

Revisions to the Current Population Survey Effective in January 2003

Mary Bowler, Randy E. Ilg, Stephen Miller, Ed Robison, and Anne Polivka

Effective with the release of January 2003 data, several changes were introduced into the Current Population Survey (CPS), also referred to as the “household survey.” These revisions are as follows:

- The questions on race and Hispanic origin in the CPS were modified to comply with the new standards for maintaining, collecting, and presenting Federal data on race and ethnicity for Federal statistical agencies. A major change under those standards is that respondents may select more than one race when answering the survey. Respondents continued to be asked a separate question to determine if they are Hispanic, which is considered an ethnicity rather than a race. The ethnicity question was reworded to ask directly whether the respondent was Hispanic. Persons who report they are Hispanic also are classified separately in the race (or races) they consider themselves to be. Based on the evidence currently available, the new questions have little effect on the overall unemployment rate and those for most major worker groups. The jobless rate for Hispanics may be somewhat higher. (Most of the analysis presented in this article is based on data from a supplement to the CPS conducted in May 2002.)
- Population controls that reflect the results of Census 2000 were used in the monthly CPS estimation process. The new controls increased the size of the civilian noninstitutional population by about 3.5 million in May 2002. As a result, they also increased the estimated numbers of people unemployed and employed. Because the increases were roughly proportional, however, the overall unemployment rate did not change significantly. Data from January 2000 through December 2002 were revised to reflect

these new controls. Over and above these revisions, the U.S. Census Bureau introduced another large upward adjustment to the controls as part of its annual update of population estimates for 2003. These updated population estimates were not available in time to incorporate them into the revised population controls for January 2000 to December 2002. Thus, the data on employment and unemployment levels for January 2003 (and beyond) are not strictly comparable with those for earlier months. The unemployment rate and other ratios, however, were not substantially affected by the 2003 population control revisions.

- Improvements were introduced to both the second-stage and composite weighting procedures. These changes adapt the weighting procedures to the new race/ethnic classification system and enhance the stability over time of national and State/substate labor force estimates for demographic groups. Composite weights could not be calculated for the January 2003 data, however, because that procedure requires the use of both the current and the previous month’s information. Because some people will have changed race/ethnic groups between December and January, compositing could not be done for January. The effect of compositing is different each month; thus, January estimates could not be adjusted to make them comparable with those for other months. The effect on the national unemployment rate is probably negligible.
- The CPS adopted the 2002 Census Bureau industry and occupational classification systems, which are derived from the 2002 North American Industry Classification System and the 2000 Standard Occupational Classification system. These new classification systems create breaks in the time series for occupational and industry data at all levels of aggregation.

Mary Bowler and Randy E. Ilg are economists in the Division of Labor Force Statistics; Stephen Miller is a mathematical statistician and Ed Robison is a supervisory mathematical statistician on the Statistical Methods staff; and Anne Polivka is a research economist on the Employment Research and Program Development staff; Office of Employment and Unemployment Statistics, Bureau of Labor Statistics. Telephone: (202) 691-6378 (Bowler and Ilg), 691-7379 (Miller), 691-6363 (Robison), and 691-7395 (Polivka); e-mail: Bowler_M@bls.gov, Ilg_R@bls.gov, Miller_S@bls.gov, Robison_E@bls.gov, and Polivka_A@bls.gov.

The changes outlined above benchmark the CPS data to the results of Census 2000, improve the estimation procedures, and ensure that the data series produced from the survey reflect the evolving composition of the U.S.

population and the industry and occupational structure of the economy. This article provides an overview of the changes and discusses their impact on CPS data series. New procedures also were used to seasonally adjust CPS data series; seasonal adjustment is discussed in a separate article in this issue of *Employment and Earnings*.

Changes in race and Hispanic origin data

Starting in January 2003, the CPS questions that inquire about race and Hispanic ethnicity were altered to follow new Office of Management and Budget (OMB) guidelines. In accordance with the new guidelines, the following changes were made to the CPS questions:

- Individuals now are asked whether they are of Hispanic ethnicity before being asked about their race. Prior to January 2003, individuals were asked their ethnic origin after they were asked about their race.
- Individuals are asked directly if they are Spanish, Hispanic, or Latino. (Spanish and Latino are terms often used interchangeably with Hispanic.) Previously, individuals were identified as Hispanic based on their, or their ancestors', country of origin.
- With respect to race, the response category, Asian and Pacific Islanders, was split into two categories: 1) Asian and 2) Native Hawaiian or Other Pacific Islanders.
- Individuals are allowed to choose more than one race category. Prior to January 2003, individuals who considered themselves to belong to more than one race were required to select a single primary race.
- The questions were reworded to indicate that individuals could select more than one race category and to convey more clearly that individuals should report their own perception of what their race is.

Figure 1 presents the question order and wording that were used prior to January 2003, along with the ordering and wording that are being used from January 2003 forward.

In order to implement the new race/ethnic guidelines, the new questions were asked for all individuals in the CPS sample in January 2003. Normally, the questions on race and ethnicity are asked only the first time an individual is included in the CPS sample.² In addition to changes in the

² The CPS uses a 4-8-4 rotation scheme. Households are in the sample for 4 months, leave the sample for 8 months, and then return for another 4 months. Throughout 2003, individuals returning to the CPS after their household's 8-month break from interviewing will be asked the new race and ethnicity questions.

survey questions, the editing and imputation components of the CPS processing system were altered to accommodate the possibility of individuals identifying themselves in more than one race.

To accommodate the new guidelines, the race categories that now appear in Bureau of Labor Statistics (BLS) publications are white (and no other race), black or African American (and no other race), and Asian (and no other race). The number of respondents in the remaining categories—American Indian or Alaska Native, Native Hawaiian or Other Pacific Islanders, and persons who selected more than one race category—was determined to be too small to develop employment and unemployment estimates of sufficient reliability for monthly publication. These groups are included in the estimates of total employment and unemployment. BLS continues to publish data separately for persons whose ethnicity is identified as Hispanic or Latino. Hispanics may be of any race. Table 1 shows the distribution of the civilian noninstitutional population aged 16 and older in May 2002 under the new race/ethnic categories.

Change in population controls

The CPS is a multistage stratified probability sample of households designed to produce national and State estimates of the labor force characteristics of the civilian noninstitutional population of the United States aged 16 and older. The demographic characteristics of the CPS sample can differ from known population distributions due to sampling variability and differential nonresponse. To account for these differences, along with changes in the size of the population and subpopulations over time, the survey estimates of various subpopulation groups are weighted to agree with independent population controls developed by the Census Bureau. Because many demographic characteristics are closely correlated with labor force status, sample estimates are more accurate when weighting is done separately for specific age-sex-race groups than when a single population estimate for the sample as a whole is used. These population estimates are derived by taking population counts by age, sex, and race from the preceding decennial census and adjusting them monthly throughout the ensuing decade to take into account the aging of the population, death, and net migration. If the decennial census indicates that the population controls being used in the CPS are too high or too low, the controls are adjusted to bring them into line with the census results. This adjustment usually occurs 3 to 4 years after the census, and, if the adjustment is substantial, historical data will be revised. Thus, data for January 2000 through December 2002 were revised to reflect the higher population estimates from Census 2000 and higher rates of population growth since the census. At the start of the revision period (January 2000), the new controls raised the civilian noninstitutional population (CNP) by about 2.6 million. By December 2002, the CNP was 3.8 million higher than originally estimated.

Figure 1. **Comparison of CPS questions on race and ethnicity** ¹

Prior to January 2003	Starting in January 2003		
<p>What is your race? <i>Respondents are shown a flash card with the following:</i></p> <p>RACE</p> <ol style="list-style-type: none"> 1. White 2. Black 3. American Indian, Eskimo, or Aleut 4. Asian or Pacific Islander (Chinese, Filipino, Japanese, Asian Indian, Korean, Vietnamese, Laotian, Thai, Other Asian, Hawaiian, Samoan, other Pacific Islander) 	<p>Are you Spanish, Hispanic, or Latino? Yes No</p>		
<p>What is your origin or descent? ² <i>Respondents are shown a flash card with the following:</i></p> <p>ORIGIN OR DESCENT</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <ol style="list-style-type: none"> 01 German 02 Italian 03 Irish 04 French 05 Polish 06 Russian 07 English 08 Scottish 10 Mexican-American 11 Chicano 30 Another group not listed </td> <td style="width: 50%; vertical-align: top;"> <ol style="list-style-type: none"> 12 Mexican 14 Puerto Rican 15 Cuban 16 Central or South American (Hispanic Countries) 17 Other Hispanic 20 Afro-American 26 Dutch 27 Swedish 28 Hungarian OR </td> </tr> </table>	<ol style="list-style-type: none"> 01 German 02 Italian 03 Irish 04 French 05 Polish 06 Russian 07 English 08 Scottish 10 Mexican-American 11 Chicano 30 Another group not listed 	<ol style="list-style-type: none"> 12 Mexican 14 Puerto Rican 15 Cuban 16 Central or South American (Hispanic Countries) 17 Other Hispanic 20 Afro-American 26 Dutch 27 Swedish 28 Hungarian OR 	<p>Please choose one or more races that you consider yourself to be <i>Respondents are shown a flash card with the following:</i></p> <p>CHOOSE ONE OR MORE</p> <p>White Black or African American American Indian or Alaska Native Asian Native Hawaiian or Other Pacific Islander</p>
<ol style="list-style-type: none"> 01 German 02 Italian 03 Irish 04 French 05 Polish 06 Russian 07 English 08 Scottish 10 Mexican-American 11 Chicano 30 Another group not listed 	<ol style="list-style-type: none"> 12 Mexican 14 Puerto Rican 15 Cuban 16 Central or South American (Hispanic Countries) 17 Other Hispanic 20 Afro-American 26 Dutch 27 Swedish 28 Hungarian OR 		

¹ The question wording is slightly different when the questions are asked during interviews by telephone.

² Individuals whose answers were coded in categories 10 through 17 were classified as Hispanics.

The Census Bureau also conducts an annual review of the population controls and updates them based on current data and research. The population adjustments resulting from these annual reviews typically are introduced into the CPS in January. The adjustments sometimes can be substantial, and this was the case for January 2003. Information from the latest annual review was not available in time for incorporation into the already planned revisions of data for January 2000 to December 2002. Thus, the entire amount of this adjustment (+941,000) was added to the civilian noninstitutional population in January 2003.

In addition to new population controls, changes were made in the weighting procedures to increase the precision of national and State estimates. These changes included altering the racial categories to which estimates are controlled, increasing the number of age and sex groups that are controlled, and including, for the first time, demographic controls within the 50 States and the District of Columbia. More information about changes in the weighting and processing procedures can be found below.

Table 1. **Civilian noninstitutional population 16 years and over by race and Hispanic or Latino ethnicity, May 2002** ¹

(Numbers in thousands)

Race and Hispanic or Latino ethnicity	Number	Percent
Race		
Total, 16 years and over	217,198	100.0
White ²	178,579	82.2
Black or African American ²	25,192	11.6
Asian ²	8,663	4.0
Native Hawaiian or Other Pacific Islander ²	473	.2
American Indian or Alaska Native ²	1,419	.7
More than one race selected	2,872	1.3
Hispanic or Latino ethnicity		
Total, 16 years and over	217,198	100.0
Hispanic or Latino	25,827	11.9
Not Hispanic or Latino	191,371	88.1

¹ Estimates based on Census 2000 population controls.

² Persons who selected this race group only; persons who selected more than one race group are excluded.

Impact on labor force estimates

Changes in the race and ethnicity categories, the introduction of Census 2000-based population controls, and the modifications of weighting procedures alter some CPS data series and, therefore, affect the comparability of those series over time. To gauge the extent to which these changes did (or did not) affect estimates, the Census Bureau and BLS sponsored a supplement to the CPS in May 2002. In the supplement, the new questions on race and Hispanic ethnicity were asked at the end of the interview. Data were then processed using the new editing and weighting procedures and the Census 2000-based population controls. Employment and unemployment estimates based on the new race/ethnic categories, weighting procedures, and population controls were compared with estimates based on the old race/ethnic criteria, weighting procedures, and population controls to gauge the “total combined effect” of the changes implemented in January 2003. (The total combined effect does not include the population adjustment of 941,000 taken in January 2003. That adjustment is discussed separately.)

The “total combined effect” can be disaggregated into two other effects that can be estimated from the May supplement—the effect of switching from 1990-based population controls to 2000-based population controls (the “population control effect”) and the effect of changing from pre-2003 race/ethnicity questions and weighting procedures to 2003 and beyond race/ethnicity questions and weighting procedures (the “new procedures effect”). CPS time series data were revised back to January 2000 to reflect the impact of using 2000-based population controls, but no revisions will be made to reflect new race/ethnicity questions or the new weighting procedures. It was decided that the information from the May supplement, while useful for gauging the effects of the changes to the race/ethnicity classification, was too limited for use in revising historical race and ethnicity data. The May results reflect only 1 month’s data that were collected via supplement questions to the CPS. It is not known whether different results might be obtained when the new questions are used over a longer period in regular CPS production. BLS plans to conduct additional research on the impact of the new race and Hispanic ethnicity categories on the labor force estimates. Specifically, given the rotation scheme for the CPS sample, there will be several months in which it will be possible to match the same individuals across months and to examine their answers to both the old and new race and ethnicity questions. The results of this research, in combination with further analysis of the May supplement data, may aid individuals who examine CPS data historically. The “new procedures effect” represents the best gauge, at this time, of differences in employment and unemployment data due to the new race/ethnicity questions and weighting procedures.

Major findings. Table 2 shows the “total combined effect” on major labor force estimates for May 2002. Table 3 shows

the “new procedures effect”—that is, the effect when the change due to the use of Census 2000-based population controls is removed. As shown in the tables, both the “total combined effect” and the “new procedures effect” had minimal impact on the overall rates (unemployment rate, employment-to-population ratio, and labor force participation rate.) Generally, differences in rates were not statistically significant even for the major worker groups.

The most notable exception is for Hispanics. The “total combined effect” shows a higher unemployment rate, employment-to-population ratio, and labor force participation rate for Hispanics. Under the “new procedures effect,” however, only the change in the unemployment rate (up by 0.4 percentage point) is statistically significant. The higher unemployment rate for Hispanics results because the new question identifies additional and different people as Hispanic. Even though the new question identifies more Hispanics than the old question, the size of the Hispanic population is not affected (when Census 2000-based population controls are used), because it is controlled to an independent population estimate. The change in the composition of those identified as Hispanic, however, is what causes the higher unemployment rate.

Data in table 3 show that the “new procedures effect” reduces the levels of population and employment for whites, blacks or African Americans, and Asians. For whites and blacks, these differences result from the exclusion of individuals who report more than one race from these groups. For Asians, the difference reflects the same restriction as well as the split of the old Asian and Pacific Islander category into the two separate categories—1) Asian and 2) Native Hawaiian or Other Pacific Islander. When examining the “new procedures effect” for Hispanics it is important to note that the number of individuals identified as Hispanic is being controlled to the same 2000-based census population totals under each procedure. Hence, even though the new question identifies more survey respondents as Hispanic, the estimated size of the Hispanic population does not change.

Overall, the estimated numbers of people unemployed and employed are higher under the “total combined effect.” Most of this change reflects the “population effect”—the shift to Census 2000-based population controls. (See table 4.³) Census 2000 found that the United States population was larger than previously estimated. As a result, the new population controls increase the size of the civilian noninstitutional population aged 16 and older—the universe for CPS employment and unemployment estimates—by about 3.5 million at the time of the May supplement.⁴ Hispanics and Asians account for a disproportionate share of this increase in the population. The population level for blacks is actually lower than

³ To obtain these estimates, the 2000 decennial racial categories have been bridged back to the four unrevised race groups.

⁴ As previously stated, the increase is smaller at the starting date of the revisions, January 2000, and larger by the end of the revision period in December 2002.

Table 2. **Employment status of the population for selected labor force groups, May 2002 (Total combined effect)**

(Numbers in thousands)

Employment status, sex, age, race, and Hispanic or Latino ethnicity	Old estimate ¹ (1)	New estimate ² (2)	Total combined effect (2-1)	Statistically significant ³
TOTAL				
Civilian noninstitutional population	213,658	217,198	3,540	X
Civilian labor force	142,772	145,005	2,233	X
Participation rate	66.8	66.8	0.0	
Employed	134,798	136,912	2,114	X
Employment-population ratio	63.1	63.0	-.1	
Unemployed	7,974	8,093	119	X
Unemployment rate	5.6	5.6	.0	
Not in labor force	70,886	72,193	1,307	X
Men, 20 years and over				
Civilian noninstitutional population	94,480	96,260	1,780	X
Civilian labor force	72,449	73,958	1,509	X
Participation rate	76.7	76.8	.1	X
Employed	68,894	70,337	1,443	X
Employment-population ratio	72.9	73.1	.2	X
Unemployed	3,555	3,621	66	X
Unemployment rate	4.9	4.9	0.0	
Not in labor force	22,031	22,302	271	X
Women, 20 years and over				
Civilian noninstitutional population	102,939	104,947	2,008	X
Civilian labor force	62,710	63,658	948	X
Participation rate	60.9	60.7	-.2	X
Employed	59,543	60,390	847	X
Employment-population ratio	57.8	57.5	-.3	X
Unemployed	3,167	3,268	101	X
Unemployment rate	5.1	5.1	.0	X
Not in labor force	40,229	41,289	1,060	X
Both sexes, 16 to 19 years				
Civilian noninstitutional population	16,239	15,992	-247	X
Civilian labor force	7,613	7,389	-224	X
Participation rate	46.9	46.2	-.7	X
Employed	6,361	6,185	-176	X
Employment-population ratio	39.2	38.7	-.5	X
Unemployed	1,251	1,204	-47	X
Unemployment rate	16.4	16.3	-.1	
Not in labor force	8,626	8,602	-24	
WHITE ⁴				
Civilian noninstitutional population	177,087	178,579	1,492	X
Civilian labor force	118,706	119,520	814	X
Participation rate	67.0	66.9	-.1	
Employed	112,901	113,716	815	X
Employment-population ratio	63.8	63.7	-.1	
Unemployed	5,805	5,804	-1	
Unemployment rate	4.9	4.9	.0	
Not in labor force	58,382	59,059	677	X
BLACK OR AFRICAN AMERICAN ⁴				
Civilian noninstitutional population	25,898	25,192	-706	X
Civilian labor force	17,019	16,497	-522	X
Participation rate	65.7	65.5	-.2	
Employed	15,312	14,832	-480	X
Employment-population ratio	59.1	58.9	-.2	
Unemployed	1,707	1,665	-42	
Unemployment rate	10.0	10.1	.1	
Not in labor force	8,879	8,695	-184	X

Table 2. Employment status of the population for selected labor force groups, May 2002 (Total combined effect)—Continued

(Numbers in thousands)

Employment status, sex, age, race, and Hispanic or Latino ethnicity	Old estimate ¹ (1)	New estimate ² (2)	Total combined effect (2-1)	Statistically significant ³
ASIAN ⁴				
Civilian noninstitutional population	8,643	8,663	20	
Civilian labor force	5,761	5,808	47	
Participation rate	66.7	67.0	.3	
Employed	5,415	5,486	71	
Employment-population ratio	62.7	63.3	.6	
Unemployed	346	322	-24	
Unemployment rate	6.0	5.5	-.5	
Not in labor force	2,882	2,855	-27	
HISPANIC OR LATINO ETHNICITY				
Civilian noninstitutional population	23,797	25,827	2,030	X
Civilian labor force	15,976	17,770	1,794	X
Participation rate	67.1	68.8	1.7	X
Employed	14,948	16,557	1,609	X
Employment-population ratio	62.8	64.1	1.3	X
Unemployed	1,028	1,213	185	X
Unemployment rate	6.4	6.8	.4	X
Not in labor force	7,821	8,058	237	X

¹ Estimates obtained using pre-January 2003 race/ethnic questions and weighting procedures and 1990 Census-based population controls adjusted for the estimated undercount.

² Estimates obtained using new race/ethnic questions and weighting procedures and Census 2000-based population controls, excluding the January 2003 population adjustment.

³ An "x" indicates that a difference was statistically significant at a 90 percent level. Standard errors for these tests were generated using replicate weights in order to account for the complex design of the CPS. The standard errors on differences are smaller than the standard errors on corresponding monthly estimates and the standard errors for the estimate under either procedure due to the high correlation between the estimates for each procedure which arises because the same individuals were being used in both estimates.

⁴ Old estimate based on the pre-January 2003 race question under which respondents could select only one race. New estimate based on the new race question that allows respondents to select more than one race. Categories shown under the new estimate exclude persons who selected more than one race. For old estimate, the Asian category included Pacific Islanders. For the new estimate, the Asian category does not include Native Hawaiians and other Pacific Islanders.

NOTE: Estimates for the above race groups (white, black or African American, and Asian) do not sum to totals because data are not presented for all races. In addition, persons whose ethnicity is identified as Hispanic or Latino may be of any race and, therefore, are classified by ethnicity as well as by race.

Table 3. **Employment status of the population for selected labor force groups, May 2002 (New procedures effect)**

(Numbers in thousands)

Employment status, sex, age, race, and Hispanic or Latino ethnicity	Old estimate ¹ (1)	New estimate ² (2)	New procedures effect (2-1)	Statistically significant ³
TOTAL				
Civilian noninstitutional population	217,198	217,198	0	
Civilian labor force	145,044	145,005	-39	
Participation rate	66.8	66.8	0.0	
Employed	136,991	136,912	-79	
Employment-population ratio	63.1	63.0	-.1	
Unemployed	8,052	8,093	41	
Unemployment rate	5.6	5.6	.0	
Not in labor force	72,154	72,193	39	
Men, 20 years and over				
Civilian noninstitutional population	96,205	96,260	55	
Civilian labor force	73,916	73,958	42	
Participation rate	76.8	76.8	.0	
Employed	70,304	70,337	33	
Employment-population ratio	73.1	73.1	.0	
Unemployed	3,613	3,621	8	
Unemployment rate	4.9	4.9	.0	
Not in labor force	22,289	22,302	13	
Women, 20 years and over				
Civilian noninstitutional population	104,980	104,947	-33	
Civilian labor force	63,656	63,658	2	
Participation rate	60.6	60.7	-.1	
Employed	60,445	60,390	-55	
Employment-population ratio	57.6	57.5	-.1	
Unemployed	3,211	3,268	57	X
Unemployment rate	5.0	5.1	.1	X
Not in labor force	41,324	41,289	-35	
Both sexes, 16 to 19 years				
Civilian noninstitutional population	16,013	15,992	-21	
Civilian labor force	7,471	7,389	-82	X
Participation rate	46.7	46.2	-.5	X
Employed	6,243	6,185	-58	
Employment-population ratio	39.0	38.7	-.3	
Unemployed	1,228	1,204	-24	
Unemployment rate	16.4	16.3	-.1	
Not in labor force	8,542	8,602	60	
WHITE ⁴				
Civilian noninstitutional population	179,524	178,579	-945	X
Civilian labor force	120,251	119,520	-731	X
Participation rate	67.0	66.9	-.1	
Employed	114,400	113,716	-684	X
Employment-population ratio	63.7	63.7	.0	
Unemployed	5,851	5,804	-47	
Unemployment rate	4.9	4.9	.0	
Not in labor force	59,273	59,059	-214	X
BLACK OR AFRICAN AMERICAN ⁴				
Civilian noninstitutional population	25,514	25,192	-322	X
Civilian labor force	16,740	16,497	-243	X
Participation rate	65.6	65.5	-.1	
Employed	15,066	14,832	-234	X
Employment-population ratio	59.0	58.9	-.1	
Unemployed	1,675	1,665	-10	
Unemployment rate	10.0	10.1	.1	
Not in labor force	8,773	8,695	-78	

Table 3. Employment status of the population for selected labor force groups, May 2002 (New procedures effect)—Continued

(Numbers in thousands)

Employment status, sex, age, race, and Hispanic or Latino ethnicity	Old estimate ¹ (1)	New estimate ² (2)	New procedures effect (2-1)	Statistically significant ³
ASIAN ⁴				
Civilian noninstitutional population	9,779	8,663	-1,116	X
Civilian labor force	6,531	5,808	-723	X
Participation rate	66.8	67.0	.2	
Employed	6,140	5,486	-654	X
Employment-population ratio	62.8	63.3	.5	
Unemployed	391	322	-69	X
Unemployment rate	6.0	5.5	-.5	
Not in labor force	3,248	2,855	-393	X
HISPANIC OR LATINO ETHNICITY				
Civilian noninstitutional population	25,827	25,827	0	
Civilian labor force	17,700	17,770	70	
Participation rate	68.5	68.8	.3	
Employed	16,567	16,557	-10	
Employment-population ratio	64.1	64.1	.0	
Unemployed	1,133	1,213	80	X
Unemployment rate	6.4	6.8	.4	X
Not in labor force	8,127	8,057	-70	

¹ Estimates obtained using pre-January 2003 race/ethnic questions and weighting procedures and Census 2000-based population controls, excluding the January 2003 population adjustment.

² Estimates obtained using new race/ethnic questions and weighting procedures and Census 2000-based population controls, excluding the January 2003 population adjustment.

³ An "x" indicates that a difference was statistically significant at a 90 percent level. Standard errors for these tests were generated using replicate weights in order to account for the complex design of the CPS. The standard errors on differences are smaller than the standard errors on corresponding monthly estimates and the standard errors for the estimate under either procedure due to the high correlation between the estimates for each procedure which arises because the same individuals were being used in both estimates.

⁴ Old estimate based on the pre-January 2003 race question under which respondents could select only one race. New estimate based on the new race question that allows respondents to select more than one race. Categories shown under the new estimate exclude persons who selected more than one race. For the old estimate, the Asian category included Pacific Islanders. For the new estimate, the Asian category does not include Native Hawaiians and other Pacific Islanders.

NOTE: Estimates for the above race groups (white, black or African American, and Asian) do not sum to totals because data are not presented for all races. In addition, persons whose ethnicity is identified as Hispanic or Latino may be of any race and, therefore, are classified by ethnicity as well as by race.

Table 4. **Employment status of the population for selected labor force groups, May 2002 (Population control effect)**

(Numbers in thousands)

Employment status, sex, age, race, and Hispanic or Latino ethnicity	Old estimate ¹ (1)	New estimate ² (2)	Population control effect (2-1)	Statistically significant ³
TOTAL				
Civilian noninstitutional population	213,658	217,198	3,540	X
Civilian labor force	142,772	145,044	2,272	X
Participation rate	66.8	66.8	0.0	X
Employed	134,798	136,991	2,193	X
Employment-population ratio	63.1	63.1	.0	
Unemployed	7,974	8,052	78	X
Unemployment rate	5.6	5.6	.0	X
Not in labor force	70,886	72,154	1,268	X
Men, 20 years and over				
Civilian noninstitutional population	94,480	96,205	1,725	
Civilian labor force	72,449	73,916	1,467	X
Participation rate	76.7	76.8	.1	X
Employed	68,894	70,304	1,410	X
Employment-population ratio	72.9	73.1	.2	X
Unemployed	3,555	3,613	58	X
Unemployment rate	4.9	4.9	.0	
Not in labor force	22,031	22,289	258	X
Women, 20 years and over				
Civilian noninstitutional population	102,939	104,980	2,041	X
Civilian labor force	62,710	63,656	946	X
Participation rate	60.9	60.6	-.3	X
Employed	59,543	60,445	902	X
Employment-population ratio	57.8	57.6	-.2	X
Unemployed	3,167	3,211	44	X
Unemployment rate	5.1	5.0	-.1	
Not in labor force	40,229	41,324	1,095	X
Both sexes, 16 to 19 years				
Civilian noninstitutional population	16,239	16,013	-226	X
Civilian labor force	7,612	7,471	-141	X
Participation rate	46.9	46.7	-.2	X
Employed	6,361	6,243	-118	X
Employment-population ratio	39.2	39.0	-.2	X
Unemployed	1,251	1,228	-23	X
Unemployment rate	16.4	16.4	.0	
Not in labor force	8,626	8,542	-84	X
WHITE ⁴				
Civilian noninstitutional population	177,087	179,524	2,437	X
Civilian labor force	118,706	120,251	1,545	X
Participation rate	67.0	67.0	.0	X
Employed	112,901	114,400	1,499	X
Employment-population ratio	63.8	63.7	-.1	X
Unemployed	5,805	5,851	46	X
Unemployment rate	4.9	4.9	.0	X
Not in labor force	58,382	59,273	891	X
BLACK OR AFRICAN AMERICAN ⁴				
Civilian noninstitutional population	25,898	25,514	-384	X
Civilian labor force	17,019	16,740	-279	X
Participation rate	65.7	65.6	-.1	X
Employed	15,312	15,066	-246	X
Employment-population ratio	59.1	59.0	-.1	X
Unemployed	1,707	1,675	-32	X
Unemployment rate	10.0	10.0	.0	
Not in labor force	8,879	8,773	-106	X

Table 4. Employment status of the population for selected labor force groups, May 2002 (Population control effect)—Continued

(Numbers in thousands)

Employment status, sex, age, race, and Hispanic or Latino ethnicity	Old estimate ¹ (1)	New estimate ² (2)	Population control effect (2-1)	Statistically significant ³
ASIAN ⁴				
Civilian noninstitutional population	8,643	9,779	1,136	X
Civilian labor force	5,761	6,531	770	X
Participation rate	66.7	66.8	.1	X
Employed	5,415	6,140	725	X
Employment-population ratio	62.7	62.8	.1	X
Unemployed	346	391	45	X
Unemployment rate	6.0	6.0	.0	
Not in labor force	2,882	3,248	366	X
HISPANIC OR LATINO ETHNICITY				
Civilian noninstitutional population	23,797	25,827	2,030	X
Civilian labor force	15,976	17,700	1,724	X
Participation rate	67.1	68.5	1.4	X
Employed	14,948	16,567	1,619	X
Employment-population ratio	62.8	64.1	1.3	X
Unemployed	1,028	1,133	105	X
Unemployment rate	6.4	6.4	.0	
Not in labor force	7,821	8,127	306	X

¹ Estimates obtained using pre-January 2003 race/ethnic questions and weighting procedures and 1990 Census-based population controls adjusted for the estimated undercount.

² Estimates obtained using pre-January 2003 race/ethnic questions and weighting procedures and Census 2000-based population controls, excluding the January 2003 population adjustment.

³ An "x" indicates that a difference was statistically significant at a 90 percent level. Standard errors for these tests were generated using replicate weights in order to account for the complex design of the CPS. Since individuals did not change racial or ethnic classification in these comparisons, quite small differences can be detected as being statistically significant. In comparisons, when individuals did change classification due to questionnaire

changes the standard error on differences will be larger. Consequently, differences due to change in population controls will be significant, when differences of a similar magnitude for procedural changes will not be significant.

⁴ Old and new estimates based on the pre-January 2003 race question under which respondents could select only one race. For both the old and new estimates, the Asian category includes Pacific Islanders.

NOTE: Estimates for the above race groups (white, black or African American, and Asian) do not sum to totals because data are not presented for all races. In addition, persons whose ethnicity is identified as Hispanic or Latino may be of any race and, therefore, are classified by ethnicity as well as by race.

previously estimated. The new population controls also change the age profile of the population. The number of teenagers is reduced, while the number of persons aged 20 and older is increased.

Because the switch to the Census 2000 population controls increased the number of employed and unemployed proportionately, the changes to the CPS resulted in no statistically significant differences in unemployment rates, employment-to-population ratios, and labor force participation rates overall and for most of the major worker groups.

Among Hispanics there was no statistically significant change in the unemployment rate due to the new population controls, but the employment-to-population ratio and the labor force participation rate rose by 1.3 percentage points and 1.4 percentage points, respectively. These measures rose for both adult Hispanic men and women, but the increases were larger for the men.

As noted above, data for January 2000 to December 2002 were revised to incorporate Census 2000-based population controls. This would have made the impact of the “population effect” transparent to users who were comparing data for January 2003 and beyond with data for January 2000 through December 2002. As part of its annual revision of intercensal population estimates, however, the Census Bureau determined that another upward adjustment should be made to the CPS controls. This adjustment reflects more current information and research on net migration. It was not possible prior to the release of data for January 2003 to include this additional adjustment in the revisions planned for the 2000 through 2002 period. Therefore, the entire amount (+941,000) was added to the civilian noninstitutional population in January 2003. Based on a comparison of data for December 2002, the increase in population raised the estimated levels for the labor force (+615,000), employment (+576,000), and unemployment (+38,000). However, the overall unemployment rate, employment-population ratio, and other percentages generally were not affected. (See table 5.) At this time, there are no plans to revise the January 2000 to December 2002 data to reflect this additional adjustment.

Changes in weighting

Changes to both the second-stage weighting procedure and the composite weighting procedure were introduced to improve the stability over time of national and State/substate labor force estimates for demographic groups. A major change in the second-stage procedure is the addition of two new steps, called 0A and 0B. These steps, which take place only once at the beginning of the second-stage weighting process and are not iterated, were added to enhance the control for differences between the racial and ethnic composition of the sample and the racial and ethnic composition of the population, termed “undercoverage.” Both the second-stage and composite procedures continue

to have three basic steps (State step, ethnicity step, and race step). In each successive step of the two procedures, the weights attached to responding persons are adjusted within State/substate/ethnicity/race/gender/age cells so that, in the case of second-stage weighting, estimates made from a monthly CPS data file can exactly match a set of independent monthly population controls prepared by the Census Bureau. In the case of composite weighting, there is an exact match at each step to a set of labor force estimates obtained from specialized composite estimation formulas that tend to improve estimates of monthly labor force levels and month-to-month changes.

New second-stage weighting procedure. The second-stage weighting procedure substantially reduces the variability of estimates and corrects, to some extent, for CPS undercoverage. (Undercoverage exists when the survey identifies fewer individuals in sampled households than would be predicted by the decennial census. Some groups, such as young black males, are particularly difficult to enumerate in household surveys.) Five sets of civilian noninstitutional population (CNP) estimates, including persons under 16 years of age, are used in different steps of the procedure. The race terms “white,” “black,” and “Asian” in this abbreviated presentation of the five steps include only single-race persons.

National coverage step (0A): National CNP controls for 34 white non-Hispanic, 26 black non-Hispanic, 18 Asian non-Hispanic, 18 residual race non-Hispanic, 26 white Hispanic, and 4 non-white Hispanic age-gender categories.

State coverage step (0B): CNP controls for six nonblack age-gender cells in the Los Angeles–Long Beach metropolitan area, the balance of California, New York City, the balance of New York State, each of the remaining 48 States, and the District of Columbia. CNP controls for six black age-gender cells in the Los Angeles–Long Beach metropolitan area, the balance of California, New York City, the balance of New York State, the District of Columbia, and each of 21 States (Alabama, Arkansas, Connecticut, Delaware, Florida, Georgia, Illinois, Louisiana, Massachusetts, Maryland, Michigan, Missouri, Mississippi, North Carolina, New Jersey, Ohio, Pennsylvania, South Carolina, Tennessee, Texas, and Virginia); two CNP controls by gender in each of 14 States (Alaska, Arizona, Colorado, Indiana, Kansas, Kentucky, Minnesota, Nebraska, Nevada, Oklahoma, Rhode Island, Washington, Wisconsin, and West Virginia); and one CNP control in each of the remaining 13 States (Hawaii, Iowa, Idaho, Maine, Montana, North Dakota, New Hampshire, New Mexico, Oregon, South Dakota, Utah, Vermont, and Wyoming).

(1) State step: CNP controls for 6 age-gender cells in the Los Angeles–Long Beach metropolitan area, the balance

Table 5. **Employment status of the population for selected labor force groups, December 2002**
(2003 population adjustment effect)

(Numbers in thousands)

Employment status, sex, age, race, and Hispanic or Latino ethnicity	Census 2000 population controls without adjustment ¹ (1)	Census 2000 population controls with adjustment ² (2)	Effect of population adjustment introduced in January 2003 (2-1)
TOTAL			
Civilian noninstitutional population	218,741	219,682	941
Civilian labor force	145,361	145,975	614
Participation rate	66.5	66.4	-0.1
Employed	137,159	137,735	576
Employment-population ratio	62.7	62.7	.0
Unemployed	8,202	8,240	38
Unemployment rate	5.6	5.6	.0
Not in labor force	73,381	73,707	326
Men, 20 years and over			
Civilian noninstitutional population	97,122	97,574	452
Civilian labor force	73,693	74,033	340
Participation rate	75.9	75.9	.0
Employed	69,516	69,836	320
Employment-population ratio	71.6	71.6	.0
Unemployed	4,177	4,197	20
Unemployment rate	5.7	5.7	.0
Not in labor force	23,429	23,541	112
Women, 20 years and over			
Civilian noninstitutional population	105,683	106,144	461
Civilian labor force	64,528	64,801	273
Participation rate	61.1	61.1	.0
Employed	61,556	61,810	254
Employment-population ratio	58.2	58.2	.0
Unemployed	2,973	2,991	18
Unemployment rate	4.6	4.6	.0
Not in labor force	41,155	41,343	188
Both sexes, 16 to 19 years			
Civilian noninstitutional population	15,937	15,965	28
Civilian labor force	7,139	7,141	2
Participation rate	44.8	44.7	-.1
Employed	6,088	6,089	1
Employment-population ratio	38.2	38.1	-.1
Unemployed	1,052	1,052	0
Unemployment rate	14.7	14.7	.0
Not in labor force	8,798	8,824	26
WHITE			
Civilian noninstitutional population	180,580	181,286	706
Civilian labor force	120,160	120,620	460
Participation rate	66.5	66.5	.0
Employed	114,300	114,730	430
Employment-population ratio	63.3	63.3	.0
Unemployed	5,860	5,890	30
Unemployment rate	4.9	4.9	.0
Not in labor force	60,420	60,666	246

Table 5. Employment status of the population for selected labor force groups, December 2002
(2003 population adjustment effect)—Continued

(Numbers in thousands)

Employment status, sex, age, race, and Hispanic or Latino ethnicity	Census 2000 population controls without adjustment ¹ (1)	Census 2000 population controls with adjustment ² (2)	Effect of population adjustment introduced in January 2003 (2-1)
BLACK OR AFRICAN AMERICAN			
Civilian noninstitutional population	25,784	25,784	0
Civilian labor force	16,805	16,801	-4
Participation rate	65.2	65.2	.0
Employed	15,011	15,009	-2
Employment-population ratio	58.2	58.2	0.0
Unemployed	1,795	1,791	-4
Unemployment rate	10.7	10.7	.0
Not in labor force	8,979	8,984	5
HISPANIC OR LATINO ETHNICITY			
Civilian noninstitutional population	26,436	26,897	460
Civilian labor force	18,258	18,616	358
Participation rate	69.1	69.2	.1
Employed	16,840	17,172	332
Employment-population ratio	63.7	63.8	.1
Unemployed	1,418	1,444	26
Unemployment rate	7.8	7.8	.0
Not in labor force	8,178	8,281	103

¹ Estimates obtained using pre-January 2003 race/ethnic questions and weighting procedures and Census 2000-based population controls, excluding the January 2003 population adjustment.

² Estimates obtained using pre-January 2003 race/ethnic questions and weighting procedures and Census 2000-based population controls, plus the

January 2003 population adjustment.

NOTE: Estimates for the above race groups (white and black or African American) do not sum to totals because data are not presented for all races. In addition, persons whose ethnicity is identified as Hispanic or Latino may be of any race and, therefore, are classified by ethnicity as well as by race.

of California, New York City, the balance of New York State, each of the remaining 48 States, and the District of Columbia.

(2) *Ethnicity step*: National CNP controls for 26 Hispanic and 26 non-Hispanic age-gender cells.

(3) *Race step*: National CNP controls for 34 white, 26 black, and 26 Asian-plus-residual-race age-gender cells.

All second-stage cells in steps 0A, 1, 2, and 3 are further divided by rotation group pair. Except for those relating to the District of Columbia, all nonblack cells in step 0B are further divided by rotation group pair. The black cells in step 0B are not further divided by rotation group pair. In any given month, the CPS sample is divided into eight panels or rotation groups. One panel is in sample for the first time, one for the second time, and so forth. Each rotation group is referred to according to its month-in-sample (MIS), so that the first rotation group is designated as MIS 1, the second as MIS 2, and the eighth as MIS 8. The rotation group pairings based on MIS are: (1,5); (2,6); (3,7); and (4,8). For cells divided by rotation group pair, person weights for each pair are adjusted so that the sum of weights equals one-fourth of the associated population control.

The national coverage step and the State coverage step (steps 0A and 0B) are executed just once. Steps 1, 2, and 3 are successively iterated ten times. After each step, the CPS weights add up to exactly match a set of population controls for the step, but the steps that follow “undo” the exact matching. By iterating steps 1 through 3 ten times, the system converges and all controls for the three steps are nearly exactly matched.

The independent population controls are prepared by projecting forward the resident population as enumerated on April 1, 2000. The projections are derived by updating demographic census data with information from a variety of other data sources that account for births, deaths, and net migration. Estimated numbers of resident Armed Forces personnel and institutionalized persons reduce the resident population to the civilian noninstitutional population.

Changes in second-stage weighting. The old second-stage weighting procedure further divided all cells by rotation group. The new procedure pairs rotation groups in most cells (and combines all rotation groups in others). Pairing rotation groups allows finer cell detail. Because of known biases by month-in-sample and the structure of the composite estimator (used after second-stage weighting), it is usually not advisable to go farther than pairing the rotation groups.

Steps 1 through 3 are similar to the corresponding steps of the old second-stage weighting procedure. The old procedure had no 0A or 0B steps and iterated steps 1 through 3 six times. The new procedure increases the number of iterations of steps 1 through 3 to ten, which ensures a better convergence to population controls.

State step 1 is expanded to include the following substate areas: Los Angeles–Long Beach metropolitan area, the balance of California, New York City, and the balance of New York State. Step 1 now has six gender-by-age controls for each State/area (age groupings 1 to under 16 years, 16 to 44 years, and 45 years and older). The old procedure had a single population control for the CNP aged 16 years and older for each State and the District of Columbia.

Ethnicity step 2 has increased gender and age detail. The 26-cell detail for Hispanics now matches the cell detail for blacks in the race step. The old step had only five population controls for non-Hispanic but other “implied controls” could be derived by subtraction. The new step uses the same 26-cell detail for non-Hispanics, and this eliminates implied controls and speeds convergence to population controls.

New race step 3 and the old step differ somewhat in white and black cell detail. The 26-cell detail for Asian-plus-residual-race is markedly different from the 10-cell detail for “other” race in the old step. In addition, all age groupings for this step are now consistent with those for the other steps in the second-step weighting procedure as well as with those for the new composite weighting procedure.

As discussed earlier, the national and State coverage steps—designated 0A and 0B, respectively—are entirely new. One of the chief purposes of second-stage weighting is to adjust for undercoverage of the CPS relative to the projected population controls. The undercoverage is known to vary by State, ethnicity, race, gender, and age. For example, CPS undercoverage is more severe for young black persons than for middle-aged blacks or young white persons. Analysis of the old second-stage procedure showed that there were interactions between coverage by ethnicity and race that were not properly handled by the separate ethnicity and race steps. The new 0A step overcomes the problem by combining ethnicity and race in a single dimension (white non-Hispanic, black non-Hispanic, Asian non-Hispanic, residual race non-Hispanic, white Hispanic, and non-white Hispanic). The new 0B step compensates for some remaining coverage differences by race.

The only step in second-stage weighting that has explicit Asian population controls is the new national coverage step 0B (26 gender-by-age cells for Asian non-Hispanic). The step cannot be iterated, but still affords a substantial amount of approximate population control for Asians.

New composite weighting procedure. Composite estimation is applied only to categories of persons 16 years of age and older. Based on second-stage weights, composite estimators are made up of employment and unemployment within cells defined by geography or demographic group. No change has been made to the formula for composite estimation. Each cell has a population control, and the number of persons not in the labor force (NILF) for the cell is obtained by subtraction. The composite estimates of employed, unemployed, and NILF are then used as controls in the

composite weighting procedure. All eight rotation groups are combined for composite weighting.

(1) *State step*: A single cell for CNP aged 16 years and older is used for the Los Angeles–Long Beach metropolitan area, the balance of California, New York City, the balance of New York State, each of the remaining 48 States, and the District of Columbia.

(2) *Ethnicity step*: 10 Hispanic and 10 non-Hispanic age-gender cells.

(3) *Race step*: 22 white, 14 black, and 10 Asian-plus-residual-race age-gender cells.

Steps 1 through 3 are iterated ten times. In each successive step, weights attached to responding persons (all rotation groups combined, but split into employed, unemployed, and NILF) are adjusted within cells to exactly match the controls for employment, unemployment, and NILF. After each step, the CPS weights add up to exactly match a set of controls for the step, but the steps that follow “undo” the exact matching. By iterating steps 1 through 3 ten times, the system converges and all controls for the three steps are nearly exactly matched.

Changes in composite weighting. State step 1 is expanded to include the following substate areas: Los Angeles–Long Beach metropolitan area, the balance of California, New York City, and the balance of New York State.

Ethnicity step 2 has increased gender and age detail. The 10-cell detail for Hispanics is only slightly finer than the old 8-cell detail. The old step, however, had only a single cell for non-Hispanics, whereas the new step uses the same 10-cell detail for both groups.

Race step 3 differs somewhat in cell detail from the old step. An analysis of the old procedure showed that there were too many defined white and black cells that had too few unemployed responses. These cells were automatically collapsed, with results differing from month to month. The new step “precollapses” these cells, so that there are fewer defined black and white cells. The old procedure’s four cells for “other” race is increased to 10 cells for Asian-plus-residual race. This is the same 10-cell detail used in the ethnicity step. In general, all age groupings for the composite weighting steps are now consistent with each other and with the second-stage weighting steps.

Conversion to the 2002 occupational and industry classification systems

In January 2003, the CPS adopted the 2002 Census Bureau occupational and industry classification systems, which are derived from the 2000 Standard Occupational Classification (SOC) system and the 2002 North American Industry Classification System (NAICS). CPS questions asked to obtain the occupational and industry information were not modified in any form; the information gathered was simply classified according to the new standards and definitions.

The composition of specific, or detailed, industry and occupational classifications in the new industry and occupational classification systems has been substantially changed, as has the structure for aggregating them into broad groups. Thus, use of the new classification systems creates breaks in existing data series at all levels of aggregation. For 2000-02, employment estimates using the new classification systems were derived by coding previously collected information. Some of these estimates will be available on the BLS Web site. A decision was made to link the new series for agriculture and nonagriculture to the existing series despite a significant change in the composition of agriculture because these categories are fundamental to labor force analysis.

The following discussion focuses on the classification differences at the major occupational and industry group level. Further research planned for 2003 will examine differences for detailed occupations and industries. The major occupational and industry categories, displayed by their 2002 and 1990 classification schemes, are presented in table 6.

Major occupational classification differences. The Standard Occupational Classification (SOC) is the Federal Government’s standard for classifying occupational data for statistical purposes. Occupational information presented in the “A” tables of this publication is classified by the census occupational classification system, an adaptation of the SOC designed to meet the specific needs of classifying household data. The 2002 Census Bureau occupational classification system is based on the SOC first issued by the U.S. Office of Management and Budget in August 1998 and published in its final form in October 2000. The 1990 Census Bureau occupational classification previously in use was based on the 1980 SOC.

The major occupational groups of the new SOC and the derivative 2002 Census Bureau occupational classification place more emphasis on the type of work performed and less emphasis on skill or education level. For example, legal support workers such as paralegals and legal assistants now are grouped with lawyers and judges within the major group called “professional and related occupations”; previously, the support workers were classified in a different broad group. The move away from skill-based groupings is perhaps the most notable distinction between the 1990 and 2002 major occupational groups. A summary of some specific differences between the 1990 and 2002 major occupational groups used for the household survey data is provided below.⁵

Management, business, and financial operations occupations. Although the overall scope of this group did not

⁵ For further information on the SOC revision that led to the changes in the census occupational classification, see “Revising the Standard Occupational Classification System,” Report 929 (Bureau of Labor Statistics, June 1999), on the Internet at <http://www.bls.gov/soc/socprt929.pdf>.

change significantly, historical comparability has been disrupted by the reclassification of some specific occupations. In particular, farmers and ranchers and farm, ranch, and other agricultural managers currently are classified in this group; in the 1990 classification, these occupations were included in the farming, forestry, and fishing group.

Professional and related occupations. There is little comparability between this group and the professional specialty group from the previous occupational classification system, even though the titles are quite similar. The scope of this occupational group has been expanded significantly to include many of the occupations that were previously categorized as technicians and related support in the 1990 classification.

Service occupations. Although the title remains unchanged from the 1990 classification, the scope of the occupational group has been significantly expanded under the new classification. This was partly due to the reclassification of grounds maintenance workers to this group; groundskeepers and gardeners previously were classified as farming, forestry, and fishing occupations.

Sales and related occupations. This group is relatively comparable with the sales occupations group in the 1990 classification. The scope of the group has been slightly reduced, primarily due to the reclassification of some occupations to the service occupations group.

Office and administrative support occupations. This group is fairly comparable with the administrative support, including clerical, group from the 1990 classification, although the scope has been somewhat expanded.

Farming, fishing, and forestry occupations. This is another case in which the group title is little changed, but the scope of the group has been greatly reduced. This is primarily because of the aforementioned reclassifications of grounds maintenance workers; farmers and ranchers; and farm, ranch, and agricultural managers to other major groupings.

Construction and extraction occupations. This is a new occupational grouping in the 2002 classification; there was no directly comparable group in the 1990 classification. The new group represents a realignment of various occupations that were previously categorized in separate groups, primarily the precision production, craft, and repair group and the handlers, equipment cleaners, helpers, and laborers category.

Installation, maintenance, and repair occupations. This is another new occupational grouping that did not exist in the 1990 classification. This group combines selected occupa-

tions that, for the most part, were classified in the former precision production, craft, and repair group.

Production occupations. This new occupational group merges selected occupations that were previously included in the precision production, craft, and repair and operators, fabricators, and laborers groups.

Transportation and material moving occupations. Previously, this group was a component of the larger operators, fabricators, and laborers grouping. In the 2002 classification, the scope of the group has changed significantly. In particular, some transportation occupations that were previously categorized as technicians and related support in the 1990 classification are now part of this group.

Major industry classification differences. The North American Industry Classification System (NAICS) is the product of collaboration among Federal statistical agencies from Mexico, Canada, and the United States to provide a consistent framework for the collection, analysis, and dissemination of industrial statistics. The 2002 NAICS has been revised from the original 1997 version issued in the United States by the Office of Management and Budget. The 2002 Census Bureau industry classification used in the CPS is an adaptation of the 2002 NAICS. The 1990 Census Bureau industry classification previously used was based on the 1987 Standard Industrial Classification (SIC). The hierarchical structure of the 2002 NAICS and the derivative 2002 Census Bureau industry classification was developed in accordance with a single principle of aggregation, the principle that producing units that use similar production processes should be grouped together. This concept provides a framework for grouping industries that share the same production function.⁶ For example, goods-producing activities such as growing crops, raising animals, harvesting timber, and harvesting fish and other animals from farms, ranches, or the animals' natural habitats are grouped together under agriculture, forestry, fishing, and hunting. Under the 1990 classification, service-providing activities such as landscaping services and veterinary services were grouped with agriculture; under the 2002 Census Bureau classification, these services now are distributed among professional and business services. A summary of some specific differences between the 1990 and 2002 major industry groups used in the household survey data (A tables) is provided below.⁷

⁶ U.S. Office of Management and Budget, *North American Industry Classification System, United States, 1997* (Springfield, VA, National Technical Information Service, 1997), p. 13.

⁷ For more information on underlying NAICS concepts, visit the Census Bureau's NAICS Web page at <http://www.census.gov/epcd/www/naics.html>. Information on the revisions made to NAICS in 2002 can be found at <http://www.census.gov/epcd/naics02/>.

Agriculture, forestry, fishing, and hunting. Prior to implementation of the 2002 Census industry classification, forestry, fishing, hunting, and trapping were presented with the services group; now these industries are included with agriculture. Logging has been reclassified from the manufacturing sector to this group also. Despite these additions, the overall scope of this sector has been significantly reduced because veterinary services and landscaping services have been moved largely into the new professional and business services sector. In household data tabulations, the title “agriculture and related industries” will be used interchangeably with the full title “agriculture, forestry, fishing, and hunting.”

Mining. This sector is still relatively comparable with the mining division in the 1990 classification. Some mining support activities, such as surveying and mapping, were moved to professional and technical services, however, the scope of the sector under the 2002 Census Bureau classification was little changed.

Construction. The scope of the construction sector has expanded slightly, due partly to the reclassification of some activities that were previously part of the former services (construction management services) and finance, insurance, and real estate divisions (land subdividers and developers).

Manufacturing. The manufacturing sector is not directly comparable with the 1990 classification. The scope has been reduced in part by the reclassification of logging to the agriculture, forestry, fishing, and hunting sector. In addition, newspaper, book, and other print media publishing was reclassified to the new information sector. Some research and development activities previously classified in manufacturing are now part of professional and technical services.

Wholesale and retail trade. The scope of the wholesale trade and retail trade industries was reduced in the 2002 classification. Within wholesale trade, various sales activities across many categories were redefined as retail in nature and moved to that sector. Within retail trade, food services and drinking places have been reclassified from retail to become part of the new leisure and hospitality group.

Transportation and utilities. This sector is not comparable with its counterpart in the 1990 classification primarily because communications were previously included; that industry now is part of the new information sector. The scope of this group has been further reduced with the reclassification of waste collection activities and travel agencies from transportation to the management, administrative, and waste services component of professional and business services. Within utilities, solid waste treatment and disposal, landfills, and remediation services have likewise been reclassified under the 2002 system.

Information. This new sector was created to combine activities that: 1) produce and distribute information and cultural products, 2) provide the means to transmit these products, as well as general communications, and 3) process data and information.⁸ It groups component industries that were classified in several different divisions in the 1990 classification, including publishing, broadcasting, telecommunications, motion picture and sound recording, and other information services.

Financial activities. The finance and insurance component of this sector is little changed from the 1990 classification. However, rental and leasing services, much of which was formerly classified in the services division, is now grouped here with real estate. These components include vehicle, appliance, and video rental, as well as commercial equipment and machinery rental and leasing. Overall, the scope of the new financial activities industry has expanded.

Professional and business services. This is a new industry grouping composed of two distinct subcategories. The professional and technical services component combines various professional, scientific, and technical services, many of which previously were classified in the former services division. It includes legal, accounting, architectural, and engineering services as well as computer systems design, scientific research, advertising, and veterinary services. The management, administrative, and waste services component combines business activities related to the management of companies and enterprises, such as holding companies and corporate offices, with administrative, support, and waste management and remediation services. Included in this latter group are temporary help and employee leasing services, travel agencies, security services, janitorial and landscaping services, and waste collection, disposal, and remediation services.

Education and health services. This new industry group includes industries previously classified in the health services and educational services categories of the 1990 services division classification. Social services also are part of this group.

Leisure and hospitality. This is another new industry group that comprises two fairly substantial categories. The arts, entertainment, and recreation component includes performing arts, spectator sports, museums, and recreational activities, including gambling. Accommodation and food services includes traveler accommodation and food services and drinking places; eating and drinking establishments previously were classified in retail trade.

Other services. This is a new miscellaneous concept that captures private households, repair services, and personal services.

⁸ U.S. Office of Management and Budget, *North American Industry Classification System, United States, 1997*, p. 495.

Public administration. Public administration remains quite similar in scope to its counterpart in the 1990 classification.

The extent of changes to the 2002 Census Bureau occupational and industry classifications is further realized when employment estimates are compared, based on dual-coded responses, for the major occupational and industry groups. (See table 7.) As previously stated, there is little comparability and, thus, a lack of continuity, between the 2002 and 1990 classifications. Hence, any comparisons with historical data series are not possible without major adjustments. Table 7 shows the relative size of employment for each of the occupational and industry groups under the different classifications. It also displays the distribution of employment across the groups. The difficulty in trying to compare the distinctly different occupational and industry classifications is quite evident. The 2002 Census Bureau occupational and industry classification systems, however, do provide enhanced comparability between the CPS and other data sources. More importantly, they better reflect the current industry and occupational structure of the economy.

Annual average employment and unemployment estimates based on the new classification schemes will be available later in 2003 for years 2000 forward based on dual-coded survey responses. The estimates also will incorporate the Census 2000-based population controls. Research is currently underway at BLS to help data users bridge the gap created by the breaks in occupational and industry series. Although conversion factors will provide some linkage between the old and new classifications, there undoubtedly will be some limitations to their uses.

Seasonally adjusted occupational and industry estimates at the broad level will not be available from the household survey until sufficient data have been collected to allow for seasonal adjustment of selected series. In the interim, only

employment and unemployment for occupations and industries generated on a not seasonally adjusted basis will be available.

Changes in data presentation

The changes to the Current Population Survey described above have had an impact on the presentation of data in the household survey "A tables" section of this publication beginning with this issue. The principal changes are the introduction of data for Asians and the addition of more detailed data for persons of Hispanic or Latino ethnicity to many of the existing tables (tables A-13, A-15 to A-18, A-20, A-26, A-28, A-35, and A-38) and the introduction of industry and occupational data classified under the new industry and occupational classification systems (tables A-19 to A-21, A-25, A-27, A-29, A-30, and A-36). (Table numbers refer to the new table numbers used beginning with this issue. See below for additional information on table number changes.)

In addition, one table, "A-11. Unemployment rates by occupation, industry, and selected demographic characteristics, seasonally adjusted," has been discontinued because seasonally adjusted occupational and industry data are no longer available. Data on unemployment rates by marital status, formerly shown in this table, now appear in table A-10. Also, two new tables have been added: "A-14. Employment status of the Hispanic or Latino population by age and sex" and "A-32. Unemployed persons by reason for unemployment, race, and Hispanic or Latino ethnicity." The deletion and addition of tables resulted in a few changes in the table numbers of the existing tables. Specifically, old tables A-12 to A-14 have now been renumbered as tables A-11 to A-13 and old tables A-32 to A-37 have now been renumbered as tables A-33 to A-38.

Table 6. Occupational and industry groupings based on the 2002 and 1990 census classification systems

2002 Occupational groups	1990 Occupational groups
<ul style="list-style-type: none"> Management, professional, and related occupations <ul style="list-style-type: none"> Management, business, and financial operations occupations Professional and related occupations Service occupations Sales and office occupations <ul style="list-style-type: none"> Sales and related occupations Office and administrative support occupations Natural resources, construction, and maintenance occupations <ul style="list-style-type: none"> Farming, fishing, and forestry occupations Construction and extraction occupations Installation, maintenance, and repair occupations Production, transportation, and material moving occupations <ul style="list-style-type: none"> Production occupations Transportation and material moving occupations 	<ul style="list-style-type: none"> Managerial and professional specialty <ul style="list-style-type: none"> Executive, administrative, and managerial Professional specialty Technical, sales, and administrative support <ul style="list-style-type: none"> Technicians and related support Sales occupations <ul style="list-style-type: none"> Administrative support, including clerical Service occupations Precision production, craft, and repair <ul style="list-style-type: none"> Operators, fabricators, and laborers Machine operators, assemblers, and inspectors Transportation and material moving occupations <ul style="list-style-type: none"> Handlers, equipment cleaners, helpers, and laborers Farming, forestry, and fishing
2002 Industry groups	1990 Industry groups
<ul style="list-style-type: none"> Agriculture, forestry, fishing, and hunting Mining Construction Manufacturing Wholesale and retail trade Transportation and utilities Information Financial activities Professional and business services Education and health services Leisure and hospitality Other services Public administration 	<ul style="list-style-type: none"> Agriculture Mining Construction Manufacturing Transportation and public utilities Wholesale and retail trade Finance, insurance, and real estate Services Public administration

Table 7. Number and distribution of employed persons based on the 2002 and 1990 occupational and industry classification systems, 2002 annual averages

(Numbers in thousands)

Major occupational group, 2002 system	Number	Percent	Major occupational group, 1990 system	Number	Percent
Total	136,485	100.0	Total	136,485	100.0
Management, business, and financial operations occupations	19,823	14.5	Executive, administrative, and managerial	20,561	15.1
Professional and related occupations ...	27,358	20.0	Professional specialty	21,921	16.1
Service occupations	21,766	15.9	Technicians and related support	4,509	3.3
Sales and related occupations	15,828	11.6	Sales occupations	16,254	11.9
Office and administrative support occupations	19,580	14.3	Administrative support, including clerical	18,184	13.3
Farming, fishing, and forestry occupations	1,040	.8	Service occupations	19,219	14.1
Construction and extraction occupations	7,898	5.8	Precision production, craft, and repair	14,660	10.7
Installation, maintenance, and repair occupations	4,623	3.4	Operators, fabricators, and laborers ..	17,697	13.0
Production occupations	10,081	7.4	Farming, forestry, and fishing	3,480	2.5
Transportation and material moving occupations	8,488	6.2			
Major industry group, 2002 system	Number	Percent	Major industry group, 1990 system	Number	Percent
Total	136,485	100.0	Total	136,485	100.0
Agriculture, forestry, fishing, and hunting	2,311	1.7	Agriculture	3,340	2.4
Mining	502	.4	Mining	516	.4
Construction	9,981	7.3	Construction	9,669	7.1
Manufacturing	17,233	12.6	Manufacturing	18,147	13.3
Wholesale and retail trade	19,807	14.5	Transportation and public utilities	9,680	7.1
Transportation and utilities	7,244	5.3	Wholesale and retail trade	28,096	20.6
Information	3,690	2.7	Finance, insurance, and real estate ...	9,125	6.7
Financial activities	9,565	7.0	Services	51,727	37.9
Professional and business services	14,015	10.3	Public administration	6,184	4.5
Education and health services	27,624	20.2			
Leisure and hospitality	11,541	8.5			
Other services	6,665	4.9			
Public administration	6,307	4.6			