# Post 2000 Texas Population: Changes in Size, Composition, and Distribution Revisited 

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#### Abstract

Texas is one of most rapidly growing states in the United States. This paper examines the change in size, composition, and distribution of Texas population from 2000-2010. Texas population increased from 20,851,820 in 2000 to $25,145,561$ in 2010 . This is an increase of $4,293,741$ persons between April 1, 2000 and April 1, 2010, leading the nation in numerical increase. Texas' population also diversified extensively; the proportion of Anglo (non-Hispanic White) population has decreased from 60.6 percent in 1990 to 45.3 percent in 2010. The proportion of Hispanic population (Hispanics of any race) has increased from 25.6 percent in 1990 to 37.6 percent in 2010. In 2010, more than fifty-three percent of Texans are minorities (i.e., Black, Hispanic, and Others). The proportion of population 65 years of age and above increased from 9.9 in 2000 to 10.4 in 2010. Although Texas experienced population growth, it has also experienced population decline in certain age groups particularly among the Anglo working age population. Such change has important implications for education, labor force participation, health related issues and polity in Texas. Population growth in Texas has not been distributed evenly throughout the state. Some parts of the State have grown rapidly, some have grown slowly and other areas have declined. Texas may thus be expected to remain among those states with the largest numerical increase in population and to continue to be among the Nation's growing states in the coming years.


Keywords: Population, change, size, composition, distribution, diversification.

## I. INTRODUCTION

The Population Census is one of the most important sources of demographic data. The primary aim of the census is to provide detailed data on the size, composition and distribution of the population through an accurate count of the number of people and households with their characteristics [1]. The decennial population census provides comprehensive data on the population at all levels of geographic and administrative units. Population counts for states, counties, and places are essential for planning different types of services, such as health care, education, employment, highways, water, and sewer. Planning for education and health services require accurate information on the number of persons by age (for services taroetino children or elderly), sex, marital status, and place of residence. Population counts provide a basis for allocating resources between areas in relation to population size. For example, the federal government uses census data for program evaluation, to identify population in need of services and to distribute hillinns of dollars in federal, state, local, and tribal funds. Census data are used for

[^0]the apportionment of representatives among the states for the House of Representative and to draw legislative districts [2]. Population counts are also necessary to provide denominators to compute many types of rates and ratios, such as birth rates, death rates, labor force participation rates, school enrollment rates, dependency ratios, sex ratios and also provide base line data for future population projections.

According to the recent release of 2010 population census, Texas is one of the most rapidly growing states in the United States. The rate of population growth in Texas has exceeded that for the nation in every decade since Texas became a state. During the most recent decade Texas' population has increased by 20.6 percent while the U.S. population has increased by 9.7 percent (see Fig. 1). Texas population increased from $20,851,820$ in 2000 to $25,145,561$ in 2010 [3, 4], which is an increase of $4,293,741$ persons between April 1, 2000 and April 1, 2010, and leads the nation in numerical increase. During the same time, for instance, California's population increased by $3,382,308$ persons. In terms of percent population growth, Texas ranked fifth among the fastest growing states for the period 2000 to 2010 (with an increase of 20.6 percent (see Fig. 1 and Appendix Table 1). During the 1990s and 2000-2005, Texas was the second fastest growing state, in numerical terms (behind California), but has been the fastest growing state since 2006. Texas' population also diversified extensively; the


Fig. (1). U.S. and Texas Population Change, 1860-2010.
Table 1. Total Population and Components of Population Change in Texas, 1950-2010

|  |  |  |  |  |  | Percent Change Due to |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Population | Numerical Change | Natural Increase | Net Migration | Percent Change | Natural Increase | Net Migration |
| 1950 | 7,711,194 | - | - | - | - | - | - |
| 1960 | 9,579,677 | 1,868,483 | 1,672,522 | 195,949 | 24.2 | 89.5 | 10.5 |
| 1970 | 11,196,730 | 1,617,053 | 1,402,716 | 214,337 | 16.9 | 86.7 | 13.3 |
| 1980 | 14,229,191 | 3,032,461 | 1,258,881 | 1,773,580 | 27.1 | 41.5 | 58.5 |
| 1990 | 16,986,510 | 2,757,319 | 1,815,699 | 941,620 | 19.4 | 65.8 | 34.2 |
| 2000 | 20,851,820 | 3,865,310 | 1,922,037 | 1,943,273 | 22.8 | 49.7 | 50.3 |
| 2010 | 25,145,561 | 4,293,741 | 2,304,208 | 1,989,533 | 20.6 | 53.7 | 46.3 |

Source: U.S. Census Bureau, April 1 population counts for 1950, 1960, 1970, 1980, 1990, 2000, and 2010.
proportion of Anglo (non-Hispanic White) population decreased from 60.6 percent in 1990 to 45.3 percent in 2010, while the proportion of the Hispanic population (Hispanics of any race) has increased from 25.6 percent in 1990 to 37.6 percent in 2010. In 2010, more than fifty-three percent of Texans are minorities (i.e., Black, Hispanic, and Others).

Changes in any population group have important consequences for many social institutions; for example, for young populations more demand will be placed on building new schools and creating new jobs and for older populations more demand will be placed on housing, health care needs and social services. The observed changes in Texas' population, which is also occurring throughout the U.S., portends important shifts in Texas, e.g,, the student population, congressional seats, and the ethnic/racial composition of the labor market. For example, Texas gained four congressional seats due to its population growth during this decade. In this paper we examine in greater detail the change in size, composition, and distribution of Texas population from 20002010.

## II. CHANGE IN SIZE, 2000-2010

The size of Texas' population has almost doubled in the past 30 years, increasing from 14.2 million in 1980 to 25.1 million in 2010. The growth of $4,293,741$ persons between 2000 and 2010 represents the largest annualized increase of 421,230 persons per year in Texas' history. The previous record increase was $3,865,310$ persons or an annualized increase of 386,531 persons per year between 1990 and 2000 (see Table 1). The increase of $4,293,741$ persons during the 2000-2010 period was equivalent to the total 2010 populations of Wyoming $(563,626)$, District of Columbia $(601,723)$, Vermont $(625,741)$, North Dakota $(672,591)$, Alaska $(710,231)$, South Dakota $(814,180)$, and Delaware $(897,934)$.

Texas' growth has been fueled by substantial natural increase (births minus deaths) and by net migration (inmigration from states in the U.S. and immigration from other countries of the world). For example, of the $4,293,741$ population increase between 2000 to 2010, 2,304,208 was due to

Table 2. Population Change by Race/Ethnicity in Texas, 2000-2010

| Race/Ethnicity | Census Count 2000 | $\begin{gathered} \text { Census Count } \\ 2010 \end{gathered}$ | Numerical Change 2000-2010 | Percent Change 2000-2010 | Percent Population |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | 2000 | 2010 |
| Hispanic or Latino | 6,669,666 | 9,460,921 | 2,791,255 | 41.8 | 32 | 37.6 |
| Non-Hispanic White Alone | 10,933,313 | 11,397,345 | 464,032 | 4.2 | 52.4 | 45.3 |
| Non-Hispanic Black or African American Alone | 2,364,255 | 2,886,825 | 522,570 | 22.1 | 11.3 | 11.5 |
| Non-Hispanic American Indian and Alaska Native Alone | 68,859 | 80,586 | 11,727 | 17 | 0.3 | 0.3 |
| Non-Hispanic Asian Alone | 554,445 | 948,426 | 393,981 | 71.1 | 2.7 | 3.8 |
| Non-Hispanic Native Hawaiian and Other Pacific Islander Alone | 10,757 | 17,920 | 7,163 | 66.6 | 0.1 | 0.1 |
| Non-Hispanic Some Other Race Alone | 19,958 | 33,980 | 14,022 | 70.3 | 0.1 | 0.1 |
| Non-Hispanic Two or More Races | 230,567 | 319,558 | 88,991 | 38.6 | 1.1 | 1.3 |
| Total | 20,851,820 | 25,145,561 | 4,293,741 | 20.6 | 100 | 100 |

Source: U.S. Census Bureau, April 1 population counts, PL94-171 (machine-readable data files)
natural increase and $1,989,533$ was due to net migration, or in other words, 53.7 percent of the growth was due to natural increase and 46.3 percent was from net migration (see Table 1).

## III. CHANGE IN COMPOSITION, 2000-2010

In the following sections we examine the changes in composition for Texas population. First we examine the changes in racial/ethnic composition and then we examine the changes in age and sex composition occurring in Texas population from 2000-2010.

## III.A. CHANGE IN RACIAL/ETHNIC COMPOSITION, 2000-2010

Table 2 presents population change by race/ethnicity for the State of Texas from 2000-2010. During the 1990's Texas' rapid population growth was significant, but the racial/ethnic diversification of the population was even more substantial. Although Texas' total population increased by 22.8 percent during the 1990's, the Anglo (non-Hispanic white) population increased by only 7.4 percent, the nonHispanic Black population by 22.3 percent, the Hispanic population by 53.7 percent, and the non-Hispanic Other population by 91.8 . Since 2000, the Census Bureau has collected more detailed data on race/ethnicity which is not directly comparable with the 1990 Census. Therefore, in the following section we are only comparing 2000 and 2010 census data by race/ethnicity.

The populations for 2000 and 2010 by race/ethnicity were derived by the authors from PL94-171 for each respective census year [3, 4]. During 2000-2010, the Non-Hispanic White Alone population increased from $10,933,313$ to 11,397,345, the Non-Hispanic Black population increased from $2,364,255$ to $2,886,825$, the Non-Hispanic Asians increased from 554,445 to 948,426 , the Non-Hispanic Native Hawaiians and Non-Hispanic Other Pacific Islanders increased from 10,757 to 17,920 , the Non-Hispanic Some Other Race group increased from 19,958 to 33,980, and the Non-Hispanic Two or More Races group increased from

230,567 to 319,558 . The Hispanic or Latino ethnic group, which can be of any race, increased from $6,669,666$ to $9,460,921$. A detailed discussion on racial/ethnic composition can be found at Chapter 8 of "The Methods and Materials of Demography" [5].

In terms of percent change, Asians gained the most (71.1); followed by Some Other Race (70.3), Native Hawaiian and Other Pacific Islander (66.6), and the Hispanic Population (41.8). As a result of these changes, the Anglo population proportion decreased from 60.7 percent in 1990 to 52.4 percent in 2000 and 45.3 percent in 2010. The proportion of Black population decreased from 11.7 percent in 1990 to 11.3 percent in 2000 and to 11.5 percent in 2010 . The Hispanic proportion increased from 25.5 percent in 1990 to 32.0 percent in 2000, and 37.6 percent in 2010. The proportion of Other (the sum of all other Non-Hispanic groups) population increased from 2.1 percent in 1990 to 4.3 percent in 2000 and 5.6 percent in 2010.

## III.B. CHANGE IN AGE AND SEX COMPOSITION, 2000-2010

Age and sex are two of the most important variables in demographic analysis. Changing age structure can have profound impact on a society. A society with young population immediately implies the potential of rapid growth in population as well as continuing need for investment in education and employment while aging populations create concerns about the funding of pension and health services as well as diminishing labor supplies and ultimately population decline [6, 7]. Table 3 presents data for selected age groups by race/ethnicity for 2000 and 2010. The populations of 2000 and 2010 by age groups and race/ethnicity were derived by the authors from Summary File 1 (SF1) for each respective census year [8, 9]. As can be seen from Table 3, nonHispanic White population for working age groups 35-39 and $40-44$ has decreased by 18.8 and 18.3 percent, respectively while Hispanic population has increased by 37.4 and 43.0, respectively. Total population under age 15 grew at 16.9 percent, non-Hispanic White population declined by 7.3 percent, non-Hispanic Black population increased by 8.8

Table 3. Population by Age Group and Race/Ethnicity in 2000 and 2010, and Percent Population Change by Age Group and Race/Ethnicity from 2000 to 2010

| Age Group | Total | NHWHT ${ }^{\text {a }}$ | NHBLK ${ }^{\text {b }}$ | NHAIA ${ }^{\text {c }}$ | NHASI ${ }^{\text {d }}$ | NHNHP ${ }^{\text {e }}$ | NHSOR ${ }^{\text {f }}$ | NHTOM ${ }^{\text {g }}$ | HSP ${ }^{\text {h }}$ | NHSP ${ }^{\text {i }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Panel-I: Population in 2000 |  |  |  |  |  |  |  |  |  |  |
| 00-04 | 1,624,628 | 641,049 | 189,048 | 4,176 | 40,366 | 848 | 2,665 | 32,192 | 714,284 | 910,344 |
| 05-09 | 1,654,184 | 688,712 | 210,835 | 4,768 | 38,000 | 961 | 2,583 | 25,853 | 682,472 | 971,712 |
| 10-14 | 1,631,192 | 733,846 | 210,846 | 5,131 | 37,380 | 861 | 2,124 | 21,908 | 619,096 | 1,012,069 |
| 15-19 | 1,636,233 | 735,945 | 203,918 | 5,422 | 40,025 | 920 | 1,772 | 19,835 | 628,395 | 1,007,837 |
| 20-24 | 1,539,404 | 663,358 | 182,726 | 5,213 | 44,767 | 1,155 | 1,596 | 17,790 | 622,799 | 916,605 |
| 25-29 | 1,591,522 | 707,160 | 185,654 | 5,312 | 59,340 | 1,124 | 1,538 | 16,868 | 614,526 | 976,996 |
| 30-34 | 1,570,561 | 750,170 | 186,214 | 5,218 | 57,045 | 1,032 | 1,442 | 15,114 | 554,326 | 1,016,335 |
| 35-39 | 1,688,883 | 895,239 | 202,734 | 6,297 | 51,779 | 892 | 1,418 | 15,967 | 514,557 | 1,174,326 |
| 40-44 | 1,633,355 | 934,537 | 192,674 | 6,419 | 47,070 | 855 | 1,303 | 15,161 | 435,336 | 1,198,017 |
| 45-49 | 1,416,178 | 852,528 | 158,566 | 5,726 | 41,484 | 652 | 1,071 | 12,992 | 343,159 | 1,079,019 |
| 50-54 | 1,194,595 | 758,476 | 118,911 | 4,963 | 33,381 | 502 | 826 | 10,568 | 267,332 | 927,627 |
| 55-59 | 896,521 | 595,720 | 82,688 | 3,542 | 21,683 | 313 | 528 | 7,588 | 184,459 | 712,062 |
| 60-64 | 701,669 | 471,013 | 64,696 | 2,408 | 15,202 | 203 | 322 | 5,536 | 142,289 | 559,380 |
| 65-69 | 610,432 | 420,016 | 55,447 | 1,601 | 10,888 | 163 | 261 | 4,298 | 117,758 | 492,674 |
| 70-74 | 532,176 | 378,798 | 44,882 | 1,169 | 7,522 | 127 | 186 | 3,422 | 96,070 | 436,106 |
| 75-79 | 424,034 | 315,649 | 32,795 | 736 | 4,559 | 67 | 144 | 2,575 | 67,509 | 356,525 |
| 80-84 | 267,950 | 207,823 | 20,757 | 420 | 2,385 | 37 | 87 | 1,545 | 34,896 | 233,054 |
| 85+ | 237,940 | 183,274 | 20,864 | 338 | 1,569 | 45 | 92 | 1,355 | 30,403 | 207,537 |
|  |  |  |  |  |  |  |  |  |  |  |
| 00-14 | 4,910,004 | 1,913,245 | 610,729 | 14,075 | 115,746 | 2,670 | 7,372 | 79,953 | 2,015,852 | 2,894,152 |
| 15-64 | 13,869,284 | 7,724,035 | 1,578,781 | 50,520 | 411,776 | 7,648 | 11,816 | 137,419 | 4,307,178 | 9,562,106 |
| 65+ | 2,072,532 | 1,760,065 | 174,745 | 4,264 | 26,923 | 439 | 770 | 13,195 | 346,636 | 1,725,896 |
| Panel-II: Population in 2010 |  |  |  |  |  |  |  |  |  |  |
| 00-04 | 1,928,473 | 610,478 | 216,545 | 4,446 | 65,555 | 1,351 | 4,026 | 49,401 | 976,671 | 951,802 |
| 05-09 | 1,928,234 | 640,006 | 220,631 | 4,915 | 68,688 | 1,397 | 3,411 | 42,064 | 947,122 | 981,112 |
| 10-14 | 1,881,883 | 662,761 | 227,184 | 5,640 | 61,662 | 1,393 | 3,373 | 36,488 | 883,382 | 998,501 |
| 15-19 | 1,883,124 | 691,216 | 245,431 | 6,367 | 59,456 | 1,574 | 3,184 | 30,203 | 845,693 | 1,037,431 |
| 20-24 | 1,817,079 | 712,673 | 224,189 | 5,675 | 68,633 | 1,944 | 2,892 | 23,796 | 777,277 | 1,039,802 |
| 25-29 | 1,853,039 | 747,123 | 217,385 | 5,482 | 82,237 | 1,769 | 2,825 | 22,217 | 774,001 | 1,079,038 |
| 30-34 | 1,760,434 | 697,070 | 209,143 | 5,159 | 84,977 | 1,573 | 2,645 | 19,384 | 740,483 | 1,019,951 |
| 35-39 | 1,763,587 | 726,869 | 209,916 | 5,590 | 92,772 | 1,362 | 2,278 | 17,566 | 707,234 | 1,056,353 |
| 40-44 | 1,694,795 | 763,177 | 205,196 | 5,745 | 79,929 | 1,258 | 1,933 | 14,840 | 622,717 | 1,072,078 |
| 45-49 | 1,760,467 | 892,899 | 215,408 | 7,069 | 69,141 | 1,170 | 1,947 | 14,801 | 558,032 | 1,202,435 |
| 50-54 | 1,674,869 | 925,580 | 201,357 | 6,889 | 59,808 | 1,023 | 1,703 | 13,553 | 464,956 | 1,209,913 |
| 55-59 | 1,422,924 | 835,567 | 159,951 | 5,648 | 50,507 | 761 | 1,431 | 11,019 | 358,040 | 1,064,884 |
| 60-64 | 1,175,767 | 731,861 | 116,115 | 4,637 | 39,760 | 586 | 935 | 8,481 | 272,392 | 902,375 |
| 65-69 | 853,100 | 556,163 | 76,524 | 3,041 | 26,357 | 322 | 579 | 5,716 | 184,398 | 668,702 |
| 70-74 | 619,156 | 408,705 | 53,193 | 1,905 | 17,708 | 189 | 357 | 3,922 | 133,177 | 485,979 |
| 75-79 | 477,245 | 325,066 | 39,375 | 1,201 | 10,901 | 123 | 203 | 2,693 | 97,683 | 379,562 |
| 80-84 | 347,206 | 244,459 | 26,156 | 695 | 6,268 | 80 | 142 | 1,929 | 67,477 | 279,729 |

Table 3. cont...

| Age Group | Total | NHWHT ${ }^{\text {a }}$ | NHBLK ${ }^{\text {b }}$ | NHAIA ${ }^{\text {c }}$ | NHASI ${ }^{\text {d }}$ | NHNHP ${ }^{\text {e }}$ | NHSOR ${ }^{\text {f }}$ | NHTOM ${ }^{\text {g }}$ | HSP ${ }^{\text {h }}$ | NHSP ${ }^{\text {i }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 85+ | 305,179 | 225,672 | 23,126 | 482 | 4,067 | 45 | 116 | 1,485 | 50,186 | 254,993 |
| 00-14 | 5,728,590 | 1,913,245 | 664,360 | 15,001 | 195,905 | 4,141 | 10,810 | 127,953 | 2,807,175 | 2.931 .415 |
| 15-64 | 16,805,085 | 7,724,035 | 2,004,091 | 58,261 | 687,220 | 13,020 | 21,773 | 175,860 | 6,120,825 | 10,684,260 |
| 65+ | 2,601,886 | 1,760,065 | 218,374 | 7,324 | 65,301 | 759 | 1,397 | 15,745 | 532,921 | 2,068,965 |
| Panel-III: Percent Population Change, 2000-2010 |  |  |  |  |  |  |  |  |  |  |
| 00-04 | 18.7 | -4.8 | 14.5 | 6.5 | 62.4 | 59.3 | 51.1 | 53.5 | 36.7 | 4.6 |
| 05-09 | 16.6 | -7.1 | 4.6 | 3.1 | 80.8 | 45.4 | 32.1 | 62.7 | 38.8 | 1 |
| 10-14 | 15.4 | -9.7 | 7.7 | 9.9 | 65 | 61.8 | 58.8 | 66.6 | 42.7 | -1.3 |
| 15-19 | 15.1 | -6.1 | 20.4 | 17.4 | 48.5 | 71.1 | 79.7 | 52.3 | 34.6 | 2.9 |
| 20-24 | 18 | 7.4 | 22.7 | 8.9 | 53.3 | 68.3 | 81.2 | 33.8 | 24.8 | 13.4 |
| 25-29 | 16.4 | 5.7 | 17.1 | 3.2 | 38.6 | 57.4 | 83.7 | 31.7 | 26 | 10.4 |
| 30-34 | 12.1 | -7.1 | 12.3 | -1.1 | 49 | 52.4 | 83.4 | 28.3 | 33.6 | 0.4 |
| 35-39 | 4.4 | -18.8 | 3.5 | -11.2 | 79.2 | 52.7 | 60.6 | 10 | 37.4 | -10 |
| 40-44 | 3.8 | -18.3 | 6.5 | -10.5 | 69.8 | 47.1 | 48.3 | -2.1 | 43 | -10.5 |
| 45-49 | 24.3 | 4.7 | 35.8 | 23.5 | 66.7 | 79.4 | 81.8 | 13.9 | 62.6 | 12.1 |
| 50-54 | 40.2 | 22 | 69.3 | 38.8 | 79.2 | 103.8 | 106.2 | 28.2 | 73.9 | 30.4 |
| 55-59 | 58.7 | 40.3 | 93.4 | 59.5 | 132.9 | 143.1 | 171 | 45.2 | 94.1 | 49.5 |
| 60-64 | 67.4 | 55.4 | 79.5 | 92.6 | 161.5 | 188.7 | 190.4 | 53.2 | 91.4 | 61.3 |
| 65-69 | 39.8 | 32.4 | 38 | 89.9 | 142.1 | 97.5 | 121.8 | 33 | 56.6 | 35.7 |
| 70-74 | 16.3 | 7.9 | 18.5 | 63 | 135.4 | 48.8 | 91.9 | 14.6 | 38.6 | 11.4 |
| 75-79 | 12.5 | 3 | 20.1 | 63.2 | 139.1 | 83.6 | 41 | 4.6 | 44.7 | 6.5 |
| 80-84 | 29.6 | 17.6 | 26 | 65.5 | 162.8 | 116.2 | 63.2 | 24.9 | 93.4 | 20 |
| $85+$ | 28.3 | 23.1 | 10.8 | 42.6 | 159.2 | 0 | 26.1 | 9.6 | 65.1 | 22.9 |
| 00-14 | 16.9 | -7.3 | 8.8 | 6.6 | 69.3 | 55.1 | 46.6 | 60 | 39.3 | 1.3 |
| 15-64 | 21.2 | 4.9 | 26.9 | 15.3 | 66.9 | 70.2 | 84.3 | 28 | 42.1 | 11.7 |
| 65+ | 25.5 | 16.9 | 25 | 71.8 | 142.5 | 72.9 | 81.4 | 19.3 | 53.7 | 19.9 |

$\mathrm{a}=$ Non-Hispanic White Only
b = Non-Hispanic Black Only
$\mathrm{c}=$ Non-Hispanic American Indian and Alaska Native Alone Only
d = Non-Hispanic Asian Alone Only
$\mathrm{e}=$ Non-Hispanic Native Hawaiian and Other Pacific Islander Alone Only
$\mathrm{f}=$ Non-Hispanic Some Other Race Alone
$\mathrm{g}=$ Non-Hispanic Two or More Race
$\mathrm{h}=$ Hispanic or Latino
$\mathrm{i}=$ Non-Hispanic of all Race/Ethnicity
percent, non-Hispanic Asian increased by 69.3 percent, and overall non-Hispanic population grew at 1.3 percent, while the Hispanic population grew by 39.3 percent. The population aged 15 to 64 increased at a rate of 21.2 percent for total, for the non-Hispanic White 4.9 percent, for non-Hispanic Black 26.9 percent, for the non-Hispanic American Indian and Alaska Native increased at a rate of 15.3 percent, nonHispanic Asian increased at a rate of 66.9 percent, and Hispanic or Latino increased by 42.1 percent. The proportion of Texas population 65 years of age or older has increased from 9.9 in 2000 to 10.4 in 2010. For non-Hispanic White population the proportion has increased from 13.8 in 2000 to 15.4 in 2010, for non-Hispanic Blacks the proportion has in-
creased from 7.4 to 7.6 , for non-Hispanic Asians the proportion has increased from 4.7 in 2000 to 6.9 in 2010, and for Hispanics or Latinos the proportion increased only 5.2 in 2000 to 5.6 in 2010 (Table 3 panel III). Table 3 suggests that although Texas experienced overall population growth, it has also experienced population decreases in certain age groups and for some race/ethnicity classifications. These population declines may be due to the fact of past decline in birth rates or recent net out migration for certain age and race/ethnicity groups.

The median age of a population is often used as a single indicator to describe a population as young or old. The median age divides the population into two groups of equal size
indicating that one half of the population is below the median age while the other half is above the median age. Populations with a median age under 20 years are generally considered young while those with a median age over 40 years are considered old [6, 7]. The median age of Texas population, like the U.S., is increasing. The median age in Texas population was 28.0 years in 1980, 30.8 years in 1990, 32.3 years in 2000 and increased to 33.6 years in 2010. The median age of the U.S. population has increased from 35.3 years in 2000 to 37.2 years in 2010. In terms of median age Texas ranked $49^{\text {th }}$ of the 50 states. The median age for the Non-Hispanic White population has increased from 38.1 years in 2000 to 41.3 years in 2010, for Hispanics median age has increased from 25.5 in 2000 to 27.0 years in 2010, for Non-Hispanic Black population increased from 30.0 to 32.1 years, and the non-Hispanic Asian population has increased from 31.4 years in 2000 to 34.1 years in 2010. In 2010, the median age in Texas Counties ranged from 24.5 years in Brazos County to 55.0 years in Llano County.

Dependency ratios also provide simple summary measures to compare change in age structure for populations in two time periods. The ratios are based on a division of age ranges into three broad categories, such as children (0-14), working age population (15-64), and old age population (65 years and above). The child dependency ratio measures the number of children under 15 years of age for every one hundred persons of working age population (15-64). The aged dependency ratio measures the number of population age 65 and over for every 100 working age population. The dependency ratio is the sum of the child and aged dependency ratio.

The overall dependency has decreased from 50.3 in 2000 to 49.6 in 2010. The child dependency ratio decreased from 35.4 in 2000 to 34.1 in 2010 . However, the aged dependency increased from 4.9 in 2000 to 5.5 in 2010 . The child dependency for non-Hispanic White population decreased from 28.0 in 2000 to 24.8 in 2010 while aged dependency increased from 20.4 in 2000 to 22.8 in 2010. For the Hispanic population, over all dependency ratio decreased slightly from 54.9 in 2000 to 54.6 in 2010, the child dependency decreased from 46.8 in 2000 to 45.9 in 2010, and aged dependency increased from 8.0 in 2000 to 8.7 in 2010.

Demographers often use population pyramids as a technique to describe the pattern of age and sex composition of a population. Population pyramids are an elegant and useful way of presenting an age and sex distribution of a population graphically [1]. The changing age and sex composition of Texas populations are given in Figs. (2a-2b). Fig. (2a) shows the population pyramid for non-Hispanic. White population, Fig. (2b) presents the population pyramid for Hispanic or Latino population. The percent of males are on the left and percent of females are on the right side of the pyramid. The 2000 and 2010 pyramids are superimposed to make it easy to visualize the change between 2000 and 2010 by age groups and sex. Young populations are presented by pyramids with a broad based and high proportion of young children and narrow apex of older people (Fig. 2b). Older populations are presented by pyramids with a rectangular age profile with more uniform numbers of percent in each age group up to those where mortality is high (Fig. 2a). The proportion of populations below age 50 has declined from 2000 to 2010,
while proportion above age 50 has increased during the same time both for Hispanic and non-Hispanic population. However, this pattern is more pronounced for non-Hispanic White population than Hispanic population. The population pyramid also suggests that the Hispanic population will keep growing due to their large numbers in young population groups.

Besides age, sex is another important measure of population composition. Sex is considered to be a biological characteristic that divides human beings into males and females and sex ratio is the principal measure of sex composition. The sex is usually defined as the number males per 100 fe males. A sex ratio of 100 would indicate an equal number males and females. In developed countries, the sex ratio at birth is typically around 105 males per 100 females. The sex ratio normally declines with age due to the fact that the mortality rate at every age is generally higher for males than females. The overall, sex ratio for Texas population declined slightly from 98.6 in 2000 to 98.4 in 2010. The sex ratio for the Hispanic population declined from 103.8 in 2000 to 101.4 in 2010, while the non-Hispanic White population increased from 96.8 in 2000 to 97.7 in 2010. As expected, the sex ratio is higher for younger age populations (i.e., under age 35 years) and lower for older age populations (i.e., 35 years of age above). However, there is significant increase in sex ratio for age groups 70-74 for non-Hispanic White population. A similar pattern is observed for Hispanic or Latino population and Asian population except for age groups 95 and above where there is decline in sex ratio. These variations in elderly sex ratios may be due to migration, since migrant have a tendency to return to their home country at later ages.

## IV. CHANGE IN DISTRIBUTION, 2000-2010

The distribution of populations in Texas are uneven, some regions are densely populated while others are sparsely populated. The change in population during 2000-2010 has not been distributed evenly throughout Texas either. Some parts of the State have grown rapidly, some have grown slowly and others have declined. In the following sections we examine the patterns of population growth for the Council of Governments regions, metropolitan and nonmetropolitan counties, Metropolitan Statistical Areas (MSAs), counties, and cities and places in Texas.

## IV. A. POPULATION CHANGE IN COUNCIL OF GOVERNMENTS REGIONS IN TEXAS, 2000-2010

There are 24 Council of Governments (COG) regions in Texas (see Fig. 3). The populations in 2000 and 2010 for Council of Governments regions were derived by summing the appropriate county populations. All twenty-four regions experienced population growth during the 1990's. However, one region saw a decline in its population from 2000 to 2010 (see Table 4). In the 1990's, the North Central Texas Region gained the most population $(1,197,527)$, followed by the Houston-Galveston Region (957,308). During 2000-2010 period, the pattern changed; the Houston-Galveston Region gained the most population followed by the North Central Region. The population of the Houston-Galveston Region increased from 4,854,454 in 2000 to $6,087,133$ in 2010. The population of the North Central Texas region increased from


Fig. (2a). Non-Hispanic White Population by Age and Sex, 2000 and 2010.


Fig. (2b). Hispanic Population by Age and Sex, 2000 and 2010.
$5,309,277$ in 2000 to $6,539,950$ in 2010 . The population of the Capital Area Region increased from 1,346,833 in 2000 to $1,830,003$ in 2010.

In terms of numerical increase, the Houston-Galveston Region gained 1,232,679 persons, the North Central Texas Region gained 1,230,673 persons, and the Capital Area Region gained 483,170 persons from 2000 to 2010. The Nortex is the only Region that lost population during the 2000-2010 by 1,506 persons.

The fastest growing regions during 2000-2010 have been the Capital Area with a 35.9 percent increase, it was followed by the Lower Rio Grande Valley with an increase of 30.1 percent, Houston-Galveston with an increase of 25.4 percent, South Texas with a 25.1 percent, and North Central Texas with a 23.2 percent increase. The slowest growing regions have been the West Central Texas with a 0.8 percent increase, followed by South East Texas with an increase of


Fig. (3). Percent Population Change in Texas Council of Governments Regions, 2000-2010.

Table 4. Population and Components of Population Change for Council of Governments Regions in Texas, $2000-2010$

|  |  |  |  |  |  |  | Percent Change Due to |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Council of Governments (COG) | Census Count 2000 | Census Count 2010 | $\begin{aligned} & \text { Numerical } \\ & \text { Change } \\ & \text { 2000-2010 } \end{aligned}$ | $\begin{gathered} \text { Percent } \\ \text { Change } \\ \text { 2000-2010 } \end{gathered}$ | $\begin{gathered} \text { Natural } \\ \text { Increase } \\ \mathbf{2 0 0 0 - 2 0 1 0} \end{gathered}$ | $\begin{aligned} & \text { Net Migration } \\ & \mathbf{2 0 0 0 - 2 0 1 0} \end{aligned}$ | $\begin{gathered} \text { Natural } \\ \text { Increase } \\ \text { 2000-2010 } \end{gathered}$ | Net Migration 2000-2010 |
| Alamo Area | 1,807,868 | 2,249,011 | 441,143 | 24.4 | 172,878 | 268,265 | 39.2 | 60.8 |
| Ark-Tex | 270,468 | 281,947 | 11,479 | 4.2 | 5,976 | 5,503 | 52.1 | 47.9 |
| Brazos Valley | 267,085 | 319,447 | 52,362 | 19.6 | 19,331 | 33,031 | 36.9 | 63.1 |
| Capital Area | 1,346,833 | 1,830,003 | 483,170 | 35.9 | 172,113 | 311,057 | 35.6 | 64.4 |
| Central Texas | 374,518 | 449,641 | 75,123 | 20.1 | 46,834 | 28,289 | 62.3 | 37.7 |
| Coastal Bend | 549,012 | 571,987 | 22,975 | 4.2 | 40,197 | -17,222 | 175 | -75 |
| Concho Valley | 148,212 | 154,192 | 5,980 | 4 | 6,365 | -385 | 106.4 | -6.4 |
| Deep East Texas | 355,862 | 378,477 | 22,615 | 6.4 | 8,493 | 14,122 | 37.6 | 62.5 |
| East Texas | 745,180 | 829,749 | 84,569 | 11.3 | 26,804 | 57,765 | 31.7 | 68.3 |
| Golden Crescent | 183,905 | 188,626 | 4,721 | 2.6 | 9,355 | -4,634 | 198.2 | -98.2 |
| Heart of Texas | 321,536 | 349,273 | 27,737 | 8.6 | 14,313 | 13,424 | 51.6 | 48.4 |
| Houston-Galveston | 4,854,454 | 6,087,133 | 1,232,679 | 25.4 | 614,041 | 618,638 | 49.8 | 50.2 |
| Lower Rio Grande Valley | 924,772 | 1,203,123 | 278,351 | 30.1 | 199,136 | 79,215 | 71.5 | 28.5 |
| Middle Rio Grande | 154,381 | 167,010 | 12,629 | 8.2 | 18,762 | -6,133 | 148.6 | -48.6 |
| Nortex | 224,366 | 222,860 | -1,506 | -0.7 | 5,875 | -7,381 | -390.1 | 490.1 |
| North Central Texas | 5,309,277 | 6,539,950 | 1,230,673 | 23.2 | 663,883 | 566,790 | 53.9 | 46.1 |
| Panhandle | 402,862 | 427,927 | 25,065 | 6.2 | 27,417 | -2,352 | 109.4 | -9.4 |
| Permian Basin | 376,672 | 417,679 | 41,007 | 10.9 | 32,695 | 8,312 | 79.7 | 20.3 |
| Rio Grande | 704,318 | 825,913 | 121,595 | 17.3 | 101,585 | 20,010 | 83.5 | 16.5 |
| South East Texas | 385,090 | 388,745 | 3,655 | 0.9 | 13,360 | -9,705 | 365.5 | -265.5 |
| South Plains | 377,871 | 411,659 | 33,788 | 8.9 | 29,295 | 4,493 | 86.7 | 13.3 |
| South Texas | 264,177 | 330,590 | 66,413 | 25.1 | 63,070 | 3,343 | 95 | 5 |
| Texoma | 178,200 | 193,229 | 15,029 | 8.4 | 4,381 | 10,648 | 29.2 | 70.9 |
| West Central Texas | 324,901 | 327,390 | 2,489 | 0.8 | 8,049 | -5,560 | 323.4 | -223.4 |

Source: U.S. Census Bureau, April 1 population counts, PL94-171 (machine-readable data files)
0.9 percent, Golden Crescent with 2.6 percent, and Ark-Tex with a 4.2 percent increase. In general, the fastest growing regions are either in the central corridor of Texas or along the Texas-Mexico Border. The slowest growing regions are in the Panhandle and East Texas. As mentioned before, Nortex is the only region that lost population during 2000-2010 period.

Population change results either from natural increase or net migration. If these factors are examined in conjunction with the data on total population change, several important patterns emerge. An examination of the data in Table $\mathbf{4}$ indicates that 16 Council of Governments regions have experienced net in-migration while 8 have experienced outmigration from 2000 to 2010 . The Coastal Bend COG lost the most population due to out-migration $(17,222)$, and it was followed by South East $(9,705)$, Nortex $(7,381)$, Middle Rio Grande $(6,133)$, and West Central Texas $(5,560)$. The regions with the largest number of in-migrants during 20002010 are Houston-Galveston with net in-migration of 618,638 persons, followed by the North Central Texas region with net in-migration of 566,790, the Capital Area with net in-migration of 311,057 , and the Alamo Area with net inmigration of 268,265.

In terms of percent net migration during 2000-2010, the fastest growing areas (due to annualized migration) were the Capital Area with a rate of 2.37 percent, followed by the North Central Texas region (1.31 percent), HoustonGalveston ( 1.26 percent), and the Alamo Area ( 1.23 percent). The fastest declining COGs are Coastal Bend followed by Rio Grande and South East Texas.

Data in Table $\mathbf{4}$ also suggests that natural increase played an important role in population growth for the South Texas, Lower Rio Grande Valley, and Central Texas regions. For example, 95.0 percent of the population growth for the South Texas COG was due to natural increase, 71.5 percent in the Lower Rio Grande Valley, and 62.3 percent for Central Texas. Natural increase also plays an important role in Coastal Bend, Concho Valley, Golden Crescent, Middle Rio Grande, Panhandle, Permian Basin, Rio Grande, and South Plains. Without natural increase all of these COGs would have lost population during 2000-2010.

## IV.B. POPULATION CHANGE IN METROPOLITAN AND NONMETROPOLITAN TEXAS COUNTIES, 2000-2010

Post-2000 patterns of population change varied significantly by Metropolitan status, with higher rates of change in

Table 5. Population and Components of Population Change in Metropolitan and Nonmetropolitan Counties in Texas, 2000-2010

| Metropolitan Status |  |  |  |  |  |  |  | Census <br> Count <br> $\mathbf{2 0 0 0}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Count 2010 | Census <br> Change <br> $\mathbf{2 0 0 0 - 2 0 1 0}$ | Numerical <br> Percent <br> Change <br> $\mathbf{2 0 0 0 - 2 0 1 0}$ | Natural <br> Increase <br> $\mathbf{2 0 0 0 - 2 0 1 0}$ | Net <br> Migration <br> $\mathbf{2 0 0 0 - 2 0 1 0}$ | Natural <br> Increase <br> $\mathbf{2 0 0 0 - 2 0 1 0}$ | Net <br> Migration <br> $\mathbf{2 0 0 0 - 2 0 1 0}$ |  |  |
| Metropolitan Central City <br> Counties | $13,993,705$ | $16,543,223$ | $2,549,518$ | 18.2 | $1,786,534$ | 762,984 | 70.1 | 29.9 |
| Metropolitan Suburban <br> Counties | $3,950,843$ | $5,541,946$ | $1,591,103$ | 40.3 | 411,372 | $1,179,731$ | 25.9 | 74.1 |
| Nonmetropolitan Adjacent <br> Counties | $2,315,507$ | $2,436,458$ | 120,951 | 5.2 | 79,759 | 41,192 | 65.9 | 34.1 |
| Nonmetropolitan Nonadjacent <br> Counties | 591,765 | 623,934 | 32,169 | 5.4 | 26,543 | 5,626 | 82.5 | 17.5 |

Source: U.S. Census Bureau, April 1 population counts, PL94-171 (machine-readable data files)
metropolitan suburban counties followed by metropolitan central city counties, 40.3 and 18.2 percent, respectively (see Table 5). Nonmetropolitan nonadjacent counties did better than nonmetropolitan adjacent counties. Nonmetropolitan nonadjacent counties grew by 5.2 percent compared with 20.6 percent for the State and 40.3 percent for the metropolitan suburban counties. As a result, the proportions of people living in metropolitan central city counties decreased from 67.1 percent in 2000 to 65.7 percent in 2010 . In contrast, the proportion of people living in metropolitan suburban counties increased from 18.9 in 2000 to 22.0 in 2010, the proportion residing in nonmetropolitan adjacent counties decreased from 11.1 to 9.7 , and nonmetropolitan nonadjacent counties decreased from 2.8 to 2.5 (metropolitan and central city counties are as defined in 2003 by the Office of Management and Budget) [10].

Metropolitan areas had the greatest population growth in Texas, with the highest rates of net migration in metropolitan suburban counties ( $1,179,731$ persons), followed by central city counties ( 762,984 persons). More than seventy-four percent of the population growth in metropolitan suburban counties was due to net migration while natural increase accounted for only 26 percent of the change. In contrast, the central city counties in metropolitan areas realized only 30 percent of their growth from net migration and 70 percent was due to natural increase. In all nonmetropolitan counties, the population change due to natural increase was greater than the net migration. The census populations in 2010 for metropolitan and nonmetropolitan Texas were derived by the authors by summing the appropriate county populations.

## IV.C. POPULATION CHANGE IN METROPOLITAN STATISTICAL AREAS (MSA'S) IN TEXAS, 2000-2010

The patterns of population change in Metropolitan Statistical Areas (MSAs) are shown in Table 6. All comparisons are made using the 2003 definition for Metropolitan Statistical Areas as defined by the Office of Management and Budget [10]. All 25 metropolitan areas experienced population growth during the 1990s; one metropolitan area lost population during 2000-2010. The largest numerical increases occurred in the largest metropolitan areas; DallasFort Worth-Arlington increased by 1,210,229, HoustonSugar Land-Baytown increased by $1,231,393$, Austin-Round Rock increased by 466,526, and San Antonio increased by

430,805 . Wichita Falls is the only Texas MSA that lost population during 2000-2010.

In terms of percent population change from 2000 to 2010, the Austin-Round Rock MSA showed the largest gain, with an increase of 37.3 percent, followed by the McAllen-Edinburg-Pharr MSA (36.1 percent), Laredo MSA (29.6 percent), Houston-Sugar Land-Baytown (26.1 percent), and San Antonio ( 25.2 percent). The slowest growing MSAs were Beamont-Port Arthur 0.9 percent, Abilene ( 3.1 percent), Victoria ( 3.3 percent), and Texarkana (3.6 percent). Wichita Falls is the only MSA that lost population by 0.1 percent.

Of the 25 Metropolitan Statistical Areas, 6 showed a net increase due to migration during the post-2000 period. The level of net migration and the extent to which migration accounted for population growth varies widely among the metropolitan areas. The highest rates of net migration have been in Austin-Round Rock with an annualized rate of 2.4 percent, San Antonio (1.5 percent), College Station-Bryan (1.4 percent), and Houston-Sugar Land-Baytown (1.3). For seven metropolitan areas, (Sherman-Denison (68.3), Austin RoundRock (63.1), Tyler (65.6), College Station-Bryan (60.0), San Antonio (59.9), Longview (55.1), and Houston-Sugar LandBaytown ( 50.6 percent), more than 50 percent of their total population growth from 2000 to 2010 has been due to net inmigration. During the same period, six metropolitan areas (Abilene, Beaumont-Port Arthur, Corpus Christi, San Angelo, Victoria, and Wichita Falls) experienced net outmigration.

Finally, the data in Table 6 suggest that for Metropolitan Statistical Areas, as was the case for Council of Governments regions, the fastest growing areas are generally those which have had both extensive natural increase and net inmigration. Natural increase played an important role in population growth for the following MSAs: BrownsvilleHarlingen (89.7 percent), Laredo (85.8 percent), El Paso ( 82.3 percent), and more than 100 percent of the growth in Corpus Christi, Abilene, San Angelo, Victoria, and Beaumont-Port Arthur was due to natural increase. Clearly, although many of the State's metropolitan areas have experienced relatively rapid net in-migration, natural increase is still an essential element in the growth of rapidly growing areas. Some metropolitan areas would have experienced population decline if they did not have extensive natural in-

Table 6. Population and Components of Population Change in Metropolitan Statistical Areas in Texas, 2000-2010

|  |  |  |  |  |  |  | Percent Change Due to |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Metropolitan Statistical Area | Census <br> Count <br> 2000 | Census <br> Count <br> 2010 | Numerical Change 2000-2010 | Percent <br> Change 2000-2010 | Natural <br> Increase 2000-2010 | Net Migration 2000-2010 | Natural <br> Increase 2000-2010 | Net Migration 2000-2010 |
| Abilene | 160,245 | 165,252 | 5,007 | 3.1 | 8,638 | -3,631 | 172.5 | -72.5 |
| Amarillo | 226,522 | 249,881 | 23,359 | 10.3 | 17,149 | 6,210 | 73.4 | 26.6 |
| Austin-Round Rock | 1,249,763 | 1,716,289 | 466,526 | 37.3 | 172,258 | 294,268 | 36.9 | 63.1 |
| Beaumont-Port Arthur | 385,090 | 388,745 | 3,655 | 0.9 | 13,360 | -9,705 | 365.5 | -265.5 |
| Brownsville-Harlingen | 335,227 | 406,220 | 70,993 | 21.2 | 63,650 | 7,343 | 89.7 | 10.3 |
| College Station-Bryan | 184,885 | 228,660 | 43,775 | 23.7 | 17,494 | 26,281 | 40 | 60 |
| Corpus Christi | 403,280 | 428,185 | 24,905 | 6.2 | 30,955 | -6,050 | 124.3 | -24.3 |
| Dallas-Fort Worth-Arlington | 5,161,544 | 6,371,773 | 1,210,229 | 23.4 | 659,311 | 550,918 | 54.5 | 45.5 |
| El Paso | 679,622 | 800,647 | 121,025 | 17.8 | 99,545 | 21,480 | 82.3 | 17.8 |
| Houston-Sugar Land-Baytown | 4,715,407 | 5,946,800 | 1,231,393 | 26.1 | 607,899 | 623,494 | 49.4 | 50.6 |
| Killeen-Temple-Fort Hood | 330,714 | 405,300 | 74,586 | 22.6 | 46,969 | 27,617 | 63 | 37 |
| Laredo | 193,117 | 250,304 | 57,187 | 29.6 | 49,069 | 8,118 | 85.8 | 14.2 |
| Longview | 194,042 | 214,369 | 20,327 | 10.5 | 9,119 | 11,208 | 44.9 | 55.1 |
| Lubbock | 249,700 | 284,890 | 35,190 | 14.1 | 20,680 | 14,510 | 58.8 | 41.2 |
| McAllen-Edinburg-Pharr | 569,463 | 774,769 | 205,306 | 36.1 | 132,960 | 72,346 | 64.8 | 35.2 |
| Midland | 116,009 | 136,872 | 20,863 | 18 | 10,984 | 9,879 | 52.7 | 47.4 |
| Odessa | 121,123 | 137,130 | 16,007 | 13.2 | 13,466 | 2,541 | 84.1 | 15.9 |
| San Angelo | 105,781 | 111,823 | 6,042 | 5.7 | 6,181 | -139 | 102.3 | -2.3 |
| San Antonio | 1,711,703 | 2,142,508 | 430,805 | 25.2 | 172,777 | 258,028 | 40.1 | 59.9 |
| Sherman-Denison | 110,595 | 120,877 | 10,282 | 9.3 | 3,258 | 7,024 | 31.7 | 68.3 |
| Texarkana | 89,306 | 92,565 | 3,259 | 3.6 | 2,116 | 1,143 | 64.9 | 35.1 |
| Tyler | 174,706 | 209,714 | 35,008 | 20 | 12,037 | 22,971 | 34.4 | 65.6 |
| Victoria | 111,663 | 115,384 | 3,721 | 3.3 | 7,849 | -4,128 | 210.9 | -110.9 |
| Waco | 213,517 | 234,906 | 21,389 | 10 | 13,897 | 7,492 | 65 | 35 |
| Wichita Falls | 151,524 | 151,306 | -218 | -0.1 | 6,285 | -6,503 | -2883 | 2983 |

Source: U.S. Census Bureau, April 1 population counts, PL94-171 (machine-readable data files)
crease, such as Abilene, Corpus Christi, El Paso, Odessa, San Angelo, and Victoria.

## IV. D. POPULATION CHANGE IN COUNTIES IN TEXAS, 2000-2010

There are 254 counties in Texas and it is not feasible to describe patterns of population change for individual counties. In this section we summarize general patterns of population change evident across counties during the 1990s and in the 2000-2010 period. Due to space limitations we have provided data for the ten fastest growing and declining counties (see Table 7). Detailed data for all counties on population change can be obtained from the Texas State Data Center or from the authors and also from the PL94-171 for respective census year [3, 4].

The seven most populous counties contained, in combination, more than 50 percent of Texas' total population in 2010. Harris County remains the most populous county with almost 4.1 million people, accounting for 16.3 percent of the State's population. Dallas, with 2.4 million people, was the second most populous county, accounting for 9.4 percent of
the State's total population. Tarrant was the third largest county with 1.8 million population, or 7.2 percent of the total population. The two hundred least populous counties account for only 13.5 percent of Texas' total population.

The largest numerical increases in population from 2000 to 2010 were in the counties with the largest populations including Harris County with an increase of 691,880 , Tarrant County with an increase of 362,815 , Bexar County with an increase of 321,842 , Collin County with an increase of 290,666 , Fort Bend County with an increase of 230,923 , and Denton with an increase of 229,638 . Orange County lost the most population $(3,129)$, followed by San Patricio County $(2,334)$, Hutchinson County $(1,707)$, Red River County $(1,454)$, Duval County $(1,338)$, and Floyd County $(1,325)$. The largest percentage increases were in Rockwall County with an increase of 81.8 percent, Williamson County with a 69.1 percent increase, Fort Bend County with 65.1 percent, Hays County with 61.0 percent, Collin County with an increase of 59.1 percent, Montgomery County with 55.1 percent, and Denton County 53.0 percent. Some counties lost population, including Cottle County ( 21.0 percent), followed by King County (19.7 percent), Culberson County (19.4 per-


Fig. (4). Percent Population Change in Texas Counties, 2000-2010.


Fig. (5). Percent Net Migration in Texas Counties, 2000-2010.
cent), and Sterling County (17.9 Percent). Twenty-two Counties lost 10 percent or more of their population during the 2000-2010 period. In general, as shown in Fig. (4), the fastest rates of growth were in Central Texas, North Central Texas, South Texas, and the Gulf Coast areas of the State with the slowest rates of growth in West Texas and the Panhandle areas of the State.

Net in-migration is also an important factor in population growth, and presents challenges for a population as opposed to natural increases. Collin County gained the most population due to net in-migration in 1990-2000 and in 2000-2010 gained the second most population due to net in-migration, $(180,672)$ and $(211,725)$, respectively. Harris County gained the second most population due to net in-migration in 19902000, but during 2000-2010 gained the most population due
to net in-migration, $(180,560)$ and $(218,628)$, respectively. The following counties gained population due to net inmigration during the 2000-2010 period: Fort Bend County $(182,986)$, followed by Tarrant County $(182,503)$, Bexar $(168,255)$, Denton $(162,859)$, Williamson $(131,701)$, and Montgomery (129,792). Among Texas' largest counties, only Dallas County lost population due to out-migration $(141,345)$ during 2000-2010. Other important out-migration counties include Jefferson $(9,169)$, followed by San Patricio $(8,337)$, and Wichita $(6,272)$. The highest rates of net inmigration were observed in Rockwall County with 69.3 percent, followed by Williams County ( 52.7 percent), Fort Bend County ( 51.6 percent), and Hays County ( 48.9 percent). Among the counties with rates of net out-migration, the highest rates were in Culberson County ( 26.1 percent), Cochran County ( 22.1 percent), and Floyd County ( 21.9 percent). Fig. (5) provides a graphical view of the rates of net migration in Texas counties. In general, the data in this figure show a relatively similar pattern as found in Figs. ( $\mathbf{3}$ and 4), with counties having higher levels of net in-migration in Central and lower levels of in-migration in West Texas.

Nevertheless, population growth from 2000 to 2010 has slowed compared to the 1990s when one examines the number of counties in Texas that have shown growth and increased net migration during 2000-2010. From 1990 to 2000, 68 counties experienced population decline and 89 counties experienced net outmigration (meaning that 21 counties had sufficient natural increase to offset population loss due to net outmigration). From 2000 to 2010, the number of counties with population decline was 88 and the number of counties with net outmigration was 119 . This clearly suggests that during the 2000-2010 period, population growth in Texas has slowed compared with changes experienced during the 1990s.

## IV. E. POPULATION CHANGE IN PLACES IN TEXAS, 2000-2010

Population change has also impacted the places and cities of Texas during 2000-2010. Given that there are more than 1,500 places in Texas, population change for individual places cannot be discussed in detail, therefore only general population patterns for Texas cities and places will be described. For convenience, we have provided data for the ten fastest growing and declining cities/places in Table 8. Detailed data on population change for places can be obtained from the Texas State Data Center or the authors. The census population of 2000 and 2010 for cities/places are from PL94171 machine readable files for each census year [3, 4]. In examining these data, it is important to note that some places may have shown growth or decline through boundary changes (i.e., annexation, deannexation) and or changes in institutional population (i.e., college dormitories, prisons, nursing homes etc.) from 2000 to 2010.

From 2000 to 2010 , 929 of the 1,485 places showed population gains, while 551 places lost population, and population for 5 places remained the same. During 20002010 , Fort Worth city gained the most population $(206,512)$, followed by San Antonio (176,872), Houston $(145,820)$, Austin (122,759), El Paso $(85,459)$, Frisco city $(83,275)$, and McKinney $(76,748)$. Galveston city lost the most population (9,504), followed by Windemere CDP $(5,831)$, Fort Hood

Table 7. Population and Components of Population Change for Counties in Texas, 2000-2010 - Ranked by Numerical Change, 2000-2010

|  |  |  |  |  |  |  |  | Percent Change Due to |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Rank | County | Census Count 2000 | Census Count 2010 | $\begin{aligned} & \text { Numerical } \\ & \text { Change } \\ & \text { 2000-2010 } \end{aligned}$ | $\begin{gathered} \text { Percent } \\ \text { Change } \\ \text { 2000-2010 } \end{gathered}$ | Natural Increase 20002010 | Net Migration 2000-2010 | $\underset{\text { 2000-2010 }}{\text { Natural }}$ | $\begin{gathered} \text { Net Mig } \\ \text { 2000-2010 } \end{gathered}$ |
| 1 | Harris | 3,400,578 | 4,092,459 | 691,881 | 20.3 | 473,253 | 218,628 | 68.4 | 31.6 |
| 2 | Tarrant | 1,446,219 | 1,809,034 | 362,815 | 25.1 | 180,312 | 182,503 | 49.7 | 50.3 |
| 3 | Bexar | 1,392,931 | 1,714,773 | 321,842 | 23.1 | 153,587 | 168,255 | 47.7 | 52.3 |
| 4 | Collin | 491,675 | 782,341 | 290,666 | 59.1 | 78,941 | 211,725 | 27.2 | 72.8 |
| 5 | Fort Bend | 354,452 | 585,375 | 230,923 | 65.1 | 47,937 | 182,986 | 20.8 | 79.2 |
| 6 | Denton | 432,976 | 662,614 | 229,638 | 53 | 66,779 | 162,859 | 29.1 | 70.9 |
| 7 | Travis | 812,280 | 1,024,266 | 211,986 | 26.1 | 112,867 | 99,119 | 53.2 | 46.8 |
| 8 | Hidalgo | 569,463 | 774,769 | 205,306 | 36.1 | 132,960 | 72,346 | 64.8 | 35.2 |
| 9 | Williamson | 249,967 | 422,679 | 172,712 | 69.1 | 41,011 | 131,701 | 23.8 | 76.3 |
| 10 | Montgomery | 293,768 | 455,746 | 161,978 | 55.1 | 32,186 | 129,792 | 19.9 | 80.1 |
| - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - |
| 245 | Wilbarger | 14,676 | 13,535 | -1,141 | -7.8 | 282 | -1,423 | -24.7 | 124.7 |
| 246 | Dawson | 14,985 | 13,833 | -1,152 | -7.7 | 648 | -1,800 | -56.3 | 156.3 |
| 247 | Matagorda | 37,957 | 36,702 | -1,255 | -3.3 | 1,915 | -3,170 | -152.6 | 252.6 |
| 248 | Pecos | 16,809 | 15,507 | -1,302 | -7.7 | 1,094 | -2,396 | -84 | 184 |
| 249 | Floyd | 7,771 | 6,446 | -1,325 | -17.1 | 325 | -1,650 | -24.5 | 124.5 |
| 250 | Duval | 13,120 | 11,782 | -1,338 | -10.2 | 697 | -2,035 | -52.1 | 152.1 |
| 251 | Red River | 14,314 | 12,860 | -1,454 | -10.2 | -618 | -836 | 42.5 | 57.5 |
| 252 | Hutchinson | 23,857 | 22,150 | -1,707 | -7.2 | 657 | -2,364 | -38.5 | 138.5 |
| 253 | San Patricio | 67,138 | 64,804 | -2,334 | -3.5 | 6,003 | -8,337 | -257.2 | 357.2 |
| 254 | Orange | 84,966 | 81,837 | -3,129 | -3.7 | 2,097 | -5,226 | -67 | 167 |

Source: U.S. Census Bureau, April 1 population counts, PL94-171 (machine-readable data files)

CDP (4,122), and Port Arthur 3,937). During 2000-2010, 634 places gained population due to net in-migration, and 849 places lost population due to net out-migration. There are two places that did not lose or gain population due to net migration.

It is difficult to accurately measure migration levels for places because it is necessary to estimate births and deaths for small places for which vital statistics data are not available. Migration levels and rates are therefore particularly speculative for small places. Thus, although limited in several ways, the estimates of net migration for places show several important patterns. For example, they suggest that, unlike overall population change, net migration was not simply a function of the size of the place. The city with the highest in-migration was Fort Worth $(128,554)$, followed by Frisco $(68,534)$, McKinney $(68,098)$, Pearland $(43,437)$, League City ( 32,508 ), San Antonio $(31,451)$, and The Woodlands $(30,480)$. Houston and Dallas, the two largest cities in Texas, experienced net out-migration. Houston experienced net out-migration of 206,407 and Dallas experienced net outmigration of 157,558 . The other relatively large cities and places which experienced net out-migration were El Paso $(21,447)$, Irving $(16,908)$, and Garland $(16,115)$.

In general however, net migration, like total population growth, was extensive in places in Texas. Towns and cities in Texas have shown population growth due to net migration during the 2000-2010. Natural increase played an important role for population growth for some cities and places as well. Without natural growth some of the cities would have lost population because of net outmigration.

## CONCLUSIONS

The post-2000 population patterns in Texas are ones which show substantial population growth in the State, and in a large majority of Council of Governments regions, Metropolitan Statistical Areas, counties, and Places. The annual rate of population growth in Texas has slowed during the 2000-2010 ( 20.6 percent) period compared with 22.8 percent during 1990-2000 but is still higher than the national rate of growth. One must be careful to note that patterns based on only a few years may change quickly. The patterns of 20002010, however, suggest that Texas population is growing at a level that is substantially higher than the potential rate of growth, for the Nation and all but a handful of other States. Texas' population also diversified extensively; the proportion of Anglo population has decreased from 60.6 percent in

Table 8. Population and Components of Population Change for Places in Texas, 2000-2010 - Ranked by Numerical Change, 20002010

| Rank | City/Place | Census <br> Count 2000 | Census Count 2010 | $\begin{gathered} \text { Numerical } \\ \text { Change } \\ \text { 2000-2010 } \end{gathered}$ | $\begin{gathered} \text { Percent } \\ \text { Change } \\ \text { 2000-2010 } \end{gathered}$ | Natural Increase 2000-2010 | Net Migration 2000-2010 | Percent Change Due to |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  | $\begin{gathered} \text { Natural } \\ \mathbf{2 0 0 0 - 2 0 1 0} \end{gathered}$ | $\begin{aligned} & \text { Net Mig } \\ & \text { 2000-2010 } \end{aligned}$ |
| 1 | Fort Worth city | 534,694 | 741,206 | 206,512 | 38.6 | 77,958 | 128,554 | 37.7 | 62.3 |
| 2 | San Antonio city | 1,150,535 | 1,327,407 | 176,872 | 15.4 | 145,421 | 31,451 | 82.2 | 17.8 |
| 3 | Houston city | 1,953,631 | 2,099,451 | 145,820 | 7.5 | 352,227 | -206,407 | 241.5 | -141.5 |
| 4 | Austin city | 667,631 | 790,390 | 122,759 | 18.4 | 105,071 | 17,688 | 85.6 | 14.4 |
| 5 | El Paso city | 563,662 | 649,121 | 85,459 | 15.2 | 90,070 | -4,611 | 105.4 | -5.4 |
| 6 | Frisco city | 33,714 | 116,989 | 83,275 | 247 | 14,739 | 68,536 | 17.7 | 82.3 |
| 7 | McKinney city | 54,369 | 131,117 | 76,748 | 141.2 | 14,650 | 62,098 | 19.1 | 80.9 |
| 8 | Laredo city | 177,318 | 236,091 | 58,773 | 33.1 | 47,685 | 11,088 | 81.1 | 18.9 |
| 9 | Pearland city | 37,640 | 91,252 | 53,612 | 142.4 | 10,175 | 43,437 | 19 | 81 |
| 10 | Grand Prairie city | 127,427 | 175,396 | 47,969 | 37.6 | 18,480 | 29,489 | 38.5 | 61.5 |
| - | - | - | - | - | - | - | - | - | - |
| - | - | - | - | - | - | - | - | - | - |
| 1476 | Bolivar Peninsula CDP | 3,853 | 2,417 | -1,436 | -37.3 | -322 | -1,114 | 22.4 | 77.6 |
| 1477 | La Victoria CDP | 1,683 | 171 | -1,512 | -89.8 | 83 | -1,595 | -5.5 | 105.5 |
| 1478 | North Escobares CDP | 1,692 | 118 | -1,574 | -93 | 114 | -1,688 | -7.2 | 107.2 |
| 1479 | La Rosita CDP | 1,729 | 85 | -1,644 | -95.1 | 89 | -1,733 | -5.4 | 105.4 |
| 1480 | Laredo Ranchettes CDP | 1,845 | 22 | -1,823 | -98.8 | 128 | -1,951 | -7 | 107 |
| 1481 | Palmhurst city | 4,872 | 2,607 | -2,265 | -46.5 | 428 | -2,693 | -18.9 | 118.9 |
| 1482 | Port Arthur city | 57,755 | 53,818 | -3,937 | -6.8 | 2,260 | -6,197 | -57.4 | 157.4 |
| 1483 | Fort Hood CDP | 33,711 | 29,589 | -4,122 | -12.2 | 5,037 | -9,159 | -122.2 | 222.2 |
| 1484 | Windemere CDP | 6,868 | 1,037 | -5,831 | -84.9 | 551 | -6,382 | -9.4 | 109.4 |
| 1485 | Galveston city | 57,247 | 47,743 | -9,504 | -16.6 | 2,465 | -11,969 | -25.9 | 125.9 |

Source: U.S. Census Bureau, April 1 population counts, PL94-171 (machine-readable data files)

1990 to 45.3 percent in 2010. The proportion of Hispanic population has increased from 32.0 percent in 2000 to 37.6 percent in 2010. In 2010, more than fifty three percent of Texans are minority (i.e., Black, Hispanic, and Others). The median age of Texas population has increased from 32.3 in 2000 to 33.6 years in 2010 . The proportion of population 65 years of age and above has increased from 9.9 in 2000 to 10.4 in 2010. However, there are significant differences by racial/ethnic categories. All of these changes have significant implications for education, the labor force, health services, and the polity.

One may ask, whether such growth will continue in the future. It is impossible to predict future patterns with absolute accuracy, but the fact that such a large part of Texas population growth is due to natural increase (which tends to change relatively slowly) suggests that population growth will likely continue, even if the rate of growth slows from that observed in the past. Texas may thus be expected to remain among those states with the largest numerical increase
in population and to continue to be among the Nation's fastest growing States in the coming years.

## CONFLICT OF INTEREST

None declared.

## ACKNOWLEDGEMENT

None declared.

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