# **CHAPTER 3**

# PEOPLE AND THE ECONOMY

## 1. DEMOGRAPHICS

#### 1.1. Introduction

It is generally well known that agricultural restructuring has dramatically redistributed population in the Great Plains. An analysis by Rathge and Highman (1998) shows that the region's few counties with large urban centers have grown, while the majority of counties, mostly rural, have declined. Prolonged outmigration of young families has distorted the age distribution in many counties and further perpetuated population loss by creating high proportions of elderly. In this section we examine these trends in detail. The point being that, while in population terms the Plains are holding their own and more or less paralleling nationwide trends, rural populations are declining in number and are aging. Many of the statistics presented here are for the Great Plains states rather than for the Great Plains counties as delineated in Figure 2-2.

## 1.2. Population

## 1.2.1. Total, rural, and nonrural

From 1900 to 2000 the population of the Great Plains states was in the range of 11-14% of the total US population (Table 3–1). In the 20th century the Plains states population grew from 8.166 to 37.615 million, while the nation as a whole grew from 75.994 to 281.422 million. The Plains states population was therefore ~4.6 times greater at the end than at the beginning of the century while the US population grew by ~3.7-fold.

In the 1990s the US Great Plains states added 6.031 million people; the USA as a whole added 32.712 million. Thus 18% of the US growth occurred in the Plains states during that decade. The US Census Bureau projects that by 2030 the Plains states population will grow by another 15.243 million while the country as a whole grows by 82.163 million. If these projections hold true the Plains

*Table 3-1.* Rural and total population (in millions) of the US Great Plains states and the USA as a whole, 1900–2000. (Source: US Census Bureau, Decennial Censuses. USA, Regions, Divisions, and States. Table 1: Urban and Rural Population: 1900–1990. Released October 1995. 2000 Census: SFI, American Fact Finder, Table P1)

Year	Great Plains total state population	Great Plains rural population	Great Plains percent rural	US total population	US rural population	Great Plains percent of US total	Great Plains States rural percent of US total rural
1900	8.2	6.5	80.1	76.0	46.0	10.7	14.2
1910	11.2	8.4	74.9	92.0	50.2	12.2	16.8
1920	13.1	9.1	69.4	105.7	51.8	12.4	17.5
1930	15.1	9.5	63.2	122.8	54.0	12.3	17.6
1940	15.6	9.2	58.9	131.7	57.5	11.9	16.0
1950	17.3	7.8	44.9	150.7	54.5	11.5	14.3
1960	20.5	6.8	33.3	179.3	54.1	11.4	12.7
1970	23.0	7.4	32.0	203.2	53.6	11.3	13.8
1980	28.0	7.4	26.5	226.5	59.5	12.4	12.5
1990	31.6	7.8	24.8	248.7	61.7	12.7	12.7
2000	37.6	8.5	22.6	281.4	59.1	13.4	14.4

states will account for ~19% of the nation's growth in the first three decades of this century.<sup>1</sup>

As shown in Table 3-1, the overall rise in population of the Great Plains states has been accompanied by a sharp decline in the proportion of rural people—from 80% in 1900 to only ~23% in 2000.<sup>2</sup> The US Great Plains counties had 141,000 fewer people employed on farms in 2003 than in 1973, amounting to a 25% reduction in the number of workers.<sup>3</sup> The rates of loss were 8.3%, 15%, and 4% in the first, second, and third decades of this period, respectively. The aforementioned trends are also evident in Figure 3-1.

In 1991 the population of the three Canadian Great Plains Provinces was 4.626 million, growing by 9.2% over the decade to 5.054 million in 2001. Alberta led these provinces with growth of 13.1% (Table 3-2).

The US statistics given above are for the Great Plains states. A mid-decadal census reports that between 2000 and 2005, with the exception of gains in western South Dakota, southeastern Nebraska, some of the Texas Panhandle and scattered counties elsewhere in the region, most rural counties in the Plains

<sup>&</sup>lt;sup>1</sup> U.S. Census Bureau, Population Division, Interim State Population Projections, 2005. Internet release date: April 21, 2005. Table A1: Interim projections of the total population for the United States: April 1, 2000 to July 1, 2030.

<sup>&</sup>lt;sup>2</sup> The terms "urban", "rural" and "nonrural" have been redefined over time by the US Census Bureau. Consult http://www.census.gov/geo/www/ua/uac2k\_90.html for the year 2000 and http://www.census.gov/population/censusdata/urdef.txt for 1900-1990 definitions.

<sup>&</sup>lt;sup>3</sup> Plains county farm employment data from Bureau of Economic Analysis. 1973–98 Standard Industrial Classification (SIC); 2003 from North American Industry Classification System (NAICS)

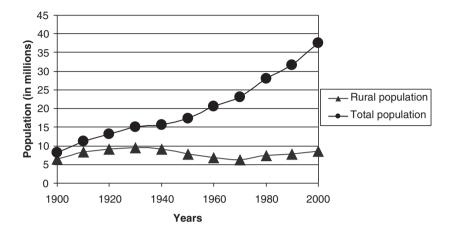


Figure 3-1. Population breakdown of the US Great Plains states. (Source: US Census Bureau, Decennial Censuses. Data at: United States, Regions, Divisions, and States, Table 1: Urban and Rural Population: 1900–1990, Released October 1995. 2000 Census: SF1, American Fact Finder, Table P1).

*Table 3-2.* Rural and total population (in millions) of the Canadian Great Plains Provinces and Canada as a whole, 1901–2001. (Source: Statistics Canada, Censuses of Population, 1901–2001, http://www40.statcan.ca/101/cst01/demo62a.htm?sdi=population)

	G .					Great	Great
	Great	<b>a</b> .	<u> </u>			Plains	Plains
	Plains	Great	Great			Provinces	Provinces
	total	Plains	Plains	Canada	Canada	percent of	rural percent
	province	rural	percent	total	rural	Canada	of Canada
Year	population	population	rural	population	population	total	total rural
1901	0.4	0.3	75.4	5.4	3.4	7.7	9.3
1911	1.3	0.9	64.7	7.2	3.9	18.4	21.8
1921	2.0	1.3	64.0	8.8	4.4	22.2	28.2
1931	2.4	1.5	62.4	10.4	4.8	22.7	30.6
1941	2.4	1.5	61.9	11.5	5.3	21.0	28.5
1951	2.5	1.4	55.2	14.0	5.4	18.2	26.1
1961	3.2	1.3	42.4	18.2	5.5	17.4	24.4
1971	3.5	1.2	33.0	21.6	5.2	16.4	22.7
1981	4.2	1.2	28.6	24.3	5.9	17.4	20.5
1991	4.6	1.2	25.6	27.3	6.4	16.9	18.5
2001	5.1	1.2	24.3	30.0	6.1	16.9	20.2

continued to lose population, generally between 0 and 1,000 persons. Rural counties gained population in about the same numbers.<sup>4</sup>

A closer look at the rural and urban population distribution of Great Plains counties alone (as of 1996) is given by Rathge and Highman (1998). From 1950

<sup>4</sup> http://www.census.gov/popest/gallery/maps/chg0005.htm

to 1996 the total population of those counties increased from 7.053 to 10.781 million, a total increase of 3.728 million. But the growth in metropolitan areas was 3.950 million, indicating that nonmetropolitan areas lost population. Urban nonmetro counties, defined as counties with a city of at least 20,000 people, also gained population, but rural areas, defined as counties without at least one city of >2,500 people, lost more than half a million people in that period.

Cromartie (1998) has described another relevant trend:

Over 90% of Great Plains counties experienced an upward trend in net migration from the mid-1980s to the mid-1990s. In that period of time net out-migration continued in sparsely settled, isolated areas and in area where jobs depended on the extraction of energy resources. In-migration during this period was associated mostly with increased commuting from suburban fringe counties or movement to areas high in natural amenities.

# 1.2.2. Age distribution

At the beginning of the 20th century the average median age of people in the Great Plains states was 22.2 years and of the nation as a whole 22.9 years (Table 3-3). At the end of the century the median ages of these were identical—35.3 years. Through most of the first half of the century the median age of Plainsmen and women was lower than that of the nation as a whole by 1.0–1.6 years. The greatest deviation during the century was noted in the 1960 census when it was 1.8 years. Texas, Oklahoma, and New Mexico had the youngest populations at the beginning of the century when state median age varied from as low as 18.7 (Texas) to as high as 26.6 (Montana). Texas and Colorado were the youngest states in 2000—32.3 and 34.3 years, respectively. New Mexico at 34.6 years is now also among the younger states.<sup>5</sup>

## 1.2.3. Ethnicity

Most of the people on the US portion of the Plains are of European ancestry. The *Encyclopedia of the Great Plains* (Wishart 2004) provides maps showing the geographic distribution in 2000 census population density by county of Hispanic and Asian origin, African-Americans and Native Americans.

The Hispanic population is most concentrated in the south-central and Panhandle portions of Texas, in eastern New Mexico and Colorado. Hispanics account for more than 80% of the population in some of these counties.

African-Americans are relatively few in the US Great Plains. In a few counties in east-central Texas and several counties clustered at Oklahoma's southwestern border with Texas they constitute 27–28.9% of the population. In scattered

<sup>&</sup>lt;sup>5</sup> The Census Bureau projects that the US median age will peak at 39.1 in 2035, then decrease to 39.0 by 2050. This is driven largely by the aging of the population born during the "Baby Boom" after World War II. (http://www.census.gov/population/www/pop-profile/natproj.html)

1900	1910 <sup>a</sup>	1920a	1930	1940	1950	1960	1970	1980	1990	2000
25.9	26.3	27.0	27.3	29.2	29.5	27.9	26.2	28.6	32.5	34.3
22.2	23.5	26.0	27.2	30.4	31.1	29.9	28.7	30.1	32.9	35.2
26.6	26.7	26.9	27.0	28.8	29.9	27.6	27.1	29.0	33.8	37.5
21.6	22.8	25.1	26.3	29.7	31.0	30.2	28.6	29.8	33.0	35.3
21.1	21.3	21.6	21.7	23.0	24.0	22.8	23.9	27.4	31.2	34.6
20.8	21.2	22.1	22.5	25.7	27.1	26.2	26.4	28.3	32.4	36.2
19.9	20.7	22.2	23.0	26.2	28.9	30.0	29.4	30.2	33.1	35.5
20.7	21.7	23.5	24.4	27.4	28.6	27.7	27.4	28.9	32.5	35.6
18.7	19.9	22.4	23.7	26.8	27.9	27.0	26.4	28.2	30.7	32.3
24.9	25.2	25.7	26.0	27.6	27.9	27.3	27.2	27.1	32.1	36.2
22.2	22.9	24.2	24.9	27.5	28.6	27.7	27.1	28.8	32.4	35.3
22.9	24.1	25.3	26.5	29.0	30.2	29.5	28.1	30.0	32.9	35.3
	25.9 22.2 26.6 21.6 21.1 20.8 19.9 20.7 18.7 24.9 22.2	25.9 26.3 22.2 23.5 26.6 26.7 21.6 22.8 21.1 21.3 20.8 21.2 19.9 20.7 20.7 21.7 18.7 19.9 24.9 25.2 22.2 22.9	25.9 26.3 27.0 22.2 23.5 26.0 26.6 26.7 26.9 21.6 22.8 25.1 21.1 21.3 21.6 20.8 21.2 22.1 19.9 20.7 22.2 20.7 21.7 23.5 18.7 19.9 22.4 24.9 25.2 25.7 22.2 22.9 24.2	25.9 26.3 27.0 27.3   22.2 23.5 26.0 27.2   26.6 26.7 26.9 27.0   21.6 22.8 25.1 26.3   21.1 21.3 21.6 21.7   20.8 21.2 22.1 22.5   19.9 20.7 22.2 23.0   20.7 21.7 23.5 24.4   18.7 19.9 22.4 23.7   24.9 25.2 25.7 26.0   22.2 22.9 24.2 24.9	25.9 26.3 27.0 27.3 29.2   22.2 23.5 26.0 27.2 30.4   26.6 26.7 26.9 27.0 28.8   21.6 22.8 25.1 26.3 29.7   21.1 21.3 21.6 21.7 23.0   20.8 21.2 22.1 22.5 25.7   19.9 20.7 22.2 23.0 26.2   20.7 21.7 23.5 24.4 27.4   18.7 19.9 22.4 23.7 26.8   24.9 25.2 25.7 26.0 27.6   22.2 22.9 24.2 24.9 27.5	25.9     26.3     27.0     27.3     29.2     29.5       22.2     23.5     26.0     27.2     30.4     31.1       26.6     26.7     26.9     27.0     28.8     29.9       21.6     22.8     25.1     26.3     29.7     31.0       21.1     21.3     21.6     21.7     23.0     24.0       20.8     21.2     22.1     22.5     25.7     27.1       19.9     20.7     22.2     23.0     26.2     28.9       20.7     21.7     23.5     24.4     27.4     28.6       18.7     19.9     22.4     23.7     26.8     27.9       24.9     25.2     25.7     26.0     27.6     27.9       22.2     22.9     24.2     24.9     27.5     28.6	25.9 26.3 27.0 27.3 29.2 29.5 27.9   22.2 23.5 26.0 27.2 30.4 31.1 29.9   26.6 26.7 26.9 27.0 28.8 29.9 27.6   21.6 22.8 25.1 26.3 29.7 31.0 30.2   21.1 21.3 21.6 21.7 23.0 24.0 22.8   20.8 21.2 22.1 22.5 25.7 27.1 26.2   19.9 20.7 22.2 23.0 26.2 28.9 30.0   20.7 21.7 23.5 24.4 27.4 28.6 27.7   18.7 19.9 22.4 23.7 26.8 27.9 27.0   24.9 25.2 25.7 26.0 27.6 27.9 27.3   22.2 22.9 24.2 24.9 27.5 28.6 27.7	25.9     26.3     27.0     27.3     29.2     29.5     27.9     26.2       22.2     23.5     26.0     27.2     30.4     31.1     29.9     28.7       26.6     26.7     26.9     27.0     28.8     29.9     27.6     27.1       21.6     22.8     25.1     26.3     29.7     31.0     30.2     28.6       21.1     21.3     21.6     21.7     23.0     24.0     22.8     23.9       20.8     21.2     22.1     22.5     25.7     27.1     26.2     26.4       19.9     20.7     22.2     23.0     26.2     28.9     30.0     29.4       20.7     21.7     23.5     24.4     27.4     28.6     27.7     27.4       18.7     19.9     22.4     23.7     26.8     27.9     27.0     26.4       24.9     25.2     25.7     26.0     27.6     27.9     27.3     27.2       22.2     22.9     24.2     24.9 <td>25.9     26.3     27.0     27.3     29.2     29.5     27.9     26.2     28.6       22.2     23.5     26.0     27.2     30.4     31.1     29.9     28.7     30.1       26.6     26.7     26.9     27.0     28.8     29.9     27.6     27.1     29.0       21.6     22.8     25.1     26.3     29.7     31.0     30.2     28.6     29.8       21.1     21.3     21.6     21.7     23.0     24.0     22.8     23.9     27.4       20.8     21.2     22.1     22.5     25.7     27.1     26.2     26.4     28.3       19.9     20.7     22.2     23.0     26.2     28.9     30.0     29.4     30.2       20.7     21.7     23.5     24.4     27.4     28.6     27.7     27.4     28.9       18.7     19.9     22.4     23.7     26.8     27.9     27.0     26.4     28.2       24.9     25.2     25.7     26.0</td> <td>25.9     26.3     27.0     27.3     29.2     29.5     27.9     26.2     28.6     32.5       22.2     23.5     26.0     27.2     30.4     31.1     29.9     28.7     30.1     32.9       26.6     26.7     26.9     27.0     28.8     29.9     27.6     27.1     29.0     33.8       21.6     22.8     25.1     26.3     29.7     31.0     30.2     28.6     29.8     33.0       21.1     21.3     21.6     21.7     23.0     24.0     22.8     23.9     27.4     31.2       20.8     21.2     22.1     22.5     25.7     27.1     26.2     26.4     28.3     32.4       19.9     20.7     22.2     23.0     26.2     28.9     30.0     29.4     30.2     33.1       20.7     21.7     23.5     24.4     27.4     28.6     27.7     27.4     28.9     32.5       18.7     19.9     22.4     23.7     26.8     2</td>	25.9     26.3     27.0     27.3     29.2     29.5     27.9     26.2     28.6       22.2     23.5     26.0     27.2     30.4     31.1     29.9     28.7     30.1       26.6     26.7     26.9     27.0     28.8     29.9     27.6     27.1     29.0       21.6     22.8     25.1     26.3     29.7     31.0     30.2     28.6     29.8       21.1     21.3     21.6     21.7     23.0     24.0     22.8     23.9     27.4       20.8     21.2     22.1     22.5     25.7     27.1     26.2     26.4     28.3       19.9     20.7     22.2     23.0     26.2     28.9     30.0     29.4     30.2       20.7     21.7     23.5     24.4     27.4     28.6     27.7     27.4     28.9       18.7     19.9     22.4     23.7     26.8     27.9     27.0     26.4     28.2       24.9     25.2     25.7     26.0	25.9     26.3     27.0     27.3     29.2     29.5     27.9     26.2     28.6     32.5       22.2     23.5     26.0     27.2     30.4     31.1     29.9     28.7     30.1     32.9       26.6     26.7     26.9     27.0     28.8     29.9     27.6     27.1     29.0     33.8       21.6     22.8     25.1     26.3     29.7     31.0     30.2     28.6     29.8     33.0       21.1     21.3     21.6     21.7     23.0     24.0     22.8     23.9     27.4     31.2       20.8     21.2     22.1     22.5     25.7     27.1     26.2     26.4     28.3     32.4       19.9     20.7     22.2     23.0     26.2     28.9     30.0     29.4     30.2     33.1       20.7     21.7     23.5     24.4     27.4     28.6     27.7     27.4     28.9     32.5       18.7     19.9     22.4     23.7     26.8     2

Table 3-3. Median age (in years) in the Great Plains states during the 20th century (see notes below for sources)

Sources: 1900: Twelfth Census of the USA, 1906. Special Reports: Supplementary Analysis and Derivative Tables. US Government Printing Office. Washington, DC. 1930: Sixteenth Census of the USA, 1940. Population: Volume IV. Characteristics by Age, Marital Status, Relationship, Education and Citizenship. Part 1 US Summary. Government Printing Office. Washington, DC. "estimated"

1940	http://www2.census.gov/prod2/statcomp/documents/1951-02.pdf	(p. 36)
1950	http://www2.census.gov/prod2/statcomp/documents/1959-02.pdf	(p. 27)
1960	http://www2.census.gov/prod2/statcomp/documents/1969-02.pdf	(p. 24)
1970	http://www2.census.gov/prod2/decennial/documents/1970a_us1-08.pdf	Table 62
1980	http://www2.census.gov/prod2/decennial/documents/1980a_usC-05.pdf	Table 235
1990	http://www.census.gov/prod/cen1990/cp1/cp-1-1.pdf	Table 251
2000	http://www.census.gov/prod/cen2000/phc-1-1-pt1.pdf	Table 1

metropolitan and nearby counties in these states and in Kansas, Nebraska, and Colorado, they constitute from 9% to 26.9%. In almost all of the remaining counties of the region African-Americans are less than 1% of the population.

Persons of Asian origin are also few in number, constituting no more than 4.5% in a dozen or so counties, mostly near the larger cities. In about 40 of the Plains counties they account for 1-2.9% of the population. In the remainder of this vast region they number under 1%.

Large populations of Native Americans are found in the central and eastern Great Plains counties of Oklahoma, in north-central Nebraska, much of central South Dakota, north-central and western North Dakota, in south-central Montana and along its northern tier of counties. Native Americans constitute more than 25% and often more than 50% of the population in the counties home to reservations and in adjacent counties.

Ethnic population trends for the Great Plains counties and the USA as a whole are shown in Table 3-4. The population of the Great Plains counties grew by 10.3% between 1990 and 2000; the national growth was 13.1%. The Plains are "whiter" than the country as a whole—88% in 1990 and 84.5% in 2000—compared with 80% and 75.1% for the USA in those years. While still a small group on the Plains,

Table 3-4. Population of the Great Plains counties and of the USA as a whole (in millions) by race
and ethnicity. (US Census 1990 and 2000b)

	1990	)	2000		% Change 199	00-2000
Ethnicity	Great Plains	USA	Great Plains	USA	Great Plains	USA
White	9.73	199.69	10.22	211.46	+5.1	+5.9
African American/Black	0.44	29.99	0.51	34.66	+15.8	+15.6
American Indian/Eskimo	0.22	1.96	0.27	2.48	+21.7	+26.4
Asian	0.12	7.27	0.17	10.64	+47.3	+46.3
Other	0.46	9.81	0.92	22.18	+43.4	+56.6
Total Population	10.97	248.71	12.09	281.42	+10.3	+13.1
Hispanic/Latino origin	0.97	22.35	1.49	35.31	+53.8	+57.9

<sup>&</sup>lt;sup>a</sup>See http://www.census.gov/prod/2001pubs/c2kbr01-1.pdf for definitions of race categories.

the Asian population increased by 47% between 1990 and 2000, little different than the national increase of this ethnic group. In 1990 an "other race" category was used. In 2000 an additional category, "two or more race" was added. The change from "other" to "other plus two or more race" made the largest gain nationally—56.6% between 1990 and 2000. "Hispanic and Latino origin" is an additional category in the census. Between 1990 and 2000 those of this origin increased on the Plains by more than 53%, a few percent less than nationally.

# 1.2.4. Age of principal farm operators

Trends in the average age of principal farm operators in the Great Plains states and nationally are shown in Figure 3-2. The states of Colorado, Kansas, Montana, and Wyoming show close agreement with the national age of principal farm operators. Oklahoma, New Mexico, and Texas operators are older, while North Dakota, South Dakota, and Nebraska are younger than the national mean. Between 1974 and 1982 the age of operators trended downward by more than 1 year as many "baby boomers" took over from their elders. The age has risen steadily from 50.5 in 1982 to 55.2 in 2002. Virtually all of the Great Plains states show a convergence toward the national average age of farm operators.

# 1.2.5. Population density

The US and Canadian portions of the Great Plains show different patterns of population density than do these nations as a whole (Table 3-5). The US Plains counties accounted for only 4.3% of the national population in 2000 and 2004. In 2001, the Canadian counterpart area was home to 13.7% of that nation's total population. The US Plains account for almost a fourth of the nation's conterminous land area; the Canadian portion of the Plains accounts for about 7% of land south of the 60th parallel.

bSee footnote 5.

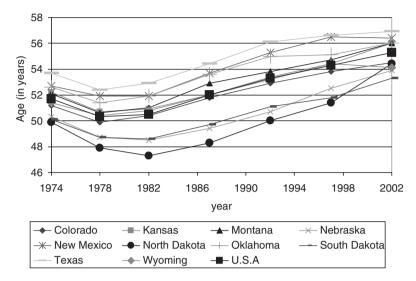


Figure 3-2. Average age of principal farm operators in the Great Plains states and nationally. (Source: 2002 Census of Agriculture. US Department of Agriculture, National Agricultural Statistics Service)

*Table 3-5.* Population, area, and population density of the Great Plains portions of the USA and Canada and of the nations as a whole. (Source: US (2000) and Canadian (2001) population censuses. 2004 data based on US Census Bureau estimates)

	Units	Country	Year	Great Plains	National	Great Plains % of national
Total population <sup>a</sup>	Millions	USA	2000	12.1	281.4	4.3
* *		USA	2004	12.6	295.6	4.3
		Canada	2001	4.1	30.0	13.7
Area <sup>b</sup>	$\mathrm{km}^2 \times 10^6$	USA		1.1	4.8	23.2
		Canada		0.4	6.0	7.4
Population density <sup>c</sup>	Persons/	USA	2000	10.8	57.8	18.6
	Sq. km	USA	2004	11.2	60.7	18.5
	*	Canada	2001	9.3	5.0	185.6

<sup>&</sup>lt;sup>a</sup>USA includes Alaska and Hawaii; Canada includes area north of 60 N latitude.

Population density in the US Plains grew from 10.8 in 2000 to 11.2 in 2004, remaining at about 18.5% of national population density. In Canada (area south of the 60th parallel only) population density in 2001 was 5 per sq. km; in the Plains region it was significantly higher—9.3 per sq. km.

 $<sup>^{\</sup>mathrm{b}}$ Area refers to the conterminous US and Canadian Provinces wholly or partially south of  $60\,\mathrm{N}$  latitude.

<sup>&</sup>lt;sup>c</sup>Population density refers to the number and density of people only within the indicated area.

## 2. THE GREAT PLAINS ECONOMY

# 2.1. Great Plains and national gross domestic product

In 2003 the US Great Plains states accounted for \$1.33 of the \$10.29 trillion, or 12.9%, of the national gross domestic product (GDP), up by 0.2% from 1997 (Table 3-6). While the national GDP rose by 19.4% from 1997 to 2003, the GDP of the Plains states as a whole rose by 21.5%.

Private industries accounted for 87.6% of the Plains economy in 2003, not much different from the national figure of 88.7%. Agriculture (crop and animal production) accounted for only 0.7% of the private sector economy nationally in 2003. The Plains states are twice as dependent on basic agriculture (1.4%). However, food-product manufacturing is a larger factor nationally (1.5%) than in the Plains states (1.2%). Forestry, fishing and related activities contribute only 0.2% to the private sector Plains economy compared with 0.3% nationally. On the national scale forestry, fishing, and related activities are 43% as large as crop and animal production. In the Plains states these activities contribute less than one-fifth of what crop and animal production do to the economy, despite the importance of tourism and recreation in the Rockies.

During the period 1997–2003 notable changes occurred in the relative importance of the individual sectors to the Plains states' economy as a whole. While the region's economy grew by 21.5% as a whole, forestry, fishing, and related activities grew by 54.5%, crop and animal production by 31.2%, the information and finance and insurance industries by 57.4% and 44.4%, respectively. Mining revenues were down by 22.6%.

Major changes in the Plains states' share of the national economy are also represented by sector in Table 3-6 for the period 1997–2003. These are: 3.5% increase with respect to national crop and animal production; 0.4% drop in food product manufacturing; 4.6% drop in the mining sector; 0.9% increase in the information sector and 0.3% increase in the government contribution to the economy.

The large role of the Plains states in mining (52.7% of that sector's national product in 2003) is, perhaps, misleading with respect to the Plains region *per se*, since most mineral extraction (coal, uranium and metals) occurs in the Rocky Mountains and western portions of Wyoming, Colorado, and New Mexico. Oklahoma and Texas account for most of the petroleum and natural gas extracted on the Plains proper. The states wholly within the Plains region—North Dakota, South Dakota, Nebraska, and Kansas—together account for only 2.4% of the mining economy of the Great Plains states. It is difficult to establish just what portion of the mining sector product resides within the Plains counties of the other Plains states. An approximation can be obtained from the proportion of personal income derived from oil and gas in these counties as a fraction of total personal income. In Colorado that fraction is <1%; in New Mexico 7.3%; in Oklahoma 2.1%; in Texas 4.0%; and in Wyoming 3.9%.

The product value of the information and finance and insurance sectors increased greatly on the Plains (54.7% and 44.4%, respectively) and nationally

1997	2000	2003	2004	% Change 1997–2004	2003 % of USA
1,096,183	1,253,719	1,332,107	1,387,076	26.54	12.9
948,330	1,098,784	1,167,527	1,217,833	28.42	12.8
16,061	17,594	21,523	17,796	10.80	20.8
13,794	14,741	18,126	NA	NA	24.9
2,224	2,852	3,397	NA	NA	10.9
71,215	58,178	55,077	57,351	-19.47	52.7
134,510	158,592	163,014	171,664	27.62	11.3
16,753	16,191	15,985	NA	NA	10.3
47,047	689'69	73,970	79,104	68.14	14.7
60,759	74,772	87,843	93,132	53.28	10.3
148,200	154,936	164,572	169,269	14.22	14.0
28,142	27,703	27,117	NA	NA	12.3
16,429	16,328	18,178	NA	NA	18.5
103,658	110,907	119,196	NA	NA	13.9
	1,096,183 948,330 16,061 13,794 2,224 71,215 134,510 16,753 47,047 60,759 148,200 28,142 16,429 103,658		2000 1,253,719 1, 1,098,784 1, 17,594 1,7594 14,741 2,852 58,178 158,592 16,191 69,689 74,772 154,936 27,703 16,328 110,907	2000 2003 1,253,719 1,332,107 1, 1,098,784 1,167,527 1, 17,594 21,523 14,741 18,126 2,852 3,397 58,178 55,077 158,592 163,014 16,191 15,985 69,689 73,970 74,772 87,843 154,936 164,572 27,703 27,117 16,328 18,178	2000 2003 2004   1,253,719 1,332,107 1,387,076   1,098,784 1,167,527 1,217,833   17,594 21,523 17,796   14,741 18,126 NA   2,852 3,397 NA   58,178 55,077 57,351   158,592 163,014 171,664   16,191 15,985 NA   69,689 73,970 79,104   74,772 87,843 93,132   154,936 164,572 169,269   27,703 27,117 NA   110,907 119,196 NA

(47% and 44.3%, respectively) in the period 1997–2003. The relative importance of the Plains information sector grew by 0.9%.

Of particular interest here is the fact that crop and animal production are a very small component of both the gross state and gross domestic product. On the Plains, however, that industry's contribution to the total economy is roughly twice that of the country as a whole (\$75.97 billion out of a total GDP of \$10.24 trillion or 0.7%). Also of special interest is the fact that the Plains states accounted in 2003 for almost exactly one quarter of the total US product in that sector, rising from 1997 by 3.5%. Food product manufacturing is smaller proportionately on the Plains than nationally, its percentage of national product falling slightly from 1997 to 2003.

## 2.2. Personal income

Total personal income, defined as total active income (earnings), passive income and government transfers, is another good measure of the economic strength or weakness of a county, state, or region. Total personal income in the Great Plains in 2002 was 1.153 trillion dollars (Table 3-7), 12.6% of the US total. Nonfarm income was 12.5% of the national product. Only \$11 billion of the Plains total product was farm income, less than 1% of the Plains total. While a small fraction, it is twice that for the nation as a whole. Further, farm income on the Plains is almost exactly one quarter of the national farm income. Farm income is greatest in Texas and Nebraska and least in Montana. Farm income contributes most to the total personal income in the Dakotas.

Another telling indicator of economic well-being is average wages and salaries. A review of data from income tax returns for the tax year 2003 indicates that, once government payments are removed from overall income, 27 of the lowest 50 wage/salary-earning counties are located on the Great Plains. Of these Montana has one, North Dakota, South Dakota, and Nebraska have seven each, Texas has two, and Colorado, Kansas, and New Mexico have one each. Average county salary and wages ranged from \$13,485 in Meagher County, Montana, to \$17,356 in Hayes County, Nebraska. By way of comparison, the highest county level average wage/salary was \$74,416 in Somerset County, New Jersey. Interestingly, another seven of the 50 lowest earning counties are located in the Great Plains states but outside of our defined area of interest.

The Economist magazine<sup>6</sup> comments on this statistic, calling the northern Great Plains "America's new ghetto" and pointing out, as the figures in Table 3-4 confirm, that the population of this "ghetto", except for "several pockets of wretched Native American poverty" is largely white.

<sup>&</sup>lt;sup>6</sup> The Economist. December 10, 2005. Not here, surely? The poorest part of America. pp. 31–32. Original data source: Transactional Records Access Clearinghouse, Syracuse University. http://trac.syr.edu/tracirs/findings/aboutTP/

Table 3-7. Total personal income, a farm and nonfarm income in the Great Plains states and nation-
ally, 2003. (Source: US Department of Commerce, Bureau of Economic Analysis—Regional Eco-
nomic Accounts, http://www.bea.gov/bea/regional/reis/)

	Personal income billion (\$)	Nonfarm income billion (\$)	Farm income billion (\$)	Farm % of personal income (state)
Colorado	157.2	156.5	0.7	0.45
Kansas	80.2	79.5	0.8	0.95
Montana	23.3	23.2	0.2	0.72
Nebraska	52.4	50.5	1.9	3.67
New Mexico	47.0	46.3	0.6	1.34
North Dakota	18.3	17.4	0.9	5.04
Oklahoma	93.7	92.5	1.2	1.27
South Dakota	22.1	21.1	1.0	4.48
Texas	642.6	639.1	3.5	0.55
Wyoming	16.3	16.1	0.2	1.19
Great Plains total	1,153.1	1,142.1	11.0	0.95
US total	9,151.7	9,107.5	44.2	0.48
Great Plains % of USA	12.6	12.5	24.9	

<sup>&</sup>lt;sup>a</sup>As defined by BEA, personal income is the income that is received by all persons from all sources. It is calculated as the sum of wage and salary disbursements, supplements to wages and salaries, proprietors' income with inventory valuation and capital consumption adjustments, rental income of persons with capital consumption adjustment, personal dividend income, personal interest income, and personal current transfer receipts, less contributions for government social insurance.

# 2.3. The farm economy and government payments

Table 3-8 presents information on the numbers of farms in the Great Plains counties and the land area they occupy. Additionally the table shows the extent of the government support payments distributed to these farms—all in comparison with these statistics for the nation as a whole.

The Plains counties hold over 329,000 land units identified as farms, 15.5% of the US total. These farms are large—a necessity where precipitation is the limiting factor for crop production—accounting for nearly 41% of the total farmed area of the USA But farms in this region are on average more dependent on government support than is true of the US as a whole. The 15% of the nation's farms located in the Plains received 31.5% of the government payments distributed to farms in 2002.7 About 55% of the Great Plains farms receive payments compared to 33% nationwide. The average per hectare payment to the Plains farms was, however, less than the nationwide average—\$13.20 compared to \$17.24.

<sup>&</sup>lt;sup>7</sup> Government payments to farmers include incentives for adoption of conservation measures, commodity price supports, insurance coverage for losses due to natural disasters, supports to farmers for transitioning from tobacco to other crops, and a wide range of additional programs.

Table 3-8. Farms, land area, government payments to farms and farms receiving government payments on the county level. (Source: the US Department of

	Number of farms	Land area in farms	Number of Land area farms with in farms cropland	Total cropland	Number of Farms with harvested cropland	Area of harvested cropland	Number of farms with Irrigated Land	Area of irrigated land	Number of farms receiving government payments	Government payments
State	(×1,000)	(ha×1,000) (×1,000)	(×1,000)	(ha×1,000) (×1,000)	(×1,000)	(ha×1,000) (×1,000)	(×1,000)	(ha×1,000)	(×1,000)	(\$×1,000)
Colorado	16.1	8,782	10.9	3,696	8.9	1,151	4.8	297	7.6	110,423
Kansas	64.4	19,112	56.7	11,955	4.1	7,679	5.9	1,083	39.2	328,244
Montana	17.5	20,408	14.2	6,648	10.4	3,095	4.3	385	10.5	198,351
Nebraska	49.4	18,576	43.7	9,113	37.1	7,015	18.0	3,085	32.0	347,517
New Mexico	4.7	6,528	3.2	662	1.7	162	1.7	183	2.1	39,180
North Dakota	30.6	15,902	28.5	10,726	20.8	8,056	0.7	82	23.9	293,067
Oklahoma	36.4	8,954	28.4	4,181	19.4	2,245	1.8	182	16.5	128,680
South Dakota	31.7	17,719	28.1	8,222	22.9	5,460	1.8	162	20.3	215,084
Texas	73.3	29,963	53.7	8,791	32.6	3,790	10.8	1,637	26.6	372,404
Wyoming	5.2	9,566	3.5	754	2.3	264	1.8	236	2.1	26,488
Total Great Plain	329	155,514	271	64,752	198	38,923	52	7,637	181	2,059,438
USA	2,129	379,708	1,751	175,700	1,362	122,497	299	22,383	707	6,545,678
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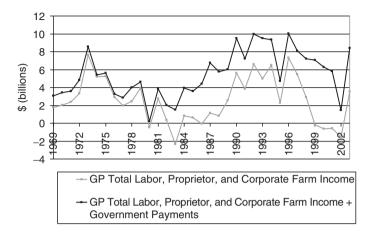


Figure 3-3. Trends in farm income from the sale of crops and livestock at the Great Plains County level (unadjusted for inflation) (Source: US Bureau of Economic Analysis, Local Area Farm Income and Expenses data. Data originally derived from USDA-NASS.)

Texas has the largest number of farms in the Plains region, the largest land area and the smallest percentage of its farms receiving the greatest state total of government payments. The percentage of farms participating in government payment programs is greatest in North Dakota, South Dakota, and Nebraska, closely followed by Kansas. Wyoming and Montana receive the smallest per hectare payments. Reasons for these differences are explored in Chapter 4.

Despite movements in the US Congress in recent years to reduce supports for agricultural commodities, dependency on the government for support to Great Plains farms continues, as is shown in Figure 3-3 which is not adjusted for inflation.

#### 3. SUMMARY

The Great Plains is a sparsely populated region. In the US portion of the region the rural population is about the same now as it was in 1900 but, as is true of the nation as a whole, its percentage of the total population has declined sharply. Rural counties containing metropolitan areas have shown growth, but counties lacking cities greater than 20,000 continue to lose population. Overall, the median age in the Great Plains increased from about 22 to 36 years from the beginning to the end of the 20th century. The median age of principal farm operators in the USA has risen from the late 1970s and early 1980s from about 50 to 55+. Individual Great Plains states bracket the national average by +/-2 years. The population of the Great Plains counties is distinctive in its "whiteness"—85% compared with the national average of 75%. It is also among the poorest regions—by some measures it is the poorest—in the nation.

We picture the Great Plains states as predominantly agricultural (crops and animal grazing). In terms of land use that is certainly the case. But only about 1.4% of the gross regional product, which was about 13% of the gross national product in 2003, derives there from crop and animal production. Yet that surprisingly small percentage actually represents 25% of the national crop and animal product. Only in North Dakota does the farm percentage of state personal income exceed 5% (just barely). And a considerable portion of the farm income in the region comes from government payment; in some years, farm income is positive only because of government payments.

This quick overview of population and economy suggests that the Great Plains is a region in which, at this time, all is not well. What are the prospects for reversing the less positive current demographic and economic trends in the region? A very complicated question, the answers to which will depend on a future of many and perhaps unforeseeable political, economic, technical, and social developments. But one factor, a more sustainable, more profitable agriculture will have to be part of the answer. A broader view of the region's current agriculture and its associated environmental problems is presented in the following chapter.

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