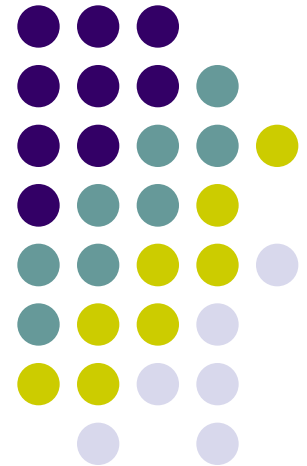
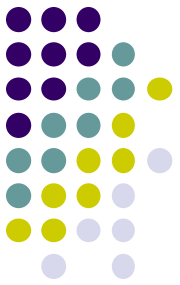


Redesigning the BLS Consumer Expenditure Surveys; Challenges With Opportunities

For
Bureau of Labor Statistics
July 17, 2012

Don A. Dillman, Chair
National Academies Panel on Redesign Options for
the Consumer Expenditure (CE) Surveys

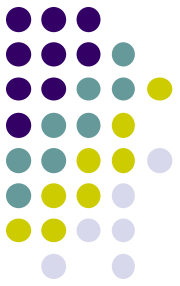




Purpose

- Discuss measurement and non-response issues associated with the current CE Surveys.
- The report is still in the review process; thus, I cannot talk about specific recommendations for redesign, but instead will focus on describing issues that appear to exist with the current CE surveys.
- Both the interview and the diary will be part of my discussion, focusing first on the interview, and then the diary.

The interview task is demanding



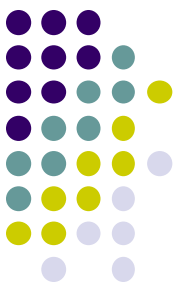
- 5 in-person interviews are conducted with each consumer unit (household) three months apart.
- Each interview takes about 65 minutes
- Interview #1 asks demographic information, major durable goods, and a one month recall of expenditures.
- Interviews. #2-5 are quite repetitive asking respondents to report details of expenditures for the last three months.
- A respondent “booklet” includes 36 pages, each with 7-70 items on it to help identify specific expenditures.
- Detailed assets and changes from earlier time periods are generally asked in interview. #2 and #5.

Additional aspects of response situation



- Interview is usually completed with one person in the consumer unit who needs to report for all persons.
- Records less likely to be extensively used (31%) than NOT used (39%).
- Respondent has to learn rules for assigning dates—dates of purchase, delivery and payment may differ.

Detail requested for the last 3 months (interviews 2-5) can be daunting, e.g.



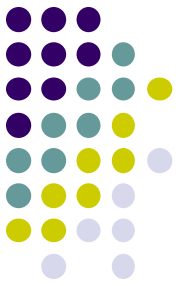
- Did you purchase any “pants, jeans, or shorts” (in the last three months)?
 - Please describe the item
 - Was this purchased for someone inside or outside of your household?
 - For whom was this purchased? (Enter name, age, sex).
 - When did you purchase it?
 - How much did it cost?
 - Did this include sales tax?

A difficult asset question from the fifth interview



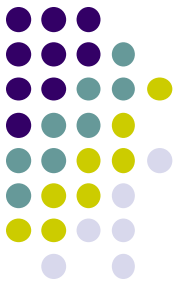
- On the last day of last month, what was the total balance or market value (including interest earned) of checking accounts, brokerage accounts and other similar accounts?
- How does the amount your household had on the last day of last month compare with the amount your household had on the last day of last month one year ago?

Two major barriers to accurate interview reporting



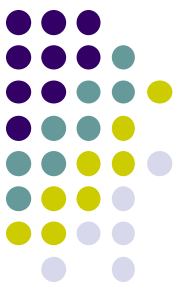
- Knowledge and recall of expenditure amounts and details.
 - R may not know this information.
 - R may have known, but cannot remember.
- Motivation to report amounts and details
 - R may be unwilling or reluctant to share what is known.
 - R may be unwilling to make effort to determine amounts and details of purchases.

Why is knowledge and recall a barrier to accurate reporting?



- Only one person likely to do the interview.
- Records are infrequently used.
- Even if records are used, they may not correspond to rules for reporting date of expenditure and details.
- Purchasing and paying for products and services has become much more complicated over the last 30 years.

Societal Changes in how consumer expenditures are made makes recall more difficult



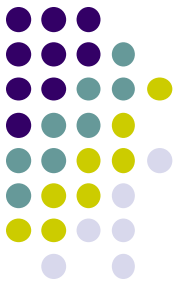
- Greater range of consumer expenditures.
- Retail outlets more likely to sell unrelated items in single purchase (e.g. food + luggage + motor oil + socks)
- On-line purchases are growing.
- Multiple payment methods may be used by one person—cash, debit-card, credit card, and checks.
- Automatic deductions {paycheck(s), credit card(s), bank account(s)} may not be registered in memory .
- Transactions often made without cognitive attention to amount; the card is simply “swiped” and for smaller purchases no signature required.

Societal Changes in how consumer expenditures are made makes recall more difficult(2)

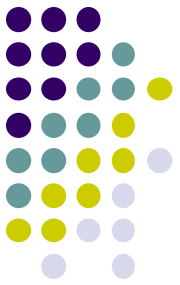


- List prices set to allow discounts on discounts.
- Store credits and discounts sometimes applied to total amount of all purchases, making knowledge of purchase price less obvious.
- Enormous variation in receipt structures, including abbreviations, makes post-knowledge of cost more difficult.
- Day item obtained may not be date payment made.
- **Observation: Purchasing behavior is much more complex than when CE interviewing (and Diary) methods were developed, and these changes work against the recall of specific purchases and their cost.**

Societal changes in household structure add to the recall problem



- More households have multiple wage earners.
- Households are more likely to include unmarried partners.
- Household members more likely to have expenditure obligations to other households (e.g. children of divorced parents).
- Partners/spouses less likely to inform each other of all expenses.
 - Partner agreements, “I pay for food, you pay for rent,” may compound the knowledge problem.



Adding up the challenge

Purchases from more sources . . .

- + less association of product with store
 - + fewer purchases at known list price
 - + more payment streams (methods)
 - + automatic deductions for some expenditures
 - + less absorption of final price at purchase time
 - + less sharing of detail within households
- = less certainty on specific expenditures**

The knowledge/recall problem in methodological perspective



- One cannot report what one does not know, e.g. expenditures never “encoded” or partner expenditures not shared.
- The interview cannot rely on establishing recall of details by connecting expenditures to a particular payment method (check book), physical location of purchase (shopping trip), or routine behavior of a member of the consumer unit.
- Cognitive methods that could be used to enhance memories (e.g. calendar of events over last 3 months, or personalizing recall methods to individuals) are likely to make an already long interview more burdensome.

Motivation has multiple aspects



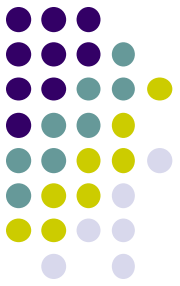
- Belief by some that answering detailed expenditure and asset questions are an invasion of privacy or beyond the need of government to know.
- The interview situation discourages obtaining information from other members of the household unless they are present.
 - Partner/teenager expenses
 - Searching for receipts and perusing records

Motivation in Methodological Perspective



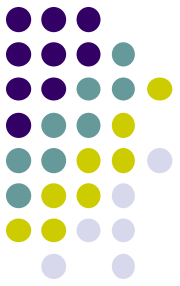
- Some requests for information (alcohol purchases, gambling costs) reduce reporting because of social undesirability.
- Seeking great detail that requires significant effort to calculate or find , encourages satisficing: “This “number” is good enough”.
- Seeking information respondent cannot easily provide encourages estimation.
- Estimation often results in telescoping, ie. reporting significant expenditures for more than three months.

Motivation in Methodological Perspective (2)



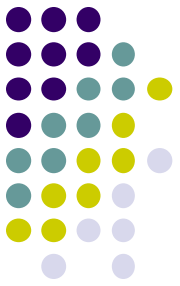
- Answering “yes” to questions, e.g. Did you take an overnight trip or did you purchase any other clothing, typically leads to additional questions.
- All five interviews can include dozens of potential screener questions, and respondents soon learn that a “no” or “not that I remember” results in fewer questions and a shorter interview.
- The inability of respondents to give accurate answers and a belief that the answer they can give will not be useful, may help justify saying “no”.

Mutual interests of respondent and the interviewer



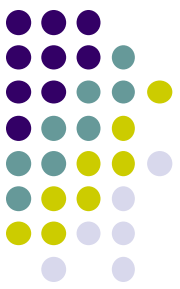
- The respondent typically wants interview to be shorter and less work.
- The Interviewer also wants interview to be shorter so the respondent will agree to another interview.
- Thus, interviewers may not encourage respondents to look for receipts, go through records, divide receipts, or use other recall methods.

Effects of switching data collection to the telephone



- 38% of CE interviews are completed by telephone, especially the later ones.
- Recall visual aid (the notebook) not used.
- Telephone interviews obtain fewer “yes” answers to screener questions.
- Receipts and other records are less likely to be used.

In summary, interview data quality may be negatively affected by...



- Interviewing only one person in multi-person households, i.e. proxy reporting.
- The long (three month) recall period.
- Lack of knowledge respondent has for providing extreme detail requested.
- Lack of motivation for making effort needed to provide accurate answers.
- The repetitive nature and length of the interviews.
- The easy avoidance of additional questions by saying “No, I didn’t purchase any of that.”

The Diary completion task is also demanding



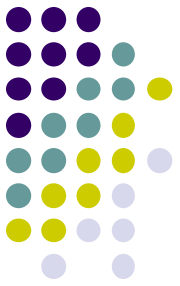
- Households are asked to report everything they purchase for two weeks.
- Week 1 diary; in-person delivery with selected questions and instructions.
- Week 2 diary; in-person delivery when Week 1 diary is picked up.
- Interviewer returns a third time to pick up Week 2 diary.
- Respondent is encouraged to make diary entries each day purchases are made.

Learning to complete the diary can be confusing



- 44 numbered pages + covers + flaps = 52 surfaces of information
- Respondent asked to write in names of others in household for whom they are reporting.
- 15 of pages provided instructions, 28 pages are laid out by “day” and have labeled tables for:
 - 1 Food and Drinks Away From Home
 - 2 Food and Drinks for Home Consumption
 - 3 Clothing, Shoes, Jewelry and Accessories
 - 4 All Other Products, Services and Expenses
- Respondent asked to provide up to six pieces of information for each entry.

Understanding requires round-about processing, e.g.

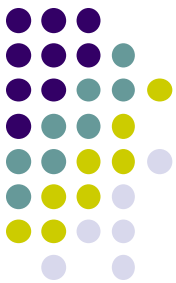


- P. 9 asks for Day 1 Food and Drinks for Home.
- Right flap of back cover provides answers to frequently asked questions.
- P.3 has instructions for “How to fill out your diary” including request to record expenses each day.
- P.2 has general instructions and section on what not to record.
- Examples for Food and Drinks are on P. 5, e.g. specify white, wheat or rye bread, and instant vs. ground coffee.
- Subsequent Daily pages for Food and Drinks are on Pp.13, 17, 21, 25, 29 and 33; “additional pages”. for overflow are Pp. 38-41

Graphical navigation guidance is quite limited

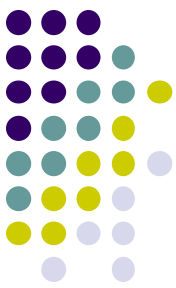


- All pages mix blue, gray and black positive and negative print; full color limited to outside covers.
- Numbers are assigned to Day (1-7) as well as expenditure categories (1-4) and pages (1-44), so may not be an effective guide.
- If diary is not filled out each day expenses are made, flipping of non continuous pages is required.



Day 1		SUN	MON	TUE	WED	THU	FRI	SAT		
1. Food and Drinks Away from Home										
Examples: breakfast buffet carryout lunch dinner & cocktails at restaurant pizza delivery Chinese takeout child's school lunch beer at happy hour pretzels at ballgame wine at tavern croissant from cafe ice cream from truck wedding reception catering soda from vending machine hot dog from convenience store popcorn and soda at movies										
Please unfold the LEFT FLAP to see Additional Examples										
Mark (X) one that best describes the type of meal	Description (see examples above and on the flap)	Mark (X) one that best describes where you made this purchase				Total Cost with tax & tip	If discounts included, mark (X) all that apply			Enter the total cost of the alcohol
		Fast-Food Takeout Delivery Drive-thru	Full Service Places	Vending Machines or Mobile Vendors	Employee or School Caterer		a	b	c	
101										
102										
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If there are not enough lines in this part, please continue recording your expenses on pages 36-37.



How to Fill Out Your Diary

The diary is divided into 7 days and each day is divided into 4 parts. Enter each item in the appropriate part for each day.

These are the 4 parts within each day of the diary:

1. Food and Drinks Away from Home

- Mark one of the four choices that best describes the type of meal and describe briefly.
- Mark one of the four choices that best describes where you made the purchase.
- Enter the total cost with tax and tip.
- If alcohol was part of the purchase, check whether it was wine, beer, and/or other alcohol and enter the total cost of the alcohol.

2. Food and Drinks for Home Consumption

- Describe the item.
- Mark whether the item was fresh, frozen, bottled/canned, or other.
- Enter the cost without tax and deduct any discounts or coupons.
- Mark the last column if the item was purchased for someone not on your list (e.g. gifts).

3. Clothing, Shoes, Jewelry, and Accessories

- Describe the item and enter the cost without tax.
- Mark the appropriate sex and age range of the person for whom the item was bought.
- Mark the last column if the item was purchased for someone not on your list (e.g. gifts).

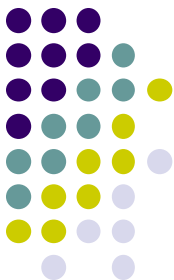
4. All Other Products, Services, and Expenses

- Describe the item and enter the total cost without tax.
- Mark the last column if the item was purchased for someone not on your list (e.g. gifts).

There is an "Additional Pages" section on pages 36–44 in case you run out of lines on any particular day.

Look on the next 4 pages for examples and tips on how to record your purchases.

***Please Note:** If you are unsure about whether to include an item or where to record an item, write it down wherever it seems best or make a note and ask your field representative.



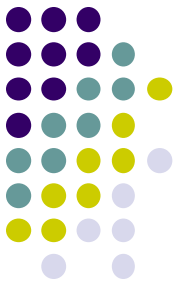
		SUN	MON	TUE	WED	THU	FRI	SAT	EXAMPLE
2. Food and Drinks for Home Consumption									
Examples:		eggs whole milk sugar	cereal white bread cooking oil	tea cola ground coffee	beer liquor orange	apple juice tomato juice carbonated water	ground beef bacon waffle	chicken parts whole chicken baby food	fat oil pet food
Please unfold the RIGHT FLAP to see Frequently Asked Questions									
What did you buy or pay for? (see examples above and on the flap)	Is this item: Mark (X) one					Total Cost without tax	Mark (X) if purchased for someone not on your list		
		fresh	frozen	sorted packed	other				
201 wheat bread	☒	X				1 49			
202 eggs	☒	X				1 50			
203 chicken wings	☒		X			6 78			
204 apples	☒	X				2 80			
205 beer	☒			X		4 29			
206 skim milk	☒	X				2 99			
207 orange juice	☒			X		3 99			
208 candy	☒				X	2 50			
209 vegetable oil	☒			X		2 99			
210 baby food (3 jars)	☒			X		4 95			
211 potato chips	☒				X	2 79			
212 frozen meals (3 boxes)	☒		X			8 97			
213 ketchup	☒			X		1 59			
214 soup (4 cans)	☒			X		4 96			
215 soda (2 bottles)	☒			X		1 98			
216 pork chops	☒	X				6 56			
217 shrimp	☒		X			11 20			
218 cookies	☒				X	5 50	X		
219 apple pie	☒	X				4 99	X		
220 carbonated water	☒			X		1 89			
221 ground beef	☒	X				5 87			
222 ground coffee	☒				X	2 79			
223 bagels	☒	X				5 25			
224 wine	☒			X		42 00			
225 dog food	☒				X	5 85			

If there are not enough lines in this part, please continue recording your expenses on pages 38-41.

Knowledge as a barrier to Completing the Diaries



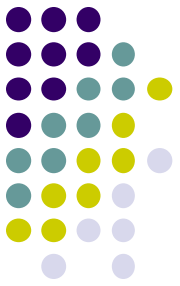
- In principle less of a problem unless
 - Respondent doesn't ask other unit members for expenses.
 - Receipts not kept for some purchases.
 - Receipts make it difficult to identify items (abbreviations)
- Knowing and applying rules may produce inaccurate recordings that are difficult to catch.
- Information may not be available in a timely way, e.g. auto deductions from bank account.
- Society changes (see interview discussion) also apply here.



Motivation as a barrier

- Recording requested detail on daily basis may be seen as a considerable burden.
- Long itemized receipts may be difficult to enter, e.g. if discount applied to an entire bill and abbreviations used.
- Abbreviations may be impossible to interpret.
- Respondents may delay shopping trip to avoid the “need” to record.

In Sum, Diary responses are negatively affected by...



- ...both knowledge (e.g. proxy reporting) and motivation.
- In addition, design and layout procedures present problems—some respondents decide only to collect receipts because of how difficult the task seems to be.
- An outcome. Some diaries (especially second week) do not get completed.

Is one of these modes (interview vs. diary) fundamentally better than the other?



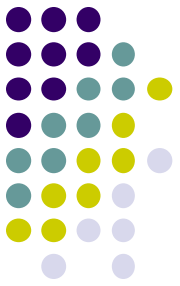
- A difficult question to answer.
- The original goal was to collect different kinds of information—big and recurring expenses from interview and small detailed ones from diary.
- Each now ask some of the same topics, but in different ways, e.g. food for home consumption.
 - Interview- “What has been your or your household usual WEEKLY expense for grocery shopping?”
 - Diary—A listing of each item that asks, e.g. white vs. wheat bread, types of meat, and if purchase was for someone else.
- These are quite different questions, subject to different kinds of errors associated with “estimation” vs. “reporting of details”.

A cognitive perspective on the search for improved accuracy

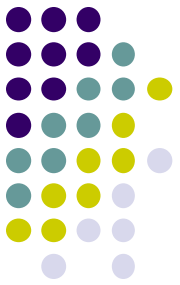


- Typical approaches to getting better measurement include:
 - Ask more detailed questions.
 - Create a memory context, e.g. daily activities and event history of last three months.
 - Personalize questions to how people are most likely to recall expenditures.
- Observation: **Would these kind of efforts make a demanding survey interview/diary even longer and more demanding?**

A related question: Is the extreme detail necessary?



- The CE surveys serve multiple purposes:
 - CPI Index
 - Administration of government programs
 - Policy analyses
- Are less detailed estimation questions adequate for some of these purposes, but not others?
- Is the extreme detail necessary for any of these purposes (e.g. white vs. wheat bread)?



Conclusion

- The issues described today are only some of the issues that have been under discussion.
- The Panel report is still under review, and should be finished soon.
- Recommendations will be in the report
- Meantime we would welcome your questions and comments.