RESEARCH REPORT SERIES
(Survey Methodology #2017-01)

**A Qualitative Study on the Effects of Grouped
versus Interleafed Filter Questions**

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Report issued: February 8, 2017

Abstract

Filter questions are used in many surveys to avoid asking follow-up questions that do not apply to every respondent. Often, detailed follow-up questions are asked immediately after a filter question is endorsed. This design is called interleafing. In contrast, other surveys use a 'grouped' approach where several yes/no filter questions are asked first, and the follow-up questions for any filter question that was endorsed are asked later in the survey. Previous research has found that when filter questions are grouped together before follow-up questions, respondents report significantly more "yes" responses than in the traditional interleafed design (Eckman et al. 2014; Kreuter et al. 2011; Duan et al. 2007; Kessler et al. 1998). Literature also suggests that a decrease in the quality of follow-up responses may be a trade-off of the grouped filter question design. Using a subset of sections from the Consumer Expenditure Survey (CE), we conducted a cognitive study on the effects of grouping versus interleafing filter questions. This study provides qualitative data on the trade-offs between grouped and interleafed filter questions in the CE. We present qualitative evidence that the grouped format may increase cognitive burden on respondents and suggest that this is one possible reason for the observed decrease in response quality to follow-up questions in the grouped filter question design.

Introduction

Many surveys use filter questions to determine eligibility for detailed follow-up questions. However, debate exists around when follow-up questions should be asked in a survey. In this research note, we address two design choices for administering filter and follow-up questions: interleafing and grouping. Interleafing is when the detailed follow-up questions are asked immediately after the relevant filter. Grouping is when follow-up questions are asked after all filter questions are administered.

The central issue concerning these two designs of filter questions is the issue of motivated under-reporting. There is evidence in the literature that the interleafed question structure leads to fewer affirmative responses to filter questions than the grouping structure (Eckman et al. 2014; Kreuter et al. 2011; Duan et al. 2007; Kessler et al. 1998). Researchers hypothesize that this is due to motivated under-reporting when the respondent learns that answering a filter question negatively will pre-empt a battery of follow-up questions and thus shorten the interview (Eckman et al. 2014; Kreuter et al. 2011; Duan et al. 2007; Kessler et al. 1998). Eckman et al. (2014) found empirical evidence to support the hypothesis of motivated under-reporting. Results from the Eckman study also verified increased accuracy in the filter questions in the grouped design compared to the interleafed design as measured by administrative data.

In spite of these findings that favor the grouped design, both Eckman et al. (2014) and Kreuter et al. (2011) caution that grouping filter questions comes with trade-offs. One major trade-off is that recall may be harder for respondents in the grouped format (Eckman et al. 2014). Since respondents are able to remain with one topic at a time in the interleafed format, retrieval may be easier and this formatting may impose less cognitive burden on respondents. Increased cognitive burden may in turn lead to more recall error for respondents. One potential way that recall error could increase measurement error is by decreasing the

quality of responses to follow-up questions. Kreuter et al. (2011) found potential evidence of this; they saw significantly more "don't know" or refusal responses to follow-up questions under the grouped structure than the interleafed design. This finding calls into question whether or not the grouping of filter questions leads to less measurement error overall. The authors cautioned that further research should explore the potential impact of grouping questions on follow-up question data quality and continue to explore the interleafed question format.

Using a subset of sections from the Consumer Expenditure Survey (CE), we conducted a cognitive study on the effects of grouping versus interleafing filter questions. This research was sponsored by the Bureau of Labor Statistics. The CE is a federal survey that currently uses an interleafed question structure. The CE is one of two parts of the larger Consumer Expenditure Survey that provides information on the complete range of consumers' expenditures and incomes, and the characteristics of consumers in the United States.

Other studies have focused on the design of filter questions in the CE and both the Eckman and Kreuter studies used questions found in the CE. In 2013, McBride performed an observational analysis of CE data and concluded that question content may be another explanation for decreased reporting to interleafed questions. In 1999, Bosley et al. found no significant difference between grouping and interleafing filter questions. The authors conducted a random experiment using the CE where they tested the effect of grouping versus interleafing on the number of expenses respondents reported. The authors did not find a significant difference in the mean number of expenses reported between the two formats.

Following these authors and others, this study provides qualitative data on the trade-offs between grouped and interleafed filter questions in the CEQ. We observed qualitative evidence that the increase in missing data for follow-up questions with the grouped format may have to do with an increased cognitive burden on the respondents. We saw verbal and non-verbal cues that respondents were having more difficulty answering follow-up questions in the grouped format than in the interleafed, which may be evidence of an increased cognitive burden.

Methods

From January 2015 to May 2015, six staff members at the Census Bureau's Center for Survey Measurement (CSM) completed 59 cognitive interviews in the Washington D.C. metro area. The protocol included a subset of questions about common consumer expenses from the CE survey. Testing took place in the cognitive lab at the U.S. Census Bureau in Suitland, MD and at other offsite locations convenient to participants. The qualitative data from cognitive interviewing allows researchers to dig deeper into survey responses, provides further insight into what responses mean, and allows an understanding of how specific items function as measurement devices (Willis 2004).

Respondents were recruited through advertisements on social media, from local organizations, and personal networks in the local Washington DC metropolitan area. Cognitive interviewers administered the survey protocol to participants followed by a mix of pre-scripted and spontaneous retrospective probing. All interviews were audio-recorded and respondents received a stipend of $40 for their participation.

The cognitive testing protocol included a subset of sections from the CE survey; these sections included common expenses such as home furnishings, vehicle expenses, electronics purchases, and eight other categories. A table with more information about the sections from the CE instrument that were used in this protocol is included in the appendix. Potential respondents were screened and required to answer "yes" to between four and six of the nine screening questions corresponding to the sections included in the interview. The screener is available upon request. Table 1 provides respondent demographics.
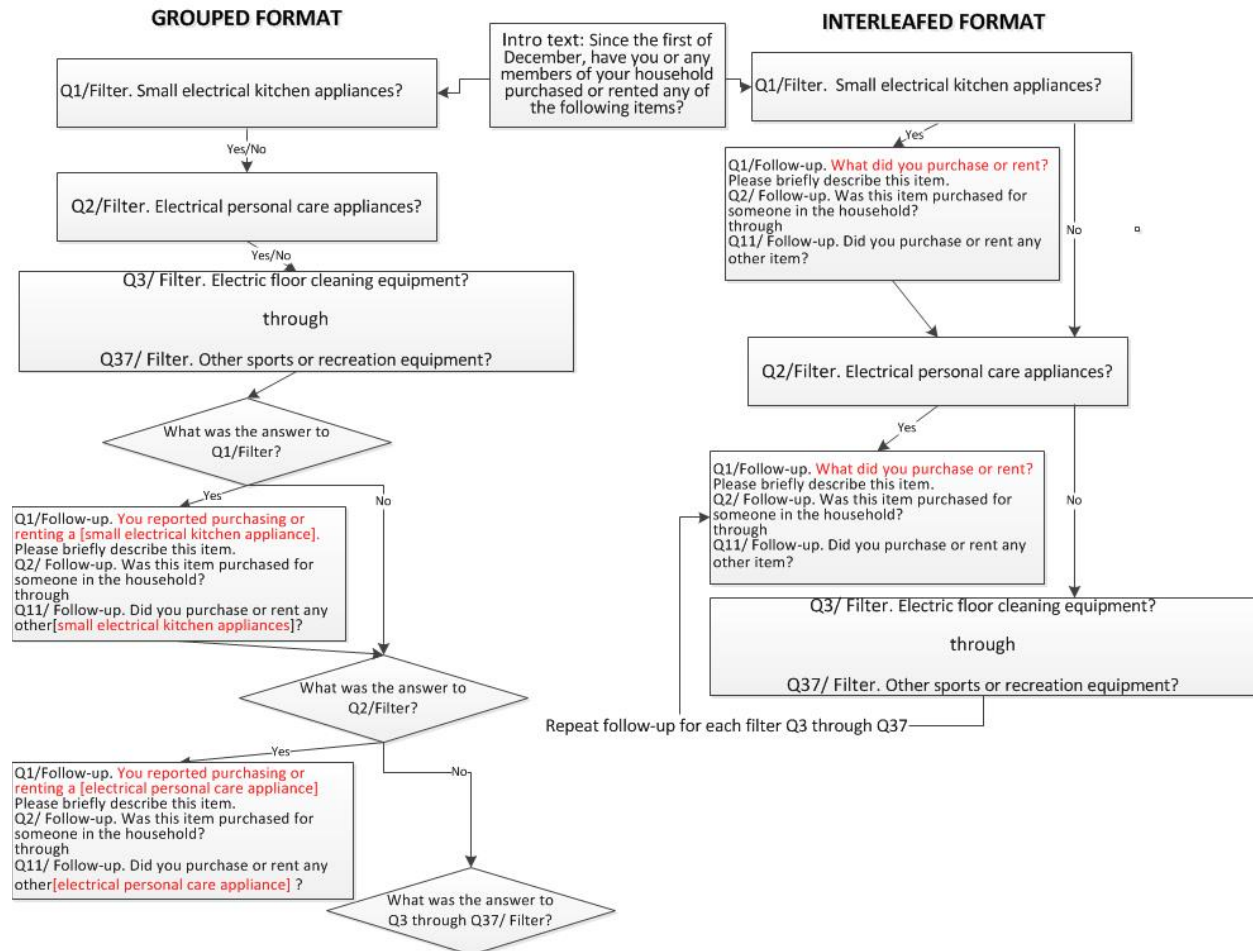
Table 1: Demographics of Respondents

	Number of Respondents
Gender	
Female	39
Male	20
Race	
White	26
Black	31
Asian	1
DK/Refuse	1
Education	
Some College or Less	17
College Graduate or More	42
Age	
18-50	22
51 and Over	37

The CE survey instrument is designed so that respondents are asked about many specific types of potential expenses, for example small kitchen electronics, TVs, bicycles, etc. Then after a respondent answers 'yes' to a filter question, they are asked follow-up questions such as a brief description of what was purchased, if the item was purchased for someone in or outside the household, what was paid by the household, and when it was purchased. Depending on expense type, several additional questions may be asked including, if sales tax was paid, if the purchase was combined with anything else, and if there were any delivery or installation costs. The number of follow-up questions for each section in the testing protocol ranged from four to 24. The original CE survey includes an information booklet that is provided by the interviewer as a reference during the interview. The booklet lists the section titles and lists examples of items that should be included as expenses in each section. After several rounds of testing the sponsor suggested that the information booklet be added to the interview protocol, to help respondents know where to categorize their expenditures.

The fundamental difference between the interleafing and grouping format is when follow-up questions are administered. In our protocol the introductory text and the first filter question were identical between formats, the only difference came when a respondent said "yes" to an interleafed format filter question. When a respondent said "yes" in the interleafed format they were immediately asked a set of follow-up questions about the items reported purchased in the filter question. Upon completing all relevant follow-up questions they were then asked the subsequent filter question. In the grouped format, respondents continued on with all filter questions in the section regardless of how they answered and were asked all follow-up questions after the filter questions. The number of filter questions in each section ranged from five to 37, so respondents may have answered almost 40 additional expense filter questions before returning to the follow-up question for the expense they indicated they had. To help with recall in the grouped format, respondents were reminded what filter question they had said 'yes' to before the relevant follow-up questions were asked. Filter questions ranged from being very specific (e.g. a tv) to very broad (e.g. a

electronic personal care appliance, such as a hairdryer). The difference between interleafed and grouped protocol question flow can be seen in Figure 1 below.

Figure 1 Grouped vs. Interleafed Question Flow.[1]

We used three different protocols to test differences between grouped and interleafed question formats. In one protocol, all filter questions were interleafed and in another all filter questions were grouped. In a third protocol, sections of expenses were either grouped or interleafed. We called this a mixed interview since it contained both grouped and interleafed question formats. This mixed protocol captures reactions from the same respondent to both types of filter question formats. In mixed interviews, we varied which sections were grouped and which were interleafed between respondents. The interviews were conducted in three rounds with substantial changes to interviewer training, protocol length, and recruitment criteria between rounds. The distribution of respondents to the protocols is shown below in Table 2. There are more interleafed interviews than mixed or grouped because that is the format currently used in the CE and we were trying to test other aspects of the interview design independent of the filter question format.

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[1] This diagram shows the question format flow for grouped and interleafed, these formats varied by section for the mixed protocol.

Table 2: Distribution of Respondents by Protocol Type

Type of Protocol	Number of Respondents
Grouped	16
Interleafed	29
Mixed- Grouped and Interleafed	15
Total	60[2]

Results

Overall, respondents appeared to have more difficulty when answering follow-up questions in interviews that used a grouped filter design. When exposed to both grouped and interleafed filter questions, in the mixed protocol, ten of the fifteen respondents articulated that recall was easier for them with the interleafed format. These respondents also reported preferring the interleafed question format to the grouped format.

The majority of respondents appeared to struggle more to answer the follow-up questions in the grouped format than in the interleafed format, across the mixed and grouped protocols. This also potentially led to a decrease in the quality of data provided for follow-up questions in the grouped format questions. In the grouped sections, respondents were always reminded what filter question they had said yes to before being asked any follow-up questions, for example *"You reported purchasing or renting a [FILL EXPENSE ITEM]. Please briefly describe this item"*. Despite this priming, some respondents could not even recall having said yes to the filter question and required additional help from the interviewer and information booklet (which lists examples of expenses for each filter question) to aid in remembering the details of the purchase. As one interviewer noted, "the grouping was a disaster, she couldn't remember that she had said yes to some items [even after being reminded by the interviewer] and sometimes asked for the item number to look at the [information booklet when she was asked the follow-up questions to the filter] and help her remember."

Several interviewers observed respondents answering the wrong follow-up questions for the filter question because they were confused which filter question they were on. One interviewer explained, "He would forget what the series of follow up questions was referring to." Another interviewer also observed this occurring across multiple respondents, "At one point [they] got confused about which item we were on and started to give answers about the previous item again. This issue occurred for at least three of my interviews with a grouped section…"

All five interviewers who conducted mixed interviews, where a respondent received both grouped and interleafed format questions, saw potential evidence that respondents were expressing more uncertainty and interrupting the interview more to give immediate responses to the follow-up questions in the grouped sections than in the interleafed. While this may have been an artifact of switching between question format in the mixed protocol, we saw more interruptions with the grouped format, even when the respondent had yet to receive an interleafed section. For example one interviewer noted that "follow-up was a lot more choppy with grouped than with interleafed and once she [the respondent] clarified what each expense was and what it cost she ended up changing a lot of expenses to 'no' because she had double reported." Another interviewer also noticed an apparent difference in the level of confidence the respondent felt about their answers in the grouped sections of the mixed protocol: "As an interviewer I noticed a distinct difference to

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[2] One respondent's data was lost so only 59 completed interviews are discussed in this report.

how much more smoothly the interleafed went with her. There was less double reporting or flip flopping; she seemed more confident in when it was purchased and what it cost." Several respondents shared the interviewer's sentiment that the interleafed sections went more smoothly as one respondent described it, "The [grouping] approach of interviewing was harder because it was difficult to follow the flow."

In addition to interviewer's observations, we probed the fifteen respondents who were exposed to both grouped and interleafed questions to find out which they preferred, and ten of the fifteen reported strongly preferring the interleafed format. When asked why, six of the ten respondents said that it was easier to think about the related information (such as the price) at the same time that they were thinking about having purchased it. This would appear to suggest that they found it less burdensome to retrieve an inactive memory into working memory, recall all relevant details about that memory, then move on to the next filter question, rather than come back and re-retrieve the memory. This finding supports the theory of recall that Tourangeau et al. (2000) describe in *The Psychology of Survey Response*.

Across multiple respondents we found they had difficulty with the process of retrieval required by the grouped format. The format requires that they retrieve a memory and then later have to re-retrieve that same memory after recalling an unrelated memory. One respondent who preferred the interleafed design said that he hated going back to an expense when he had moved on to another. He commented, "It's a little less repetitive because you are stopping in the moment when I say 'yes' and asking about it at that moment rather than going through and having to go back and think about why I had answered that question yes."

Other respondents echoed this sentiment and elaborated on how the grouped format affected their response to follow-up questions. Commenting on his design preference one respondent said, "If we go back it's harder because the questions are quite similar, like I wouldn't have mixed up [my purchases]." Another respondent explained, "I liked the immediate follow-up instead of going all the way through, and then going back and saying, 'Okay now you reported…' Because I have that in my train of thought. When you go to the next one I lose it and I have to go back and think again." This process of 'losing it' and having to 'go back and think again' is one potential explanation for the decrease in quality of responses, such as more don't knows or refusals, or changing their response to the filter question.

All interviewers said that it appeared to be easier for respondents to think about an expense then immediately recall and report what it cost and when it was purchased, as opposed to reporting many different expenses and then going back to each expense and reporting details about it later. In the grouped format, many respondents kept interrupting the interviewer trying to report a filter question's price and purchase time immediately after answering the filter question. It appeared it was more natural for respondents to think about having had an expense and then immediately report details of the purchase. These interruptions occurred more in the grouped format even when respondents had not received an interleafed section so they were not confused about the flow of the interview. This suggests that the information was more readily available to them in that moment.

Conclusion

The qualitative data in this study supports findings from the literature on the trade-offs between interleafed and grouped filter questions. Our observations suggest that the grouped format may increase the cognitive burden associated with recall of expenses by requiring respondents to move from topic to topic and back rather than remaining with one topic at a time. Respondents who were exposed to both filter question formats overwhelmingly preferred interleafed and generally expressed that it was easier to recall details when allowed to concentrate on one topic at a time.

The data from our study also suggests that respondents had more difficulty with the follow-up questions in the grouped format. We observed more respondents with grouped filter questions interrupting the interview, expressing doubts about the accuracy of follow-up question responses, and changing their initial answers

to the filter questions. This increased difficulty could possibly have affected the quality of the responses to the follow-up questions in the grouped format.

Grouping requires a respondent to activate a memory, then stop, and immediately activate a different and potentially unrelated memory. In *The Psychology of Survey Response,* Tourangeau, Rips, & Rasinski (2000) describe how respondents retrieve a memory from an inactive state in long-term memory and then activate the memory to answer a survey question. In the grouped format, by the time the follow-up questions are asked a respondent needs to reactivate the initial memory and then attempt to recall details related to the memory. Since memories are generally stored with related events and concepts, (Anderson 1983, Collins & Quillian 1969) interleafing may be more conducive to the retrieval of those related details and events that are needed to answer the follow-up questions. Conversely, grouping potentially disrupts this process and could decrease the quality of responses to follow-up questions.

Several limitations exist in our research. Respondents were selected based on having certain expenses, they were paid an incentive and may be more motivated than a typical CE respondent. All respondents were interviewed in the DC area. It should be noted that half of our respondents were over the age of 50 and there is research that suggests a negative correlation between age and recall (Schwarz et al. 1999). Also we have no way to verify if respondents' answers to filters or follow-up questions are accurate.

Further research should attempt to validate differences in the quality of data in follow-up questions between grouping and interleafing. In particular future research should examine if the number of follow-up questions has an impact on data quality that differs between the grouped and interleafed format. Research could also explore how to balance the increased cognitive demand of grouped filter questions with the potential for increased endorsement of filter questions in that format.

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APPENDIX

Table Describing Sections from CE Instrument Used for Testing Question Format

Section Name	Section Intro Text	Number of Filter Questions	Maximum number of Follow-up Questions for each Filter
Construction, Repairs, Alterations and Maintenance of Property	This section asks about expenses for construction, repairs, alterations and maintenance of property. You should not include jobs that have been or will be totally reimbursed by someone outside your household, such as a landlord.	19	24
Appliances, Household Equipment, and Other Selected Items- Major appliances (e.g.: refrigerators)	This section asks about the purchase or rental of major household appliances. Please include any shipping and handling charges with the cost of any item that was shipped.	8	11
Appliances, Household Equipment, and Other Selected Items- Small appliances and other (e.g.: electric toothbrush)	Now I am going to ask about expenses for the purchase or rental of household appliances and other selected items. Please include any shipping and handling charges with the cost of any item that was shipped.	37	11
Maintenance, Repair, and Service Contracts- Appliances, Televisions, Computers, Tools, Pest Control Service, and Other Household Items	This section asks about expenditures for household item maintenance or repairs and service contracts.	11	6
Furniture, Home Furnishings, Decorative Items, and Other Home Goods	This section asks about expenses for home furnishings and related household items. Please include any shipping and handling charges with the cost of any item that was shipped.	28	7
Vehicle Services, Parts and Equipment	This section asks about expenses for vehicle services, parts, and equipment. Please do not include expenses for vehicles used entirely for business.	12	7
Driver's Licenses, Vehicle Registration, and Vehicle Inspection	Driver's licenses, vehicle inspection, vehicle registration, and personal property taxes for vehicles.	5	5
Educational Expenses	Now I am going to ask about education expenses. Please include any direct payments made for any members of your household or for anyone outside your household and any payments you made online or had automatically deducted.	9	7
Subscriptions, Memberships, Books, and Entertainment Expenses	Now I am going to ask about expenses for subscriptions, memberships, books, and entertainment. Please remember to include any payments you made online or had automatically deducted. Also, include any shipping and handling charges with the cost of any item that was shipped.	27	7

Miscellaneous Expenses	Now I am going to ask about miscellaneous expenses which have not been collected anywhere else in this survey. Please remember to include any payments you made online or had automatically deducted. Also, please include any shipping and handling charges with the cost of any item that was shipped.	24	6
Miscellaneous Expenses - Contributions	Now I am going to ask about payments and contributions to persons outside of your household	9	4

Examples of Filter and Follow-up questions

Construction and Maintenance Section:

Introduction: Now I am going to ask about expenses for construction, repairs, alterations and maintenance of property You should not include jobs that have been or will be totally reimbursed by someone outside your household, such as a landlord. Since the first of December, have you or any members of your household had expenses for-

Filter Questions:
Q1. Filter Homes under construction including a vacation home or second home?
Q2 Filter Building an addition to the house or a new structure, such as a porch, garage, or new rooms?
Q3 Filter Finishing a basement or an attic or enclosing a porch?
Q4 Filter Remodeling one or more rooms in the house?
Q5 Filter Landscaping the ground or planting new shrubs or trees?
Q6 Filter Building outdoor patios, walks, fences, or other enclosures, driveways, or permanent swimming pools or hot tubs?
Q7 Filter Repairing outdoor patios, walks, fences, driveways, or permanent swimming pools?
Q8 Filter Painting, either interior or exterior, or wallpapering?
Q9 Filter Plastering or paneling?
Q10 Filter Plumbing or water heating installations or repairs?
Q11 Filter Electrical work?
Q12 Filter Heating or air conditioning jobs?
Q13 Filter Flooring installation, repair, or replacement including carpeting, wood, vinyl, and tile?
Q 14 Filter Insulation?
Q15 Filter Roofing, gutters or downspouts?
Q16 Filter Siding?
Q17 Filter Installation, repair, or replacement of window panes, screens, storm doors, awnings, and the like?
Q18 Filter Masonry, brick or stucco work?
Q19 Filter Other improvements or repairs?

In the grouped format Respondents are reminded what question or expense they said yes to, in the interleafed it is just referred to as the work. Text or instructions that vary by format are red.

Follow-up Questions:

Q1. On which property was the [fill yes response to Question Filter] /work* done?
After the first item is reported, ask this question IF NECESSARY for subsequent items.
Is this [fill yes response to Question Filter]/ work part of what we recorded earlier?
If yes, then do not record the expense, go back to the list and ask about the next item.

Q2. What work was done?
Respondents will spontaneously mention if they cannot separate costs into specific expenses. If respondents do not mention a combined expense, skip this question.
* Enter 'C' for a combined expense
1.   C
2.   Not combined
If combined☐Go to S5B_COMB
If no Go to CONTRACT

Q3.What other work was included in this job?
*Enter all that apply
1.   Homes under construction including a vacation home or second home?
2.   Building an addition to the house or a new structure, such as a porch, garage, or new rooms?
3.   Finishing a basement or an attic or enclosing a porch?
4.   Remodeling one or more rooms in the house?
5.   Landscaping the ground or planting new shrubs or trees?
6.   Building outdoor patios, walks, fences, or other enclosures, driveways, or permanent swimming pools or hot tubs?
7.   Repairing outdoor patios, walks, fences, driveways, or permanent swimming pools?
8.   Painting, either interior or exterior, or wallpapering?
9.   Plastering or paneling?
10.   Plumbing or water heating installations or repairs?
11.   Electrical work?
12.   Heating or air conditioning jobs?
13.   Flooring installation, repair, or replacement including carpeting, wood, vinyl, and tile?
14.   Insulation?
15.   Roofing, gutters or downspouts?
16.   Siding?
17.   Installation, repair, or replacement of window panes, screens, storm doors, awnings, and the like?
18.   Masonry, brick or stucco work?
19.   Other improvements or repairs?
77.   Misc. Combined (unable to specify/DK)

Q4. Did you do this job yourself or did you pay someone else to do all or part of the work?
1.   Self Only-*Skip to MAJ_APPL*
2.   Paid or contracted with someone else
3.   Both

Q5. What did you pay in December to someone else for this job?

Q6. What did you pay in January to someone else for this job?

Q7. What did you pay in February to someone else for this job?

Q8. How much was paid this month?

Q9. Since the first of December, what is the total amount you paid to someone else for this job?

Q10. Did any of the cost since December include the cost of any appliances or equipment?
1. Yes
2. No – *Skip to CRMMATER*
Which of the following appliances or equipment were included?
* Enter up to six
1. Cooking stoves, ranges, or ovens
2. Microwave ovens
3. Refrigerators or Home Freezers
4. Built-in dishwashers
5. Portable dishwashers
6. Garbage disposals
7. Clothes washer or dryer
8. Range hoods
9. Smoke alarms and detectors
10. Window air conditioners
11. Portable cooling and heating equipment
12. Lamps, lighting fixtures, or ceiling fans
13. Other major home appliances and equipment

Q11.What was the total cost for the appliances or equipment?

Q12. Since the first of December, have you or any member of your household PURCHASED any materials, supplies, tools or equipment for doing this job?
1. Yes
2. No-Skip to TOOLRENT

Q13. What was the total cost for all items you or your household purchased for this job in December?

Q14. What was the total cost for all items you or your household purchased for this job in January ?

Q15. What was the total cost for all items you or your household purchased for this job in February?

Q16. What was the total cost for all items you or your household purchased for this job in the current month?

Q17. Since the first of December, what was the total cost of all items you or your household purchased for this job?

Q18. Since the first of December, have you or any member of your household RENTED any tools or equipment for doing this job?
1. Yes
2. No-Skip to ANY5MORE

Q19. What was the total cost for all items you or your household rented for this job in December?

Q20. What was the total cost for all items you or your household rented for this job in January ?

Q21. What was the total cost for all items you or your household rented for this job in February?

Q22. What was the total cost for all items you or your household rented for this job in the current month?

Q23. Since the first of December, what was the total cost of all items you or your household rented for this job?

Q24. Did you have any other expenses for [fill yes response to Question Filter]/ work?
1. Yes- *Loop back to CRMPROPI and record additional expenses for this item.*
2. No- *Return to question CRMPROPI for the next yes answer to CRB_ITEM. After all yes responses to CRB_ITEM are asked then proceed to Section 5B/ Return to Next Question In Filter List*.*

Small Appliances and Electronics

Introduction: Now I am going to ask about expenses for the purchase or rental of household appliances and other selected items. Please include any shipping and handling charges with the cost of any item that was shipped. Since the first of December, have you or any members of your household purchased or rented any of the following items?

Filter Questions:
Q1 Filter Small electrical kitchen appliances
Q2 Filter Electrical personal care appliances
Q3 Filter Electric floor cleaning equipment
Q4 Filter Other household appliances
Q5 Filter Sewing machines
Q6 Filter GPS devices, calculators, and fax machines
Q7 Filter Digital book readers or tablets
Q8 Filter Computers, computer systems, or related hardware
Q9 Filter Computer software including computer games, for non-business use
Q10 Filter Computer accessories
Q11 Filter Portable memory, such as flash drives, memory cards, and recordable discs and tapes
Q12 Filter Video game hardware or accessories
Q13 Filter Telephones or accessories
Q14 Filter Photographic equipment
Q15 Filter Musical instruments, supplies, or accessories
Q16 Filter Lawn mowing machinery or other yard equipment
Q17 Filter Power tools
Q18 Filter Non-power tools
Q19 Filter Window air conditioners
Q20 Filter Portable cooling or heating equipment
Q21 Filter Televisions, all types including those installed in vehicles
Q22 Filter DVD Players, VCRs, DVRs, or video cameras
Q23 Filter Satellite dishes, receivers or accessories
Q24 Filter Handheld personal music players
Q25 Filter Stereos, radios, speakers, and sound components, including those installed in vehicles
Q26 Filter Other sound or video equipment, including accessories
Q27 Filter General sports equipment (exclude athletic shoes for sports related use, such as football, baseball, soccer or bowling)
Q28 Filter Health and exercise equipment
Q29 Filter Camping equipment
Q30 Filter Hunting and fishing equipment, including all guns
Q31 Filter Winter sports equipment
Q32 Filter Water sports equipment
Q33 Filter Outboard motors
Q34 Filter Bicycles
Q35 Filter Tricycles or battery powered riders
Q36 Filter Playground equipment
Q37 Filter Other sports or recreation equipment

In the grouped format Respondents are reminded what question or expense they said yes to, in the interleafed it is just referred to as the item. Text or instructions that vary by format are red.

Follow-up questions:
After the first item is reported, ask this question IF NECESSARY for subsequent items.
Is this [fill ITEM] /item part of what we recorded earlier?
If yes, then do not record the expense, go back to the list and ask about the next item.

Q1.You reported purchasing or renting a [fill ITEM] / What did you purchase or rent? Please briefly describe this item.
* *Enter a brief description of item.*
*[Report items such as flash drives, memory cards, recordable discs, and tapes as code 11, Portable memory.]

Q2-Q4. Was this item…
1.   Purchased for someone inside the household? *If yes then go to MIN_MO.*
2.   Rented? *If yes then go to MIN_AMOUNT.*
3.   Purchased for someone outside the household? *If yes then go to MIN_MO.*

Q5. When did you purchase it?

Q6. If purchased: What did it cost? *If rented*: What was the total rental expense since the first of December not including the current month?
* Include delivery charges, exclude installation charges.

Q7. Did this include sales tax?
1.   Yes
2.   No
Respondents will spontaneously mention if they cannot separate costs into specific expenses. If respondents do not mention a combined expense, skip this question.
* *Enter 'C' for a combined expense*
1.   C
2.   Not combined
If combined▱Go to MINCMB
If no▱Go to INSTLSCR

Q8. What other item is the purchase or rental item combined with?
* *Enter all that apply*
1.   Small electrical kitchen appliances
2.   Electrical personal care appliances
3.   Electric floor cleaning equipment
4.   Other household appliances
5.   Sewing machines
6.   GPS devices, calculators, and fax machines
7.   Digital book readers
8.   Computers, computer systems, or related hardware
9.   Computer software including computer games, for non-business use
10.   Computer accessories
11.   Portable memory, such as flash drives, memory cards, and recordable discs and tapes
12.   Video game hardware or accessories
13.   Telephones or accessories
14.   Photographic equipment
15.   Musical instruments, supplies, or accessories
16.   Lawn mowing machinery or other yard equipment
17.   Power tools
18.   Non-power tools
19.   Window air conditioners
20.   Portable cooling or heating equipment
21.   Televisions, all types
22.   DVD Players, VCRs, DVRs, or video cameras

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23. Satellite dishes, receivers or accessories
24. Handheld personal music players
25. Stereos, radios, speakers, and sound components, including those installed in vehicles
26. Other sound or video equipment, including accessories
27. General sports equipment (exclude athletic shoes for sports related use, such as football, baseball, soccer or bowling)
28. Health and exercise equipment
29. Camping equipment
30. Hunting and fishing equipment
31. Winter sports equipment
32. Water sports equipment
33. Outboard motors
34. Bicycles
35. Tricycles or battery powered riders
36. Playground equipment
37. Other sports or recreation equipment
77. Misc. combined (unable to specify/DK)

Q9. Were there any additional charges for installation or set-up?
1. Yes
2. No-Skip to S6BOTHER

Q10. How much?

Q11. Did you purchase or rent any other [fill ITEM] /item?
1. Yes-*Loop back to MINTYPE and record additional expenses for this item.*
2. No- *Loop back to MINTYPE for next yes response to APB_ITEM./ Skip to next Question Filter*