COVID-19 IN LAC
HIGH FREQUENCY PHONE SURVEYS
TECHNICAL NOTE*

Latin American and the Caribbean is one of the regions in the world most affected by the COVID-19 pandemic, and the welfare impacts for households have been severe. At the macroeconomic level, the World Bank estimates a contraction of 6.9 percent of the region's GDP in 2020, due to pandemic-control measures and the deceleration of the global economy (World Bank, 2021). Regional export prices significantly dropped in the first semester of 2020 (5.2%) (Inter-American Development Bank, 2020), and although they began to recover in the second half of the year, the volume of goods-exports dropped by 8 points by the third quarter of 2020 (World Bank, 2021). This crisis hit households through at least three transmission channels:

(i) Impact on labor income: the largest total working-hour loss (16.2 percent), a reduction in employment of 28 million people in 2020 (International Labor Organization, 2021) and a labor income drop of 19.3 percent by the third quarter of 2020 (International Labor Organization, 2020); a trend likely to continue in 2021.

(ii) Remittances and other non-labor income: Remittance inflows also plummeted in most Latin-American countries as soon as the pandemic hit. However, they recovered in the second half of 2020 in several countries, resulting in a regional decrease of 0.2 percent compared to the previous year (López-Calva, 2020; World Bank, 2020a). At the same time, governments have tried to compensate income losses mainly through social assistance programs, such as cash and in-kind (food) transfers (World Bank, 2021).

(iii) Long-term patterns of human capital due to service disruption: over 170 million children in the region are out of school, and the region has experienced significant reductions in the use of health care services (Benveniste & Linnea, 2020).

Figure 1. Selected LAC Countries for the 2020 HFPS

Source: LAC HFPS Team

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In this context, the World Bank conducted a series of High-Frequency Phone Surveys (HFPS) to assess the impact of the coronavirus pandemic on the welfare of Latin American and Caribbean households. Three waves of surveys were collected between May and August 2020 in the following thirteen countries: Argentina, Bolivia, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Paraguay, and Peru (Figure 1). These countries represent almost 60 percent of the total regional population (World Bank, 2020b) and depict a comprehensive outlook of the consequences of COVID-19 in terms of wellbeing.

The surveys gather information on multiple dimensions such as changes in employment and income, prevalence of food insecurity, access to health, education and financing services, coping mechanisms resulting from the lockdown, and safe-distance measures stated by governments to mitigate the spread of the disease. The surveys also inquired about households' quarantine compliance and their knowledge of the disease.

The HFPS followed a panel format over three waves of data collection for twelve countries and four waves for Ecuador (Figure 2). The first wave was conducted between May 8 and June 14, 2020, the second wave from June 5 until July 16, and the third one from July 5 until August 25, 2020. For Ecuador, the fourth wave was collected between August 15 and 25, 2020.[1]

Figure 2. Data collection dates of the HFPS in 2020

Country	March				April				May				June				July				August				
	3/9	3/16	3/23	3/30	4/6	4/13	4/20	4/27	5/4	5/11	5/18	5/25	6/1	6/8	6/15	6/22	6/29	7/6	7/13	7/20	7/27	8/3	8/10	8/17	8/24
Argentina																									
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Chile																									
Colombia																									
Costa Rica																									
Dominican Republic																									
Ecuador																									
El Salvador																									
Guatemala																									
Honduras																									
Mexico																									
Paraguay																									
Peru																									

Quarantine start First wave Second wave Third wave Fourth wave
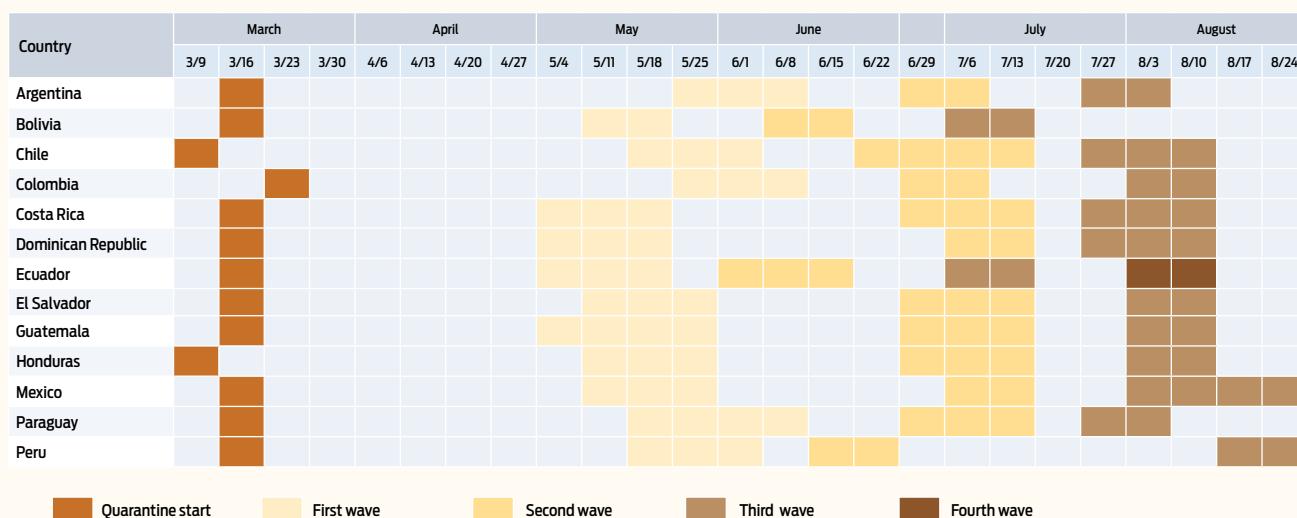
Source: LAC HFPS Team

1   Surveys were implemented by Opinión Pública Ecuador in Ecuador and by Sistemas Integrales in Bolivia. For the eleven remaining countries, data collection was performed by IPSOS.

Eligible respondents for the HFPS were adults 18 years old and above. Only one respondent per household was interviewed, and she answered both individual and household-level questions. The same respondent was contacted and interviewed in all waves. An average of 1,000 interviews was completed in the first wave. The following waves were affected by attrition, and average response rates declined to 73% in the second wave and 70% in the third wave (see Table 1). In the fourth wave in Ecuador, 971 households completed the interview, translating into a 79.1% retention rate. Attrition was addressed in the estimation of the survey sample weights for the second and third waves (see Sampling section below).

Table 1. Number of completed interviews per wave

Country	W1	W2	W3
Argentina	987	694	629
Bolivia	1,075	670	711
Chile	1,000	622	684
Colombia	1,000	730	638
Costa Rica	801	636	658
Dominican Republic	807	673	667
Ecuador	1,227	1,027	853
El Salvador	804	625	604
Guatemala	806	625	636
Honduras	807	550	521
Mexico	2,109	1,245	1,152
Paraguay	715	486	457
Peru	1,000	841	821

Source: LAC HFPS Team

Survey estimates for each country are representative of households with a landline and households for which at least one member has a cellphone. Similarly, the survey is representative of individuals of 18 years of age or above who have an active cellphone number or a landline at home. When comparing the HPFS sample to nationally representative samples from official surveys (restricted to those with access to landline and cellphone when possible[2]), we observe that the gender composition is similar but individuals in the HFPS sample are more educated (larger proportion of people with tertiary education or higher), more likely to reside in urban areas and slightly younger. These differences are partially explained by the fact that phone surveys are not strictly comparable to face-to-face surveys, due to phone coverage and non-response biases.

Questionnaires

The questionnaire for the first wave followed closely the World Bank's HFPS Global Core Questionnaire but had some critical variations. There were also some modifications in the subsequent waves, as shown in Table 2. All questionnaires are available in Spanish.

2 Only in 2 countries was this not possible. Note that household surveys used for this comparability exercise lag almost two years with the HFPS. However, individual characteristics compared are mostly structural and are not expected to be affected by this difference.

Table 2. Topics covered in the LAC COVID-19 HFPS

No.	Modules	Description (based on Wave 1)	WAVE 1	WAVE 2	WAVE 3
1	Knowledge	Questions about the propagation of COVID-19, preventive measures, and satisfaction with government actions.	7 questions	Not included.	Not included.
2	Behavior	Questions on quarantine compliance, reasons for non-compliance and adoption of other recommendations to prevent infection.	9 questions	7 questions. No relevant changes.	7 questions. No relevant changes.
3	Access	Information on access to staple foods, medical assistance and medicines, banks and ATMs. For households with school-age children, questions about homeschooling activities.	21 questions	21 questions. No relevant changes.	21 questions. No relevant changes.
4	Employment	Questions about the respondent to assess current and pre pandemic employment status, type, industry. Family business and agricultural activities of respondent.	21 questions	30 questions. Additional questions to assess changes compared to previous wave.	30 questions. Questions on changes compared to wave 1. A question on job search is also added.
5	Income loss	Questions to assess changes in income of different sources: labor (wage, self-employed or agricultural work), non-labor (remittances, unemployment insurance, government transfers, pensions, other private transfers).	3 questions with 14 sub-questions for each income source.	Not included	4 questions. Additional questions to ask for new sources of income since wave 1.
6	Food insecurity	Questions based on Food and Agriculture Organization Food Insecurity Experience Scale for the household.	4 questions	4 questions. No relevant changes.	4 questions. No relevant changes.
7	Concerns	Questions on respondents' perception about the impact of COVID-19 on household finances and their own or their family's health.	2 questions	2 questions. No relevant changes.	2 questions. No relevant changes.
8	Coping	Information about shocks households might have experienced and their coping mechanisms. Shocks comprise job loss or business closures, theft, price increases, illness or death of income recipients, excessive health expenses.	2 questions with 9 sub-questions for different types of shocks.	Not included.	2 questions. No relevant changes.
9	Safety nets	Questions to assess coverage of both private and government in-kind and cash transfers since the beginning of quarantine measures. It includes a question on country-specific COVID-19 emergency and other important government programs.	7 questions	6 questions. Country-specific emergency programs not included in this wave.	10 questions. Additional questions ask about applying for government programs.
10	Basic information	General household characteristics such as: size, location and area, number of rooms and access to internet. Respondent characteristics: sex, education level, age.	12 questions	6 questions Update household information if the respondent moved.	8 questions. Update household information if the respondent moved. Questions on home ownership and ability to pay rent are added
11	Governance	Questions about trust on governments capacity to handle the COVID-19 crisis and about equality of access to public medical services and economic assistance.	Not included	Not included	3 questions

Source: LAC HFPS Team

Sampling[3]

The sample is based on a dual frame of cellphone and landline numbers generated through a Random Digit Dialing (RDD) process. The RDD methodology produces all possible phone numbers in the country under the national phone numbering plan and draws a random sample of numbers. This method ensures coverage of all landline and cellphone numbers active at the time of the survey.

In the first phase, a large sample was selected in both frames, with an allocation ranging from 0 percent landlines and 100 percent cellphones, to 20 percent landlines and 80 percent cellphones. The landline frame was geographically stratified by first-level administrative unit (department, province or state), and the sample of landlines was selected with a proportionate allocation among strata. Geographic proportionate stratification was also done for cellphones in Argentina, Bolivia and Mexico, where cellphone numbers are linked to the area where they were issued. It is important to underline that the HFPS sample design allows for obtaining precise estimates only at country level.

The first-phase samples of landline and cellphone numbers were then screened through an automated process to identify the active numbers. These were then cross-checked with business registries to identify business numbers not eligible for the survey.

A smaller second-phase sample was selected from the active non-business numbers from the first-phase sample and was delivered to the country survey teams to be called by the enumerators. The reason for selecting a second-phase sample was that delivering a large first-phase sample of active numbers to the country teams at once could facilitate the "misuse" of the sample, raise non-response rates, and increase potential non-response biases.[4]

The HFPS has two sampling units: households and individuals. Sampling weights were computed for each unit and should be used accordingly to obtain estimates of interest for each unit. The estimation of weights involves four steps:

1. Calculation of the inclusion probabilities of landline and cellphone numbers.

2. Computation of base weights for households and individuals.

3. Adjustment for non-response

4. Calibration of individual and household weights, using external data from official sources (adjusted by the national phone coverage).

Note that household and individual weights were adjusted for attrition in the second and third HFPS waves.

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3 A detailed description of sampling and weighing is presented in Flores Cruz, Ramiro. 2020. *COVID-19 High-Frequency Survey (HFS) in Latin American Countries Technical Note: Sampling Design, Weighting and Estimation*. Mimeo. Available upon request.

4 For Ecuador, the dual sampling frame was different: a part of the sample came from the active phone numbers collected in the 2019 Survey for Venezuelan Migrants and Host Communities in Ecuador (EPEC). The sample was completed with phone numbers using RDD and the methodology explained above. To know more about the sampling methodology for the 2019 EPEC Survey, refer to: Muñoz, Juan; Muñoz, Jose; Olivieri, Sergio. 2020. *Big Data for Sampling Design: The Venezuelan Migration Crisis in Ecuador.* Policy Research Working Paper No. 9329. World Bank, Washington, DC. Available at: https://openknowledge.worldbank.org/handle/10986/34175 License: CC BY 3.0 IGO.

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