

## SUPPORTING STATEMENT

### **B. Collections of Information Employing Statistical Methods**

#### **1. Sample Selection and Universe**

The universe of Telephone Point-of-Purchase Survey (TPOPS) is the civilian non-institutional urban population of the U.S.

The sample design for TPOPS is a two-phase sample where the BLS selects a sample of Primary Sampling Units (PSUs) in the first phase and the Census Bureau selects a sample of telephone numbers within the PSUs in the second phase. For TPOPS, a PSU is a Core-based Statistical Area (CBSA), as defined by OMB. Counties located outside of CBSA definitions have been excluded from the universe of interest. The second phase sample is a random digit dialing (RDD) sample of landline and cell phone numbers. The TPOPS has an eight-panel rotating sample design, in which approximately one-eighth of the sample is replaced by fresh sample each quarter, and each panel stays in the sample for two years. The Census Bureau also factors in attrition when determining the necessary sample size.

During the period of 2018 – 2020, TPOPS will be transitioning from a geographic design based on the 1990 Census to one based on the 2010 Census. This redesign began in 2015 and new PSUs are being introduced in waves. The redesign will conclude in Q214, when the sample will consist of 75 PSUs. New PSUs enter the sample for four quarters, leave the sample for six to ten quarters, and re-enter the sample permanently. The initial four quarters is referred to as the “phase-in period,” in which the PSUs are sampled at four times the normal rate in the initial quarter, and the subsequent interviews are conducted without sample replenishment. When the new PSUs re-enter the sample permanently, all eight panels enter the sample in the initial quarter and one panel is replaced each quarter until all 8 panels have been replaced.

The BLS expects a total number of 7,700 to 10,800 completed interviews for each quarter, distributed over 69 PSUs in the 2018 design. Table 1 summarizes the number of sample PSUs each quarter along with the expected number of completed interviews. The PSUs in TPOPS are of two types: (1) large self-representing (SR) CBSAs, (2) medium and small non-self-representing (NSR) CBSAs.

**Table 1. Number of Primary Sampling Units and Target Completions by Quarter**

Fiscal Year	Interview Quarters	Regular PSUs	Phase-In PSUs	Target Completions per Quarter
2018	Q174 – Q181	60	6	10,756

2018	Q182 – Q183	60	0	7,684
2019	Q184 – Q191	60	0	7,684
2019	Q192 – Q193	60	3	9,252
2020	Q194 – Q201	66	3	9,998
2020	Q202 – Q203	66	0	8,430

Currently, within each PSU the Census Bureau selects two different samples from two different frames. One sample is selected from a landline frame. The landline frame is a list-assisted RDD sample of telephone numbers. It is called listed-assisted because the within PSU sampling frame includes all of the landline telephone numbers in working banks with at least one telephone number listed in the white pages. Here a working bank is defined as the set 100 telephone numbers with the same first eight digits. Working banks are historically the unit which telephone companies use to manage telephone numbers. For each PSU, sampling will be carried out independently using the Virtual GENESYS software. Once the GENESYS sampling frame is subset into the appropriate PSUs an EPSEM RDD sample of landline telephone numbers for each PSU is selected independently using the Virtual GENESYS software. An EPSEM RDD sample is a single stage equal probability selection of sample telephone numbers.

A second sample is selected from the cell phone frame. The cell phone frame is also a RDD sample of telephone numbers from a database constructed by incorporating wire center data. A wire center is typically a general geographic area which is serviced by a defined set of exchanges. Each wire center has a set of area code exchanges (NPA-NXX) with the same first six digits that are dedicated to providing wireless service. It is not list assisted. There are no published or compiled lists of cell phone numbers available. The sample generation for the cell phone frame is also an EPSEM sample in Virtual GENESYS where every possible number has an equal probability of selection.

Data from the National Health Interview Survey (NHIS) were used to estimate the percentages of (i) cell-only, (ii) landline only, and (iii) both cell and landline households. The target number of interviewed cases required in TPOPS, in each PSU, are split into two frames based upon these percentages: (1) a landline number frame, and (2) a cell phone number frame. Households that fall into the ‘Both’ landline and cell phone category are divided between the two frames based on results from the NHIS for July-December, 2008. They asked households that had at least one landline and at least one cell phone what phone they mostly used: 24% in urban areas considered themselves to be cell-mostly. Using these data, 25% of the target for ‘Both’ go into the cell phone frame and 75% go into the landline frame. More recent NHIS estimates from 2013 indicate 40% of the urban population consider themselves to be cell-mostly. In 2015 it was determined to be cost prohibitive to update the cell

phone sampling ratio from 25% to 40% due to the higher cost of contacting cell phone numbers. However weighting proportions were updated so the weighted sample reflects the 40% usage rate of cell-mostly households.

During 2016, approximately 20.3 telephone numbers were selected to get one completed interview in the first quarter of interviewing for landlines, and approximately 15.5 numbers were selected to get one completed interview for cell phones. The reasons for not completing an interview include non-interviews and ineligible units. The three types of ineligible units for an RDD survey include nonresidential units, nonworking numbers, and units not within the PSU boundaries.

## 2. Survey Design

### a. Data Collection

The design of the 2018-2020 TPOPS survey consists of the collection of the point-of-purchase information in roughly 36,000 interviews each year. The U.S. Bureau of the Census, acting as an agent for the U.S. Bureau of Labor Statistics, is responsible for the collection in all phases of the survey.

Of the sample of telephone numbers, we expect approximately 59% will be eligible residential households. Of these, approximately 32% of the units will participate in the survey. These response rates vary by PSU and the total designated sample by PSU is adjusted accordingly.

In the survey, one respondent will be interviewed for all members of one household in the sample household. A household is defined as a person living alone or a group of two or more persons who are related by blood, marriage, or other arrangement, or a group of two or more persons who share major expenses. An early question will identify the household member who “has knowledge of the household expenditures” (18 years of age or older). It is expected that in many cases this person will be the one who answers the phone.

Each household may be contacted for an interview up to eight times (once per calendar quarter) over a period of up to 2 years. Exceptions to this include those households identified as ineligible during their first interview and those households who refuse to participate in the survey in two consecutive quarters. Additionally, the Census Bureau subsamples 10% of phone numbers with a ring-

no-answer outcome during the initial interview, and 25% of phone numbers with the other outcomes of unknown eligibility. The Census Bureau also does not call nonworking or nonresidential numbers identified during their first interview.

The categories of goods and services for which TPOPS collects outlets are divided into 16 groups with each group comprising 8-14 categories. During a quarter, one of the 16 groups is asked in each PSU such that in any one PSU, over a 4 year period, all categories will be asked. It is also the case that in any given quarter, every category will be asked in at least one PSU.

b. Quality Control

In this survey, the Census Bureau will maintain high levels of data accuracy and response rates through interviewer instruction, training, and close monitoring of the data. At the CATI facilities, staff will have the ability to monitor interviewers at any time and provide immediate verbal feedback. The data collection instrument is set up to check each address given for an outlet for proper format (i.e., a numeric entry for a street address, and a usable two alpha character state code).

3. Methods to Maximize Response.

RDD Telephone Surveys are expected to have high non-response rates. In the implementation of TPOPS, the following procedures are used to maximize response rates and reduce nonresponse:

- Advance letters are sent to all sample telephone numbers that can be associated with an address. To get the addresses, the samples of telephone numbers are provided to a vendor that can match the telephone numbers to their files and return the associated addresses.
- Addresses are collected in the first contact with a respondent. Letters or postcards are sent to households prior to each subsequent quarter for which they are in sample.
- Follow up letters are sent during the interviewing period to soft refusals.
- Floor Supervisors in each CATI facility attempt to convert each refusal.

- A respondent website is available containing background information about the survey, and a schedule of what types of questions will be asked each quarter in each eligible county.

CPI conducted a non-response bias analysis in 2017 to attempt to determine if the TPOPS exhibits non-response bias. The goal of the TPOPS is to collect a representative frame of outlets from which to select the outlet sample for the CPI's pricing survey. Because there is no good source to determine how representative the outlets from TPOPS are, two proxies were used: demographics and expenditures. For the results of these comparisons, see Attachment F, 'Nonresponse Bias Analysis 2017.'

#### 4. Testing of Procedures.

The BLS acceptance tests all CATI instruments before their implementation in the field. For each quarter that new sample is being introduced, BLS will review the instrument to ensure that the correct PSUs will be contacted. Any instrument changes are tested with mock scenarios to ensure the correct path is followed in a variety of circumstances. Additionally, cognitive testing is used for any questionnaire changes before implementation.

#### 5. Statistical Contact

The BLS has consulted the following individual:

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