VANDERBILT

LAPOP

AmericasBarometer
Barómetro de las Américas

AmericasBarometer, 2018/19

Technical Information

LAPOP AmericasBarometer 2018/19 round of surveys

The 2018/19 AmericasBarometer study is based on interviews with 31,050 respondents in 20 countries. Nationally representative surveys of voting age adults were conducted in all major languages, using face-to-face interviews in Latin America and the Caribbean and web surveys in the United States and Canada. Samples in each country were developed using a multi-stage probabilistic design (with quotas at the household level for most countries), and were stratified by major regions of the country, size of municipality and by urban and rural areas within municipalities.

Table 1: Sample sizes and Sampling errors in the 2018/19 AmericasBarometer

Country	Sample Size	Sampling Error[1]
Mexico/Central America		
Mexico	1,580	2.5%
Guatemala	1,596	2.5%
El Salvador	1,511	2.5%
Honduras	1,560	2.5%
Nicaragua	1,547	2.5%
Costa Rica	1,501	2.5%
Panama	1,559	2.5%
Andean/Southern Cone		
Colombia	1,663	2.5%
Ecuador	1,533	2.5%
Peru	1,682	2.4%
Bolivia	1,521	2.5%
Paraguay	1,515	2.5%
Chile	1,638	2.5%
Uruguay	1,581	2.5%
Brazil	1,498	2.5%
Argentina	1,528	2.5%
Caribbean		
Dominican Republic	1,516	2.5%
Jamaica	1,513	2.5%

[1] Confidence intervals based on unweighted sample sizes. For cross-national analysis purposes, LAPOP weights each sample to 1,500. These sampling errors are based on SRS and not adjusted for stratification and clustering. For information on the impact of the complex sample design on confidence intervals, see section VII of this document.

United States and Canada		
Canada	1,508	2.5%
United States	1,500	2.5%

The Latin American Public Opinion Project (LAPOP) is a pioneer in innovations in survey research. In the 2018/19 round of the AmericasBarometer, LAPOP has continued this tradition of innovation, with heretofore unprecedented improvements in monitoring interview quality on a daily basis during the course of fieldwork. This was done by making significant advances in the use of handheld and expansion of electronic devices for data collection, coupled with a wide variety of new quality control techniques utilizing LAPOP's FALCON© system (see details below).

In the 2018/19 round of the AmericasBarometer, handheld devices for data collection were used in 100% of the countries surveyed, for all interviews. As in prior rounds of the AmericasBarometer, the U.S. and Canada studies were conducted online while all other interviews were conducted face-to-face. In the 2018/19 round, we used the SurveyToGo© (STG) software, running on Android tablets and phones, to conduct field interviews. LAPOP has found this software to be very reliable and flexible. Importantly, the adaptable platform and accessible programming language has allowed LAPOP to program in customizations to enable our quality control protocols.

The use of electronic devices for interviews helps us improve efficiency in data collection in several ways. First, it eliminates data entry errors that occur when handwritten responses are transferred to digital formats by coders and data entry clerks. Second, it supports user-friendly switching among multiple languages, especially important in countries like Paraguay, in which large proportions of respondents code-switch between Spanish and Guaraní. Third, it provides quality control teams the ability to audit and track the progress of fieldwork on a daily basis. The LAPOP auditing and tracking process includes verifying that interviews are being carried out in the pre-selected sampling locations, ensuring the correct and precise reading of the full wording of questions and response choices, checking the identity of interviewers for each survey to protect against outsourcing work to untrained interviewers, and assessing the timing of the interviews.

As per the sample design, the 2018/19 round of the AmericasBarometer continues to use the sample strategy introduced for the first time in the 2012 round of the surveys and that was also employed in 2014 and the 2016/17 round. This sample design continues to use, in almost all cases, the same stratification employed since 2004, making adjustments where necessary when census information is updated. The samples are all representative at the stratum level. The new design, however, stabilized the PSU and cluster sizes, with the selection of each PSU based on PPS (Probability Proportional to Size). Within PSUs, clusters are also standardized (typically 6 interviews) to minimize intra-class correlation while taking advantage of economies of fieldwork that simple random selection of interviews within the entire PSU would not make possible.

The tradeoff continues to make the sample design very efficient with very low intra-class correlations. With the cluster and PSU sample size uniformity, the LAPOP samples are now also representative within each selected municipality, to enable the use of the municipality as a unit of analysis for multilevel statistical analysis. However, with the small sample sizes at the PSU level that our design produces, confidence intervals at the level of each PSU are, by definition, wide. Users of the data should note that while the stratification incorporates all major regions of the country (exceptions include islands, such as the Galapagos in Ecuador or San Andrés in Colombia, but they do include the Bay Islands of Honduras), and therefore can be reliably used to analyze differences among strata, the PSUs selected normally represent only a small fraction of the total PSUs in the country (typically 50-65). Details of the sample design revisions are found in the description of the 2012 AmericasBarometer surveys.

The remaining pages of this technical note describe the sample design of the AmericasBarometer 2018/19 survey.

2018/19 AmericasBarometer Sample Design

Universe, Population, Unit of Observation

Universe: The surveys provide national coverage of voting age adults. The universe is comprised of the population living in urban and rural areas and it is representative at the national and regional level.

Population: The survey is designed to collect information from a nationally representative sample of the entire voting age population. Only non-institutionalized voting age adults are eligible to participate in the survey. Therefore, the sample excludes people in boarding schools, hospitals, police academies, military barracks, and inmates of the country's jails.

Unit of Observation: Only one respondent is interviewed per household. The questionnaire almost exclusively includes topics focused on that single respondent, but also does include some questions related to other members of the household and the condition of the household itself. Thus, the statistical unit of observation is the household. However, some respondents live in dwellings that are shared with other households. For this reason, it is more appropriate to consider the dwelling as the final unit of analysis. Additionally, the dwelling is an easily identifiable unit in the field, with relative permanence over time, a characteristic that allows it to be considered as the final unit of selection.

Sample frame

The sampling frame covers 100% of the eligible voting age population in the surveyed country. This means that every eligible person in the country has an equal and known chance of being included in the survey sample. It also means that no particular ethnic group or geographical areas are excluded from the sampling frame unless the country sample design indicates otherwise. For example, certain Island areas and territories might be excluded. See the country study sample descriptions for such exceptions.

Sampling Method

The sampling method chosen takes into consideration a series of elements pre-established by LAPOP.

On the basis of these requirements, the method that is used corresponds to a stratified multi-**stage cluster sampling.** The sample is stratified based on three factors:

1) Size of the Municipalities
2) Urban/Rural areas
3) Regions

The stratified sampling ensures a greater reliability in our sample by reducing the variance of the estimates. Stratification improves the quality of estimates, with the sole condition that the whole sample unit belongs to only one stratum, and the strata in combination cover the total population. Stratification also enables us to ensure the inclusion in the sample of the most important geographic regions in the country while requiring geographic sample dispersion.

Stratification

Stratification is the process by which the population is divided into subgroups. Sampling is then conducted separately in each subgroup. Stratification allows subgroups of interest to be included in the sample whereas in a non-stratified sample some key subgroups may have been left out due to the random nature of the selection process. In an extreme case, samples that are not stratified can, by chance, exclude the nation's capital or largest city. Stratification helps us increase the precision of the sample. It reduces the sampling error. In a stratified sample, the sampling error depends on population variance within strata and not between them.

Selection of Respondents

A single respondent was selected in each household, following the frequency matching distribution programmed into the sample design, by gender and age as mentioned above. Respondents are limited to household members who reside permanently in that household (thus excluding visiting relatives), who fit the age and residency requirements (limited to adult citizens and permanent residents). If two or more people of the same sex and age group were present in the household at

the moment of the visit of our interviewer, the questionnaire was applied to the person who most recently celebrated a birthday (i.e., the "the last birthday" system) in order to avoid selection bias.

2018/19 AmericasBarometer Survey: Weighting of country datasets

Most of the 2018/19 AmericasBarometer samples are self-weighted except for Brazil, United State and Canada. Each country data set contains a variable called WT which is the "country weight" variable. In countries in which the sample is self-weighted, the value of each case = 1. When using this dataset for cross-country comparisons, in order to give each country in the study an identical weight in the pooled sample, LAPOP reweights each country data set in the merged files so that each country has an N of 1,500. The weight variable for cross-country comparisons is called "weight1500." In SPSS, this is done via the "weight" command. Weights are already activated in SPSS datasets. In Stata, one should use the svyset command to weight the data and declare the sampling information to correctly compute standard errors that take into account the design effects. The command for single country, single year studies is**: svyset upm [pw=wt], strata(estratopri)**. For cross-country and/or cross-time studies, the command is: **svyset upm [pw=weight1500], strata(strata)**. These declarations have been made in Stata datasets. However, you must use the svy prefix with estimation commands to compute the weighted statistics and correct standard errors (see help svy_estimation within Stata for more information).

2018/19 AmericasBarometer Fieldwork dates

Fieldwork dates for each country for the 2018/19 round are reported in Table 2.

Table 2: Fieldwork dates by country 2018/19 AmericasBarometer

Country	Fieldwork Start Date	Fieldwork End Date
Mexico/Central America		
Mexico	January 30th, 2019	March 27th, 2019
Guatemala	January 22nd, 2019	March 20th, 2019
El Salvador	November 13th, 2018	December 6th, 2018
Honduras	October 2nd, 2018	November 16th, 2018
Nicaragua	April 4th, 2019	May 4th, 2019
Costa Rica	September 24th, 2018	October 31st, 2018
Panama	October 24th, 2018	December 22nd, 2018
Andean/Southern Cone		
Colombia	September 10th, 2018	December 27th, 2018
Ecuador	January 22nd, 2019	March 29th, 2019
Bolivia	March 14th, 2019	May 12th, 2019
Peru	February 16th, 2019	March 25th, 2019
Paraguay	February 13th, 2019	April 10th, 2019
Chile	January 19th, 2019	March 28th, 2019
Uruguay	March 8th, 2019	May 19th, 2019

Brazil	January 29th, 2019	March 3rd, 2019
Argentina	February 16th, 2019	April 2nd, 2019
	Caribbean	
Dominican Republic	April 9th, 2019	May 31st, 2019
Jamaica	February 8th, 2019	April 12th, 2019
	United States and Canada	
Canada	June 27th, 2019	July 10th, 2019
United States	July 11th, 2019	July 16th, 2019

2018/19 AmericasBarometer Survey Design Effects

Accuracy of the Findings

Two types of errors affect all surveys: non-sampling and sampling errors. Non-sampling errors are usually made during questionnaire design, data collection, and processing. These errors can be mitigated by using a valid and reliable measuring instrument, adequately training fieldwork personnel, supervising and monitoring fieldwork, and using appropriate software for data collection and processing. Non-sampling errors are difficult to quantify, although comparing the sample results with those of the population is one way to assess whether these errors have generated biases that might reduce or even invalidate the representativeness of the sample. The use of electronic handheld devices in AmericasBarometer fieldwork helps reduce non-sampling errors by providing the capacity to monitor the implementation of the survey in real and quasi-real time. Through geo-fencing, for example, we are able to determine whether interviews are conducted in the correct geographic area. Additionally, by eliminating the separate process of data entry (necessary when interviews are recorded on paper and then are transferred to an electronic medium), we eliminate the inevitable errors that this activity generates. Perhaps most importantly, with paper questionnaires computer-based consistency checks can only be run several weeks after the data are collected. Correcting errors post hoc is difficult or impossible given the separation in time and space between the moment an interview is conducted on paper and the later time at which the problem is detected.

Sampling errors, on the other hand, are a product of the design itself, a product of chance, and the inevitable result of the process of surveying a sample and not the entire population. All modern survey research relies on drawing a sample from the population and therefore all such surveys suffer from sampling errors. When a sample is drawn, this sample is actually one of many possible samples that could have been selected from the population. The variability that exists across all these possible samples is the sampling error, which we could measure if all these samples were available. However, that is impossible, since short of interviewing the entire national sample (for example, some 200 million Brazilians), the number of samples that could be drawn is infinite. In practice, sampling error is estimated over the variance obtained from the sample itself. To estimate the sampling error of a statistic (average, percentage, or ratio), we calculate the standard error, which is the square root of the population variance of the statistic. This allows us to measure

how close the statistic is to the result that would have been obtained if the entire population were interviewed under the same conditions.

To calculate this error, it is important to consider the specific (complex) design through which the sample was drawn. The design effect (DEFT) in the formula below indicates the efficiency of the design used in relation to an unrestricted random sampling design (URS). A value of 1 indicates that the standard error (SE) obtained for both designs (the complex and the URS) is equal; that is, in this case the complex sampling is as efficient as the URS with the same-sized sample. If the value is greater than 1, the complex sampling produces a SE greater than that obtained with a URS.

$$DEFT = SEcomplex \ / \ SEURS$$

Table 3 shows, for each of 6 measures from the survey instrument, the value of the statistic in question (average or percentage) and the design effect (DEFT) that we calculate for the 2018/19 round of the AmericasBarometer. The table also reports the design effects of the 2014 round for the same variables. The SEs were estimated using Stata 12 software. Extreme values, when they are encountered, come from a high degree of homogeneity within each cluster. In other words, in these cases there is an important spatial segregation of people according to their socioeconomic condition, which reduces the efficiency of cluster sampling (one aspect of the complex design) to measure these characteristics/attitudes.

It is worth noting that, in the case of a standard survey in which a complex design is applied to draw the sample, the sampling error is usually 10% to 40% greater than that which would have been obtained with unrestricted (and extremely costly) random sampling. In general, for a well-designed study, the design effect usually ranges from 1 to 3. In the case of the 2018/19 AmericasBarometer, the typical sampling error is lower. For example, in the case of Costa Rica, the Support for Democracy (Ing4r) has a sampling error of 1.18. This means that the 95% confidence interval (1.96 times the SE) for the average of this variable (72.25) goes from 70.62 to 73.92. According to the DEFT of the table, this interval is 18% greater than that which would have been obtained with a URS (see Table DE.1). In short, we are pleased to report that the design effects in our 20-country, hemisphere-wide survey are very low. Only rarely do we find (in the table below) design effects above 1.5. Further, in most cases the design effects in the 2018/19 round of surveys are systematically lower than the prior (2016/17) round.

Table 3. Design effects, 2018/19 AmericasBarometer Survey

Country	Ing4r				it1r			
	2018/2019			2016/17	2018/2019			2016/17 Round
	Average	Std. Error	DEFT	Round	Average	Std. Error	DEFT	DEFT
Mexico	64.39	0.77	1.20	1.20	54.62	1.02	1.26	1.46
Guatemala	57.33	0.79	1.16	1.00	50.84	1.03	1.24	1.20
El Salvador	62.03	0.64	0.94	1.09	59.64	0.88	1.04	1.21
Honduras	53.36	0.74	0.93	0.92	57.02	1.06	1.16	1.07
Nicaragua	57.75	0.83	1.01	1.04	52.50	0.95	1.08	0.99
Costa Rica	72.25	0.84	1.18	1.18	64.15	1.21	1.47	1.68
Panama	60.03	0.73	0.98	1.13	51.73	1.02	1.25	1.15
Colombia	64.23	0.80	1.17	1.04	61.70	1.31	1.66	1.54
Ecuador	59.90	0.61	0.94	1.25	51.89	0.95	1.22	1.10
Bolivia	56.87	0.72	1.08	1.09	47.52	0.81	1.13	1.16
Peru	57.41	0.67	1.04	1.40	45.94	0.95	1.27	1.43
Paraguay	58.83	0.91	1.25	0.99	60.91	0.97	1.17	1.36
Chile	67.37	0.69	1.01	1.11	59.95	0.93	1.21	1.25
Uruguay	76.83	0.91	1.26	1.43	64.66	1.19	1.59	1.45
Brazil	64.09	0.95	1.22	0.95	48.95	1.04	1.25	1.12
Argentina	72.46	0.94	1.24	1.13	61.77	0.96	1.28	1.28
Dominican Rep.	62.46	0.59	0.76	1.13	57.05	0.95	1.12	1.00
Jamaica	58.41	0.80	0.93	0.96	55.90	1.05	1.31	1.25
United States	74.25	0.74	1.07	1.32	65.02	0.66	1.08	1.30
Canada	73.14	0.65	1.06	1.09	67.02	0.58	1.05	1.09

Table 3. Design effects, 2018/19 AmericasBarometer Survey (cont.)

Country	corvic				PSA5			
	2018/2019			2016/17	2018/2019			2016/17 Round
	Average	Std. Error	DEFT	Round	Average	Std. Error	DEFT	DEFT
Mexico	32.22	1.17	0.99	1.09	55.53	0.64	1.09	1.34
Guatemala	19.36	1.04	1.05	1.35	50.47	0.79	1.38	1.01
El Salvador	11.71	0.76	0.91	1.11	49.95	0.59	0.97	1.17
Honduras	25.32	1.08	0.98	1.02	43.15	0.84	1.27	1.26
Nicaragua	16.35	1.03	1.09	1.02	51.49	0.97	1.27	1.11
Costa Rica	8.27	0.69	0.97	1.05	59.24	0.55	0.94	1.14
Panama	15.59	1.01	1.10	1.02	45.71	0.76	1.22	1.16
Colombia	13.32	0.93	1.11	1.09	50.49	0.84	1.46	1.20
Ecuador	26.55	1.33	1.18	1.09	52.08	0.73	1.23	1.18
Bolivia	37.99	1.22	1.03	1.05	49.11	0.79	1.36	1.49
Peru	26.25	1.22	1.08	1.40	41.69	0.71	1.24	1.34
Paraguay	28.27	1.37	1.18	1.24	46.96	0.66	1.14	1.48
Chile	6.79	0.67	1.08	1.04	45.16	0.67	1.13	1.00
Uruguay	5.95	0.66	1.10	1.05	53.92	0.69	1.11	1.06
Brazil	10.98	1.09	1.35	1.01	41.94	0.81	1.25	1.21
Argentina	17.08	1.20	1.25	1.04	45.58	0.79	1.31	1.11
Dominican Rep.	23.55	0.87	0.80	1.20	46.00	0.73	1.09	1.22
Jamaica	10.91	0.82	1.03	1.09	49.85	0.78	1.16	1.01
United States	-	-	-	-	55.68	0.70	1.11	1.31
Canada	-	-	-	-	62.08	0.64	1.06	1.08

Table 3. Design effects, 2018/19 AmericasBarometer Survey (cont.)

Country	tol				m1r			
	2018/2019			2016/17	2018/2019			2016/17 Round
	Average	Std. Error	DEFT	Round	Average	Std. Error	DEFT	DEFT
Mexico	50.37	0.58	1.16	1.02	71.11	0.54	1.07	1.49
Guatemala	49.97	0.70	1.22	1.22	40.72	0.88	1.36	1.29
El Salvador	51.22	0.59	0.95	1.00	49.04	0.78	1.10	1.17
Honduras	52.89	0.61	1.02	1.02	46.17	1.09	1.31	1.16
Nicaragua	52.85	0.82	1.12	1.25	49.40	1.16	1.42	1.18
Costa Rica	55.06	0.80	1.32	1.28	43.55	0.84	1.12	1.38
Panama	51.11	0.50	1.16	0.87	33.16	0.99	1.49	1.07
Colombia	47.95	0.80	1.33	1.33	55.30	1.01	1.60	1.55
Ecuador	50.15	0.49	0.96	0.96	48.88	0.78	1.24	1.27
Bolivia	48.61	0.49	1.00	0.98	59.23	0.80	1.42	1.58
Peru	50.37	0.56	1.18	1.09	57.28	0.52	1.03	1.26
Paraguay	52.94	0.57	0.98	1.02	59.74	0.84	1.35	1.25
Chile	52.55	0.81	1.14	1.24	50.59	0.61	1.09	1.15
Uruguay	53.88	0.92	1.50	1.33	50.50	0.74	1.09	1.05
Brazil	53.72	0.71	1.01	1.06	61.56	0.84	1.28	1.11
Argentina	49.53	0.77	1.15	1.17	30.17	0.78	1.10	1.09
Dominican Rep.	53.53	0.70	1.03	1.10	56.93	0.66	0.98	1.19
Jamaica	60.64	0.71	1.03	1.19	64.06	0.97	1.44	1.24
United States	67.75	0.75	1.34	1.07	47.73	1.14	1.09	1.27
Canada	-	-	-	-	45.70	0.84	1.05	1.08

For more information on the sample within each country, please see the country reports and technical information sheets on the LAPOP website, www.LapopSurveys.org.