December 31, 2002

DSSD A.C.E. REVISION II MEMORANDUM SERIES #PP-46

PRED CENSUS AND SURVEY MEASUREMENT STAFF MEMORANDUM SERIES: CSM-A.C.E. REVISION II-R3R

MEMORANDUM FOR:	Donna Kostanich Chair, A.C.E. Revision II Planning and Management Group Decennial Studies Statistics Division
From:	Mary Mulry *signed 12/31/02* ~M~M Chair, A.C.E. Revision II Quality Indicators Group Statistical Research Division
Through:	David Hubble *signed 12/31/02* Assistant Division Chief, Evaluations Planning, Research, and Evaluation Division (PRED)
Prepared by:	Katie Bench Mathematical Statistician, PRED
Subject:	A.C.E. Revision II: Evaluation Report for P-sample Match Rate Corrected for Error Due to Inconsistent Post-stratification Variables

This document contains the A.C.E. Revision II evaluation report for the "P-sample Match Rate Corrected for Error Due to Inconsistent Post-stratification Variables" evaluation.

Contact Katie Bench at katie.bench@census.gov or at 301-457-4306 if you have any questions or comments.

cc: DSSD A.C.E. REVISION II MEMORANDUM SERIES Distribution List
        Ruth Ann Killion   (PRED)
        David Hubble   (PRED)

P-sample Match Rate Corrected for Error Due to Inconsistent Post-stratification Variables

Katie Bench

Planning, Research, and Evaluation Division

USCENSUSBUREAU

Helping You Make Informed Decisions

EXECUTIVE SUMMARY

Inconsistent reporting of variables used in post-stratification may cause a bias in the dual system estimate (DSE). Such bias occurs when the coverage factors for gross undercount are derived for post-strata based on the P-sample responses and then applied to the post-strata based on responses to Census enumerations. This inconsistency bias in the DSE was computed by Shelby Haberman for the original Accuracy and Coverage Evaluation (A.C.E.) estimates, and used to produce a corrected P-sample population size. Inconsistency bias also affects estimates of the P-sample match rate. So, to measure the impact of this bias on the A.C.E. Revision II estimate, this evaluation calculates a P-sample match rate corrected for the error due to inconsistent post-stratification variables, and uses this corrected P-sample match rate to compute an A.C.E. Revision II DSE estimate adjusted for inconsistency bias. It should be noted that while the A.C.E. Revision II DSE did not include an adjustment for inconsistent post-stratification, the results from this evaluation were used in the loss function and confidence interval analysis to account for inconsistent post-stratification.

Shelby Haberman's program does not estimate variances for the corrected P-sample match rate. So, we estimated variances for the corrected DSE, and inconsistent post-stratification bias using simple jackknife estimation. To estimate these variances, we first formed 32 replicates. Second, we calculated the corrected P-sample match rate, the uncorrected P-sample match rate, and all other P-sample or E-sample components of the DSE for the full A.C.E. Revision II, and the 32 replicates. Third, we calculated the variances using the full sample estimates and the estimates for the 32 replicates.

To detect any significant inconsistency bias, we calculated a t-statistic for the difference between the A.C.E. Revision II DSE and the inconsistency corrected A.C.E. Revision II DSE for each of the 7584 crossed E-sample and P-sample post-strata. To determine which t-statistics were significant, we used a Bonferoni multiple comparison procedure to adjust the overall alpha value ($alpha_N$). We used $alpha_R = alpha_N/m$, where $alpha_R$ is the significance level adjusted for multiple comparisons, and m is the number of comparisons. In our case, $alpha_N$ equals 0.10, m equals 7584, and $alpha_R$ equals 0.000013185. We also calculated the difference between the A.C.E. Revision II DSE and the inconsistency corrected A.C.E. Revision II DSE for five aggregate groups: sex, age, age by sex, domain, and domain by age by sex. We then calculated the relative error for these groups, where the relative error equals the difference divided by the A.C.E. Revision II DSE. However, no variances were calculated for the aggregate group estimates.

The Bonferoni multiple comparison procedure yielded 260 significant differences out of the 7584 post-strata or 3.43 percent. All of these significant differences are from one of the 5952 Non-Hispanic white post-strata. So, 4.37 percent of the Non-Hispanic white post-strata are significant. In addition, males 30 to 49 years old, 10 to 17 year olds, and females 30 to 49 years old are the age and sex groups most affected by inconsistency. They each account for more than 40 significant differences. Specifically, 99 (10.44 percent) of the 948 male 30 to 49 year old post-strata, 63 (6.65 percent) of the 948 10 to 17 year old post-strata, and 44 (4.64 percent) of the 948 female 30 to 49 year old post-strata are significant. Each of the remaining five age and sex

groups only account for 0 to 32 significant differences. Specifically, none of the 0 to 9 year old or male 18 to 29 year old post-strata, 7 (0.74 percent) of the 948 female 18 to 29 year old post-strata, 15 (1.58 percent) of the female 50 plus post-strata, and 32 (3.38 percent) of the 948 male 50 plus post-strata are significant. The absolute values of the differences range from 0.01 to 1728.50. These differences seem relatively small when compared to the DSE estimates.

The differences and relative errors for all five aggregate groups are also relatively small when compared to the aggregated A.C.E. Revision II DSE and inconsistency bias corrected A.C.E. Revision II DSE estimates. Only a few of the aggregate groups have any relative errors greater than 1 percent. The relative error is less than 1 percent for all of the aggregate sex, age, and age by sex groups. For the aggregate domain groups, only one of the seven domains has a relative error greater than 1 percent. This group is the Native Hawaiian or Pacific Islander domain, which has a relative error of 1.24 percent. For the aggregate domain by age by sex groups, 8 of the 56 groups (14.29 percent) have relative errors greater than 1 percent. Three groups of the American Indians or Alaska Natives Off Reservation are above 1 percent: 10 to 17 year old, 18 to 29 year old female, and 30 to 49 year old female. Their respective relative errors are 1.45 percent, 2.30 percent, and 1.85 percent. The remaining five groups are from the Native Hawaiians or Pacific Islanders: 0 to 9 year old, 10 to 17 year old, 18 to 29 year old male, 30 to 49 year old male, and 50 plus year old male. Their respective relative errors are 1.26 percent, 2.17 percent, 1.20 percent, 1.63 percent, and 2.26 percent.

In conclusion, the 260 significant differences show that inconsistency bias had the most affect on Non-Hispanic white post-strata. This is especially true for male 30 to 49 year old Non-Hispanic white post-strata where 10.44 percent of differences were significant. However, the differences are relatively small. So, the concern over inconsistency bias should not be high even though the Bonferoni multiple comparison procedure yielded 260 significant differences. In addition, most of the aggregate groups have relative errors less than 1 percent, and none of the aggregate groups have relative errors greater than 2.30 percent, and only 3.43 percent of the differences are significant, suggesting that overall inconsistency bias is not an issue.

1. BACKGROUND

Inconsistent reporting of variables used in post-stratification may cause a bias in the dual system estimate (DSE). Such bias occurs when the coverage factors for gross undercount are derived for post-strata based on the P-sample responses and then applied to the post-strata based on responses to Census enumerations (Haberman and Spencer, 2001). This inconsistency bias in the DSE was computed by Shelby Haberman for the original Accuracy and Coverage Evaluation (A.C.E.) estimates, and used to produce a corrected P-sample population size. Inconsistency bias also affects estimates of the P-sample match rate. So, to measure the impact of this bias on the A.C.E. Revision II estimate, this evaluation calculates a P-sample match rate corrected for the error due to inconsistent post-stratification variables, and uses this corrected P-sample match rate to compute an A.C.E. Revision II DSE estimate adjusted for inconsistency bias. The A.C.E. Revision II DSE estimate adjusted for inconsistency bias is compared to the A.C.E. Revision II DSE estimate.

The basic form of the DSE is:

$$DSE = (Cen - II) * \left(\frac{r_{ce}}{r_m} \right)$$

where,

Cen = the census count excluding late adds
II = the insufficient information cases excluding late adds
r_{ce} = the E-sample correct enumeration rate
r_m = the P-sample match rate

The A.C.E. Revision II DSE did not include an adjustment for inconsistent post-stratification. So, this evaluation corrected the P-sample match rate, or r_m term, for inconsistent post-stratification. The results from this evaluation were then used in the loss function and confidence interval analysis to account for inconsistent post-stratification.

2. METHODS

To estimate the P-sample match rate corrected for error due to inconsistent post-stratification, we ran a modification of Shelby Haberman's program to produce the A.C.E. sample's corrected P-sample match rate. This was done for the new A.C.E. P-sample post-strata. This corrected P-sample match rate is used to calculate post-strata DSEs corrected for the inconsistent post-stratification variables.

The basic approach used in Shelby Haberman's program is to estimate the inconsistency in the post-stratification variables using the matches and then assume that the rates also hold for the non-matches. The models used for the inconsistency of the original A.C.E. post-strata (see Haberman and Spencer, 2001) were fitted in two steps, first (i) models for inconsistency of basic

4

variables, and then (ii) derivation of inconsistency probabilities for post-stratification given the inconsistency probabilities of the basic variables. The inconsistency probabilities led to an estimate of the bias in the P-sample match rate that was used to estimate the bias in the DSE. (Mulry, 2002)

Shelby Haberman's program does not estimate variances for the corrected P-sample match rate. So, we estimated variances for the corrected DSE, and inconsistent post-stratification bias using simple jackknife estimation. To estimate these variances, we first formed 32 replicates. Second, we calculated the corrected P-sample match rate, the uncorrected P-sample match rate, and all other P-sample or E-sample components of the DSE for the full A.C.E. Revision II, and the 32 replicates. Third, we calculated the variances using the full sample estimates and the estimates for the 32 replicates.

2.1 Match rate for A.C.E. Revision II DSE

The formula for the A.C.E. Revision II DSE P-sample match rate, r_m, for post-stratum j (see Appendix A for P-sample post-strata definitions) is as follows (see Kostanich, 2003):

$$r_{m,j} = \frac{WTMATCH}{WTPTOTAL}$$

For full P-sample out-mover sample size greater than or equal to 10:

$$WTMATCH = M_{nm,j}^{ND} * f_{2,j'} + \tilde{M}_{nm,j}^{D} + \left[\frac{M_{om,j} * f_{3,j'}}{P_{om,j} * f_{4,j'}}\right] * \left(P_{im,j} * f_{5,j'} + g\left(P_{nm,j}^{D} - \tilde{P}_{nm,j}^{D}\right)\right)$$

$$WTPTOTAL = P_{nm,j}^{ND} * f_{6,j'} + \tilde{P}_{nm,j}^{D} + P_{im,j} * f_{5,j'} + g\left(P_{nm,j}^{D} - \tilde{P}_{nm,j}^{D}\right)$$

For full P-sample out-mover sample size less than 10:

$$WTMATCH = M_{nm,j}^{ND} * f_{2,j'} + \tilde{M}_{nm,j}^{D} + M_{om,j} * f_{3,j'} + g\left(M_{nm,j}^{D} - \tilde{M}_{nm,j}^{D}\right)$$
$$WTPTOTAL = P_{nm,j}^{ND} * f_{6,j'} + \tilde{P}_{nm,j}^{D} + P_{om,j} * f_{4,j'} + g\left(P_{nm,j}^{D} - \tilde{P}_{nm,j}^{D}\right)$$

where
$P_{nm,j}^{ND}$ = weighted number of non-mover residents without duplicate links in post-stratum j
$M_{nm,j}^{ND}$ = weighted number of matched non-movers without duplicate links in post-stratum j
$P_{om,j}$ = weighted number of out-movers in post-stratum j
$M_{om,j}$ = weighted number of matched out-movers in post-stratum j
$P_{im,j}$ = weighted number of in-movers in post-stratum j
$P_{nm,j}^{D}$ = weighted number of non-mover residents with duplicate links in post-stratum j
$\tilde{P}_{nm,j}^{D}$ = corrected number of non-mover residents with duplicate links in post-stratum j

$M^D_{nm,j}$ = weighted number of matched non-movers with duplicate links in post-stratum j

$\tilde{M}^D_{nm,j}$ = corrected number of matched non-movers with duplicate links in post-stratum j

$f_{2,j'}$ = double sampling ratio adjustment for non-duplicate non-mover matches in A.C.E. Revision II Sample post-stratum j'. The A.C.E. Revision II Sample post-strata are collapsed A.C.E. sample post-strata.

$f_{3,j'}$ = double sampling ratio adjustment for out-mover matches in A.C.E. Revision II Sample post-stratum j'.

$f_{4,j'}$ = double sampling ratio adjustment for out-movers in A.C.E. Revision II Sample post-stratum j'.

$f_{5,j'}$ = double sampling ratio adjustment for in-movers in A.C.E. Revision II Sample post-stratum j'.

$f_{6,j'}$ = double sampling ratio adjustment for non-duplicate non-movers in A.C.E. Revision II Sample post-stratum j'.

g = estimated proportion of P-sample persons with census duplicates outside the search area who are not retained as resident non-movers by the duplicate study because they should have been coded as in-movers.

2.2 Correcting match rate for inconsistent post-stratification variables[1]

To define a match rate corrected for inconsistent post-stratification, we need to define:

$f_G(j,k)$ = the proportion of group G persons enumerated in P-sample post-stratum k who belong to P-sample post-stratum j, based on their E-sample variables. The estimation of this proportion is based on the matched P-sample persons in group G. In this application, group G may be non-movers, out-movers, or in-movers.

Next we need to define the following:

$$P^{ND}_{nm,j,I} = \sum f_{nm}(j,k)P^{ND}_{nm,k}$$
$$M^{ND}_{nm,j,I} = \sum f_{nm}(j,k)M^{ND}_{nm,k}$$
$$P_{G,j,I} = \sum f_G(j,k)P_{G,k} \quad , \text{ for G = im or om}$$
$$M_{om,j,I} = \sum f_{om}(j,k)M_{om,k}$$
$$P^D_{nm,j,I} = \sum f_{nm}(j,k)P^D_{nm,k}$$

---

[1]The contents of sections 2.2, and 2.3 were taken from "P-sample match rate corrected for error due to inconsistent post-stratification variables," by Mary Mulry draft dated November 22, 2002.
.

$$M^{D}_{nm,j,I} = \sum f_{nm}(j,k) M^{D}_{nm,k}$$

$$\tilde{P}^{D}_{nm,j,I} = \sum f_{nm}(j,k) \tilde{P}^{D}_{nm,j}$$

$$\tilde{M}^{D}_{nm,j,I} = \sum f_{nm}(j,k) \tilde{M}^{D}_{nm,k}$$

Then we define the match rate corrected for inconsistent post-stratification variables, assuming no other errors are present, by the following:

$$r_{m,j,I} = \frac{WTMATCH_I}{WTPTOTAL_I}$$

For full P-sample out-mover sample size greater than or equal to 10:

$$WTMATCH_I = M^{ND}_{nm,j,I} * f_{2,j'} + \tilde{M}^{D}_{nm,j,I} + \left[\frac{M_{om,j,I} * f_{3,j'}}{P_{om,j,I} * f_{4,j'}} \right] * \left(P_{im,j,I} * f_{5,j'} + g\left(P^{D}_{nm,j,I} - \tilde{P}^{D}_{nm,j,I} \right) \right)$$

$$WTPTOTAL_I = P^{ND}_{nm,j,I} * f_{6,j'} + \tilde{P}^{D}_{nm,j,I} + P_{im,j,I} * f_{5,j'} + g\left(P^{D}_{nm,j,I} - \tilde{P}^{D}_{nm,j,I} \right)$$

For full P-sample out-mover sample size less than 10:

$$WTMATCH_I = M^{ND}_{nm,j,I} * f_{2,j'} + \tilde{M}^{D}_{nm,j,I} + M_{om,j,I} * f_{3,j'} + g\left(M^{D}_{nm,j,I} - \tilde{M}^{D}_{nm,j,I} \right)$$

$$WTPTOTAL_I = P^{ND}_{nm,j,I} * f_{6,j'} + \tilde{P}^{D}_{nm,j,I} + P_{om,j,I} * f_{4,j'} + g\left(P^{D}_{nm,j,I} - \tilde{P}^{D}_{nm,j,I} \right)$$

2.3 Calculation of error in the A.C.E. Revision II[2]

The A.C.E. Revision II estimate for estimation cell ij formed by the intersection of E-sample post-stratum i (see Appendix A for E-sample post-strata definitions) and P-sample post-stratum j is

$$DSE_{ij} = cb * \left(Cen_{ij} - II_{ij} \right) * \left(\frac{r_{ce,i}}{r_{m,j}} \right), \text{ cb = correlation bias adjustment}$$

Then the A.C.E. Revision II estimate that incorporates a correction for the error due to inconsistent post-stratification variables for the estimation cell ij is given by

$$DSE_{ij,I} = cb * \left(Cen_{ij} - II_{ij} \right) * \left(\frac{r_{ce,i}}{r_{m,j,I}} \right)$$

The bias due to inconsistent post-stratification variables is

DSE$_{ij}$ - DSE$_{ij,I}$

---

[2]See footnote 1.

2.4 Estimation of Variance

We used the simple jackknife method based on 32 replicates to estimate:

- Variances for the A.C.E. Revision II DSE and the inconsistency corrected A.C.E. Revision II DSE.
- T-statistic for the difference between the A.C.E. Revision II DSE and the DSE corrected for inconsistency bias.

There are four main steps to estimating these variances. First, we formed the 32 replicates. Second, we ran Haberman's bias program for the full A.C.E. sample and the 32 replicates to correct the full P-sample match rate components for inconsistency bias. Third, we calculate the inconsistency bias corrected A.C.E. Revision II DSE for the whole sample and each of the 32 replicates. Fourth, we calculate the variance of the A.C.E. Revision II DSE and the inconsistency bias corrected A.C.E. Revision II DSE using the estimates calculated for the 32 replicates.

2.4.1 Methods used to form the 32 Replicates

We created 32 replicates, and the input files for these replicates by (Bench, 2002):

1. Dividing the A.C.E. sample into 32 approximately equal sized parts by systematically dividing the 11,303 A.C.E. clusters. For instance, clusters 1, 33, 65, etc. were put in one group; clusters 2, 34, 66, etc. were put in another group, and so forth. The Sample Design File was used for this step. It was ordered by increasing cluster number.

2. Treating each 1/32 fraction of the sample as if it were a super-cluster.

3. Dividing the people in the linked P-sample and E-sample file into the 32 super-clusters.

4. Forming 32 replicates of the P-sample and E-sample person linked file using the jackknife method, where each replicate omits one of the super-clusters in turn, also multiplying the weights by 32/31.

5. Creating the post-strata level files of input for each replicate, where the files are based on the 31/32 subset of the original data in a replicate.

2.4.2 Calculating the variances and covariances

We used the simple jackknife formula to calculate the variances and t-statistics. We used a Bonferoni multiple comparison procedure to determine which differences were significant. These formulas follow:

$$Var_{jk}(X_0) = \left(\frac{31}{32}\right) * \sum (X_r - X_0)^2$$

$$Var_{jk}(Y_0) = \left(\frac{31}{32}\right) * \sum (Y_r - Y_0)^2$$

$$Cov_{jk}(X_0, Y_0) = \left(\frac{31}{32}\right) \sum (X_r - X_0)(Y_r - Y_0)$$

$$\text{t-statistic} = \frac{X_0 - Y_0}{\sqrt{Var_{jk}(X_0) + Var_{jk}(Y_0) - 2 * Cov_{jk}(X_0, Y_0)}}$$

where,
- X is the A.C.E. Revision II DSE
- Y is the inconsistency corrected A.C.E. Revision II DSE
- X_0 and Y_0 are estimates for the full sample.
- X_r and Y_r are estimates for replicate r.
- jk stands for jackknife estimation

3. LIMITS

The variances are based on only 32 replicates instead of on a replicate for each A.C.E. cluster. In addition, the variance is a simple jackknife estimate, which does not take into account the strata used when identifying the A.C.E. sample.

4. RESULTS

To detect any significant inconsistency bias, we calculated a t-statistic for the difference between the A.C.E. Revision II DSE and the inconsistency corrected A.C.E. Revision II DSE for each of the 7584 crossed E-sample and P-sample post-strata. To determine which t-statistics were significant, we used a Bonferoni multiple comparison procedure to adjust the overall alpha value (alpha$_N$). We used alpha$_R$ = alpha$_N$/m, where alpha$_R$ is the significance level adjusted for multiple comparisons, and m is the number of comparisons. In our case, alpha$_N$ equals 0.10, m equals 7584, and alpha$_R$ equals 0.000013185. We also calculated the difference between the A.C.E. Revision II DSE and the inconsistency corrected A.C.E. Revision II DSE for aggregate groups. We then calculated the relative error for these groups, where the relative error equals the difference divided by the A.C.E. Revision II DSE. However, no variances were calculated for the aggregate group estimates.

The estimates for the crossed E-sample and P-sample post-strata with significant inconsistency bias, and the aggregate groups are presented in the three sets of attached tables. The first set of attached tables, Attachment 1, contains a table of A.C.E. Revision II DSEs and inconsistency

bias corrected A.C.E. Revision II DSEs with their associated standard errors. This table only includes the DSEs for crossed E-sample and P-sample post-strata where the differences between the two DSEs are significant. The second set of attached tables, Attachment 2, contains the significant difference between the A.C.E. Revision II DSE and the inconsistency bias corrected A.C.E. Revision II DSE. The third set of attached tables, Attachment 3, contains the difference between the A.C.E. Revision II DSE and the inconsistency bias corrected A.C.E. Revision II DSE, and the relative error for the following five aggregate groups: sex, age, age by sex, domain, and domain by age by sex.

The tables in Attachment 1 and Attachment 2 show that out of the 7584 crossed E-sample and P-sample post-strata 260 post-strata or 3.43 percent have significant differences. All of these significant differences are from one of the 5952 Non-Hispanic white post-strata. So, 4.37 percent of the Non-Hispanic white post-strata are significant. In addition, males 30 to 49 years old, 10 to 17 year olds, and females 30 to 49 years old are the age and sex groups most affected by inconsistency. They each account for more than 40 significant differences. Specifically, 99 (10.44 percent) of the 948 male 30 to 49 year old post-strata, 63 (6.65 percent) of the 948 10 to 17 year old post-strata, and 44 (4.64 percent) of the 948 female 30 to 49 year old post-strata are significant. Each of the remaining five age and sex groups only account for 0 to 32 significant differences. Specifically, none of the 0 to 9 year old or male 18 to 29 year old post-strata, 7 (0.74 percent) of the 948 female 18 to 29 year old post-strata, 15 (1.58 percent) of the female 50 plus post-strata, and 32 (3.38 percent) of the 948 male 50 plus post-strata are significant. The second set of tables, also show that the absolute values of the differences range from 0.01 to 1728.50. These differences seem relatively small when compared to the DSE estimates listed in the table in Attachment 1.

The tables in Attachment 3 show that the differences all of the five aggregate groups are relatively small when compared to the aggregated A.C.E. Revision II DSE and inconsistency bias corrected A.C.E. Revision II DSE estimates. In addition, only a few of the aggregate groups have any relative errors greater than 1 percent. The relative error is less than 1 percent for all of the aggregate sex, age, and age by sex groups. For the aggregate domain groups, only one of the seven domains has a relative error greater than 1 percent. This group is the Native Hawaiian or Pacific Islander domain, which has relative errors of 1.24 percent. For the aggregate domain by age by sex groups, 8 of the 56 groups (14.29 percent) have relative errors greater than 1 percent. Three groups of the American Indians or Alaska Natives Off Reservation are above 1 percent: 10 to 17 year old, 18 to 29 year old female, and 30 to 49 year old female. Their respective relative errors are 1.45 percent, 2.30 percent, and 1.85 percent. The remaining five groups are from the Native Hawaiians or Pacific Islanders: 0 to 9 year old, 10 to 17 year old, 18 to 29 year old male, 30 to 49 year old male, and 50 plus year old male. Their respective relative errors are 1.26 percent, 2.17 percent, 1.20 percent, 1.63 percent, and 2.26 percent.

5. CONCLUSION

In conclusion, the 260 significant differences show that inconsistency bias had the most affect on Non-Hispanic white post-strata. This is especially true for male 30 to 49 year old Non-Hispanic white post-strata where 10.44 percent of differences were significant. However, the differences are relatively small. So, the concern over inconsistency bias should not be high even though the

Bonferoni multiple comparison procedure yielded 260 significant differences. In addition, most of the aggregate groups have relative errors less than 1 percent, and none of the aggregate groups have relative errors greater than 2.30 percent, and only 3.43 percent of the differences are significant, suggesting that overall inconsistency bias is not an issue.

6. REFERENCES

Bench, Katie, *Estimating Variances, Covariances, and Correlations for Bias from Inconsistent Poststratification - Revision 1*, Planning, Research, and Evaluation Division TXE/2010 Memorandum Series: CM-TE-S-06-R1, Bureau of the Census, March 21, 2002.

Kostanich, Donna, *A.C.E. Revision II: Design and Methodology*, DSSD A.C.E. REVISION II MEMORANDUM SERIES #PP-30, Bureau of the Census, January 2003.

Haberman, Shelby J. and Bruce D. Spencer, *Estimation of Inconsistent Poststratification in the 2000 A.C.E.*, August 29, 2001.

Mulry, Mary, *P-sample match rate corrected for error due to inconsistent poststratification variables*, draft November 22, 2002.

Appendix A

E-sample and P-sample Expanded Post-strata Definitions

E-sample expanded post-strata definition includes 4 digits:

Digits 1 and 2:	Post-stratum group, 01- 64 (see table A-2 on page 10)
Digit 3:	Age (see table A-1 below)
Digit 4:	Sex (see table A-1 below)

P-sample expanded post-strata definition includes 4 digits:

Digits 1 and 2:	Post-stratum group, 01 – 93 (see table A-3 on page 11)
Digit 3:	Age (see table below)
Digit 4:	Sex (see table below)

Table A-1. Definition of 3rd and 4th Digits of Post-strata

Age Group	Sex	3rd Digit - Age	4th Digit - Sex
0-9	M&F	1	0
10-17	M&F	2	0
18-29	M	3	1
18-29	F	3	2
30-49	M	4	1
30-49	F	4	2
50+	M	5	1
50+	F	5	2

Table A-2. Definition of 1st and 2nd Digits of E-sample Expanded Post-strata

Domain		Tenure	Relationship	HH Size	Early Mail-back	Late Mail-back	Early Non-Mailback	Late Non-Mailback
Domain 7 PROXY Non-Hispanic White or SOR							87	
Domain 4 PROXY Non-Hispanic Black							88	
Domain 3 PROXY Hispanic							89	
Domain 5 PROXY Native Hawaiian or Pacific Islander							90	
Domain 6 PROXY Non-Hispanic Asian							91	
Domain 1 PROXY AI or AN On Reservation							92	
Domain 2 PROXY AI or AN Off Reservation							93	
Domain 7 Non-Hispanic White or Some other race		Owner	HHer/Nuclear	2-3	01	02	03	04
				4+	05	06	07	08
			Other	1	09	10	11	12
				2-3	13	14	15	16
				4+	17	18	19	20
		Non-Owner	HHer/Nuclear		21	22	23	24
			Other		25	26	27	28
Domain 4 Non-Hispanic Black		Owner	HHer/Nuclear		29	30	31	32
			Other		33	34	35	36
		Non-Owner	HHer/Nuclear		37	38	39	40
			Other		41	42	43	44
Domain 3 Hispanic		Owner	HHer/Nuclear		45	46	47	48
			Other		49	50	51	52
		Non-Owner	HHer/Nuclear		53	54	55	56
			Other		57	58	59	60
Domain 5 Native Hawaiian or Pacific Islander		Owner & Non-Owner	HHer/Nuclear		61	62	63	64
			Other		65	66	67	68
Domain 6 Non-Hispanic Asian		Owner & Non-Owner	HHer/Nuclear		69	70	71	72
			Other		73	74	75	76
American Indian or Alaska Native	Domain 1 On Reservation	Owner & Non-Owner	HHer/Nuclear				77	
			Other				78	
	Domain 2 Off Reservation	Owner & Non-Owner	HHer/Nuclear		79	80	81	82
			Other		83	84	85	86

Table A-3. Definition of 1st and 2nd Digits of P-sample Expanded Post-strata

Race/Hispanic Origin Domain Number*		Tenure	MSA/TEA	High Return Rate				Low Return Rate			
				NE	M	S	W	NE	M	S	W
Domain 7 (Non-Hispanic White or "Some other race")		Owner	Large MSA MO/MB	01	02	03	04	05	06	07	08
			Medium MSA MO/MB	09	10	11	12	13	14	15	16
			Small MSA & Non-MSA MO/MB	17	18	19	20	21	22	23	24
			All Other TEAs	25	26	27	28	29	30	31	32
		Non-Owner	Large MSA MO/MB	33				34			
			Medium MSA MO/MB	35				36			
			Small MSA & Non-MSA MO/MB	37				38			
			All Other TEAs	39				40			
Domain 4 (Non-Hispanic Black)		Owner	Large MSA MO/MB	41				42			
			Medium MSA MO/MB								
			Small MSA & Non-MSA MO/MB	43				44			
			All Other TEAs								
		Non-Owner	Large MSA MO/MB	45				46			
			Medium MSA MO/MB								
			Small MSA & Non-MSA MO/MB	47				48			
			All Other TEAs								
Domain 3 (Hispanic)		Owner	Large MSA MO/MB	49				50			
			Medium MSA MO/MB								
			Small MSA & Non-MSA MO/MB	51				52			
			All Other TEAs								
		Non-Owner	Large MSA MO/MB	53				54			
			Medium MSA MO/MB								
			Small MSA & Non-MSA MO/MB	55				56			
			All Other TEAs								
Domain 5 (Native Hawaiian or Pacific Islander)		Owner		57							
		Non-Owner		58							
Domain 6 (Non-Hispanic Asian)		Owner		59							
		Non-Owner		60							
American Indian or Alaska Native	**Domain 1** (On Reservation)	Owner		61							
		Non-Owner		62							
	Domain 2 (Off Reservation)	Owner		63							
		Non-Owner		64							

Attachment 1

Table 1a. A.C.E. Revision II DSE and Inconsistency Corrected A.C.E. Revision II DSE for People 10 to 17 Years Old

E-sample Expanded Post-strata	P-sample Expanded Post-strata	A.C.E. Revision II DSE	Standard Error of DSE	Inconsistency Corrected A.C.E. Revision II DSE	Standard Error of Corrected DSE
1220	0120	17.33	0.67	17.38	0.67
0120	0220	77303.53	6621.09	77426.10	6631.07
0220	0220	42083.05	2375.87	42149.78	2379.41
0420	0220	11512.24	644.07	11530.49	644.71
0520	0220	349669.53	21750.20	350223.94	21780.12
0620	0220	198724.22	11322.64	199039.30	11338.09
0720	0220	11778.97	835.30	11797.64	836.50
0920	0220	31.07	1.11	31.12	1.11
1020	0220	19.69	1.52	19.73	1.52
1120	0220	2.84	0.14	2.85	0.14
1220	0220	8.23	0.31	8.24	0.32
1320	0220	3674.86	316.63	3680.68	317.14
1420	0220	1937.05	92.76	1940.13	92.94
1520	0220	263.61	17.58	264.03	17.60
1720	0220	11728.18	328.94	11746.78	329.14
0220	0320	49848.71	2823.48	49963.24	2828.33
0420	0320	8696.09	487.24	8716.07	488.03
0520	0320	227477.26	14170.42	227999.92	14194.42
0620	0320	185698.82	10602.24	186125.48	10618.69
0920	0320	15.56	0.56	15.59	0.56
1120	0320	4.74	0.23	4.75	0.23
1220	0320	9.15	0.35	9.18	0.35
1420	0320	2221.42	107.08	2226.53	107.31
1720	0320	8378.42	237.25	8397.67	237.29
0120	1920	90755.53	7779.55	90994.08	7799.62
0220	1920	73078.67	4142.10	73270.75	4151.84
0320	1920	13399.66	1467.60	13434.88	1471.37
0420	1920	17139.79	950.16	17184.84	952.01
0520	1920	257749.39	16063.17	258426.86	16101.17
0620	1920	219193.47	12506.96	219769.60	12536.78
0720	1920	37934.92	2692.29	38034.62	2698.91
0820	1920	51135.58	5300.82	51269.98	5314.68
0920	1920	57.83	2.06	57.98	2.06
1020	1920	29.35	2.28	29.43	2.29
1120	1920	10.52	0.52	10.54	0.52
1220	1920	25.84	1.02	25.91	1.02
1320	1920	6872.46	594.14	6890.52	595.57
1420	1920	5027.43	249.12	5040.65	249.28
1520	1920	1040.10	69.33	1042.84	69.49
1620	1920	1183.56	123.53	1186.68	123.79
1720	1920	13592.10	386.33	13627.83	386.66
1820	1920	12376.71	1121.71	12409.24	1124.52
2020	1920	3396.46	307.74	3405.39	308.53
8720	1920	5364.17	638.75	5378.27	640.07
0120	2620	66144.03	5670.33	66254.37	5678.55

Table 1a. A.C.E. Revision II DSE and Inconsistency Corrected A.C.E. Revision II DSE for People 10 to 17 Years Old

E-sample Expanded Post-strata	P-sample Expanded Post-strata	A.C.E. Revision II DSE	Standard Error of DSE	Inconsistency Corrected A.C.E. Revision II DSE	Standard Error of Corrected DSE
0220	2620	63964.00	3622.32	64070.70	3627.10
0320	2620	11518.46	1257.46	11537.68	1259.40
0420	2620	14263.53	798.73	14287.33	799.50
0520	2620	277393.02	17250.93	277855.73	17274.56
0620	2620	290626.02	16557.66	291110.81	16578.46
0720	2620	38156.49	2706.44	38220.14	2710.26
0820	2620	71824.16	7443.79	71943.97	7454.82
0920	2620	28.10	1.01	28.15	1.01
1020	2620	21.53	1.67	21.56	1.67
1120	2620	14.18	0.69	14.20	0.69
1220	2620	8.21	0.32	8.23	0.32
1320	2620	4476.68	386.93	4484.15	387.49
1420	2620	3782.39	182.18	3788.70	182.46
1520	2620	724.44	48.35	725.65	48.41
1620	2620	898.17	93.75	899.67	93.88
1720	2620	10163.73	291.55	10180.68	291.95
1820	2620	11443.12	1038.13	11462.21	1039.63
2020	2620	4381.27	397.78	4388.58	398.34

Table 1b. A.C.E. Revision II DSE and Inconsistency Corrected A.C.E. Revision II DSE for Females 18 to 29 Years Old

E-sample Expanded Post-strata	P-sample Expanded Post-strata	A.C.E. Revision II DSE	Standard Error of DSE	Inconsistency Corrected A.C.E. Revision II DSE	Standard Error of Corrected DSE
0332	1532	4600.14	87.62	4671.47	80.34
0632	1532	9019.64	393.47	9159.50	394.16
0932	1532	2521.04	94.84	2560.13	94.74
1132	1532	427.77	21.69	434.40	21.80
1232	1532	966.55	36.93	981.53	36.83
1532	1532	3015.67	204.08	3062.43	205.96
2032	1532	7338.16	322.12	7451.95	321.51

Table 1c. A.C.E. Revision II DSE and Inconsistency Corrected A.C.E. Revision II DSE for Males 30 to 49 Years Old

E-sample Expanded Post-strata	P-sample Expanded Post-strata	A.C.E. Revision II DSE	Standard Error of DSE	Inconsistency Corrected A.C.E. Revision II DSE	Standard Error of Corrected DSE
0141	0241	209070.85	13290.30	209624.36	13318.16
0241	0241	106907.71	7860.76	107190.75	7877.89
0341	0241	8443.21	1070.36	8465.57	1073.00
0541	0241	304335.97	18841.86	305141.70	18880.49
0641	0241	164923.48	11384.98	165360.12	11409.53
0741	0241	10592.44	779.19	10620.48	780.95
0841	0241	45947.52	3557.78	46069.17	3565.94
0941	0241	40292.80	3418.91	40399.47	3427.08
1041	0241	27728.78	2632.01	27802.19	2638.26
1141	0241	3357.88	159.15	3366.77	159.44
1241	0241	10437.66	915.82	10465.30	917.85
1341	0241	46924.04	5204.60	47048.28	5217.93
1441	0241	24786.03	1992.16	24851.65	1996.78
1541	0241	1969.85	98.21	1975.06	98.38
1641	0241	6238.88	722.46	6255.40	724.29
1741	0241	19726.48	1280.82	19778.70	1283.16
1841	0241	13214.65	1478.21	13249.63	1481.95
2041	0241	4468.20	416.63	4480.03	417.63
8741	0241	10146.47	392.52	10173.33	392.89
0141	1041	339489.61	21569.57	340292.93	21607.71
0241	1041	239424.52	17599.31	239991.06	17633.06
0341	1041	25476.51	3230.57	25536.80	3237.47
0441	1041	44212.27	5812.20	44316.89	5824.73
0541	1041	461603.82	28570.23	462696.09	28619.52
0641	1041	343238.88	23681.75	344051.07	23724.33
0741	1041	31430.50	2313.71	31504.87	2317.86
0841	1041	62086.66	4796.68	62233.57	4806.04
0941	1041	59055.10	5011.15	59194.84	5021.15
1041	1041	55394.74	5257.29	55525.82	5267.91
1141	1041	8268.33	391.57	8287.89	392.15
1241	1041	15253.46	1339.58	15289.55	1342.20
1341	1041	65892.23	7313.55	66048.15	7329.28
1441	1041	48238.85	3872.46	48352.99	3880.42
1541	1041	5117.02	255.02	5129.12	255.30
1641	1041	8075.79	934.96	8094.90	936.86
1741	1041	24402.82	1579.12	24460.57	1582.31
1841	1041	21225.71	2373.35	21275.93	2378.52
1941	1041	2274.66	260.37	2280.04	260.99
2041	1041	5307.19	492.52	5319.75	493.75
8741	1041	13829.73	533.19	13862.45	533.41
0141	1141	359606.44	22867.51	360768.48	22924.03
0241	1141	249609.22	18343.75	250415.82	18393.88
0341	1141	38320.33	4858.62	38444.16	4872.96
0441	1141	59880.62	7878.95	60074.12	7901.64
0541	1141	388581.57	24064.15	389837.24	24124.62
0641	1141	295009.29	20369.32	295962.60	20422.52
0741	1141	43220.21	3182.23	43359.88	3190.70

Table 1c. A.C.E. Revision II DSE and Inconsistency Corrected A.C.E. Revision II DSE for Males 30 to 49 Years Old

E-sample Expanded Post-strata	P-sample Expanded Post-strata	A.C.E. Revision II DSE	Standard Error of DSE	Inconsistency Corrected A.C.E. Revision II DSE	Standard Error of Corrected DSE
0841	1141	64277.92	4981.99	64485.63	4994.95
0941	1141	54181.12	4601.56	54356.20	4614.31
1041	1141	49860.16	4735.46	50021.28	4748.78
1141	1141	10661.47	503.11	10695.92	504.50
1241	1141	17089.77	1500.55	17144.99	1504.67
1341	1141	65679.23	7292.89	65891.47	7313.94
1441	1141	48876.25	3931.08	49034.19	3941.75
1541	1141	7329.92	367.60	7353.61	368.12
1641	1141	10069.09	1166.07	10101.62	1169.45
1741	1141	24087.82	1567.74	24165.66	1571.54
1841	1141	22163.52	2481.58	22235.14	2488.51
1941	1141	3722.52	426.24	3734.55	427.70
2041	1141	5584.56	520.74	5602.60	522.09
8741	1141	21453.97	829.71	21523.30	830.22
0141	1241	278243.00	17688.18	279106.63	17738.25
0241	1241	132966.69	9778.58	133379.40	9806.43
0541	1241	328565.69	20353.08	329585.52	20410.05
0641	1241	171991.92	11869.69	172525.76	11904.57
0741	1241	37055.51	2727.64	37170.52	2735.78
0841	1241	40589.31	3139.21	40715.29	3148.76
0941	1241	47075.46	3996.20	47221.58	4008.33
1041	1241	29995.99	2847.02	30089.09	2855.77
1141	1241	9519.95	451.99	9549.50	453.17
1241	1241	8818.14	773.17	8845.51	775.58
1341	1241	56989.69	6331.38	57166.58	6350.39
1441	1241	28168.66	2262.74	28256.09	2270.02
1541	1241	7189.00	357.67	7211.31	358.84
1641	1241	5831.32	675.28	5849.42	677.39
1741	1241	24849.87	1611.19	24927.00	1615.89
1841	1241	15721.72	1759.76	15770.52	1764.97
2041	1241	4946.22	460.52	4961.58	462.02
8741	1241	14072.45	556.38	14116.12	556.98
0141	1841	321277.75	20430.44	322158.47	20475.73
0241	1841	220299.73	16208.94	220903.64	16247.73
0341	1841	20551.93	2605.57	20608.27	2612.26
0441	1841	48860.09	6427.43	48994.04	6443.40
0541	1841	412525.77	25559.13	413656.63	25615.54
0641	1841	307277.18	21211.92	308119.52	21260.88
0741	1841	24627.81	1813.08	24695.32	1817.19
0841	1841	67277.46	5205.43	67461.89	5217.32
0941	1841	54697.64	4645.97	54847.58	4656.94
1041	1841	49902.86	4739.50	50039.65	4750.85
1141	1841	7158.32	337.96	7177.94	338.64
1241	1841	16789.53	1471.80	16835.56	1475.41
1341	1841	59169.59	6573.91	59331.79	6589.79
1441	1841	40959.95	3294.27	41072.23	3301.86
1541	1841	4000.35	199.15	4011.31	199.49
1641	1841	8698.45	1007.62	8722.29	1010.16

Table 1c. A.C.E. Revision II DSE and Inconsistency Corrected A.C.E. Revision II DSE for Males 30 to 49 Years Old

E-sample Expanded Post-strata	P-sample Expanded Post-strata	A.C.E. Revision II DSE	Standard Error of DSE	Inconsistency Corrected A.C.E. Revision II DSE	Standard Error of Corrected DSE
1741	1841	22177.61	1440.24	22238.41	1443.76
1841	1841	18694.45	2092.74	18745.69	2098.07
2041	1841	5832.72	543.36	5848.71	544.69
8741	1841	13593.87	528.18	13631.13	529.10

Table 1d. A.C.E. Revision II DSE and Inconsistency Corrected A.C.E. Revision II DSE for Females 30 to 49 Years of Age

E-sample Expanded Post-strata	P-sample Expanded Post-strata	A.C.E. Revision II DSE	Standard Error of DSE	Inconsistency Corrected A.C.E. Revision II DSE	Standard Error of Corrected DSE
0142	0142	378032.94	27686.97	378766.76	27738.32
0242	0142	182365.84	11606.18	182719.84	11628.09
0342	0142	38824.40	3811.77	38899.76	3818.85
0442	0142	47241.95	3787.48	47333.65	3794.91
0542	0142	548887.53	36886.40	549952.99	36952.67
0642	0142	286273.66	21029.44	286829.35	21067.66
0742	0142	55648.73	4189.47	55756.75	4197.10
0842	0142	77573.74	5936.88	77724.32	5947.59
0942	0142	41954.24	3632.81	42035.68	3639.42
1042	0142	23676.10	2288.00	23722.06	2292.21
1142	0142	4137.29	202.27	4145.32	202.59
1242	0142	6022.25	539.42	6033.94	540.42
1342	0142	61426.84	3221.69	61546.08	3226.56
1442	0142	29867.05	1101.99	29925.03	1103.43
1542	0142	6441.75	330.72	6454.26	331.29
1642	0142	8047.69	944.94	8063.31	946.68
1742	0142	44201.83	1755.79	44287.63	1758.37
1842	0142	26597.46	1121.43	26649.09	1123.30
8742	0142	12094.57	298.22	12118.05	299.99
0142	1042	398389.91	29162.63	399048.29	29206.91
0242	1042	279497.33	17774.84	279959.23	17801.81
0342	1042	27245.28	2673.55	27290.31	2677.72
0442	1042	46142.34	3704.58	46218.59	3710.30
0542	1042	481070.07	32292.89	481865.08	32341.73
0642	1042	361697.82	26552.45	362295.56	26592.18
0742	1042	32134.53	2416.95	32187.64	2420.63
0842	1042	63528.18	4860.27	63633.16	4867.58
0942	1042	49441.92	4278.27	49523.63	4284.84
1042	1042	41472.30	4004.59	41540.83	4010.78
1142	1042	3380.42	165.17	3386.01	165.39
1242	1042	6093.97	545.35	6104.04	546.18
1342	1042	45212.98	2373.63	45287.70	2376.65
1442	1042	32915.45	1205.54	32969.85	1207.14
1542	1042	3678.64	188.84	3684.72	189.07
1642	1042	6290.65	738.95	6301.05	740.10
1742	1042	22722.96	901.21	22760.51	902.36
1842	1042	19520.46	824.17	19552.72	825.05
1942	1042	2167.57	244.06	2171.15	244.45
2042	1042	5426.06	776.16	5435.03	777.45
8742	1042	10794.82	267.61	10812.66	268.65
1442	1242	20403.33	747.00	20453.33	748.97
1742	1242	23643.88	948.35	23701.82	950.50
1842	1242	14559.80	617.32	14595.48	618.81
8742	1242	11704.98	301.44	11733.66	301.37

Table 1e. A.C.E. Revision II DSE and Inconsistency Corrected A.C.E. Revision II DSE for Males 50 Plus Years Old

E-sample Expanded Post-strata	P-sample Expanded Post-strata	A.C.E. Revision II DSE	Standard Error of DSE	Inconsistency Corrected A.C.E. Revision II DSE	Standard Error of Corrected DSE
0151	0151	820017.22	53850.85	821745.72	53969.03
0251	0151	297999.59	24040.14	298627.74	24092.56
0351	0151	47982.27	3836.10	48083.41	3844.86
0551	0151	152811.01	11472.34	153133.11	11497.22
0651	0151	87113.98	9432.57	87297.61	9453.24
0951	0151	93910.24	8224.42	94108.19	8242.72
1051	0151	33094.91	3229.76	33164.67	3237.00
1151	0151	7604.13	378.86	7620.15	379.72
1251	0151	10102.76	913.78	10124.06	915.85
1351	0151	38901.19	2455.80	38983.19	2460.86
1451	0151	17148.31	956.10	17184.45	957.63
1551	0151	3811.65	199.00	3819.68	199.48
1651	0151	4306.55	361.30	4315.63	362.15
1751	0151	18933.18	1560.89	18973.09	1564.15
1851	0151	11439.59	349.16	11463.71	349.91
8751	0151	12444.51	459.93	12470.74	459.70
0151	1851	836738.83	54920.27	838145.78	55024.18
0251	1851	425296.72	34287.27	426011.84	34351.70
0351	1851	33613.46	2686.12	33669.98	2691.45
0551	1851	69586.27	5224.40	69703.28	5234.15
1151	1851	6170.95	306.67	6181.32	307.27
1351	1851	26112.93	1645.01	26156.83	1648.04
1451	1851	16216.23	910.12	16243.49	911.15
1551	1851	1645.35	85.90	1648.12	86.07
1651	1851	3723.23	313.05	3729.49	313.61
1751	1851	6301.34	519.51	6311.94	520.30
1851	1851	5275.78	159.49	5284.66	159.73
8751	1851	11368.55	410.26	11387.66	409.96
1151	3151	16873.82	842.48	16906.84	844.26
1451	3151	25308.26	1416.16	25357.78	1418.45
1851	3151	9685.47	294.41	9704.42	294.33
8751	3151	29635.04	1060.94	29693.02	1061.83

Table 1f. A.C.E. Revision II DSE and Inconsistency Corrected A.C.E. Revision II DSE for Females 50 Plus Years Old

E-sample Expanded Post-strata	P-sample Expanded Post-strata	A.C.E. Revision II DSE	Standard Error of DSE	Inconsistency Corrected A.C.E. Revision II DSE	Standard Error of Corrected DSE
0152	0452	504840.78	33132.98	505824.26	33193.88
0252	0452	160192.08	11053.64	160504.15	11073.63
0352	0452	24564.47	1506.19	24612.32	1508.82
0552	0452	52481.25	4203.80	52583.49	4211.57
0652	0452	29629.14	2946.66	29686.86	2952.23
0952	0452	196394.50	17013.86	196777.10	17046.37
1052	0452	53080.82	5131.56	53184.22	5141.47
1152	0452	9627.68	470.96	9646.43	471.66
1252	0452	7317.98	654.95	7332.24	656.23
1352	0452	36694.98	3879.77	36766.47	3887.20
1452	0452	14642.19	1133.75	14670.71	1135.90
1552	0452	3637.38	187.28	3644.47	187.62
1652	0452	2567.52	214.30	2572.52	214.70
1752	0452	16506.81	795.29	16538.97	797.12
2052	0452	3499.09	97.71	3505.90	97.93

Attachment 2

Table 2a. Significant A.C.E. Revision II Inconsistency Bias of the DSE for People 10 to 17 Years Old

E-sample Expanded Post-strata	P-sample Expanded post-strata	Bias = DSE – Corrected DSE	Standard Error of Bias	Bias T-statistic	P-value
1220	0120	-0.05	0.012	-4.40507	.000010575
0120	0220	-122.57	27.847	-4.40152	.000010749
0220	0220	-66.72	14.671	-4.54816	.000005412
0420	0220	-18.25	3.928	-4.64721	.000003365
0520	0220	-554.41	121.749	-4.55373	.000005270
0620	0220	-315.08	68.914	-4.57216	.000004827
0720	0220	-18.68	4.149	-4.50169	.000006741
0920	0220	-0.05	0.011	-4.60615	.000004102
1020	0220	-0.03	0.007	-4.40909	.000010381
1120	0220	-0.00	0.001	-4.64778	.000003355
1220	0220	-0.01	0.003	-4.57253	.000004819
1320	0220	-5.83	1.336	-4.36041	.000012982
1420	0220	-3.07	0.680	-4.51798	.000006243
1520	0220	-0.42	0.092	-4.54486	.000005497
1720	0220	-18.60	3.981	-4.67086	.000002999
0220	0320	-114.53	25.996	-4.40581	.000010539
0420	0320	-19.98	4.525	-4.41566	.000010070
0520	0320	-522.66	118.815	-4.39891	.000010880
0620	0320	-426.67	96.462	-4.42315	.000009727
0920	0320	-0.04	0.008	-4.43536	.000009192
1120	0320	-0.01	0.002	-4.43303	.000009292
1220	0320	-0.02	0.005	-4.44423	.000008821
1420	0320	-5.10	1.167	-4.37324	.000012242
1720	0320	-19.25	4.295	-4.48200	.000007395
0120	1920	-238.54	51.763	-4.60834	.000004059
0220	1920	-192.08	39.826	-4.82300	.000001414
0320	1920	-35.22	7.961	-4.42418	.000009681
0420	1920	-45.05	9.216	-4.88846	.000001016
0520	1920	-677.47	141.234	-4.79677	.000001612
0620	1920	-576.13	119.585	-4.81774	.000001452
0720	1920	-99.71	21.056	-4.73530	.000002187
0820	1920	-134.40	30.168	-4.45519	.000008382
0920	1920	-0.15	0.031	-4.94122	.000000776
1020	1920	-0.08	0.017	-4.63440	.000003580
1120	1920	-0.03	0.006	-4.88826	.000001017
1220	1920	-0.07	0.014	-4.96740	.000000679
1320	1920	-18.06	3.883	-4.65231	.000003282
1420	1920	-13.21	2.623	-5.03850	.000000469
1520	1920	-2.73	0.571	-4.78931	.000001674
1620	1920	-3.11	0.690	-4.51162	.000006433
1720	1920	-35.73	7.194	-4.96584	.000000684
1820	1920	-32.53	7.085	-4.59120	.000004407
2020	1920	-8.93	1.949	-4.58155	.000004616
8720	1920	-14.10	3.180	-4.43322	.000009284
0120	2620	-110.33	22.675	-4.86595	.000001139
0220	2620	-106.70	21.095	-5.05801	.000000424

Table 2a. Significant A.C.E. Revision II Inconsistency Bias of the DSE for People 10 to 17 Years Old

E-sample Expanded Post-strata	P-sample Expanded post-strata	Bias = DSE – Corrected DSE	Standard Error of Bias	Bias T-statistic	P-value
0320	2620	-19.21	4.150	-4.62934	.000003668
0420	2620	-23.79	4.616	-5.15486	.000000254
0520	2620	-462.71	92.081	-5.02506	.000000503
0620	2620	-484.79	95.534	-5.07448	.000000389
0720	2620	-63.65	12.806	-4.97002	.000000669
0820	2620	-119.81	25.382	-4.72029	.000002355
0920	2620	-0.05	0.009	-5.18523	.000000216
1020	2620	-0.04	0.007	-4.92240	.000000855
1120	2620	-0.02	0.005	-5.13512	.000000282
1220	2620	-0.01	0.003	-5.02788	.000000496
1320	2620	-7.47	1.537	-4.85717	.000001191
1420	2620	-6.31	1.251	-5.04210	.000000460
1520	2620	-1.21	0.239	-5.05841	.000000423
1620	2620	-1.50	0.327	-4.58749	.000004486
1720	2620	-16.95	3.316	-5.11278	.000000317
1820	2620	-19.09	3.953	-4.82916	.000001371
2020	2620	-7.31	1.506	-4.85171	.000001224

Table 2b. Significant A.C.E. Revision II Inconsistency Bias of the DSE for Females 18 to 29 Years Old

E-sample Expanded Post-strata	P-sample Expanded post-strata	Bias = DSE – Corrected DSE	Standard Error of Bias	Bias T-statistic	P-value
0332	1532	-71.33	15.762	-4.52564	.000006021
0632	1532	-139.86	31.391	-4.45559	.000008366
0932	1532	-39.09	8.777	-4.45385	.000008434
1132	1532	-6.63	1.494	-4.43949	.000009017
1232	1532	-14.99	3.360	-4.46123	.000008149
1532	1532	-46.76	10.679	-4.37879	.000011934
2032	1532	-113.79	25.322	-4.49365	.000007001

Table 2c. Significant A.C.E. Revision II Inconsistency Bias of the DSE for Males 30 to 49 Years Old

E-sample Expanded Post-strata	P-sample Expanded post-strata	Bias = DSE – Corrected DSE	Standard Error of Bias	Bias T-statistic	P-value
0141	0241	-553.52	112.521	-4.91922	.000000869
0241	0241	-283.04	58.227	-4.86093	.000001168
0341	0241	-22.35	5.093	-4.38891	.000011392
0541	0241	-805.73	163.334	-4.93302	.000000810
0641	0241	-436.64	89.369	-4.88578	.000001030
0741	0241	-28.04	5.792	-4.84194	.000001286
0841	0241	-121.65	25.273	-4.81332	.000001484
0941	0241	-106.68	22.486	-4.74398	.000002096
1041	0241	-73.41	15.686	-4.68019	.000002866
1141	0241	-8.89	1.779	-4.99706	.000000582
1241	0241	-27.63	5.785	-4.77689	.000001780
1341	0241	-124.23	27.712	-4.48292	.000007363
1441	0241	-65.62	13.699	-4.79015	.000001667
1541	0241	-5.22	1.043	-4.99875	.000000577
1641	0241	-16.52	3.709	-4.45382	.000008436
1741	0241	-52.23	10.520	-4.96454	.000000689
1841	0241	-34.99	7.790	-4.49085	.000007094
2041	0241	-11.83	2.526	-4.68391	.000002815
8741	0241	-26.86	5.301	-5.06719	.000000404
0141	1041	-803.32	146.668	-5.47715	.000000043
0241	1041	-566.54	105.367	-5.37681	.000000076
0341	1041	-60.28	12.583	-4.79083	.000001661
0441	1041	-104.62	22.143	-4.72471	.000002304
0541	1041	-1092.27	198.741	-5.49597	.000000039
0641	1041	-812.19	149.189	-5.44406	.000000052
0741	1041	-74.37	13.718	-5.42141	.000000059
0841	1041	-146.91	27.508	-5.34068	.000000093
0941	1041	-139.74	26.534	-5.26650	.000000139
1041	1041	-131.08	25.337	-5.17331	.000000230
1141	1041	-19.57	3.507	-5.57913	.000000024
1241	1041	-36.09	6.863	-5.25936	.000000145
1341	1041	-155.92	31.545	-4.94268	.000000771
1441	1041	-114.15	21.637	-5.27540	.000000132
1541	1041	-12.11	2.143	-5.64887	.000000016
1641	1041	-19.11	3.839	-4.97791	.000000643
1741	1041	-57.74	10.703	-5.39516	.000000068
1841	1041	-50.23	10.215	-4.91681	.000000880
1941	1041	-5.38	1.162	-4.63160	.000003629
2041	1041	-12.56	2.531	-4.96106	.000000701
8741	1041	-32.72	5.739	-5.70223	.000000012
0141	1141	-1162.04	220.357	-5.27346	.000000134
0241	1141	-806.60	156.084	-5.16771	.000000237
0341	1141	-123.83	26.652	-4.64611	.000003383
0441	1141	-193.50	41.729	-4.63711	.000003533
0541	1141	-1255.68	238.089	-5.27397	.000000134
0641	1141	-953.30	182.538	-5.22250	.000000177
0741	1141	-139.66	26.925	-5.18721	.000000213
0841	1141	-207.71	40.119	-5.17739	.000000225

Table 2c. Significant A.C.E. Revision II Inconsistency Bias of the DSE for Males 30 to 49 Years Old

E-sample Expanded Post-strata	P-sample Expanded post-strata	Bias = DSE – Corrected DSE	Standard Error of Bias	Bias T-statistic	P-value
0941	1141	-175.08	34.444	-5.08313	.000000371
1041	1141	-161.12	32.264	-4.99386	.000000592
1141	1141	-34.45	6.511	-5.29140	.000000121
1241	1141	-55.22	10.896	-5.06812	.000000402
1341	1141	-212.24	43.981	-4.82572	.000001395
1441	1141	-157.94	30.755	-5.13548	.000000281
1541	1141	-23.69	4.344	-5.45263	.000000050
1641	1141	-32.54	6.812	-4.77638	.000001785
1741	1141	-77.84	14.754	-5.27574	.000000132
1841	1141	-71.62	14.738	-4.85944	.000001177
1941	1141	-12.03	2.706	-4.44577	.000008758
2041	1141	-18.05	3.546	-5.08913	.000000360
8741	1141	-69.33	12.633	-5.48780	.000000041
0141	1241	-863.63	179.144	-4.82089	.000001429
0241	1241	-412.71	86.625	-4.76435	.000001895
0541	1241	-1019.83	210.962	-4.83416	.000001337
0641	1241	-533.84	111.817	-4.77425	.000001804
0741	1241	-115.02	24.274	-4.73825	.000002156
0841	1241	-125.98	26.809	-4.69931	.000002610
0941	1241	-146.12	31.430	-4.64901	.000003335
1041	1241	-93.10	20.416	-4.56038	.000005106
1141	1241	-29.55	6.017	-4.91055	.000000908
1241	1241	-27.37	5.944	-4.60501	.000004125
1341	1241	-176.89	39.776	-4.44707	.000008705
1441	1241	-87.43	18.834	-4.64219	.000003447
1541	1241	-22.31	4.611	-4.83906	.000001305
1641	1241	-18.10	4.149	-4.36236	.000012867
1741	1241	-77.13	16.067	-4.80064	.000001582
1841	1241	-48.80	10.957	-4.45347	.000008449
2041	1241	-15.35	3.395	-4.52201	.000006126
8741	1241	-43.68	8.703	-5.01893	.000000520
0141	1841	-880.72	172.434	-5.10759	.000000326
0241	1841	-603.91	120.394	-5.01609	.000000527
0341	1841	-56.34	12.480	-4.51435	.000006351
0441	1841	-133.94	29.658	-4.51619	.000006296
0541	1841	-1130.86	221.031	-5.11629	.000000312
0641	1841	-842.34	166.419	-5.06156	.000000416
0741	1841	-67.51	13.375	-5.04778	.000000447
0841	1841	-184.43	36.724	-5.02198	.000000511
0941	1841	-149.94	30.277	-4.95246	.000000733
1041	1841	-136.80	28.090	-4.86998	.000001116
1141	1841	-19.62	3.780	-5.19068	.000000210
1241	1841	-46.03	9.386	-4.90340	.000000942
1341	1841	-162.20	34.278	-4.73192	.000002224
1441	1841	-112.28	22.465	-4.99827	.000000578
1541	1841	-10.97	2.100	-5.22218	.000000177
1641	1841	-23.85	5.137	-4.64189	.000003452
1741	1841	-60.80	12.027	-5.05473	.000000431
1841	1841	-51.25	10.992	-4.66220	.000003128

Table 2c. Significant A.C.E. Revision II Inconsistency Bias of the DSE for Males 30 to 49 Years Old

E-sample Expanded Post-strata	P-sample Expanded post-strata	Bias = DSE – Corrected DSE	Standard Error of Bias	Bias T-statistic	P-value
2041	1841	-15.99	3.288	-4.86274	.000001158
8741	1841	-37.26	7.132	-5.22485	.000000174

Table 2d. Significant A.C.E. Revision II Inconsistency Bias of the DSE for Females 30 to 49 Years Old

E-sample Expanded Post-strata	P-sample Expanded post-strata	Bias = DSE – Corrected DSE	Standard Error of Bias	Bias T-statistic	P-value
0142	0142	-733.81	153.815	-4.77076	.000001835
0242	0142	-354.00	73.439	-4.82030	.000001433
0342	0142	-75.36	16.417	-4.59061	.000004419
0442	0142	-91.70	19.566	-4.68693	.000002773
0542	0142	-1065.46	220.866	-4.82403	.000001407
0642	0142	-555.70	116.226	-4.78118	.000001743
0742	0142	-108.02	22.656	-4.76797	.000001861
0842	0142	-150.58	31.600	-4.76518	.000001887
0942	0142	-81.44	17.353	-4.69294	.000002693
1042	0142	-45.96	9.974	-4.60804	.000004065
1142	0142	-8.03	1.622	-4.95001	.000000742
1242	0142	-11.69	2.513	-4.65205	.000003287
1342	0142	-119.24	24.108	-4.94603	.000000757
1442	0142	-57.98	11.591	-5.00170	.000000568
1542	0142	-12.50	2.545	-4.91423	.000000891
1642	0142	-15.62	3.523	-4.43381	.000009258
1742	0142	-85.80	17.246	-4.97512	.000000652
1842	0142	-51.63	10.427	-4.95160	.000000736
8742	0142	-23.48	4.897	-4.79453	.000001631
0142	1042	-658.37	102.964	-6.39419	1.614E-10
0242	1042	-461.89	70.690	-6.53405	6.4015E-11
0342	1042	-45.03	7.580	-5.94037	.000000003
0442	1042	-76.25	12.177	-6.26235	3.7922E-10
0542	1042	-795.01	122.545	-6.48750	8.7271E-11
0642	1042	-597.74	93.257	-6.40956	1.4594E-10
0742	1042	-53.11	8.348	-6.36145	1.9986E-10
0842	1042	-104.99	16.525	-6.35319	2.1089E-10
0942	1042	-81.71	13.253	-6.16520	7.0393E-10
1042	1042	-68.54	11.452	-5.98470	.000000002
1142	1042	-5.59	0.821	-6.80142	1.036E-11
1242	1042	-10.07	1.643	-6.12921	8.8319E-10
1342	1042	-74.72	10.984	-6.80248	1.0284E-11
1442	1042	-54.40	7.902	-6.88384	5.8262E-12
1542	1042	-6.08	0.889	-6.83884	7.9836E-12
1642	1042	-10.40	1.852	-5.61275	.000000020
1742	1042	-37.55	5.451	-6.88927	5.6082E-12
1842	1042	-32.26	4.645	-6.94429	3.8036E-12
1942	1042	-3.58	0.652	-5.49363	.000000039
2042	1042	-8.97	1.800	-4.98056	.000000634
8742	1042	-17.84	2.698	-6.61186	3.7952E-11
1442	1242	-50.00	11.464	-4.36104	.000012944
1742	1242	-57.94	13.237	-4.37684	.000012041
1842	1242	-35.68	8.185	-4.35894	.000013070
8742	1242	-28.68	6.458	-4.44152	.000008933

Table 2e. Significant A.C.E. Revision II Inconsistency Bias of the DSE Males 50 Plus Years Old

E-sample Expanded Post-strata	P-sample Expanded post-strata	Bias = DSE – Corrected DSE	Standard Error of Bias	Bias T-statistic	P-value
0151	0151	-1728.50	365.326	-4.73137	.000002230
0251	0151	-628.15	135.803	-4.62543	.000003738
0351	0151	-101.14	21.979	-4.60180	.000004188
0551	0151	-322.11	68.975	-4.66991	.000003013
0651	0151	-183.63	41.891	-4.38343	.000011683
0951	0151	-197.95	43.457	-4.55512	.000005235
1051	0151	-69.76	15.637	-4.46118	.000008151
1151	0151	-16.03	3.328	-4.81685	.000001458
1251	0151	-21.30	4.714	-4.51719	.000006267
1351	0151	-82.00	17.172	-4.77516	.000001796
1451	0151	-36.15	7.386	-4.89418	.000000987
1551	0151	-8.03	1.681	-4.77950	.000001757
1651	0151	-9.08	1.995	-4.54960	.000005375
1751	0151	-39.91	8.594	-4.64372	.000003422
1851	0151	-24.11	4.941	-4.88064	.000001057
8751	0151	-26.23	5.200	-5.04457	.000000455
0151	1851	-1406.95	312.627	-4.50042	.000006782
0251	1851	-715.12	162.712	-4.39503	.000011076
0351	1851	-56.52	12.942	-4.36735	.000012576
0551	1851	-117.01	26.355	-4.43960	.000009010
1151	1851	-10.38	2.262	-4.58775	.000004481
1351	1851	-43.91	9.700	-4.52666	.000005992
1451	1851	-27.27	5.802	-4.69952	.000002608
1551	1851	-2.77	0.606	-4.56588	.000004974
1651	1851	-6.26	1.422	-4.40371	.000010642
1751	1851	-10.60	2.355	-4.49964	.000006807
1851	1851	-8.87	1.899	-4.67162	.000002988
8751	1851	-19.12	3.966	-4.81950	.000001439
1151	3151	-33.01	7.512	-4.39469	.000011093
1451	3151	-49.52	11.176	-4.43082	.000009388
1851	3151	-18.95	4.186	-4.52732	.000005974
8751	3151	-57.98	12.942	-4.48028	.000007455

Table 2f. Significant A.C.E. Revision II Inconsistency Bias of the DSE for Females 50 Plus Years Old

E-sample Expanded Post-strata	P-sample Expanded post-strata	Bias = DSE – Corrected DSE	Standard Error of Bias	Bias T-statistic	P-value
0152	0452	-983.48	203.660	-4.82904	.000001372
0252	0452	-312.07	64.787	-4.81684	.000001458
0352	0452	-47.85	9.817	-4.87468	.000001090
0552	0452	-102.24	21.595	-4.73447	.000002196
0652	0452	-57.72	12.627	-4.57104	.000004853
0952	0452	-382.60	82.028	-4.66422	.000003098
1052	0452	-103.41	22.608	-4.57398	.000004786
1152	0452	-18.76	3.774	-4.96969	.000000671
1252	0452	-14.26	3.081	-4.62642	.000003720
1352	0452	-71.49	15.871	-4.50429	.000006660
1452	0452	-28.52	6.024	-4.73540	.000002186
1552	0452	-7.09	1.445	-4.90258	.000000946
1652	0452	-5.00	1.064	-4.70305	.000002563
1752	0452	-32.16	6.637	-4.84523	.000001265
2052	0452	-6.82	1.384	-4.92627	.000000838

Attachment 3

Table 3a. A.C.E. Revision II DSE Marginal Totals by Sex

Sex	A.C.E. Revision II DSE	Inconsistency Corrected A.C.E. Revision II DSE	Bias = DSE – Corrected DSE	Relative Error = Bias/DSE
Male and Female	71347073.25	71347854.43	-781.18	-0.000011
Male	97511401.40	97541744.33	-30342.92	-0.000311
Female	103396864.27	103460586.94	-63722.67	-0.000616
Total	272255338.93	272350185.70	-94846.77	-0.000348

Table 3b. A.C.E. Revision II DSE Marginal Totals by Age

Age	A.C.E. Revision II DSE	Inconsistency Corrected A.C.E. Revision II DSE	Bias = DSE – Corrected DSE	Relative Error = Bias/DSE
0-9	39461939.29	39446560.45	15378.83	0.000390
10-17	31885133.97	31901293.98	-16160.01	-0.000507
18-29	43119897.56	43145303.84	-25406.29	-0.000589
30-49	84670470.13	84708188.10	-37717.97	-0.000445
50+	73117897.99	73148839.33	-30941.34	-0.000423
Total	272255338.93	272350185.70	-94846.77	-0.000348

Table 3c. A.C.E. Revision II DSE Marginal Totals by Age and Sex

Age	Sex	A.C.E. Revision II DSE	Inconsistency Corrected A.C.E. Revision II DSE	Bias = DSE – Corrected DSE	Relative Error = Bias/DSE
0-9	M & F	39461939.29	39446560.45	15378.83	0.000390
10-29	M & F	31885133.97	31901293.98	-16160.01	-0.000507
18-29	M	21838552.88	21836433.37	2119.51	0.000097
18-29	F	21281344.68	21308870.47	-27525.79	-0.001293
30-49	M	42144831.76	42163364.64	-18532.87	-0.000440
30-49	F	42525638.37	42544823.46	-19185.09	-0.000451
50+	M	33528016.76	33541946.32	-13929.56	-0.000415
50+	F	39589881.23	39606893.00	-17011.78	-0.000430
Total		272255338.93	272350185.70	-94846.77	-0.000348

Table 3d. A.C.E. Revision II DSE Marginal Totals by Domain

Domain	A.C.E. Revision II DSE	Inconsistency Corrected A.C.E. Revision II DSE	Bias = DSE – Corrected DSE	Relative Error = Bias/DSE
American Indian or Alaska Native On Reservation	535433.76	534863.34	570.41	0.001065
American Indian or Alaska Native Off Reservation	1574644.01	1563108.04	11535.97	0.007326
Hispanic	34786156.12	34761160.18	24995.93	0.000719
Non-Hispanic Black	34097962.53	34106066.71	-8104.18	-0.000238
Native Hawaiian or Pacific Islander	602987.22	595492.16	7495.07	0.012430
Non-Hispanic Asian	9885185.08	9886114.03	-928.95	-0.000094
Non-Hispanic White	190772970.22	190903381.23	-130411.01	-0.000684
Total	272255338.93	272350185.70	-94846.77	-0.000348

Table 3e. A.C.E. Revision II DSE Marginal Totals by Domain, Age, and Sex

Domain	Age	Sex	A.C.E. Revision II DSE	Inconsistency Corrected A.C.E. Revision II DSE	Bias = DSE – Corrected DSE	Relative Error = Bias/DSE
American Indian or Alaska Native On Reservation	0-9	M & F	120165.98	119909.97	256.02	0.002131
	10-17	M & F	100670.00	100707.24	-37.24	-0.000370
	18-29	M	44191.49	44064.97	126.53	0.002863
	18-29	F	45264.94	45178.58	86.36	0.001908
	30-49	M	66512.79	66471.77	41.02	0.000617
	30-49	F	69922.64	69942.61	-19.97	-0.000286
	50+	M	40653.72	40570.97	82.75	0.002035
	50+	F	48052.19	48017.24	34.95	0.000727
American Indian or Alaska Native Off Reservation	0-9	M & F	264090.75	263779.04	311.71	0.001180
	10-17	M & F	231914.09	228562.55	3351.55	0.014452
	18-29	M	140526.78	140892.82	-366.04	-0.002605
	18-29	F	153571.31	150045.69	3525.63	0.022958
	30-49	M	231717.50	231895.89	-178.39	-0.000770
	30-49	F	260817.14	255983.44	4833.70	0.018533
	50+	M	136450.61	136637.76	-187.15	-0.001372
	50+	F	155555.81	155310.84	244.97	0.001575
Hispanic	0-9	M & F	7297220.05	7282976.90	14243.15	0.001952
	10-17	M & F	4889683.73	4890642.16	-958.43	-0.000196
	18-29	M	4378327.47	4363713.16	14614.31	0.003338
	18-29	F	3649045.65	3648778.04	267.62	0.000073
	30-49	M	5144563.76	5140431.74	4132.02	0.000803
	30-49	F	4770928.09	4777655.34	-6727.25	-0.00141
	50+	M	2128787.74	2132686.97	-3899.22	-0.001832
	50+	F	2527599.62	2524275.88	3323.74	0.001315
Non-Hispanic Black	0-9	M & F	6342965.83	6327857.84	15107.98	0.002382
	10-17	M & F	4881203.47	4887982.95	-6779.48	-0.001389
	18-29	M	2790833.4	2787234.67	3598.73	0.001289
	18-29	F	3110603.43	3106592.36	4011.07	0.001289
	30-49	M	4832212.2	4838042.6	-5830.41	-0.001207
	30-49	F	5435559.28	5442117.66	-6558.39	-0.001207
	50+	M	2895810.9	2900844.3	-5033.4	-0.001738
	50+	F	3808774.04	3815394.32	-6620.28	-0.001738
Native Hawaiian or Pacific Islander	0-9	M & F	114933.75	113480.31	1453.44	0.012646
	10-17	M & F	94919.95	92857.11	2062.83	0.021732
	18-29	M	60118.37	59394.5	723.87	0.012041
	18-29	F	59409.65	58939.71	469.95	0.00791
	30-49	M	89958.66	88495.38	1463.28	0.016266
	30-49	F	88363.28	88057.37	305.91	0.003462
	50+	M	47150.4	46087.18	1063.22	0.02255
	50+	F	48133.16	48180.6	-47.44	-0.000986

Table 3e. A.C.E. Revision II DSE Marginal Totals by Domain, Age, and Sex

Domain	Age	Sex	A.C.E. Revision II DSE	Inconsistency Corrected A.C.E. Revision II DSE	Bias = DSE – Corrected DSE	Relative Error = Bias/DSE
Non-Hispanic Asian	0-9	M & F	1313206.39	1313164.77	41.62	0.000032
	10-17	M & F	1063711.39	1067781.66	-4070.27	-0.003826
	18-29	M	946275.93	946409.79	-133.86	-0.000141
	18-29	F	968330.96	967862.37	468.59	0.000484
	30-49	M	1648704.25	1647726.89	977.36	0.000593
	30-49	F	1773755.77	1775969.31	-2213.55	-0.001248
	50+	M	984891.53	985033.49	-141.96	-0.000144
	50+	F	1186308.86	1182165.75	4143.11	0.003492
Non-Hispanic White	0-9	M & F	24009356.54	24025391.62	-16035.08	-0.000668
	10-17	M & F	20623031.34	20632760.31	-9728.97	-0.000472
	18-29	M	13478279.43	13494723.46	-16444.03	-0.00122
	18-29	F	13295118.72	13331473.72	-36355	-0.002734
	30-49	M	30131162.59	30150300.35	-19137.76	-0.000635
	30-49	F	30126292.18	30135097.73	-8805.56	-0.000292
	50+	M	27294271.87	27300085.66	-5813.79	-0.000213
	50+	F	31815457.55	31833548.37	-18090.82	-0.000569
Total			272255338.93	272350185.70	-94846.77	-0.000348