**Supporting Statement**
**U.S. Department of Commerce**
**National Telecommunications and Information Administration**
**Computer and Internet Use Supplement to the Census Bureau's Current Population Survey**
**OMB Control No. 0660-0021**

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

1. **Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection method to be used. Data on the number of entities (e.g. establishments, State and local governmental units, households, or persons) in the universe and the corresponding sample are to be provided in tabular form. The tabulation must also include expected response rates for the collection as a whole. If the collection has been conducted before, provide the actual response rate achieved.**

In accordance with our standard practice, the CPS sample has been redesigned based on information collected in the 2010 Decennial Census. The universe for the CPS is 114 million households. From this universe, the Census Bureau selects a sample of approximately 72,000 households each month. Of these, approximately 59,000 households will be eligible for interview. The Census Bureau designed the CPS sample to produce estimates of employment and unemployment characteristics with sufficient reliability to meet the Bureau of Labor Statistics' requirements for monthly data and estimates of month-to-month, quarter-to-quarter, and year-to-year changes. The coefficient of variation on estimates of unemployment is 1.9 percent monthly at the national level. It is 8.0 percent annually at the state level. This degree of accuracy is sufficient to meet the needs mandated.

One of the primary goals for the CPS is to provide estimates of month-to-month change in the employment and unemployment statistics. The current rotation pattern for the CPS (4-8-4) was chosen because it provides such estimates reliably with a much smaller sample size than an annual rotation would.

Attachment A gives an overview of the CPS sample design and weighting methodology. All households within CPS are eligible of the Computer and Internet Use Supplement.

We maintain response rates and data accuracy for the CPS at high levels through interviewer instruction and training, and close monitoring of data output. Refer to section 3 of Attachment A for a discussion of the CPS nonresponse.

2. **Describe the procedures for the collection, including: the statistical methodology for stratification and sample selection; the estimation procedure; the degree of accuracy needed for the purpose described in the justification; any unusual problems requiring specialized sampling procedures; and any use of periodic (less frequent than annual) data collection cycles to reduce burden.**

Under the estimating methods used in the CPS, all of the results for a given month become available simultaneously and are based on returns for the entire panel of respondents. The CPS estimation procedure involves weighting the data from each sample person. The unbiased

weight, which is the inverse of the probability of the person being in the sample, is a rough measure of the number of actual persons that the sample person represents. Almost all sample persons within the same state have the same unbiased weight. The unbiased weights are then adjusted for noninterview, and a ratio adjustment procedure is applied.

*a. Noninterview Adjustment*

The weights for all interviewed households are adjusted to account for occupied sample housing units for which no information was obtained. Reasons for a noninterviewed household include absence of the occupants, impassable roads, refusal of the occupant to participate in the survey, or unavailability of the occupant for other reasons. The noninterview adjustment is performed by noninterview cluster. Noninterview clusters are classified as either metropolitan or non-metropolitan. PSUs classified as metropolitan are assigned to metropolitan clusters. PSUs representing metropolitan areas of the same or similar size (based on Census 2010 population) are grouped in the same noninterview cluster. Each metropolitan cluster is further divided into two cells: central city and balance of the metropolitan area. Likewise, non-metropolitan PSUs are assigned to non-metropolitan clusters. All non-metropolitan areas in a state are placed within the same noninterview cluster. Due to small sample sizes, a few non-metropolitan noninterview clusters contain PSUs from more than one state.

*b. Adjusting Estimates to Population Controls*

The distribution of the population selected in the sample may differ somewhat, by chance, from that of the population as a whole in such characteristics as age, race, Hispanic origin, and sex. Since these characteristics are correlated closely with labor force participation and other principal measurements made from the sample, the latter estimates can be improved substantially when weighted appropriately by the known distribution of these population characteristics. This is accomplished through four adjustments as follows:

1) First-stage ratio adjustment

In the CPS, some of the sample areas are chosen to represent both themselves and other areas in the same state, but not in the sample; the remainder of the sample areas represent only themselves. The first-stage ratio estimation procedure is designed to reduce that portion of the variance resulting from requiring sample areas to represent areas not in sample (i.e., non self-representing PSUs). Therefore, this adjustment procedure is applied only to sample areas that represent other areas and is done by Black-alone /not-Black-alone cells at a state level. Each race cell is further divided into two age cells: age 0-15, and age 16 and older.

2) National and state coverage adjustments

The national and state coverage adjustments were introduced in January 2003 in an effort to improve the national and state estimates by race, Hispanic origin, sex, and age. The national coverage adjustment is done by Black alone, White alone, Asian alone, and All Other Race for non-Hispanics and by White alone, and All Other Race for Hispanics.

The All-Other-Race category includes respondents who indicate they belong to more than one race. These race/ethnicity categories are further divided into cells representing various

combinations of age and sex.

The national adjustment is performed by month-in-sample pair *(*1,5; 2,6; 3,7; and 4,8).

The cells used in the state coverage adjustment are defined by race category (Black alone, not Black alone), age, and sex.  The adjustment is performed either for each month-in-sample pair or for all eight month-in-sample groups combined.  The actual cells used vary by state and race category.

3) Second-stage ratio adjustment

The second-stage ratio adjustment modifies sample estimates in a number of age-sex-race-Hispanic origin groups to independently derived census-based estimates of the civilian noninstitutional population (CNP) in each of these groups.  This adjustment reduces mean square error of sample estimates by reducing bias due to differential coverage of the sampling frame.  The adjustment is carried out in three steps and each set of three steps is referred to as a "rake."  There are 10 cycles (or iterations) of raking.  Each step in each rake is done by month-in-sample pair.

In the first step, the sample estimates are adjusted for each state and the District of Columbia to independent controls for the CNP by age and sex.  There are three age cells by sex (0-15, 16-44, 45 and over).  The second step of the adjustment is done at the national level by Hispanic origin status.  Hispanic and non-Hispanic each have 13 age/sex cells, which are adjusted to nationwide independent controls.  The third and final step of the second-stage adjustment is performed by race (Black alone, White alone, All Other Race).  The All-Other- Race category includes respondents who indicate they belong to more than one race.  The cell division is by age/race/sex.  Each of these cells is adjusted to national independent population controls as in the previous step.

The entire second-stage adjustment procedure is iterated through 10 rakes.  This iteration ensures that the sample estimates of state and national population by the various age-sex-race-Hispanic origin categories will be virtually equal to the independent population controls.

3.  **Describe the methods used to maximize response rates and to deal with nonresponse. The accuracy and reliability of the information collected must be shown to be adequate for the intended uses.  For collections based on sampling, a special justification must be provided if they will not yield "reliable" data that can be generalized to the universe studied.**

If a respondent is reluctant to participate in the CPS, the interviewer immediately informs the regional office staff. The regional office sends a follow-up letter to the household explaining CPS in greater detail and urging cooperation. The interviewer then recontacts the household and attempts the interview again. If this procedure fails, a field supervisor then contacts the household in an attempt to convert the reluctant respondent. Methods used to interview reluctant households include conducting telephone or personal interviews with the household, if so requested, and interviewing a designated individual within the household. The CPS estimation procedure adjusts for household nonresponse in its noninterview adjustment procedure, detailed in the preceding Paragraph 2.a. Three imputation methods for individual item nonresponse are

3

used:  relational imputation, hot-deck imputation, and longitudinal assignments. As appropriate, longitudinal assignments are used in most of the labor force edits. The CPS household noninterview rate ranges between 9 and 10 percent monthly. Accuracy of the CPS data is maintained through interviewer training and monthly home studies, monitoring of error and noninterview rates, and systematic reinterviewing of CPS households. Each month about 10 percent of all CPS enumerators have a portion of their assignments reinterviewed for quality control purposes. Depending on the interviewer's experience level and position, they can be selected as many as three times every 15 months. Errors uncovered during the reinterview are discussed with the original interviewer and remedial action is taken. Given that the additional computer and Internet questions are within the defined limit of under 10 additional minutes, we do not anticipate any adverse impact on the supplement nonresponse rate. Should there be any item nonresponse for the computer and Internet use questions, they will be allocated using a procedure in which the missing data are assigned from individuals whose data are complete and have similar characteristics.

4. **Describe any tests of procedures or methods to be undertaken.  Tests are encouraged as effective means to refine collections, but if ten or more test respondents are involved OMB must give prior approval.**

CPS is an ongoing survey in the current CATI/CAPI environment since 1994.  The supplement does not require any new procedures.

The 2015 supplement underwent two rounds of Cognitive Testing, which was used to improve wording of the questionnaire to increase data accuracy and reduce response burden. (See *Cognitive Prestesting of the 2015 CPS Computer and Internet Use Supplement Final Report*, Attachment ___)

5. **Provide the name and telephone number of individuals consulted on the statistical aspects of the design, and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.**

Individuals consulted on the statistical aspects of the CPS are -

Census/Demographic Statistical Methods Division
Ruth Ann Killion (301/763-3814)
Yang Cheng (301)763 -3287

Census/Responsible for data collection and processing
Lisa Clement 301/763-5482