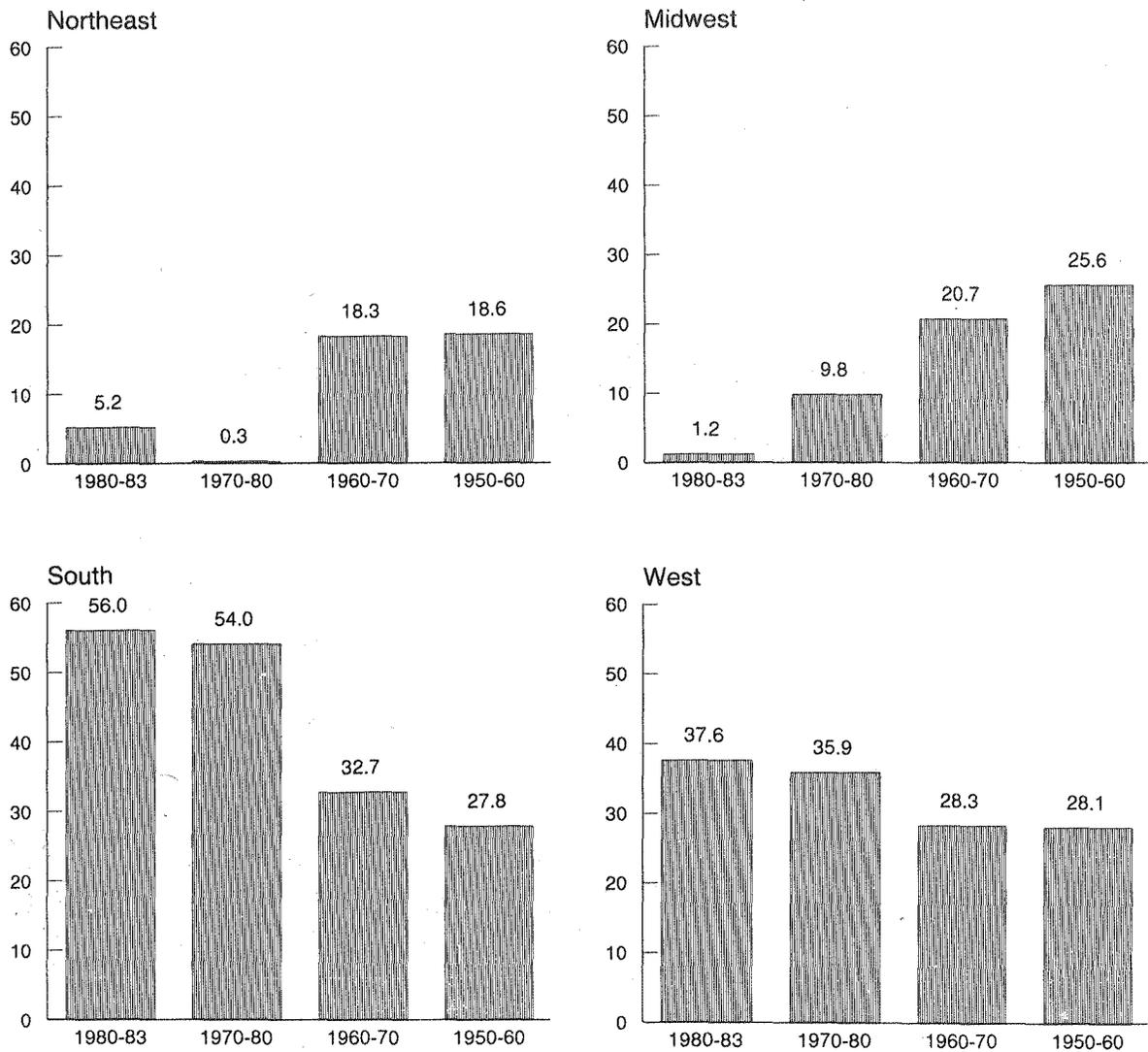


Population Estimates  
and Projections

Series P-25, No. 957

# Estimates of the Population of States: 1970 to 1983

Figure 1. Percent Share of U.S. Population Growth, by Region, for Selected Periods: 1950 to 1983



**Population Estimates  
and Projections**

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Issued October 1984

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Population of States:  
1970 to 1983**

by Edwin Byerly



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#### **ACKNOWLEDGMENTS**

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# Estimates of the Population of States: 1970 to 1983

## INTRODUCTION

This report contains revised estimates of the resident and civilian population of States for July 1, 1981, and July 1, 1982, and provisional estimates for July 1, 1983, together with provisional components of population change for the period April 1, 1980, to July 1, 1983. Revised annual intercensal estimates for July 1, 1971, to 1979 are also presented, as well as components of population change for 1970 to 1980.

A detailed description of the methodology used in developing the estimates is included, together with an evaluation of the procedures used.

## HIGHLIGHTS

- The South and West have dominated in population growth this decade, capturing 94 percent of the Nation's 7.4 million gain between 1980 and 1983. In this and in the previous decade, the top 10 States with both numerical and percentage increases have been in the South and West.
- Alaska has been, by far, the fastest growing State in population, increasing by 19 percent between 1980 and 1983.
- California has led the Nation in numerical growth for the past six decades. During the 1980-83 period, the State continued to be first with growth of over 1.5 million persons.
- Texas and Florida have recorded the Nation's highest levels of net immigration this decade. In Texas, the 922,000 net immigrants accounted for 62 percent of the growth during the 1980-83 period, and in Florida, the 831,000 net immigration represented 89 percent of the growth.
- The Midwest<sup>1</sup> has been especially hard hit in the 1980's, with four States losing population between 1980 and 1983. Michigan has experienced the largest loss—a decline of 193,000 persons or 2.1 percent.
- The rate of population growth in the Northeastern States from Massachusetts southward has increased so far this decade as compared with the previous decade. The two States that lost population in the 1970's, New York and Rhode Island, have reversed that trend in the 1980's.

<sup>1</sup>Formerly the North Central Region.

## POPULATION TRENDS

The population shift to the South and West in this country has been even more pronounced in the first 3 years of this decade than in the 1970-80 period. The South and West captured 94 percent of the Nation's 7.4 million gain between 1980 and 1983, compared with 90 percent of the growth between 1970 and 1980 (figure 1). More than half of the growth in this decade for these two regions has been due to migration, largely at the expense of the Midwest and, to a lesser degree, the Northeast. The Midwest has shown especially heavy net outmigration (-2.1 percent) between 1980-83, with a population increase of only 0.1 percent for the period. The Northeast has fared somewhat better this decade with 0.5 percent outmigration and 0.8 percent increase.

**South and West.** For the 1980-83 period and the previous decade, the 10 States with both the highest numerical and percentage population increases have been in the South and West. The percent increase for the South and West combined has been more than 1½ times the national average for both the 1970-80 and 1980-83 periods (table A).

**Table A. Percent Increase in Population, by Region: 1980-83 and 1970-80**

Region	1980-83	1970-80
United States.....	3.3	11.4
Northeast.....	0.8	0.2
Midwest <sup>1</sup> .....	0.1	4.0
South.....	5.5	20.0
West.....	6.5	23.9

<sup>1</sup>Formerly the North Central Region.

Source: Tables 1 and 3.

California, which has led the Nation in numerical growth for the past six decades, continued to lead during the 1980-83 period, when it grew by over 1.5 million persons (table B). This 6.4-percent increase for the more recent period was almost equally attributable to natural increase (births minus deaths) and immigration. Although California has shown the largest numerical increase, it has not been among the 10 States with the highest percent increases in the 1980's or 1970's.

**Table B. States Ranked by Largest Numerical Increase in Population: 1980-83 and 1970-80**

(Numbers in thousands)

State	Increase	Net migration	Rank	State	Increase	Net migration
1980-83				1970-80		
California.....	1,506	+750	1	California.....	3,697	+1,573
Texas.....	1,494	+922	2	Texas.....	3,031	+1,481
Florida.....	933	+831	3	Florida.....	2,955	+2,519
Oklahoma.....	273	+186	4	Arizona.....	943	+656
Georgia.....	269	+120	5	Georgia.....	875	+329
Colorado.....	249	+141	6	North Carolina.....	797	+278
Arizona.....	245	+147	7	Washington.....	719	+388
Louisiana.....	232	+78	8	Virginia.....	695	+239
Virginia.....	203	+81	9	Colorado.....	680	+385
North Carolina.....	200	+83	10	Tennessee.....	665	+297

Source: Tables 1 and 3.

Texas and Florida have been second and third in total growth in both the 1970's and 1980's. These two States have experienced the Nation's highest net immigration (922,000 and 831,000, respectively) thus far in the decade. Immigration accounted for 62 percent of the growth in Texas and 89 percent of the growth in Florida during the 1980-83 period.

Table C shows the 10 most rapidly growing States in the 1970's and 1980's. Alaska has been the leader this decade in both the rate of growth (19.2 percent) and the net migration rate (12.4 percent). Behind Alaska in the rate of population growth was Nevada (11.3 percent), which held the top

position during the 1960-70 and 1970-80 periods. The remaining of the 10 fastest growing States in the 1980's were also the fastest growing in the 1970's except for Oklahoma, which has replaced Idaho. Oklahoma jumped from 19th place in the 1970-80 decade in terms of population increase to tie with Arizona for 7th place in the 1980-83 period.

Of the four States with more than 10 percent growth between 1980 and 1983, over half of the growth was due to immigration except in Utah, where natural increase accounted for more than two-thirds of the growth.

Several Western States experienced less rapid growth this decade than in the 1970's, especially in the Northwest.

**FIGURE 2.**  
**Change in Population, by State: 1980 to 1983**

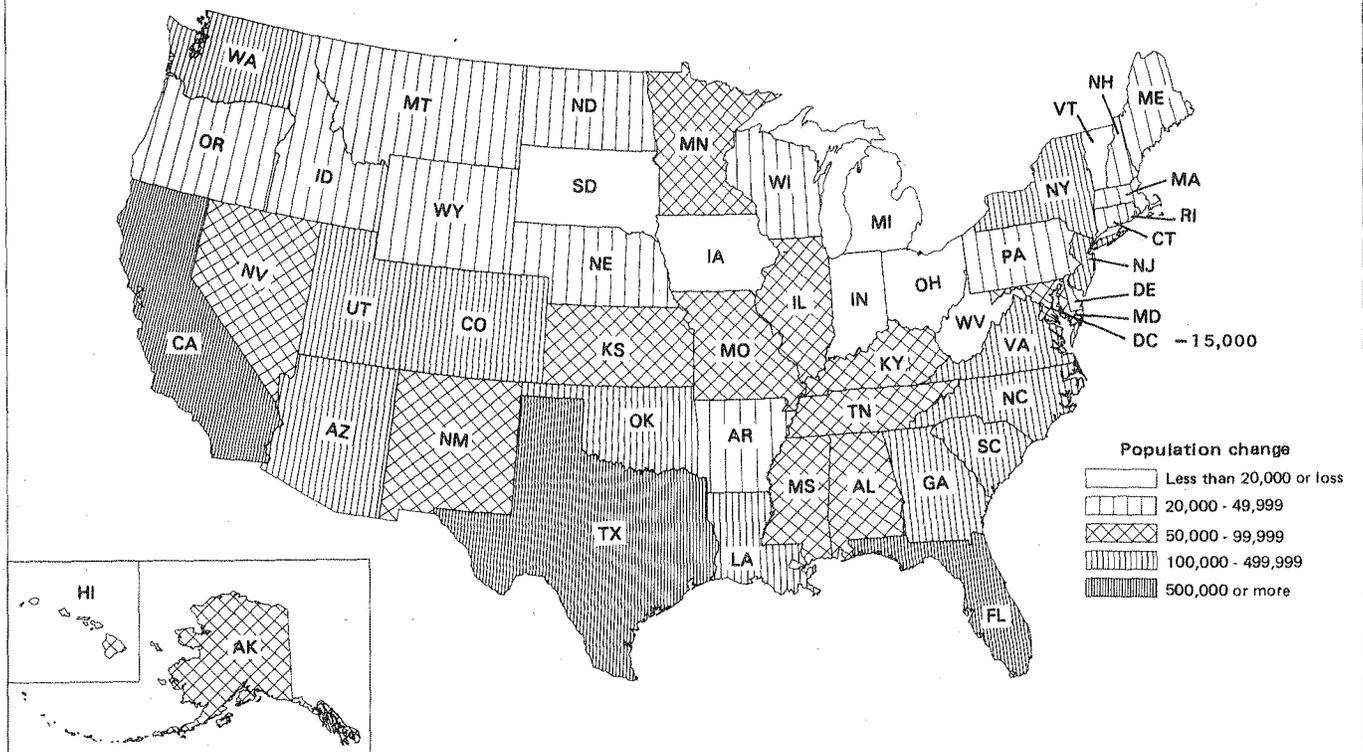


FIGURE 3.  
Percent Change in Population, by State: 1980 to 1983

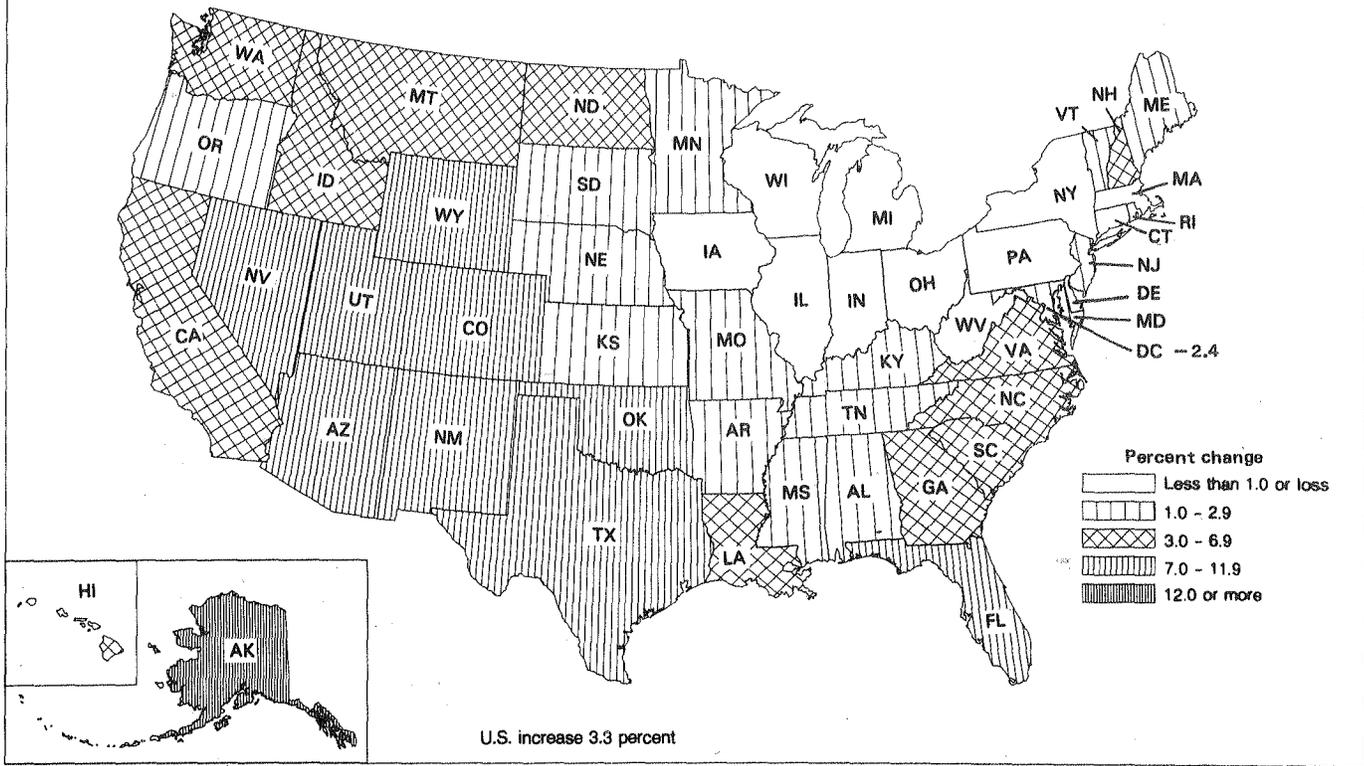
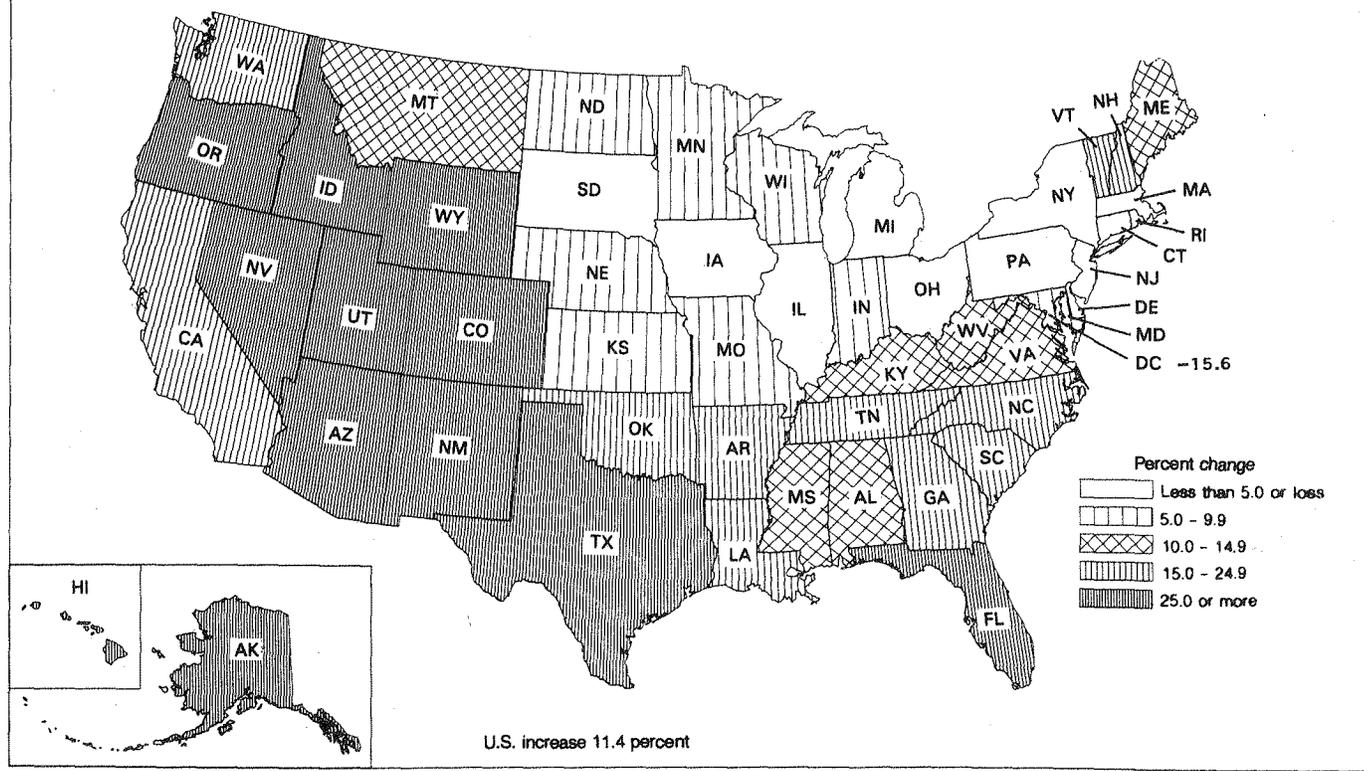


FIGURE 4.  
Percent Change in Population, by State: 1970 to 1980



**Table C. States Ranked by Largest Percent Increase in Population: 1980-83 and 1970-80**

State	Percent increase	Net migration percent	Rank	State	Percent increase	Net migration percent
1980-83				1970-80		
Alaska.....	19.2	+12.4	1	Nevada.....	63.8	+49.7
Nevada.....	11.3	+8.1	2	Arizona.....	53.1	+37.0
Utah.....	10.8	+3.4	3	Florida.....	43.5	+37.1
Texas.....	10.5	+6.5	4	Wyoming.....	41.3	+25.5
Florida.....	9.6	+8.5	5	Utah.....	37.9	+11.2
Wyoming.....	9.5	+4.4	6	Alaska.....	32.8	+9.3
Arizona.....	9.0	+5.4	7	Idaho.....	32.4	+15.4
Oklahoma.....	9.0	+6.2	8	Colorado.....	30.8	+17.4
Colorado.....	8.6	+4.9	9	New Mexico.....	28.1	+11.4
New Mexico.....	7.4	+2.9	10	Texas.....	27.1	+13.2

Source: Tables 1 and 3.

Oregon was the only Western State to record outmigration (-1.4 percent) for the 1980-83 period; however, its population during the period did increase.

In the South, seven States and the District of Columbia had net outmigration during the 1980-83 period, compared with only three in the 1970's; only the District of Columbia actually lost population during either of the periods. Half of the Southern States are now growing below the national average; all 16 States grew faster than the total United States in the 1970's.

**North.** Overall, the North is growing at a much lower rate than the rest of the Nation. Of the 21 Northern States, 15 States or 71 percent experienced net outmigration between 1980 and 1983, with four losing population. Especially hard hit were the industrial States of the Midwest. Michigan's population declined by 2.1 percent, Ohio's by 0.5 percent, and Indiana's by 0.2 percent. These States all lost population because of high rates of outmigration. Michigan's net outmigration was -4.4 percent, Ohio's -2.6 percent, and Indiana's -2.4 percent. Michigan is estimated to have lost the largest number of persons (-193,000) between 1980-83. Iowa was the only other State in the Nation to lose population (-0.3 percent) this decade. All four States that lost population since the 1980 census grew in the 1970's.

In the Northeast, population growth was not as diminished as in the Midwest. After losing population in the 1970's, New York and Rhode Island grew by 0.6 percent and 0.9 percent, respectively, between 1980 and 1983. Over half the Northeastern States experienced outmigration after the 1980 census, but at a much lower rate than in the 1970's. Overall, the Northeastern States from Massachusetts southward appear to be growing at an increased rate so far this decade as compared with the growth experienced during the previous decade.

In the 1970's, New Hampshire was the fastest growing State outside the South and West and the only one to rank among the 10 States with the highest rates of net migration. It has been bypassed by North Dakota as the fastest growing Northern State in the 1980's, but it still has rapid growth and a migration rate about 13th in the Nation. These two States are the only ones in the North with higher rates of

growth than that for the United States. North Dakota has shown the greatest gain in rank by percent of population increase, climbing from 37th place between 1970 and 1980 to 17th place between 1980 and 1983.

## METHODOLOGY

The population estimates contained in this report for the 1980's were developed by averaging the results of two methods, both of which use current data to estimate population change since April 1980. The Census Bureau's new Composite method uses vital statistics and school enrollment to estimate the population 0-14 years of age by a variation of Component Method II. For the household population 15 to 64 years old, the method employs a Ratio-Correlation technique in which a multiple correlation estimating equation is applied to the changes in three independent variables (income tax returns, school enrollment, and housing units) to estimate changes in the population. In the second method (the Administrative Records method), net internal migration is estimated using individual income tax returns, immigration from abroad is developed from immigration reports, and reported vital statistics are used to account for natural increase. These two methods are averaged to estimate the household population under 65 years of age. The population under 65 in group quarters and the population 65 years and over are added to the household population to obtain an estimate of the population total for each State.

Estimates of the group quarters population were obtained by adding to the 1980 census count of nonbarracks group quarters population the latest survey data on military barracks population plus an allowance for change in the population in major Job Corps centers. The population aged 65 and over was obtained by adding the estimated change in the number of people enrolled under Medicare between April 1, 1980, and the estimate date to the 1980 census population aged 65 and over. Civilian population estimates were created by subtracting Armed Forces from the resident State population estimate. The Armed Forces data were obtained directly from reports of the Departments of Defense and Transportation showing the number of military personnel assigned to each

installation, adjusted where necessary to reflect place of residence.

The estimates presented in the tables of this report have been rounded to the nearest thousand without being adjusted to group totals, which are independently rounded. Percentages are based on unrounded numbers.

**Composite Method.** The Composite method estimates two age segments of the population: 0-14 years of age and the household population 15-64 years of age. In estimating the 0-14 age group, the statistics on births and deaths by race used in this method are provided by individual State vital statistics offices. Vital statistics for calendar years 1980 through 1981 were final except for a small number of States. All of the States also provided provisional estimates of vital statistics for calendar year 1982. For those States not providing final vital statistics, provisional data tabulated by place of occurrence were converted to place of residence based on past relationships between occurrence and residence data. Births and deaths for the first 6 months of 1983 for each State were estimated by using one-half the 1982 calendar-year totals adjusted pro rata to the reported national total for January-June 1983.

Deaths for age groups under 1, 1-4, 5-9, and 10-14 years of age from the National Center for Health Statistics (NCHS) are also used. Since the availability of these death statistics may be several years behind the estimate date, the last year available is duplicated for any missing years.

The school enrollment used is for grades 1 through 8 plus elementary special and ungraded enrollment for the fall prior to the estimate date and to the last previous census. It is collected from (1) individual State departments of education (including nonpublic enrollment, where reported) with the help of the Bureau's Federal-State Cooperative Program agency, (2) Roman Catholic School systems, and (3) a limited number of other nonpublic schools.

The population 0-14 years of age for each estimate period was developed by components of change. The age cohorts 0-4 and 5-14 years on the estimate date were derived using the 1980 census and birth statistics. To each cohort was added an estimate of deaths developed using the NCHS deaths by age and an estimate of net migration prepared in a manner similar to the way that school-age migration was estimated using Component Method II during the 1970's.

First the relationship of the school-age population (ages 6.50 to 14.49) to enrollment was found in the base year 1980, and this relationship was applied to the school enrollment collected for the estimate year. The resulting estimates of school-age population were then adjusted pro rata to an independent national school-age estimate. The estimate of school-age migration was derived from the difference between the school-age population developed from the school enrollment, and the school-age population expected by surviving the school-age cohort from the 1980 census. Then the assumption was made that each age in the 0-4 and 5-14 age cohorts shared equally in the cumulative school-age migration. Adjustment factors were developed based on age and

length of migration exposure and applied to the estimate of the period school-age migration to estimate the migration component for the 0-4 and 5-14 cohorts.

In estimating the population in ages 15 to 64, a ratio-correlation approach is used. The percent changes in the State distribution of three symptomatic variables from 1980 to the estimate year were used to estimate the percent changes in the State distribution of the household population 15-64 years of age<sup>2</sup> from 1980 to the estimate year. The estimated State percent change in population was multiplied by the share of the United States' population that the State had in 1980 to yield a preliminary estimate of the State distribution of the population in the estimate year. Then the figures in the preliminary distribution were adjusted proportionately to sum to 100 percent and were applied to an independent national estimate of the population in the estimate year.

The estimate of the change in a State's share of the national population from 1980 to the estimate year was calculated from a linear estimating equation fitted by the method of least squares, relating the percent change in the distribution of population (the dependent variable) between 1970<sup>3</sup> and 1980 and the percent change in the distribution of three independent variables between the same two dates. The independent variables were (1) school enrollment (as explained previously), (2) the number of Federal income tax returns filed by persons under 65 years of age, and (3) an estimate of the number of housing units.

The basic estimating equation may be expressed as follows:

$$\hat{Y}_j = -.02 + .35 X_{1j} + .51 X_{2j} + .12 X_{3j}$$

Where

$$\hat{Y}_j = \frac{\hat{P}_j}{\bar{P}} 198N \div \frac{P_j}{\bar{P}} 1980,$$

$\frac{\hat{P}_j}{\bar{P}} 198N$  is the estimated proportion of the U.S. population in State j in the estimate year, and  
 $\frac{P_j}{\bar{P}} 1980$  is the proportion of the U.S. population in State j at the time of the 1980 census.

and, for the independent variables,

$$X_{1j} = \frac{S_j}{\bar{S}} 198N \div \frac{S_j}{\bar{S}} 1980.$$

$\frac{S_j}{\bar{S}}$  is the proportion of all U.S. students in elementary school who were enrolled in State j.

The subscripts refer to the year of the census or estimates.  $X_{2j}$  and  $X_{3j}$  are defined in a manner analogous to  $X_{1j}$ , with school enrollment being replaced by the number of Federal income tax returns or the number of housing units. The numerical values in the equation were coefficients derived from fitting the estimating equation to the corresponding data for the years 1970 and 1980 for each of the States and the

<sup>2</sup>In the remainder of this section, the term "population" will be used to refer to the "household population 15-64 years of age."

<sup>3</sup>The 1970 population was adjusted for 1970 census undercount.

District of Columbia. The following correlation coefficients indicate the relationship between the change in the population distribution and change in the distribution of the symptomatic variable for the 1970-80 period:

Variable	Coefficient of correlation (r)	Net coefficient of estimation (b)
Constant . . . . .	(X)	+02
School enrollment . . . . .	.921	.35
Federal income tax returns . . . . .	.966	.51
Housing units . . . . .	.904	.12

The coefficient of multiple correlation for the estimating equation is .985 and the standard error of the estimate is .023.

An adjustment was found to be necessary for the Federal income tax variable used in the regression. The number of tax returns from 1970 to 1980 did not correlate closely with changes in the distribution of population, because the hypothesis of linearity between the dependent variable and independent variable was not particularly applicable. This was also true in the previous three decades, where in most Southern States the changes in the distribution of tax returns was considerably greater than the changes in the distribution of population. This was not found to be the case with school enrollment. For the tax data, this probably reflects a continued improvement in the economy of the region.

To compensate for this bias, the raw tax return data were adjusted using area coverage ratios. An area coverage ratio represents the ratio of the rate for an area for a symptomatic variable (e.g., percent of population filing income tax returns) to the corresponding national rate at a given date:

$$\frac{V_{ij}}{P_j} = \frac{V_i(\text{U.S.})}{P(\text{U.S.})}$$

where  $V_{ij}$  = value of variable  $i$  for area  $j$

$P_j$  = population of area  $j$

$V_i(\text{U.S.})$  = sum of variable  $i$  for United States

$P(\text{U.S.})$  = population of the United States

The area coverage ratios have been decreasing in size each decade since 1950, indicating a continuing trend toward convergence of State values to the United States average. For a detailed description of the procedures for generating area coverage ratios, see Current Population Reports, Series P-25, No. 520.

The Federal income tax returns used in this decade differ from the returns used during the 1970's in that returns filed by persons under age 65 now are used instead of total returns. This results in a higher correlation with the household population 15-64 years of age.

The estimate of housing units used in the Ratio-Correlation portion of the Composite Method was derived using the 1980 census count of housing units, adding building permits and shipments of mobile homes as shown in the Bureau's Con-

struction Statistics reports, and subtracting permits for demolitions. The quality of this variable for a given State is directly affected by the coverage of its permit-issuing system.

**Administrative Records Method.** The Administrative Records method is a component procedure for estimating the household population under age 65. In this method the initial base is the 1980 census, but successive estimates may be based on a later Administrative Records estimate rather than the count. The time between the base year and estimate year (estimate period) is determined by the span of the Federal income tax match used in calculating the migration rate. This may be 1 or 2 years. The estimate is developed by (1) using the 1980 census counts or an earlier estimate to calculate the cohort under age 65 on the estimate date, (2) adding births for the period between the base year and the estimate year, (3) deducting an allowance for deaths occurring in this period to the population which would be under age 65 on the date of estimation, (4) adding net internal migration by matching addresses on individual Federal income tax returns over time, and (5) adding an allowance for immigration from abroad.

The net internal migration component involves processing data longitudinally for about 90 million individual tax return records provided to the Bureau of the Census from the Internal Revenue Service. The estimate of migration is developed by estimating a net migration rate for each State based on State of residence assigned on an individual Federal income tax return for two separate years, and applying this rate to the household population under 65 on the estimate date. The 2 years of tax data used may be 2 consecutive years (1-year match) or a year may be skipped in between (2-year match); the matches usually alternate every other year. For example, the estimate for 1981 was a 1-year match based on the 1980 census using tax returns for tax years 1979 and 1980, while the 1982 estimate was a 2-year match that used returns for tax years 1979 and 1981 in conjunction with the census. The 1983 estimate, however, used tax returns for tax years 1981 and 1982 with the 1982 Administrative Records estimate as its base.

When the State of residence is the same for both years, the return is assumed to be a nonmover across State lines. When the State of residence differs, the return is assumed to be an interstate migrant. By definition the system is completely closed (i.e., an outmigrant from one State becomes an immigrant to another). Exemptions on matched returns (returns filed in both the beginning and ending year) for filers under age 65 on the estimate date are used because they have a more logical relationship with population than returns. The net migration rate for any period is then defined as:

$$\frac{\text{Exemptions on immigration returns} - \text{Exemptions on outmigration returns}}{\text{Exemptions on matched returns (beginning year)}}$$

In order to develop estimates of internal migration for any period, this rate is applied to a population base consisting of the household population cohort under age 65 on the estimate

date plus one-half the sum of natural increase and net immigration from abroad within the period. In the 1970's, the migration rate was adjusted for "first filers." The rationale for the adjustment was that young adults were not represented on matched returns in proportion to their population. However, an evaluation of the Administrative Records method showed that estimates proved more accurate without this adjustment, so it was abandoned for the 1980's.

Immigration from abroad into the United States during the estimate period (which has no chance of being a matched record) was developed by calculating each State's share of the Nation's number of foreign born persons counted in the 1980 census, who entered this country between 1975 and 1980. These State proportions were derived for 15 countries or country groups and applied (for each year in this decade) to Immigration and Naturalization Service tabulations of alien immigrants for the same countries for the estimate period.

Similar geographic data for emigrants do not exist. An estimate of 36,000 emigrants per year at the national level was included in the national population controls and prorated to each state for both the Administrative Records method and the Composite method.

**Estimates for 1983.** Unlike the State population estimates produced in the 1970's, the provisional and revised estimates contained in this report are based on identical methodology. The only difference is the provisional nature of the data used in producing the provisional estimates.

**Estimates for the 1970's.** The intercensal estimates for the 1970's are based on the post-1970 State estimates published annually in Current Population Reports, Series P-25<sup>4</sup> and have been adjusted for the 1980 error of closure. The error of closure for a State is defined as the difference between the 1980 census count for the State and the State's April 1, 1980, population estimate.

The procedure used to develop the annual intercensal State population estimates presented here takes into account both length of time from the previous census and size of the postcensal population estimate. Algebraically, this procedure can be described as:

$$P_{it} = \frac{Q_{it} [(10-t) Q_{i,10} + tP_{i,10}]}{10Q_{i,10}}$$

$$t=0, 1.25, 2.25, \dots, 9.25, 10$$

$$i=1, 2, \dots, 51.$$

where

$P_{it}$  = the intercensal estimate for State  $i$  at time  $t$ ;

$Q_{it}$  = the postcensal estimate for State  $i$  at time  $t$ ;

$P_{i,10}$  = the April 1, 1980, census count for State  $i$ ;

$Q_{i,10}$  = the April 1, 1980, postcensal estimate for State  $i$ ; and

$Q_{i,0} = P_{i,0}$  = the April 1, 1970, census count for State  $i$ , including corrections made subsequent to the release of the official State counts.

This procedure was also used in developing the 1970-80 annual intercensal population estimates for the United States which are published in Current Population Reports, Series P-25, No. 899.

## ACCURACY OF THE ESTIMATES

Results of the Bureau's evaluation of State population estimates produced in the 1970's decade and the test of methodologies used to produce them, were outlined in Current Population Reports, Series P-25, No. 933. In that report, the problems of comparability between the 1970 and 1980 censuses were discussed. This lack of comparability was reflected in a large national error of closure (4.7 million), unprecedented in the 40 years of experience at the Census Bureau in estimating State population.<sup>5</sup>

Among the probable major contributors to this national error were (1) differences in the completeness of coverage in the census counts in 1970 and 1980, (2) omission of any adjustment for undocumented aliens in the estimates (some of whom were counted in the 1980 census), and (3) duplicate counting in the 1980 census.

Three approaches were used in evaluating the 1970-based estimates. First was comparison of the 1980 census counts and the 1980 estimates as computed—a problem because the national error of 2.1 percent effectively biased all the State results. Consequently efforts were made to isolate the "true" error resulting from faults in the estimating model or data from the issue of census comparability. One approach was to add the estimated 1970 undercount by State to the 1980 estimates to approximate the 1980 census levels. A second was to control the 1980 State estimates to the 1980 census count for the United States rather than to the 1980 national estimates. It was important that the methodologies chosen perform as well as or better than those of the previous decade in all three approaches used to test the 1970-based estimates.

For the three methods averaged in the State estimates during the 1970's—the Administrative Records method, Component Method II, and the Ratio-Correlation method—the result of the test indicate an average percent error of 1.46 using the undercount adjustment procedure and 1.78 using the pro rata adjustment. No one of the methods was clearly superior to the average, although the Administrative Records method tested about equally well as the average of the three.

Many variations and refinements in the methods were tested in an attempt to lower the average error. As a result of the testing, the methodology used to prepare the estimates in this report was selected for the 1980 State estimates

<sup>4</sup>The State estimates for the 1970's used an average of Component Method II, the Ratio-Correlation method, and the Administrative Records method, except for Alaska, which excluded Component Method II for the years 1975 to 1980. For a description of the individual methods used, see Current Population Reports, Series P-25, No. 640.

<sup>5</sup>The error of closure (the difference between the census count and the estimate for the census date based on the previous census) was 379,000 in 1970, and 3,000 in 1960.

series. In addition to assuring the greatest possible accuracy (as demonstrated by minimizing the average percent error), the objectives in selecting the methods were (1) to select methods that are demographically sound, (2) to use methods generally consistent with and supportive of one another in level and pattern of change, (3) to assure that they produce a time series of estimates that flows in a reasonably smooth pattern and that the estimates are consistent with the trend of the data input, (4) to minimize the number and size of extreme errors, and (5) to avoid directional bias in the estimates (about the same number of State estimates should fall above the census counts as fall below).

Table D shows average absolute percent errors for 1980 estimates by method and average of methods for both the new and old procedures. At both the national and regional levels, the new procedures resulted in errors well below the estimates produced by the old procedures, improving by 0.4 to 0.5 percentage points to reach 1.1 percent at the national level. In general, 1980 estimates that were adjusted for 1970 undercount resulted on the lowest average absolute percent errors. Of the old methods, Component Method II proved the least accurate overall and the least accurate for the two Northern regions. The accuracy of the Administrative Records estimate was improved by the new procedure, especially in the South. The new Composite method recorded the lowest average absolute percent error overall of all the estimates shown.

There was a definite regional bias in the estimates produced in the 1970's. As seen in table E, States in the South and West generally were underestimated by the 1970's procedure and the North was overestimated. This is seen in both adjustment procedures used in evaluating the estimates. The new procedure reduces this bias; however, it is still present in these two regions.

The number of extreme errors (3 percent or more) were reduced considerably using the new procedures, and over half the States have less than 1 percent error (table F). The District of Columbia, Alaska, and Nevada were the most difficult to estimate accurately by either the old or new procedures.

Comparison of estimates with each other is of limited utility because the true population size is unknown. However, an indication of direction and "closeness" does provide some measure of confidence in the estimates. Tests of the two new estimating methods generally show that the larger the difference between the two 1980 estimates, the larger the error in the estimates (table G). An increase in the dispersion between two sets of estimates is to be expected over time; the increase is moderate, however (table H).

In the absence of special mitigating factors, a relatively smooth flow should be expected from year to year in the population estimates. This may be judged directly through inspection of the series of annual estimates, or through annual net migration. Net migration is the most sensitive measure of continuity since nearly all year-to-year changes in the

**Table D. Average Absolute Percent Error of State Population Estimates, by Region: 1980**

Region	New procedure			Old procedure			
	Composite method	Administrative Records method	Average of methods	Component Method II	Ratio-Correlation method	Administrative Records method	Average of methods
<b>UNADJUSTED</b>							
United States.....	2.61	2.18	2.22	2.92	2.82	2.47	2.48
Northeast.....	1.76	1.05	1.37	2.05	1.51	1.26	1.59
Midwest <sup>1</sup> .....	1.37	0.85	1.07	1.43	1.14	0.98	0.77
South.....	3.90	2.77	3.24	3.87	3.57	3.38	3.48
West.....	2.68	3.42	2.53	3.67	4.30	3.52	3.35
<b>UNDERCOUNT ADJUSTMENT</b>							
United States.....	1.19	1.36	1.05	1.85	1.77	1.45	1.46
Northeast.....	1.30	0.87	0.97	1.68	1.50	0.98	1.28
Midwest.....	0.62	0.74	0.46	1.87	1.18	0.60	1.03
South.....	1.78	1.25	1.24	1.39	2.11	1.56	1.44
West.....	0.87	2.41	1.42	2.53	2.08	2.42	2.00
<b>PRO RATA ADJUSTMENT</b>							
United States.....	1.46	1.50	1.28	2.28	2.09	1.79	1.78
Northeast.....	1.31	1.47	1.25	1.87	1.88	1.64	1.47
Midwest.....	0.80	1.35	1.04	2.62	1.94	1.13	1.86
South.....	2.11	1.15	1.49	1.92	2.16	1.96	1.81
West.....	1.34	2.11	1.24	2.72	2.26	2.28	1.88

<sup>1</sup>Formerly the North Central Region.

**Table E. Number of Positive Errors in State Population Estimates, by Region: 1980**

Region	Number of States	New procedure			Old procedure			
		Composite method	Administrative Records method	Average of methods	Component Method II	Ratio-Correlation method	Administrative Records method	Average of methods
<b>UNADJUSTED</b>								
United States.....	51	2	7	4	11	9	6	10
Northeast.....	9	1	4	2	1	2	3	3
Midwest <sup>1</sup> .....	12	-	1	-	7	5	-	6
South.....	17	1	-	1	-	2	1	1
West.....	13	-	2	1	3	-	2	-
<b>UNDERCOUNT ADJUSTMENT</b>								
United States.....	51	19	24	23	25	25	22	23
Northeast.....	9	3	5	4	3	5	4	4
Midwest.....	12	4	6	7	9	10	6	10
South.....	17	3	8	6	6	7	7	5
West.....	13	9	5	6	7	3	5	4
<b>PRO RATA ADJUSTMENT</b>								
United States.....	51	22	29	25	23	21	28	22
Northeast.....	9	5	8	6	5	6	8	5
Midwest.....	12	10	12	12	11	11	12	12
South.....	17	1	5	2	2	4	4	2
West.....	13	6	4	5	5	-	4	3

<sup>1</sup>Formerly the North Central Region.

Source: Table A-1.

estimates are reflected in this component. Although net migration is highly variable, it should exhibit some degree of stability and not shift erratically in direction and volume from year to year unless there is specific evidence to support this. To this end, it is desirable that differences in annual net migration rates for adjacent years to be small and to tend toward zero. Results of the differences in percent yearly migration for States for the 1980-81 and 1982-83 periods are outlined below:

Annual differences in net migration percent	Number of observations
Total number of observations..	102
Less than 0.25 percent.....	54
0.25 to 0.49 percent.....	24
0.50 to 0.74 percent.....	12
0.75 to 0.99 percent.....	0
More than 1.00 percent.....	12

Slightly more than three-fourths of the observed differences vary by less than one-half percent. All of the 12 observations with differences of over 1 percent were in Southern and Western States, which have experienced rather high migration rates at some point in this decade. All but one of these States displayed monotonic trends in the yearly migration rates for this decade. A similar test was performed on indi-

**Table F. Number of States, by Percent Deviation of Estimate From 1980 Census**

Variation in method	Total	Percent deviation				
		Under 1	1	2	3-4	5+
<b>New procedure:</b>						
Undercount adjustment	51	32	14	3	-	2
Pro rata adjustment..	51	26	14	8	3	-
<b>Old procedure:</b>						
Undercount adjustment	51	22	20	4	3	2
Pro rata adjustment..	51	15	18	11	6	1

Source: Table A-1.

vidual estimating methods used during the 1970's to assess their stability.

One of the major changes suggested by the tests was to rely on the strengths of particular methods and data to do what they do best. This is the foundation of the new Composite method. For example, during the 1970's, school enrollment was used to estimate migration rates for the total population in Component Method II. This approach was found to be the poorest of the methods used during the 1970's, but the testing found that births and school enrollment work well in estimating the population under age 15.

Similarly for the 15-64-year-old segment of the Composite method, the Ratio-Correlation technique was retained but new

**Table G. Range of 1980 Estimates for Estimate Procedures of the 1980's**

Percent difference	Number of States	Average absolute percent error
<b>UNADJUSTED</b>		
0.00 - 0.99.....	21	1.73
1.00 - 2.99.....	16	2.33
3.00 and over.....	14	2.83
<b>UNDERCOUNT ADJUSTMENT</b>		
0.00 - 0.99.....	22	0.75
1.00 - 2.99.....	23	0.64
3.00 and over.....	6	3.76

independent variables were chosen. The choice of these variables must not only logically "fit" the population one is trying to estimate, but also be as uniform as possible across the Nation. The set of variables (tax returns, school enrollment, and housing units) the Bureau now employs combine the desired qualities of high correlation, uniform national compliance and high stability. Some variables may fit well, but if they are tied too closely with national or local laws or other factors having a differential impact on States in a manner unassociated with population movement, then they could result in unreliable or fluctuating estimates. Work force and births are variables that correlate highly with population, but the first is very sensitive to fluctuations in unemployment statistics during extended recessions in the economy and the latter to laws regarding abortions.

As the decade progresses and it is clear that the methodologies have ceased to reasonably meet the criteria

**Table H. Percent Difference Between Methods Used in Current State Estimates**

Year	Average percent difference	Maximum percent difference
1981 <sup>1</sup> .....	0.34	1.68
1982 <sup>1</sup> .....	0.53	1.79
1983 (prov.) <sup>1</sup> .....	0.70	2.20
1980 (unadjusted) <sup>2</sup> .....	1.69	9.50
1980 (adjusted for undercount) <sup>2</sup> .....	1.64	9.07

<sup>1</sup>Estimate based on 1980.

<sup>2</sup>Estimate based on 1970.

just outlined, then modifications will be made to the existing procedures.

## RELATED REPORTS

This report supersedes Current Population Reports, Series P-25, No. 944, which contained advance data for the 1980-83 period. The estimates are consistent with national totals shown in Series P-25, No. 949. State estimates by age for the period are contained in Series P-25, No. 951. All estimates for the 1980's are consistent with 1980 census data contained in 1980 Census of Population, PC80-1-A, *Number of Inhabitants*, and PC80-1-B, *General Population Characteristics*.

Annual intercensal estimates for States for the 1970's, published here for the first time, are a minor modification of the time series released informally by the Bureau in 1983.

Provisional projections of the population of States for 1990 and 2000 contained in Series P-25, No. 937 are not consistent with the estimates shown here because they use the trends of the 1970's to project the future periods and do not pass through the estimates level for the 1980's established in this report.

Table 1. Estimates of the Resident Population of States, 1981 to 1983, and Components of Change Since 1980

(Numbers in thousands. Includes Armed Forces residing in each State)

Region, division, and State	Estimate				Change, 1980-83		Components of change			
	July 1, 1983 (provisional)	July 1, 1982	July 1, 1981	April 1, 1980 (census)	Number	Percent	Births	Deaths	Net migration	
									Number	Percent
United States.....	233,981	231,786	229,518	226,546	7,435	3.3	11,850	6,463	2,048	0.9
Northeast.....	49,519	49,305	49,258	49,135	383	0.8	2,162	1,524	-255	-0.5
New England.....	12,489	12,432	12,417	12,348	141	1.1	534	365	-28	-0.2
Middle Atlantic.....	37,029	36,873	36,841	36,787	243	0.7	1,628	1,159	-226	-0.6
Midwest <sup>1</sup> .....	58,953	58,925	58,991	58,866	88	0.1	3,047	1,695	-1,265	-2.1
East North Central.....	41,531	41,582	41,700	41,682	-151	-0.4	2,121	1,180	-1,092	-2.6
West North Central.....	17,422	17,343	17,291	17,183	239	1.4	926	514	-173	-1.0
South.....	79,539	78,405	77,003	75,372	4,167	5.5	4,062	2,168	2,272	3.0
South Atlantic.....	38,805	38,303	37,784	36,959	1,846	5.0	1,804	1,089	1,132	3.1
East South Central.....	14,946	14,858	14,780	14,666	280	1.9	756	432	-44	-0.3
West South Central.....	25,788	25,244	24,438	23,747	2,041	8.6	1,503	647	1,184	5.0
West.....	45,970	45,150	44,267	43,172	2,797	6.5	2,578	1,076	1,295	3.0
Mountain.....	12,331	12,068	11,746	11,373	958	8.4	755	266	469	4.1
Pacific.....	33,639	33,082	32,521	31,800	1,839	5.8	1,824	811	826	2.6
New England:										
Maine.....	1,146	1,136	1,133	1,125	21	1.9	54	34	1	0.1
New Hampshire.....	959	948	937	921	38	4.1	45	25	18	2.0
Vermont.....	525	520	516	511	14	2.7	26	15	3	0.5
Massachusetts.....	5,767	5,750	5,757	5,737	29	0.5	242	175	-38	-0.7
Rhode Island.....	955	953	952	947	8	0.9	40	30	-2	-0.2
Connecticut.....	3,138	3,126	3,123	3,108	30	1.0	127	86	-11	-0.3
Middle Atlantic:										
New York.....	17,667	17,567	17,556	17,558	109	0.6	789	544	-136	-0.8
New Jersey.....	7,468	7,427	7,407	7,365	103	1.4	316	222	8	0.1
Pennsylvania.....	11,895	11,879	11,878	11,864	31	0.3	522	393	-98	-0.8
East North Central:										
Ohio.....	10,746	10,772	10,799	10,798	-52	-0.5	541	314	-278	-2.6
Indiana.....	5,479	5,482	5,489	5,490	-11	-0.2	277	154	-134	-2.4
Illinois.....	11,486	11,466	11,467	11,427	60	0.5	603	332	-212	-1.9
Michigan.....	9,069	9,116	9,210	9,262	-193	-2.1	457	248	-403	-4.4
Wisconsin.....	4,751	4,745	4,735	4,706	45	1.0	242	133	-64	-1.4
West North Central:										
Minnesota.....	4,144	4,133	4,112	4,076	68	1.7	223	109	-46	-1.1
Iowa.....	2,905	2,906	2,917	2,914	-9	-0.3	148	88	-70	-2.4
Missouri.....	4,970	4,942	4,939	4,917	54	1.1	251	159	-98	-0.8
North Dakota.....	680	672	661	653	28	4.3	40	18	5	0.8
South Dakota.....	700	694	692	691	9	1.3	42	21	-12	-1.7
Nebraska.....	1,597	1,589	1,583	1,570	27	1.7	88	48	-13	-0.8
Kansas.....	2,425	2,408	2,387	2,364	62	2.6	133	71	-	-
South Atlantic:										
Delaware.....	606	600	596	594	12	1.9	28	15	-2	-0.3
Maryland.....	4,304	4,270	4,258	4,217	87	2.1	202	112	-3	-0.1
District of Columbia.....	623	626	632	638	-15	-2.4	30	22	-24	-3.7
Virginia.....	5,550	5,485	5,436	5,347	203	3.8	260	138	81	1.5
West Virginia.....	1,965	1,961	1,960	1,950	15	0.8	91	62	-13	-0.7
North Carolina.....	6,082	6,019	5,958	5,882	200	3.4	276	160	83	1.4
South Carolina.....	3,264	3,227	3,186	3,122	142	4.5	167	83	58	1.8
Georgia.....	5,732	5,648	5,573	5,463	269	4.9	295	145	120	2.2
Florida.....	10,680	10,466	10,183	9,746	933	9.6	455	353	831	8.5
East South Central:										
Kentucky.....	3,714	3,692	3,675	3,661	54	1.5	187	109	-24	-0.7
Tennessee.....	4,685	4,656	4,630	4,591	94	2.1	218	131	8	0.2
Alabama.....	3,959	3,941	3,927	3,894	65	1.7	200	115	-19	-0.5
Mississippi.....	2,587	2,569	2,548	2,521	67	2.6	151	76	-8	-0.3
West South Central:										
Arkansas.....	2,328	2,307	2,300	2,286	42	1.8	117	74	-2	-0.1
Louisiana.....	4,438	4,383	4,300	4,206	232	5.5	271	117	78	1.9
Oklahoma.....	3,298	3,226	3,102	3,025	273	9.0	181	95	186	6.2
Texas.....	15,724	15,329	14,736	14,229	1,494	10.5	934	361	922	6.5
Mountain:										
Montana.....	817	805	796	787	30	3.8	47	22	5	0.6
Idaho.....	989	977	964	944	45	4.8	64	23	4	0.4
Wyoming.....	514	509	493	470	45	9.5	35	10	20	4.4
Colorado.....	3,139	3,071	2,983	2,890	249	8.6	172	64	141	4.9
New Mexico.....	1,399	1,367	1,334	1,303	96	7.4	88	29	38	2.9
Arizona.....	2,963	2,892	2,807	2,718	245	9.0	168	71	147	5.4
Utah.....	1,619	1,571	1,524	1,461	158	10.8	135	27	50	3.4
Nevada.....	891	876	844	800	91	11.3	46	20	65	8.1
Pacific:										
Washington.....	4,300	4,276	4,235	4,132	168	4.1	225	105	49	1.2
Oregon.....	2,662	2,668	2,669	2,633	29	1.1	137	71	-37	-1.4
California.....	25,174	24,697	24,220	23,668	1,506	6.4	1,369	612	750	3.2
Alaska.....	479	444	416	402	77	19.2	33	6	50	12.4
Hawaii.....	1,023	997	981	965	59	6.1	60	16	15	1.6

<sup>1</sup>Formerly the North Central Region.

Table 2. Estimates of the Civilian Population of States, 1981 to 1983, and Components of Change Since 1980

(Numbers in thousands. Excludes Armed Forces residing in each State)

Region, division, and State	Estimates				Change, 1980-83		Components of change				
	July 1, 1983 (provisional)	July 1, 1982	July 1, 1981	April 1, 1980 (census)	Number	Percent	Births	Civilian deaths	Net movement into Armed Forces	Net civilian migration	
										Number	Percent
United States.....	232,286	230,116	227,870	224,968	7,318	3.3	11,850	6,450	128	2,045	0.9
Northeast.....	49,407	49,194	49,151	49,030	377	0.8	2,162	1,523	16	-247	-0.5
New England.....	12,440	12,386	12,371	12,304	136	1.1	534	365	2	-31	-0.3
Middle Atlantic.....	36,966	36,808	36,780	36,726	240	0.7	1,628	1,158	13	-216	-0.6
Midwest <sup>1</sup> .....	58,808	58,775	58,838	58,721	87	0.1	3,047	1,693	46	-1,221	-2.1
East North Central.....	41,464	41,514	41,631	41,616	-152	-0.4	2,121	1,179	40	-1,054	-2.5
West North Central.....	17,344	17,262	17,208	17,105	239	1.4	926	514	7	-167	-1.0
South.....	78,647	77,537	76,141	74,549	4,098	5.5	4,062	2,162	52	2,250	3.0
South Atlantic.....	38,241	37,762	37,243	36,449	1,791	4.9	1,804	1,086	44	1,117	3.1
East South Central.....	14,839	14,753	14,678	14,564	276	1.9	756	431	13	-36	-0.2
West South Central.....	25,567	25,021	24,220	23,536	2,031	8.6	1,503	645	-4	1,169	5.0
West.....	45,424	44,611	43,739	42,668	2,756	6.5	2,578	1,073	13	1,264	3.0
Mountain.....	12,210	11,951	11,627	11,262	948	8.4	755	265	8	466	4.1
Pacific.....	33,213	32,660	32,112	31,405	1,808	5.8	1,824	808	5	798	2.5
New England:											
Maine.....	1,136	1,127	1,123	1,115	21	1.9	54	34	1	2	0.2
New Hampshire.....	954	944	933	917	37	4.1	45	25	-	18	1.9
Vermont.....	525	520	516	511	14	2.7	26	15	-	3	0.5
Massachusetts.....	5,752	5,737	5,744	5,724	28	0.5	242	175	1	-38	-0.7
Rhode Island.....	950	947	946	942	8	0.9	40	30	-	-3	-0.3
Connecticut.....	3,123	3,111	3,109	3,094	28	0.9	127	86	-	-12	-0.4
Middle Atlantic:											
New York.....	17,639	17,541	17,530	17,533	107	0.6	789	543	5	-134	-0.8
New Jersey.....	7,444	7,401	7,383	7,341	103	1.4	316	222	2	10	0.1
Pennsylvania.....	11,883	11,866	11,867	11,852	31	0.3	522	393	6	-93	-0.8
East North Central:											
Ohio.....	10,733	10,761	10,788	10,787	-54	-0.5	541	314	11	-270	-2.5
Indiana.....	5,473	5,476	5,483	5,485	-12	-0.2	277	154	7	-128	-2.3
Illinois.....	11,450	11,427	11,427	11,388	62	0.5	603	331	5	-205	-1.8
Michigan.....	9,058	9,105	9,199	9,252	-194	-2.1	457	247	14	-390	-4.2
Wisconsin.....	4,750	4,744	4,734	4,704	45	1.0	242	133	3	-61	-1.3
West North Central:											
Minnesota.....	4,143	4,131	4,110	4,074	69	1.7	223	109	2	-43	-1.1
Iowa.....	2,903	2,905	2,917	2,913	-10	-0.3	148	88	3	-67	-2.3
Missouri.....	4,953	4,919	4,916	4,896	57	1.2	251	159	2	-33	-0.7
North Dakota.....	669	661	650	642	27	4.2	40	18	-	4	0.7
South Dakota.....	693	688	686	685	9	1.3	42	21	1	-11	-1.7
Nebraska.....	1,585	1,577	1,570	1,558	27	1.7	88	48	-	-13	-0.8
Kansas.....	2,397	2,380	2,359	2,338	60	2.6	133	71	-	-2	-0.1
South Atlantic:											
Delaware.....	601	595	591	589	11	1.9	28	15	-	-1	-0.2
Maryland.....	4,254	4,228	4,216	4,174	80	1.9	202	111	5	-6	-0.1
District of Columbia.....	617	618	625	631	-14	-2.3	30	22	-	-23	-3.6
Virginia.....	5,387	5,327	5,276	5,202	185	3.6	260	137	6	68	1.3
West Virginia.....	1,964	1,960	1,960	1,949	15	0.8	91	62	1	-12	-0.6
North Carolina.....	5,976	5,921	5,858	5,784	192	3.3	276	159	7	82	1.4
South Carolina.....	3,199	3,158	3,116	3,061	137	4.5	167	82	6	59	1.9
Georgia.....	5,661	5,578	5,507	5,395	266	4.9	295	145	7	123	2.3
Florida.....	10,582	10,378	10,094	9,664	918	9.5	455	352	12	827	8.6
East South Central:											
Kentucky.....	3,679	3,658	3,643	3,625	54	1.5	187	109	3	-22	-0.6
Tennessee.....	4,663	4,633	4,607	4,569	94	2.0	218	131	4	10	0.2
Alabama.....	3,932	3,917	3,902	3,870	62	1.6	200	115	4	-18	-0.5
Mississippi.....	2,565	2,547	2,527	2,499	66	2.6	151	76	2	-7	-0.3
West South Central:											
Arkansas.....	2,318	2,297	2,291	2,277	41	1.8	117	73	2	-1	-
Louisiana.....	4,407	4,346	4,265	4,176	231	5.5	271	117	-2	76	1.8
Oklahoma.....	3,264	3,193	3,071	2,995	270	9.0	181	94	-2	181	6.0
Texas.....	15,577	15,186	14,593	14,088	1,489	10.6	934	361	-2	914	6.5
Mountain:											
Montana.....	812	800	791	782	30	3.8	47	22	-	5	0.7
Idaho.....	983	972	958	938	44	4.7	64	23	1	4	0.4
Wyoming.....	510	506	489	466	45	9.6	35	10	-	21	4.4
Colorado.....	3,097	3,027	2,938	2,850	247	8.7	172	63	1	139	4.9
New Mexico.....	1,382	1,351	1,319	1,287	94	7.3	88	29	1	36	2.8
Arizona.....	2,935	2,866	2,781	2,693	242	9.0	168	71	3	147	5.5
Utah.....	1,612	1,565	1,517	1,455	157	10.8	135	27	-	50	3.4
Nevada.....	879	865	833	791	88	11.2	46	20	1	63	8.0
Pacific:											
Washington.....	4,243	4,222	4,181	4,083	159	3.9	225	105	4	43	1.1
Oregon.....	2,660	2,666	2,668	2,631	29	1.1	137	71	3	-34	-1.3
California.....	24,887	24,408	23,946	23,405	1,482	6.3	1,369	611	-2	722	3.1
Alaska.....	456	421	393	379	77	20.4	33	5	1	50	13.2
Hawaii.....	968	942	924	908	60	6.7	60	16	-	17	1.9

<sup>1</sup> Formerly the North Central Region.

Table 3. Estimates of the Components of Change in the Resident Population of States: 1970 to 1980

(Numbers in thousands. Includes Armed Forces residing in each State)

Region, division, and State	Census		Change, 1970-80		Components of change				Error of closure <sup>2</sup>
	April 1, 1980	April 1, 1970 <sup>1</sup>	Number	Percent	Births	Deaths	Net migration		
							Number	Percent	
United States.....	226,546	203,302	23,244	11.4	33,244	19,279	4,516	2.2	4,763
Northeast.....	49,135	49,061	75	0.2	6,661	4,750	-2,888	-5.9	1,052
New England.....	12,348	11,847	501	4.2	1,607	1,128	-242	-2.0	265
Middle Atlantic.....	36,787	37,213	-426	-1.1	5,055	3,622	-2,646	-7.1	787
Midwest <sup>3</sup> .....	58,866	56,590	2,275	4.0	9,032	5,308	-2,703	-4.8	1,255
East North Central.....	41,682	40,263	1,419	3.5	6,454	3,701	-2,219	-5.5	887
West North Central.....	17,183	16,328	856	5.2	2,579	1,607	-484	-3.0	368
South.....	75,372	62,813	12,559	20.0	11,221	6,210	5,992	9.5	1,557
South Atlantic.....	36,959	30,679	6,280	20.5	5,149	3,071	3,441	11.2	762
East South Central.....	14,666	12,808	1,858	14.5	2,301	1,302	556	4.3	303
West South Central.....	23,747	19,326	4,421	22.9	3,772	1,838	1,995	10.3	492
West.....	43,172	34,838	8,334	23.9	6,330	3,010	4,115	11.8	899
Mountain.....	11,373	8,290	3,083	37.2	1,837	718	1,730	20.9	234
Pacific.....	31,800	26,548	5,251	19.8	4,493	2,292	2,386	9.0	664
New England:									
Maine.....	1,125	994	131	13.2	161	106	52	5.2	24
New Hampshire.....	921	738	183	24.8	122	74	117	15.8	19
Vermont.....	511	445	67	15.0	72	43	27	6.1	11
Massachusetts.....	5,737	5,689	48	0.8	737	550	-263	-4.6	124
Rhode Island.....	947	950	-3	-0.3	123	92	-53	-5.6	20
Connecticut.....	3,108	3,032	75	2.5	391	262	-121	-4.0	67
Middle Atlantic:									
New York.....	17,558	18,241	-683	-3.7	2,481	1,722	-1,821	-10.0	378
New Jersey.....	7,365	7,171	194	2.7	981	670	-275	-3.8	157
Pennsylvania.....	11,864	11,801	63	0.5	1,593	1,230	-551	-4.7	252
East North Central:									
Ohio.....	10,798	10,657	140	1.3	1,676	987	-779	-7.3	230
Indiana.....	5,490	5,195	295	5.7	865	480	-206	-4.0	116
Illinois.....	11,427	11,110	316	2.8	1,790	1,066	-649	-5.8	241
Michigan.....	9,262	8,882	380	4.3	1,441	763	-496	-5.6	198
Wisconsin.....	4,706	4,418	288	6.5	682	406	-90	-2.0	102
West North Central:									
Minnesota.....	4,076	3,806	270	7.1	595	332	-80	-2.1	88
Iowa.....	2,914	2,825	88	3.1	432	284	-122	-4.3	62
Missouri.....	4,917	4,678	239	5.1	728	502	-92	-2.0	104
North Dakota.....	653	618	35	5.7	107	56	-31	-5.0	14
South Dakota.....	691	666	25	3.7	117	66	-41	-6.2	15
Nebraska.....	1,570	1,485	84	5.7	246	148	-47	-3.1	34
Kansas.....	2,364	2,249	115	5.1	354	220	-71	-3.2	51
South Atlantic:									
Delaware.....	594	548	46	8.4	88	49	-6	-1.0	12
Maryland.....	4,217	3,924	293	7.5	568	329	-36	-0.9	90
District of Columbia.....	638	757	-118	-15.6	109	77	-164	-21.7	14
Virginia.....	5,347	4,651	695	14.9	748	404	239	5.1	112
West Virginia.....	1,950	1,744	205	11.8	290	197	71	4.1	40
North Carolina.....	5,882	5,084	797	15.7	863	466	278	5.5	121
South Carolina.....	3,122	2,591	531	20.5	498	240	210	8.1	63
Georgia.....	5,463	4,588	875	19.1	862	427	329	7.2	111
Florida.....	9,746	6,791	2,955	43.5	1,121	883	2,519	37.1	198
East South Central:									
Kentucky.....	3,661	3,221	440	13.7	568	334	131	4.1	75
Tennessee.....	4,591	3,926	665	16.9	664	391	297	7.6	95
Alabama.....	3,894	3,444	450	13.1	615	344	97	2.8	81
Mississippi.....	2,521	2,217	304	13.7	454	233	31	1.4	52
West South Central:									
Arkansas.....	2,286	1,923	363	18.9	349	217	184	9.6	47
Louisiana.....	4,206	3,645	561	15.4	717	344	100	2.7	88
Oklahoma.....	3,025	2,559	466	18.2	445	272	230	9.0	63
Texas.....	14,229	11,199	3,031	27.1	2,261	1,005	1,481	13.2	294
Mountain:									
Montana.....	787	694	92	13.3	126	67	16	2.3	17
Idaho.....	944	713	231	32.4	166	65	110	15.4	20
Wyoming.....	470	332	137	41.3	73	31	85	25.5	10
Colorado.....	2,890	2,210	680	30.8	415	181	385	17.4	61
New Mexico.....	1,303	1,017	286	28.1	224	81	116	11.4	27
Arizona.....	2,718	1,775	943	53.1	405	173	656	37.0	55
Utah.....	1,461	1,059	402	37.9	329	75	119	11.2	30
Nevada.....	800	489	312	63.8	99	46	243	49.7	16
Pacific:									
Washington.....	4,132	3,413	719	21.1	548	303	388	11.4	86
Oregon.....	2,633	2,092	542	25.9	351	205	341	16.3	55
California.....	23,668	19,971	3,697	18.5	3,354	1,725	1,573	7.9	495
Alaska.....	402	303	99	32.8	78	15	28	9.3	9
Hawaii.....	965	770	195	25.3	163	43	55	7.2	20

<sup>1</sup>Corrected count.<sup>2</sup>Error of closure is the difference of the April 1, 1980, estimate from the 1980 census count.<sup>3</sup>Formerly the North Central Region.

Table 4. Annual Estimates of the Resident Population of States: 1970 to 1980

(In thousands. Includes Armed Forces residing in each State)

Region, division, and State	April 1, 1980 (census)	Estimate										April 1, 1970 <sup>1</sup> (census)
		July 1, 1979	July 1, 1978	July 1, 1977	July 1, 1976	July 1, 1975	July 1, 1974	July 1, 1973	July 1, 1972	July 1, 1971		
United States.....	226,546	224,567	222,095	219,760	217,563	215,465	213,342	211,357	209,284	206,827	203,302	
Northeast.....	49,135	49,160	49,194	49,283	49,369	49,411	49,399	49,540	49,665	49,519	49,061	
New England.....	12,348	12,322	12,283	12,239	12,192	12,163	12,146	12,140	12,082	11,993	11,847	
Middle Atlantic.....	36,787	36,838	36,911	37,043	37,178	37,247	37,253	37,401	37,583	37,525	37,213	
Midwest <sup>2</sup> .....	58,866	58,783	58,604	58,363	58,101	57,890	57,743	57,601	57,405	57,107	56,590	
East North Central.....	41,682	41,645	41,542	41,381	41,210	41,125	41,053	40,959	40,833	40,627	40,263	
West North Central.....	17,183	17,138	17,062	16,982	16,891	16,765	16,690	16,642	16,573	16,480	16,328	
South.....	75,372	74,276	72,984	71,816	70,679	69,565	68,378	67,116	65,827	64,475	62,813	
South Atlantic.....	36,959	36,428	35,839	35,293	34,786	34,354	33,819	33,105	32,352	31,590	30,679	
East South Central.....	14,666	14,576	14,416	14,236	14,041	13,822	13,635	13,448	13,277	13,074	12,808	
West South Central.....	23,747	23,273	22,729	22,287	21,852	21,389	20,925	20,198	19,191	19,811	19,326	
West.....	43,172	42,348	41,313	40,298	39,414	38,600	37,821	37,099	36,387	35,726	34,838	
Mountain.....	11,373	11,129	10,733	10,402	10,101	9,849	9,603	9,328	9,003	8,664	8,290	
Pacific.....	31,800	31,219	30,580	29,897	29,313	28,751	28,218	27,772	27,383	27,062	26,548	
New England:												
Maine.....	1,125	1,123	1,114	1,104	1,088	1,072	1,059	1,046	1,034	1,015	994	
New Hampshire.....	921	909	892	870	845	829	816	801	781	762	738	
Vermont.....	511	505	498	492	485	480	468	463	463	454	445	
Massachusetts.....	5,737	5,738	5,736	5,738	5,744	5,754	5,774	5,781	5,760	5,738	5,689	
Rhode Island.....	947	950	952	950	946	943	951	976	975	963	950	
Connecticut.....	3,108	3,096	3,092	3,086	3,083	3,083	3,074	3,068	3,069	3,061	3,032	
Middle Atlantic:												
New York.....	17,558	17,584	17,681	17,813	17,941	18,003	18,050	18,177	18,339	18,358	18,241	
New Jersey.....	7,365	7,367	7,351	7,337	7,340	7,338	7,332	7,333	7,335	7,281	7,171	
Pennsylvania.....	11,864	11,888	11,879	11,894	11,897	11,906	11,871	11,891	11,908	11,886	11,801	
East North Central:												
Ohio.....	10,798	10,798	10,796	10,771	10,753	10,770	10,766	10,767	10,747	10,735	10,657	
Indiana.....	5,490	5,501	5,470	5,426	5,389	5,366	5,362	5,338	5,302	5,253	5,195	
Illinois.....	11,427	11,397	11,413	11,386	11,343	11,292	11,262	11,251	11,252	11,202	11,110	
Michigan.....	9,262	9,266	9,218	9,171	9,129	9,118	9,118	9,078	9,029	8,974	8,882	
Wisconsin.....	4,706	4,683	4,646	4,627	4,596	4,579	4,546	4,524	4,502	4,462	4,418	
West North Central:												
Minnesota.....	4,076	4,050	4,015	3,989	3,965	3,933	3,904	3,889	3,870	3,853	3,806	
Iowa.....	2,914	2,916	2,918	2,914	2,903	2,881	2,868	2,864	2,860	2,852	2,825	
Missouri.....	4,917	4,912	4,889	4,863	4,839	4,808	4,796	4,783	4,759	4,726	4,678	
North Dakota.....	653	653	651	650	646	639	635	633	631	627	618	
South Dakota.....	691	688	689	688	686	681	680	679	677	671	666	
Nebraska.....	1,570	1,567	1,564	1,557	1,551	1,543	1,539	1,530	1,519	1,505	1,485	
Kansas.....	2,364	2,351	2,336	2,321	2,301	2,281	2,269	2,266	2,256	2,247	2,249	
South Atlantic:												
Delaware.....	594	595	595	592	590	587	581	578	573	565	548	
Maryland.....	4,217	4,191	4,184	4,170	4,151	4,139	4,119	4,098	4,073	4,018	3,924	
District of Columbia.....	638	650	665	677	692	707	718	731	742	750	757	
Virginia.....	5,347	5,308	5,270	5,193	5,122	5,047	4,971	4,901	4,824	4,751	4,651	
West Virginia.....	1,950	1,942	1,923	1,908	1,880	1,842	1,815	1,806	1,798	1,771	1,744	
North Carolina.....	5,882	5,823	5,759	5,686	5,608	5,547	5,471	5,390	5,301	5,204	5,084	
South Carolina.....	3,122	3,090	3,044	2,992	2,944	2,902	2,845	2,777	2,719	2,662	2,591	
Georgia.....	5,463	5,401	5,296	5,220	5,133	5,064	4,999	4,910	4,819	4,712	4,588	
Florida.....	9,746	9,426	9,102	8,856	8,667	8,518	8,299	7,914	7,511	7,158	6,791	
East South Central:												
Kentucky.....	3,661	3,642	3,610	3,574	3,529	3,468	3,416	3,371	3,336	3,298	3,221	
Tennessee.....	4,591	4,560	4,486	4,423	4,347	4,276	4,214	4,147	4,095	4,014	3,926	
Alabama.....	3,894	3,866	3,832	3,780	3,735	3,679	3,626	3,580	3,539	3,497	3,444	
Mississippi.....	2,521	2,507	2,488	2,459	2,430	2,399	2,378	2,350	2,307	2,265	2,217	
West South Central:												
Arkansas.....	2,286	2,271	2,243	2,209	2,170	2,160	2,101	2,059	2,019	1,972	1,923	
Louisiana.....	4,206	4,138	4,069	4,014	3,951	3,886	3,820	3,788	3,762	3,710	3,645	
Oklahoma.....	3,025	2,975	2,917	2,870	2,827	2,775	2,735	2,696	2,659	2,619	2,559	
Texas.....	14,229	13,888	13,500	13,193	12,904	12,569	12,269	12,020	11,759	11,510	11,199	
Mountain:												
Montana.....	787	787	782	770	757	748	736	727	719	711	694	
Idaho.....	944	933	911	883	857	832	808	782	763	739	713	
Wyoming.....	470	454	433	413	397	382	366	354	347	340	332	
Colorado.....	2,890	2,849	2,767	2,696	2,632	2,586	2,541	2,496	2,405	2,304	2,210	
New Mexico.....	1,303	1,285	1,238	1,216	1,189	1,160	1,131	1,106	1,079	1,054	1,017	
Arizona.....	2,718	2,636	2,515	2,425	2,346	2,285	2,223	2,124	2,008	1,896	1,775	
Utah.....	1,461	1,420	1,368	1,320	1,275	1,236	1,200	1,170	1,135	1,101	1,059	
Nevada.....	800	765	719	678	647	620	597	569	547	520	489	
Pacific:												
Washington.....	4,132	4,018	3,889	3,776	3,694	3,621	3,550	3,479	3,448	3,448	3,413	
Oregon.....	2,633	2,588	2,518	2,447	2,378	2,330	2,285	2,242	2,197	2,151	2,092	
California.....	23,668	23,257	22,836	22,352	21,936	21,538	21,174	20,869	20,585	20,346	19,971	
Alaska.....	402	403	405	403	401	376	341	331	324	316	303	
Hawaii.....	965	953	932	918	904	886	868	852	828	802	770	

<sup>1</sup>Corrected count.<sup>2</sup>Formerly the North Central Region.

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## Appendix Table

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Table A-1. Percent Error of State Population

(Base is 1980 census advance count of 226,504,825)

Line No.	Region, division, and State	Unadjusted							Adjusted for 1970 census undercount		
		New procedure			Old procedure				New procedure		
		Composite method	Administrative Records method	Average of two methods	Component Method II	Ratio-Correlation method	Administrative Records method	Average of three methods	Composite method	Administrative Records method	Average of two methods
1	United States.....	-2.08	-2.08	-2.08	-2.08	-2.08	-2.08	-2.08	-0.06	-0.06	-0.06
2	Northeast.....	-0.72	0.00	-0.36	-0.61	-0.26	0.20	-0.22	0.15	0.86	0.51
3	New England.....	-1.06	-0.55	-0.80	-0.82	0.30	0.13	-0.13	-0.22	0.29	0.04
4	Middle Atlantic.....	-0.60	0.18	-0.21	-0.54	-0.44	0.22	-0.25	0.27	1.06	0.66
5	Midwest <sup>1</sup> .....	-1.28	-0.87	-1.08	-0.35	-0.79	-0.85	-0.67	-0.15	0.26	0.06
6	East North Central.....	-1.18	-0.82	-1.00	-0.83	-1.08	-0.70	-0.87	-0.13	0.22	0.05
7	West North Central.....	-1.54	-1.00	-1.27	0.81	-0.11	-1.21	-0.17	-0.20	0.35	0.08
8	South.....	-3.53	-3.36	-3.45	-4.21	-3.48	-3.73	-3.81	-0.37	-0.20	-0.28
9	South Atlantic.....	-3.46	-3.24	-3.35	-4.66	-3.68	-3.46	-3.94	-0.67	-0.45	-0.56
10	East South Central.....	-3.95	-2.66	-3.30	-3.54	-4.17	-3.56	-3.76	-0.60	0.69	0.05
11	West South Central.....	-3.38	-3.99	-3.69	-3.94	-2.75	-4.24	-3.64	0.23	-0.37	-0.07
12	West.....	-2.21	-3.87	-3.04	-2.41	-3.49	-3.50	-3.13	0.37	-1.30	-0.46
13	Mountain.....	-3.18	-3.11	-3.15	-4.13	-5.03	-3.15	-4.10	-0.67	-0.60	-0.63
14	Pacific.....	-1.86	-4.15	-3.00	-1.79	-2.93	-3.63	-2.78	0.74	-1.55	-0.40
	New England:										
15	Maine.....	-2.66	-0.72	-1.69	-2.18	-3.28	-1.61	-2.36	-1.41	0.53	-0.44
16	New Hampshire.....	-3.00	-2.37	-2.69	-4.02	-2.52	-2.46	-3.00	-1.72	-1.09	-1.40
17	Vermont.....	-4.12	-1.69	-2.90	-2.84	-3.61	-1.23	-2.56	-2.84	-0.41	-1.62
18	Massachusetts.....	-0.33	-0.52	-0.42	-0.12	1.49	0.92	0.76	0.37	0.18	0.28
19	Rhode Island.....	-2.62	-1.85	-2.24	-6.10	-0.23	-0.96	-2.43	-1.50	-0.73	-1.11
20	Connecticut.....	-0.27	0.60	0.16	1.28	1.04	0.64	0.99	0.38	1.24	0.81
	Middle Atlantic:										
21	New York.....	0.21	0.87	0.54	-0.08	-0.03	1.57	0.49	1.68	2.34	2.01
22	New Jersey.....	-1.12	0.06	-0.53	-0.72	-0.08	-0.81	-0.54	-0.50	0.68	0.09
23	Pennsylvania.....	-1.49	-0.76	-1.13	-1.10	-1.29	-1.13	-1.17	-1.34	-0.62	-0.98
	East North Central:										
24	Ohio.....	-0.94	-0.07	-0.51	-1.39	-0.62	-0.01	-0.67	-0.01	0.85	0.42
25	Indiana.....	-1.37	-1.47	-1.42	-1.60	-2.49	-1.34	-1.81	-0.18	-0.29	-0.23
26	Illinois.....	-1.21	-1.94	-1.57	-2.22	-1.41	-1.60	-1.74	0.33	-0.41	-0.04
27	Michigan.....	-1.55	-0.10	-0.82	0.07	-1.24	-0.06	-0.41	-0.67	0.78	0.05
28	Wisconsin.....	-0.69	-0.50	-0.59	2.97	0.66	-0.62	1.00	-0.36	-0.17	-0.27
	West North Central:										
29	Minnesota.....	-2.22	-0.81	-1.51	1.14	0.51	-0.87	0.26	-1.91	-0.50	-1.21
30	Iowa.....	-1.46	-1.16	-1.31	0.83	-0.14	-2.04	-0.45	-0.63	-0.32	-0.47
31	Missouri.....	-1.56	-1.06	-1.31	-0.54	-1.75	-1.02	-1.11	0.85	1.35	1.10
32	North Dakota.....	-2.37	-0.03	-1.20	-0.12	2.31	-1.21	0.32	-0.99	1.34	0.17
33	South Dakota.....	-1.40	0.51	-0.45	2.66	-0.73	-0.72	0.41	-0.27	1.65	0.69
34	Nebraska.....	-1.20	-0.46	-0.83	1.13	0.51	-0.34	0.43	0.08	0.82	0.45
35	Kansas.....	-0.47	-2.05	-1.26	2.52	1.36	-1.88	0.67	1.17	-0.42	0.38
	South Atlantic:										
36	Delaware.....	-4.39	-1.45	-2.92	-3.01	-3.53	-0.63	-2.39	-3.30	-0.36	-1.83
37	Maryland.....	-2.51	-0.76	-1.63	-1.36	-0.96	-0.67	-1.00	-1.08	0.67	-0.20
38	District of Columbia.....	5.96	-1.55	2.20	-2.96	3.75	2.90	1.23	13.87	6.36	10.12
39	Virginia.....	-2.37	-2.21	-2.29	-2.04	-2.57	-1.70	-2.10	-0.33	-0.17	-0.25
40	West Virginia.....	-3.48	-2.46	-2.97	-3.11	-4.15	-4.36	-3.87	-1.39	-0.38	-0.88
41	North Carolina.....	-3.24	-3.40	-3.32	-4.71	-3.05	-3.62	-3.79	-0.41	-0.57	-0.49
42	South Carolina.....	-6.54	-3.72	-5.13	-6.23	-5.59	-4.71	-5.51	-2.85	-0.03	-1.44
43	Georgia.....	-5.15	-3.18	-4.16	-6.86	-4.97	-3.17	-5.00	-1.38	0.59	-0.39
44	Florida.....	-3.24	-5.05	-4.15	-6.28	-4.92	-5.73	-5.64	-0.37	-2.19	-1.28
	East South Central:										
45	Kentucky.....	-4.03	-2.69	-3.36	-2.44	-6.01	-3.56	-4.00	-0.88	0.46	-0.21
46	Tennessee.....	-3.21	-4.14	-3.68	-3.32	-4.43	-4.47	-4.07	-0.09	-1.01	-0.55
47	Alabama.....	-4.15	-2.04	-3.09	-3.10	-3.07	-3.23	-3.14	-0.94	1.18	0.12
48	Mississippi.....	-4.86	-0.89	-2.87	-6.19	-2.70	-2.43	-3.77	-0.60	3.37	1.38
	West South Central:										
49	Arkansas.....	-4.38	-2.28	-3.33	-2.59	-5.47	-3.99	-4.02	-0.84	1.26	0.21
50	Louisiana.....	-3.03	-3.13	-3.08	-4.39	0.21	-3.68	-2.62	1.18	1.09	1.14
51	Oklahoma.....	-2.19	-3.54	-2.87	-3.05	-2.03	-4.10	-3.06	0.74	-0.61	0.06
52	Texas.....	-3.58	-4.61	-4.10	-4.21	-3.34	-4.47	-4.01	0.02	-1.01	-0.49
	Mountain:										
53	Montana.....	-1.80	1.70	-0.05	1.20	-2.20	0.04	-0.32	0.57	4.06	2.32
54	Idaho.....	-1.40	-1.60	-1.50	-2.01	-5.86	-3.35	-3.74	0.68	0.47	0.57
55	Wyoming.....	-2.53	-3.02	-2.78	0.66	-3.50	-4.29	-2.38	-0.30	-0.79	-0.55
56	Colorado.....	-2.86	-2.36	-2.61	-3.47	-2.92	-1.29	-2.56	-0.83	-0.32	-0.57
57	New Mexico.....	-3.53	-2.54	-3.04	0.79	-3.32	-3.57	-2.03	0.67	1.66	1.17
58	Arizona.....	-5.64	-4.20	-4.92	-8.03	-7.53	-4.65	-6.74	-2.71	-1.27	-1.99
59	Utah.....	-0.28	-4.29	-2.28	-3.72	-6.80	-2.78	-4.43	0.85	-3.16	-1.15
60	Nevada.....	-4.62	-7.50	-6.06	-12.60	-6.40	-6.94	-8.65	-1.13	-4.01	-2.57
	Pacific:										
61	Washington.....	-1.10	-2.75	-1.93	-3.06	-2.78	-2.89	-2.91	0.98	-0.67	0.16
62	Oregon.....	-1.30	-2.67	-1.99	-2.23	-3.77	-3.37	-3.12	0.59	-0.78	-0.10
63	California.....	-1.96	-4.80	-3.38	-1.39	-2.77	-4.03	-2.73	0.71	-2.12	-0.71
64	Alaska.....	-4.98	5.00	0.01	-4.63	-2.46	6.70	-0.13	0.02	10.00	5.01
65	Hawaii.....	-2.78	-2.01	-2.39	-3.87	-5.61	-1.85	-3.78	1.21	1.99	1.60

- Represents zero or rounds to zero.

<sup>1</sup>Formerly the North Central Region.

## Estimates, by New and Old Procedures: April 1, 1980

Adjusted for 1970 census undercount--Con.				Adjusted pro rata to 1980 census count							Line No.
Old procedure				New procedure			Old procedure				
Component Method II	Ratio-Correlation method	Administrative Records method	Average of three methods	Composite method	Administrative Records method	Average of two methods	Component Method II	Ratio-Correlation method	Administrative Records method	Average of three methods	
-0.06	-0.06	-0.06	-0.06	-	-	-	-	-	-	-	1
0.25	0.61	1.06	0.64	1.40	2.13	1.76	1.51	1.87	2.33	1.90	2
0.02	1.14	0.97	0.71	1.05	1.57	1.31	1.29	2.44	2.27	2.00	3
0.33	0.43	1.09	0.62	1.51	2.32	1.91	1.58	1.68	2.35	1.87	4
0.78	0.34	0.28	0.47	0.82	1.24	1.03	1.77	1.32	1.26	1.45	5
0.22	-0.03	0.35	0.18	0.93	1.29	1.11	1.28	1.03	1.41	1.24	6
2.15	1.23	0.13	1.17	0.56	1.11	0.83	2.95	2.02	0.89	1.95	7
-1.05	-0.32	-0.56	-0.64	-1.48	-1.31	-1.39	-2.17	-1.43	-1.68	-1.76	8
-1.86	-0.88	-0.67	-1.14	-1.41	-1.41	-1.30	-2.63	-1.63	-1.41	-1.89	9
-0.19	-0.82	-0.21	-0.41	-1.90	-0.59	-1.25	-1.48	-2.13	-1.51	-1.71	10
-0.32	0.87	-0.62	-0.02	-1.33	-1.94	-1.64	-1.89	-0.68	-2.20	-1.59	11
0.17	-0.91	-0.92	-0.55	-0.13	-1.83	-0.98	-0.33	-1.43	-1.45	-1.07	12
-1.62	-2.51	-0.63	-1.59	-1.12	-1.05	-1.09	-2.09	-3.01	-1.08	-2.06	13
0.81	-0.33	-1.03	-0.18	0.23	-2.11	-0.94	0.30	-0.87	-1.57	-0.71	14
-0.93	-2.03	-0.36	-1.11	-0.59	1.39	0.40	-0.09	-1.22	0.48	-0.28	15
-2.74	-1.23	-1.17	-1.71	-0.93	-0.29	-0.61	-1.98	-0.44	-0.38	-0.93	16
-1.56	-2.33	0.05	-1.28	-2.08	0.40	-0.84	-0.78	-1.56	0.87	-0.49	17
0.58	2.19	1.62	1.46	1.80	1.60	1.70	2.01	3.65	3.07	2.91	18
-4.98	0.89	0.16	-1.31	-0.55	0.24	-0.15	-4.10	1.89	1.15	-0.35	19
1.92	1.69	1.29	1.63	1.86	2.74	2.30	3.43	3.20	2.78	3.14	20
1.39	1.44	3.03	1.95	2.35	3.02	2.68	2.05	2.10	3.73	2.63	21
-0.10	0.54	-0.19	0.08	0.99	2.19	1.59	1.39	2.05	1.30	1.58	22
-0.96	-1.14	-0.98	-1.03	0.61	1.35	0.98	1.00	0.81	0.98	0.93	23
-0.47	0.31	0.91	0.25	1.17	2.05	1.61	0.70	1.50	2.12	1.44	24
-0.41	-1.30	-0.15	-0.62	0.73	0.63	0.68	0.49	-0.41	0.76	0.28	25
-0.69	0.12	-0.06	-0.21	0.90	0.15	0.52	-0.14	0.69	0.50	0.35	26
0.95	-0.36	0.82	0.47	0.55	2.03	1.29	2.20	0.86	2.07	1.71	27
3.30	0.99	-0.30	1.33	1.43	1.62	1.52	5.16	2.81	1.49	3.15	28
1.44	0.82	-0.57	0.57	-0.13	1.30	0.58	3.29	2.65	1.24	2.39	29
1.67	0.70	-1.20	0.39	0.63	0.95	0.79	2.98	1.99	0.05	1.67	30
1.86	0.66	1.39	1.30	0.54	1.05	0.79	1.57	0.34	1.09	1.00	31
1.25	3.68	0.16	1.70	-0.29	2.10	0.90	2.01	4.48	0.89	2.46	32
3.80	0.41	0.42	1.54	0.70	2.65	1.67	4.85	1.39	1.40	2.54	33
2.42	1.79	0.94	1.72	0.90	1.66	1.28	3.29	2.65	1.78	2.57	34
4.15	3.00	-0.24	2.30	1.65	0.03	0.84	4.70	3.52	0.21	2.81	35
-1.91	-2.44	0.46	-1.30	-2.35	0.65	-0.85	-0.94	-1.48	1.48	-0.31	36
0.08	0.47	0.76	0.43	-0.44	1.36	0.46	0.74	1.15	1.44	1.11	37
4.95	11.66	10.81	9.14	8.22	0.54	4.38	-0.89	5.96	5.09	3.38	38
-	-0.52	0.35	-0.06	-0.29	-0.13	-0.21	0.05	-0.49	0.40	-0.02	39
-1.02	-2.07	-2.27	-1.79	-1.42	-0.39	-0.90	-1.05	-2.12	-2.32	-1.83	40
-1.88	-0.22	-0.79	-0.96	-1.18	-1.34	-1.26	-2.68	-0.99	-1.56	-1.75	41
-2.54	-1.90	-1.02	-4.55	-1.67	-1.67	-3.58	-4.23	-3.58	-2.68	-3.50	42
-3.09	-1.20	0.60	-1.23	-3.13	-1.11	-2.12	-4.88	-2.95	-1.11	-2.98	43
-3.42	-2.05	-2.86	-2.78	-1.18	-3.03	-2.11	-4.29	-2.90	-3.72	-3.63	44
0.71	-2.85	-0.41	-0.85	-1.99	-0.62	-1.30	-0.36	-4.00	-1.51	-1.96	45
-0.20	-1.30	-1.34	-0.95	-1.15	-2.10	-1.62	-1.27	-2.39	-2.44	-2.03	46
0.11	0.14	-0.02	0.08	-2.11	0.05	-1.03	-1.04	-1.01	-1.17	-1.07	47
-1.94	1.55	1.83	0.48	-2.83	1.22	-0.81	-4.20	-0.63	-0.35	-1.73	48
0.95	-1.93	-0.45	-0.48	-2.35	-0.20	-1.27	-0.52	-3.46	-1.95	-1.97	49
-0.17	4.43	0.53	1.60	-0.97	-1.06	-1.02	-2.35	2.35	-1.63	-0.55	50
-0.12	0.90	-1.16	-0.13	-0.11	-1.49	-0.80	-0.99	0.05	-2.05	-1.00	51
-0.61	0.26	-0.87	-0.41	-1.53	-2.58	-2.05	-2.17	-1.28	-2.44	-1.96	52
3.56	0.17	2.41	2.05	0.29	3.86	2.08	3.35	-0.12	2.17	1.80	53
0.06	-3.79	-1.28	-1.67	0.70	0.49	0.60	0.07	-3.86	-1.30	-1.69	54
2.89	-1.27	-2.06	-0.15	-0.46	-0.96	-0.71	2.81	-1.45	-2.25	-0.30	55
-1.44	-0.89	0.74	-0.53	-0.79	-0.28	-0.53	-1.42	-0.85	0.81	-0.49	56
4.99	0.88	0.64	2.17	-1.48	-0.47	-0.97	2.94	-1.26	-1.51	0.05	57
-5.10	-4.60	-1.71	-3.80	-3.63	-2.16	-2.90	-6.07	-5.56	-2.62	-4.75	58
-2.59	-5.67	-1.65	-3.30	1.85	-2.25	-0.20	-1.67	-4.81	-0.71	-2.40	59
-9.11	-2.91	-3.46	-5.16	-2.59	-5.53	-4.06	-10.74	-4.41	-4.96	-6.70	60
-0.98	-0.70	-0.81	-0.83	1.00	-0.68	0.16	-0.99	-0.71	-0.82	-0.84	61
-0.34	-1.88	-1.48	-1.23	0.80	-0.60	0.10	-0.15	-1.72	-1.31	-1.06	62
1.28	-0.09	-1.36	-0.06	0.12	-2.77	-1.32	0.71	-0.70	-1.99	-0.66	63
0.37	2.53	11.70	4.87	-2.95	7.24	2.14	-2.60	-0.39	8.97	2.00	64
0.12	-1.61	2.15	0.22	-0.71	0.08	-0.32	-1.83	-3.60	0.24	-1.73	65