ATTACHMENT 16

Source and Accuracy of the January 2006 CPS
Microdata File Displaced Worker,
Employee Tenure, and Occupational Mobility

SOURCE OF DATA

The data in this microdata file come from the January 2006 Current Population Survey (CPS). The Census Bureau conducts the CPS every month, although this file has only January 2006 data. The January 2006 survey uses two sets of questions, the basic CPS and a set of supplemental questions. The CPS, sponsored jointly by the Census Bureau and the U.S. Bureau of Labor Statistics, is the county's primary source of labor force statistics for the entire population. The Census Bureau and the Bureau of Labor Statistics also jointly sponsor the supplemental questions for January 2006.

Basic CPS. The monthly CPS collects primarily labor force data about the civilian noninstitutional population living in the United States. The institutionalized population, which is excluded from the population universe, is composed primarily of the population in correctional institutions and nursing homes (91 percent of the 4.1 million institutionalized people in Census 2000). Interviewers ask questions concerning labor force participation about each member 15 years old and over in sample households. Typically, the week containing the 19th of the month is the interview week. The week containing the 12th is the reference week (i.e., the week about which the labor force questions are asked).

The CPS uses a multistage probability sample based on the results of the decennial census, with coverage in all 50 states and the District of Columbia. The sample is continually updated to account for new residential construction. When files from the most recent decennial census become available, the Census Bureau gradually introduces a new sample design for the CPS[1].

In April 2004, the Census Bureau began phasing out the 1990 sample and replacing it with the 2000 sample, creating a mixed sampling frame. Two simultaneous changes occurred during this phase-in period. First, primary sampling units (PSUs)[2] selected for only the 2000 design gradually replaced those selected for the 1990 design. This involved 10 percent of the sample. Second, within PSUs selected for both the 1990 and 2000 designs, sample households from the 2000 design gradually replaced sample households from the 1990 design. This involved about 90 percent of the sample. The new sample design was completely implemented by July 2005.

In the first stage of the sampling process, PSUs are selected for sample. The United States is divided into 2,025 PSUs. The PSUs were redefined for this design to correspond to the Office of Management and Budget definitions of Core-Based Statistical Area definitions and to improve efficiency in field operations. These PSUs are grouped into 824 strata. Within each stratum, a single PSU is chosen for the sample, with its probability of selection proportional to its population as of the most recent decennial census. This PSU represents the entire stratum from which it was selected. In the case of strata consisting of only one PSU, the PSU is chosen with certainty.

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1 For detailed information on the 1990 sample redesign, please see reference [1].

2 The PSUs correspond to substate areas (i.e., counties or groups of counties) that are geographically contiguous.

Approximately 72,000 housing units were selected for sample from the mixed sampling frame in January 2006. Based on eligibility criteria, 11 percent of these housing units were sent directly to Computer-Assisted Telephone Interviewing (CATI). The remaining units were assigned to interviewers for Computer-Assisted Personal Interviewing (CAPI).[3] Of all housing units in sample, about 60,000 were determined to be eligible for interview. Interviewers obtained interviews at about 55,000 of these units. Noninterviews occur when the occupants are not found at home after repeated calls or are unavailable for some other reason.

January 2006 Supplement. In January 2006, in addition to the basic CPS questions, interviewers asked supplementary questions about displaced workers, employee tenure, and occupational mobility.

Estimation Procedure. This survey's estimation procedure adjusts weighted sample results to agree with independently derived population estimates of the civilian noninstitutional population of the United States and each state (including the District of Columbia). These population estimates, used as controls for the CPS, are prepared monthly to agree with the most current set of population estimates that are released as part of the Census Bureau's population estimates and projections program.

The population controls for the nation are distributed by demographic characteristics in two ways:

- Age, sex, and race (White alone, Black alone, and all other groups combined), and
- Age, sex, and Hispanic origin.

The population controls for the states are distributed by race (Black alone and all other race groups combined), age (0-15, 16-44, and 45 and over), and sex.

The independent estimates by age, sex, race, and Hispanic origin and for states by selected age groups and broad race categories are developed using the basic demographic accounting formula whereby the population from the latest decennial data is updated using data on the components of population change (births, deaths, and net international migration) with net internal migration as an additional component in the state population estimates.

The net international migration component in the population estimates includes a combination of:

- Legal migration to the United States,
- Emigration of foreign born and native people from the United States,
- Net movement between the United States and Puerto Rico,
- Estimates of temporary migration, and
- Estimates of net residual foreign-born population, which include unauthorized migration.

Because the latest available information on these components lags the survey date, it is necessary to make short-term projections of these components to develop the estimate for the survey date.

[3] For further information on CATI and CAPI and the eligibility criteria, please see reference [2].

ACCURACY OF THE ESTIMATES

A sample survey estimate has two types of error: sampling and nonsampling. The accuracy of an estimate depends on both types of error. The nature of the sampling error is known given the survey design; the full extent of the nonsampling error is unknown.

Sampling Error. Since the CPS estimates come from a sample, they may differ from figures from an enumeration of the entire population using the same questionnaires, instructions, and enumerators. For a given estimator, the difference between an estimate based on a sample and the estimate that would result if the sample were to include the entire population is known as sampling error. Standard errors, as calculated by methods described in "Standard Errors and Their Use," are primarily measures of the magnitude of sampling error. However, they may include some nonsampling error.

Nonsampling Error. For a given estimator, the difference between the estimate that would result if the sample were to include the entire population and the true population value being estimated is known as nonsampling error. Sources of nonsampling errors include the following:

- Inability to get information about all sample cases (nonresponse).
- Definitional difficulties.
- Differences in the interpretation of questions.
- Respondent inability or unwillingness to provide correct information.
- Respondent inability to recall information.
- Errors made in data collection, such as recording and coding data.
- Errors made in processing the data.
- Errors made in estimating values for missing data.
- Failure to represent all units with the sample (undercoverage).

The Census Bureau employs quality control procedures throughout the production process including the overall design of surveys, the wording of questions, the review of the work of interviewers and coders, and the statistical review of reports to minimize these errors.

Two types of nonsampling error that can be examined to a limited extent are nonresponse and undercoverage.

Nonresponse. The effect of nonresponse cannot be measured directly, but one indication of its potential effect is the nonresponse rate. For the January 2006 basic CPS, the household-level nonresponse rate was 8.3 percent. The person-level nonresponse rate for the displaced workers, employee tenure, and occupational mobility supplement was an additional 4.2 percent. Since the basic CPS nonresponse rate is a household-level rate and the displaced workers, employee tenure, and occupational mobility supplement nonresponse rate is a person-level rate, we cannot combine these rates to derive an overall nonresponse rate. Since it is unlikely the nonresponding households to the basic CPS have the same number of persons as the households successfully interviewed, combining these rates would result in an overestimate of the "true" person-level overall nonresponse rate for the displaced workers, employee tenure, and occupational mobility supplement.

Coverage. The concept of coverage in the survey sampling process is the extent to which the total population that could be selected for sample "covers" the survey's target population. Missed housing units and missed people within sample households create undercoverage in the CPS. Overall CPS undercoverage for January 2006 is estimated to be about 10 percent. CPS coverage varies with age, sex,

and race. Generally, coverage is larger for females than for males and larger for non-Blacks than for Blacks. This differential coverage is a general problem for most household-based surveys.

The CPS weighting procedure partially corrects for bias from undercoverage, but biases may still be present when people who are missed by the survey differ from those interviewed in ways other than age, race, sex, Hispanic ancestry, and state of residence. How this weighting procedure affects other variables in the survey is not precisely known. All of these considerations affect comparisons across different surveys or data sources.

A common measure of survey coverage is the coverage ratio, calculated as the estimated population before poststratification divided by the independent population control. Table 1 shows January 2006 CPS coverage ratios by age and sex for certain race and Hispanic groups. The CPS coverage ratios can exhibit some variability from month to month.

Table 1. CPS Coverage Ratios {tc "CPS Coverage Ratios " \f D }: January 2006

	Totals			White Only		Black Only		Residual Race		Hispanic	
Age Group	All People	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
0-15	0.92	0.91	0.93	0.93	0.95	0.80	0.83	0.92	0.91	0.95	0.93
16-19	0.89	0.89	0.89	0.90	0.89	0.80	0.87	0.93	0.94	0.98	0.96
20-24	0.80	0.78	0.82	0.80	0.82	0.67	0.75	0.79	0.87	0.84	0.84
25-34	0.84	0.81	0.87	0.83	0.88	0.68	0.82	0.76	0.87	0.77	0.93
35-44	0.91	0.88	0.93	0.90	0.97	0.74	0.77	0.84	0.84	0.81	0.98
45-54	0.92	0.90	0.93	0.92	0.94	0.80	0.90	0.87	0.88	0.89	0.93
55-64	0.93	0.92	0.93	0.93	0.93	0.85	0.93	0.99	0.95	0.80	0.82
65+	0.95	0.95	0.95	0.95	0.95	0.94	1.01	0.92	0.90	0.91	0.87
15+	0.90	0.88	0.91	0.90	0.92	0.77	0.86	0.86	0.89	0.84	0.92
0+	0.90	0.89	0.91	0.90	0.93	0.78	0.85	0.87	0.89	0.87	0.92

Notes: (1) The Residual Race group includes cases indicating a single race other than White or Black, and cases indicating two or more races.
(2) Hispanics may be of any race. For a more detailed discussion on the use of parameters for race and ethnicity, please see the "Generalized Variance Parameters" section.

Comparability of Data. Data obtained from the CPS and other sources are not entirely comparable. This results from differences in interviewer training and experience and in differing survey processes. This is an example of nonsampling variability not reflected in the standard errors. Therefore, caution should be used when comparing results from different sources.

Data users should be careful when comparing the data from this microdata file, which reflects Census 2000-based controls, with microdata files from March 1994 through December 2001, which reflect 1990 census-based controls. Ideally, the same population controls should be used when comparing any estimates. In reality, the use of same population controls is not practical when comparing trend data over a period of 10 to 20 years. Thus, when it is necessary to combine data or compare data based on different controls and/or different designs, data users should be aware that changes in weighting controls and/or weighting procedures can create small differences between estimates. See the discussion below for information on comparing estimates derived from different sample designs.

Microdata files from previous years reflect the latest available census-based controls. Although this change in population controls had relatively little impact on summary measures such as averages, medians, and percentage distributions, it did have a significant impact on levels. For example, use of Census 2000-based controls results in about a one percent increase from the 1990 census-based controls in the civilian noninstitutional population and in the number of families and households. Thus, estimates of levels for data collected 2002 and later years will differ from those for earlier years by more than what could be attributed to actual changes in the population. These differences could be disproportionately greater for certain population subgroups than for the total population.

Note that certain microdata files from 2002, namely June, October, and November, contain both Census 2000-based estimates and 1990 census-based estimates and are subject to the comparability issues discussed above. All other microdata files from 2002 reflect the 1990 census-based controls.

Users should also exercise caution because of changes caused by the phase-in of the Census 2000 files. During this time period, CPS data are collected from sample designs based on different censuses. Three features of the new CPS design have the potential of affecting published estimates: (1) the temporary disruption of the rotation pattern from August 2004 through June 2005 for a comparatively small portion of the sample, (2) the change in sample areas, and (3) the introduction of the new Core-Based Statistical Areas (formerly called metropolitan areas). Most of the known effect on estimates during and after the sample redesign will be the result of changing from 1990 to 2000 geographic definitions. Research has shown that the national-level estimates of the metropolitan and nonmetropolitan populations should not change appreciably because of the new sample design. However, users should still exercise caution when comparing metropolitan and nonmetropolitan estimates across years with a design change, especially at the state level.

Caution should also be used when comparing Hispanic estimates over time. No independent population control totals for people of Hispanic ancestry were used before 1985.

A Nonsampling Error Warning. Since the full extent of the nonsampling error is unknown, one should be particularly careful when interpreting results based on small differences between estimates. Even a small amount of nonsampling error can cause a borderline difference to appear significant or not, thus distorting a seemingly valid hypothesis test. Caution should also be used when interpreting results based on a relatively small number of cases. Summary measures (such as medians and percentage distributions) probably do not reveal useful information when computed on a subpopulation smaller than 75,000.

For additional information on nonsampling error including the possible impact on CPS data when known, refer to references [2] and [3].

Standard Errors and Their Use. The sample estimate and its standard error enable one to construct a confidence interval. A confidence interval is a range that would include the average result of all possible samples with a known probability. For example, if all possible samples were surveyed under essentially the same general conditions and using the same sample design, and if an estimate and its standard error were calculated from each sample, then approximately 90 percent of the intervals from 1.645 standard errors below the estimate to 1.645 standard errors above the estimate would include the average result of all possible samples.

A particular confidence interval may or may not contain the average estimate derived from all possible samples. However, one can say with specified confidence that the interval includes the average estimate calculated from all possible samples.

Standard errors may also be used to perform hypothesis testing, a procedure for distinguishing between population parameters using sample estimates. The most common type of hypothesis is that the population parameters are different. An example of this would be comparing the percentage of men who were part-time workers to the percentage of women who were part-time workers.

Tests may be performed at various levels of significance. A significance level is the probability of concluding that the characteristics are different when, in fact, they are the same. For example, to conclude that two characteristics are different at the 0.10 level of significance, the absolute value of the estimated difference between characteristics must be greater than or equal to 1.645 times the standard error of the difference.

The Census Bureau uses 90-percent confidence intervals and 0.10 levels of significance to determine statistical validity. Consult standard statistical textbooks for alternative criteria.

Estimating Standard Errors. The Census Bureau uses replication methods to estimate the standard errors of CPS estimates. These methods primarily measure the magnitude of sampling error. However, they do measure some effects of nonsampling error as well. They do not measure systematic biases in the data associated with nonsampling error. Bias is the average over all possible samples of the differences between the sample estimates and the true value.

Generalized Variance Parameters. While it is possible to compute and present an estimate of the standard error based on the survey data for each estimate in a report, there are a number of reasons why this is not done. A presentation of the individual standard errors would be of limited use, since one could not possibly predict all of the combinations of results that may be of interest to data users. Additionally, variance estimates are based on sample data and have variances of their own. Therefore, some methods of stabilizing these estimates of variance, for example, by generalizing or averaging over time, may be used to improve their reliability.

Experience has shown that certain groups of estimates have similar relationships between their variances and expected values. Modeling or generalizing may provide more stable variance estimates by taking advantage of these similarities. The generalized variance function is a simple model that expresses the variance as a function of the expected value of the survey estimate. The parameters of the generalized variance function are estimated using direct replicate variances. These generalized variance parameters provide a relatively easy method to obtain approximate standard errors for numerous characteristics. In this source and accuracy statement, Table 3 provides the generalized variance parameters for labor force estimates and estimates from the January 2006 supplement.

The basic CPS questionnaire records the race and ethnicity of each respondent. With respect to race, a respondent can be White, Black, Asian, American Indian or Alaskan Native (AIAN), Native Hawaiian or Other Pacific Islander (NHOPI), or combinations of two or more of the preceding. A respondent's ethnicity can be Hispanic or non-Hispanic, regardless of race.

The generalized variance parameters to use in computing standard errors are dependent upon the race/ethnicity group of interest. The following table summarizes the relationship between the race/ethnicity group of interest and the generalized variance parameters to use in standard error calculations.

Table 2. Estimation Groups of Interest and Generalized Variance Parameters	
Race/Ethnicity Group of Interest	**Generalized Variance Parameters To Use in Standard Error Calculations**
Total Population	Total or White
Total White, White AOIC, or White Non-Hispanic Population	Total or White
Total Black, Black AOIC, or Black Non-Hispanic Population	Black
Total API, AIAN, NHOPI; API, AIAN, NHOPI AOIC; or API, AIAN, NHOPI Non-Hispanic Population	API, AIAN, NHOPI
Populations from Other Race Groups	API, AIAN, NHOPI
Hispanic Population	Hispanic

Notes: (1) API, AIAN, and NHOPI are Asian and Pacific Islander, American Indian or Alaska Native, and Native Hawaiian or Other Pacific Islander, respectively.
(2) AOIC is an abbreviation for "Alone or In Combination." The AOIC population for a race group of interest includes people reporting only the race group of interest ("alone") and people reporting multiple race categories including the race group of interest ("in combination").
(3) Hispanics may be of any race.

Standard Errors of Estimated Numbers. The approximate standard error, s_x, of an estimated number from this microdata file can be obtained by using the formula:

$$s_x = \sqrt{ax^2 + bx} \qquad (1)$$

Here x is the size of the estimate and a and b are the parameters in Table 3 associated with the particular type of characteristic. When calculating standard errors from cross-tabulations involving different characteristics, use the set of parameters for the characteristic that will give the largest standard error.

Illustration 1
Suppose there were 3,648,000 unemployed men in the civilian labor force. Use the appropriate parameters from Table 3 and Formula 1 to get

Illustration 1	
Number of unemployed men in the civilian labor force (x)	3,648,000
a parameter (a)	-0.000032
b parameter (b)	2,971
Standard error	102,000
90% confidence interval	3,480,000 to 3,816,000

The standard error is calculated as

$$s_x = \sqrt{-0.000032 \times 3{,}648{,}000^2 + 2{,}971 \times 3{,}648{,}000} = 102{,}000$$

The 90-percent confidence interval is calculated as 3,648,000 ± 1.645 × 102,000.

A conclusion that the average estimate derived from all possible samples lies within a range computed in this way would be correct for roughly 90 percent of all possible samples.

Standard Errors of Estimated Percentages. The reliability of an estimated percentage, computed using sample data for both numerator and denominator, depends on both the size of the percentage and its base. Estimated percentages are relatively more reliable than the corresponding estimates of the numerators of the percentages, particularly if the percentages are 50 percent or more. When the numerator and denominator of the percentage are in different categories, use the parameter from Table 3 as indicated by the numerator.

The approximate standard error, $s_{x,p}$, of an estimated percentage can be obtained by using the formula:

$$s_{x,p} = \sqrt{\frac{b}{x} p(100 - p)} \qquad (2)$$

Here x is the total number of people, families, households, or unrelated individuals in the base of the percentage, p is the percentage ($0 \le p \le 100$), and b is the parameter in Table 3 associated with the characteristic in the numerator of the percentage.

Illustration 2
Suppose of 8,236,000 displaced workers, 3,616,000, or 43.9 percent, lost their jobs when a plant or company closed down or moved. Use the appropriate parameter from Table 3 and Formula 2 to get

Illustration 2	
Percentage of displaced workers who lost their jobs when a plant or company closed down or moved (p)	43.9
Base (x)	8,236,000
b parameter (b)	3,096
Standard error	0.96
90% confidence interval	42.3 to 45.5

The standard error is calculated as

$$s_{x,p} = \sqrt{\frac{3{,}096}{8{,}236{,}000} \times 43.9 \times (100 - 43.9)} = 0.96$$

The 90-percent confidence interval of the percentage of displaced workers who lost their jobs when a plant or company closed down or moved is from 42.3 to 45.5 percent (i.e., $43.9 \pm 1.645 \times 0.96$).

Standard Errors of Estimated Differences. The standard error of the difference between two sample estimates is approximately equal to

$$s_{x-y} = \sqrt{s_x^2 + s_y^2} \qquad (3)$$

where s_x and s_y are the standard errors of the estimates, x and y. The estimates can be numbers, percentages, ratios, etc. This will result in accurate estimates of the standard error of the same characteristic in two different areas, or for the difference between separate and uncorrelated characteristics in the same area. However, if there is a high positive (negative) correlation between the two characteristics, the formula will overestimate (underestimate) the true standard error.

Illustration 3

Suppose that of 8,293,000 employed men between 25-29 years of age, 70,000 or 0.8 percent were part-time workers, and of the 6,959,000 employed women between 25-29 years of age, 137,000 or 2.0 percent were part-time workers. Use the appropriate parameters from Table 3 and Formulas 2 and 3 to get

Illustration 3			
	Men (x)	Women (y)	Difference
Percentage 25-29 years working part-time (p)	0.8	2.0	1.2
Number	8,293,000	6,959,000	-
b parameter (b)	2,971	2,782	-
Standard error	0.17	0.28	0.33
90% confidence interval	0.5 to 1.1	1.5 to 2.5	0.7 to 1.7

The standard error of the difference is calculated as

$$s_{x-y} = \sqrt{0.17^2 + 0.28^2} = 0.33$$

The 90-percent confidence interval around the difference is calculated as $1.2 \pm 1.645 \times 0.33$. Since this interval does not include zero, we can conclude with 90 percent confidence that the percentage of part-time women workers between 25-29 years of age is greater than the percentage of part-time men workers between 25-29 years of age.

Standard Errors of Estimated Medians. The sampling variability of an estimated median depends on the form of the distribution and the size of the base. One can approximate the reliability of an estimated median by determining a confidence interval about it. (See "Standard Errors and Their Use" for a general discussion of confidence intervals.)

Estimate the 68-percent confidence limits of a median based on sample data using the following procedure.

1. Determine, using Formula 2, the standard error of the estimate of 50 percent from the distribution.

2. Add to and subtract from 50 percent the standard error determined in step 1. These two numbers are the percentage limits corresponding to the 68-percent confidence about the estimated median.

3. Using the distribution of the characteristic, determine upper and lower limits of the 68-percent confidence interval by calculating values corresponding to the two points established in step 2.

   Note: The 68-percent confidence interval limits found in step 2 may or may not fall in the same characteristic distribution interval.

Use the following formula to calculate the upper and lower limits.

$$X_{pN} = \frac{pN - N_1}{N_2 - N_1}(A_2 - A_1) + A_1 \qquad (4)$$

where

X_{pN} = estimated upper and lower bounds for the confidence interval ($0 \le p \le 1$). For purposes of calculating the confidence interval, p takes on the values determined in step 2. Note the X_{pN} estimates the median when p = 0.50.

N = <u>for distribution of numbers</u>: the total number of units (people, households, etc,) for the characteristic in the distribution.

= <u>for distribution of percentages</u>: the value 1.0.

p = the values obtained in step 2.

A_1, A_2 = the lower and upper bounds, respectively, of the interval containing X_{pN}.

N_1, N_2 = <u>for distribution of numbers</u>: the estimated number of units (people, households, etc.) with values of the characteristic less than or equal to A_1 and A_2, respectively.

= <u>for distribution of percentages</u>: the estimated percentage of units (people, households, etc.) having values of the characteristic less than or equal to $A_1$and A_2, respectively.

4. Divide the difference between the two points determined in step 3 by two to obtain the standard error of the median.

Note: Median estimates and their standard errors calculated as shown here may differ from those in published tables showing medians, since narrower intervals were used in those calculations.

<u>Illustration 4</u>
Suppose you want to calculate the standard error of the estimated median of years on the lost job for all displaced workers with the following distribution

Illustration 4			
Years on Lost Job	Number of Persons (in thousands)	Percent Distribution	Cumulative Distribution
<1	1,921,000	24.56	24.56
1-2.99	2,064,000	26.38	50.94
3-4.99	1,155,000	14.76	65.70
5-9.99	1,378,000	17.61	83.32
10-14.99	510,000	6.52	89.84
15-19.99	335,000	4.28	94.12
20+	460,000	5.88	100
Total	7,823,000	100	

1. Using b = 3,096 from Table 3 and Formula 2, the standard error of 50 percent with a base of 7,823,000 is 0.99 percent.

2. To obtain a 68-percent confidence interval on an estimated median, add to and subtract from 50 percent the standard error found in step 1. This yields percentage limits of 49.01 and 50.99.

3. The lower and upper limits for the interval in which the **lower** percentage limit falls are 1 to 2.99 years, respectively.

   Then, the estimated percentage of displaced workers with years on the lost job between 1 and 2.99 are 24.56 and 50.94 percent, respectively.

   Using Formula (4), the **lower** limit for the confidence interval of the median is found to be about

$$X_{pN} = \frac{49.01 - 24.56}{50.94 - 24.56}(2.99 - 1) + 1 = 2.84$$

   The lower and upper limits for the interval in which the **upper** percentage limit falls are 3 to 4.99 years, respectively.

   Then, the estimated percentage of displaced workers with years on the lost job between 3 and 4.99 are 50.94 and 65.70 percent, respectively.

   Using Formula (4), the **upper** limit for the confidence interval of the median is found to be about

$$X_{pN} = \frac{50.99 - 50.94}{65.70 - 50.94}(4.99 - 3) + 3 = 3.01$$

   Thus, a 68-percent confidence interval for the median number of years on the lost job for displaced workers is from 2.84 to 3.01.

4. The standard error of the median is, therefore,

$$s_m = \frac{3.01 - 2.84}{2} = 0.09$$

Standard Errors of Quarterly or Yearly Averages. For information on calculating standard errors for labor force data from the CPS which involve quarterly or yearly averages, please see the "Explanatory Notes and Estimates of Error: Household Data" section in *Employment and Earnings*, a monthly report published by the U.S. Bureau of Labor Statistics.

Technical Assistance. If you require assistance or additional information, please contact the Demographic Statistical Methods Division via e-mail at dsmd.source.and.accuracy@census.gov.

Table 3. Parameters for Computation of Standard Errors for Labor Force Characteristics: January 2006

Characteristic	a	b
Total or White		
Civilian Labor Force, Employed	-0.000016	3,068
Not in Labor Force	-0.000009	1,833
Unemployed	-0.000016	3,096
Civilian Labor Force, Employed, Not in Labor Force, and Unemployed		
Men	-0.000032	2,971
Women	-0.000031	2,782
Both sexes, 16 to 19 years	-0.000022	3,096
Black		
Civilian Labor Force, Employed, Not in Labor Force, and Unemployed		
Total	-0.000151	3,455
Men	-0.000311	3,357
Women	-0.000252	3,062
Both sexes, 16 to 19 years	-0.001632	3,455
Hispanic		
Civilian Labor Force, Employed, Not in Labor Force, and Unemployed		
Total	-0.000141	3,455
Men	-0.000253	3,357
Women	-0.000266	3,062
Both sexes, 16 to 19 years	-0.001528	3,455
API, AIAN, NHOPI		
Civilian Labor Force, Employed, Not in Labor Force, and Unemployed		
Total	-0.000346	3,198
Men	-0.000729	3,198
Women	-0.000659	3,198
Both sexes, 16 to 19 years	-0.004146	3,198

Notes:
(1) These parameters are to be applied to basic CPS monthly labor force estimates.
(2) API, AIAN, NHOPI are Asian and Pacific Islander, American Indian or Alaska Native, and Native Hawaiian or Other Pacific Islander, respectively.
(3) For foreign-born and noncitizen characteristics for Total or White, the a and b parameters should be multiplied by 1.3. No adjustment is necessary for foreign-born and noncitizen characteristics for Black; Hispanic; and API, AIAN, NHOPI.
(4) Hispanics may be of any race. For a more detailed discussion on the use of parameters for race and ethnicity, please see the "Generalized Variance Parameters" section.
(5) For nonmetropolitan characteristics, multiply the a and b parameters by 1.5. If the characteristic of interest is total state population, not subtotaled by race or ancestry, the a and b parameters are zero.

References

[1] Bureau of Labor Statistics. 1994. *Employment and Earnings*. Volume 41 Number 5, May 1994. Washington, DC: Government Printing Office.

[2] U.S. Census Bureau. 2002. *Current Population Survey: Design and Methodology*. Technical Paper 63RV. Washington, DC: Government Printing Office. (http://www.census.gov/prod/2002pubs/tp63rv.pdf)

[3] Brooks, C.A. and Bailar, B.A. 1978. *Statistical Policy Working Paper 3 – An Error Profile: Employment as Measured by the Current Population Survey*. Subcommittee on Nonsampling Errors, Federal Committee on Statistical Methodology, U.S. Department of Commerce, Washington, DC. (http://www.fcsm.gov/working-papers/spp.html)