



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Economics and Statistics Administration**  
**U.S. Census Bureau**  
Washington, DC 20233-0001

MASTER FILE

December 31, 2002

DSSD A.C.E. REVISION II MEMORANDUM SERIES #PP-37

MEMORANDUM FOR

Donna Kostanich  
Chair, A.C.E. Revision II Planning Group

From:

Mary Mulry *MM*  
Chair, A.C.E. Revision II Assessment Subgroup

Prepared by:

Glenn Wolfgang *GW*  
Decennial Statistical Studies Division

Subject:

A.C.E. Revision II - Comparison of A.C.E. Revision II and HUCS  
Study Plan

## **Project Staff**

Mary Mulry  
Gregg Robinson  
Glenn Wolfgang

## **I. Introduction**

The study examines the validity of the A.C.E. Revision II estimates by assessing the consistency in the results from the A.C.E. Revision II and the Housing Unit Coverage Study (HUCS). Since the A.C.E. Revision II estimates may be used in the Postcensal Estimates Program and that program makes use of the average household size in many calculations, considering the consistency between the A.C.E. Revision II and the HUCS data is important.

Although the A.C.E. Revision II estimates census coverage for people and HUCS estimates census coverage for housing units, we expect to see similar patterns in the differential coverage for demographic and geographic groups. We also expect to see similar patterns in the measures of change in census coverage between 1990 and 2000 for demographic and geographic groups. However, if there is a substantial difference in the census coverage error caused by missing whole households and by missing people within households, the patterns of differential coverage of people and of housing units may not have similar patterns.

If there are demographic or geographic groups where the differential coverage from the A.C.E. Revision II and HUCS is substantially different, the study will attempt to describe whether the disagreement is a symptom of problems with the A.C.E. Revision II or HUCS, or the result of legitimate differences in coverage.

## **II. Limitations**

1. Definitions of variables such as Race Domain are not entirely consistent from 1990 to 2000 or from A.C.E. Revision II/ PES to HUCS.
2. Definitions of coverage-measurement-based (data-defined) census counts differ from 1990 to 2000 and from A.C.E. Revision II/ PES to HUCS, but the definition appropriate to the data is used.
3. Verified 1990 HUCS data have not been found. Previously reported results are used.
4. Computations of HUCS 2000 and PES 1990 statistics simplified the use of inmove data and poststratification structure for efficiency and comparability as well as other technical considerations. A.C.E. Revision II computations are designed to take full advantage of developments in estimation technology.

### **III. Research Question #1**

Are the patterns of (differential) net undercount rates across demographic/ geographic groupings similar within A.C.E. Revision II or HUCS 2000?

Net undercount rates are computed for each dataset within these demographic/geographic subgroups:

- a. Race
- b. Tenure
- c. Region
- d. Type of structure
- e. MSA/TEA
- f. Cross-classifications of above, including
  - i. Race and tenure and region
  - ii. Race and type of structure and region

The rates will be compared in tables (See table shells attached.) to spot similarities in the patterns.

### **IV. Research Question #2**

Are the patterns of differences between A.C.E. Revision II and HUCS in 2000 similar to the patterns of differences between the PES and HUCS in 1990?

Net undercount rates are computed within the demographic/geographic subgroups used above for all datasets. Differences in 2000 data and differences in 1990 data are compared in tables. (See table shells attached.)

### **V. Research Question #3**

Do the patterns of census omissions, or nonmatches, (NMs) and duplicates or other erroneous enumerations (EEs) for these demographic/ geographic groupings relate to the differences in (differential) net undercount rates from A.C.E. Revision II to HUCS 2000?

Percents of nonmatches and percents of erroneous enumerations are computed within the demographic/geographic subgroups listed above and compared with percent net undercount rates for similarly defined groups in other coverage measurements to see if they could explain the observed patterns. (See table shells attached.)

**Table Shells for Research Questions 1 & 2** *DRAFT 12/31/02*

Percent Net Coverage			
A.C.E. 2000		1990 PES	
A.C.E. Rev. II	HUCS	PES	HUCS

**Race / Hispanic Origin Domain:**

White / Some Other  
Hispanic  
Black  
Asian or Pacific . . .  
American Indian

**Tenure:**

Owner  
Non-owner

**Region:**

Northeast  
Midwest  
South  
West

**Type of Structure at Basic Address**

Single Unit  
Multi-Unit  
    Large Multi-Unit (Occupied)  
    Small Multi-Unit (Occupied)

**MSA / TEA:**

Large MSA, Mailout/Mailback (Occupied)  
Medium MSA, Mailout/Mailback (Occupied)  
Small MSA & Non-MSA Mailout/Mailback (Occupied)  
All Other TEAs (Occupied)

**Race Domain by Tenure by Region:**

White / Some Other  
    Owner  
        Northeast  
        Midwest  
        South  
        West  
    Non-owner  
        Northeast  
        Midwest  
        South  
        West  
Hispanic  
    Owner  
        Northeast  
    . . .

### Table Shells for Research Questions 3

Percent Erroneous Enumerations			
A.C.E. 2000		1990 PES	
A.C.E. Rev. II	HUCS	PES	HUCS

**Race / Hispanic Origin Domain:**

White / Some Other  
 Hispanic  
 Black  
 Asian or Pacific . . .  
 American Indian

**Tenure:**

Owner  
 Non-owner

**Region:**

Northeast  
 Midwest  
 South  
 West

**Type of Structure at Basic Address**

Single Unit  
 Multi-Unit  
     Large Multi-Unit (Occupied)  
     Small Multi-Unit (Occupied)

**MSA / TEA:**

Large MSA, Mailout/Mailback (Occupied)  
 Medium MSA, Mailout/Mailback (Occupied)  
 Small MSA & Non-MSA Mailout/Mailback (Occupied)  
 All Other TEAs (Occupied)

**Race Domain by Tenure by Region:**

White / Some Other  
     Owner  
         Northeast  
         Midwest  
         South  
         West  
     Non-owner  
         Northeast  
         Midwest  
         South  
         West  
 Hispanic  
     Owner  
         Northeast  
     . . .

## Table Shells for Research Questions 3 (cont)

Percent Nonmatches			
A.C.E. 2000		1990 PES	
A.C.E. Rev. II	HUCS	PES	HUCS

**Race / Hispanic Origin Domain:**

- White / Some Other
- Hispanic
- Black
- Asian or Pacific . . .
- American Indian

**Tenure:**

- Owner
- Non-owner

**Region:**

- Northeast
- Midwest
- South
- West

**Type of Structure at Basic Address**

- Single Unit
- Multi-Unit
  - Large Multi-Unit (Occupied)
  - Small Multi-Unit (Occupied)

**MSA / TEA:**

- Large MSA, Mailout/Mailback (Occupied)
- Medium MSA, Mailout/Mailback (Occupied)
- Small MSA & Non-MSA Mailout/Mailback (Occupied)
- All Other TEAs (Occupied)

**Race Domain by Tenure by Region:**

- White / Some Other
  - Owner
    - Northeast
    - Midwest
    - South
    - West
  - Non-owner
    - Northeast
    - Midwest
    - South
    - West
- Hispanic
  - Owner
    - Northeast
    - . . .