Monitoring COVID-19 Impacts on Households in Ethiopia

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OVERVIEW

This document provides basic information about the High Frequency Phone Survey of Households (HFPS-HH), implemented in response to COVID-19. It describes the sampling, questionnaire design, and weighting procedures of the survey. The survey aims at monitoring the impacts of the COVID-19 pandemic on Ethiopia's economy and people and informing interventions and policy responses. The COVID-19 pandemic and its effects create an urgent need for timely data and evidence to help monitor and mitigate the impact of the crisis. Due to limits on face-to-face surveys the HFPS-HH is undertaken via the phone.

The HFPS-HH monitors the economic and social impacts of and responses to the COVID-19 pandemic on households, by calling a sample of households every three to four weeks over a six months period for a total of seven survey rounds. The final dataset will consist of a panel of approximately 3,200 households obtained, representative for households with access to a mobile phone at the national level and for urban and rural areas.

QUESTIONNAIRE

Table 1 presents a brief description of the HFPS-HH questionnaire. The questionnaire is updated during each round of the survey and includes select modules to collect individual and household level information. The respondent is one member of the household, typically the household head. Only in cases where the household head cannot be reached despite numerous call-backs, another knowledgeable household member is selected as the respondent.

Table 1. Modules and Descriptions of the Questionnaire of the High Frequency Phone Survey of Households

Section/ Module	Description
Cover	Household location identification; household head's name; and telephone numbers. *This information is pre-filled from the ESS 2018/19.*
Household Roster	Roster of individuals living in the household; age; sex; and relationship to the household head. *This information is pre-filled from the ESS 2018/19. It is updated for changes.*
Knowledge	Respondent's knowledge about the pandemic including questions on knowledge of to reduce the risk of contracting coronavirus. Respondents knowledge of steps that the government has taken to reduce spread of corona virus. *This module is only included in round 1.*
Behavior	Selected questions on the respondents' practice in the week preceding the survey. The questions include frequent hand washing and avoiding handshake/physical greetings; avoiding gatherings. *This module is only included in round 1.*
Access to Basic Needs	This section includes: (i) Questions if the respondent's household was able to buy medicines and selected staple items that the household needed to buy in the week preceding the survey and the reasons for no access; (ii) School attendance status children for households with school aged children and availability of learning activities during the school closures; (iii) access health care services and (iv) access to financial services (banks and ATMs).
Employment & Non-farm business	Respondents work status in the week preceding the survey; job loss and its reasons; employers and their sectors; changes in work arrangements; profile of household owned business and changes; employment and job loss status of non-respondent household member.
Income, Loss and Coping Strategies	Types of household income sources - farming, personal income from wage employment or pension, own non-farm business; remittances from within Ethiopia and abroad income from properties, investments and savings; and support from government and NGOs and other charitable organizations; Changes in income sources after the outbreak; and Coping strategies for income loss.
Food Security	Household referenced questions on food insecurity experience by an adult household member for the 30 days preceding the survey.

Section/ Module	Description
Aid and Assistance	Assistance that anyone in the household received from institutions by type of assistance, amount received, and types of institutions provided the assistance.

SAMPLING METHODOLOGY

The sample of the HFPS-HH is a subsample of the 2018/19 Ethiopia Socioeconomic Survey (ESS). The ESS is built on a nationally and regionally representative sample of households in Ethiopia. ESS 2018/19 interviewed 6,770 households in urban and rural areas. In the ESS interview, households were asked to provide phone numbers either their own or that of a reference household (i.e. friends or neighbors) so that they can be contacted in the follow-up ESS surveys should they move from their sampled location. At least one valid phone number was obtained for 5,374 households (4,626 owning a phone and 995 with a reference phone number). These households established the sampling frame for the HFPS-HH.

To obtain representative strata at the national, urban, and rural level, the target sample size for the HFPS-HH is 3,300 households; 1,300 in rural and 2,000 households in urban areas. In rural areas, we attempt to call all phone numbers included in the ESS as only 1,413 households owned phones and another 771 households provided reference phone numbers. In urban areas, 3,213 households owned a phone and 224 households provided reference phone numbers. To account for non-response and attrition all the 5,374 households were called in round 1 of the HFPS-HH.

REPRESENTATIVENESS OF THE SAMPLE

The largest concern for the survey operation is the low phone penetration rate in rural areas. Phone penetration rates in rural Ethiopia are low; roughly 40 percent of households in rural areas have access to a phone compared to over 90 percent in urban areas. This not only means that our sample size in rural areas is relatively low, we also observe a systematic difference among households owning a phone and those who do not. Phone owning households are better off in terms of total consumption, educational attainment, access to improved water and sanitation, access to assets, and access to electricity. The sample of the HFPS-HH is therefore only representative of households who have access to phones in urban and rural Ethiopia.

Even though we have a limited number of socio-economic questions included in the phone survey due to restrictions on questionnaire length and complexity, we can link households in the HFPS-HH with the ESS, allowing us to construct a socio-economic profile of households based on information collected in the ESS[1]. Our sample of households is relatively equally distributed across consumption quintiles at the national level, with 21 percent in the poorest and 18 percent in the richest quintile according to the spatially adjusted consumption aggregate in the ESS (Table 2). About 81 percent of households are headed by males with an average household size of 5.1 with considerable differences across urban and rural areas. In rural areas, the majority of household heads (87 percent) is engaged in agriculture and 60 percent have no formal education. About 62 percent of rural households have a modern roof, 68 percent have access to improved water, 94 percent own their dwelling, and only 4 percent own a TV. In urban areas on the other hand, 96 percent of households have a modern roof, 98 percent have access to improved water, 42 percent own their dwelling, and 52 percent own a TV.

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[1] The socio-economic profile is based on the time period that the household was interviewed during the ESS. Recent changes to the demographic composition or socio-economic changes of the households are not accounted for in Table 2.

Table 2: Profile of Households Interviewed during HFPS-HH (based on 2019 ESS data)

	Rural	Urban	National
Age of head of household	42.8	37.3	41.2
Male headed household	84.9	70.5	80.9
Married Head of household	84.6	67.8	79.9
Head of household engaged in agriculture	87.2	19.0	68.2
Household size	5.6	3.8	5.1
Household owns TV	3.8	52.1	17.2
Household has formal financial account	43.8	82.6	54.6
Household has modern roof	61.6	96.0	71.1
Household has access to improved water	67.9	97.7	76.2
Household owns their dwelling	93.5	42.0	79.2
Head of household has no education	60.4	24.4	50.4
Head of household has completed secondary education or above	4.0	27.2	10.5
Head of household has completed primary education or above	12.8	49.8	23.1
Percentage of households in poorest quintile	28.5	6.8	21.4
Percentage of households in quintile 2	23.5	12.6	19.9
Percentage of households in quintile 3	23.3	17.0	21.2
Percentage of households in quintile 4	15.8	28.2	19.9
Percentage of households in richest quintile	8.9	35.4	17.6

Source: ESS 2019 and HFPS-HH 2020.

Each household in the sample is called up to three times per day over a three-day period (nine calls total) before the household is flagged as non-response. For households contacted for the interview, the objective of the survey is explained to the respondent and consent to participate in the survey is obtained. The interviews are conducted in Amharic, Afan Oromo, Afar, Somali, Tigrigna, and Wolayita languages. At completion, the respondents' willingness to participate in the follow-up rounds is requested.

SAMPLING WEIGHTS

To obtain unbiased estimates from the sample, the information reported by households needs to be adjusted by a sampling weight (or raising factor) w_h. To construct the sampling weights, we follow the steps outlined in Himelein, K. (2014)[2], which outlines eight steps, of which we follow six, to construct the sampling weights for the HFPS-HH:

1. Begin with base weights from the ESS 2018/19 for each household

2. Incorporate probability of sub-selection of round 1 unit for each of the phone survey households. We calculate the probability of selection for each of the 20 strata in the ESS (urban and rural in each of the 11 regions except for Addis Ababa where we only have an urban stratum) by creating the numerators as the number of completed phone interviews and the denominator as the number of households in the ESS for each stratum.

3. Pool the weights in Steps 1 and 2.

4. Derive attrition-adjusted weights for all individuals by running a logistic response propensity model based on characteristics of the household head (i.e. education, labor force status,

[2] Himelein, K. (2014). Weight Calculations for Panel Surveys with Subsampling and Split-off Tracking, Statistics and Public Policy, 1:1, 40-45, available at http://dx.doi.org/10.1080/2330443X.2013.856170.

demographic characteristics), characteristics of the household (consumption, assets, financial characteristics), and characteristics of the dwelling (house ownership, overcrowding).

5. Trim weights by replacing the top two percent of observations with the 98th percentile cut-off point; and

6. Post-stratify weights to known population totals to correct for the imbalances across our urban and rural sample. In doing so, we ensure that the distribution in the survey matches the distribution in the ESS.

Additional technical details and explanations on each of the steps briefly outlined above can be found in Himelein, K. (2014).