

Brief on COVID-19 Households and Jobs Tracker Wave 2



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🛗 14-April-2021

Summary

- 1. Between the two waves of the Households and Jobs tracker survey one-fifth of households dropped out, which is consistent with other longitudinal surveys.
- 2. No indication was found that the dropout was biased towards certain types of households.
- 3. 20% of household members had at least one characteristic changed after updating the roster data during wave 2.

Introduction

This technical brief aims to inform the users of the COVID-19 Households and Jobs Tracker on the data quality issues in the household roster that were present in the Wave 2 of this survey and on the types and patterns of attrition between the two waves. This document does not include the discussion on data quality issues in other sections than the household roster data.

In wave 1, a total of 3,265 households participated in the survey of which 2,578 completed wave 2. This makes for a wave to wave response rate of 78.9% or an attrition of 21.1%. This seems to be on par with other longitudinal household studies.¹ More important than the overall attrition rate are the characteristics of households that dropout. In this very short and simple analysis, no indication was found that the dropout was biased towards certain types of households.

Data Quality issues

Collection household roster information, such as names, age, education, and marital status, for all members of the household is a non-trivial task especially in a survey that is conducted over phone (CATI). Taking this into account, in the second wave of the survey, GSS endeavored to complete household roster information of the households that participated in the Households and Jobs Tracker survey. Considering this was the first-ever phone survey conducted by GSS, information on any issues that arrose in this collection can serve as important lessons for both GSS and other users of the data.

Changes in Household roster

For 679 households, representing 26.3% of households that participated in the survey in both wave 1 and 2, there

were changes in the household members. There were a total of 105 members in 68 different households that were erroneously recorded in wave 1, either because they were non-household members or because they were members who no longer belonged to the household at wave 1 and should have been excluded. In the households that participated in both wave 1 and wave 2, 132 households reported members no longer being members anymore in wave 2, that were members in wave 1. In total 160 members were indicated to no longer be members during wave 2. The reasons for which people left are tabulated in Table 1. In addition, 365 new members were recorded in wave 2, which were not present in wave 1. Out of these 365, 23 were newborn babies. Finally, for 553 household members (in 337 households), it was indicated that they were members during both wave 1 and wave 2, but not originally recorded in wave 1.

Table 1:	Reasons	for le	eaving	household	between	wave 1	and	wave 2
of survey	7							

Reason	n	%
Divorce/separation	5	3.1
Left for studies/educational opportunity	5	3.1
Left for work	16	10.0
Left to find better land	4	2.5
Health reasons	1	0.6
For marriage/ cohabitation	41	25.6
To join their family already living in another	41	25.6
location		
Moved with family	20	12.5
Left to set up own home	10	6.3
Unable to stay due to conflict	1	0.6
(militancy/insurgency)		
Deceased	14	8.8
refused to answer	2	1.3

¹ Attrition in Longitudinal Household Survey Data: https://www.demographic-research.org/volumes/vol5/4/5-4.pdf





Looking at the total household size, 74.7% of households recorded the same net number of household members (see Table 2). 5.1% of households had fewer members in wave 2 than in wave 1. In contrast, 20.2% households reported more members in wave 2 than in wave 1.

Table 2: Differences in household size between wave 1 and wave 2 of the survey

difference	freq.	percent	cum.
(n - n)	percent		
(wave 1 wave 2	9		
-8	1	<0.1	<0.1
-6	1	<0.1	O.1
-5	2	0.1	0.2
-4	2	0.1	0.2
-3	8	0.3	0.6
-2	30	1.2	1.7
-1	88	3.4	5.1
0	1926	74.7	79.8
1	340	13.2	93.0
2	100	3.9	96.9
3	44	1.7	98.6
4	18	0.7	99.3
5	8	0.3	99.6
6	7	0.3	99.9
7	3	0.1	100

During the cleaning of the roster data, a further 252 suspected duplicate members of households in wave 2 were investigated. Of these only 12 were found to be duplicate household members as recorded in wave 1. These 12 cases were corrected in wave 2 and 6 duplicate cases dropped from the roster. 180 suspected duplicates turned out to be either twins/multiple births and 60 were identified to be household members who simply shared many characteristics (with the exception of their names). These were, for example, observed in polygamous households or when cousins, nephews, and nieces who were born same month and years lived in the same household.

Changes in Characteristics of Household Members

In addition to adding new household members and omitting household members that are no longer part of the roster, in the second wave of the survey GSS also attempted to correct personal characteristics of the household members. 20% of household members had at least one characteristic changed after updating the roster data during wave 2. Education was the most common characteristic that was updated and sex the least common (see Figure 1). Some of these changes might be because the charaterics actually changed in the months between the two waves other changes might have different reasons.²



Figure 1: Changes to characteristics of respondents between wave 1 and wave 2

Call attempts

For households for which metadata on the number of call attempts was collected (These data was not available for all households) and that were called in the second wave, most households were reached on the first day (79.5%). An additional 4.9% were reached after a second day and 1.8% after 3 days or more. The remaining 13.8% were called for two days, but were not reached or did not complete the interview. The difference between the 13.8% in the households for which metadata was available and the overall attrition of 21.1% indicates that for the household for which no metadata on the calls was collected, the response rate was either below average or these households were not called in the second wave. Per day, a maximum of three call attempts were made. Just 2.9% of households for which metadata was collected, who could be reached, refused to complete the survey either at the start or after partial completion.

Attrition

In total 21.1% of households that responded in Module A in wave 1 did not respond in wave 2 for the same module. While it is not known why these households did not respond and a causal relationship cannot be determined, there might be one or more variables that correlate with non-response. Figure 2 shows the percentage of respondents per region for both wave 1 and wave 2. Even though Greater Accra made up 13.3% of the respondents in wave 1 and 12.7% of respondents in wave 2, there does not appear to be a single region for which the percentage of respondents changed between the two waves to a large extent. Comparing the percentage of respondents from urban areas to those of rural areas, also no significant differences emerge between wave 1 and wave 2. During wave 1, 39.8% of respondents came from rural areas and in wave 2, this was 40.1%.

² During wave 2, the household roster data was updated, however, for members under the age of 12 (which were excluded from the marital status question) during wave 1 but who got updated to an age of 12 years or older, the marital status did not get updated. So for these members, no marital status was never recorded.







Figure 2: percentage of total respondent coming from each of the 16 regions. the numbers on the bottom indicate the absolute number of respondents for Module A

Figure 3 represents the density of the age of the 4. Age of respondent. respondents in both wave 1 and wave 2 for module A. The 5. Highest education attained by the respondent. density distributions are largely overlapping and the median 6. Response to question S3.12: The Government is trustworthy values for the age of the principal respondents in wave 1 was 43 as compared to 42 in wave 2.



Figure 3: Age distribution principal respondents module A

Table 3 shows the response rates of these different groups of respondents. To check which households were more likely to not respond to the second wave, GSS looked at:

- 1. Region
- 2. Urban compared to rural.
- 3. Sex of respondent.

- in the way it manages the Coronavirus crisis in wave 1 of the survey. This is a very rough proxy for general trust in government.
- 7. Response to question S10.2.10. Reduced non-food Consumption to cope with virus in wave 1 of the survey. This is a proxy for household income of the household.
- 8. Duration of the survey in minutes.
- 9. Whether in wave 1 the survey took more or less than 10 minutes. Surveys that were completed in less than 10 minutes can be used as a proxy for an issue with data quality. 10 minutes is likely to be too short to complete Module A of the survey. So either the connection broke, there was an issue with the language spoken by the enumerator or the participant did not have time or was not willing to complete the survey.

As a statistical test, to verify the relationship between these 9 variables and the attrition rate, a binomial logistic regression was used and p-values were used to assess significance. Table 4 summarises the results of the logistic regression.

From these analyses, it is apparent that indeed a survey duration of less than 10 minutes during wave 1 has a relationship with attrition between the two waves. For the regions, only Northern Region had a significantly (*p<0.05) higher odds ratio (2.36) of completing wave 2 as compared to the reference region (Ahafo). Duration in minutes also has a positive relationship, but the effect size of this seems to be limited 95% CI of the odds ratio is rounded to two digits (1.00 to 1.00). The other variables showed no significant relationship with attrition. The same analysis, only using data from which call detail metadata was available showed similar results (as shown in the rightmost columns in Table 3 and 4).





Variable	Level	proportion responded in wave 2	proportion responded in wave
	(total)		2 (call metadata available)
Region	Ahafo	0.729	0.814
	Ashanti	0.823	0.890
	Bono	0.784	0.867
	Bono East	0.740	0.787
	Central	0.806	0.869
	Eastern	0.795	0.873
	Greater Accra	0.748	0.818
	North East	0.800	0.821
	Northern	0.852	0.878
	Oti	0.793	0.878
	Savannah	0.892	0.917
	Upper East	0.779	0.824
	Upper West	0.816	0.946
	Volta	0.781	0.901
	Western	0.737	0.875
	Western North	0.783	0.890
Locality	Rural	0.796	0.869
	Urban	0.785	0.864
Sex principal respondent	Male	0.793	0.868
	Female	0.782	0.860
What is the highest education attained/completed by principal respondent ?	Never attended school	0.798	0.860
	Nursery	0.821	0.865
	Kindergarten	0.791	0.857
	Primary	0.794	0.869
	JSS/JHS	0.794	0.880
	Middle SSS/SHS Secondary Voc/technical/commercial Post middle/secondary Certificate	0.808 0.730 0.722 0.743 0.877	0.874 0.822 0.814 0.872 0.919
	Post middle/secondary Diploma Tertiary – HND	0.875	0.913 0.823
	Tertiary - Bachelor's Degree Tertiary - Post graduate Certificate/Diploma	0.829 0.891	0.896 0.911
S3.12 The Government is trustworthy in the way it	Tertiary - Master's Degree Strongly Agree	0.730 0.789	0.821
manages the Coronavirus crisis	Agree	0.788	0.864
	Neither Agree nor Disagree	0.808	0.885
	Disagree	0.787	0.872
	Strongly Disagree	0.740	0.902
S10.2.10 Reduced non-food Consumption	No	0.795	0.871
	Yes	0.783	0.860
duration interview less than 10 minutes	No	0.800	0.871
	Yes	0.527	0.592





	Table 4: Results logistic regressions on attrition			
variable [reference level]	level	Odds Rat	tio (95% CI)	
		(total)	(call metadata	
Region [Ahafo]	Ashanti Bono Bono East Central Eastern	1.91 (0.92, 3.78) 1.69 (0.74, 3.75) 1.26 (0.55, 2.77) 1.56 (0.75, 3.08) 1.48 (0.71, 2.93)	1.97 (0.79, 4.47) 1.67 (0.60, 4.43) 0.99 (0.37, 2.49) 1.41 (0.57, 3.17) 1.51 (0.60, 3.43)	
	Greater Accra North East Northern Oti Savannah	1.22 (0.59, 2.4) 1.66 (0.59, 4.99) 2.36* (1.07, 5.05) 1.33 (0.56, 3.12) 2.99 (0.93, 11.64)	1.04 (0.42, 2.31) 1.12 (0.34, 3.85) 1.75 (0.66, 4.24) 1.44 (0.49, 4.2) 2.31 (0.59, 11.44)	
	Upper East Upper West Volta Western Western North	1.42 (0.67, 2.87) 1.81 (0.83, 3.84) 1.38 (0.65, 2.76) 1.11 (0.53, 2.24) 1.48 (0.63, 3.45)	1.06 (0.42, 2.41) 4.03* (1.36, 11.93) 2.06 (0.79, 4.91) 1.62 (0.63, 3.85) 2.13 (0.69, 6.68)	
Locality [Rural]	Urban	0.98 (0.8, 1.18)	1.03 (0.81, 1.31)	
Sex [Male]	Female	0.98 (0.81, 1.18)	0.97 (0.77, 1.24)	
Level of education [Never attended school]	Nursery	0.92 (0.4, 2.36)	0.93 (0.37, 2.88)	
	Kindergarten Primary JSS/JHS Middle	1.04 (0.61, 1.87) 1.03 (0.72, 1.47) 1.06 (0.78, 1.44) 1.20 (0.86, 1.68)	0.96 (0.50, 1.98) 1.04 (0.67, 1.64) 1.2 (0.82, 1.76) 1.16 (0.76, 1.76)	
	SSS/SHS Secondary Voc/technical/commercial Post middle/secondary Certificate	0.73 (0.52, 1.02) 0.76 (0.46, 1.29) 0.83 (0.50, 1.4) 2.06 (0.99, 4.85)	0.75 (0.50, 1.13) 0.84 (0.45, 1.64) 1.09 (0.56, 2.29) 1.76 (0.73, 5.25)	
	Diploma	1.94 (0.97, 4.35)	1.67 (0.62, 5.07)	
	Tertiary - HND Tertiary - Bachelor's Degree Tertiary - Post graduate Certificate/Diploma Tertiary - Masters Degree	0.68 (0.44, 1.08) 1.27 (0.84, 1.96) 2.18 (0.91, 6.46) 0.71 (0.39, 1.34)	0.75 (0.43, 1.36) 1.29 (0.77, 2.24) 1.68 (0.64, 5.77) 0.66 (0.32, 1.48)	
S3.12 The Government is trustworthy in the way it manages the Coronavirus crisis [Strongly Agree]	Agree	0.99 (0.80, 1.23)	1.00 (0.76, 1.31)	
	Neither Agree nor Disagree Disagree Strongly Disagree	1.17 (0.80, 1.75) 1.08 (0.73, 1.62) 0.79 (0.41, 1.59)	1.22 (0.76, 2.04) 1.13 (0.69, 1.90) 1.52 (0.58, 5.27)	
S10.2.10 Reduced non-food Consumption [No]	Yes	0.94 (0.78, 1.12)	0.90 (0.72, 1.12)	
duration duration interview less than 10 minutes	minutes Yes	1.00* (1.00, 1.00) 0.26** (0.15, 0.46)	1.00 (0.99, 1.00) 0.19 ^{**} (0.10, 0.37)	
Observations Log Likelihood Akaike Inf. Crit.		3,179 -1,600.691 3,273.381	2,903 —1,110.284 2,298.569	
Note:	*p<0.05; **p<0.01			