

Population Change and Income Growth In the 1970's — The Tenth District Experience

By Glenn H. Miller

In a country as large and as geographically and economically diverse as the United States, significant regional differences can and do exist in the growth of **population** and income. Interregional migration of people, capital, and economic activity is also relatively easy. Such migration is very sensitive to economic conditions and prospects, leading to flows toward areas that seem to offer more favorable employment and income opportunities. This article discusses some of the changes in population and income growth, and in the migration of people, that have occurred in major regions of the United States in the early 1970's. More specifically, the article examines the population growth, migration experience, and income growth of the states in the Tenth Federal Reserve District,¹ in comparison with such changes in other regions and in the United States as a whole in the first half of the 1970's.

POPULATION CHANGES IN THE UNITED STATES

The resident population of the United States² grew at an average annual rate of about 1.7 per

¹ Colorado, Kansas, Nebraska, Wyoming, most of Oklahoma and New Mexico, and 13 counties in western Missouri. Tenth District population and income as used in this article mean the population and income of all of the seven states that lie wholly or partly within the District.

cent in the **1950's**, about 1.3 per cent in the **1960's**, and about 0.9 per cent from 1970 to 1976. With immigration rates changing only slightly from decade to decade, the explanation for the falling rate of U.S. population growth is found in the falling rate of natural increase. That, in turn, is attributable to steadily decreasing fertility rates because the average death rate has declined very slightly during the period.

All three basic annual measures of fertility—the crude birth rate, the general fertility rate, and the total fertility rate—dropped to their lowest levels in U.S. history in 1976, from post-World War II peaks reached in the late 1950's. The crude birth rate—number of births per **1,000 population**—was 14.7 in 1976, down from 25.2 in 1957. The general fertility **rate**—number of births per **1,000 women 15 to 44 years old**—is a more satisfactory indicator of fertility trends because it relates the number of births to the number of women in the childbearing ages; it reached 65.7 in 1976 after declining steadily from 122.7 in 1957.

The total fertility rate—annual births expressed as the implied completed fertility of

² "Resident population" is the concept of U.S. population used in the decennial census report, and includes residents of the 50 states and the District of Columbia.

1,000 women—is not affected by the age structure of the female population, and is thus considered the most satisfactory of the three indicators of fertility trends.³ In 1976, the total fertility rate was about **1,760—down** from 3,760 in 1957. While the total fertility rate in 1976 was below the replacement level of 2,100 for the fifth successive year, population growth by natural increase continues because of the existing age structure for women. Indeed, it would require an estimated 70 years with a constant total fertility rate at the 2,100 replacement level for the U.S. population to stabilize, in the absence of immigration.

The declining fertility rate has made natural increase relatively less important, and net migration relatively more important, as a source of population change in individual states and regions. The pattern of migration by region, especially in the **1970's**, has been from the Northeast and North Central states to the South and the West. This is a significant change for the South (excluding Florida), which experienced net out-migration in the 1950's and **1960's**. Immigration into California dominated the movement of people to the western states in the **1950's** but, by the late 1960's and **1970's**, the other western states had achieved higher net immigration rates than California. The fall in natural increase has been accompanied in the Northeast by more rapid out-migration—to bring population growth there almost to a halt in the 1970's. After some modest immigration in the **1960's**, the East North Central region returned to its earlier pattern of net out-migration. The West

North Central region, which has had net out-migration in each 5-year period since 1950-55, has suffered somewhat less outward movement in the periods since 1965 than earlier.

POPULATION CHANGES IN THE TENTH DISTRICT

Population changes thus far in the 1970's in the states of the Tenth District have several distinct and significant differences from those of the 1960's. The major differences for Tenth District states both reflect and are included in population changes in the United States as a whole over the same time span. Most important among those changes are the continuing fall in the population's net growth rate—because of a declining rate of natural increase, which is due, in turn, to a falling fertility rate—and some pronounced shifts in net internal migration patterns.

The resident population of the Tenth District has grown more rapidly so far in the 1970's than has the U.S. resident population—a reversal from the 1960's (Table 1). Population in six of the seven District states (Missouri is the exception) has grown more rapidly in the 1970's than in the preceding decade.

Population changes for the seven states in the 1970's reflect the changes in the major Census regions of the United States to which they belong (Figure 1). Kansas, Missouri, and Nebraska—part of the West North Central census region—grew at annual rates below the national average for the **1970's**. The resident population of Oklahoma, classified by the Bureau of the Census as part of the South, increased faster than the national average, but not as fast as that of the Mountain states of the Tenth District. Colorado, New Mexico, and Wyoming posted average annual rates of population growth from 1970 to 1976 of **2.6 per cent**, **2.3 per cent**, and **2.7 per cent**,

³ "More specifically, the total fertility rate is the number of births that 1,000 women would have in their lifetime if, at each year of age, they experienced the birth rates occurring in the specified calendar year." U.S. Department of Commerce, Bureau of the Census, "Estimates of the Population of the United States and Components of Change: 1940 to 1976," *Current Population Reports*, Series P-25, No. 706, September 1977, p. 1.

Table 1
RESIDENT POPULATION OF THE UNITED STATES AND
TENTH DISTRICT STATES
1976, 1970, and 1960

	Population (Thousands)			Average Per Cent Change Per Year	
	1976	1970	1960	1970-76	1960-70
United States	214,659	203,304	179,323	0.9	1.3
Tenth District	15,548	14,529	13,273	1.1	0.9
Colorado	2,583	2,210	1,754	2.6	2.3
Kansas	2,310	2,249	2,179	0.4	0.3
Missouri	4,778	4,678	4,320	0.4	0.8
Nebraska	1,553	1,485	1,411	0.7	0.5
New Mexico	1,168	1,017	951	2.3	0.7
Oklahoma	2,766	2,559	2,328	1.3	1.0
Wyoming	390	332	330	2.7	0.1

SOURCE: U.S. Department of Commerce, Bureau of the Census, **Current Population Reports**, Series P-25, No. 642.

Figure 1
MAJOR CENSUS REGIONS OF THE UNITED STATES

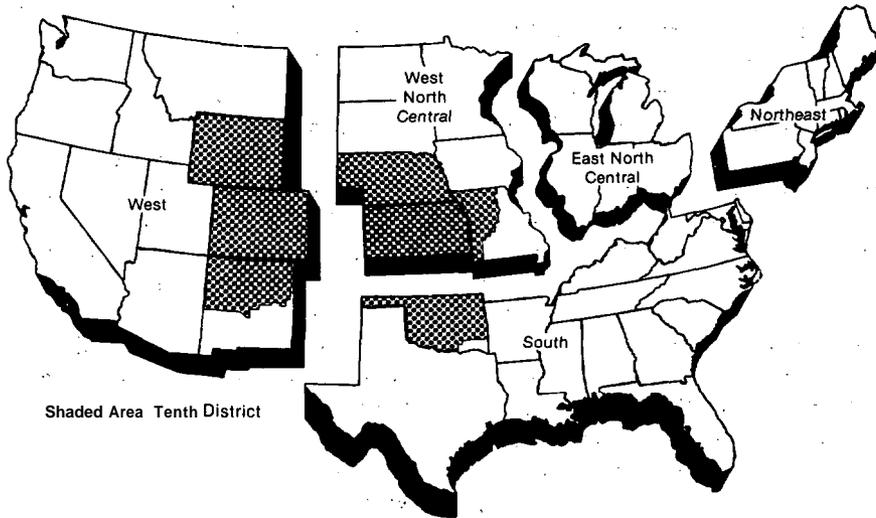


Table 2
CHANGES IN CIVILIAN RESIDENT POPULATION AND COMPONENTS OF CHANGE
TENTH DISTRICT STATES, 1970-76
(In Thousands)

<u>State</u>	<u>Net Population Change</u>	<u>Net Natural Increase</u>	<u>Net Civilian Migration</u>	<u>Net Movement from the Armed Forces</u>
Colorado	376	136	231	9
Kansas	71	74	-14	11
Missouri	111	133	-57	35
Nebraska	67	56	- 2	13
New Mexico	152	84	63	5
Oklahoma	212	101	94	18
Wyoming	57	21	34	2

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Reports, Series P-25, No. 642.

respectively. These rapid rates of growth placed the three states among the nine fastest-growing states in the nation.

Changes in civilian resident population (the concept of population most closely related to measures of labor input such as the civilian labor force and civilian employment) are shown in Table 2 for the states of the Tenth District for the 1970-76 period. The three North Central states have experienced net civilian out-migration in the early 1970's, while Oklahoma and the three Mountain states have attracted net civilian immigration. In Colorado and Wyoming, net civilian immigration contributed more to population growth than did natural increase, and such a situation was nearly the case for New Mexico and Oklahoma. Despite the generally slower rate of natural increase in the 1970's, there was sufficient natural growth in Kansas, Missouri, and Nebraska to more than offset the amount of net out-migration experienced and thus to provide population

growth for those three states. Finally, reductions in the size of the nation's military establishment led to movements from the armed forces into the civilian population for all Tenth District states.

In order to allow for differences among the states in population size, civilian migration during the 1960's and the early 1970's is shown in Table 3 as a per cent of each state's population at the beginning of each period. From Table 3, it may be ascertained, for example, that although many more people migrated into Colorado than into Wyoming in the early 1970's, these two states had very similar rates of civilian in-migration. Reversals in migration patterns from the 1960's to the 1970's were experienced by New Mexico and Wyoming, which went from strong out-migration to strong in-migration, and by Missouri, which went from being a slight gainer to being a moderate loser of migrants. Kansas and Nebraska both reduced their rates of net

out-migration; Colorado and **Oklahoma** both increased their rates of population inflow. Thus, migration patterns in **all** Tenth District states except Missouri moved in a positive **direction** in the early **1970's**, compared to the 1960's.

POPULATION CHANGE BY METROPOLITAN-NONMETROPOLITAN STATUS

An important feature of population change in the United States during the 1970's has been the changing distribution of population growth between metropolitan and nonmetropolitan areas. From 1970 to 1975, the population of the United States living in Standard Metropolitan Statistical Areas (**SMSA's**) grew 4.2 per cent, while the population in the nonmetropolitan part of the country increased 6.5 per cent.⁴

It has been observed that "with the possible exception of a brief period during the heart of the Great Depression, we do not appear in the modern history of our country ever to have had a previous time when nonmetropolitan population growth rates exceeded metropolitan **rates**."⁵

The swing to faster population growth in nonmetropolitan areas than in metropolitan areas is clearly evident in the statistics on annual rates of change. In the **1960's**, U.S. metropolitan population grew at an annual rate of 1.6 per cent, compared to a 0.4 per cent growth rate for nonmetropolitan areas. In the first half of the **1970's**, the positions were reversed: nonmetropolitan population grew 1.3 per cent per year while metropolitan growth fell back to 0.8 per cent per year. The South, the West, and the North Central region all went from net migration out of nonmetropolitan

Table 3
NET CIVILIAN MIGRATION RATES
TENTH DISTRICT STATES
1960-70 and 1970-76

State	Civilian Migration as Per Cent of Population on Beginning Date	
	1960-70	1970-76
Colorado	12.1	10.7
Kansas	-5.8	-0.7
Missouri	0.6	-1.2
Nebraska	-4.4	-0.1
New Mexico	-1 2.5	6.3
Oklahoma	0.6	3.7
Wyoming	-1 1.9	10.5

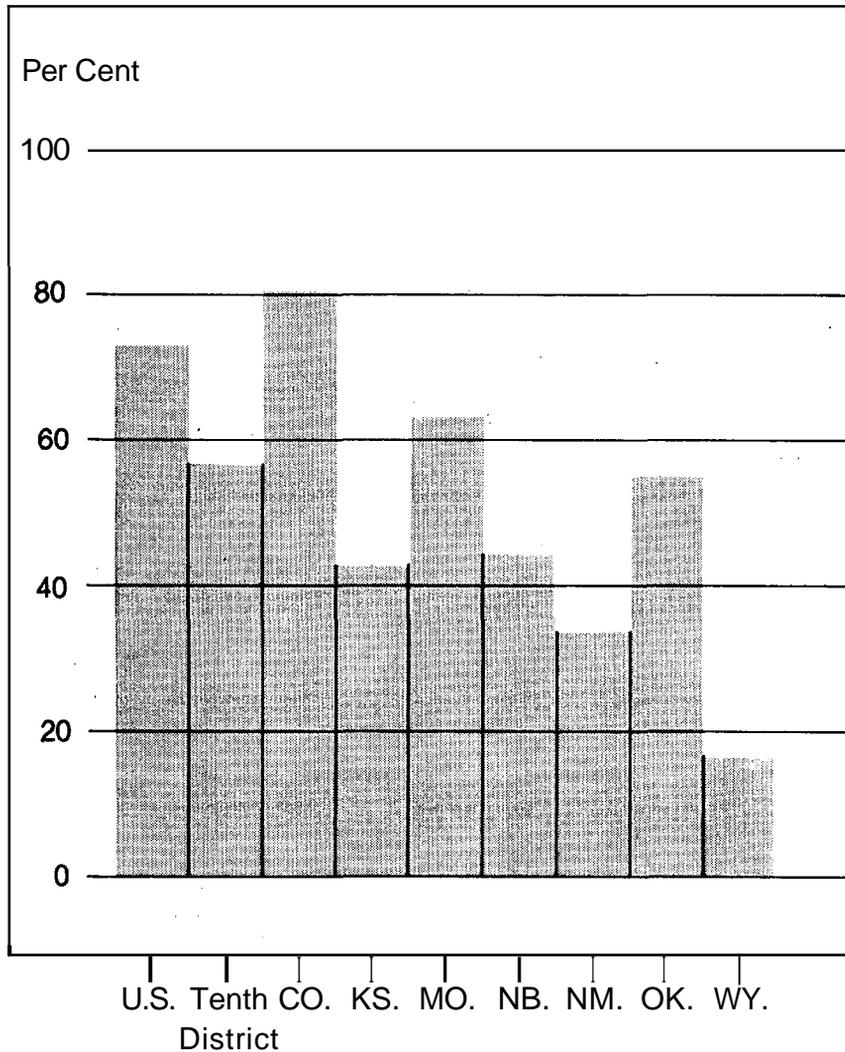
SOURCE: U.S. Department of Commerce, Bureau of the Census, **Current Population Reports**, Series **P-25**, No. **460** and No. **642**.

areas in the 1960's to net migration into such areas in the first half of the 1970's. The total number of States experiencing net nonmetropolitan out-migration declined from 36 in the 1960's to 8 in the early 1970's. Here again, national patterns of migration are reflected in the experience of the seven Tenth District states. In the **1960's**, six District states

⁴ The concept of an SMSA as "an integrated economic and social unit, with a recognized urban population nucleus of substantial size" has been made operational by establishment of several objective quantitative criteria. The population nucleus is generally a city of 50,000 or more inhabitants. The SMSA includes that city's county, and contiguous counties determined to be of metropolitan character and to be socially and economically integrated with the nuclear county. Criteria of metropolitan character and of integration include attributes of a county as a place of work or as a home for a specified concentration of **nonagricultural** workers, population density, and patterns of commuting. For more details, see **U.S.**, Executive Office of the President, **Office** of Management and Budget, **Standard Metropolitan Statistical Areas: 1975** (Revised Edition).

⁵ Calvin L. Beale, "A Further Look at **Nonmetropolitan** Population Growth Since **1970**," **American Journal of Agricultural Economics**, **Vol. 58**, No. 5, December 1976, p. 953.

Chart 1
PER CENT OF POPULATION IN SMSA'S, 1975
UNITED STATES AND TENTH DISTRICT STATES



(Colorado being the exception) had out-migration from their nonmetropolitan areas, while only Nebraska registered such an outflow in the 1970's.

The proportion of the nation's population living in **SMSA's**—after rising fairly steadily

from just over half in 1930 to nearly three-fourths in 1970 stabilized in the **1970-75** period. Indeed, the 1975 estimates show a fractional decline since 1970 in the percentage of Americans living in metropolitan areas. However, there were still 157 million

metropolitan residents of the United States compared with 57 million inhabitants of nonmetropolitan areas.

In the Tenth Federal Reserve District, the share of population living in metropolitan areas remained unchanged at 57 per cent from 1970 to 1975.⁶ Thus, in 1975, the Tenth District still had a considerably smaller share of its population living in SMSA's than did the United States as a whole (Chart 1). Using that yardstick alone, Colorado was the most "metropolitan" of the Tenth District states in 1975, and was the only one with a larger share of its population living in SMSA's than was true for the nation. In only two other District states—Missouri and Oklahoma—were metropolitan residents more than half of the state's total population.

The decline in the rate of natural increase discussed earlier reduced the rate of growth of both metropolitan and nonmetropolitan population, thus increasing the importance of net migration as a factor in population change in the metropolitan-nonmetropolitan context. A significant part of the movement of people from the Northeast and North Central regions to the South and West represents migration from metropolitan areas in the former regions to metropolitan areas in the latter. The Bureau of the Census has observed that "migrants are, indeed, moving to the South and West but they are more likely to be going to metropolitan than nonmetropolitan areas. In fact, less than one-third of the total net immigrants to these two regions settled in nonmetropolitan places."⁷

⁶ Although Wyoming has no SMSA's as defined by OMB, Cheyenne is treated as an SMSA in this article.

⁷ U.S. Department of Commerce, Bureau of the Census, "Estimates of the Population of Counties and Metropolitan Areas: July 1, 1974 and 1975," Current Population Reports. Series P-25, No. 709, September 1977, p. 2.

Four District states show net migration patterns for their metropolitan areas in the 1970's quite like those of the major census divisions of which they are a part. The SMSA's of Kansas and Missouri produced net out-migration in the first half of the 1970's, while Colorado and New Mexico SMSA's experienced net in-migration at nearly a 10 per cent rate. Net migration from 1970 to 1975 for metropolitan and nonmetropolitan parts of the states of the Tenth District is shown in Chart 2.

When population gain through natural increase is added to change through net migration, relative population growth from 1970 to 1975 was greater in SMSA's than in nonmetropolitan areas in Colorado, Nebraska, New Mexico, and Oklahoma. With metropolitan and nonmetropolitan growth occurring at virtually the same rate in Wyoming, only Kansas and Missouri among Tenth District states had faster population growth in non-SMSA areas than in SMSA's from 1970 to 1975.

Thus, overall, the Tenth District metropolitan-nonmetropolitan population growth experience in the first half of the 1970's differed from the U.S. experience in the following ways:

1. Tenth District SMSA population grew faster than that of the United States, while District nonmetropolitan population grew more slowly.
2. Tenth District SMSA population grew more rapidly than Tenth District nonmetropolitan population, the opposite of the aggregate national experience.

Tenth District performance was heavily weighted by the growth pattern in its Mountain states and Oklahoma, and was also affected by

Chart 2
 NET MIGRATION, 1970-75, AS PER CENT OF 1970 POPULATION
 TENTH DISTRICT STATES, SMSA'S AND NON-SMSA AREAS

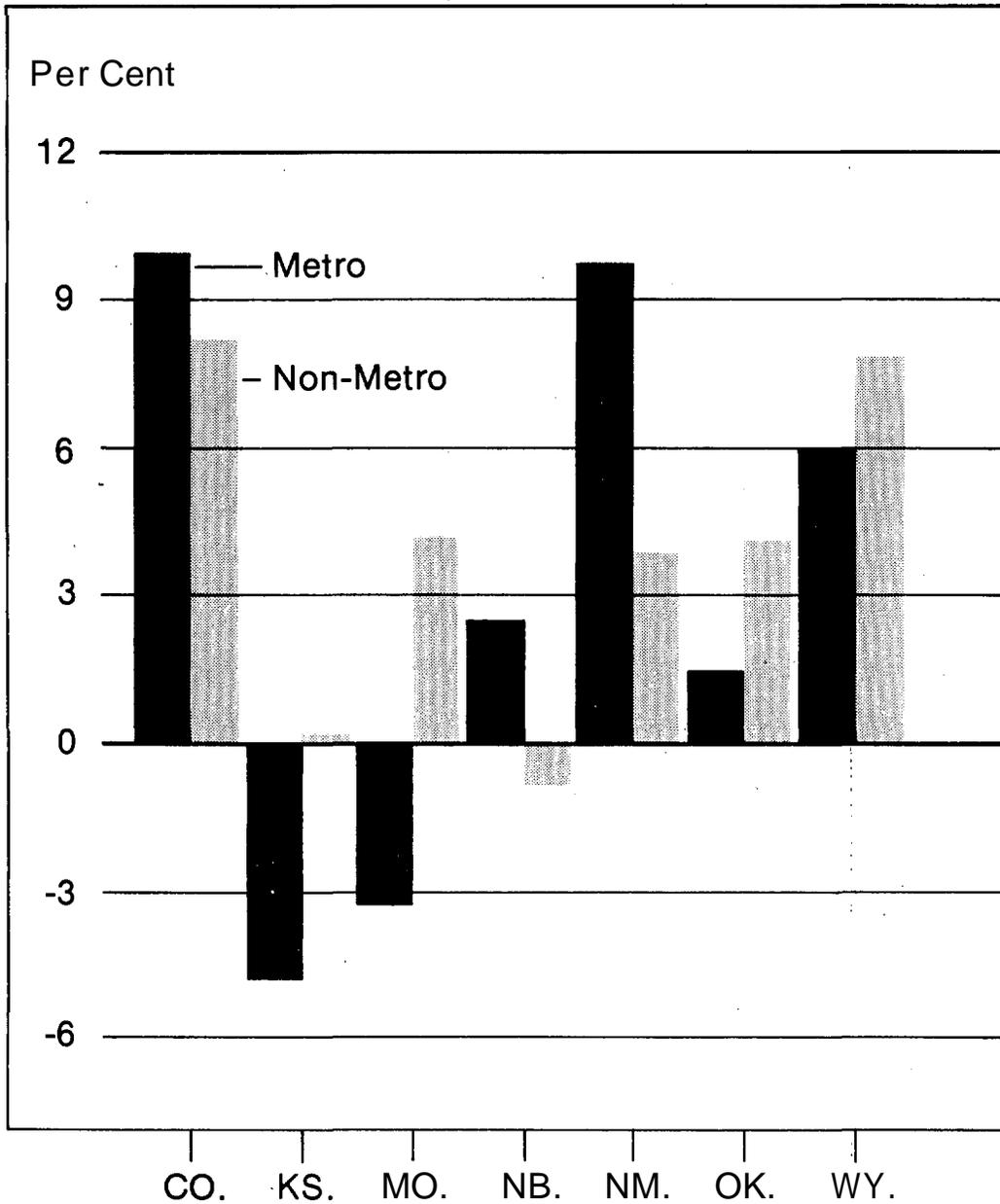


Table 4
TOTAL PERSONAL INCOME
UNITED STATES AND TENTH DISTRICT STATES
1970 AND 1976

	Millions of Dollars		Average Per Cent Change Per Year 1970-76
	1970	1976	
United States	\$793,491	\$1,373,511	9.6
Colorado	8,537	16,633	11.8
Kansas	8,383	14,945	10.1
Missouri	17,111	28,494	8.9
Nebraska	5,440	9,450	9.6
New Mexico	3,117	6,217	12.2
Oklahoma	8,576	15,788	10.7
Wyoming	1,226	2,593	13.3

SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis, **Survey of Current Business**, August 1977, p. 17. (1970 data furnished by Bureau of Economic Analysis.)

the counter-typical population behavior of one of its North Central states, Nebraska.

INCOME GROWTH IN THE UNITED STATES AND IN THE TENTH DISTRICT

Total personal income and per capita personal income are often used as indicators of economic activity and economic welfare for states and for larger regions of the country where no fully comparable measures of total output exist. Personal income estimates for states, metropolitan areas, and **nonmetropolitan** counties are made by the U.S. Department of Commerce, and serve as the basis for interstate comparisons of growth in economic activity and economic welfare, as well as for comparing growth in subnational geographic areas with that of the nation as a whole.

From 1970 to 1976, total personal income in the United States in current dollars grew at an average annual rate of 9.6 per cent. In only one Tenth District state—Missouri—did total personal income growth fail to match at least the national rate **in** that period (Table 4). As was true for population growth, total **income** grew more rapidly in the early **1970's** in the three Mountain states than in the other four states of the District.

Population and total income together determine average income per person, which is often used as an indicator of economic welfare. The level of per capita personal income in the United States as a whole in 1970 was higher than the per capita income in every Tenth District state. Those state levels ranged from 78 per cent to 99 per cent of U.S. per capita income (Table 5). In current dollars, U.S. per capita income grew at an average rate of 8.6 per cent per year from 1970 to 1976. As was

Table 5
PER CAPITA PERSONAL INCOME
UNITED STATES AND TENTH DISTRICT STATES
1970 AND 1976

	Per Capita Income				Average Per Cent Change Per Year 1970-76
	1970		1976		
	Dollars	Per Cent of U.S.	Dollars	Per Cent of U.S.	
United States	\$3,894	100	\$6,399	100	8.6
Colorado	3,840	99	6,440	101	9.0
Kansas	3,727	96	6,469	101	9.6
Missouri	3,650	94	5,963	93	8.5
Nebraska	3,656	94	6,086	95	8.9
New Mexico	3,047	78	5,322	83	9.7
Oklahoma	3,341	86	5,707	89	9.3
Wyoming	3,669	94	6,642	104	10.4

SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis, **Survey of Current Business**, August 1977, p. 17. (1970 data furnished by Bureau of Economic Analysis.)

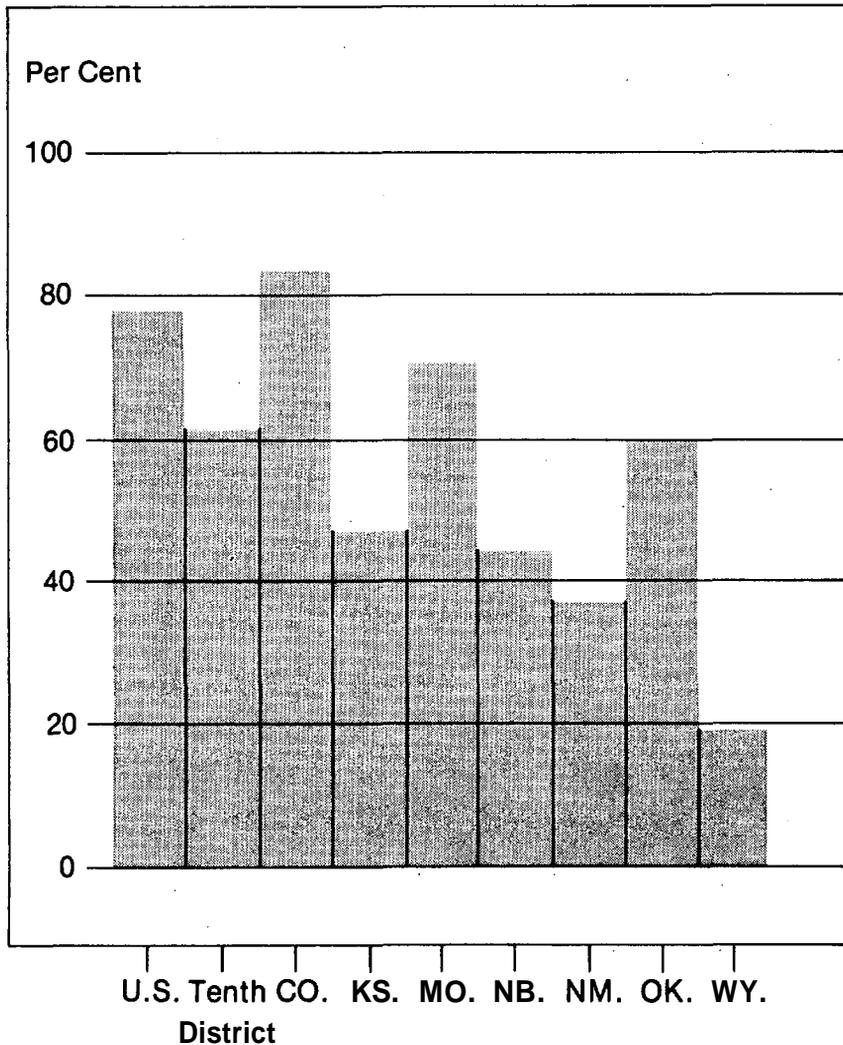
true of total **income** growth, per capita personal income grew more rapidly than the national average in six Tenth District states in the same period. (Missouri was again the exception, but in the case of per capita income, **Missouri's** growth very nearly matched the national rate.) As a result of the differences in growth rates, every District state but Missouri improved its position relative to U.S. per capita income. Indeed, Colorado, Kansas, and Wyoming all had levels of income per person in 1976 above the national average, and per capita income in the seven District states ranged from 83 per cent to 104 per cent of the national average.

The three states showing the largest relative gains in per capita income vis-a-vis the national average—Wyoming, New Mexico, and Kansas—achieved their gains somewhat differently. Wyoming and New Mexico posted rates of total income growth substantially higher than the U.S. rate in the early **1970's**, and thus were

able to accommodate very rapid rates of population growth while attaining significant improvement in their relative levels of per capita income. Kansas, on the other hand, with total income **growth** only slightly higher than the national rate (and less than that of four other District states), achieved a significant improvement in its per capita income level relative to the U.S. average because of its low rate of population growth. The Kansas case illustrates that an area's level of per capita income can benefit from restrained population growth as well as from rapid income growth.

As was true of the share of the nation's population living in **SMSA's**, the proportion of U.S. total personal income earned in metropolitan areas decreased slightly in the 1970's. The proportion of Tenth District income earned in **SMSA's** also fell slightly, although the share of District population in metropolitan areas remained stable in the early 1970's. The

Chart 3
PER CENT OF TOTAL PERSONAL INCOME EARNED IN SMSA'S
UNITED STATES AND TENTH DISTRICT STATES, 1975



difference in direction of change in metropolitan income share in the 1970's is perhaps more significant for the Tenth District than for the nation. The proportion of income earned in SMSA's in the United States had increased only minimally from 1929 to 1969,

while it had increased by about one-fifth in the Tenth District.

In 1975, Colorado was the sole District state with a larger share of total income earned in SMSA's than was true for the United States (Chart 3). The concentration of economic

activity (as measured by total personal income) in SMSA's was greater than the concentration of population in every Tenth District state except Nebraska, where the proportions were equal.

The volume of economic activity, as measured by total personal income, grew more rapidly in nonmetropolitan than in metropolitan areas of the United States in the early 1970's; the same was true for the Tenth District as a whole. However, income growth was faster in the District than in the whole United States for both SMSA's and non-SMSA areas. The income growth record of the individual states shows further that both SMSA and non-SMSA income grew faster in every District state than in the nation at large (Chart 4). Three states—New Mexico, Oklahoma, and Wyoming—posted faster income growth rates in SMSA's than in nonmetropolitan areas. The total amount of income produced in the other four states (which had more rapid growth in their non-SMSA regions) was, however, enough to give faster nonmetropolitan income growth for the District as a whole.

SUMMARY

That the seven states of the Tenth Federal Reserve District do not make up a homogeneous region is shown by patterns of population change and income growth in the 1970's. The major differences between District states separate the slower-growth North Central states of Kansas, Missouri, and Nebraska from the faster-growth states of Colorado, New Mexico, Wyoming, and Oklahoma. Thus, generalizations about growth in the Tenth District as a whole must often be qualified after looking at individual state data.

- Resident population of the Tenth District grew more rapidly than that of the United States in the early

1970's. However, Kansas, Missouri, and Nebraska experienced slower population growth than the nation; Colorado, New Mexico, Wyoming, and Oklahoma grew more rapidly than the United States.

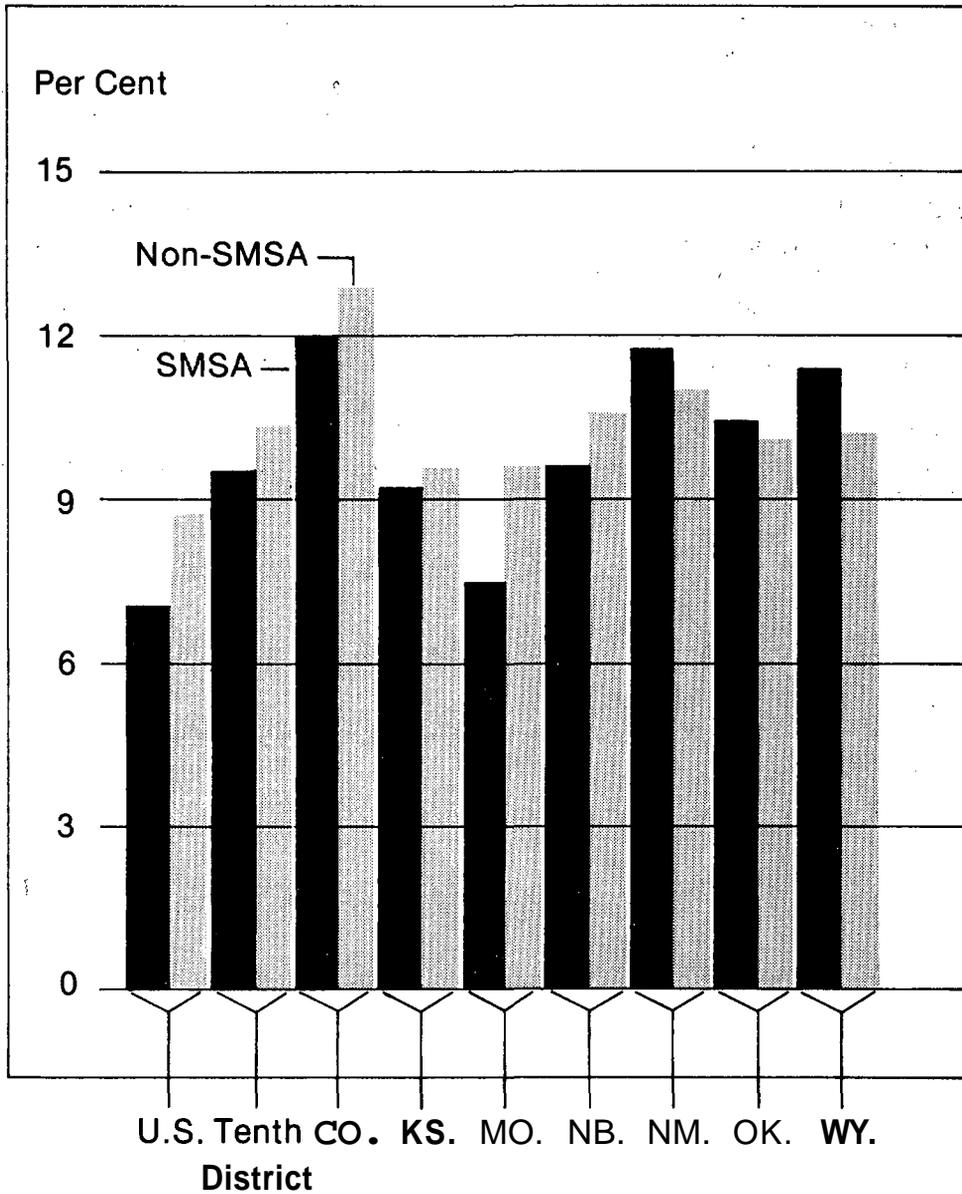
- With regard to patterns of net migration in the early 1970's, Colorado, New Mexico, Wyoming, and Oklahoma had net civilian immigration; Kansas, Missouri, and Nebraska had net civilian out-migration.

- All Tenth District states but Missouri improved their migration patterns in the early 1970's, compared to the 1960's—they either moved from net outflow to net inflow of migrants, or increased their rate of net immigration, or decreased their rate of net out-migration.

- All District states, except Missouri, had total personal income growth in the early 1970's at least as fast, or faster, than the U.S. rate, and all District states but Missouri improved their per capita income position, relative to the U.S. level.

The swing to faster nonmetropolitan growth in the United States in the early 1970's has been tentatively identified as an important change of trend in the nation's population history. The Tenth District appears to be partaking in some, but not all, of the emerging national trend of slower growth in SMSA's than in nonmetropolitan areas.

Chart 4
AVERAGE ANNUAL PER CENT CHANGE IN TOTAL PERSONAL INCOME
SMSA'S AND NON-SMSA AREAS, UNITED STATES AND TENTH DISTRICT STATES
1969-75



- The Tenth District and most of its individual states are still less "metropolitan" than the whole United States, in that the District's share of population residing in SMSA's and its share of income earned therein, are both less than the comparable proportions for the United States.

- The share of population in SMSA's declined for the United States in the early **1970's**, and remained unchanged for the Tenth District. The share of total personal income earned in SMSA's declined for both the United States and the Tenth District in the same period.

- For the whole United States, population grew more rapidly in the nonmetropolitan areas than in the

SMSA's in the early 1970's. The opposite was true for the Tenth District: SMSA population grew more rapidly than nonmetropolitan population. However, both metropolitan and nonmetropolitan population growth were faster in the Tenth District than for the nation.

- Growth in the volume of economic activity, as indicated by total personal income growth, was more rapid in nonmetropolitan areas than in SMSA's in both the Tenth District and the United States. But in three of the District's four **faster-growth** states—New Mexico, Wyoming, and Oklahoma— income growth in SMSA's was more rapid than in nonmetropolitan areas in the first half of the decade of the 1970's.