

Correcting Employment Rates in the 2000 Decennial Census
using information from the CPS-Census 2000 Match

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Introduction

The decennial census for 2000 shows a much lower employment rate for adults in the United States than the Current Population Surveys (CPS) does. Part of the difference relates to coverage. The CPS surveys only the civilian, non-institutional population, while the Census counts members of the Armed Services (as employed) and the portion of the population in institutions such as jails and prisons (as not-in-the-labor-force). On net, the exclusion of members of the Armed Forces and the institutional population drives up the employment rate in the CPS relative to the census, particularly for younger men. A substantial gap between the CPS and decennial census remains, however, even when the census data are limited to the same civilian, non-institutional population surveyed by the CPS. Lockett Clark, Iceland, Palumbo, Posey, and Weismantle (2003) of the Census Bureau, for example, determined that the CPS found 64.6 percent of the civilian, non-institutional population was working in April 2000, compared to 61.2 percent of the same population in the census, which had as its predominant reference week the last week in March 2000.¹

The Census Bureau believes that the main reason for remaining discrepancies between the CPS and the census are reporting errors in the decennial census. The Census Bureau generally considers the CPS to be a more accurate measure of labor-market status than the decennial census because the census is primarily a self-administered, mail survey, while the CPS is conducted by trained, full-time, interviewers "who ask a more extensive and detailed set of probing questions about labor force activities than it is possible to ask in the general purpose census." (Palumbo and Siegel, 2004, p. 2)

Palumbo and Siegel (2004) of the Census Bureau have investigated the accuracy of census responses using a unique data set that matches individuals' responses to the February through May 2000 CPS to their completed Census 2000 form. After an extensive analysis of the matched CPS-Census 2000 data, Palumbo and Siegel conclude that "...some groups of workers may have had difficulty in understanding or correctly responding to the work-last-week question in the census." (p. ix) Specifically, the two researchers find that the CPS and census are "reasonably consistent" with respect to assigning respondents to the "employed" and the "not in the labor force" categories. Among all adults 16 and older, for example, about 93 percent of decennial census forms that reported the respondent was working matched the corresponding CPS response; and

1 See their Table 1.

about 83 percent of census forms that reported the respondent was not in the labor force matched the CPS. Not surprisingly, given the complexity of the Bureau of Labor Statistics (BLS) definition of unemployment,² the self-reported census responses were far less accurate with respect to unemployment. According to the CPS, census respondents who reported that they were unemployed were split fairly evenly between actually being unemployed (33 percent), employed (32 percent), and not in the labor force (35 percent).

This paper uses the published results from Palumbo and Siegel's analysis to correct the labor-force-status errors in the decennial census in order to produce corrected estimates of employment-to-population ratios. Even after correcting for reporting errors using a simple procedure, the decennial census shows a significantly lower employment rate than the CPS. For the civilian, non-institutional population age 16 and older, for example, the corrected employment-rate gap, which is 3.4 percentage points, is still 1.5 percentage points. Including the Armed Forces and the institutional population raises the error-corrected gap between the CPS and the census to 2.4 percentage points. The corrected gap is even larger for the standard working-age population, ages 16 to 64 year olds. For the working-age group, the uncorrected gap is TK percentage points, the corrected gap is TK percentage points, and the corrected gap including the Armed Forces and the institutional population is TK percentage points.

Method

Several appendices to Palumbo and Siegel (2004) provide detailed results of their analysis of matched CPS-Census 2000 forms for a large number of demographic groups defined by gender, race or ethnicity, and age. Various tables report how respondents' answers in their census questionnaire mapped to their CPS interview (which Palumbo and Siegel define to be the "true" labor-force status). These data allow the construction of corrected employment (and other labor-force status) rates using a straightforward procedure illustrated in Table 1, using data for the civilian, non-institutional population, ages 16 and older.

2 According to the BLS: "...[P]eople are considered employed if they did any work at all for pay or profit during the survey week. This includes all part-time and temporary work, as well as regular full-time year-round employment. Persons also are counted as employed if they have a job at which they did not work during the survey week because they were: On vacation; Ill; Experiencing child-care problems; Taking care of some other family or personal obligation; On maternity or paternity leave; Involved in an industrial dispute; or Prevented from working by bad weather.... Persons are classified as unemployed if they do not have a job, have actively looked for work in the prior 4 weeks, and are currently available for work.... All others--those who have no job and are not looking for one--are counted as 'not in the labor force.'" (See http://www.bls.gov/cps/cps_faq.htm.)

The first row of the table shows the (weighted) distribution of employment states for the entire adult (16 and older) population. According to Census 2000, 61.2 percent of adults were employed, 3.7 percent were unemployed, and 35.0 percent were not in the labor force.³ The next three rows show how census respondents in each of these states compared to their matched CPS interviews. In the case of those reporting that they were employed in their census form, 0.929 were also employed according to their CPS interview, 0.015 were unemployed, and 0.056 were actually "not in the labor force" in the determination of the CPS. Of the 3.7 percentage points of census respondents who said they were unemployed, about one third (0.320) were employed, about one third (0.332), and about one third (0.348) were not in the labor force, according to the CPS. And of the 35.0 percent of census respondents who reported that they were not in the labor force, 0.146 were, in fact, employed, 0.023 were unemployed, and 0.832 percent were not in the labor force.

The next three rows of the table apportion census respondents in each of census-form labor-force categories to their "true" labor-force status as determined by the matched CPS interviews. Of the 61.2 percent of census respondents in work, 0.929 or 56.9 percent of the total census population were, indeed, in work; 0.015 of the 61.2 percent or 0.9 percent of the total adult population were really unemployed; and 0.056 of the 61.2 percent or 3.4 percent of the total were actually not in the labor force. The 3.7 percent of the census total that were unemployed were, according to the CPS matches, in fact, divided roughly in thirds, or about 1.2 percentage points each, across the three labor-market states. Finally, correcting self-reporting errors among the 35.0 percent of adults who told the census they were not in the labor force raises the employment rate by 5.1 percentage points (35.0 percent times 0.146) and the unemployment share by 0.8 percentage points (35.0 times 0.023), leaving 29.1 percent (35.0 times times 0.832) out of the labor force.

The next-to-the-last row in the table sums the reallocated labor-force shares in the preceding three rows to produce corrected labor-force shares. The corrected employment rate is 63.1 percent, or 1.9 percentage points higher than the rate calculated with the "raw" census data. The shares in both unemployment (3.0 percent) and not-in-the-labor-force (33.8 percent) are lower after the correction –by 0.7 percentage points in the case of unemployment and 1.2 percentage points for not-in-the-labor-force. The next section of the paper reports results from an identical analysis on sub-populations defined by gender, race and ethnicity, and age.

³ The three states total to 99.9 because of rounding error.

Several features of the data sources and the correction procedure potentially affect the estimates of corrected employment rates. First, the assumption that the CPS is "always right" and the census is "always wrong" suggests that the Palumbo and Siegel mapping of census to CPS responses overstates the frequency of errors in the census. Even if the CPS is markedly better at determining respondents' true labor-force status, the CPS will occasionally make mistakes. Moreover, differences in the reference periods used for the CPS (which covers February through May in the matched sample) and the Census (which is predominantly, but not exclusively the last week in March) raises the possibility both surveys could be right (or wrong) even when the CPS and the census disagree about a respondent's labor-force status, in so far as the respondent's labor-force status really did change in the weeks or months between the different reference weeks.

Second, Palumbo and Siegel report correction factors for a wide range of gender, racial or ethnic, and age groups, but these groups do not always exactly match those used below. Most importantly in this respect, Palumbo and Siegel only provide census-to-CPS mappings for whites (non-Hispanics), blacks (non-Hispanics), and Hispanics, with no separate estimates for remaining racial and ethnic groups. The tables below, therefore, use the national average correction factors (by gender and age, where appropriate) as an approximation for the remaining population grouped into an "other" category. Given that the "other" category is fairly heterogeneous, with some groups with labor-force outcomes similar to whites and others closer to African Americans and Hispanics, this compromise probably does not distort the "other"-specific outcomes too significantly. Since the "other" group is incorporated into the matching exercise used to produce the correction factors for the whole population, all men, all women, and the various age bands, the lack of "other"-specific factors has no impact on these more aggregate estimates.

Third, the Census 2000's decision to use a much wider range of racial and ethnic categories than were available in the CPS⁴ in 2000 complicates the process of matching race and ethnicity across the CPS and decennial census in 2000 --and across the Palumbo and Siegel and my own versions of these data sets. The impact of these complications, however, is not likely to be significant. The impact of the definitional changes on the size of various racial and ethnic groups is fairly small across reasonable alternative designations.⁵ To the extent that the census-to-CPS mappings don't vary significantly

4 The CPS did not introduce the new, broader racial and ethnic categories until 2003.

5 The biggest issue is how to classify respondents who identify themselves as being more than one race. The two most common classification systems are to create categories in either of two ways: (1) "white only," "black only," "Hispanic (of any race)," "other (one race only)," and "more than one race"; or (2) "white", "black (including those who identify themselves as black and some other race)," "Hispanic (of

across these small changes in the population, the effect on the estimates below is probably small.

Finally, Palumbo and Siegel study the population age 16 and older. Since the "working-age population" –ages 16 to 64– is of separate and significant interest, the discussion of results of the correction procedure below includes the presentation of estimated corrected-employment rates for 16 to 64 year olds only. To derive these estimates, I've taken the estimated correction factor for the population 16 and older and subtracted the correction factor for the population 65 and older (a group analyzed separately by Palumbo and Siegel), weighted by the share of those 65 and older in the total population.

Results

Table 2 summarizes the results from applying the procedure described in Table 1 to several aggregated groups of the population age 16 and older. As in Table 1, the overall reporting-error corrected employment rate in the census is 1.9 percentage points higher than the "raw" census rate. The effect of reporting errors, however, appears to differ substantially across gender, race and ethnicity. For all men in the 16-and-older age range, the corrected rate is 1.7 percentage points higher; for all women, 2.2 percentage points higher. For whites, correcting reporting errors raises estimated employment rates by 1.0 percentage points. For blacks, however, the effect is substantially higher at 3.4 percentage points, but still less than half of the 7.5 percentage-point correction factor for Hispanics. These results give some support to the idea that less-educated respondents (blacks and Hispanics have lower educational attainment than whites) and those with language difficulties (the Hispanic category includes an important share of immigrants, who disproportionately report lower levels of English fluency than US-born residents) may be more likely to make errors when asked to give their labor-force status. At the same time, the correction factors are also higher for those groups (women, blacks, and Hispanics) that move in-and-out of labor-force states at higher-than-average frequencies.

Table 3 presents the correction factors for detailed gender and age groups. Again, the data show considerable variation across different populations. The 25-to-34 year-old age range has the largest correction factor (in percentage-point terms) –4.4 percentage points for all, 5.1 percentage points for women, and 4.3 percentage points for men

any race)," and "other (including more than one race, except those who also identify themselves as black)." The analysis of the decennial census below uses the second definition; coding used to allocate census categories to categories used here is available upon request.

(second only to 20-to-24-year olds, at 4.4 percentage points). The lowest correction factors are for the youngest (16 to 19) and oldest (65 and older) age groups, with all correction factors below 1.0 percentage point and most below zero (which means that correcting for classification errors in the census *lowers* the estimated employment rate, widening the measurement gap with respect to the CPS).

Table 4 and Figure 1 provide further breakdowns by gender, age, and race or ethnicity. As Figure 1 illustrates, across gender and age groups, the correction factors are generally smaller for whites than blacks, and smaller for blacks than Hispanics.

Tables 5 and 6 use the correction factors from tables 2, 3, and 4, to produce new estimates of employment-to-population rates based on the census data.

Palumbo and Siegel (2004) reported detailed error coefficients for highly disaggregated populations in the 16 and older age range, but they did not provide direct information on two important age ranges: 16-to-64 year olds (the "working-age population," which is frequently used in international comparisons of employment rates) and 25-to-54 year olds (often referred to as "prime-age workers"). Table 7 displays estimates of the correction factors for different groups of workers in these two age ranges. The estimate for each group starts with the group-specific correction factor for the full 16 and older age range ($F^{BM,16+}$ in the equation below) and then subtracts the group-specific correction factor for the excluded age range ($F^{BM,65+}$ below), weighted by the share of the group-specific excluded-age group in the total group-specific population ($w^{BM,65+} / w^{BM,16+}$, below).

$$F^{BM,16-64} = F^{BM,16+} - F^{BM,65+} * (w^{BM,65+} / w^{BM,16+})$$

Since the youngest and oldest age groups have lower-than-average correction factors, the resulting estimates of correction factors for 16-to-64 and 25-to-54 year olds are slightly higher than the corresponding estimates for the full population 16 and older.

Conclusion

For 2000, the CPS finds an employment rate for the population 16 and older that is 3.4 percentage-points higher than what the decennial census found. A simple correction for response-error in the self-reported decennial census forms, using a unique matched CPS-Census 2000 sample analyzed by Palumbo and Siegel (2004) suggests that about 1.9 percentage-points of the CPS-Census 2000 discrepancy is due to reporting error in the

census. This leaves a 1.5 percentage-point gap between the overall employment rate in the two surveys.

Data Appendix

The source of almost all data presented in the paper are the "Detailed Tables" in Palumbo and Siegel (2004). The "raw" employment-to-population rates from the 2000 decennial census are from my calculations using the One-Percent Public Use Microdata Sample, which I verified for aggregate groups using published tabulations for 2000 in Lockett Clark, Iceland, Palumbo, Posey, and Weismantle (2003).

References

Lockett Clark, Sandra, John Iceland, Thomas Palumbo, Kirby Posey, and Mai Weismantle. 2003. "Comparing Employment, Income, and Poverty: Census 2000 and the Current Population Survey," Housing and Household Economic Statistics Division, U.S. Census Bureau.

Palumbo, Thomas and Paul Siegel. 2004. "Accuracy of Data for Employment Status as Measured by the CPS-Census 2000 Match," Census 2000 Evaluation B.7, Housing and Household Economic Statistics Division, U.S. Census Bureau.

TABLE 1
Illustration of correction procedure, all worker 16 and older, 2000

	Employed	Unemployed	NILF
<i>Uncorrected census</i>	61.2	3.7	35.0
<i>CPS correction factors</i>			
Employed	0.929	0.320	0.146
Unemployed	0.015	0.332	0.023
NILF	0.056	0.348	0.832
<i>Reallocated census</i>			
Employed	56.9	1.2	5.1
Unemployed	0.9	1.2	0.8
NILF	3.4	1.3	29.1
<i>Corrected census</i>	63.1	3.0	33.8
<i>Correction factor</i>	1.9	-0.7	-1.2

Notes: Uncorrected census labor-force-status rates from author's analysis of PUMS 1% sample for 2000. CPS correction factors from Palumbo and Siegel (2004), Detailed Table 1A. Procedure for producing corrected census rates described in text. NILF is not in the labor force.

TABLE 2**Raw and adjusted census civilian labor-force shares, by race and gender, 16 and older, 2000**

Employment category	Census raw	Matched-CPS reallocations			Census corrected	Correction factor
		Employed	Unemployed	NILF		
<i>All</i>						
Employed	61.2	0.929	0.320	0.146	63.1	1.9
Unemployed	3.7	0.015	0.332	0.023	3.0	-0.7
NILF	35.0	0.056	0.348	0.832	33.8	-1.2
<i>Men</i>						
Employed	68.1	0.933	0.347	0.173	69.8	1.7
Unemployed	4.1	0.018	0.397	0.026	3.6	-0.5
NILF	27.8	0.049	0.256	0.801	26.6	-1.2
<i>Women</i>						
Employed	54.9	0.924	0.292	0.130	57.1	2.2
Unemployed	3.4	0.012	0.269	0.021	2.5	-0.9
NILF	41.7	0.064	0.438	0.850	40.4	-1.3
<i>White</i>						
Employed	63.0	0.941	0.334	0.110	64.0	1.0
Unemployed	2.8	0.010	0.357	0.016	2.2	-0.6
NILF	34.2	0.049	0.309	0.874	33.8	-0.4
<i>Black</i>						
Employed	55.4	0.884	0.304	0.203	58.8	3.4
Unemployed	7.3	0.037	0.301	0.042	5.8	-1.5
NILF	37.3	0.079	0.395	0.755	35.4	-1.9
<i>Hispanic</i>						
Employed	56.4	0.893	0.341	0.305	63.9	7.5
Unemployed	5.8	0.032	0.284	0.039	4.9	-0.9
NILF	37.8	0.075	0.375	0.656	31.2	-6.6
<i>Other</i>						
Employed	59.8	0.929	0.320	0.146	62.2	2.4
Unemployed	4.1	0.015	0.332	0.023	3.1	-1.0
NILF	36.2	0.056	0.348	0.832	34.9	-1.3

Notes: Analysis of 2000 decennial census PUMS 1% and Palumbo and Siegel (2004),

Detailed Table 1A. NILF is "not in the labor force." See Table 1.

TABLE 3**Raw and adjusted census civilian labor-force shares, by age and gender, 2000**

(percent)

Employment category	Census raw	Matched-CPS reallocations			Census corrected	Correction factor
		Employed	Unemployed	NILF		
<i>(a) 16-19 year olds</i>						
<i>All</i>						
Employed	41.4	0.766	0.247	0.145	41.2	-0.2
Unemployed	9.3	0.040	0.237	0.057	6.7	-2.6
NILF	49.3	0.194	0.516	0.798	52.2	2.9
<i>Men</i>						
Employed	41.4	0.771	0.237	0.157	41.9	0.5
Unemployed	9.8	0.044	0.305	0.056	7.5	-2.3
NILF	48.8	0.185	0.458	0.788	50.6	1.8
<i>Women</i>						
Employed	41.4	0.762	0.257	0.133	40.4	-1.0
Unemployed	8.9	0.037	0.168	0.058	5.9	-3.0
NILF	49.8	0.202	0.576	0.809	53.8	4.0
<i>(b) 20-24 year olds</i>						
<i>All</i>						
Employed	67.6	0.902	0.325	0.269	70.2	2.6
Unemployed	8.1	0.032	0.293	0.058	6.0	-2.1
NILF	24.4	0.066	0.382	0.673	24.0	-0.4
<i>Men</i>						
Employed	70.7	0.911	0.395	0.350	75.1	4.4
Unemployed	8.7	0.040	0.348	0.069	7.3	-1.4
NILF	20.6	0.049	0.257	0.581	17.7	-2.9
<i>Women</i>						
Employed	64.5	0.891	0.259	0.208	65.2	0.7
Unemployed	7.4	0.023	0.242	0.050	4.7	-2.7
NILF	28.1	0.086	0.499	0.742	30.1	2.0
<i>(continued)</i>						

TABLE 3 (continued)**Raw and adjusted census civilian labor-force shares, by age and gender, 2000**

(percent)

Employment category	Census raw	Matched-CPS reallocations			Census corrected	Correction factor
		Employed	Unemployed	NILF		

*(c) 25-34 year olds**All*

Employed	76.2	0.957	0.255	0.333	80.6	4.4
Unemployed	4.2	0.014	0.456	0.040	3.8	-0.4
NILF	19.6	0.029	0.289	0.626	15.7	-3.9

Men

Employed	83.7	0.960	0.264	0.551	88.0	4.3
Unemployed	4.4	0.017	0.534	0.019	4.0	-0.4
NILF	11.9	0.023	0.201	0.431	8.0	-3.9

Women

Employed	68.9	0.955	0.246	0.267	74.0	5.1
Unemployed	4.1	0.009	0.389	0.047	3.5	-0.6
NILF	27.0	0.036	0.365	0.686	22.5	-4.5

*(d) 35-44 year olds**All*

Employed	77.8	0.953	0.452	0.286	81.1	3.3
Unemployed	3.4	0.016	0.320	0.041	3.1	-0.3
NILF	18.8	0.031	0.228	0.673	15.8	-3.0

Men

Employed	84.9	0.958	0.545	0.479	88.8	3.9
Unemployed	3.6	0.019	0.388	0.083	3.9	0.3
NILF	11.5	0.023	0.067	0.438	7.2	-4.3

Women

Employed	71.0	0.947	0.370	0.212	73.9	2.9
Unemployed	3.2	0.012	0.260	0.024	2.3	-0.9
NILF	25.8	0.040	0.369	0.764	23.8	-2.0

(continued)

TABLE 3 (continued)**Raw and adjusted census civilian labor-force shares, by age and gender, 2000**

(percent)

Employment category	Census raw	Matched-CPS reallocations			Census corrected	Correction factor
		Employed	Unemployed	NILF		

*(e) 45-54 year olds**All*

Employed	77.0	0.959	0.357	0.265	80.2	3.2
Unemployed	2.8	0.008	0.307	0.023	2.0	-0.8
NILF	20.1	0.032	0.336	0.712	17.7	-2.4

Men

Employed	82.8	0.963	0.330	0.273	84.6	1.8
Unemployed	3.2	0.010	0.378	0.024	2.4	-0.8
NILF	14.0	0.026	0.292	0.703	13.0	-1.0

Women

Employed	71.5	0.955	0.391	0.261	76.1	4.6
Unemployed	2.5	0.006	0.217	0.023	1.6	-0.9
NILF	26.0	0.038	0.392	0.716	22.3	-3.7

*(f) 55-64 year olds**All*

Employed	56.4	0.923	0.309	0.116	57.5	1.1
Unemployed	2.0	0.009	0.417	0.014	1.9	-0.1
NILF	41.5	0.068	0.273	0.870	40.5	-1.0

Men

Employed	63.9	0.945	0.343	0.130	65.6	1.7
Unemployed	2.5	0.007	0.474	0.019	2.3	-0.2
NILF	33.7	0.048	0.183	0.851	32.2	-1.5

Women

Employed	49.7	0.899	0.277	0.106	50.3	0.6
Unemployed	1.6	0.010	0.362	0.011	1.6	0.0
NILF	48.7	0.091	0.360	0.883	48.1	-0.6

(continued)

TABLE 3 (continued)**Raw and adjusted census civilian labor-force shares, by age and gender, 2000**

(percent)

Employment category	Census raw	Matched-CPS reallocations			Census corrected	Correction factor
		Employed	Unemployed	NILF		
<i>(g) 65 and older</i>						
<i>All</i>						
Employed	13.2	0.716	0.036	0.026	11.7	-1.5
Unemployed	0.8	0.002	0.179	0.003	0.4	-0.4
NILF	86.0	0.282	0.785	0.972	87.9	1.9
<i>Men</i>						
Employed	18.3	0.676	0.054	0.027	14.6	-3.7
Unemployed	0.9	0.000	0.266	0.003	0.5	-0.4
NILF	80.8	0.324	0.680	0.970	84.9	4.1
<i>Women</i>						
Employed	9.5	0.775	0.000	0.025	9.6	0.1
Unemployed	0.7	0.006	0.009	0.002	0.3	-0.4
NILF	89.8	0.219	0.991	0.973	90.1	0.3

Notes: Analysis of 2000 decennial census PUMS 1% and Palumbo and Siegel (2004), Detailed Table 1A. NILF is "not in the labor force."

TABLE 4**Raw and corrected census civilian labor-force shares, by race, gender, and age, 2000**

(percent)

Employment category	Census raw	Matched-CPS reallocations			Census corrected	Correction factor
		Employed	Unemployed	NILF		
<i>(a) 16-19 year olds</i>						
<i>White men</i>						
Employed	45.7	0.789	0.264	0.172	46.2	0.5
Unemployed	8.8	0.028	0.334	0.049	6.4	-2.4
NILF	45.5	0.183	0.402	0.779	47.4	1.9
<i>White women</i>						
Employed	47.1	0.849	0.336	0.148	49.2	2.1
Unemployed	7.5	0.016	0.183	0.046	4.2	-3.3
NILF	45.4	0.135	0.480	0.806	46.6	1.2
<i>Black men</i>						
Employed	27.2	0.520	0.032	0.088	19.7	-7.5
Unemployed	14.2	0.144	0.423	0.058	13.3	-0.9
NILF	58.7	0.336	0.545	0.854	67.0	8.3
<i>Black women</i>						
Employed	30.3	0.542	0.293	0.083	25.1	-5.2
Unemployed	14.0	0.126	0.203	0.049	9.4	-4.6
NILF	55.7	0.332	0.504	0.868	65.5	9.8
<i>Hispanic men</i>						
Employed	41.2	0.848	0.420	0.246	51.2	10.0
Unemployed	10.2	0.068	0.000	0.061	5.8	-4.4
NILF	48.6	0.084	0.580	0.693	43.0	-5.6
<i>Hispanic women</i>						
Employed	32.5	0.499	0.172	0.114	23.6	-8.9
Unemployed	9.9	0.076	0.186	0.131	10.8	0.9
NILF	49.8	0.424	0.642	0.756	57.8	8.0
<i>Other men</i>						
Employed	30.9	0.771	0.237	0.157	35.3	4.4
Unemployed	8.6	0.044	0.305	0.056	7.4	-1.2
NILF	60.5	0.185	0.458	0.788	57.3	-3.2
<i>Other women</i>						
Employed	32.5	0.762	0.257	0.133	34.8	2.3
Unemployed	8.3	0.037	0.168	0.058	6.0	-2.3
NILF	59.2	0.202	0.576	0.809	59.2	0.0
(continued)						

TABLE 4 (continued)

Raw and corrected census civilian labor-force shares, by race, gender, and age, 2000

(percent)

Employment category	Census raw	Matched-CPS reallocations			Census corrected	Correction factor
		Employed	Unemployed	NILF		
<i>(b) 20-24 year olds</i>						
<i>White men</i>						
Employed	75.4	0.942	0.460	0.288	79.4	4.0
Unemployed	7.2	0.022	0.348	0.019	4.5	-2.7
NILF	17.4	0.036	0.192	0.692	16.1	-1.3
<i>White women</i>						
Employed	70.3	0.930	0.264	0.174	71.0	0.7
Unemployed	5.6	0.018	0.248	0.043	3.7	-1.9
NILF	24.1	0.052	0.488	0.783	25.2	1.1
<i>Black men</i>						
Employed	54.6	0.741	0.263	0.293	53.3	-1.3
Unemployed	17.2	0.092	0.338	0.147	15.0	-2.2
NILF	28.2	0.167	0.399	0.560	31.8	3.6
<i>Black women</i>						
Employed	57.0	0.817	0.363	0.239	58.6	1.6
Unemployed	14.2	0.035	0.190	0.158	9.2	-5.0
NILF	28.8	0.149	0.447	0.603	32.2	3.4
<i>Hispanic men</i>						
Employed	69.9	0.903	0.753	0.638	83.3	13.4
Unemployed	8.3	0.079	0.247	0.123	10.2	1.9
NILF	21.8	0.019	0.000	0.239	6.5	-15.3
<i>Hispanic women</i>						
Employed	52.3	0.779	0.087	0.288	52.7	0.4
Unemployed	8.8	0.042	0.392	0.040	7.2	-1.6
NILF	38.9	0.179	0.521	0.672	40.1	1.2
<i>Other men</i>						
Employed	59.8	0.911	0.395	0.350	69.0	9.2
Unemployed	8.0	0.040	0.348	0.069	7.4	-0.6
NILF	32.3	0.049	0.257	0.581	23.7	-8.6
<i>Other women</i>						
Employed	57.3	0.891	0.259	0.208	60.3	3.0
Unemployed	6.6	0.023	0.242	0.050	4.7	-1.9
NILF	36.1	0.086	0.499	0.742	35.0	-1.1

(continued)

TABLE 4 (continued)

Raw and corrected census civilian labor-force shares, by race, gender, and age, 2000

(percent)

Employment category	Census raw	Matched-CPS reallocations			Census corrected	Correction factor
		Employed	Unemployed	NILF		
<i>(c) 25-34 year olds</i>						
<i>White men</i>						
Employed	88.8	0.968	0.347	0.394	90.2	1.4
Unemployed	3.3	0.012	0.414	0.016	2.5	-0.8
NILF	7.9	0.021	0.238	0.590	7.3	-0.6
<i>White women</i>						
Employed	73.7	0.964	0.286	0.223	77.1	3.4
Unemployed	2.8	0.007	0.437	0.034	2.5	-0.3
NILF	23.5	0.029	0.276	0.743	20.4	-3.1
<i>Black men</i>						
Employed	71.5	0.942	0.234	0.592	80.9	9.4
Unemployed	9.1	0.032	0.739	0.000	9.0	-0.1
NILF	19.4	0.027	0.027	0.408	10.1	-9.3
<i>Black women</i>						
Employed	68.0	0.961	0.123	0.444	76.9	8.9
Unemployed	8.2	0.012	0.354	0.102	6.1	-2.1
NILF	23.8	0.027	0.523	0.454	17.0	-6.8
<i>Hispanic men</i>						
Employed	74.3	0.953	0.055	0.802	87.3	13.0
Unemployed	5.5	0.022	0.625	0.029	5.6	0.1
NILF	20.2	0.025	0.320	0.169	7.0	-13.2
<i>Hispanic women</i>						
Employed	53.3	0.885	0.195	0.302	60.7	7.4
Unemployed	5.8	0.026	0.300	0.014	3.7	-2.1
NILF	40.9	0.089	0.505	0.684	35.6	-5.3
<i>Other men</i>						
Employed	79.8	0.960	0.264	0.551	86.5	6.7
Unemployed	4.3	0.017	0.534	0.019	4.0	-0.3
NILF	15.9	0.023	0.201	0.431	9.6	-6.3
<i>Other women</i>						
Employed	62.2	0.955	0.246	0.267	69.4	7.2
Unemployed	3.8	0.009	0.389	0.047	3.7	-0.1
NILF	34.0	0.036	0.365	0.686	27.0	-7.0

(continued)

TABLE 4 (continued)**Raw and corrected census civilian labor-force shares, by race, gender, and age, 2000**

(percent)

Employment category	Census raw	Matched-CPS reallocations			Census corrected	Correction factor
		Employed	Unemployed	NILF		
<i>(d) 35-44 year olds</i>						
<i>White men</i>						
Employed	89.0	0.973	0.456	0.422	91.3	2.3
Unemployed	2.8	0.011	0.417	0.118	3.1	0.3
NILF	8.2	0.016	0.127	0.459	5.6	-2.6
<i>White women</i>						
Employed	74.1	0.961	0.343	0.185	76.4	2.3
Unemployed	2.4	0.008	0.377	0.007	1.7	-0.7
NILF	23.6	0.032	0.281	0.808	22.1	-1.5
<i>Black men</i>						
Employed	72.1	0.897	0.613	0.325	75.8	3.7
Unemployed	7.2	0.053	0.369	0.100	8.5	1.3
NILF	20.8	0.050	0.018	0.575	15.7	-5.1
<i>Black women</i>						
Employed	68.8	0.909	0.329	0.259	71.0	2.2
Unemployed	5.8	0.034	0.179	0.060	4.9	-0.9
NILF	25.4	0.057	0.492	0.680	24.0	-1.4
<i>Hispanic men</i>						
Employed	73.7	0.913	0.690	0.707	85.8	12.1
Unemployed	5.1	0.039	0.310	0.017	4.8	-0.3
NILF	21.2	0.047	0.000	0.276	9.3	-11.9
<i>Hispanic women</i>						
Employed	57.8	0.898	0.555	0.302	66.0	8.2
Unemployed	5.2	0.027	0.093	0.047	3.8	-1.4
NILF	37.0	0.074	0.352	0.651	30.2	-6.8
<i>Other men</i>						
Employed	81.2	0.958	0.545	0.479	87.1	5.9
Unemployed	3.7	0.019	0.388	0.083	4.2	0.5
NILF	15.1	0.023	0.067	0.438	8.7	-6.4
<i>Other women</i>						
Employed	64.9	0.947	0.370	0.212	69.4	4.5
Unemployed	3.3	0.012	0.260	0.024	2.4	-0.9
NILF	31.8	0.040	0.369	0.764	28.1	-3.7

(continued)

TABLE 4 (continued)**Raw and corrected census civilian labor-force shares, by race, gender, and age, 2000**

(percent)

Employment category	Census raw	Matched-CPS reallocations			Census corrected	Correction factor
		Employed	Unemployed	NILF		
<i>(e) 45-54 year olds</i>						
<i>White men</i>						
Employed	86.2	0.968	0.332	0.232	86.8	0.6
Unemployed	2.6	0.009	0.315	0.016	1.8	-0.8
NILF	11.1	0.024	0.353	0.752	11.3	0.2
<i>White women</i>						
Employed	74.6	0.961	0.362	0.214	77.5	2.9
Unemployed	2.0	0.005	0.255	0.032	1.7	-0.3
NILF	23.5	0.033	0.382	0.754	21.0	-2.5
<i>Black men</i>						
Employed	68.6	0.939	0.316	0.318	74.4	5.8
Unemployed	5.8	0.029	0.418	0.007	4.6	-1.2
NILF	25.6	0.032	0.266	0.676	21.1	-4.5
<i>Black women</i>						
Employed	65.6	0.951	0.535	0.376	76.0	10.4
Unemployed	4.1	0.018	0.123	0.009	2.0	-2.1
NILF	30.3	0.030	0.341	0.615	22.0	-8.3
<i>Hispanic men</i>						
Employed	71.6	0.957	0.460	0.469	81.8	10.2
Unemployed	4.9	0.005	0.365	0.097	4.4	-0.5
NILF	23.5	0.038	0.175	0.435	13.8	-9.7
<i>Hispanic women</i>						
Employed	56.4	0.931	0.243	0.382	68.6	12.2
Unemployed	4.4	0.000	0.185	0.004	1.0	-3.4
NILF	39.3	0.069	0.572	0.614	30.5	-8.8
<i>Other men</i>						
Employed	78.3	0.963	0.330	0.273	81.6	3.3
Unemployed	3.8	0.010	0.378	0.024	2.7	-1.1
NILF	18.0	0.026	0.292	0.703	15.8	-2.2
<i>Other women</i>						
Employed	66.2	0.955	0.391	0.261	72.5	6.3
Unemployed	3.0	0.006	0.217	0.023	1.8	-1.2
NILF	30.8	0.038	0.392	0.716	25.8	-5.0

(continued)

TABLE 4 (continued)

Raw and corrected census civilian labor-force shares, by race, gender, and age, 2000

(percent)

Employment category	Census raw	Matched-CPS reallocations			Census corrected	Correction factor
		Employed	Unemployed	NILF		
<i>(f) 55-64 year olds</i>						
<i>White men</i>						
Employed	66.1	0.946	0.290	0.115	66.8	0.7
Unemployed	2.2	0.008	0.588	0.018	2.4	0.2
NILF	31.7	0.045	0.122	0.867	30.8	-0.9
<i>White women</i>						
Employed	51.6	0.901	0.363	0.102	51.8	0.2
Unemployed	1.4	0.007	0.282	0.009	1.2	-0.2
NILF	47.1	0.092	0.356	0.889	47.1	0.0
<i>Black men</i>						
Employed	50.0	0.925	0.705	0.152	55.8	5.8
Unemployed	3.4	0.000	0.000	0.000	0.0	-3.4
NILF	46.6	0.075	0.295	0.848	44.2	-2.4
<i>Black women</i>						
Employed	45.4	0.867	0.339	0.103	45.5	0.1
Unemployed	2.2	0.030	0.150	0.029	3.2	1.0
NILF	52.4	0.103	0.511	0.869	51.3	-1.1
<i>Hispanic men</i>						
Employed	56.0	0.924	0.397	0.251	63.4	7.4
Unemployed	4.4	0.000	0.000	0.053	2.1	-2.3
NILF	39.7	0.076	0.603	0.696	34.6	-5.1
<i>Hispanic women</i>						
Employed	37.9	0.870	0.000	0.130	40.6	2.7
Unemployed	3.1	0.029	0.484	0.017	3.6	0.5
NILF	58.9	0.101	0.516	0.854	55.7	-3.2
<i>Other men</i>						
Employed	63.6	0.945	0.343	0.130	65.4	1.8
Unemployed	2.8	0.007	0.474	0.019	2.4	-0.4
NILF	33.6	0.048	0.183	0.851	32.1	-1.5
<i>Other women</i>						
Employed	45.1	0.899	0.277	0.106	46.8	1.7
Unemployed	2.0	0.010	0.362	0.011	1.8	-0.2
NILF	53.0	0.091	0.360	0.883	51.6	-1.4

(continued)

TABLE 4 (continued)**Raw and corrected census civilian labor-force shares, by race, gender, and age, 2000**

(percent)

Employment category	Census raw	Matched-CPS reallocations			Census corrected	Correction factor
		Employed	Unemployed	NILF		
<i>(g) 65 and older</i>						
<i>White men</i>						
Employed	18.5	0.680	0.000	0.026	14.6	-3.9
Unemployed	0.8	0.000	0.476	0.003	0.6	-0.2
NILF	80.7	0.320	0.524	0.971	84.7	4.0
<i>White women</i>						
Employed	9.5	0.787	0.000	0.024	9.6	0.1
Unemployed	0.7	0.005	0.017	0.003	0.3	-0.4
NILF	89.7	0.208	0.983	0.973	90.0	0.3
<i>Black men</i>						
Employed	16.3	0.643	0.000	0.038	13.6	-2.7
Unemployed	1.2	0.000	0.278	0.000	0.3	-0.9
NILF	82.5	0.357	0.722	0.962	86.1	3.6
<i>Black women</i>						
Employed	9.8	0.567	0.000	0.036	8.8	-1.0
Unemployed	0.9	0.016	0.000	0.000	0.2	-0.7
NILF	89.3	0.417	1.000	0.964	91.1	1.8
<i>Hispanic men</i>						
Employed	17.4	0.607	0.313	0.064	16.4	-1.0
Unemployed	1.9	0.000	0.000	0.000	0.0	-1.9
NILF	80.7	0.393	0.687	0.936	83.6	2.9
<i>Hispanic women</i>						
Employed	8.0	0.940	0.000	0.012	8.6	0.6
Unemployed	0.6	0.000	0.000	0.000	0.0	-0.6
NILF	91.5	0.060	0.000	0.988	90.9	-0.6
<i>Other men</i>						
Employed	17.1	0.676	0.054	0.027	13.9	-3.2
Unemployed	1.3	0.000	0.266	0.003	0.6	-0.7
NILF	81.6	0.324	0.680	0.970	85.6	4.0
<i>Other women</i>						
Employed	8.9	0.775	0.000	0.025	9.1	0.2
Unemployed	0.8	0.006	0.009	0.002	0.3	-0.5
NILF	90.4	0.219	0.991	0.973	90.7	0.3

Notes: Analysis of 2000 decennial census PUMS 1% and Palumbo and Siegel (2004),

Detailed Table 1A. NILF is "not in the labor force." Calculations for the "other" categories use the rates for all members of the corresponding age and gender group.

TABLE 5**Raw and corrected civilian employment rates from the decennial census, 2000**

(percent; standard errors in parentheses)

	Raw	Correction factor	Corrected
All	61.2 (0.3)	1.9	63.1
Men	68.1 (0.3)	1.7	69.8
Women	54.9 (0.4)	2.2	57.1
White	63.0 (0.3)	1.0	64.0
Black	55.4 (1.3)	3.4	58.8
Hispanic	56.4 (1.0)	7.5	63.9
Other	59.8 (n.a.)	2.4	62.2
16-19	41.4 (2.1)	-0.2	41.2
20-24	67.6 (1.0)	2.6	70.2
25-34	76.2 (0.4)	4.4	80.6
35-44	77.8 (0.4)	3.3	81.1
45-54	77.0 (0.4)	3.2	80.2
55-64	56.4 (0.8)	1.1	57.5
65+	13.2 (2.2)	-1.5	11.7

Notes: Summary of Tables 1-3. All groups are 16 and older, except age groups.

Approximate standard errors from Palumbo and Siegel (2004), Detailed Table 1A.

TABLE 6
Raw and corrected civilian employment rates from the decennial census,
by detailed age, race, and gender groups, 2000
 (percent; standard errors in parentheses)

	Raw	Correction factor	Corrected
<i>(a) 16-19 year olds</i>			
White men	45.7 (2.5)	0.5	46.2
White women	47.1 (2.8)	2.1	49.2
Black men	27.2 (5.5)	-7.5	19.7
Black women	30.3 (5.7)	-5.2	25.1
Hispanic men	41.2 (5.2)	10.0	51.2
Hispanic women	32.5 (4.6)	-8.9	23.6
Other men	30.9 (n.a.)	4.4	35.3
Other women	32.5 (n.a.)	2.3	34.8
<i>(b) 20-24 year olds</i>			
White men	75.4 (1.9)	4.0	79.4
White women	70.3 (2.2)	0.7	71.0
Black men	54.6 (7.6)	-1.3	53.3
Black women	57.0 (5.4)	1.6	58.6
Hispanic men	69.9 (3.2)	13.4	83.3
Hispanic women	52.3 (5.0)	0.4	52.7
Other men	59.8 (n.a.)	9.2	69.0
Other women	57.3 (n.a.)	3.0	60.3
(continued)			

TABLE 6 (continued)**Raw and corrected civilian employment rates from the decennial census,
by detailed age, race, and gender groups, 2000**

(percent; standard errors in parentheses)

	Raw	Correction factor	Corrected
<i>(c) 25-34 year olds</i>			
White men	88.8 (0.9)	1.4	90.2
White women	73.7 (1.4)	3.4	77.1
Black men	71.5 (3.2)	9.4	80.9
Black women	68.0 (3.3)	8.9	76.9
Hispanic men	74.3 (2.4)	13.0	87.3
Hispanic women	53.3 (3.2)	7.4	60.7
Other men	79.8 (n.a.)	6.7	86.5
Other women	62.2 (n.a.)	7.2	69.4
<i>(d) 35-44 year olds</i>			
White men	89.0 (0.8)	2.3	91.3
White women	74.1 (1.3)	2.3	76.4
Black men	72.1 (4.3)	3.7	75.8
Black women	68.8 (3.8)	2.2	71.0
Hispanic men	73.7 (2.6)	12.1	85.8
Hispanic women	57.8 (3.0)	8.2	66.0
Other men	81.2 (n.a.)	5.9	87.1
Other women	64.9 (n.a.)	4.5	69.4
(continued)			

TABLE 6 (continued)**Raw and corrected civilian employment rates from the decennial census,
by detailed age, race, and gender groups, 2000**

(percent; standard errors in parentheses)

	Raw	Correction factor	Corrected
<i>(e) 45-54 year olds</i>			
White men	86.2 (1.2)	0.6	86.8
White women	74.6 (1.2)	2.9	77.5
Black men	68.6 (4.0)	5.8	74.4
Black women	65.6 (3.3)	10.4	76.0
Hispanic men	71.6 (2.9)	10.2	81.8
Hispanic women	56.4 (3.6)	12.2	68.6
Other men	78.3 (n.a.)	3.3	81.6
Other women	66.2 (n.a.)	6.3	72.5
<i>(f) 55-64 year olds</i>			
White men	66.1 (1.8)	0.7	66.8
White women	51.6 (1.7)	0.2	51.8
Black men	50.0 (5.5)	5.8	55.8
Black women	45.4 (4.7)	0.1	45.5
Hispanic men	56.0 (5.7)	7.4	63.4
Hispanic women	37.9 (5.6)	2.7	40.6
Other men	63.6 (n.a.)	1.8	65.4
Other women	45.1 (n.a.)	1.7	46.8
(continued)			

TABLE 6 (continued)**Raw and corrected civilian employment rates from the decennial census,
by detailed age, race, and gender groups, 2000**

(percent; standard errors in parentheses)

	Raw	Correction factor	Corrected
<i>(g) 65 and older</i>			
White men	18.5 (1.2)	-3.9	14.6
White women	9.5 (0.9)	0.1	9.6
Black men	16.3 (4.0)	-2.7	13.6
Black women	9.8 (2.6)	-1.0	8.8
Hispanic men	17.4 (4.5)	-1.0	16.4
Hispanic women	8.0 (2.8)	0.6	8.6
Other men	17.1 (n.a.)	-3.2	13.9
Other women	8.9 (n.a.)	0.2	9.1

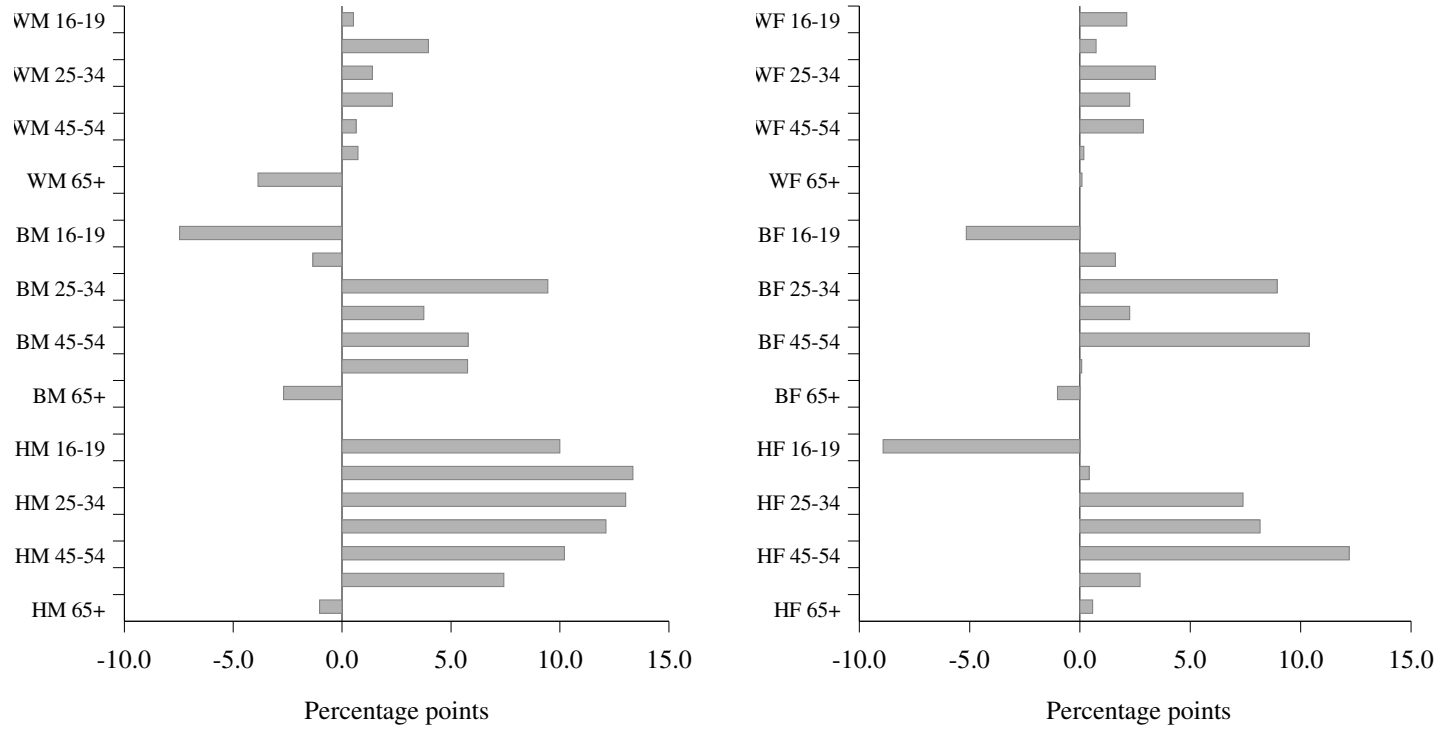
Notes: Employment rates and correction factors from Table 4; approximate standard errors from Palumbo and Siegel (2004), Detailed Table 1A.

TABLE 7
Raw and adjusted census civilian labor-force shares, by race and
gender, ages 16 to 64 and 25 to 64, 2000
 (percent)

Employment category	Census raw	Census adjusted	Correction factor
<i>(a) 16-64</i>			
All	70.2	72.4	2.2
Men	76.0	78.1	2.1
Women	64.6	66.9	2.3
White	74.1	75.3	1.2
Black	60.9	65.0	4.1
Hispanic	59.8	67.2	7.4
Other	64.7	66.9	2.2
<i>(b) 25-54</i>			
All	77.0	79.0	2.0
Men	83.9	85.6	1.7
Women	70.5	72.7	2.2
White	81.0	82.0	1.0
Black	69.1	73.1	4.0
Hispanic	64.7	71.3	6.6
Other	71.8	73.4	1.6

Notes: Analysis based on Tables 1 and 3.

Figure 1: Correction-factors by gender, race or ethnicity, and age, 2000



Source: Table 6.

