

## Questionnaire Design Advisory Conference

Comprehending and answering a question put forth by an interviewer requires that a person draw on several facets of human cognition, including language comprehension, memory retrieval, social desirability judgments, and verbal generation. Each of these aspects of cognition affect the quality of the person's response. To a large extent, the field of survey research is dependent upon people's ability to recall events and provide details about those events to complete strangers. If people are unable to provide descriptions of those "events", the quality of the data is questionable.

The interview can be seen as a stimulus-response situation in which questions provided by the interviewer serve as the stimulus in the form of retrieval cues. Recall of the appropriate type of event or formation of an opinion is the response. Inadequate recall can be linked to several factors -- the quality of the question, the length of the reference period, the saliency of the event, the uniqueness of the event, and characteristics of the respondent. All of these factors are of interest in examining the Bureau's two surveys of interest for this conference: the Consumer Expenditure Survey (both the interview and the diary) and the Current Population Survey.

### Consumer Expenditure: Interview Survey

The initial impression one has in either reviewing the Consumer Expenditure instrument or participating as a respondent is the burden the instrument places on the respondent. The burden can be divided into several dimensions including:

1. length of the recall period;

2. the diversity of recall for different types of expenditures;
3. knowledge of other consumer unit members' expenditures.

The reference period for most of the Consumer Expenditure interview items is over three months. A three month recall period can be assessed as both a relatively short reference period (e.g. for major purchases such as automobiles, major appliances, etc.) or as extremely long (e.g. for items of minor importance such as small clothing items, minor household purchases, and food purchases). The reference period is not the sole factor that affects the quality of reporting for these different items. Rather it is the length of the recall period in conjunction with the relative salience of a purchase and the uniqueness of the purchase that affect reporting.

Salience is a difficult term to define but one which is usually associated with both the importance of an event and the level of emotion associated with the event. Linton (1982) suggested that the best remembered events are those that meet the following four criteria: (1) the event is emotional at the time of occurrence; (2) it marks a transition point for the individual; (3) it is relatively unique; and (4) it retains its emotional significance. "Emotion" is not usually a term that we relate to purchases of items such as dishwashers or a new pair of socks; however, one could conceive of the cost of an item as a proxy of "emotion" for this particular study.

The relative uniqueness of an event, as noted above, is also associated with the accuracy of recall. Inhibition and interference theories (see Marquis, 1978) suggest that single occurrences of an event are more readily recalled than events which fall within a class of related events.

The potential for poor quality data (as evidenced in comparisons with the National Accounts which indicates problems in the areas of apparel and food) suggests that the recall period for these types of common and non-salient items be shortened. It is difficult to suggest a recall period which would minimize both the level of omissions and telescoping. It would be useful to experiment with at least two shorter recall periods: a one week period and a one month recall period and compare weekly expenditures for each recall period with estimates from the diary expenditures. The final conclusion may be that for some types of expenditures, it may not be feasible to collect data for any extended recall period --thus limiting the collection of these types of expenditures to the diary method.

Apart from the length of the recall period, there were several points in the questionnaire where a respondent may be confused about the time frame of interest. For instance, when should the respondent include the current month and when should he or she refer to only the previous three calendar months. Some questions refer to "this month"; does this mean the last 30 days or the current calendar month?

Regardless of the length of the reference period, it may be helpful to the respondent to bound the period of interest according to his or her own timeline. One approach may be to hand the respondent a calendar which shows the three months of interest and request that the respondent take a few moments to note (or the interviewer could write the information) events that may have occurred during the time period. These events could include birthdays, anniversaries, the beginning or end of school or vacations, etc. Little research has been done in the area of "framing" the reference period for the respondents -- this may be of interest to pursue in a laboratory type setting.

The CE questionnaire is quite extensive -- a respondent must respond to a broad range of questions ranging from insurance and mortgage payments to clothing and utility costs. The extensive nature of the questionnaire leads to the second potential source of response burden --the diversity of recall tasks the respondent faces.

*Best respondent*  
The identification of the consumer unit member best able to answer these questions is an important step toward improving the quality of the data and one which does not appear to be used in the current administration of the questionnaire. In addition to determining a "best" respondent for the CU, the Bureau should consider implementing a design where efforts are made to interview the same respondent for the CU.

The range of expenditures covered in the CE questionnaire requires that the respondent search and retrieve several different episodes from long term memory. It is difficult to assess how these various expenditures are best recalled --the present design groups "similar" costs together and questions the respondent as to whether "anyone in the consumer unit had any expenditures for item X". If the respondent answers "yes", further questions may ask for the specific item, who the item was purchased for, when the item was purchased, and the cost. It may be useful to see if a different order of these questions improves recall. For example, in the sections of the questionnaire in which there is interest in knowing for whom the item was purchased, recall may be improved by asking about each CU member separately, e.g. thinking about yourself, were any sweaters bought for you? any shirts? any slacks? If memory for purchases is stored according to whom the item was purchased for rather than by the type of item, this order may improve recall (albeit adding length to an already long questionnaire).

*order before*  
*to first*  
*period*  
Similarly, the best order of questions for major items may not be "what" "when" and "how much" but rather "what" "how much" and finally "when", since dating an event is often a difficult task for a respondent. By providing the respondent with the additional cue concerning the cost before asking about the date of the event, the accuracy of that date may be improved. (I understand that this defeats the present purpose of the order in which the cost question is excluded if the date is outside the reference period).

The third aspect of respondent burden listed above is the problem associated with reporting for other consumer unit members. Regardless of how well a questionnaire is designed, if a respondent has no knowledge of an event or purchase, the event will go unreported. The use of an all-self respondent rule is prohibitively expensive --however, it is important that the Bureau begin to measure the effects of using proxy reports, with the end of such research being the ability to adjust expenses most affected by the use of a proxy.

There are also several issues that are related to respondent burden that I believe the Bureau should address. These include:

1. the effectiveness of placing difficult sections of the questionnaire at the end of the instrument. The placement at the end raises two questions: (a) are the respondent and/or the interviewer too tired at this point to complete these more difficult sections; and (b) does this placement at the end result in heightening the interviewer's anxiety for the earlier sections of the questionnaire (knowing that these tough sections are coming).
2. detailed income questions that are asked during the spring. Has any research been done to assess whether better reporting of income is associated with completing federal and state taxes?

### Consumer Expenditure Survey: Diary

Several of the issues raised in the discussion of the CE interview are also applicable to the CE diary. These issues include the need to determine a "best" consumer unit reporter and attempts to assess the under-reporting related to proxy responses.

One statement made at the conference concerned the fact that approximately 20% of the diaries are completed by recall with the interviewer recording the information. Since this is considered an acceptable means for collecting information from those consumer units that initially agreed to cooperate, why not use this approach to convert some portion of the initial refusers?

If the data for the diary are collected by recall, the respondent faces two tasks -- episodic recall and estimation processes. The respondent must first remember if any of the specific type of item was purchased and then estimate how much and the total cost. It is probable that the completion of the estimation task is based on "usual" weekly expenditures for an item with the respondent adjusting the amount based on recollection of spending more or less on the item in the week of interest. One approach for collecting diary information by recall made be to have the respondent make base estimates for items purchased frequently and then adjust those base estimates for the diary week.

With respect to increasing the recording of information in the diaries, the new experimental diary in which the respondent checks the type of purchase and records the cost of the item is an improvement that would appear to reduce respondent

burden. In reviewing the form, I noted that the information concerning size of the package is no longer recorded. Was this step taken as another means of reducing respondent burden?

#### Current Population Survey

The difficulties with the CPS, were to a large extent well covered in the report prepared by BLS-Census Bureau Questionnaire Design Task Force (1986) -- most of the discussion here will reiterate the comments made in that report. The areas of concern include:

1. the introduction to the respondent. In both the current version of the CPS and the proposed revision the conditional phrase "not counting work around the house" may be confusing. The phrase needs to clarify that the only type of work to be excluded is unpaid labor around one's own house.
2. the inconsistency among question concerning key concepts and the potential for unacceptable levels of interviewer variance. The issue of what constitutes looking for work appears to be one of the concepts in which it is not clear from the manual as to what definitively constitutes looking for work. The ambiguity will lead to large interviewer effects that are likely to be affected by socio-demographic characteristics of the respondent.
3. "How many hours did ... work last week at all jobs?" This is a difficult question for a respondent to answer. If the goal is to only have an estimate, the use of a single question is acceptable. However, if the goal is to have an accounting of the actual number of hours worked, it may be useful to provide the respondent with a series of cues to determine the number of hours worked last week. This is the approach taken in the redesigned survey.
4. shifts in reference period. The initial questions ask the respondent about "last week". For those without a job, the next set of questions asks about the "past four weeks". Does the last four weeks include the current week? Question 22 asks

whether the person has been looking for work during the past 4 weeks. Does this mean at any time during the past 4 weeks or throughout all 4 weeks?

5. frames of reference for reporting income.  
Questions 25C and 25D ask the respondent to report either hourly wages or weekly wages. It may be more useful (and subsequently more accurate) to allow the respondent to report wages in the form he or she knows best (e.g. monthly, hourly, annually) and then have him or her report the usual number of hours associated with that wage.

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