

# Household Surveys in Latin America

How did we face the Pandemic?

Statistics Division

Economic Commission for Latin America and the  
Caribbean

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# Intro

- The countries of Latin America had to adopt extraordinary measures to continue with the collection of information to face restrictions on the mobility of citizens.
  - These restrictions prevented the face-to-face application of household surveys and led, in some cases, to the suspension of surveys and, in others, to the continuation of surveys by telephone.
  - The change in the collection methodology was necessary to give continuity to the production of statistics on employment, income and poverty, which were of vital importance in the context of the pandemic.



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# Intro

- A great deal of experience was achieved from the pandemic issues, so it can be used for future contingencies.
  - Procedures proposed and executed during these episodes should not be abandoned but adopted as regular processes for household surveys.
- In the long term, as respondents accept new collection methods, it is expected that household surveys will be conducted by combining different modes of collection, even when the pandemic is considered to be overcome.



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# ECLAC questionnaire

- In December 2021, ECLAC's Statistics Division sent a form to the region's NSO to make a diagnosis on the impact of the COVID-19 pandemic on household surveys and the lessons learned from this process.
  - Each country was asked to fill out the form as many times as necessary to respond for each statistical operation (SO) based on household surveys that provides official figures on employment, income and poverty.



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# Effects of mobility restrictions on household surveys



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# Suspension of activities

- Before the mobility restrictions, 94.7% of SO were administered under a face-to-face collection methodology.
  - Peru's Permanent Employment Survey (EPE) was the only SO that reported having a mixed collection scheme since before the pandemic.
  - In this case, the proposed strategy focused on redirecting as many planned face-to-face interviews to a telephone scheme.
- About the month in which normal collection activities were interrupted, most countries reported having made the suspension in March 2020.
  - Costa Rica and Cuba had to do so in April and,
  - Panama in August of the same year.



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# Collection

- In 78.9% of the SO, there was a total or partial suspension of information collection.
  - 21.1% had to suspend all collection operations,
  - This was the case of ENHOGAR in the Dominican Republic; ENEMDU in Ecuador; EML in Panama; and ENO in Cuba.
- Several countries that decided to continue the collection process had to implement teleworking policies, so interviewers were asked to work from their own homes.
  - This required an adequate system to ensure that data could be captured securely.
  - That represented a severe difficulty due to the lack of infrastructure and the short time to develop new methods.



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# Capture

- Interviewers were asked to use the existing data capture tools through the mobile capture devices used in the face-to-face surveys.
  - In other cases, it was necessary to fill out the survey on paper so that it could be entered later to the digital databases.
  - Not all interviewers had a telephone line paid by the institution to make the calls.
- The suspension affected surveys with different publication periodicities.
  - Poor levels of coverage were presented in 26.3% of the SO, so it was not possible to publish results.
  - In 42.1% of the SO, there were low levels of coverage, so publications were made only for some indicators.
  - In 31.6% of the SO, it was possible to publish all the planned indicators.



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# Publication schedule

- ECLAC recommended publishing the information, subject to quality checkings and proper adjustments.
  - For SO where indicators could not be published in whole or in part, 93.3% of SO chose not to use predictive models.
  - In 60% of the SO, the calendar for the publication was affected.



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# Contact

- Although most SO have a rotating design, some respondents refused to provide their phone numbers or emails.
  - For new homes that were first joining the panel, the problem was even more significant since contact information was unavailable, which meant that the suspended interviews could not be recovered.
- This loss of sample can cause some segments of the population not to be well represented, which can generate biases.
  - The telephone methodology was the leading solution adopted.
  - In addition to the lack of contact data, other challenges arose: reduction of the questionnaire, capacity to collect information by telephone, securing capture and, transfer of data.



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# Panel design and nonresponse

- In most countries, it was decided to use a sample of households from a previous period; however:
  - Not all households in the sample from the previous period provided their telephone contact information.
  - Some households that provided their contact details at the interview did not live in the selected dwelling.
  - Some households provided their contact details, but at the time of the interview had changed the contact telephone number.
  - Not all households that provided their contact information are willing to answer the survey questionnaire.



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# Nonresponse and bias

- The effective sample size decreased mainly due to the lack of information on telephone numbers, incorrect numbers, absence of response, and outdated contact information.
  - Some NSO made agreements with telephone service operators to obtain the telephone numbers from the households located in the selected PSU.
  - This strategy did not ensure a total decrease in possible selection biases and is insufficient to mitigate other biases.



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# Nonresponse and bias

- The non-response rate generated by households that could not be contacted was more than 20% in 42.1% of SO.
  - In 57.9% of the SO, the questionnaires were modified to adapt to the telephone collection mode.
  - In 78.9% of SO, it was necessary to include new questions that provided information on the impact of COVID-19 on employment, income or poverty.



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# Nonresponse in the new collection modes

- When the household could be contacted, 73.7% of the SO had a non-response rate below 10% (willingness to respond to the surveys).
  - After a positive telephone contact, the proportion of incomplete surveys was less than 10% in 89.4% of the SO.
  - This shows that remote data collection is an entirely viable alternative when you have the contact details of households.



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# Panel approach

- In 47.4% of the SO, it was decided to continue with the same sample, so a panel approach was adopted during mobility restrictions.
  - In continuous surveys, countries most commonly maintained the sample for three (3) periods.
  - For countries that did not adopt the panel approach, a total suspension of survey collection was reported in some cases.



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# Bias control



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# Bias

- It is highly likely that effective respondent households do not have similar characteristics to non-respondent households and non-covered households.
  - The reasons for non-response could be associated with the phenomenon being measured .
- ECLAC, UNSD, ILO and other international agencies have been promoting a comprehensive review of data quality assessment approach to consider and identify any possible bias.



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# Methods

- Among the adjustments to control bias, 15.8% of the SO considered more extended reference periods to capture the information of the initially planned periods
  - In 52.6% of the SO, it was necessary to adjust to the sampling weights to correct possible biases due to the lack of response or coverage.
  - In 60% of the SO where adjustments were made to the sampling weights, *propensity score* weighting was used, and calibration mechanisms complemented it.
  - Other countries reported using two-stage calibration methods.



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# Warnings from the NSOs



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# Comparability of the estimates

- Taking into account that both events (change of collection method and pandemic) occurred simultaneously, it is not easy to separate the effects and the possible impact introduced in the official figures reported by the NSO.
  - In some cases, NSO published methodological documents on the changes made.



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# INEGI

- INEGI suspended all its field operations, including the National Survey of Occupation and Employment (ENOE) and switched to the Telephone Survey of Occupation and Employment (ETOE).
  - Users were warned that the figures offered by the ETOE are not strictly comparable with the indicators derived from the ENOE.



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# INE - Chile

- The Chilean National Employment Survey (ENE) suspended face-to-face collection activities.
  - It began to collect information mainly by telephone and in some cases through a self-applied web questionnaire.
  - A panel sample from a previous period was used, and a teleworking scheme was implemented for interviewers to work from home.
  - A web survey system subsequently allowed to collect information for those who opted for this means.
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- The National Institute of Statistics and Census (INEC) implemented the Telephone Labor Market Survey (EMLT) in Panama.
- INEC warned that the series of the EMLT before 2020 can only be taken as referential.



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# INEC – Costa Rica

- The National Institute of Statistics and Censuses (INEC) of Costa Rica also adopted measures in their surveys.
  - Computer capture and processing systems were adjusted, and a mixed data collection between face-to-face and telephone was implemented, achieving telephone coverage between 70% and 75%.



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# INEC – Ecuador

- In Ecuador, the ENEMDU was implemented through telephone calls.
  - Households selected in the telephone-based ENEMDU were based on a probabilistic approach.



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# INE - Uruguay

- The National Institute of Statistics (INE) of Uruguay began to apply a panel modality.
  - A reduced form was used to collect the necessary information to estimate the leading indicators of the labour market and income of households and individuals.
  - Information was collected on mobile devices and sent to the INE remotely.
  - INE warned that until studies are carried out to rule out or measure the biases produced by the changes in the operation of the survey, the estimates offered by the non-face-to-face survey are not strictly comparable.



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# DANE - Colombia

- In Colombia, the National Administrative Department of Statistics (DANE) implemented a telephone collection mechanism in urban areas and continued with the face-to-face survey in rural areas.
  - To avoid rejections, it implemented a reduced form with an average duration of 20 minutes.
  - The sample design did not present changes, but given the effects of non-response rates due to the change in methodology, it was decided to replace selected households without a telephone with neighbouring households with a phone.



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Back to normal



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# Mixed methods in the long term

- 14 SO restarted face-to-face collection activities in 2020, while 5 SO did so in 2021.
  - Guidelines and protocols were generated from the health entities and the NSOs, establishing the sanitary and distancing measures to follow during information collection.
  - By November 2021, 57.9% of the SO reported by the countries had returned to a 100% face-to-face information collection, while 36.8% still maintained a mixed methodology between face-to-face and telephone or web surveys.
  - Some of them consider the possibility of maintaining a mixed methodology in the long term.



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# Special procedures

- 63.6% of SO has increased the percentage of the face-to-face sample by more than 20%.
  - In 18.2% of SO, this increase has been more gradual
  - Countries also reported incorporating strategies to improve or increase the collection of contact data and basic household data during the cartographic update process.
- Only 33.3% of SO have begun to execute special procedures different from those applied regularly to mitigate biases.



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# About mixed collection in household surveys

- Mixed SO allow for greater flexibility in the current context.
  - Mixed operations will continue to be subject to the probabilistic selection of primary sampling units with a corresponding subsampling.
  - In 82.4% of the SO, one of the plans would be to increase the strategies for collecting contact data.
    - The ENE plans to migrate to a mixed collection that incorporates mainly face-to-face and telephone interviews in Chile.



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# Concerns

- Although the use of remote methods had significant development and has had high levels of growth during the pandemic, challenges remain.
  - Not all countries had an infrastructure to make mixed collections sustainable over time.
  - The face-to-face collection should not be expected to cease. It remains the most effective way to obtain high-quality data in some hard-to-reach population groups, such as those residing in marginal settlements or rural areas.



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# Thank you!

Please, do not hesitate to contact ECLAC Statistics Division if due to the COVID-19 pandemic your NSO require assistance on the design and analysis of sample surveys, bias detection, adjustment of survey weights, and calibration.

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