



Population Estimates and Projections

U. S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF THE CENSUS

Series P-25, No. 556

Issued April 1975

1973 POPULATION AND 1972 PER CAPITA INCOME ESTIMATES FOR COUNTIES IN HAWAII

This report is one of a series containing current estimates of the population and per capita money income for selected areas in each State. The population estimates relate to July 1, 1973 and the estimates of per capita income cover 1972. Areas included are all counties and incorporated places in the State plus active minor civil divisions—commonly towns in New England, New York, and Wisconsin, or townships in other parts of the United States.¹ These State reports appear in **Current Population Reports**, Series P-25, in alphabetical sequence as report number 546 (Alabama) through 595 (Wyoming). A list indicating the report number for each State is appended. No report is to be released for the District of Columbia, but a U.S. report containing selected summary data is being issued.

Table 1 shows July 1, 1973 estimates of the population of each area together with adjusted April 1, 1970 census populations (see "Population Base" section below) and percent change. In addition, the table presents per capita money income estimates for 1972 plus 1969 per capita income as reported in the 1970 census. Percent change in per capita income is shown only for areas of 500 or more population in 1970.

The estimates are presented in the table in county order, with all incorporated places in the county listed in alphabetical order followed by any minor civil divisions, also in alphabetical order. Minor civil divisions (MCD's) are always identified in the listing by

¹ In certain midwestern States (Illinois, Minnesota, Missouri, Nebraska, and the Dakotas) some counties have active minor civil divisions while others do not.

the term "township," "town," or other MCD category. Where incorporated places fall into more than one county, each county piece is marked "part," and totals for these places are presented at the end of the table.

These estimates were developed to provide updates of the data elements used in Federal revenue sharing allocations under the State and Local Fiscal Assistance Act of 1972. Below the State level the estimates of per capita income were obtained by updating the per capita value directly rather than by updating of population and aggregate money income. Consequently, for these areas the estimates of per capita income to a large extent were derived independent of the population estimates.²

POPULATION ESTIMATES METHODOLOGY

To estimate the population of each county subarea a component procedure was used, with each of the components of population change (births, deaths, and

² Under the Act allocations at the State level are based on the interaction of "tax effort," population, and per capita income. Below the State level the allocations are essentially determined by "tax effort" and per capita income, although population is used as a constraint and for deriving control totals for income aggregates. For a detailed discussion of the methodologies used in updating population, per capita income, and "tax effort" for Federal revenue sharing allocations and of the allocation process see U.S. Bureau of the Census, **Census Tract Papers**, Series GE-40, No. 10, "Statistical Methodology of Revenue Sharing and Related Estimate Studies," U.S. Government Printing Office, 1974.

net migration) estimated separately. To the 1970 census population base for each area the following components were added:

1. An estimate of natural increase (the excess of births over deaths) based on reported birth and death statistics or on estimated figures where reported data were not available;
2. An estimate of net migration developed from individual administrative records; and
3. An estimate of change to "special" populations not accounted for in (1) and (2).

For counties this estimates procedure was modified to relate to the population under 65 years of age, with change in the population 65 years and over estimated by adding change in reported Medicare enrollment, 1970 to 1973, to the 1970 census count 65 years and over. Medicare enrollment statistics were not available below the county level for application of this modification to incorporated places and MCD's.

Population Base. The 1970 population base is the 1970 census count updated to reflect all population "corrections" made to the data after the initial tabulations as well as changes due to new incorporations, disincorporations, and annexations.

Adjustments to the 1970 population base were made for annexations where the 1970 population of the annexed area was 1,000 or more or where at least 250 people and 5 percent of the 1970 population were involved.³ Annexations through December 31, 1973 are reflected in the estimates. For reported new incorporations occurring after 1970 the 1970 population within the boundaries of the new areas are shown in the table. This geographic updating is accomplished largely as a result of an annual boundary and annexation survey conducted by the Bureau.⁴

Natural Increase. For the natural increase component, annual births and deaths for 1970 through 1972 were compiled from State vital statistics offices for counties and for as many smaller areas as were available. This was supplemented by data from the National Center for Health Statistics for about 300 cities of 10,000 or more not covered by the State agencies.

In most States these data were not available for all areas to be estimated within a given county. For these areas not specifically reported, births and deaths were allocated on the basis of the 1970 census population.

Net Migration. Net migration was estimated by developing a net migration rate for each geographic area for the estimation period (1970-1973) based on administrative record data and applying this rate to the appropriate 1970 population base. Net migration from the administrative records was developed as follows:

1. The individual administrative records—Federal individual income tax returns—were matched by Social Security number for reporting years 1969 and 1972, and the place of residence of the matched filer noted for each year.

2. A migration matrix was then developed for the matched cases for 1970 and 1973 geographic residences based on the reporting of residence in the administrative record at the time of filing.

3. In-migrants, out-migrants and net migrants (ins minus outs) for each area were thus noted, and net migration rates were computed for each area based on the exemptions claimed on returns matched for the two years (excluding exemptions for age and blindness).

4. These net migration rates for the matched cases were then assumed to apply to the total population.

Adjustment for Special Populations. In addition to the estimates of natural increase and net migration, adjustments were incorporated into the estimates for each area when necessary to account for changes in population that would not be fully reflected in the migration component derived from the administrative records. Among these populations were immigrants from abroad, institutional inmates, college students, and Armed Forces.

By definition immigrants arriving since 1970 could not be in the 1969 tax file. Consequently net immigration for the period 1970 to 1973 was estimated by using the Immigration and Naturalization Service's reported number of aliens intending to reside in States and in cities of 100,000 and over. For the remaining parts of States outside cities of 100,000 and over, the reported immigrants were allocated on the basis of the distribution of foreign born population in the 1970 census, with a minimum adjustment of 50.

Changes in institutional inmates, college enrollment, and resident military population were generally not adequately reflected in either the net migration or

³ Adjustment was made also for a limited number of "unusual" annexations where the annexation for an area did not meet the minimum requirements but was accepted by the Office of Revenue Sharing for inclusion in the population base.

⁴ U.S. Bureau of the Census, Series GE-30, No. 1, **Boundary and Annexation Survey, 1970-73**, U.S. Government Printing Office, 1975.

natural increase components. These changes were monitored over the three years, and significant changes were incorporated as special adjustments.

Annexations and New Incorporations. New incorporations since 1970 were estimated by determining the 1970 population of the area now incorporated, assigning natural increase on a pro rata share of the births and deaths not specifically assigned to other places in the county, and assuming the net migration rate of the unincorporated balance of county. Annexations through 1972, when recognized (see "Population Base" above), were allowed for by adjusting the 1970 base population of the place by the population of the annexed area, and the annexed area thus was assumed to share the migration rate of the incorporated place annexing it. For annexations occurring in 1973 the growth rate of the area being annexed from was used.

Other Adjustments. For areas of under 1,000 population, the net migration rates used in the estimation process were not those derived specifically for each area; rather the overall county migration rate was used. In addition a detailed review was made for all areas to resolve problems arising from incorrect geographic codes in developing the migration matrix.

For all areas regardless of population size where special censuses (Federal or State conducted) were taken close to the estimate date, such special census results were incorporated in the estimate. In several States, the subcounty estimates were also merged with estimates for geographic areas provided by State agencies participating in the Federal-State Cooperative Program for Local Population Estimates. These occurred in seven States—California, Connecticut, Florida, New Jersey, Oregon, Washington, and Wisconsin.

The estimates for the geographic areas in each county were adjusted to an independent county estimate which represents the average of the results of the administrative record-based estimate for the county with the county estimate for 1973 derived from the Federal-State Cooperative Program (FSCP). For all but 11 States the administrative records estimate at the county level was weighted equally with a provisional 1973 FSCP estimate. For the States of Arizona, Colorado, Hawaii, Maine, Maryland, Nebraska, Rhode Island, South Dakota, Utah, Vermont, and Wyoming, however, revised 1973 FSCP estimates were available. In view of this, the FSCP estimates in these States were given two-thirds weight inasmuch as the revised FSCP estimates themselves are the average of the results of two separate methods.

County estimates in turn were adjusted to be consistent with independent State estimates published by the Census Bureau in **Current Population Reports**, Series P-25, No. 533, in which the administrative record-based estimate was averaged with the P-25 type estimate.⁵

PER CAPITA INCOME ESTIMATES METHODOLOGY

The 1972 per capita income (PCI) figure is the estimated mean or average amount of total money income received during calendar year 1972 by all persons residing in a given political jurisdiction in April 1973. The 1972 PCI estimates are based on data from the 1970 census, or later special censuses, and reflect corrections to the census data as well as changes in income, population, and geographic boundaries which have occurred since 1970.

Total money income is the sum of:

- Wage or salary income
- Net nonfarm self-employment income
- Net farm self-employment income
- Social Security or railroad retirement income
- Public assistance income
- All other income such as interest, dividends, veteran's payments, pensions, unemployment insurance, alimony, etc.

The total represents the amount of income received before deductions for personal income taxes, Social Security, bond purchases, union dues, medicare deductions, etc.

Receipts from the following sources are not included as income: Money received from the sale of personal property; capital gains; the value of income "in kind" such as food produced and consumed in the home or free living quarters; withdrawal of bank deposits; money borrowed; tax refunds; exchange of money between relatives living in the same household; gifts and lump-sum inheritances, insurance payments, and other types of lump-sum receipts.

The 1972 PCI estimates are based on the following data sources: The 1970 census, income and related data from the 1969 and 1972 Federal income tax returns, and a special set of State and county money income estimates prepared by the Bureau of Economic

⁵ For a discussion of the methodologies used in preparing State estimates see **Current Population Reports**, Series P-25, No. 520 and 533.

Analysis. In general terms the method used to produce the 1972 PCI estimates was to carry forward the 1970 census estimates using the above data to measure the change from 1969 to 1972.

State and County Estimates. At the State level, 1972 PCI estimates were developed by carrying forward the 1970 census aggregates for each type of income, i.e., wages and salaries, nonfarm and farm self-employment income, Social Security, public assistance, and "other income," and dividing the sum of these 1972 aggregates for each State by the estimated April 1973 population. The percent change in wage and salary income, as reflected by the IRS data, was used to update the 1970 census wage and salary amount, while the remaining income types were carried forward using the percent change implied in estimates developed by the Bureau of Economic Analysis (BEA).

For the county estimates, the same general technique was used except that, instead of carrying forward the 1970 census aggregates, the per capita amount for each income type was brought forward. The updating of per capita amounts rather than aggregates was done to minimize any errors in the PCI estimates due to errors in the assignment of geocodes to the IRS data and errors in the population estimates. Census wage and salary per capita income amounts were updated using the percent change in the IRS wage and salary per exemption. For the remaining income types, percent change in the BEA per capita amounts were used. The 1972 per capita amounts for each income type were then multiplied by the previously discussed updated population estimates, and the resulting county aggregates were adjusted to the State aggregates. For each county the aggregate amounts for each income type were added to get an estimated 1972 total money income which was then divided by the estimated population to derive the 1972 PCI estimate.

Subcounty Governmental Unit Estimates

Minor civil divisions and independent municipalities. For MCD's with a 1970 population of 1,000 or more and for incorporated places not subordinate to MCD's, the updates were also developed using per capita amounts. Updated census earnings plus "other income" per capita were developed using the percent changes in IRS Adjusted Gross Income per exemption. The estimates for Social Security and public assistance were made by assuming that the 1970 census per capita amounts for these income types grew at the same rate as that for the county.

The PCI estimates for these governmental units with a 1970 population in the 500-999 range were computed by applying the average percent change in PCI

for the county, excluding large places (10,000+ population), to their 1970 census PCI. PCI estimates for these governmental units with a 1970 population of less than 500 were assumed to be equal to the average PCI of the county excluding any large places. The subcounty estimates were adjusted to the county estimates to insure conformity.

Municipalities subordinate to minor civil divisions. The PCI estimates for these places with a 1970 population of 500 or more were made by applying rates of changes for the entire MCD to the 1970 census estimates for these areas. For such places with a 1970 population of less than 500, the PCI was assumed to be equal to that of the township. These subtownship estimates were then adjusted to the township estimates to insure conformity.

COMPARABILITY OF "MONEY INCOME" WITH "PERSONAL INCOME"

The income data presented in this report are not directly comparable with estimates of personal income prepared by the Bureau of Economic Analysis of the Department of Commerce (BEA). The lack of correspondence stems from the following differences in definition and coverage.

1. **Income definition.** The personal income series include, among other items, the following types of money and nonmoney income which are not included in the census definition. Wages received in kind; the value of food and fuel produced and consumed on farms; the net rental value of owner-occupied homes and farm dwellings; imputed interest; property income received by mutual life insurance companies; self-administrated pension trust funds; and nonprofit institutions; income retained by fiduciaries on behalf of their beneficiaries; and the excess of the accrued interest over interest paid on U.S. Savings Bonds. The Census Bureau definition of income, on the other hand, includes such items as regular contributions for support received from persons who do not reside in the same living quarters, income received from roomers and boarders residing in households, employee contributions for social insurance and income from private pensions and annuities, which are not included in the personal income series.

2. **Coverage.** The 1972 per capita money income estimates shown in this report are based on the income data from a 20 percent sample of the 1970 census. The income of military personnel overseas, and of persons who died or emigrated prior to the date of the census was not reported in the census. The income of these groups is included in the aggregate personal income series.

Furthermore, income data obtained in household interviews are subject to various types of reporting errors which tend to produce an understatement of income. It is estimated that overall, the census obtained about 92 percent of the comparable total money income aggregates derived from the personal income series prepared by the BEA. It should be noted that since the 1972 per capita incomes are built upon the census amounts, they will tend to reflect the same relative "short-fall" as existed in the census.

LIMITATIONS OF THE ESTIMATES

Accuracy of the population estimates. Tests of the accuracy of methods employed in the State and county estimates appearing in **Current Population Reports, Series P-25 and P-26** have been well documented. The results of tests against the 1970 census at the State level are contained in Series P-25, No. 520, while tests for 1970 for counties are summarized in Series P-26, No. 21. Briefly, the State estimates procedure averaging Component Method II and the Regression method yielded average differences of about 1.85 percent when compared with the 1970 census. Subsequent modifications of the two procedures incorporated in estimates for the 1970's would have reduced the average difference in 1970 to 1.2 percent. For counties the 1970 test suggested an average difference of about 4.5 percent for the combination of procedures used. All these differences relate to a 10-year period.

The Administrative Records method, introduced here as a partial weight in the estimates for States and counties and as the basis for estimates below the

county level, has had no possibility of such extensive testing as the other methods. The data series on which the estimates procedure is based has only been available for the entire United States since 1967. Its extensive employment here is based on somewhat more limited testing and a **priori** considerations relating to the extensive coverage of the files. No other methods or sets of data currently available are as pervasive in coverage as these files.

Testing of the administrative records procedure for selected areas has been conducted for the 1968-70 period as well as for 1970 to 1973. The test for 1968-70 focused on counties and cities in the 50,000 to 400,000 population range. The 1970-73 test relates (1) to small areas under 20,000 population where special censuses were taken specifically to test the procedure and, (2) to other areas where special censuses were available for use (none larger than 65,000). Comparisons were also available with other sets of estimates for all States and counties.

Some sense of the reasonableness of the administrative records estimates at the State and county level can be obtained by reviewing them against the "standard" methods already in use to produce estimates for these areas. It should be noted that the differences between the two sets of estimates are not "errors" but rather measure the degree of consistency between the separate and independent estimation systems.

Table A summarizes the percentage differences for 1973 at the State level between the administrative records-based estimates and the Series P-25 type

Table A. PERCENT DIFFERENCE BETWEEN ADMINISTRATIVE RECORDS ESTIMATES AND SERIES P-25 TYPE ESTIMATES FOR STATES: 1973

(Base is Series P-25 type estimates)

Item	All States	Population size in 1970		
		4 million and over	1.5 to 4 million	Less than 1.5 million
Average percent difference (disregarding sign) ¹	0.6	0.3	0.7	0.9
Number of States.....	51	16	18	17
With differences of:				
Less than 1 percent.....	40	16	13	11
1 to 2 percent.....	9	0	4	5
2 to 3 percent.....	2	0	1	1

¹By region: Northeast 0.6 percent; North Central 0.7 percent; South 0.6 percent; West 0.6 percent.

estimates. As can be noted, there is very close agreement between the estimates, with the overall average difference amounting to 0.6 percent. There were no extreme variations in the estimates--all were under 3 percent with no regional or directional biases indicated. The final State estimates used in the estimation system as "controls" for all other geographic areas represent an average of the estimates from these two systems, thus further improving the overall State totals.

Table B summarizes the percentage differences at the county level between the administrative records-based estimates and those prepared as part of the Census Bureau's Federal-State Cooperative Program for Local Population Estimates. The overall difference between the two sets of estimates averages about 3 percent for the more than 3,000 counties (and county equivalents) in the country. The differences vary considerably by size, paralleling the pattern noted in other studies. Generally, tests of accuracy of alternative estimating procedures have shown that the larger the area the smaller the average percent difference in the estimates. In the comparison made here, the average difference in the estimates for counties with populations of 50,000 or more is 2.3 percent, whereas

for counties between 1,000 and 10,000 population it's almost twice as large (4.0 percent). The difference for the 25 smallest counties (those under 1,000 population) runs even higher. With such a small group, however, the overall average differences are heavily affected by a few extreme differences.

There appears to be some regional variation in the differences, but not unusually so. Since size of areas is so important an element in the level of expected accuracy of estimates, part of the regional differences reflects regional size variation in the population of counties. The number of differences in excess of 10 percent was not large (except for the smallest counties, as noted earlier). Overall, the administrative records estimates compare favorably and are highly consistent with those from the Federal-State Cooperative Program, thus imparting a high degree of confidence in the new set of figures. Again, the "final" county estimates used in the estimation system as controls for sub-county areas use averages of administrative records estimates and the Co-op estimates. The final merging of the two sets of estimates should further improve the overall county totals and add a degree of stability for later years.

Table B. PERCENT DIFFERENCE BETWEEN ADMINISTRATIVE RECORDS ESTIMATES AND THE CO-OP ESTIMATES: 1973

(Base is co-op estimates)

Items	All counties	Counties with 1,000 or more population					Counties with less than 1,000 population
		Total	50,000 or more	25,000 to 50,000	10,000 to 25,000	1,000 to 10,000	
Average percent difference (disregarding sign) ¹	3.1	3.0	2.3	2.3	2.9	4.0	18.1
Number of counties or equivalents.....	3,140	3,115	679	568	1,015	853	25
With differences of:							
Less than 1 percent.....	780	780	243	161	211	165	-
1 to 3 percent.....	1,195	1,193	282	255	411	245	2
3 to 5 percent.....	646	642	104	91	239	208	4
5 to 10 percent.....	414	413	46	54	138	175	1
10 percent and over.....	105	87	4	7	16	60	18

- Represents zero.

¹By region: Northeast 1.9 percent; North Central 2.5 percent; South 3.2 percent; West 4.2 percent.

The 1968-70 Test. A test covering the two-year period prior to the 1970 census and using the 1967 and 1969 Federal income tax returns covered 16 counties and eight cities ranging from 54,000 to 386,000 population.⁶ These areas had had special censuses or demonstrated accurate estimates available in the vicinity of 1968 that could be used as a base for evaluation. The average percent difference between the population estimates using administrative records-based data and the census counts was less than two percent for the period (table C).

The 1970-73 Test. For the 1970 to 1973 period comparisons are available for 86 areas where special censuses had been taken for this very purpose. The areas were randomly selected nationwide, and are "representative" of areas with population of less than

20,000. Because of the small number of areas involved, the test can only provide a rough order of magnitudes of the level of differences underlying the population estimates generated for the approximately 36,000 revenue sharing areas below the county level. Comparisons are also available for 165 areas where special censuses were conducted by the Census Bureau at the request and expense of the locality. These are generally very small areas—a large percentage have less than 1,000 population—but range as high as 65,000 population. The areas are usually very fast growing and many have had extensive annexations, thus, they are not "typical" or "representative" of the other areas of the country. As mentioned above, the results of the special census for these 251 areas were utilized in developing their final population estimates.

Table D summarizes the average percent difference between the estimates from administrative records with counts from special censuses for 86 areas where special censuses were conducted by the Bureau of the Census in April and May 1973 specifically for evaluation of the method in estimating small areas. Overall, the estimates differed from the special count by 5.9

⁶ Meyer Zitter and David L. Word, "Use of Administrative Records for Small Area Population Estimates," paper presented at the annual meeting of the Population Association of America, New Orleans, La., April 27, 1973. Available on request to Chief, Population Division, Bureau of the Census, Washington, D.C. 20233.

Table C. PERCENT DIFFERENCE BETWEEN ADMINISTRATIVE RECORDS ESTIMATES AND THE 1970 CENSUS

(Base is census. Period of estimates is 1968-70)

Item	All areas	Incorporated places	Counties	Population of	
				Over 200,000	50,000 to 100,000
Average percent difference (disregarding sign).....	1.8	2.8	1.3	1.9	2.1
Number of areas.....	24	8	16	9	10
With differences of:					
Less than 1 percent.....	12	3	9	3	4
1 to 2 percent.....	2	1	1	2	1
2 to 3 percent.....	6	1	5	2	4
3 to 5 percent.....	2	1	1	2	-
5 percent and over.....	2	2	-	-	1

- Represents zero.

percent, with the largest difference occurring for the smallest areas. Areas of between 1,000 and 20,000 population differed by less than 5 percent—4.6 percent, while the average difference for the 27 areas below 1,000 population was 8.6 percent. There was slight positive directional bias, with about 60 percent of estimates exceeding the census counts. Considering the size of areas involved here, the level of accuracy suggested by these averages is quite good and is in line with expectations on the basis of experience with the aforementioned county estimates. Again we note the impact of size on the expected level of accuracy. Even though all the areas in this part of the test study are relatively small—less than 20,000 population—the larger ones fare much better than the smaller ones. A 4.6 percent average difference for places of between 1,000 and 20,000 population represents an acceptable level of difference for population updates.

For the 86 areas table E shows the relationship between the percent difference in the administrative records estimates and the rate of population change. As might be expected, accuracy of the estimates decreases with increasing rate of growth.

On the other hand, the administrative record-based estimates did not fare as well for the 165 areas for which special censuses had been taken at the request of localities (table F). The average difference for all areas was in excess of 10 percent (13.6); with the very largest differences occurring for the very smallest of areas. The difference is cut almost in half to 7.5 percent if we eliminate places of under 1,000 population from consideration; the difference is further reduced to less than 6 percent (5.9) when only places over 2,500 population are included. There was a strong negative directional bias; all of the estimates understated the population. It should be noted that the places included in this part of the analysis are not representative of all the general areas for which estimates are being generated. Their size, rates of growth, and degree of annexations taking place make them "unique" and difficult candidates from the point of view of population estimation. The poor showing of the estimates here illustrates the many problems associated with measuring population change for such areas. Yet, it should be pointed out that the updates, even under these circumstances, are much better approximations of the current population than the 1970 census counts.

For the 165 special census areas table G indicates the same general pattern of decreasing level of accuracy with increasing rate of growth. Here, however, there is

clear indication that the percent difference on the average is far below the growth rate. For high-growth areas, despite the fact that percent differences are sometimes relatively high, the estimate is much closer to the true population than is the 1970 census count.

Accuracy of the Per Capita Income Estimates. Similar types of analyses and evaluation are not available for the estimates of PCI (per capita income). Income data and PCI are available for the 86 areas in which special censuses were conducted for this purpose. As noted, the areas in which the censuses were taken were relatively small; thus the PCI estimates which were built up from the 1970 census PCI are subject to substantial sampling variability. In 90 percent of the cases, the differences between the estimated PCI and those obtained in the special censuses were within sampling variability at the 95 percent level of confidence. In effect, PCI did not change enough in the 1970-72 period in most instances to move outside of the relatively large range of sampling variability associated with the 1970 census results. Thus, it is not possible to obtain a reliable reading or even rough approximations on the accuracy of the updated PCI using the 86 areas as standards.

Summary Evaluation. The above analysis suggest that the population estimation system using administrative records yields results that compare favorably with existing methods and provides acceptable estimates, systematically, in geographic detail on a current basis not available from any other known source (short of a full-scale census). The margin of these differences is reasonable and within the limit of what might be expected of such intercensal estimates. The level of accuracy of the estimates implied by the test results would appear to be acceptable for most uses where current population figures are required. It is in line with the quality level recommended or proposed for a variety of legislative purposes. For example, it has been proposed that sample survey data to be used, in part, for the Comprehensive Employment and Training Act (CETA) and the Amendment of 1974 to the Elementary and Secondary School Act provide figures with a coefficient of variation in the neighborhood of 10 percent, a difference of the same general magnitude as the largest of the average shown here for the smaller areas. That the system yields figures for all geographic areas in the country—States, counties, cities, townships, etc.—systematically and at about the same time is, in itself, a significant advantage.

Table D. PERCENT DIFFERENCE BETWEEN ADMINISTRATIVE RECORDS ESTIMATES AND 86 SPECIAL CENSUSES: 1973

(Base is special census)

Area	Average percent difference ²	Number of areas with differences of			
		Under 3 percent	3 to 5 percent	5 to 10 percent	10 percent and over
All areas (86) ¹	5.9	32	18	20	16
1,000 to 20,000 (59).....	4.6	26	13	14	6
Under 1,000 population (27).....	8.6	6	5	6	10

¹All areas have population of under 20,000.

²Disregarding sign.

Table E. AVERAGE PERCENT DIFFERENCE BETWEEN ADMINISTRATIVE RECORDS ESTIMATES AND 86 SPECIAL CENSUSES BY RATE OF POPULATION CHANGE, 1970 TO 1973

(Base is special census)

Rate of change, 1970 to 1973	Average percent difference ¹	Total number of places	Distribution of differences between estimate and special census				
			Less than 3 percent	3 to 5 percent	5 to 10 percent	10 to 20 percent	20 percent and over
All areas.....	5.9	86	32	18	20	15	² 1
Less than 3 percent..	2.4	21	17	2	2	-	-
3 to 5 percent.....	3.6	22	9	8	5	-	-
5 to 10 percent.....	6.9	21	3	6	8	4	-
10 to 20 percent....	10.6	17	3	1	3	9	² 1
20 to 30 percent....	10.4	4	-	1	1	2	-
30 to 50 percent....	7.2	1	-	-	1	-	-

- Represents zero.

¹Disregarding sign.

²30 to 50 percent.

Table F. PERCENT DIFFERENCE BETWEEN ADMINISTRATIVE RECORDS ESTIMATES AND 165 OTHER SPECIAL CENSUSES: 1973

(Base is special census)

Area	Average percent difference ¹	Number of areas with differences of			
		Under 3 percent	3 to 5 percent	5 to 10 percent	10 percent and over
All areas (165).....	13.6	48	25	26	66
1,000 to 65,000 (123).....	7.5	46	25	23	29
Under 1,000 (42).....	31.4	2	-	3	37

¹Disregarding sign.

Table G. AVERAGE PERCENT DIFFERENCE BETWEEN ADMINISTRATIVE RECORDS ESTIMATES AND 165 SPECIAL CENSUSES BY RATE OF POPULATION CHANGE, 1970 TO 1973

(Base is special census)

Rate of change, 1970 to 1973	Average percent difference ¹	Total number of places	Distribution of differ- ences between estimate and special census
All areas.....	13.6	165	165
Less than 3 percent....	4.1	23	48
3 to 5 percent.....	2.8	5	25
5 to 10 percent.....	6.5	19	26
10 to 20 percent.....	5.7	39	27
20 to 30 percent.....	8.9	23	11
30 to 50 percent.....	15.4	22	19
50 to 70 percent.....	25.5	12	9
70 to 100 percent.....	35.3	9	-
100 to 150 percent.....	44.1	7	-
150 to 200 percent.....	46.1	4	-
More than 200 percent..	67.8	2	-

- Represents zero.

¹Disregarding sign.

The estimates are further improved when the figures are merged (averaged) with existing estimates of known quality based on independent methods and data sources. This merging is done uniformly for States and counties; however, the final set of subcounty estimates also incorporates the results available from special censuses including those conducted locally for their own purposes. (Such acceptable local special censuses for small areas were available for areas in California, Oregon, and Washington—in these areas, the final estimates are the special census counts adjusted only to a July 1 reference date.) Furthermore, for several selected States, the subcounty estimates were also merged with locally produced estimates prepared by State agencies participating with the Census Bureau in the Federal-State Cooperative Program for Local Population Estimates. Thus, the final set of estimates incorporates as much data as possible on population change for geographic areas throughout the country

and provides a reasonable and acceptable set of estimates reflecting on population redistribution that has occurred since the last decennial census.

The system is weakest at the very smallest area level, however, particularly for small places where unusual activities are underway such as very rapid population growth or substantial annexations. Yet even for such places, as noted above, the estimates generated here are better reflections of current population levels than the 1970 census counts.

For convenience in presentation the estimates in table 1 have been shown in unrounded form. The limitations described here, however, alert the user that the numbers should not be considered accurate to the last digit. County population estimates are normally presented in Bureau reports rounded to the nearest hundred and State population estimates to the nearest thousand.

RELATED REPORTS

The population estimates shown in this report are consistent with State estimates published in **Current Population Reports**, Series P-25, No. 533. They effectively supersede the provisional county estimates for 1973 published in Series P-26, No. 49 through 93 and in Series P-25, No. 527, 530-32, 535, and 537. Beginning with report 94 of Series P-26 the revised 1973 county estimates under the Federal-State Cooperative Program will incorporate the Administrative Records procedure.

Differences between the 1970 population shown in this report for geographic areas and those contained in the 1970 census volumes are attributable to corrections made to the counts since publication of the census tabulations and to geographic boundary changes since 1970 such as annexations and new incorporations.

BEA's personal income series for States and Counties are published annually in the August and May issues of the **Survey of Current Business**. A statement of methodology is available upon request from the Regional Economic Measurement Division of the Bureau of Economic Analysis.

**Table 1. POPULATION, 1970 AND 1973, AND RELATED PER CAPITA INCOME (PCI)
FOR REVENUE SHARING AREAS**

(1970 population and related PCI figures may reflect corrections to census counts or annexations. Estimates of percent change for PCI for places of 500 or less are not applicable. See text)

AREA	POPULATION			PER CAPITA MONEY INCOME (DOLLARS)		
	JULY 1, 1973 (ESTIMATE)	APRIL 1, 1970 (CENSUS)	PERCENT CHANGE	1972 (ESTIMATE)	1969 (CENSUS)	PERCENT CHANGE
STATE OF HAWAII.....	841 175	769 913	9.3	4 187	3 373	24.1
HAWAII COUNTY.....	71 551	63 468	12.7	3 755	2 932	28.1
HONOLULU COUNTY.....	685 717	630 528	8.8	4 306	3 479	23.8
KAUAI COUNTY.....	32 124	29 761	7.9	3 577	2 830	26.4
MAUI COUNTY.....	51 783	46 156	12.2	3 590	2 880	24.7

CURRENT POPULATION REPORTS—SERIES P-25

1973 Population Estimates for Counties, Incorporated Places, and Selected Minor Civil Divisions.

(Reports may not be published in numerical order)

No. 546	Alabama	No. 571	Montana
No. 547	Alaska	No. 572	Nebraska
No. 548	Arizona	No. 573	Nevada
No. 549	Arkansas	No. 574	New Hampshire
No. 550	California	No. 575	New Jersey
No. 551	Colorado	No. 576	New Mexico
No. 552	Connecticut	No. 577	New York
No. 553	Delaware	No. 578	North Carolina
No. 554	Florida	No. 579	North Dakota
No. 555	Georgia	No. 580	Ohio
No. 556	Hawaii	No. 581	Oklahoma
No. 557	Idaho	No. 582	Oregon
No. 558	Illinois	No. 583	Pennsylvania
No. 559	Indiana	No. 584	Rhode Island
No. 560	Iowa	No. 585	South Carolina
No. 561	Kansas	No. 586	South Dakota
No. 562	Kentucky	No. 587	Tennessee
No. 563	Louisiana	No. 588	Texas
No. 564	Maine	No. 589	Utah
No. 565	Maryland	No. 590	Vermont
No. 566	Massachusetts	No. 591	Virginia
No. 567	Michigan	No. 592	Washington
No. 568	Minnesota	No. 593	West Virginia
No. 569	Mississippi	No. 594	Wisconsin
No. 570	Missouri	No. 595	Wyoming