

Self and Proxy Reporting
In the Consumer Expenditure Survey Program

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Introduction

The issue of self versus proxy reporting is a classic methodological issue facing survey designers: how to maximize the *quality* of data while minimizing the *costs* associated with data collection. In the past, response rates have served as an easily produced measure of quality. Allowing one respondent to provide information about him or herself as well as other members of the household is one means by which to increase response rates. It is much easier to get any one individual within a household to respond as compared to a randomly selected respondent or all respondents to participate. From a cost perspective, with costs measured as time or the dollar expenditures associated with a data collection effort, once again, the use of proxy reported data aids in the reduction of per person unit costs.

However, we know that the true measures of quality and cost are not limited to response rates, time and money. Recent research which focuses not on response rates but on *nonresponse bias* has moved the industry away from blithely accepting the notion that lower response rates are indicative of lower quality data (Keeter, et al, 2000; Groves, 2006). Quality is a far-ranging concept, which includes (but is certainly not limited to) assessment of coverage of the population, examination of imputation rates, as well as the measurement of validity and reliability of survey items and the resulting data. Costs too are not simply a function of the traditional measures of time and money related to data collection, but can be measured in terms of realized sample sizes, sampling error, post-survey adjustments, as well as public confidence in estimates.

I raise these issues early in this paper so as to frame the discussion at the end of the paper concerning alternative designs and methodological investigations. Many of the options facing the Bureau of Labor Statistics with respect to the Consumer Expenditure Survey Program will involve alternative design options that juxtapose questions of survey quality and survey costs, not just with respect

to the use of self versus proxy reporting, but with respect to other design features to be discussed at the workshop. What measures we use to assess quality and costs (and the emphasis placed on those measures) will have ramifications for the evaluations of alternative design options.

It is also useful to consider the nature of how self and proxy reporting potentially differ in the Quarterly Consumer Expenditure Interview (CEI) as compared to the Consumer Expenditure Diary (CED). In both the CEI and the CED one household member usually serves as the respondent/recorder of information. CEI sampled household units are interviewed once per quarter for five consecutive quarters; the respondent is asked to report on consumer unit expenditures for the past three months (for interviews two through five). The initial interview collects demographic and family characteristics, an inventory of major durable goods, and expenditures for the past month, all information to be used as bounding data for future interviews. The nature of the questionnaire, with its emphasis on retrospective recall, most closely parallels the design of other federal surveys which rely on a single household respondent. With respect to the CEI, we could frame the research issue concerning self and proxy response as a question of how to minimize response error related to the long term recall of detailed expenditure items. *We know little with respect to the quality of both self and proxy reports for the CE, so research aimed at reducing bias associated with proxy-based reports should not ignore the onerous reporting task that faces the self-respondent.* The CED is a prospectively-placed diary with two one-week daily expense records serving as the primary means of capturing detailed descriptions of all expenses for all members of the household. Here, the key research issue is not one of how to improve retrospective recall for self and proxy reporting (although a percentage of diaries are completed via retrospective reports); the key research question is how to best maximize participation and compliance by all members of the household.

Background

Two literatures are relevant to the issue of self and proxy reporting in the CE surveys: (1) the literature on the quality of proxy retrospective reporting and (2) the literature on participation and compliance in self-administered diary surveys placed in households.

Retrospective recall: self and proxy response status

The use of proxy accepted responses is most evident in large federal surveys. For many of these studies, persons who are home at the time of the interview are asked to report about themselves and everyone else in the household or the household information is gathered from a “most knowledgeable” member of the household for the particular topic of interest. Although many of these survey programs have moved to designs which attempt to maximize self report (e.g., National Crime Victimization Survey) or designs in which a randomly selected target within the household is asked to report for him or herself only (e.g., the National Health Interview Survey), the Consumer Expenditure Surveys (both the Diary and the Interview) are unique in that the analytic unit of interest is not the individual *per se* but rather the consumer unit.

Moore’s (1988) excellent review of the literature with respect to self/proxy response status and survey data quality noted that, for the most part, much of what we know about the quality of proxy reports is based on observational studies in which the characteristics of the response status are potentially confounded with the measures of interest. He concludes his review by stating “the literature finds little support for the notion that self-response survey reports are of generally better quality than proxy reports” but also went on to state “that there is really not enough evidence to draw solid conclusions” (Moore, 1988, p 169). Experimental studies are limited, examining a small range of topics, and for the most part, are inconclusive with respect to the inherent superiority of self

reports (e.g., Mathiowetz and Groves, 1985). The exception to these studies appears to be Turner's (1972) experimental study with respect to the measurement of crime, in which an all-self response treatment was compared to a knowledgeable household respondent treatment; the all-self response treatment lead to consistently higher incidence of crime rates across eight crimes examined. Sans validation data, Turner's comparison (as well as most studies which compare self and proxy reports) only assesses the *relative* rate of reporting a behavior across response status, indicating that the biases differ across the types of response rules, not that one rule or the other elicits more accurate data.

Examining the issue of self vs. proxy reporting within the context of the cognitive stages of the question and answer process, Sudman, Bradburn, and Schwarz (1996) suggest that reporting for an "other" differs from reporting for oneself with respect to the encoding, the storage, and the retrieval of information. With respect to encoding, the richness of the encoded material depends upon the means by which the information about another's behavior is obtained. Shared behavioral experiences allow for the elaboration of the behavior across multiple sensory inputs: seeing, hearing, possibly hearing and taste, as well as the encoding of emotions and feelings about the behavior. Learning about a behavior via communication from another (or via a third party, for example, paying a bill related to another person's purchase) involves the encoding of information related to the acquisition of that knowledge rather than the encoding of the behavior itself.

Information organization and storage most likely differ for oneself as compared to others, impacting the retrieval and reporting strategies used for oneself as compared to reporting for others. Rare or salient behaviors experienced by an individual are often stored episodically in memory; episodic storage is most likely *not* the case for behaviors that are not learned about via shared participation. From the work of Blair and Burton (1987) as well as others (Bradburn, et al,

1987; Schwarz, 1990) we know that frequency reports of mundane and frequent behaviors are often based on estimation strategies whereas the reports for rare or salient events and behaviors involve the use of retrieve and count (episodic) strategies when reporting for oneself. The lack of episodic information concerning others (for non-shared behaviors) often leads to estimation strategies on the part of proxy reporters (Blair, Menon, Bickert, 1991).

Sudman, et al (1996) in their review of the literature assert that

...the findingsencourage the use of proxy reports. For many behaviors and even for some attitudes, proxy reports are not significantly less accurate than self reports. Obviously accuracy depends on the proxy's observation of and discussion with others.....(p. 243)

Diary Studies: Multiple respondents per household

What is a self and what is a proxy report for a diary survey? The delineation of self and proxy response status is not as clear cut in surveys that involve the use of prospectively placed diaries. Even if only one household member is enlisted to maintain the diary, the prospective placement provides *opportunity* for self-reported (or more specifically, recorded) data for each household member. If all household members took advantage of the opportunity to self report (in the main diary) then the self-proxy issue would be moot. As with other self/proxy issues cooperation at the household level is, for the most part, easier when the request is for a single respondent to participate.

The major self/proxy design issue for the design of a diary survey is not to understand the factors that lead to congruence between self and proxy reports but rather to address how to minimize reliance on proxy provided data. The major advantage of the diary method is to capture and record expenditures which, for the most part, are mundane and ill-remembered for anything other than the shortest recall period. As stated succinctly by Grootaert (1986) "the method of individual books [diaries] is to be preferred from the point of view of

completeness of reporting, but that major problems with cooperation can occur” (p. 938).

One of the largest data collections that rely on the individual-level self-administered paper diaries is the Arbitron Radio Diary data (Arbitron, 2010). Each household member, 12 years of age or older, is eligible to participate. Households are initially contacted by mail, informing the household of their selection for the study. The next contact is via telephone in which basic demographic information about the household is collected and participation is solicited. The mailing that follows includes a 7-day diary for each household member age 12 and older and a cash incentive for each person. Calls are made to consenting households during the diary week to address any questions and to encourage full compliance. Each diary is relatively small (fold-out) and the diary, is, for the most part, open-ended with space to record time of day (start and stop times), radio station identifier, and the place where the respondent was when listening to that particular station. The diary week begins on a Thursday and ends on a Wednesday, start and end dates that were examined empirically so as to maximize reporting for both week and weekend days.

Empirical Findings

Retrospective recall: self and proxy response status

Validation studies comparing self and proxy reports to objective measures are virtually nonexistent. In the absence of objective empirical data to assess the degree of bias in self and proxy reports, many studies have relied on comparisons of reports from both self and by proxy to assess the quality of proxy reports. Apart from questions (more specifically the responses to questions) that raise issues of self presentation or social desirability, the assumption underlying these comparisons is that self response provides more accurate data than those obtained via proxy.

I focus on the empirical findings from two studies that examined the congruence between self and proxy reports specifically with respect to the reporting of expenditure data. The Intra-household Communication Study (ICS) conducted by BLS in the early 1990s is an example of such a study. The ICS examined the relationship between within-household knowledge, relationships, and reports of expenditures for household members. Although conducted with limited sample sizes, this research found that, at the family and at the dyadic level, communication between family members and characteristics of the family were related to congruence between self and proxy reports (Kojetin and Miller, 1993; Tucker and Miller, 1993; Kojetin and Mullin, 1995; Mulling and Tonn, 1993). For instance, at the dyadic level, self and proxies agreed on purchases of clothing, groceries, and medical supplies 63% of the time, that self-response resulted in a larger number of items purchased and higher dollar amounts for those items, and the degree of disagreement varied across types of purchases. The ways in which proxies learned about expenditures and the relationship between the self and the proxy target were related to level of agreement between the self and proxy response. For example, proxy reports by parents for their children had lower levels of agreement than spouses reporting for each other or even children proxy reporting for their parents (Harris-Kojetin and Miller, 1993).

In a study conducted for BLS by the Joint Program in Survey Methodology, Olson (2002) examined the congruence between approximately 1000 teenagers self reports and reports provided by their parents of expenditures for the past 24 hours. The reporting task for this study was easier than the detail required for the CE program in that teens and their parents were only asked to report on 12-categories of expenditures and provide expenditure data overall for the category, not per item. Overall, parents and their teenagers agreed with respect to whether or not a purchase had been made in a category of expenditures

approximately 85% of the time¹, with a mean underreporting of expenditures by parents (as compared to their teens) by about \$6.75 (absolute difference of approximately \$14).

Although examined less frequently in the empirical literature, the issue of reliability of measurement for self as compared to proxy reports is an important one. Table 1 displays measures of reliability for self and proxy reports of educational status, occupational status, and usual hours worked per week. The table findings indicate significantly lower reliability for reports provided by proxy (specifically by the spouse) as compared to self reports.

Table 1. Reliability of estimates for self and proxy reports

Question Content	Study	Reliability Estimates		
		Self	Spouse	N
Years of Schooling	NES 70s	.971	.930	815
Years of Schooling	SAF Mothers	.954	.910	799
Occupational Status	NES 70s	.887	.806	299
Occupational Status	NES 90s	.859	.717	197
Hours worked/week	NES 70s	.835	.710	212
Hours worked/week	NES 90s	.881	.612	141
Total		.898	.781	6
		t = 3.365, p = 0.020		

Source: Alwin (2007) p. 153

Diary Studies: Multiple respondents per household

One of the earliest examinations of individual diaries comes from the household expenditure survey in Hong Kong (Grootaert, 1986). All household members aged 14 years and older were requested to record his or her expenditures for the two-week period during which the household participated. Overall, 28% of all household members completed the diaries. Individual participation declined with age and was a function of the relationship to the household head. Eligible members in large households were more likely to refuse than in smaller

¹ In part, the agreement rate is inflated by the fact that for many of the categories of expenditures, the rate is based on agreement of no expenditures.

households. Expenditures, especially for personal items such as clothing footwear, and services, were significantly higher in households assigned to the multiple diary treatment. The findings indicated that the treatment of requesting multiple diaries (even if full participation was not realized) had a significant effect on the overall levels of expenditures; once the effect for the multiple requests (as compared to a single diary) was controlled, the impact of complete participation was not significant with respect to changes in the level of biweekly expenditures.

A field study conducted by BLS in 2006 (Edgar, et al, 2006) compared the diary reports from households assigned an experimental treatment to the standard production procedures. In the experimental treatment, the field representative placed one main diary (the same form used in the CE production cases) and individual diaries with each consumer unit (CU) member aged 12 and older. Compared to the standard production cases, the experimental treatment resulted in an increase number of expenditure items reported as well as an increased dollar value of the expenditures. The experimental study did have a lower response rate than the production data and completed interviews required more trips on the part of field interviewers as compared to the production cases.

Discussion: Alternative Designs and Research Programs

The background paper for this session listed a number of questions to be addressed. Before addressing these specific items, I would like to identify several aspects of the CE program or design that I believe are worth further investigation:

1. Understand how respondents are dealing with the two surveys

Does BLS fully understand how respondents are approaching the tasks for the two surveys? The diary experiment conducted in 2006 shed light on reactions to the individual diary program, but does such information exist for the CEI and the

main CED? To what extent do CEI respondents rely on records and thereby reduce the disparities associated with self and proxy reports? For example, expenditures for gasoline are based on the CEI². It is highly unlikely that respondents are relying on episodic retrospective recall for either their or other household members' gasoline purchases for a three-month recall period. How are respondents answering these questions in the CEI?

How does the bounding (initial) interview for the CEI aid in setting up the information the respondent needs to collect for the subsequent interviews? To what extent is the respondent informed of the need to gather information from others so as to be prepared to answer questions for all household members?

Thinking about the diary, how is the placement of the CED communicated to other household members? Where is it placed, what reminders exist to record information (e.g., magnets on refrigerators; IVR outbound calls to reminder respondents)? How much effort is expended to encourage full participation or is the need for full participation minimized so as to not impact response rates?

Finally, to what extent do we understand the privacy issues within consumer units? That is, for some household members there may be an outright desire to conceal information about the expenditures. Or the concealment could be specific to particular expenditure items. Are there means by which individual for whom the data are obtained by proxy can amend information in a confidential manner?

To develop a research program to address key aspects of proxy reporting for the CE program, the first step is to fully understand the nature of how the task is presented to household respondents and the role of proxy reporting for the two tasks.

² See Appendix C. Survey Source of Data for Integrated Tables, 2007.

2. *Understand the Error Properties Associated with the CE program*

The task for this discussion was to focus on self and proxy response. The questions posed assume poorer quality data for proxy reported expenditures as compared to self reports. I don't know if there are sufficient empirical data to support that supposition across all types of proxy reports and for all types of expenditures. Clearly there is empirical support that shows *increased* reports for diaries that include participation of multiple CU members. But the CED experimental study also yielded comments from CU members that they felt the individual diaries were redundant and unnecessary since the unit makes purchases as a unit.

With respect to the CEI, once again, I think we know little about the quality of self reports, much less proxy reported information. There may be approaches to the improvement of estimates in the CEI that don't involve increase self participation, *per se*. Alternative designs that improve reporting (e.g. event history calendars), mechanisms that attempt to capture data for shorter recall periods, and variation in approach to CUs with different compositions are all worthy of exploration if we have the means by which to assess the impact of these changes on estimates.

To frame a discussion of cost-error tradeoffs, one has to have data with respect to both the costs and the errors. We know that compared to other benchmarks, the CE program underestimates expenditures. The degree to which this is a problem of proxy reports as compared to underreporting overall is unknown. Similarly, to understand tradeoffs related to changes in response rates, one has to be able to assess the degree to which changes impact estimates. The Experimental CED project yielded a lower response rate³ than the production interviews, but also resulted in increased levels of reports of expenditure items and expenditures.

³ The experimental CED study reported a 61% for the test cases compared to 77% for the production, but it was unclear from the report as to what constituted a complete for the test cases.

3. Redefine the expenditures of interest for the two surveys

In thinking about tradeoffs, I would suggest that an early step in the process should be an evaluation of how the burden for the two surveys can be reduced—regardless of how one addresses the self and proxy issue. The current design has redundancies with respect to the information collected across the two instruments.

Consider the data source for various expenditures as used by the Consumer Price Index (see Appendix C, Survey Source of Data for Integrated Tables, 2007; BLS, 2007). At present, the CEI and the CED have some overlap, for example, both questionnaires ask specifically about clothing purchases. In addition, the CED has a catch-all page that asks the respondent to report expenditures on “all other products, services, and expenses.” Hence, across the two instruments, there are redundancies resulting in additional, unnecessary burden.

A quick review of that appendix suggests that the diary is the data source for estimates related to food, personal care products and services, prescription and non-prescription drugs housekeeping supplies, miscellaneous small household items, most clothing items, and a smattering of unrelated items (e.g., vehicle insurance, some sports equipment).

The work of Grootaert (1986) clearly indicated an increased reporting of “personal” items with the use of individual diaries. So why not make a definitive split between the CEI and CED instruments? The focus of the CED would be on the mundane, small expense, easily forgotten (or never known to a proxy) “personal items” and the CEI would be on the items for which there are accessible records, are known at the household level, and/or can be estimated from known behavioral patterns (e.g., gasoline for cars). By reducing the focus of the diary to a set of well defined categories (eliminating the catch-all page), the

burden on the participants would be reduced, thereby potentially increasing participation at the individual level.⁴

4. Consider prospective participation among CEI households

To what extent is the first bounding interview for the CEI used to proactively encourage the retention of receipts, bills, checkbooks, the use of the Infobook and other records in anticipation of the subsequent interviews? Is there active encouragement of the household respondent to gather these records in advance of the interview? What inter-interview outreach activities are used to encourage inter-interview recording of information? Can data be captured closer in real time rather than relying on a three-month recall period?

As with other suggestions throughout this discussion, the impact on proxy reporting is a shift from the reliance on retrospective recall for *both* self and proxy reports to real time capture of information directly from the individual members of the consumer unit. Each of these shifts represents a move toward minimizing retrospective recall and reliance on proxy reports at the cost of increased inter-interview data capture and increased participation from all members of the consumer unit.

5. Expand the use of records

Asking respondents to record individual grocery items in 2010 seems arcane and excessively burdensome. At a minimum, the diary should be redesigned so that respondents have a means for easily compiling receipts for the week of interest. This seems most relevant for food purchases (food consumed away as well as at home). Interviewers could carry portable scanning machines to capture the data (or could return the receipts after scanning is completed by the home office).

⁴ Note that Grootert (1986) found that the increased reporting of expenditure items and total expenditures was attributable to the request for multiple diaries, not a function of complete compliance.

The CEI provides CUs with the Infobook but recent data suggest that less than half of the CUs use the information during the CEI (Edgar and Gonzalez, 2009). The use of records (utility bills, Infobook usage) is associated with reduced odds of the need for editing data (Edgar and Gonzalez, 2009).

5. Incorporate Technology

The Homescan project conducted by Nielson is a consumer panel of almost 300,000 households worldwide. In the U.S., the Homescan reporting device is an UPC scanner which facilitate electronic capture and transmission of data on an on-going basis (Link, 2010). Media diary studies have moved to the use of electronic capture of information (Arbitron's Portable People Meter; Nielson's People Meter) as have a variety of health surveys that attempt to capture physical activities, dietary intake, and medicine compliance via the use of technologic innovations. Utilizing a product such as a barcode reading device may lead to reduced burden on the household, improved reporting, and facilitate longer retention as a diarists, thereby reducing recruitment costs.

The use of such a device could be tested for both CEI and CED households but seems most relevant for CED households.

And now, to return to the questions raised by BLS:

1. What are some key aspects of proxy reporting that the CE program should address during the redesign process?

As noted above, I would begin with fully understanding the nature of both self and proxy reporting for the two surveys. For the CEI, to what extent are respondents relying purely on unaided recall to answer questions about others in the household (as well as for themselves)? The reporting

task, whether it is for oneself or for other household members is a difficult one for the CEI, given the three month recall period. Episodic recall (for oneself or with respect to the behavior of others) will most likely be subject to errors of omission whereas estimation-based reports will most likely err in both directions. Understanding how respondents complete the task will guide the direction of the research to improve the CEI overall, not just for proxy reports. For the CED, once again, I know little about how the respondents actually approach and complete the task. Do household respondents query other members of the CU every evening to capture the information? Do the other CU members resent having to participate since they were not asked nor agreed to participate?

In examining how the task is completed, attention should focus on how the nature of the task differs across different consumer unit compositions. Consumer units structured so as to have a central expenditure gatekeeper may require a very different approach to data collection than households with three adolescents and parents who each maintain their own credit cards and checking accounts.

- 2. Are there obvious tradeoffs that CE will need to balance when dealing with the topic of proxy reporting? How should the CE program manage the tradeoff between requiring participation from all CU members and allowing for proxy reporting on behalf of refusing members? How should the CE program evaluate and make a decision about the tradeoff between increases in respondent burden, increased field costs, and improved reporting quality?**

From the limited work of Grootaert (1986) it doesn't appear that full participation is key to improving (that is, increasing) the reporting of expenditures. Rather it is the request (in his case, the placement of multiple diaries) that lead to the reporting of increased expenditures.

Hence it may not be necessary to insist on complete participation for a CU to be counted as a responding unit.

Discussion of tradeoffs should not be presumptive; that is, the nature of the questions posed above assumes that burden will increase as will field costs. Not all redesigns that encourage participation among multiple household members have to lead to increased burden or increased field costs. For example, are there designs in which field representatives would not need to conduct three personal visits for the completion of a two week diary? These are expensive visits for a data collection effort that, for the most part, is designed to be self-administered.

Of course response rates are a very visible measure of survey quality, but as noted at the onset of this paper, there is little evidence of nonresponse bias among many social surveys. Without an understanding of the bias associated with an increase in nonresponse that may accompany a shift toward more self response for either of the CE surveys, one can not have the discussion of tradeoffs.

Obviously, costs represent a critical constraint to any redesign. So considerations of alternative design options have to also consider how to minimize the impacts on costs. For example, use of UPC scanners in households is expensive; however, if recruitment costs for CUs can be reduced by retaining CUs for longer diary periods, then perhaps incorporating the technology can become cost neutral (especially if data are transmitted electronically without the need for a field representative to stop by every week to obtain the paper diary).

3. What designs could potentially reduce the reliance on proxy reporting for the CEI and the CED?

Improving the use of records, incorporating technology, and encouraging self response via individual diaries appear to be the best means to reduce the reliance on proxy reporting. Some of these approaches would have the benefit of most likely improving the quality of data for self reports also.

Once again, reliance on proxy reporting may be fine in some situations (particular CU composition, particular types of expenditures). I would encourage greater understanding of the error properties of self and proxy reports across the two surveys and various expenditures before moving to a design that emphasizes all-self response.

4. What are best-practice methods for collecting data from all household members while balancing the impact on response rates as a result of increased overall burden?

Clearly there is no best practice. Part of the answer also has to do with how BLS and the Bureau of the Census decide to define response rates. With respect to the CED, will a CU only be counted as responding if all CU members complete the diary each week? That seems excessively conservative and pre-concludes that any move to such a design would be a failure, with respect to response rates. I also have to question the notion of an “increased overall burden.” Increase participation redistributes the burden across an increased number of CU members, but does it actually increase the overall burden?

Defining best practice methods really requires a full understanding of how the various sources of error impact estimates. Here we have focused on

proxy reporting; BLS has framed the issue as one of increasing participation juxtaposed against reducing response rates. While that tradeoff maybe true the issue needs to be framed from a broader perspective (all error sources and knowledge of measurement error overall) with an eye toward a multi-faceted solution.

5. What should the next steps be to explore and research this issue for a possible change in CE methods?

- Conduct a series of ethnographic and/or observational studies to gain further information about the nature of self and proxy reporting for both the CEI and the CED.
- Design studies so as to assess measurement error for both self and proxy reports. For example, perhaps partner with Nielson and use their Homescan data as a validation source.
- Expand the 2006 experimental study of the individual CED. This experiment should include an examination of the main CED so as to not have redundant information with the individual diaries and include a non-response follow-up study to address the tradeoff between increase participation and response rates.
- Redesign diaries so as to capture receipts rather than requiring recording of information by hand. In addition, review the CED for means by which to reduce the burden by pre-identifying common purchases that can be checked off rather than written in by hand. Consider eliminating redundancies with the CEI so as to streamline the diary instrument.
- Test the feasibility of incorporating technology in the CED.
- If technology feasibility study is positive, consider altering the design of the CED with respect to the length of time a CU serves as a diarist. Tradeoff between reduced costs of enrollment vs. increased length of time as a diarist. Examine diary fatigue.

- Experiment with more aggressive requests for record keeping that involves all CU members during the first CEI interview. Support and encourage record keeping through the use of outreach, including but not limited to postcards, IVR, email, and incentives. Consider the use of proactively placed materials (e.g., calendars) that encourage real time recording of information.
- Experiment with the use of technology for the CEI

6. How would you design a survey or set of surveys to collect detailed monthly data on a comprehensive range of expenditures?

I would hate to design a study before I had some of the questions outlined above addressed. But sitting here today, if I was forced to design such a study, I would try to take as much advantage of records and technology as possible, knowing that for most of the items of interest, retrospective recall is poor, regardless if reported by self or by proxy. I would want to try to design a study so as to minimize burden for the CU with an eye toward maintaining them in the study longer than 2 weeks (CED). I would also want to consider integrating the two designs –that is, selected CUs would participate in both aspects of the study, with diaries for the small expenditures, the interview for the large and periodic expenditures.

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