EFFECT OF CENSUS 2000 UNDERCOUNT ON FEDERAL FUNDING TO STATES AND SELECTED COUNTIES, 2002-2012

prepared by PRICEWATERHOUSECOOPERS

ABSTRACT

Congress relies on the census for purposes of allocating funds under various federal grant programs to state governments. Inaccuracies in the census count can cause federal funds to be distributed in a way that is not fully consistent with congressional intent. Many state-funded grant programs to localities also rely on census counts, compounding the misallocation of grant money. For those jurisdictions that are counted relatively poorly by the census, this translates into fewer services for families with the greatest needs. Analysis by the Census Bureau estimates that Census 2000 undercounted the actual U.S. population by a net of over three million individuals, representing an undercount rate of 1.18 percent.

This study focuses on eight programs with a combined total of $145 billion in federal spending in FY 2001 that would be most affected by the undercount. Because this study does not consider all programs affected by census population figures, the total effect of the Census 2000 undercount on the allocation of federal funds is likely to exceed the estimates in this report.

For the eight federal grant programs included in this study, the Census 2000 undercount is estimated to cause the District of Columbia and the 31 states adversely affected by the undercount to lose $4.1 billion in federal funding over the 2002-2012 fiscal year period. The shift in federal funds due to the undercount is most pronounced in metropolitan counties. These areas not only share in state losses from the undercount but also lose funds to other localities within the state because of the relatively high undercounts of urban areas.

The federal funding loss to the 58 largest counties adversely affected by the undercount is estimated to reach $3.6 billion over the ten year period, or $2,913 per uncounted person in these jurisdictions. The census undercount not only redistributes funds among jurisdictions, it also causes a net loss to the states of funds from federal entitlement programs, such as Medicaid and Foster Care. For the programs included in this study, the Census 2000 undercount is estimated to reduce net federal funds to the states by $478 million over the 2002-2012 period.

Previous Research

In March 2000, PricewaterhouseCoopers prepared a study 4 for the Presidential Members of the U.S. Census Monitoring Board that estimated the impact of the projected Census 2000 undercount on the allocation of federal funds. This March 2000 report assumed similar undercount rates by demograph-

ic group as were estimated following the 1990 census and used Census population projections for 2000. The study projected that the 2000 census undercount rate would be 1.75 percent. This was considered a conservative estimate since the Census Bureau predicted an undercount rate of 1.9 percent.

Now that Census 2000 is complete, the data indicate that the Census Bureau counted a higher percentage of the population in 2000 than in 1990. The Census Bureau estimates that the Census 2000 net undercount rate was 1.18 percent. This report updates PricewaterhouseCooper's previous study by using Dr. Ericksen's analysis and extension of the information the Census Bureau has made public about the Census 2000 undercount rate rather than projections based on the 1990 Census experience.

Methodology

This study generally follows the same methodology for estimating funding effects as the March 2000 PricewaterhouseCoopers report.

The eight programs studied accounted for $145 billion in federal grant spending in fiscal ear 2001 (see Table A). These programs represent 87 percent of the funding of major rograms identified by the General Accounting Office (GAO) as being affected by the undercount.[1] The effect of the undercount on smaller federal programs has been excluded. State programs that rely on census data to distribute funds to localities also have been excluded. Because all federal and state grant programs affected by the undercount were not analyzed in this study, the shift in funds due to the Census 2000 undercount is likely to be larger than is estimated in this report.

The methodology used in this report can be summarized as follows:

1. Based on the Census Bureau's and Dr. Ericksen's estimates of the Census 2000 undercount rate by state and selected county, derive adjusted state and county population levels for comparison with Census 2000 population counts.
2. Determine the formulae for allocating the eight federal grant programs included in this study.
3. Project national funding levels for these federal programs through 2012.
4. Project the effect of the Census 2000 undercount on the allocation of federal funds to states and selected counties over the period affected by Census 2000 (generally, fiscal years 2002-2012).

[1] General Accounting Office, Formula Grants: Effects of Adjusted Population Counts on Federal Funding to States, GAO/HEHS-99-69, February 1999.

Table A. Federal Formula Grant Programs and FY 2001 Obligations

[Dollar amounts in billions; Major programs affected by census undercount]

Program	Description	Obligations
1. Medicaid	Provides medical assistance (such as inpatient and outpatient hospital care, laboratory and x-ray services, and physician services) to low-income individuals. Eligible individuals include low-income children and pregnant women, low-income persons with disabilities, and low-income elderly persons.	$130.0
2. Foster Care	Provides support to homes and facilities that provide homes to needy foster children. Payments cover food, shelter, and supervision costs. Any foster child eligible for Aid to Families with Dependent Children, as in effect in 1995, is eligible for the program.	5.1
3. Rehabilitation Services Basic Support	Provides vocational rehabilitation to disabled individuals and their families. Services include reader services for the blind, interpreter services for the deaf, prosthetic devices, and job placement.	2.4
4. Child Care and Development Block Grant	Provides assistance to low-income families to improve the availability and quality of childcare. Name changed to Child Care and Development Fund Discretionary Funds.	2.0
5. Social Services Block Grant	Provides support to states to prevent or reduce dependency; promote self-sufficiency; prevent abuse, neglect, or exploitation of children and adults; prevent inappropriate institutional care; and secure institutional care where appropriate. Funds have been used for child day care, protective and emergency services for children and adults, and counseling.	1.7
6. Substance Abuse Prevention and Treatment Block Grant	Provides resources to states to design and implement programs to reduce drug and alcohol abuse and provide rehabilitation to individuals with drug and alcohol problems.	1.7
7. Adoption Assistance	Provides support for the adoption of children with special needs. Payments train professional staff and parents involved in the adoptions, provide resources to families adopting the children, and cover costs associated with placing children in adoptive homes.	1.2
8. Vocational Education Basic Grants	Provides grants to states for vocational education programs for youths and adults. Funds used for activities such as purchasing occupationally-relevant equipment and curriculum materials, providing career counseling and guidance, hiring staff, and offering remedial classes.	1.1
Total for eight programs included in this report		**$145.1**
Total for major grant programs affected by undercount		**$166.6**

Several key assumptions underlie the results in this report. First, Dr. Ericksen's extension of the Census Bureau's methods is assumed to be accurate. Second, the undercount rate is assumed to not vary substantially between group-quarters and non-group-quarters persons.[2] Third, current formulae for allocating federal grant programs are assumed to remain unchanged over the 2002-12 period. Fourth, the national funding level for these programs over the FY 2002-2012 period is based on the Administration's fiscal year 2001 Current Services Budget. Last, states are assumed to allocate federal funding among local governments in proportion to their respective populations, as enumerated in the decennial census. To the extent possible, the results in this study are based on federal data, estimates, and methodology.

Effect of Census 2000 Undercount on Federal Funding to States

The Census Bureau has estimated a national net undercount rate for the non-group-quarters population in Census 2000 of 1.18 percent, totaling nearly 3.3 million persons missed. Assuming the same undercount rate for the group-quarters population, Dr. Ericksen estimates a total net undercount of 3.4 million.[3] Over the 2002-2012 fiscal year period, for the eight programs analyzed, PricewaterhouseCoopers estimates that this Census 2000 undercount will result in a loss of $4.1 billion in federal funding among the 31 states adversely affected by the undercount and the District of Columbia. Medicaid accounts for the largest shift in federal funds, representing 92 percent of all reallocated funds (see Figure A).[4]

The estimated 2000 undercount is expected to cause the biggest dollar losses in California, Texas and Georgia (see Figure B). These are large states that have relatively large undercount rates.

Even in states that are relatively well counted by the census, certain portions of the state may have high undercount rates. For example, while Massachusetts is counted relatively well, Suffolk County (containing Boston, MA) is estimated to lose $58 million in federal funds over the 2002-2012 period as a result of its high undercount. Similarly, while Illinois is counted relatively well, Cook County (containing part of Chicago, IL) is estimated to lose $193 million in federal funds over the 2002-2012 period.

Note that the funding effects of the Census 2000 undercount are not a "zero-sum game." The shift in federal funds *away from* states that are counted relatively poorly is greater than the shift in funds to states that are counted relatively well. The Census 2000 undercount is expected to result in a net loss of $478 million in federal funds to the states as a whole. This overall loss in federal funding is due to federal entitlement programs such as Medicaid, under which the national level of funding depends on population measures and is not a fixed sum.

[2] The Census Bureau only provided undercount rates for the non-group-quarters population. In order to evaluate the funding effects, we require an undercount estimate for the entire population. We assumed that the undercount rate for the group-quarters population equals the undercount rate for the non-group-quarters population. The alternative assumption of a perfect count of the group-quarters population would not materially affect our results.

[3] The Census Bureau excluded the group-quarters population (7.8 million persons) from its undercount estimates. Assuming that the group-quarters population is undercounted at the same rate as the non-group-quarters population implies a national undercount of 3.4 million persons and an overall national undercount rate of 1.18 percent. Source: *Report of the Executive Steering Committee for Accuracy and Coverage Evaluation Policy,* March 1, 2001 and Dr. Eugene Ericksen, Estimates of State and County Undercount Rates, May 1, 2001.

[4] Because of statutory provisions that guarantee minimum reimbursement rates, Medicaid funding for certain states would remain the same using either adjusted or unadjusted population counts. Some states, like New York, receive the minimum reimbursement of 50 percent of state expenditures under adjusted or unadjusted figures. The District of Columbia has a reimbursement rate set by statute at 70 percent. These areas experience significant undercounts, but the Medicaid minimum reimbursement provisions limit the federal funding losses from the undercount.

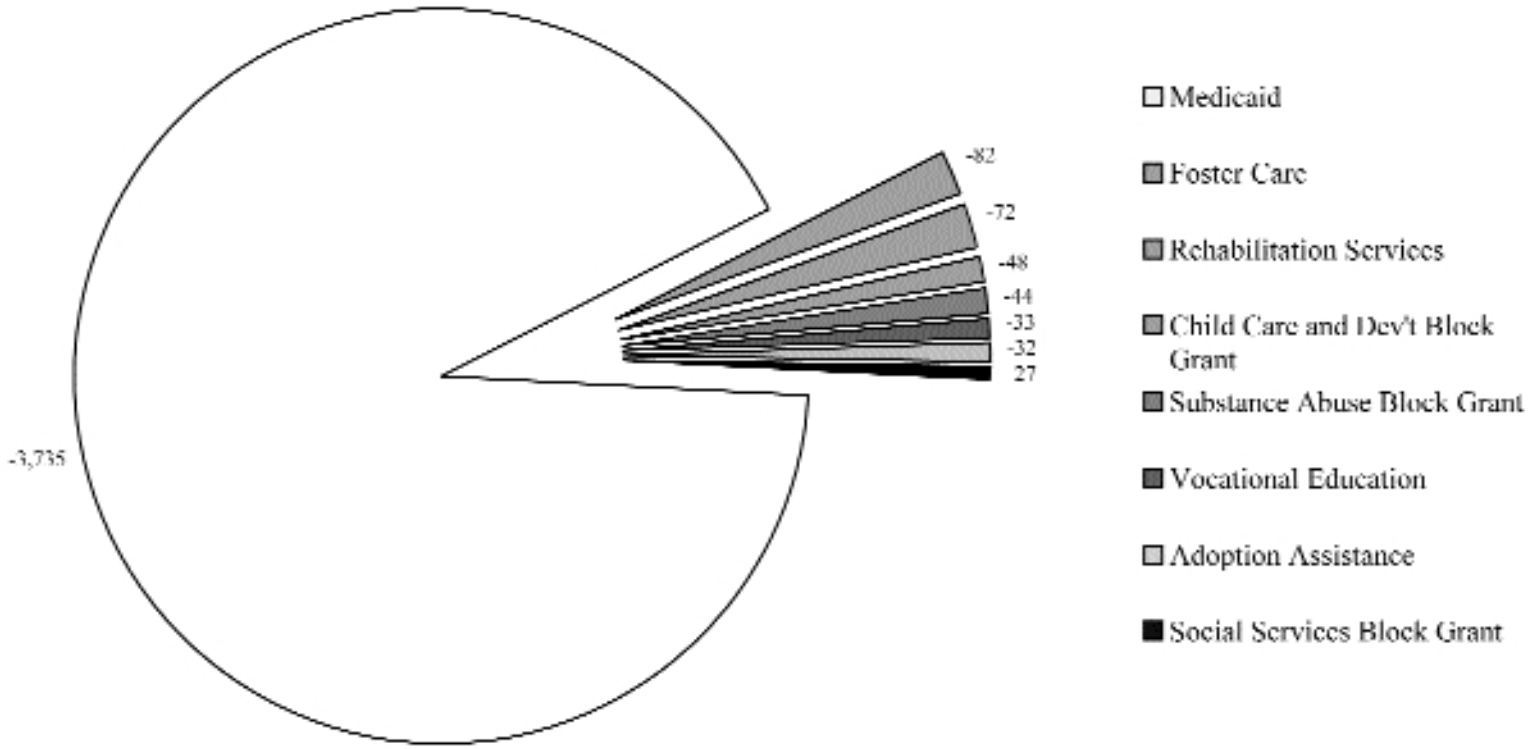
Effect of Census 2000 Undercount on Federal Funding to Selected Counties

The Census 2000 undercount also will affect counties receiving a portion of federal grants allotted to states. The net impact on county funding depends on the effect of the undercount on both the allocation of federal funds between states (the "between-state" effect) and the allocation of funds among jurisdictions within a state (the "within-state" effect). The net impact of the Census 2000 undercount on the allocation of federal funds to counties is the sum of the between-state and within-state effects.

Over the 2002-2012 period, the federal funding loss to the 58 largest counties adversely affected by the undercount is estimated to reach $3.6 billion, or $2,913 per uncounted person in these jurisdictions. Because counties with large populations generally experience undercount rates that are higher than the state average, we assume that they will fail to receive their proportionate share of any funds distributed by the state based on unadjusted population counts. These "within-state" effects cause the funding losses of metropolitan areas to exceed the funding losses at the state level.

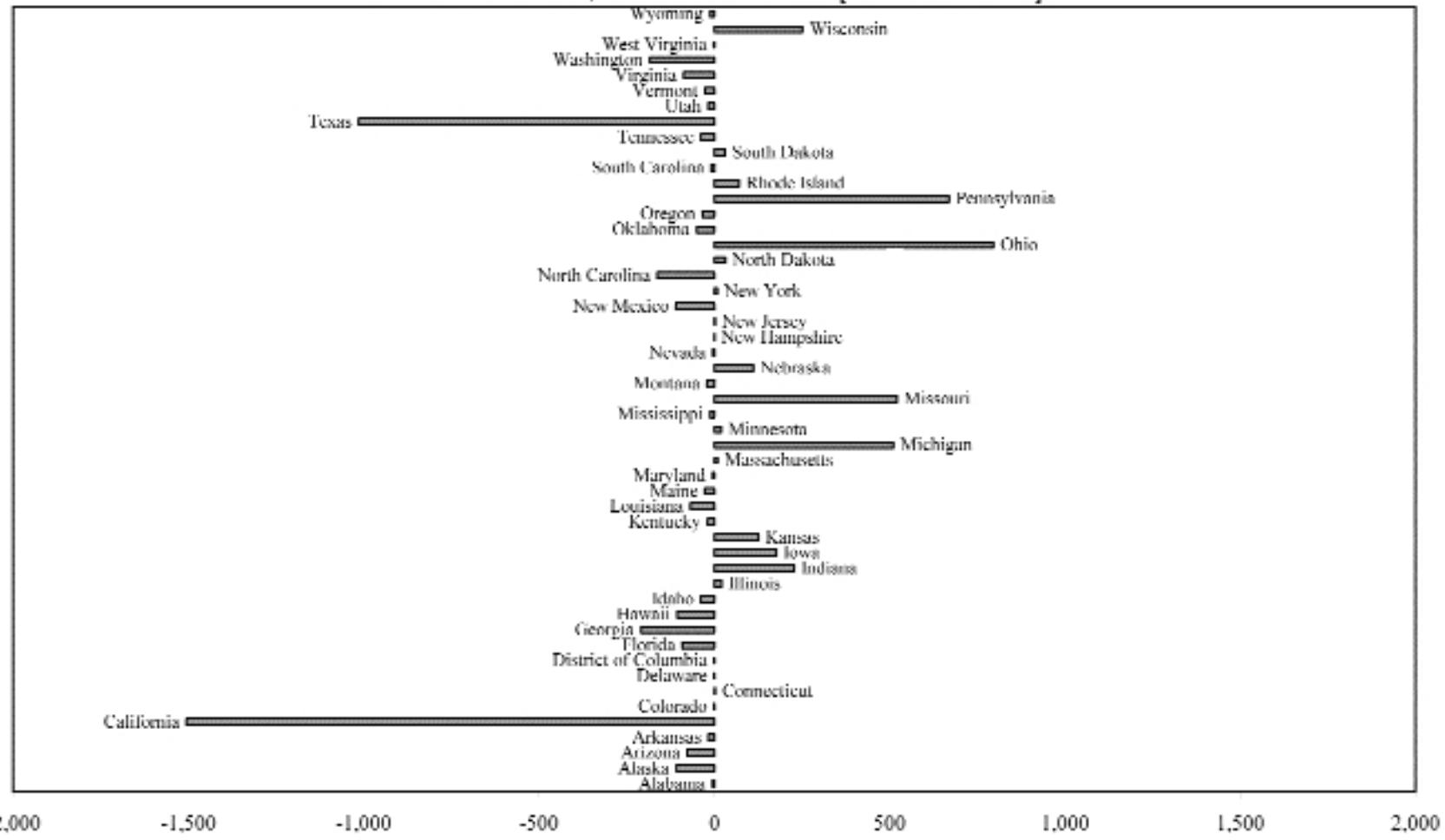
Eight counties are estimated to lose over $100 million each in federal funds: Los Angeles County, CA; Bronx County, NY; Kings County, NY (which comprises the borough of Brooklyn, NY); Harris County, TX (which contains the city of Houston, TX); New York County, NY (which comprises the borough of Manhattan, NY); Cook County, IL (Chicago), Dallas County, TX, and Miami-Dade County, FL (see Figure C). In New York City, the funding loss across the five boroughs is estimated to reach $847 million. Because some state-funded grant programs also rely on the decennial census for purposes of allocating funds among localities, the impact of the Census 2000 undercount on metropolitan areas will be larger than the federal funding effect.

Figure A. Estimated Effect of Census 2000 Undercount on Eight Federal Grant Programs: 31 States with Funding Losses and the District of Columbia, Fiscal Years 2002-2012
[Millions of Dollars]



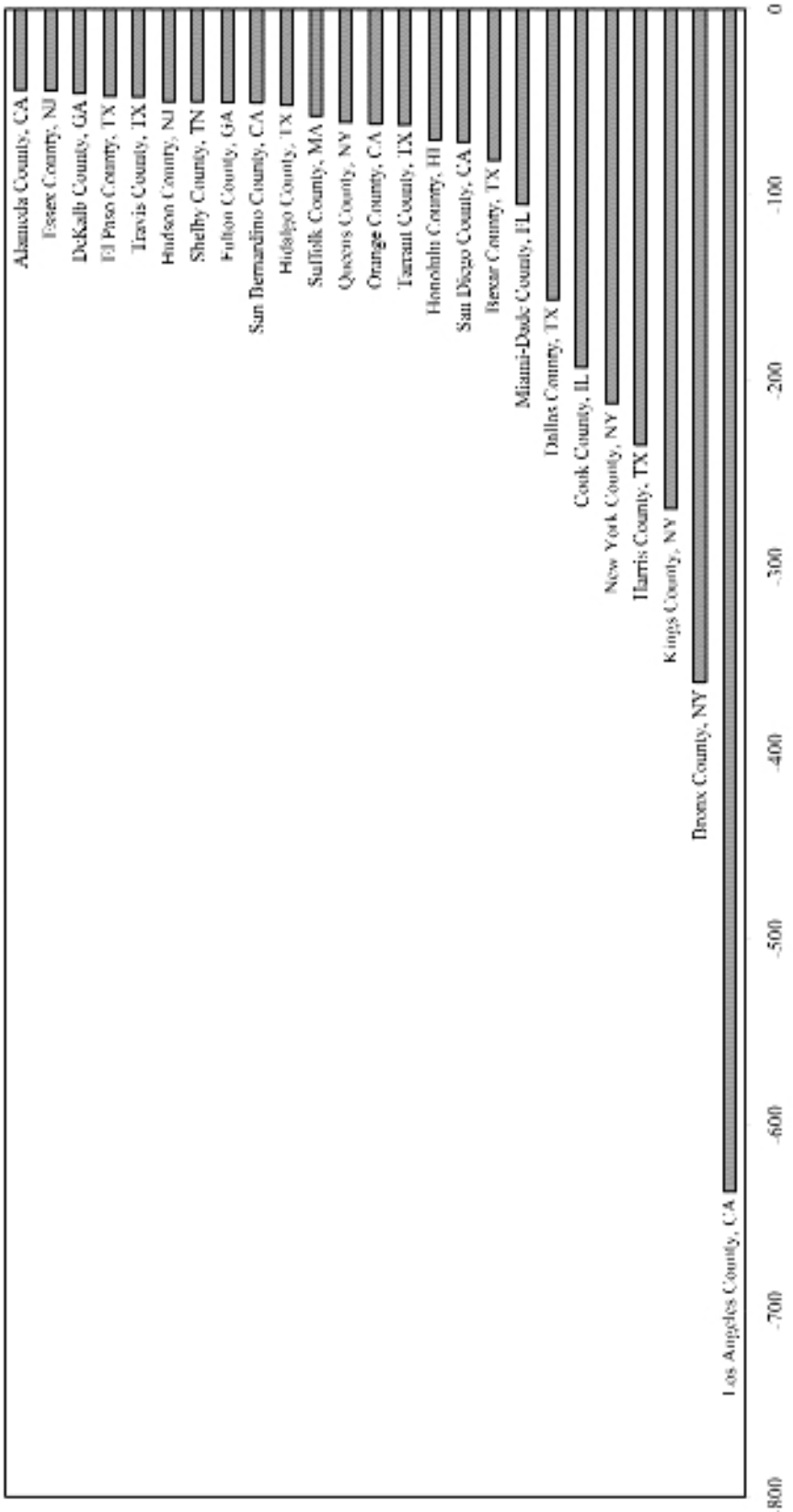
Source: PricewaterhouseCoopers calculations.

Figure B. Estimated Effect of Census 2000 Undercount on Eight Federal Grant Programs: All States and the District of Columbia, Fiscal Years 2002-2012 [Millions of Dollars]



Source: PricewaterhouseCoopers calculations.

Figure C. Estimated Effect of Census 2000 Undercount on Eight Federal Grant Programs: 25 Selected Counties with Largest Funding Loss, Fiscal Years 2002-2012 [Millions of Dollars]



Source: PricewaterhouseCoopers calculations.

I. INTRODUCTION

The Presidential Members of the United States Census Monitoring Board retained PricewaterhouseCoopers LLP (PwC) to conduct an independent estimate of the funding effects of the Census 2000 undercount, based on undercount rate estimated by decennial census expert and Temple University statistics professor Dr. Eugene P. Ericksen. PwC was asked to project the undercount's effects on the allocation of federal funds among states and selected counties over the next decade.

This report updates the results of the March 2000 PwC report[1] which was based on projections of the Census 2000 undercount rate made before Census 2000 was completed.

Estimates of the Census 2000 undercount at the state and selected county levels are presented in this report. These undercounts are derived from undercount rates estimated by the Census Bureau and extended by Dr. Eugene P. Ericksen of Temple University. Using these undercount estimates, we calculate adjusted population counts for the states and selected counties for comparison with the Census 2000 counts.

Additionally, the impact of the Census 2000 undercount on the allocation of federal funds to states and selected counties is estimated in this report. Formula allocations under federal grant programs that depend on population counts were calculated with unadjusted and then adjusted population figures to estimate the change in federal funds flowing to each state. Changes in funding levels at the state level were then translated into changes at the county level.

The main findings of the report are summarized in the final section.

Six appendices accompany this report:

1. Appendix A reports Census 2000 state population totals (adjusted and unadjusted) along with estimated undercounts and undercount rates of persons over and under 18 years of age.
2. Appendix B shows 2000 population totals by selected county with and without adjustments for the estimated undercount along with number of persons missed and the undercount rate.
3. Appendix C describes the federal programs analyzed in this report.
4. Appendix D provides detailed information on the estimated funding effects of the Census 2000 undercount by state by program.
5. Appendix E provides details on the funding effects for selected counties.

[1] "Effect of Census 2000 Undercount on Federal Funding to States and Local Areas," 2002-2012 (March 2000).

II. ESTIMATE OF CENSUS 2000 UNDERCOUNT

A. Methodology Used by the Census Bureau and Dr. Ericksen

For the 2000 Census, the Census Bureau conducted the Accuracy and Coverage Evaluation (A.C.E.) survey, the successor to the Census 1990 Post-Enumeration Survey (PES), to determine the accuracy of the census count. Historically the census has not achieved an exact count of the population because it has missed certain individuals and incorrectly enumerated others.[2] For the A.C.E. survey, the Bureau conducted detailed interviews with a sample of households. The results of this intensive interview process can be compared to the official 2000 census enumeration to assess the accuracy of the census. This information can be used to estimate the net undercount (persons missed less persons incorrectly enumerated) by geographic region or demographic group, and to prepare an adjusted 2000 population count (i.e., the official count plus an estimate of net uncounted persons).

The A.C.E. survey established undercount adjustment factors for 448 post-strata (e.g., Black renters in small Metropolitan Statistical Areas or White owners in large Metropolitan Statistical Areas in the North). From the results of the A.C.E. survey, the Census Bureau developed undercount rates for the 50 states, and the District of Columbia. Dr. Eugene P. Ericksen, a census expert and professor of statistics at Temple University, working on behalf of the Presidential Members of the U.S. Census Monitoring Board, has reviewed the estimates of the state undercount rates and extended the analysis for counties with population in excess of 500,000 plus Richmond County (Staten Island), NY.[3]

For the states and the District of Columbia, Dr. Ericksen obtained the undercount adjustment factors from a file that the Bureau provided. The file contains adjustment factors for 448 post-strata for each of the 50 states plus the District of Columbia.[4] For each state-level post-stratum, Dr. Ericksen divided the dual system undercount estimate by the census count to calculate the adjustment factor, or ratio. Dr. Ericksen then created a weighted average of the adjustment factors, where the population shares in the post-strata were the weights. For the large county undercount rate estimates, Dr. Ericksen did not have the exact distributions of post-strata populations by county, but he approximated them with 2000 Census state totals by racial group and 1990 census data sorted by racial group and housing tenure.

[2] Incorrect enumerations would arise from the inclusion of a child born after April 1, a person who died before April 1, or a college student living away from home but counted in the parents' house instead of his or her usual place of residence.

[3] Dr. Ericksen's estimates, like the Census Bureau rate upon which they are based, are for non-group-quarters residents. For this study we will be assuming that the undercount rate for group-quarters residents is comparable by state and post-strata.

[4] Access to this file was given to the Census Subcommittee, the National Academy of Sciences, and the Census Monitoring Board in February 2001.

B. Estimated 2000 Undercount by State

Based on the Census Bureau's methodology, the undercount rate for the non-group-quarters population in Census 2000 is estimated to be 1.18 percent or nearly 3.3 million persons. Assuming the same undercount rate for the group-quarters population, Dr. Ericksen estimates a total national undercount of 3.4 million (see Table 1).[5] Table A-2 in Appendix A shows net undercount rates by state for populations over and under 18 years of age. Children have undercount rates that exceed the national average. Nationally, persons under the age of 18 are estimated by Dr. Ericksen to have an undercount rate of 1.56 percent[6] of the actual population, resulting in over 1.1 million uncounted children. Consequently, funding programs targeting children, such as the Child Care and Development Block Grant, are especially vulnerable to the undercount.[7]

Four states account for nearly 40 percent of the estimated Census 2000 undercount: California (522,796), Texas (373,567), New York (209,123), and Florida (200,670). States (plus the District of Columbia) with the highest percentage undercounts are Alaska (2.67 percent), Hawaii (2.16 percent), the District of Columbia (2.15 percent), New Mexico (1.94 percent), and Texas (1.76 percent). States with the lowest undercount rates are Minnesota (0.29 percent), Missouri (0.46 percent), North Dakota (0.47 percent), Iowa (0.48 percent), Nebraska (0.56 percent), and South Dakota (0.56 percent).

[5] The Census Bureau excluded the group-quarters population (7.8 million persons) from its undercount estimates. In order to evaluate the funding effects, we require an undercount estimate for the entire population. We assumed that the undercount rate for the group-quarters population equals the undercount rate for the non-group-quarters population. Assuming that the group-quarters population is undercounted at the same rate as the non-group-quarters population implies a national undercount of 3.4 million persons and an overall national undercount rate of 1.18 percent. The alternative assumption of a perfect count of the group-quarters population would not materially affect our results. Source: Report of the Executive Steering Committee for Accuracy and Coverage Evaluation Policy, March 1, 2001 and Dr. Eugene Ericksen, Estimates of State and County Undercount Rates, May 1, 2001.

[6] In the Report of the Executive Steering Committee for Accuracy and Coverage Evaluation Policy, March 1, 2001, the Census Bureau reports a national undercount for the under 18 population of 1.54 percent.

[7] See the GAO report for a detailed description of the funding formulas. General Accounting Office, Formula Grants: *Effects of Adjusted Population Counts on Federal Funding to States,* GAO/HEHS-99-69, February 1999.

Table 1. Estimated Census 2000 Undercount by State

State	2000 Population Projections		Estimated 2000 Census Undercount	
	Without adjustment for undercount	With adjustment for undercount	Number[a]	Rate[b]
United States	281,421,906	284,777,491	3,355,585	1.18
Alabama	4,447,100	4,500,658	53,558	1.19
Alaska	626,932	644,130	17,198	2.67
Arizona	5,130,632	5,205,064	74,432	1.43
Arkansas	2,673,400	2,708,063	34,663	1.28
California	33,871,648	34,394,444	522,796	1.52
Colorado	4,301,261	4,356,148	54,887	1.26
Connecticut	3,405,565	3,438,923	33,358	0.97
Delaware	783,600	795,533	11,933	1.50
District of Columbia	572,059	584,629	12,570	2.15
Florida	15,982,378	16,183,048	200,670	1.24
Georgia	8,186,453	8,309,433	122,980	1.48
Hawaii	1,211,537	1,238,281	26,747	2.16
Idaho	1,293,953	1,315,528	21,575	1.64
Illinois	12,419,293	12,527,025	107,732	0.86
Indiana	6,080,485	6,127,668	47,183	0.77
Iowa	2,926,324	2,940,438	14,114	0.48
Kansas	2,688,418	2,706,279	17,861	0.66
Kentucky	4,041,769	4,092,102	50,333	1.23
Louisiana	4,468,976	4,529,674	60,698	1.34
Maine	1,274,923	1,292,108	17,185	1.33
Maryland	5,296,486	5,371,690	75,204	1.40
Massachusetts	6,349,097	6,397,720	48,623	0.76
Michigan	9,938,444	10,009,512	71,068	0.71
Minnesota	4,919,479	4,933,787	14,308	0.29
Mississippi	2,844,658	2,880,375	35,717	1.24
Missouri	5,595,211	5,621,068	25,857	0.46
Montana	902,195	916,585	14,390	1.57
Nebraska	1,711,263	1,720,900	9,637	0.56
Nevada	1,998,257	2,032,401	34,144	1.68
New Hampshire	1,235,786	1,249,910	14,124	1.13
New Jersey	8,414,350	8,512,241	97,891	1.15
New Mexico	1,819,046	1,855,034	35,988	1.94
New York	18,976,457	19,185,580	209,123	1.09
North Carolina	8,049,313	8,160,293	110,980	1.36
North Dakota	642,200	645,233	3,033	0.47
Ohio	11,353,140	11,418,224	65,084	0.57
Oklahoma	3,450,654	3,499,649	48,995	1.40
Oregon	3,421,399	3,465,410	44,011	1.27
Pennsylvania	12,281,054	12,382,591	101,537	0.82
Rhode Island	1,048,319	1,057,306	8,987	0.85
South Carolina	4,012,012	4,060,741	48,729	1.20
South Dakota	754,844	759,095	4,251	0.56
Tennessee	5,689,283	5,760,133	70,850	1.23
Texas	20,851,820	21,225,387	373,567	1.76
Utah	2,233,169	2,263,729	30,560	1.35
Vermont	608,827	618,161	9,334	1.51
Virginia	7,078,515	7,173,928	95,413	1.33
Washington	5,894,121	5,978,417	84,296	1.41
West Virginia	1,808,344	1,830,122	21,778	1.19
Wisconsin	5,363,675	5,401,485	37,810	0.70
Wyoming	493,782	501,607	7,825	1.56

Source: PricewaterhouseCoopers calculations.

[a] Adjusted minus unadjusted 2000 population projections. Dr. Ericksen's undercount totals are slightly larger than those estimated by the Census Bureau (which excluded the group-quarters population from its analysis). For further explanation see footnote 6 on page 3.

[b] Undercount as a percent of adjusted population. Source: U.S. Census Bureau and Dr. Eugene Ericksen, *Estimates of State and County Undercount Rates*, May 1, 2001.

II. FUNDING EFFECT OF CENSUS 2000 UNDERCOUNT

A. Federal Programs Analyzed

This study examines the effect of the Census 2000 undercount on the allocation of funds under eight federal grant programs: (1) Medicaid; (2) Foster Care; (3) Rehabilitation Services Basic Support; (4) Social Services Block Grant; (5) Substance Abuse Prevention and Treatment Block Grant; (6) Adoption Assistance; (7) ChildCare and Development Block Grant; and (8) Vocational Education Basic Grants.These eight programs account for all of the funding shifts identified in the GeneralAccounting Office (GAO) study of the effects of the 1990 census undercount onfederal funding to states in fiscal year 1998. [8]

The GAO study focused on 25 large formula grant programs, whose funding represented 90 percent of the total federal grants affected by the census undercount. Of the 25 programs analyzed in the GAO study, ten programs (amounting to $21 billion in 2001) were excluded because their funding formulae depended on population variables for which undercount rates are not available (e.g., the population below the poverty line). Of the remaining 15 programs, five of the programs (amounting to $43 billion) were not affected by the undercount because the formulae had components which made the undercount immaterial. Two programs (amounting to $2 million) used population figures adjusted for the undercount.[9]

The remaining eight programs (listed in Table 4) were affected by the undercount. These programs represent over 87 percent of the funding under major programs that depend on unadjusted census counts.

Table 4: Federal Grant Programs and FY 2001 Obligations

[Obligations in billions of dollars; Major programs affected by census undercount]

Program	Obligations
Medicaid	$130.0
Foster Care	5.1
Rehabilitation Services Basic Support	2.4
Child Care and Development Block Grant	2.0
Social Services Block Grant	1.7
Substance Abuse Prevention and Treatment Block Grant	1.7
Adoption Assistance	1.2
Vocational Education Basic Grants	1.1
Subtotal, eight programs included in study	**145.1**
Total for major grant programs affected by undercount	**$166.6**

Source: Budget of the United States, FY 2002, GAO, and PricewaterhouseCoopers calculations.

[8] General Accounting Office, *Formula Grants: Effects of Adjusted Population Counts on Federal Funding to States,* GAO/HEHS-99-69, February 1999.

[9] These two programs, administered by the Department of Labor, rely on estimates of the civilian labor force. If the Department of Labor does not adjust its estimates of the labor force, these programs would also be affected by the undercount.

B. Current Services Funding Levels over FY 2002-2012 Period

Depending on the first year of impact, Census 2000 will affect federal grant allocations over the 2002-2011 or the 2003-2012 period.[10]

For each of the eight federal grant programs analyzed in this report, the Administration's FY 2002 budget projects Current Services funding levels through 2011. The Current Services Budget estimates funding levels necessary to continue programs at a level equal to the most recently funded year (i.e., 2001 for the 2002 budget). In essence, it is a prediction of the funding necessary to support current law expenditures over the budget period.

The Current Services Budget projects that funding of *discretionary* programs will grow with inflation. Unlike entitlement programs, the funding of discretionary programs is dependent on the annual Congressional appropriations process. Three of the eight federal grant programs included in this study are classified as discretionary: (1) Substance Abuse Block Grant, (2) Vocational Education, and (3) Child Care and Development Block Grant.

The Current Services Budget projects that funding for *entitlement* programs will grow with the underlying eligible population and inflation. Three of the federal programs included in this study are classified as entitlement programs: (1) Medicaid, (2) Foster Care, and (3) Adoption Assistance.

The remaining two programs included in this study, Social Services Block Grant and Rehabilitation Services, are *mandatory* programs that are projected to grow at rates consistent with their enacting legislation.

The fiscal year 2002 budget includes Current Services funding levels through 2011. Funding levels for four programs included in this study were extrapolated through 2012 based on the growth rates projected by the Office of Management and Budget over the FY 2002-2011 budget period (see Table 5).

Current Services funding levels for the Substance Abuse Block Grant are extrapolated through 2012 using the annual Office of Management and Budget general budget inflator for the 2003-2011 period of 2.2 percent. The Current Services Budget projects slowing growth for the entitlement programs, and this trend is assumed to continue through 2012. No extrapolations were necessary for the mandatory programs because the 2000 Census will affect their funding allocations over 2002-2011, the current budget period.

Assuming the Current Services spending levels, census population counts from Census 2000 ultimately will be used to distribute $2.5 trillion over the 2002-2012 fiscal year period.

[10] This report assumes that the effects of Census 2000 are not incorporated until 2000 population figures are used in allocation formulas. If population estimates from earlier years, such as 1999, are adjusted consistent with Census 2000, allocations could be affected before 2002.

C. Funding Effect of Census 2000 Undercount on States

State allocation shares under federal grant programs are determined before the onset of the funding year; thus, state allocations for the current year are based on population estimates from several years earlier. The Census Bureau publishes population estimates for the years between decennial censuses. These estimates are based on the decennial population enumeration and are updated using administrative records (e.g., birth and death certificates). Consequently, errors in the decennial population count persist for ten years, until the next census enumeration. Consequently, the Census 2000 undercount will affect federal grant allocations over a ten-year period.

For example, the funding formula for the Social Services Block Grant program depends on population estimates from the second prior year. Thus, Census 2000 will affect Social Services Block Grant allocations over the 2002-2011 period. For the eight programs included in this report, Census 2000 will first affect grant allocations in either 2002 or 2003, and the effect will persist over the 2002-2011 or 2003-2012 period, depending on the program.

The effect of the Census 2000 undercount on the allocation of federal funds to states initially was calculated for a base year and then extrapolated over the 2002-2012 period. The base year for each grant program was determined as: the first year affected by the 2000 census figures or the most recent year for which data were available for all of the variables (other than population) in the funding formula. For most programs, 2002 was the base year used in the calculations. Because data for some of the formulae were not available to calculate the 2002 allocation, the base year for the corresponding programs is 2001. For example, the formula for Vocational Education depends on per capita personal income by state as released by the Bureau of Economic Analysis (BEA) for the second preceding year. Final per capita personal income figures are available for 1999; consequently, the base year for the Vocational Education program is 2001.

Once a base year was established for each program, we calculated state funding allocations using both official and adjusted 2000 state population projections. These calculations take into account all elements of the current funding formulae, including hold harmless and minimum share provisions. Each state's share of national program funding in the base year was then determined under both the official and adjusted 2000 population projections. The difference between these two shares of national program funding is an estimate of the impact of the Census 2000 undercount on the state's allocation of federal funds. For example, suppose that a state's share of federal program funds increases from 3.0 percent to 3.1 percent, in the base year, as a result of using adjusted versus official 2000 population projections. For this state, the effect of the Census 2000 undercount is estimated to be a loss of 0.1 percentage points (3.1 percent minus 3.0 percent) of national program funding.

For the eight federal grant programs analyzed in this study, the Census 2000 undercount is estimated to reduce federal funding in 31 states and the District of Columbia by $4.l billion over the 2002-2012 period (see Table 6). In 2003 alone, the undercount is estimated to reduce federal funds allocated to these states by $277 million. By comparison, the General Accounting Office estimated that the effect of the 1990 census undercount on these federal programs was to shift $449 million among states in 1998. Because the estimated 2000 undercount is both smaller and more uniform across jurisdictions than the estimated 1990 undercount, the total amount of federal funds reallocated is smaller.

States that are counted relatively well in the census are estimated to receive higher levels of federal funding as a result of the undercount; however, the additional federal funds received by these states

are less than the loss of federal funds in the other states. The effect of census undercounts on the federal funding of *entitlement* programs is not a "zero-sum game" among the states because an increase in funding to one state does not require a reduction in funding to other states. For the federal programs analyzed in this study, federal funds allocated to all 50 states and the District of Columbia are estimated to be $478 million less over the 2002-2012 fiscal year period as a result of the Census 2000 undercount.

The loss of funds over the 2002-2012 period for the eight analyzed programs ranges from $26 per undercounted person in Colorado to over $6,300 per person missed by the census in Alaska (see Table 7).[11] In 2003, the first year fully impacted by the undercount, the funding loss in 31 undercounted states and the District of Columbia averages $114 per uncounted individual. This figure is less than GAO's 1998 estimate of $145 per uncounted individual, which was based on the higher 1990 undercount rate.

Of the eight federal programs analyzed in this report, Medicaid accounts for 92 percent of the federal funds that would be shifted as a result of the Census 2000 undercount. As a percent of total program funding, the programs most affected by theCensus 2000 undercount are Vocational Education (0.28 percent) and Rehabilitation Services (0.27 percent).[12] Table 8 summarizes the impact of the Census 2000 undercount by program.

D. Funding Effect of Census 2000 Undercount on Counties

This section analyzes the effect of the Census 2000 undercount on counties. The county effects are estimated under the assumption that states allocate federal funds among county in proportion to their official census population counts.

The Census 2000 undercount can affect federal funding to counties in two ways. First, the undercount at the state level affects the allocation of funds among the states, which alters the amount of funds that states have available to pass through to local governments (the "between-state" funding effect). For example, the Census 2000 undercount is estimated to cause the state of Illinois to receive a larger share of the federal funds under the programs analyzed than it would with an accurate census count (other states, therefore, receive a smaller share because of the undercount). Counties in the state, such as Cook County (Chicago), benefit from the fact that the state receives these additional funds. The *between-state* effect measures the effect on metropolitan areas of the funding shifts among the states due to the census undercount.

Second, the undercount at the local level may affect a state's allocation of federal funds among its counties (the "within-state" funding effect). Assuming the state allocates funds to local areas within the state using population counts, any undercount would distort the flow of funds within the state. Because Cook County is estimated to experience a high undercount rate relative to the other areas in

[11] Because of statutory provisions that guarantee minimum reimbursement rates, Medicaid funding for certain states would remain the same using either adjusted or unadjusted population counts. Some states, like New York, receive the minimum reimbursement of 50 percent of state expenditures under adjusted or unadjusted figures. The District of Columbia has a reimbursement rate set by statute at 70 percent. These areas experience significant undercounts, but the Medicaid minimum reimbursement provisions limit the federal funding losses from the undercount. Table D-5 in Appendix D lists the effect of the census undercount on state funding levels under the Medicaid program.

[12] These percentages translate into $33 million for Vocational Education and $72 million for Rehabilitation Services.

Illinois, it receives a smaller share of the state funds than it would have gotten under an accurate census count. Therefore, it experiences a negative within-state effect. The *within-state* effect measures the impact of the undercount on funding allocations within states.

The "net" funding effect of the census undercount on a county is the sum of the between-state and within-state funding effects. Because the between-state and within-state effects could have the same or different signs, the *net* effect could be larger or smaller than the between-state or within-state effects alone.

1. Between-State Funding Effect

For the counties within each state, the between-state funding effect was estimated in two steps. The effect of the Census 2000 undercount on the state's level of federal funding was first calculated for the 2002-2012 period (see section III.C., above). The funding effect at the state level was then apportioned among the counties in proportion to their *unadjusted* population counts. Thus, counties in states that lose federal funding as a result of the Census 2000 undercount are each estimated to share proportionately in this funding loss.

2. Within-State Funding Effect

For the counties within each state, the within-state funding effect was estimated in four steps. First, the state's share of federal funding over the 2002-2012 period was determined based on adjusted 2000 population counts (as described in section III.C., above). Second, state funding was apportioned among the counties in proportion to their estimated 2000 *adjusted* census counts. Third, state funding was apportioned among the counties in proportion to their 2000 *official* (unadjusted) census counts. Finally, the within-state funding effect was estimated by subtracting the county funding levels determined in step two (based on *adjusted* population counts) from step three (based on *official* population counts).

Counties with an undercount rate higher than the overall state average have a negative within-state funding effect, while relatively well counted areas have a positive within-state funding effect.

3. Net Funding Effect

For the counties within each state, the net funding effect of the Census 2000 undercount over the 2002-2012 period was calculated as the sum of the between-state and within-state funding effects. For any county, these two funding effects can work in the same or opposite directions. For example, Cook County is estimated to have a *positive* $9 million *between-state* funding effect, because the State of Illinois is relatively well counted by the census. However, Cook County is estimated to have a *negative* $202 million *within-state* funding effect because it is relatively poorly counted by the census compared to other jurisdictions within the state. Thus, the *net*federal funding effect in Cook County of the Census 2000 undercount is *negative* $193 million ($9 million less $202 million) over the 2002-2012 period, because the funding loss from the within-state effect is larger than the funding gain from the between-state effect. The federal funding loss to the 58 largest counties adversely affected by the undercount is estimated to reach $3.6 billion over the period, or an average of $2,913 per uncounted person in these jurisdictions.

Table 9 shows the net funding effect of the Census 2000 undercount on the 25 counties that are estimated to experience the largest loss in federal funding over the 2002-2012 period. The five counties

expecting the largest funding loss from the Census 2000 undercount are Los Angeles County, CA ($636 million), Bronx County, NY ($362 million), Kings County, NY ($269 million), Harris County, TX ($234 million), and New York County, NY ($212 million). Results for all 112 selected counties are shown in Appendix E.

This analysis only considers the effect of the Census 2000 undercount on *federal* funds allocated to local governments. Because a variety of *state* grant programs are also distributed to local governments on the basis of official population counts, the total shift in funds from federal and state grant programs will likely be larger than the estimates in this report.