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Addressing Non-Sampling Error: Insights from India's Nationally Representative Household Consumption Expenditure Survey 2023-24

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Introduction

Across the world, National Statistical Offices are cognizant of the increasing unwillingness of households to participate in surveys, particularly when a lengthy questionnaire is administered. Even when households do participate, there is evidence of fatigue which results in item non-response rates. In the context of consumption surveys, Deaton and Grosh (2000) refer to the work by Neter (1970) who lists the various sources of non-sampling error. One of them results from the respondents being overwhelmed by the length of the survey or by the number of items covered. An experimental study conducted by Jeong et al (2023) found a strong association between survey duration and fatigue. They found that survey length matters significantly. Each additional hour of survey increases the chance of a respondent skipping questions by anywhere from 10 to 64 percent. The item non-response rate is driven by the desire of the household to conclude the interview.

In India too, where the official survey of consumer expenditure required administering a lengthy questionnaire in one visit to the household, this problem is acknowledged. An article published in the official journal of India's National Statistics Office acknowledged that the "last part of the schedule (mainly durable goods items) does not get proper attention because of respondent's fatigue as well as interviewer's uneasiness with the progress of time" (p. 87 Saha and Verma Undated). When the item non-response rate is high, i.e. households are less likely to report ownership of durable goods, it reduces the estimate of consumption expenditure. This contributes to what is known as non-sampling error, which unlike a sampling error cannot be quantified. Concerns over non-sampling errors are not of recent nature. In fact, the issue finds explicit mention in the report which summarised the results of the first ever official survey conducted in India from October 1950 to March 1951. "The non-sampling errors which arise from the human factor (at the stage of the conversation between the interviewer and the informant) are quite appreciable and are not peculiar to sample surveys only. Such inaccuracies also occur in complete enumerations" (p.3 Government of India 1952).

While there is a tradition of conducting the survey of agricultural households over two visits, in line with the agricultural season and to ensure accurate recall, a less explored aspect in design of household surveys is multiple visits to canvass information on consumption expenditure. This is despite the surge

in the literature on survey methodology¹. Among the issues that have received attention include the reference and recall period and how these affect the item response rates and estimates of consumption expenditure.

Of relevance to this paper is the finding that estimates of consumption expenditure vary significantly depending on how the survey is implemented. This includes whether data is collected using a diary or recall method, information is canvassed for the individual or at the household level, the reference period, length of questionnaire and time taken for canvassing (McKenzie and Rosenzweig 2012, Zezza et al 2017). Collecting data based on the questionnaire designed for Living Standards Measurement Study required two visits. Information on the household and individuals was collected in the first visit and information on other modules like consumption collected in the second visit (Grosh & Glewwe, 2000).

To the best of our knowledge, the implementation of India's nationally representative Household Consumption Expenditure Survey (HCES) conducted in 2023-24 is the only recent instance of a large nationally representative survey which required multiple visits to the household. The objective of this paper is to complement the experimental literature on the design of surveys. We also contribute to the niche literature on multiple visits to households for collecting information. Towards this, we analyse unit level data from HCES 2023-24 which has detailed information on consumption of various items by 262,610 rural and urban households. Information was collected over three visits. Despite recognizing the pitfalls of a lengthy questionnaire, reducing the number of questions was not an option, since the consumption basket for constructing India's consumer price index is based on estimates from the consumption survey. In order to strengthen the survey methodology, in 2022-23, India's National Statistics Office ushered in changes. It was decided to split the large questionnaire into four modules - HCQ (Household Characteristics), FDQ (Food Items), CSQ (Consumables & Services) and DGQ (Durable Items). With the objective of minimizing respondent fatigue, it was decided to visit the respondent households three times in order to estimate their consumption expenditure. A household was visited in each month of a quarter. In the first visit, information was canvassed based on the HCQ and one of the other three modules. In the next two months, the other two modules were administered. A total of 18 households were surveyed from each first stage unit

¹ A special issue of Journal of Development Studies in 2012 was and the second published in Food Policy in 2017 sought to take stock of the methodological challenges and existing knowledge on survey design. Many reviews have been published summarising the recent developments in sampling methodology, questionnaire design and survey implementation (Browning, Crossley and Winter (2014), Couper (2017), DeWeerd, Gibson, and Beegle (2020), Lupu and Michelitch (2018), Sniderman (2018)).

and the order of the three modules FDQ, CSQ, DGQ was randomized across the 18 households using all six possible sequences. During the process of the redesign, three concerns were flagged. The first was an administrative matter. It was important to correctly operationalise the field work since three visits to the household posed logistical challenges. Second, was a concern over the casualty rate, i.e. whether a household that was visited the first time will respond to the questions in the second and third visit. As it turned out, the casualty rate was below 3 percent. Third, it was acknowledged that there will be instances where we could have different respondents for each of the modules, i.e. we might not have the same individual answering each of the modules.

While we cannot compare estimates from three visits against a single-visit benchmark which would be the case if this were an experimental study, the randomized design enables us to undertake an analysis of item response rates and estimates of consumption expenditure across the six randomizations. We find that there is no difference in the item non-response rate across the six randomizations. However, we do find statistically significant differences between the average consumption expenditure depending on the sequence in which the module is administered. We do find differences by gender of the respondent. Finally, we undertake a regression analysis where we seek to examine the strength of association between the logarithm of monthly household expenditure and the sequence of questionnaire, characteristics of the respondent. While our results do not have a causal interpretation, the patterns we identify based on the analysis of this large survey from India can help inform the literature on use of split questionnaires in consumption surveys.

The Indian Context

The survey on household consumer expenditure conducted in 2010-11 was the eighth in the series of surveys conducted by National Sample Survey Organisation since 1972-73. This survey was significant because a decision was taken to change the reference period. In the seventh survey, which was conducted in 2004-05, information on consumption of various items was collected with a reference period of either 30 days or 365 days (Table 1 Schedule I). The decision to change the reference period in the 2009-10 survey was consequent to the results of a pilot study undertaken by India's National Statistical Office. The focus of the pilot study was on examining the choice of reference periods for measuring consumption of different items.

The Committee which oversaw the pilot study concluded that "for both rural and urban sectors, the 'last week' reference period would be more appropriate than the 'last month' reference period for many

groups of items, e.g., vegetables, fruits (fresh), and spices." This was based on the finding that "week-based estimates of value of consumption appear to be closer to the corresponding day-based estimates, which are taken as standard" (page 24-25 Government of India 2002).

While conducting the nationwide HCES in 2009-10, two schedules were canvassed where the reference period for consumption was different across two questionnaires (Table 1). The Schedule I referred to the reference period used in the 2004-05 survey. In Schedule II the reference period was 7 days, 30 days and 365 days. The number of items on which information was sought was the same across the two schedules. The two schedules were administered to different sets of households and the sampling methodology for selection of households was identical in both cases. In Indian literature, the estimate of consumption expenditure from Schedule I is Mixed Reference Period (MRP) estimate while the estimate from Schedule II is called the Modified Mixed Reference Period (MMRP) estimate. This methodological change has been cited in the literature (Beegle et al (2012) and DeWeerd et al (2020)).

In line with expectations, as compared to estimates of average MPCE from Schedule I, the average rural and urban MPCE was higher in Schedule II by 11 percent and 6 percent respectively. The average rural and urban MPCE on food was higher in Schedule II by nearly 22 percent and 25 percent respectively. This is because the expenditure on food items in Schedule II was canvassed with a 7 day recall as compared to 30 day recall in Schedule I. This finding is consistent with the findings by Beegle et al (2012) who canvassed information on household consumption using eight different modules. Among the eight modules, the average food consumption and total consumption was highest when a detailed questionnaire with a 7-day recall was administered.

Reducing the reference period to 7 days for regularly consumed items addressed one important source of non-sampling error, viz. telescoping. However, there were concerns over item non-response rate. The Committee on Private Final Consumption Expenditure opined that "The share of services sector in the overall expenditure has been growing significantly; the HCES may not be capturing adequately the expenditures on many services items for which information is collected towards the later part of interview owing to respondents' fatigue arising out of the lengthy schedule. The above view is substantiated by the fact that average per capita expenditure based on focused surveys of NSSO on healthcare and education is much higher than those based on usual surveys (HCES)" (p.24 Government of India 2015). The Committee recommended that in the future the HCES schedule could be split into two parts, viz. food and non-food. A household would be visited within a month of canvassing the food schedule for collecting information on non-food items.

Data

The HCES 2023-24 survey, conducted between August 2023 - July 2024, canvassed information from 155,014 rural and 107,596 urban households. The survey used a multi-stage stratified sampling design “where villages/urban blocks or sub-units of these were regarded as the First Stage Units (FSU) and the households were the Ultimate Stage Units” (NSS Report no. 592: Survey on Household Consumption Expenditure: 2023-24 Page B1).

In rural areas, in addition to a special stratum comprising uninhabited villages as per Census of India 2011 data, two more strata were formed. The first included villages within 5 km of the district headquarter or from a city/town with more than 5 lakh population. The second included all other villages. In urban areas, the sample was stratified by population size. Four strata were created: towns with less than 50,000 people, towns with 50,000-300,000 people, cities with 300,000-1,000,000 people, and cities with over one million people. Within each town, the sample was drawn from the affluent and non-affluent blocks of the city. Within each rural FSU, households were selected based on ownership of land while within the urban FSU they were selected based on ownership of four wheeler². Equal number of FSUs were allotted in each of these three month overlapping slots during the survey period - August - October 2023, September – November 2023, October - December 2023, November 2023- January 2024, December 2023- February 2024, January - March 2024, February - April 2024, March - May 2024, April - June 2024 and May - July 2024.

The questionnaire was split into four modules - HCQ (Household), FDQ (Food), CSQ (Consumables & Services) and DGQ (Durables). In the first month of each three-month slot, HCQ schedule and one of the other schedules FDQ, CSQ, DGQ was administered. In the next month one of the two remaining schedules was administered and in the third month the remaining schedule was administered. The three modules were randomized across the 18 households chosen in a FSU in order to account for the six possible sequences: - (FDQ, CSQ, DGQ), (FDQ, DGQ, CSQ), (CSQ, FDQ, DGQ), (CSQ, DGQ, FDQ), (DGQ, FDQ, CSQ) and (DGQ, CSQ, FDQ). It was not mandatory for the respondent to be the same across all the three visits. The respondent can either be a member of the household or not a member of the household. As per the instruction manual, “Informant is the

² The Committee on Private Final Consumption Expenditure had recommended a detailed study on the “formation of separate first-stage strata of affluent area blocks for the purpose of selection of first-stage units in the future HCES to ensure adequate representation of affluent households in the sample instead of the present practice of formation of second-stage strata of affluent households and of other households” (page 27 Government of India 2015). The committee had also recommended that steps should be taken to ensure adequate representation of affluent households in the sample.

person from whom the bulk of the information on the Schedule is collected. It is always desirable to collect information from one of the household members. In extreme cases, where this cannot be done, information may be collected from a non-household member who is supposed to know the requisite information”.

Since demographic and other particulars of household members is collected as part of HCQ, if the respondent is a member of the household, then we know the respondent’s age, gender, relation to head, marital status, and highest educational level attained etc.

A valid concern pertains to the casualty rate, i.e. whether a household that was visited the first time will respond to the questions in the second and third visit. The casualty rate was 1.3 and 2.7 percent in rural and urban India. The casualty households include those where all three visits could not be completed and those households which declined to participate in the survey.

Since the reference period for consumption of various items was identical to the Schedule II (Table 1), the estimate of Monthly Consumption Expenditure (MCE) is based on the MMRP. The estimates are representative at the national and sub-national level and by rural and urban.

Key Descriptive

We present some evidence on the randomization of the 6 sequences. If there was indeed a randomization then they should have been uniformly distributed by social group to which the household belongs (Scheduled Tribe, Scheduled Caste, other backward class, and others), religion of the household (Hindu, Muslim, Christian, and Others) and the principal source of income of the household. The broad classification of principal source of income in rural areas is based on which of the activities contributed to the maximum income of the household during the 365 days preceding the date of survey - Self Employed: Agriculture or Non Agriculture, Casual Labour: Agriculture or Non Agriculture, Regular Wage / Salary: Agriculture or Non Agriculture.. A household which does not have any income from economic activities is classified as others. The classification in case of urban households is self-employment, casual labour, regular wage / salary and others. In Tables 2a, 2b and 2c we have presented the distribution of the sequencing of questionnaires by social group, religion and principal source of income. The row and column percentages do indicate that the questionnaires were assigned at random. An equal number of households were administered the different sequences (Table 3). The sample number of individuals is similar across the sequences. Similarly, the estimated number of households in each sequence is in the same ball park.

Having provided the evidence on randomization, we next discuss the estimate of average Monthly Per Capita Consumption Expenditure (MPCE). The MPCE is the ratio of the monthly consumption expenditure to household size. The average MPCE in rural and urban India is Rs 4,122 and Rs. 6,996, respectively. In rural areas, there is a difference by gender if there is only one respondent across three visits. If the respondent is a woman then the average MPCE is higher at Rs 4307 as against Rs 4097 if the respondent was a man. The opposite is true in case of urban areas. If the respondent is a man, then the average MPCE is higher at Rs 7694 as against Rs 7215 if the respondent was a woman (Table 3). There are differences in the average MPCE across the six sequences (Table 4). In both rural and urban areas, the average MPCE is highest when the CSQ is administered during the first visit, the DGQ in the second and FDQ in the third visit.

Information on consumption of a total of 405 items was sought in the survey³. The number of items on which information was collected in FDQ, CSQ and DGQ was 173, 121, and 111 respectively. We find that the number of food items consumed is more or less the same irrespective of the visit in which the FDQ is canvassed. It is 40 or 41 in rural and 43 in urban (Table 5). Similarly, there are no stark differences in the number of items consumed by the visit in which CSQ and DGQ were administered.

Results

We seek to understand whether the sequence in which information was canvassed is correlated with the value of consumption. We estimate four different models where the dependent variables are the following - logarithm of monthly per capita consumption expenditure, logarithm of monthly per capita consumption expenditure on food, consumables and services and durables. We estimate the model separately for rural and urban India. As explanatory variables, we only include the dummies for questionnaire sequence and geography of residence of the household as reflected by the National Sample Survey Region. We estimate the model separately for rural and urban households. The estimates from the regression model confirm what we observed when we examined the average MPCE by sequence of questionnaires. In both the rural and urban specifications, the average MPCE is higher by 3 percent when the CSQ is administered during the first visit, the DGQ in the second and FDQ

³ In the HCES 2011-12, information was sought on 347 items. Details on item response rate in HCES 2011-12 available on request. We do not compare the item response rates across HCES 2011-12 and 2023-24.

in the third visit (Table 6). This is compared to the base category where the questionnaire sequence is FDQ, CSQ followed by DGQ.

These findings are reaffirmed when we regress the logarithm of monthly per capita consumption expenditure on each category on the visit in which the information was canvassed (Table 7). We first discuss the findings from the rural sample. We find that the estimate of expenditure on food is higher by 2 percent and 4 percent if FDQ is administered in the second or third visit respectively. The estimate of expenditure on consumables and services is lower by 1 percent if CSQ is administered in the second or third visit. Finally, the estimate of expenditure on durables is higher by 2 percent and 3 percent if DGQ is administered in the second or third visit respectively. These three points taken together will suggest that the following sequence CSQ, DGQ and FDQ could give us the highest average MPCE. The findings from the urban sample are similar. We find that the estimate of expenditure on consumables and services is lower by 2 percent and 3 percent if CSQ is administered in the second or third visit respectively. The estimate of expenditure on durables is higher by 2 percent and 3 percent if DGQ is administered in the second or third visit respectively. Once again, this suggests that the following sequence - CSQ, DGQ and FDQ - could give us the highest average MPCE.

In order to check for systematic differences by respondent, we create a dummy variable which takes three values - 0 if the respondent is the same female family member across all visits, 1 if the respondent is the same male family member across all visits and 2 for all other combinations of the respondent. We still find that the sequence CSQ, DGQ and FDQ could give us the highest average MPCE. Furthermore, the estimate will be higher if the respondent is a male family in all visits and in particular for responses to items listed in CSQ and DGQ.

Our results are indicative in nature and we need to run additional robustness checks.

Conclusion

There is continued interest in understanding the effectiveness of household surveys in collecting quality data. Declining response rates to household surveys and the quality of information collected therein have been flagged as concerns in the developed countries (The Economist (May 2018), Mayer

et al (2015)). Similar concerns are true in the case of developing countries too, including India. Whether it is the developed or developing countries, respondent fatigue is an important concern.

In India, which has a 75-year long tradition of conducting household surveys, the National Statistics Office changed the survey implementation in order to address the problem of respondent fatigue by collecting information on consumption over three visits. There was also a need for high quality data since the estimates from the survey are used for among other things the base revision of consumer price index. Also, the HCES provides the building blocks for estimating the living standards of Indians.

The contribution of this paper is that we provide useful insights from the broad patterns that emerge depending on the sequence in which the modules were administered. While our results are not causal in nature, they suggest that if information on consumables and services is canvassed in the first visit, durable goods in the second and food in the third, it could give a higher estimate average MPCE. The gender of the respondent matters and equally important is having the same member of the household answering the questions during all three visits.

Since this is not an experimental survey, our study has one limitation. We do not have a benchmark in order to assess whether the estimates based on a single visit to the household where information on all modules was canvassed are different from the estimates based on three visits. Additional work is required on implications on number of visits to a household for data quality and estimate of consumption expenditure.

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Table 1: Reference Periods used for Collection of Consumption Data

| Category | Item Groups | Schedule Type I | Schedule Type II |
|-----------------|---|------------------------------------|-------------------------|
| I | Clothing, bedding, footwear, education, medical (institutional), durable goods | 'Last 30 days' and 'Last 365 days' | Last 365 days |
| II | Edible oil; egg, fish & meat; vegetables, fruits, spices, beverages and processed foods; pan, tobacco & intoxicants | Last 30 days | Last 7 days |
| III | All other food*, fuel and light, miscellaneous goods & services including non-institutional medical; rents & taxes | Last 30 days | Last 30 days |

Source: Government of India (2011) Table T1 , NSS Report No. 538: Level and Pattern of Consumer Expenditure
 In the 2023-24 survey milk and milk products was canvassed with a reference period of last 7 days*

| Table 2a: Distribution of Sequence of Questionnaire by Social Group of Household | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-------|
| Sequence of Questionnaire | | | | | | | |
| Caste of Household | FCD | FDC | CFD | DFC | CDF | DCF | Total |
| Rural | | | | | | | |
| Scheduled Tribe | 17 | 17 | 17 | 17 | 17 | 17 | 100 |
| | 18 | 18 | 18 | 18 | 18 | 18 | 18 |
| Scheduled Caste | 16 | 16 | 17 | 17 | 17 | 18 | 100 |
| | 18 | 19 | 20 | 21 | 20 | 21 | 20 |
| Other Backward Classes | 17 | 17 | 17 | 16 | 17 | 16 | 100 |
| | 42 | 42 | 42 | 41 | 41 | 41 | 41 |
| Other Social Groups | 17 | 17 | 16 | 17 | 17 | 16 | 100 |
| | 22 | 21 | 20 | 21 | 21 | 21 | 21 |
| Total | 17 | 17 | 17 | 17 | 17 | 17 | 100 |
| | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Urban | | | | | | | |
| Scheduled Tribe | 17 | 16 | 17 | 17 | 17 | 17 | 100 |
| | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| Scheduled Caste | 16 | 16 | 17 | 17 | 17 | 17 | 100 |
| | 13 | 13 | 13 | 13 | 13 | 14 | 13 |
| Other Backward Classes | 16 | 17 | 16 | 17 | 17 | 17 | 100 |
| | 39 | 41 | 40 | 41 | 40 | 41 | 40 |
| Other Social Groups | 17 | 17 | 17 | 16 | 17 | 16 | 100 |
| | 39 | 38 | 38 | 37 | 38 | 37 | 38 |
| Total | 17 | 17 | 17 | 17 | 17 | 17 | 100 |
| | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

F: Food (FDQ), C: Consumables and Services (CSQ), D: Durables (DGQ)

Table 3: MPCE Estimates for each sequence of questionnaire at All India

| Sector | Questionnaire Sequence | Average Monthly Per Capita Consumption Expenditure (MPCE) | Estimated Number of Households | Sample Number of Households | Number of Individuals in the Sampled Households |
|--------|------------------------|---|--------------------------------|-----------------------------|---|
| Rural | FCD | 4091 | 3,28,491 | 25,774 | 1,16,728 |
| Rural | FDC | 4034 | 3,23,101 | 25,741 | 1,14,888 |
| Rural | CFD | 4104 | 3,19,614 | 25,694 | 1,13,562 |
| Rural | DFC | 4110 | 3,21,549 | 25,702 | 1,14,753 |
| Rural | CDF | 4248 | 3,26,779 | 25,742 | 1,16,971 |
| Rural | DCF | 4141 | 3,18,304 | 25,704 | 1,13,758 |
| Urban | FCD | 7036 | 1,64,484 | 17,900 | 69,359 |
| Urban | FDC | 6955 | 1,63,246 | 17,886 | 68,917 |
| Urban | CFD | 6992 | 1,61,757 | 17,884 | 68,318 |
| Urban | DFC | 6855 | 1,63,050 | 17,984 | 69,380 |
| Urban | CDF | 7259 | 1,64,326 | 17,960 | 69,951 |
| Urban | DCF | 6872 | 1,62,009 | 17,982 | 68,474 |

Table 4: Estimates of Average MPCE by Combinations of Informant and Gender across Visits

| Sector | Informant | Gender Sequence | Average MPCE | Sample Household |
|--------------|-----------------------|-----------------|--------------|------------------|
| <i>Rural</i> | <i>Same Informant</i> | <i>Female</i> | <i>4307</i> | <i>41,005</i> |
| <i>Rural</i> | <i>Same Informant</i> | <i>Male</i> | <i>4097</i> | <i>38,538</i> |
| Rural | Different Informant | FFF | 4052 | 5,797 |
| Rural | Different Informant | FFM | 4115 | 9,302 |
| Rural | Different Informant | FMF | 4170 | 11,977 |
| Rural | Different Informant | FMM | 4105 | 12,678 |
| Rural | Different Informant | MMF | 4058 | 8,435 |
| Rural | Different Informant | MFM | 3997 | 8,026 |
| Rural | Different Informant | MMF | 3977 | 9,530 |
| Rural | Different Informant | MMM | 3847 | 7,377 |
| <i>Urban</i> | <i>Same Informant</i> | <i>Female</i> | <i>7215</i> | <i>33,232</i> |
| <i>Urban</i> | <i>Same Informant</i> | <i>Male</i> | <i>7694</i> | <i>28,360</i> |
| Urban | Different Informant | FFF | 6277 | 4,769 |
| Urban | Different Informant | FFM | 6714 | 6,149 |
| Urban | Different Informant | FMF | 6811 | 7,571 |
| Urban | Different Informant | FMM | 6802 | 6,978 |
| Urban | Different Informant | MMF | 6470 | 5,570 |
| Urban | Different Informant | MFM | 6456 | 4,508 |
| Urban | Different Informant | MMF | 6550 | 5,374 |
| Urban | Different Informant | MMM | 6016 | 3,767 |

Table 5: Average Number of Items Reported in Different Questionnaire

| Number of items reported when Questionnaire is Canvassed in | | | | |
|---|----------------------|--------------------|---------------------|--------------------|
| Sector | Questionnaire | First Visit | Second Visit | Third Visit |
| Rural | FDQ | 41 | 41 | 41 |
| Rural | CSQ | 29 | 29 | 29 |
| Rural | DGQ | 27 | 27 | 27 |
| Rural | Total | 96 | 98 | 98 |
| Urban | FDQ | 43 | 43 | 43 |
| Urban | CSQ | 30 | 30 | 30 |
| Urban | DGQ | 27 | 28 | 28 |
| Urban | Total | 101 | 102 | 102 |

Table 6: Regression of Logarithm of Monthly Per Capita Consumption Expenditure and Sequence in which Questionnaire was Administered

| Sequence | Rural | | | Urban | | |
|---|-------------|--------|---------|--------------------|--------|---------|
| | Coefficient | t-stat | p-value | Coefficient | t-stat | p-value |
| CDF | 0.032 | 5.03 | 0.000 | 0.027 | 2.21 | 0.027 |
| CFD | 0.004 | 1.33 | 0.182 | -0.009 | -1.6 | 0.11 |
| DCF | 0.013 | 2.08 | 0.037 | -0.015 | -1.2 | 0.232 |
| DFC | 0.005 | 0.79 | 0.429 | -0.017 | -1.42 | 0.157 |
| FDC | -0.009 | -2.86 | 0.004 | -0.011 | -1.95 | 0.051 |
| R-squared | = 0.2815 | | | R squared = 0.1889 | | |
| N | = 1,54,357 | | | N = 1,07,596 | | |
| F: Food (FDQ), C: Consumables and Services (CSQ), D: Durables (DGQ) | | | | | | |
| CDF: CSQ in visit 1, DGQ in visit 2 and FDQ in visit 3 | | | | | | |

| Table 7: Regression of Logarithm of Monthly Per Capita Consumption Expenditure and Visit in which FDQ, CSQ and DGQ are Administered | | | | | | |
|--|-------------|--------|---------|-------------|--------|---------|
| | Rural | | | Urban | | |
| | Coefficient | t-stat | p-value | Coefficient | t-stat | p-value |
| Food (FDQ) | | | | | | |
| Visit 2 | 0.02 | 6.56 | 0.00 | 0.01 | 0.92 | 0.36 |
| Visit 3 | 0.04 | 6.65 | 0.00 | 0.01 | 1.3 | 0.19 |
| Consumables and Services (CSQ) | | | | | | |
| Visit 2 | -0.01 | -2.37 | 0.02 | -0.02 | -3.88 | 0.00 |
| Visit 3 | -0.01 | -3.62 | 0.00 | -0.03 | -4.61 | 0.00 |
| Durables (DGQ) | | | | | | |
| Visit 2 | 0.02 | 3.95 | 0.00 | 0.04 | 3.55 | 0.00 |
| Visit 3 | 0.03 | 3.29 | 0.00 | 0.04 | 2.37 | 0.02 |