# RESPONSE PROBLEMS IN SURVEYS Improving response & minimising the load

Prepared by John Cornish for UNSD Regional Seminar on 'Good Practices in the Organisation and Management of Statistical Systems' for ASEAN countries, Yangon Myanmar, 11-13 December 2002

#### 1 INTRODUCTION

1 Response problems in surveys arise when we do not get an adequately completed questionnaire or no information at all from a unit selected to be in a sample. The problem is part of the wider problem of coverage error where we do not get a response from some units in the target population. Nonresponse occurs with censuses as well as sample surveys. However, while nonresponse is an error of nonobservation like coverage error, it differs from coverage error - nonresponse reflects an unsuccessful attempt to obtain desired information from an eligible unit, whereas coverage error reflects the failure to have the sample unit uniquely included in the frame. Sometimes methods to reduce coverage error can improve nonresponse error, and methods of estimation can sometimes be used to handle both response and coverage problems. This paper will therefore look at response problems in the wider context of undercoverage problems. Approaches to achieving and sustaining adequate response levels while managing the load placed on respondents will be discussed.

#### How does nonresponse arise?

- 2 Nonresponse can arise in two basic ways:-
  - Noncontact of selected units. Inability to make contact with units selected in a survey can be a significant main contributor to nonresponse, particularly if a survey is compulsory. The level of noncontact will depend on the quality of information on the frame about a unit and the processes followed to make contact.
  - 2. Refusal to participate, fully or partially. Once contact has been made with a selected unit, there is still the chance that the unit will refuse to cooperate and provide some or all of the information requested.

## Why is nonresponse a problem?

- 3 Nonresponse has two effects on the statistical results:- it contributes to an increase in sampling variance of estimates as the effective sample size is reduced from that originally sought; and it contributes to bias of estimates (along with coverage bias) when nonrespondents differ from respondents in the characteristics measured.
- 4 For sample surveys the uncovered population is usually estimated for by benchmarking the sample to the target population (which will adjust for nonresponse and frame coverage problems) or to the frame representing the target population (which will adjust just for nonresponse). When the non-covered population differs from the covered population in terms of variables of interest, the estimates would be

subject to undercoverage bias (even though an adjustment for undercoverage is made in the benchmarking process).

#### 2 MINIMISING NONRESPONSE & IMPROVING RESPONSE LEVELS

## Minimising nonresponse

- If costs were not a factor, then the higher the level of response the better. Costs, however, are a factor and the extent to which high response levels are pursued and achieved is based on budget and time constraints, the quality required for use of the data and the risk of nonresponse bias. The legal framework used to conduct a survey and the attitudes of respondents are key determinants of response and costs involved in achieving response. The desired level is specific to a survey and there is no one 'acceptable' level which should be achieved for all surveys.
- A good response rate will be obtained usually by following processes which will achieve an appropriate level of quality during all of the survey planning and implementation steps. There is usually no one single factor, other than perhaps compulsion, which can produce on its own a high response rate. The factors which can influence coverage and response rates for any survey include:
  - the quality of the survey frame (in terms of population coverage & contact details)
  - time between frame creation and contact with respondents
  - method of data collection (eg mail, personal interview, telephone interview, computer assisted interviewing, etc)
  - sampling method (keep it simple!)
  - time of year
  - length of collection period
  - response load imposed by a survey (length of interview, difficulty or sensitivity of subject matter, periodicity of survey) as well as total load across all collections
  - questionnaire design and lavout
  - follow-up (methodology & targeting)
  - prior respondent experience with same sort of survey
  - prior respondent experience with statistical agency
  - legal obligations (for respondents and statistical agency)
  - protection of confidentiality of information provided
  - experience and ability of collection & followup staff (selection criteria, training, performance management)
  - workload of collection & followup staff
  - communication strategy
  - total budget and its allocation to various operations
  - language of the questionnaire
  - cultural background of the respondents
  - importance seen of the survey by respondents, directly or for important users
  - use and effectiveness of respondent incentives
- A pilot test is a very valuable means of testing and evaluating methods used and to establish an expected response rate. If a new methodology is being used and proves to result in unacceptable response levels (eg random telephone dialling for selection and then interviewing), then a new method might have to be developed and tested before the survey is conducted successfully.

Additional problems of nonresponse arise with longitudinal surveys, whether of persons or businesses. The problem is commonly referred to as attrition, and arises because over time the impact of noncontact and refusals compounds and can reduce the effective response rate and representativeness of the sample to unacceptable levels at some stage. Keeping track of respondents who move over the life of a longitudinal survey is very important to maintaining adequate response levels and can be an expensive component of such surveys.

# Maintaining and/or improving response levels

- Achieving and maintaining acceptable response levels requires good management with repeating surveys and, if neglected, nonresponse tends to increase over time. This can be because frames and samples need to be kept up to date, and 'slack' practices can creep in because it takes extra effort to get hard to find or reluctant respondents. This highlights the importance of measuring various indicators of coverage and response, monitoring them over time and taking early action to prevent unacceptable deterioration. (see section below on Measuring and reporting nonresponse)
- 10 Minimising the total load placed on respondents will help to maintain or improve response levels. This is discussed in the second part of this paper. Other strategies include
  - good communication practices and relationship management
  - sound operational management
  - good record of protection of the confidentiality of information provided
- Overall a mix of 'Carrot & stick' strategies may be needed. As well as making all effort to help respondents, for some respondents legal action may be the only means of obtaining critical information. Such action is not to be taken lightly, and can take considerable effort, but it can help to demonstrate from time to time that there is a legal requirement which is to be taken seriously.
- 12 A variety of methods are used to communicate with respondents with the aim of improving response levels. They include
  - notify selected persons or businesses beforehand of their selection in a survey, the purpose of the survey, what is required, what to expect etc.
     Establish a contact person and when best to contact.
  - always explain the purpose and value of a survey or its end use if more likely to be understood
  - provide help through 0800 hotlines, information on websites, etc
  - provide information about a survey and its methods to key stakeholders and seek their support
  - provide feedback of results or other useful information
  - have a high public profile with dissemination of statistics
- 13 Staff working with respondents need good relationship and liaison skills.

## Measuring and reporting nonresponse

14 It is important to identify and measure the different reasons and components of nonresponse (eg refusal, noncontact, person temporarily absent, vacant dwelling,

forms return marked not known at this address) because different levels of nonresponse bias may be associated with different reasons for nonresponse. For example, noncontacts may have very different characteristics than refusals, and both may differ from survey respondents. Furthermore, the reasons for most of the noncontacts could result in random selection of subsamples contacted and hence may only reduce the sample size without introducing bias.

15 Examples of the most common indicators used are:-

## for household surveys

- overall response rate
- noncontact rate
- no. of vacant dwellings
- refusal rate
- 'slippage rate' = estimated no. of households on frame/estimated no. of households (from census & projections)

#### for business surveys

- overall response rate
- mail returns indicating 'gone no address'
- other reasons for noncontact
- refusal rate
- 16 Ideally the above measures should be produced by strata, region and interviewer so that it is possible to 'drill down' to see where problems might be concentrated and action taken.
- 17 While good management and close supervision is needed to maintain acceptable levels of response, managers need to be aware that if field staff are pushed too far they can resort to making up returns and substituting sample to compensate for too many refusals or noncontacts.
- Finally, information on response rates, and its components, are important indicators of quality and should be reported to users along with the results of any studies done to assess the differences between responding and nonresponding units. There are various measures used to report response rates, some designed to give a more positive light on possible biases by ignoring noncontacts. It is important that recommended standard measures be used and their basis explained as this will help understanding by users and facilitate comparisons across surveys.
- 19 Nonresponse rate is only an indicator of the potential bias in a survey estimate due to nonresponse errors in the survey. The effects of nonresponse errors are very rarely directly observed due to the difficulty in obtaining information form and about the nonrespondents. Nonetheless there are methods and special research studies that can be done to provide some information about the degree nonresponse error may affect an estimate. For example, the UK ONS has undertaken studies matching persons selected in some household surveys with their population census records, and compared the census characteristics of those responding with those not responding.
- 20 Because the amount of nonresponse error is difficult to measure, efforts are best directed to minimising its occurrence (although the resources devoted to

achieving response has to be considered in the context of other sources of error and where the best return on extra effort is obtained). As a result, measures of processes followed in data collection to minimise nonresponse may also serve as indicators of data quality.

## Follow up

- 21 Follow-up of nonrespondents (either all or a targeted sample) is perhaps the most effective way to increase the response rate, although as noted in Part 3 it can increase the perceived load placed on respondents. It can also help to understand where respondents and nonrespondents may be different in the characteristics being measured. Follow-up is particularly important for panel surveys and longitudinal surveys where there are longer term dividends from obtaining high response.
- 22 Follow-up activities should be prioritised. This applies particularly with business surveys, where large or significant units should be targeted first. For repeating business surveys, historical imputation rather than average imputation is often the best approach and it is important to also target nonresponding births to a panel and businesses which have not responded for sometime. For household surveys, areas with known higher concentrations of persons in key policy target groups or with high potential for nonresponse should be targeted.

# Understanding and adjusting for nonresponse

- Since differences between respondents and nonrespondents can cause biases in the survey results, it is important to try to determine if such differences exist, and preferably from pilot tests to inform decisions about the design and feasibility of a survey. Although difficult to determine, differences can be assessed if not measured by, for example, linking to external data sources, and in part by examining the responses of the nonrespondents who were converted during a followup. Sometimes some basic information is known about nonrespondents (eg employment size of businesses) or for the whole population (eg from a recent census) and this allows comparisons which are useful for deciding on the method of compensating for nonresponse.
- There are basically two methods of compensating for nonresponse:- by means of sampling weight adjustment as part of the estimation process, or through use of imputation to directly estimate the value for each nonrespondent. Weighting adjustments are primarily used to compensate for unit nonresponse while imputation procedures are more likely to be used to compensate for missing items. This is particularly the case for repeating samples where historical imputation is the preferred method. However, to the extent that the underlying assumptions are not fully met, such as for example, the sample units are not missing at random, nonresponse error may still affect the estimates derived from the data. Where appropriate, attempts should be made to evaluate the extent to which the procedures correct for the potential bias. For surveys which are repeated regularly, it is important to monitor the assumptions behind any correction procedures to determine if still valid.
- While the problem of nonresponse can exist with all collections, there are some differences between types of surveys with how the problem arises and how it is managed. These differences are discussed below by looking separately at special features of household surveys, business surveys, longitudinal surveys and webbased surveys.

#### HOUSEHOLD SURVEYS

Household surveys conducted by statistical agencies tend to be area based samples and use interviewers administering a form face to face or via telephone, with or without the aid of a computer. For cost and/or timeliness reasons, Random Digit Dialling (RDD) telephone based surveys are used, but these generally experience relatively high nonresponse and their reliability is not adequate for some topics. Mail based surveys tend not to be used because of the number and complexity of questions able to be successfully asked. These features of household surveys can influence undercoverage and the response rate in the following ways:-

#### <u>Listing/enumeration problems</u>

- Area based samples require listing of households in defined areas and selection from that list. If the listing process is not done properly then dwellings can be missed which causes undercoverage. The main reasons for incorrect listing are poor maps, poor instructions, hard to find dwellings and incorrect classification of vacant dwellings.
- If listings are done well ahead of interviews taking place, and there are no processes in the field for adding new dwellings, then the list will not cover the very recent dwellings.
- 29 If the survey frame is telephone based, then people without phones or with unlisted phone numbers will be missed. There are techniques for randomly generating phone numbers but these can have other problems to deal with.

#### Contact problems (access, security, never home)

- 30 Difficulties making contact to apply scope and coverage rules and interview selected persons can be a significant reason for nonresponse if not carefully managed. A listed dwelling might be too hard to find, access is difficult because of security and dogs, or people are never home when the interviewer tries to make contact. For telephone surveys, people can use answering machines or caller id to screen calls and avoid contact.
- 31 It is important to develop rules and guidelines for interviewers so that contact is made at different times and at times most likely to find people at home (but within acceptable hours). It is usual to specify a minimum number of attempts at making contact. For people living in city apartments with secure access, it might be necessary to make prior arrangements with the building managers for access. For repeat surveys, obtaining a respondent's telephone number can greatly assist further contact.
- 32 For some surveys it is common to use proxy interviews when the selected person is not at home and someone else is able to provide information on their behalf. The use of such an approach will depend on privacy laws and attitudes, the topic and the importance of getting response quickly rather than returning later (eg with timely monthly labour force surveys).

#### Refusals

- 33 If contact is made, nonresponse can come from refusal to participate. In some cases, a person will agree to participate but may refuse to answer some questions which results in nonresponse for some data variables.
- In some countries national statistical offices operate under legislation which makes participation compulsory, which can help to keep refusals very low. In reality, it is not practical to take legal action other than in exceptional circumstances and cooperation is more desirable. Of course, the known possibility of legal action helps to keep cooperation at high levels. In most countries, however, household surveys other than population censuses and maybe labour force surveys are voluntary and refusals can be a problem. In all countries, public attitudes to government and an increasing focus on individual rights is leading to growing levels of refusals.
- 35 Refusal rates do vary by the topic and time required for an interview. Short questionnaires on information that tends not to be sensitive get the best cooperation, although it should be noted that good cooperation can be achieved with topics on which people are comfortable, see the public value or are interested in such as health surveys.
- Refusals are best handled by having supervisors and/or special staff following them up. Followup needs to find out where possible the reasons behind a refusal (eg the respondent does not trust a government agency with their information, inconvenient time) and seek to provide reassurances or preferred ways of providing the required information.
- While not strictly refusals, non-response can occur after contact has been made through inability to interview in the language of the respondent. Matching the cultural background of interviewers and respondents can improve cooperation.

## <u>Importance of sound processes</u>

- 38 The above refers to some of the factors which can influence nonresponse with household surveys. These highlight the importance of having statistically sound and clear procedures. Attention must be paid to the following to ensure adequate coverage and response levels are achieved:-
  - establish sound practices for listing, classifying vacant dwellings and handling multiple households
  - provide clear maps with instructions
  - provide training in coverage matters as well as for interviewing
  - set standards for no. of calls, how to handle refusals, how to deal with security problems etc
  - match interviewers with area and population characteristics
  - have experienced interviewers accompany new interviewers to look for ways of improving their approach
  - undertake regular quality checks
  - operate a performance management system for interviewers
  - back up interviewers when there is trouble
  - · control the size of questionnaires
  - use prenotification letters to inform respondents before an interviewer makes contact

## Characteristics of non-responding persons

- 39 By its very nature, it is not easy to find out about the characteristics of persons missed due to coverage or response problems. Studies have been made using population census data on households or individuals known to be missed in a survey, and comparing the characteristics with those responding. Other studies have looked at the characteristics of households and persons who have been found or responded after considerable extra effort, making comparisons on the assumption that the hard to obtain responses are more likely to match the missing ones than the easily obtained responses. The results of these studies give us a guide to the likely biases we could have in various types of household surveys.
- The studies show that persons missed from household surveys are more likely to be
  - younger
  - in employment
  - in smaller households
  - from target policy groups (eg indigenous or minority populations)
- These characteristics tend to be important in different ways for different types of surveys. For example, missed persons tend to be younger and employed and therefore can bias estimates of labour forces status in surveys of employment, although the impact can be reduced by benchmarking the data to population estimates by age, sex and region. Target policy groups are often youth and minority populations and these can get underrepresented in samples from inability to contact, language difficulties and refusals.
- Persons hard to contact tend to be in employment, either working long hours or in multiple jobs. They tend to have different sources of income from those easy to contact, and tend to earn higher income. Added to this, refusals to income surveys tend to be persons of either relatively low or high income. The significance of this is important for surveys of incomes, savings and expenditure.
- The characteristics of hard to contact show up in different ways for health surveys, where such persons tend to be more healthy but exhibit less healthy behaviours.

## **BUSINESS SURVEYS**

- Surveys of businesses are generally mail based surveys (ie without interviewers) which ask questions which require access to financial or payroll records. The timing of when such information is available is an important factor to manage to achieve good response. A key feature of mail based surveys is self completion, and while paper-based mailed out and back questionnaires have been the traditional method, increasingly information is being provided in electronic form or being sought by telephone for relatively short forms. A good deal of the business surveys conducted by statistical offices are repeated regularly to measure movements.
- Businesses vary by size and economic importance. It is usual to have what is commonly called 'completely enumerated' or 'full coverage' strata, consisting of those units which are so significant that they can individually influence the accuracy of the survey estimates or cannot represent well other units. It is important to obtain responses from all units in such strata.

Most statistical offices have legislation which provides for compulsory business surveys. However, the extent that this provision is effective does depend on the attitudes of businesses to providing what might be seen as commercially sensitive information and their trust in government and a statistical office specifically. It is also influenced by the effectiveness of business regulation, taxation and business attitudes to social responsibility. Regular and widespread prosecution is unlikely to be effective and efforts need to be directed to building trust and understanding of the importance of official statistics. Globalisation of businesses is providing further challenges, with many businesses having head offices offshore with the information required for some surveys, adding to the time and effort required to obtain a response.

#### Coverage and contact

- Business surveys require a comprehensive frame listing all economically significant businesses. Frames, samples and collection strategies have to cope with the dynamic nature of the businesses. In most countries, frames tend to be created and maintained from taxation records. Where such records are inadequate, either economy wide or for particular sectors such as agriculture or retail, area based samples are used. A key factor influencing coverage and response rates for business surveys is the accuracy of the frame used to select samples and benchmark the estimates. Frames need to be comprehensive (ie cover all businesses within scope), be up to date (cover new businesses), have information needed to stratify, select and estimate for efficient surveys, allow the linking of collection units with selection units where these are different, and have good contact information.
- 48 It is important to establish who in a business to send forms to (eg to the HR Manager for information about personnel, the CFO for financial information or the CEO for information about business expectations) and when (ie when financial information is available). Letters which are personally addressed or with messages on the envelop that a response is needed for an official survey stand a greater chance of receiving attention than letters which appear generic and look like advertising material. Sending a sequence of letters (for the questionnaire and followup) addressed only to a name of a large business runs the risk of each letter being sent to a different person or simply discarded because it is unclear to whom it should go.
- An initial step of contacting businesses ahead of time to explain the survey and what is required from a respondent, and to request an appropriate contact person can be justified for complex surveys and for new selections, particularly when a business will be in repeats of a survey. In some industries, there are a few critical establishments and personal contact with such businesses can be productive.
- Mail based surveys need good collection control systems to keep track of forms returning and not returning, facilitating response followup and providing information for estimation. However, if contact information is poor then survey forms may never reach the appropriate contact person or be sent to the wrong address, and this will only be know if the mail is returned with some indication of why.
- Difficult questions invite high rates of item nonresponse and response error, and can threaten the validity of the overall survey results. What chiefly distinguishes difficult questions in establishment surveys from those in household surveys is the depth to which respondents must draw from complex records and collaborate with others in their business to provide responses. Often the person who responds

functions as a data collector or is a secondary user of data produced within their organisation.

For monthly and quarterly surveys designed to measure movements between periods and indicate trends, it is common practice to have a good deal of common sample between periods. This can be done in various ways while maintaining the statistical integrity of samples (see Part 3). However, one particular disadvantage is the continuing demands placed on selected businesses. This factor, as well as the range of surveys some businesses find themselves in, creates complaints of unacceptable load being placed on businesses and there can be strong political support for reducing the load.

#### Sound operational management

- Attention must be paid to the following to ensure adequate coverage and response levels are achieved with business surveys:-
  - maintain a reliable frame with good contact information
  - operate a collection control system to keep track of forms despatched and received
  - operate a Large Business Unit with a role of regularly profiling the complex businesses, establishing appropriate collection units which suit data availability, and coordinating the despatch and receipt of forms for major collections. The move to a single point of contact for large collections can have a beneficial effect on the perceptions held by large businesses.
  - target key units for followup
  - measure and monitor response indicators
  - help units having difficulty
  - manage overall load on a business (see Respondent Management System in Part 3)
  - consider timing of survey eg when tax information ready
  - don't give too long for response

#### Targeting followup of nonresponding businesses

- The most important focus for followup is getting responses from units in the full coverage strata. After that it is important to get adequate sample in each of the other strata.
- For panel type surveys, it is common to impute missing information by using information provided in previous periods (adjusted by movements in the responding units) commonly called historical imputation. This is most effective when effort is made to obtain an initial response when a business is first selected into a sample, and a response from businesses which have not responded for some time. These factors can be used to better target nonresponse followup after key units have been targeted.
- Compared with household surveys, there is not a lot known about the characteristics of nonresponding businesses to the extent that they may impact on the reliability of adjustment methods. There are some indications that refusals might be more likely from small growing businesses with heavy demands on key people.

#### 3 MINIMISING REPORTING LOAD

## Why do we need to minimise reporting load?

The collection of information from persons and businesses is the lifeblood of statistical agencies. Good cooperation and high response rates enable reliable statistics to be achieved in a cost-effective way. Regardless of whether legislation provides for compulsory surveys or not, statistical agencies need to achieve and maintain the cooperation of the providers of information. A key to maintaining cooperation is the total load. If it is seen as too much it can become a political issue championed by politicians and governments. If not managed carefully and responsively, statistical agencies can find themselves with solutions to the problems imposed on them which can limit the extent of collection activity and reduce the quality of statistics able to be produced.

## Ways to minimise reporting load

Minimising reporting load requires a combination of corporate strategies and individual collection strategies. Corporate strategies are needed because it is the total load that counts from a respondent perspective.

## Corporate strategies

- 59 The main strategies to be managed across collections are:-
  - have one frame for household surveys and one for businesses, rotate businesses out of panel surveys, and coordinate samples to reduce overlap across surveys (see below).
  - consolidate collections wherever possible to minimise contacts, while keeping an eye on the overall size of a questionnaire
  - use a respondent management systems (see below). This system can be used judiciously to identify respondents with an unacceptable total load and to take action to reduce.
  - operate a respondent liaison unit for dealings with respondents answering questions, follow up of nonrespondents
  - operate a key provider management unit with the aim of working closely
    with those large businesses which are in the full coverage strata of many
    surveys to help keep track of their changes and to find ways of helping
    them to respond more easily
  - provide a choice of methods for respondents to supply information some respondents might prefer to fax or email back responses or to provide answers over the phone
  - · measure and monitor the load

#### Individual collection strategies

A variety of strategies can be adopted by individual collections at various stages of a collection.

#### Design

- use administrative records wherever possible either completely or for the small and medium units, and for imputation instead of followup
- use samples and keep them efficient

- restrict the scope, frequency and content to the essential needed to support key use of the data
- use modelling/synthetic estimation to produce detailed estimates rather than increase sample size
- impute for missing information from businesses in the sampled strata (ie small and medium businesses) to reduce contact

#### Collection

- test all forms to ensure easy to complete ie understandable and information readily available
- tailor forms to collect only essential information
- accept responses in a mode desired by respondents (eg emailed spreadsheet)
- seek approval to collect certain information from existing sources (eg mortgage information from lender)

## Collection overlap control

- 61 Efficient sample surveys of businesses conducted at monthly or quarterly intervals to produce estimates of movement and trend use fixed panel designs or have a small amount of rotation to share respondent load overtime. There are some challenges, however, as the business population is dynamic, with constant changes due to births, deaths, splits & mergers, and changes in size and activity. Frames and samples must be kept up-to-date to reflect such changes.
- 62 It is common in statistical agencies for most business surveys to be conducted from the same frame. Selecting multiple samples from the same frame can help to control overlap between surveys to reduce the load on small and medium businesses in sample strata. By the use of a permanent random number (PRN) assigned to each business for its life, it is possible to select and maintain efficient representative samples with rotation and overlap between surveys. The methods used in several advanced statistical agencies are described in *Ohisson* (see references).

## Respondent Management System

- Some statistical offices have developed and maintain a Respondent Management System (RMS) which keeps a record of all surveys a respondent is selected in, their response history, date of receipt of forms etc. Such systems are part of an overall corporate approach to managing respondents and can help to
  - calculate and monitor respondent load
  - understand and better target nonresponse problems who and when
  - show for a specific individual business the total statistical load placed on them by the organisation
  - manage key and significant respondents
  - provide information regarding load to sample designers
  - identify candidates for prosecution for refusal
- A key factor for success in respondent management has been the extent that approaches to businesses are personalised through the right contact, knowing what the overall load and response situation is for a particular business when dealing with them, listening and understanding their problems and finding solutions which suit

them. An RMS must be responsive to help with phone calls from respondents - they need to be kept simple and available to the phone operator at the touch of a key stroke. Systematic respondent management can also provide for the systematic feedback of form design issues to questionnaire designers

## Some other strategies to manage respondent load

- coordinate collection demands across agencies. This is usually done by the operation of an approval process for new collections. Australia uses a Statistical Clearing House whereby every statistical collection from businesses is required to be assessed and approved. New Zealand has provision for Ministerial Approval of all government surveys, usually on the basis of a review conducted by the Government Statistician. Other countries require all collections and forms sent by government agencies to businesses to be reviewed and certified by a central authority.
- establish a provider advocate internally to represent the interests of providers
  of information. This person can provide the often neglected perspective into
  decisions on new collections, advocate for solutions to the load placed on
  particular respondents, etc. The establishment of such a role internally can
  help to head off the creation of an equivalent role operating externally.
- measure & monitor load. The best but not perfect measure is total time spent answering a form. If this is asked of respondents and monitored it can provide an indication of load overtime as well as send signals to respondents that there is concern about the time imposed on them.
- monitor the load from oversampling key sub-populations such as minority groups which are often 'over-sampled' in household surveys to achieve reliable results. Oversampling and screening processes are sometimes used to get sufficient sample for sub-populations and the process of screening can also add to total load on the whole population, even though only a few screening questions are asked for most selected households.
- operate and promote Service Charters which set out respondent rights and obligations as well as the obligations of staff in a statistical office

#### References

Statistics Canada Quality Guidelines, Third Edition 1998.

Measuring and Reporting Sources of Error in Surveys, Statistical Policy Working Paper 31, Statistical Policy Office, US Office of Management and Budget, July 2001

The International Conference on Survey Nonresponse (1999) has published a plethora of papers dealing with the nonresponse subject. They can be found at: http://jpsm.umd.edu/icsn/papers/Index.htm

Groves R M, Dillman D A, Eltinge J L & Little R J A (eds), *Survey Nonresponse*, 2002, Chichester: Wiley

Don A Dillman, Procedures for Conducting Government-Sponsored Establishment Surveys: Comparisons of the Total Design Method (TDM), a Traditional Cost-Compensation Model, and Tailored Design, Washington State University

DeLeeuw, Edith D (ed) 1999 Special issues on Survey Nonresponse Journal of Official Statistics 15, 2

Hidiroglou, Michael A, Drew, Douglas J, and Gray, Gerald B, June 1993 *A framework for Measuring and Reducing Nonresponse in Surveys*, Survey Methodology 19:81-94

Lynn, Peter and Clarke, Paul, Separating refusal bias and con-contact bias: evidence from UK national surveys, The Statistician, 51, Part 3, pp 391-333

Ohlsson, Esbjorn, Coordination of Samples Using Permanent Random Numbers, in Business Survey Methods, Ed by Brenda G Cox et al, Wiley