



## AmericasBarometer, 2014

### *Technical Information*

<i>Country</i>	<i>Year</i>	<i>Sample Size</i>	<i>Weighted/Unweighted</i>	<i>Fieldwork dates</i>
Costa Rica	2014	1,541	Unweighted	March 4 <sup>th</sup> to May 6 <sup>th</sup>

### ***LAPOP AmericasBarometer 2014 round of surveys***

In its effort to collect the best quality data possible and therefore produce the highest quality studies, the Latin American Public Opinion Project (LAPOP) adopted a new sample design for the AmericasBarometer 2012 round of surveys, which was also employed in 2014. The two main reasons for this decision to change the sample design from that which was used in the 2004-2010 period were: (1) updating the sample designs to reflect the population changes as revealed by recent census information, and (2) standardizing the sample sizes at the level of the municipality in order to both reduce the variance and provide a basis for using multi-level analysis drawing on municipal data. This change in the sample design makes the sample representative by municipality type<sup>1</sup>, to enable the use of the municipality as a unit of analysis for multilevel statistical analysis. Details of the revisions are found in the description of the 2012 AmericasBarometer surveys.

In 2013 LAPOP entered into a Memorandum of Understanding (MOU) with the Institute for Social Research at the University of Michigan for assistance in and advice on the AmericasBarometer. One of the world's leading experts in sample design methodology, Dr. Jim

<sup>1</sup> The new sample design included three different strata of municipalities classified according to their size. Municipalities were grouped in sizes appropriate for the country. One common grouping was (1) Municipalities with less than 25,000 inhabitants, (2) Municipalities with between 25,000 and 100,000 inhabitants, (3) Municipalities with more than 100,000 inhabitants.

Lepkowski, and his graduate students, advised us throughout the process. Over the course of a year we worked with Dr. Lepkowski and his team of graduate students to review each previously developed sample design and to secure their input and advice on new designs. Our colleagues at the University of Michigan, confirmed that LAPOP had already been following the best practices, within the limits of resources at our disposal, in its sample design. Our own review of the major update we carried out in 2012 sample design left us pleased in almost every respect. The effort to obtain a standard sample size per municipality/canton/parish did not have any adverse impact on intra-class correlation levels, yet has given us a basis for calculating context effects at the local level. In some particular cases, however, in the 2014 round we requested country teams to conduct specific alterations, like updating their sampling frame to take into consideration (if available) the new 2010-2011 national census information. We also asked teams to verify that the 2012 sample design continues to reflect and represent each country population structure and distribution.

Finally, after several rounds of consultations and technical discussions with experts at the ISR at the University of Michigan on how to update the 2012 samples for the 2014 round of surveys, LAPOP requested that countries to update their samples at the block level while retaining the same primary and sub-stratification units (i.e., *Estratopri, Municipalities and Census Segments*) that were included in the 2012 sample. This means that users of prior AmericasBarometer surveys can do so knowing that the designs across time remain very similar, if not identical. Countries that had new population census available and did not experience significant population shifts or changes in their population distribution were asked to replicate the 2012 sample using the latest census information available and to replace the sampling points at the block level.

With respect to *data collection*, in the 2014 round of the AmericasBarometer we expanded the use of handheld electronic devices. For the first time, we employed for data collection the “Adgys”<sup>©</sup> questionnaire app designed by our partners in Cochabamba, Bolivia. The use of electronic devices for interviews and data entry in the field reduces data entry errors, supports the use of multiple languages, and permits LAPOP to track on a daily basis the progress of the survey, down to the location of interviews (which are monitored in real time, or nearly real time, but not recorded into the public datasets in order to preserve respondents’ privacy) and the timing of the interviews. The team in Bolivia worked long hours to program the samples and questionnaires into the Adgys platform for the 20 countries in which we used this technology. In the remaining 6 countries we continued our use of PDAs and a Windows Mobile-based software application supported by our hardworking partners at the University of Costa Rica.

The remaining pages of this technical note describe the sample design of the AmericasBarometer 2014 survey in Costa Rica.

## ***Costa Rica 2014 AmericasBarometer Round***

This survey was carried out between March 4<sup>th</sup> and May 6<sup>th</sup>, as part of the LAPOP AmericasBarometer 2014 wave of surveys. It is a follow-up of the national surveys of 2004, 2006, 2008, 2010 and 2012 carried out by the LAPOP. The 2014 survey was conducted by Vanderbilt University with the field work being carried out by Borge y Asociados. The 2014 AmericasBarometer received generous support from many sources, including USAID, UNDP, IADB, Vanderbilt U., Princeton U., Université Laval, U. of Notre Dame, among others.

The project used a national probability sample design of voting-age adults, with a total N of 1,541 people. It involved face-to-face interviews conducted in Spanish. The survey used a complex sample design, taking into account stratification and clustering. The sample consists of three strata representing the three main geographical regions: Metropolitan Area of San José, Rest of the Central Valley and Areas beyond the Central Valley. Each stratum was further sub-stratified by size of municipality<sup>2</sup> and by urban and rural areas within municipalities. Respondents were selected in clusters of 6 interviews in urban areas and rural areas.

The sample consists of 30 primary sampling units (cantons) and 250 final sampling units including all 7 provinces in Costa Rica. A total of 974 respondents were surveyed in urban areas and 567 in rural areas. The estimated margin of error for the survey is  $\pm 2.5$ .

Table 1 shows the unweighted sample size in each of the three regions (strata) and by municipality size.

**Table 1: Sample sizes by Strata and municipality size in the 2014 AmericasBarometer Survey in Costa Rica**

<b>Strata</b>	<b>Unweighted Sample Size</b>
Metropolitan Area of San José	453
Rest of the Central Valley	567
Central Valley Peripheral Areas	521
<b>Total</b>	<b>1,541</b>
<b>Size of the Municipality</b>	
More than 100,000 inhabitants	517
Between 25,000 and 100,000 inhabitants	817
Less than 25,000 inhabitants	153
<b>Total</b>	<b>1,541</b>

<sup>2</sup> The new sample design included three different strata of municipalities classified according to their size. Municipalities were grouped in sizes as follow: (1) Small municipalities with less than 25,000 inhabitants, (2) Medium-sized municipalities with between 25,000 and 100,000 inhabitants, (3) Large municipalities with more than 100,000 inhabitants.

Quotas for gender and age were adopted since multiple recalls in a national sample such as this are impractical from a cost standpoint. Our experience shows that even three recalls leave the sample with a notable gender imbalance (more women than men). Rather than have to include post-hoc weights to adjust for this sample error, we resolve the problem in the field via quotas.

### ***Weighting of the Costa Rica datasets***

The AmericasBarometer samples of Costa Rica are self-weighted. The dataset contains a variable called WT which is the “country weight” variable. Since in the case of Costa Rica the sample is self-weighted, the value of each case = 1. The variable “WEIGHT1500” should be activated to produce representative national results. 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. In SPSS this is done via the “weight” command.

The questionnaire used in this round and the country report can be found on the LAPOP website: [www.AmericasBarometer.org](http://www.AmericasBarometer.org). Further details of the sample design are contained in the country report.