"Labour Force Survey: Census-linked non-response Weighting, Part I"***, 2006, Office for National Statistics Internal Report. Notes Link This study was set up to investigate and develop a non-response weighting model for the LFS in an attempt to compensate for declining response rates observed in recent years. The CNRL data was used as source of information for both respondents and nonrespondents to the LFS. Using logistic regression and decision tree methods, three potential models were put forward -- the AnswerTree model, mixed model and the forced model. The non-response weights were incorporated into the existing LFS weighting strategy that uses a calibration procedure and estimates were computed. The calculated estimates showed little change from previously implemented non-response weights for a number of variables and quarters. Hence, the recommendation was to retain the current calibration only weighting method and not to make an adjustment for non-response bias on the LFS.

4. Effect of Refusal Avoidance Training on Response. A number of exploratory experiments were conducted at ONS to investigate the impact of an interviewer training procedure developed by [redacted] that was designed to help interviewers in avoiding refusals,.referred to as avoiding refusal training (ART). The training is highly participative and has the aim of exposing interviewers to common themes of reluctance and developing their skills by providing techniques to maintain interaction with respondents. There are two main principles underlying the approach; firstly, increasing an interviewer's 'experience' in dealing with reluctant households by improving their ability to spot, at an early stage, the reasons/excuses most commonly offered by reluctant householders and to supply timely and tailored replies to these and secondly, training interviewers to engage with reluctant respondents in conversational 'turn taking' so that reluctance is addressed in a series of conversational utterances and doorstep interaction is prolonged. The studies anticipated implementing the procedure across ONS social surveys.

[redacted] ***"What happens after ART? Results of two experiments designed to improve response rates with interviewers at the Office for National Statistics, UK",*** 60th Conference of the American Association of Public Opinion Research, Miami, FL, May 2005. Notes Link ONS have piloted the methodology on a face-to-face social survey in the UK to assess whether the same type of training intervention could be used here as a way of boosting unit level response. Building on the US model, we designing an experiment to control for area affects by matching the trained interviewers with another non trained interviewer in the sectors where they worked. Since the end of the formal trial, response for interviewers who received either type of training intervention has been monitored. This indicated that those who attended the ART event have continued to perform above their historical baseline, and in aggregate, have a response some five percentage points above this. In contrast the performance of those who attended the workshop event has returned, almost exactly, to their baseline level. This sustainability is encouraging given that in the twelve months since the workshop there has been no further attempt to refresh ART skills.

[redacted], ***"Impact Analysis Report,"*** December 2005**,** Office for National Statistics Internal Report. Notes Link This paper reports on the findings from an exploratory analysis of LFS interviews conducted by ART trained interviewers. The analysis investigated the impact of ART on the interviewer's performance (i.e. response rates) taking into consideration the interviewer's characteristics.

[redacted], "***Training Data Analysis",*** December 2005, Office for National Statistics Internal Report. Notes Link This paper describes further analysis conducted on the pre-post ART response data. This study concentrated on paired data comparing the response rate of each interviewer in the same local authority before and after they had received ART training.

[redacted], "***Avoiding Refusal Training: Long-term Response Trends",*** October 2004, Office for National Statistics Internal Report. Notes Link This paper summarises the impact of ART on response trends over a 9 months period for four continuous household surveys (EFS, FRS, GHS and OMNI). It monitors whether improvements observed after ART training were sustainable overtime. Data were analysed using three elapsed periods of time after the training -- 0 to 3, 3 to 6, and 6 to 9 months. The analysis concluded that,

although initial high gains observed after three months following ART training were not sustained, ART had a positive long-term effect on interviewer's response rates.

5. Studies of Survey Reissues. In order to improve response rates on household surveys, reissues are used on almost all household surveys. Reissues (re-try addresses) are used where the outcome at the main stage of fieldwork period were non productive due to either non-contact or refusal. Over the past few years, a number of studies have been conducted into the application and effectiveness of Reissues. The findings and some recommendations from these studies have since been used to inform decision making with regards to the implementation of new field work procedures within ONS.

[redacted], ***"Analysis of Reissues data (EFS Illustration)",*** January 2006, Office for National Statistics Internal Report. Notes Link This was an investigative study to explore the variables available in the administrative block and look at the potential for evolving an optimal strategy for re-issuing. It was anticipated that the findings from this study would constitute a central role in any subsequent strategy.

[redacted] "***The Statistical Basis for Re-issuing Work to the Field",*** March 2006, Office for National Statistics Internal Report. Notes Link This paper presents three reasons to study re-issuing survey cases for additional field follow-up after the main stage of interviewing ends. The three reasons are to meet maximum interview targets, to boost response rates, and minimise non-response bias. The paper notes results from the Expenditure and Food Survey and requests a research programme to address these issues on other surveys.

[redacted], "***Analysis of EFS, FRS and GSL Reissues, Apr 2005-Mar 2006,"*** October 2006, Office for National Statistics Internal Report. Notes Link The paper summarises an extensive study of reissues on the three noted ONS social surveys. It concludes that it is completely justifiable to give main-stage work priority over reissues. Reissues can be up to four times more costly than the main. If the main gets the attention that it deserves, then the number of reissues needed to meet and surpass targets can be kept low, thus reducing cost. Reissues are still important for enhancing response rates. However, if we keep in mind the trend that reissues tend to contribute between 2% to 5% to the response rate, then it is clear some effort must be made to keep the main stage response rate at a reasonably high value. For example, if the main stage response rate is 40% then we can expect that, even after a successful reissue process, the response rate will only reach to around the 45% mark.

[redacted], ***"Analysis of the Impact of Reissues on Non-response Bias",*** February 2007, Office for National Statistics Internal Report. Notes Link This study was conducted with a view to understand the impact made on the outputs in terms reducing non-response bias by reissuing work. That is to say, do reissues reduce non response bias. This study was motivated by the need to balance efficiency with the cost of reissues and with the extent of their usefulness. The study concluded that for these ONS surveys, there was no evidence that reissues damage survey estimates. There was evidence that reissues can reduce bias in survey estimates.

6. Analysis of Interviewer Calling (Contact) Patterns.

[redacted], ***"Interview Calling Patterns: GFF & LFS Data"***, July 2005, Office for National Statistics Internal Report.Notes Link This paper analyses the actual calling patterns of interviews (2004/2005) and adds no further information on optimal calling times. It notes that: " The current interviewer calling pattern coincides with likelihood of someone not being *'at home'* and available for interview, whilst neglecting those specific times when prospective respondents are more likely to be at home". To improve contact the paper suggests that: "We should aim to recruit a proportion of interviewers who are willing and able to work those specific times that coincide with the *'optimum'* contact time".

[redacted], ***"When Interviewers Work are Respondents at Home? An Investigation into the Working Patterns of Interviewers and the Likelihood of Making Contact with Respondents",*** 2004, Office for National Statistics Internal Report.Notes Link This paper resents analysis from the 'time use survey' into when a household is most likely to be occupied compared to calling patterns and response in a number of surveys. The paper found and concluded that current distributions of calling patterns do not match the times when households are most likely to be occupied.

7. Analysis of Fieldforce Issues.

[redacted] ***"Proposal for a trial of Field Managers input to the General Field Force (GFF) Allocation",*** November 2005, Office for National Statistics Internal Paper. Notes Link This document proposes a trial of Field Managers input to the General Field Force (GFF).

[redacted], ***"Continuous Population Survey Feasibility Trial 1: : Report on Interview Observations and Interviewer Focus Groups",*** 2005, Office for National Statistics Internal Report. Notes Link This report covers the first Feasibility Trial for the Current Population Survey (CPS) conducted in March and April of 2005. This was exploratory research work aimed at achieving a better understanding of issues such as topics which appear in both core module and in subsequent survey modules, acceptability of the core income question, proxy response, concurrent interviewing, interviewers' views on training and general views of the CPS.

[redacted], ***"Integrated Household Survey: Feasibility Trial 2Pilot 1 (September January 20065) Report on Interviewer and Field Manager Focus Groups",*** June 2006, Office for National Statistics Internal Report. Notes Link This paper reports on a piece of qualitative research work looking at a number of issues that resulted from the first Integrated Household Survey pilot study conducted in 2006. The issues included Interviewers and Field Managers views on training, fieldwork design, questionnaire issues, response, communication and support, and general views about the IHS.

8. Analysis of Interviewer Workload.

[redacted] "***The Impact of Interviewer Workload*** **(Draft),** January 2007, Office for National Statistics Internal Report. Notes Link This paper presents literature review looking at the impact of interviewers' workload on response rates. The review was carried out in preparation for the

then "Current Population Survey" study on behalf of SDCAS. The review proposes a research programme directed at addressing the questions raised in the literature review.

9. Analysis of Effect of Survey Incentives on Response Rates.

[redacted], "***Incentive Payments on Social Surveys: A Literature Review.***" ONS Survey Methodology Bulletin no.53, 2004. Notes Link This review summarises the main findings from ongoing research into the uses of incentives. The paper provides useful information for decision-makers considering whether the use of incentives would be appropriate.

[redacted] ***"Influencing response on the Family Resources Survey by using incentives",*** September 2006, Office for National Statistics Internal Report. Notes Link The paper presents results from an incentive experiment on the FRS designed to decide whether offering a small incentive would have an effect on survey cooperation. The study found that a small incentive had a positive effect on cooperation.

10. Qualitative Work on Public Confidence. The website link below provides a series of reports on public confidence in statistics. This relates to response work in that there is an assumed relationship between the public's willingness to respond to government household surveys and their trust in the official statistics. These reports present the development and findings on the level of confidence the British Public has in official statistics. The overall aim of the study was to develop and test a qualitative measure of public confidence in official statistics, with special emphasis on providing information to these questions concerning trust in official statistics including the factors that affect trust in official statistics and the characteristics associated with trust and distrust in official statistics. The long-term intention is to reuse modules developed from this study so that public confidence can be measured over time. Reports authored include: [redacted], " ***Initial Findings on Public Confidence in Official Statistics on the ONS Omnibus Survey***", October 2004, and [redacted] "***Public Confidence in Official Statistics on the ONS Omnibus Survey"***, March 2005.
http://nswebcopy/StatBase/Product.asp?vlnk=13967&Pos=&ColRank=1&Rank=272

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