A Changing Rural America

By Mark Henry, Mark Drabenstott, and Lynn Gibson

A brisk wind is blowing across rural America that is bringing economic change. Rural lenders are experiencing a sharp increase in loan losses, and bank failures in rural communities are running at a post-Depression high. Small rural towns are finding their economic viability in question, and county governments are straining under an eroded tax base. In short, the rural economy is under pronounced stress that is accelerating the tempo of change.

Although rural economic change has been underway for a long time, the recent economic downturn is significant for two principal reasons. First, it marks the first time in the past two decades that rural residents have not made real economic gains toward their urban counterparts. Urban residents have long had higher per capita incomes than rural residents, but until recently the gap had been narrowing. The stall in rural improvement has been especially difficult after the rapid economic gains made by many rural residents, notably farmers, in the early 1970s. Second, it marks the first time since the Great Depression that so much public attention has been focused on rural problems. Federal, state, and local authorities have brought forward an array of public policy initiatives to address rural issues. The initiatives range from increased farm program spending to new rural development programs. For these two reasons, there is a great need for understanding how the rural economy is changing.

This article compares the recent economic performance of rural America with that of urban America. It also explores some of the causes of the recent rural performance. The article concludes that the convergence of rural and urban incomes seems to have stalled and that the remaining gap will be more difficult to remove because of structural forces now at work.

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What is rural America?

For the purposes of this study, nonmetropolitan counties are assumed to constitute rural America.[1]

TABLE 1
Population, personal income, and employment, U.S. metropolitan and nonmetropolitan counties, 1984

County Type	County Number*	Population (thousands)†	Population Percent of Total
All Counties	3,067	232,882	100.00
Metropolitan	626	168,302	72.27
Nonmetropolitan	2,441	64,580	27.73
Manufacturing	618	23,401	36.23
Mining	176	3,918	6.07
Farm	602	7,407	11.47
Retirement	222	7,316	11.33
Government	239	8,329	12.90
Mixed	128	1,896	2.94
Trade	370	10,571	16.37
Other	86	1,742	2.70

*Economic Research Service, U.S. Department of Agriculture, modifications by the authors
†Bureau of Economic Analysis, U.S. Department of Commerce
‡Bureau of Labor Statistics, U.S. Department of Labor. Includes private and civilian government employees for second quarter 1984. Excludes farms with fewer than ten employees.

Of the more than 3,000 counties in the contiguous 48 states in 1984, about 83 percent, or 2,441, were classified as nonmetropolitan counties. These rural counties are then grouped according to the economic sector most important to each: manufacturing, mining, farm, retirement, government, mixed, trade, and other.[2] (See the Appendix for definitions of these categories.)

Contrary to the popular notion that rural counties depend mostly on farming, manufacturing is the dominant economic base of rural America. Counties depending on manufacturing accounted for about 36 percent of the nonmetropolitan personal income and population in 1984 (Table 1). Manufacturing also accounted for about 40 percent of the employment in rural areas, more than

[1] The definition of nonmetropolitan as rural America is consistent with the framework developed by L. Bender and others, "The Diverse Social and Economic Structure of Nonmetropolitan America," *Rural Development Research Report 49*, Economic Research Service, U.S. Department of Agriculture, September 1985. Nonmetropolitan status is based on 1974 Office of Management and Budget designations.

[2] The economic base model of regional economics is founded on the assumption that certain types of economic activity are affected by exogenous forces; that is, by forces outside the regional economy. These are called basic economic sectors. Examples are farming, mining, and manufacturing sectors that sell their goods to users located outside of the region. Other examples include tourist activities that draw spending into the region from outside residents, retirement communities that receive transfer payment income from outside the region, and government activities like military bases that obtain income payments from outside the region.

In contrast, the nonbasic sectors of a regional economy are those in the region providing goods and services to the basic sectors and local population. These are usually the trade, utility, and personal services sectors. The level of activity in these nonbasic sectors depends on the level of activity in the basic sectors.

Personal Income		Employment	
(billions of dollars)	Percent of Total	(thousands)‡	Percent of Total
2,971.52	100.00	91,546	100.00
2,309.58	77.72	72,029	78.68
661.94	22.28	19,517	21.32
240.76	36.37	7,703	39.47
38.01	5.74	1,115	5.71
77.57	11.72	1,782	9.13
76.97	11.63	2,115	10.84
84.26	12.73	2,538	13.00
17.75	2.68	530	2.72
110.75	16.73	3,228	16.54
15.87	2.40	506	2.59

any other sector. These proportions of nonmetropolitan economic activity were more than three times the proportion for counties depending on farming. Taken together, counties dependent on government, retirement, and trade accounted for about the same proportion of rural population, income, and employment as farm-dependent counties. While the farm-dependent counties account for more activity in some regions, such as states of the Tenth District, the economic composition of rural America is much more diverse than usually recognized.

How well is rural America doing?

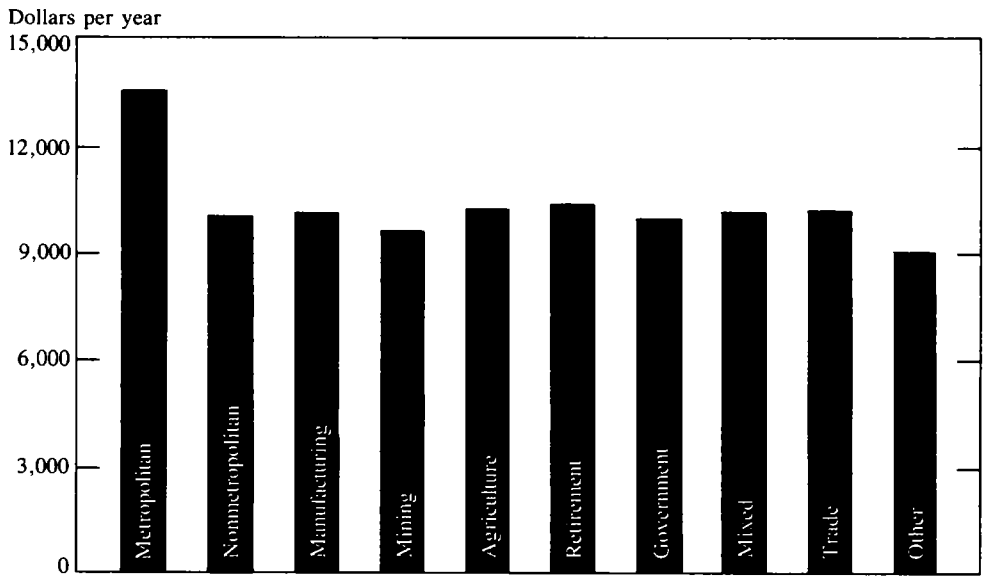
Is there an economic gap between rural and urban counties? If so, is rural America catching up with the rest of the country or falling behind? This section answers these questions by reviewing the patterns of per capita income in rural and urban America over the 20 years ended in 1984. The section also discusses the pace of rural economic activity over the period and examines the variability of rural incomes.

The rural income gap

Per capita income differs substantially between rural and urban counties. Metropolitan counties of the United States had income levels approaching $14,000 per capita in 1984—$4,400 in 1967 dollars (Chart 1). In contrast, the nonmetropolitan counties clustered around the $10,000 level—$3,300 in 1967 dollars. To match metropolitan levels in 1984, rural per capita incomes needed to have been about 35 percent

CHART 1

Mean per capita income, metropolitan and nonmetropolitan counties, 1984



higher.[3] Chart 1 also shows that per capita income does vary somewhat between rural areas, but far less than between metropolitan counties and any of the rural county groups.

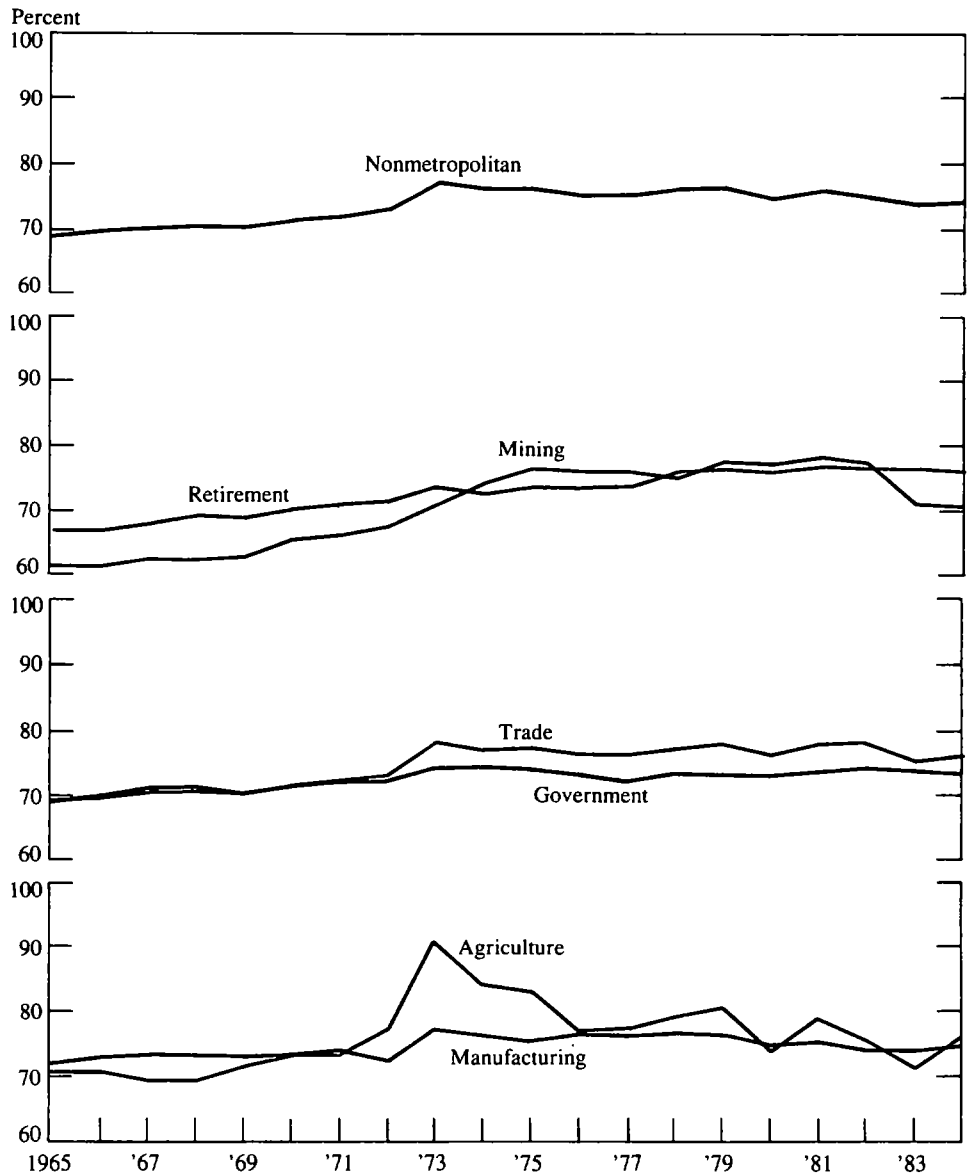
Has the per capita income gap been increasing or decreasing in recent years? Chart 2 shows the real per capita income gap expressed as the ratio of nonmetropolitan per capita income to metropolitan per capita income for the 1965-84 period. Two periods appear to have been particularly important over this 20-year span. First, the 1965-73 period reveals a narrowing of the gap ratio, with rural income rising as a percent of urban income from 69 percent in 1965 to 78 percent in 1973. In constant 1967 dollars, the gap declined from $970 in 1965 to $885 in 1973. Second, the 1973-84 period shows nonmetropolitan per capita incomes making no further progress toward metropolitan levels. The gap actually widened over the last five years, with the ratio of rural to urban income falling to 75 percent in 1984. In 1967 dollars, the gap rose from $885 in 1973 to $1,116 in 1984.

For most of the rural county groups, then, incomes appear to have stagnated from 1973 to 1979. But another interpretation of Chart 2 can be made

[3] Another explanation for the gap in metropolitan and nonmetropolitan per capita income is simply that the cost of living is usually much lower in rural areas than in urban areas. Thus, some argue the income gap is much narrower when adjusted for the difference in local prices. That is the real gap, when computed with the appropriate deflators, is much smaller than the nominal gap. Unfortunately, there are no reliable indexes for measuring the cost of living differences. One effort to gauge regional cost of living differences concluded that low-income areas differ from high-income areas in terms of the expenditure patterns associated with low and high-income households but there may not be much difference in prices paid for items in the budget. See Advisory Commission of Intergovernmental Relations, *Regional Growth: Historical Perspective*, 1980.

CHART 2

Nonmetropolitan real per capita income as percent of metropolitan real per capita income, by type of county, 1965-1984



Average annual growth in real personal income, population, and real per capita income, Tenth District metropolitan and nonmetropolitan counties, selected periods, 1965-84
(percent)

Area	1965-69			1969-73		
	Total Personal Income	Population	Per Capita Income	Total Personal Income	Population	Per Capita Income
Metropolitan	4.5	1.6	2.8	4.4	1.7	2.7
Nonmetropolitan	3.6	−0.0	3.6	7.1	1.1	5.9
Farm	3.8	−0.6	4.4	10.0	0.2	9.8
Mining	2.8	−0.1	2.9	5.3	1.2	4.1
Manufacturing	3.2	0.0	3.1	5.6	1.1	4.5
Government	4.4	0.7	3.7	5.0	1.5	3.4
Retirement	3.9	0.1	3.9	7.6	3.0	4.5
Trade	3.4	−0.0	3.4	6.7	0.8	5.8
Mixed	4.2	−1.6	5.9	8.7	−0.3	9.0
Other	2.7	1.3	1.4	9.9	3.4	6.3

Source: Calculated from unpublished data, Bureau of Economic Analysis, U.S. Department of Commerce

Rural Tenth District

The seven states in the Tenth Federal Reserve District form a distinctly rural region. Where 20 percent of the counties nationwide are metropolitan counties, only 10 percent of the district counties are metropolitan. With almost half the district's population living in rural areas and with 39 percent of the district's personal income earned in rural areas, Tenth District states have a particular interest in the problems and changes facing rural America.

The composition of the district's rural economy is quite different from the economy of rural America as a whole. Energy and agriculture are extremely important in the district economy. Nationwide, mining counties account for only 6 percent of nonmetropolitan personal income and agricultural counties account for 12 percent. In the Tenth District, the corresponding percentages are nearly twice as high. In further contrast, manufacturing counties generate 36 percent of nonmetropolitan income nationwide, compared

for some rural counties. Farm-dependent counties had a spectacular jump in income in 1973. That was due to a unique set of world circumstances—among them world crop shortages and increased Soviet imports—that sent U.S. crop prices soaring. The high farm income subsequently proved unsustainable, and farm income declined through 1977. Nevertheless, farm income in the late 1970s was still higher than in the early 1970s. Some would suggest, therefore, that the 1973-77 period was an aberration and farm-dependent counties were, in effect, closing the gap with metropolitan counties from 1965 to 1979. The steady gains in farm wealth and farmland values throughout this period support this view. But even though farm-dependent counties may have made steady gains, the evidence suggests that income growth in many other types of rural counties, notably the domi-

Area	1973-79 Total Personal Income	1973-79 Population	1973-79 Per Capita Income	1979-84 Total Personal Income	1979-84 Population	1979-84 Per Capita Income
Metropolitan	2.7	1.1	1.6	2.3	1.4	0.9
Nonmetropolitan	2.4	1.4	1.0	1.0	1.2	−0.1
Farm	−0.6	0.3	−0.9	0.8	0.5	0.3
Mining	7.0	3.3	3.6	−0.1	2.0	−2.0
Manufacturing	2.6	1.0	1.5	1.0	0.7	0.3
Government	2.8	1.5	1.3	1.8	1.4	0.4
Retirement	4.8	2.6	2.2	2.4	2.2	0.2
Trade	2.0	1.0	1.1	0.9	0.8	0.1
Mixed	0.8	0.7	0.2	0.4	1.7	−1.2
Other	6.2	3.3	2.9	2.7	2.8	−0.0

with only 11 percent for the district. The district also has larger percentages of nonmetropolitan income originating in trade and government-based counties, while the district nearly matches the national percentage of income from retirement counties.

These differences are reflected in the growth figures in the table above. Mining and agriculture-based rural counties in the district thrived during the 1969-73 period, and nonmetropolitan income grew faster in the district than in the nation. In contrast, the much slower growth in mining and agriculture since 1973 has caused district rural income growth to slow and finally lag behind rural regions elsewhere in the nation. Though the retirement, trade, and government counties in the district showed solid growth from 1965 through 1979, growth in these counties has been sluggish in recent years and not enough to offset the downward run of income declines in the agricultural and mining sectors. In summary, rural economic stress is even more pronounced in the district states than in the rest of the nation.

nant manufacturing-dependent counties, began to fall behind urban counties in 1973, and the gap proceeded to widen through the remainder of the 1970s.

Thus, the overall rural income gap appears to have narrowed from 1965 to 1973 and widened from 1973 to 1984. These two periods are now examined to determine how the various types of rural counties have fared.

The most dramatic gains in the 1965-73 period were made in farming and mining counties (Chart 2). Farm-dependent counties moved from 70 percent of the metropolitan per capita income level in 1965 to almost 92 percent in 1973. As noted above, the year 1973 was unusually profitable for U.S. agriculture due to extremely favorable commodity market conditions. Mining counties increased their incomes from 62 percent of the

TABLE 2

Average annual growth in real personal income, population, and real per capita income, U.S. metropolitan and nonmetropolitan counties, selected periods, 1965-84
(percent)

Area	1965-69			1969-73		
	Total* Personal Income	Population	Per* Capita Income	Total Personal Income	Population	Per Capita Income
Metropolitan	7.0	3.3	3.7	3.4	1.1	2.2
Nonmetropolitan	4.6	0.4	4.2	6.2	1.5	4.7
Farm	3.7	−0.6	4.3	9.3	0.5	8.7
Mining	3.8	−0.4	4.2	6.9	1.4	5.4
Manufacturing	5.0	0.9	4.2	4.8	1.3	3.5
Government	5.2	1.1	4.1	5.9	2.1	3.7
Retirement	5.3	0.9	4.3	7.7	3.6	4.0
Trade	4.0	0.0	4.0	6.1	1.0	5.0
Mixed	5.4	1.3	4.0	6.2	1.2	5.0
Other	3.3	−0.3	3.6	7.0	1.3	5.6

Source: Calculated from unpublished data, Bureau of Economic Analysis, U.S. Department of Commerce
*The personal income and per capita income data used to compute growth rates were in 1967 dollars.

metropolitan level in 1965 to 71 percent in 1973. The other traditional rural counties, where manufacturing dominates, made less dramatic improvement relative to metropolitan counties, but they still raised their incomes from about 72 percent of the metropolitan level in 1965 to about 77 percent in 1973. Similar growth was seen in the other major groups of nonmetropolitan counties, those dependent on government, trade, or retirement activities. Income in each of these county groups grew from about 68 percent of the metropolitan per capita income average in 1965 to the 74 to 78 percent range in 1973.

From 1973 to 1984, when the overall income gap was widening, some types of nonmetropolitan counties fared better than others. Only the retirement counties, however, were able to improve their relative wellbeing, advancing from 74 percent of the metropolitan level in 1973 to 77 percent in 1984. Incomes of all other types of nonmetropolitan counties fell further behind the metropolitan level.

The most dramatic drop was in farm counties, where real per capita income fell from 91 percent of the metropolitan level in 1973 to 76 percent in 1984. Incomes in manufacturing counties started the period at 77 percent of the metropolitan level and showed a slow but steady downward trend to 75 percent by 1984.

Relative per capita income in mining counties fluctuated during the period but ended 1984 at about 71 percent, the same as in 1973. Government and trade counties also showed little net change from their 1973 positions. Government counties had about 75 percent of the metropolitan level in 1973 and 74 percent in 1984, while trade counties dropped from 78 percent of the metropolitan income level to 76 percent.

Area	1973-79 Total Personal Income	1973-79 Population	1973-79 Per Capita Income	1979-84 Total Personal Income	1979-84 Population	1979-84 Per Capita Income
Metropolitan	1.9	0.9	1.0	1.8	1.0	0.8
Nonmetropolitan	2.2	1.4	0.8	1.2	0.9	0.3
Farm	−0.2	0.7	−0.9	0.5	0.6	−0.1
Mining	4.7	2.0	2.6	−0.1	1.1	−1.2
Manufacturing	2.0	1.1	0.9	0.9	0.5	0.4
Government	2.7	1.8	0.8	2.1	1.3	0.8
Retirement	5.0	3.3	1.7	3.3	2.6	0.7
Trade	2.1	1.1	1.1	1.0	0.7	0.3
Mixed	1.6	1.2	0.4	0.9	0.8	0.1
Other	3.4	1.8	1.6	0.7	1.2	−0.5

Rural and urban economic activity

Real per capita income reflects the average well-being of the population in a county group. By looking at changes in the gap between urban and rural per capita incomes, it can be determined whether the average level of wellbeing of rural America is converging or diverging with urban wellbeing. To assess the overall vitality of the rural economy, however, other measures of economic activity are needed.[4]

One measure of change in economic activity at the county level is the rate of growth in total real income. The rate of population growth also is useful, since population change reflects the number of local workers available and the number of local consumers of goods and services. Table 2 shows average annual rates of growth in total real income, population, and real per capita income for metropolitan and nonmetropolitan counties. To the extent that the data allow, they are divided to coincide with business cycle peaks.

As shown in Table 2, nonmetropolitan counties had a small 0.5 percent advantage over metropolitan counties in per capita income growth from 1965 to 1969. That advantage was consistent with the slow upward movement in the gap ratio shown in Chart 2. During that period, however, there were indications that economic activity was increasing faster in metropolitan counties. Metropolitan rates of growth in both total personal income and population exceeded the nonmetropolitan rates. Thus, while the per capita in-

[4] H. Perloff, "Problems of Assessing Regional Economic Progress," *Regional Income: Studies in Income and Wealth*, National Bureau of Economic Research, Princeton University Press, 1957, pp. 48-49.

come gap was slowly narrowing from 1965 to 1969, nonmetropolitan counties were not showing robust growth in economic activity.

Sluggish rural economic activity in the 1965-69 period was particularly evident in terms of population growth. While metropolitan population grew an average of 3.3 percent a year, the population of nonmetropolitan counties grew only 0.4 percent a year. Farm and mining-dependent counties actually lost population during this period. Taken in conjunction with the slower total income growth in nonmetropolitan counties, therefore, nonmetropolitan counties were not keeping up with metropolitan areas in generating new economic activity.

The period from 1969 to 1973 was a far different story. During that period, total personal income grew faster in all types of nonmetropolitan counties than in metropolitan counties. Population growth in nonmetropolitan counties also exceeded growth in metropolitan counties. Only the farm and trade counties lagged metropolitan counties in population growth. That was also a period when rural per capita incomes grew more than twice as fast as metropolitan incomes. Further, the 1969-73 period saw the emergence of strong population and income growth in retirement counties, a trend that has persisted throughout the 1970s and 1980s. Population in retirement counties grew at average annual rates more than three times the rates in metropolitan areas. The rate in retirement counties was well over twice the rate of the average nonmetropolitan county. The 1969-73 period, then, was a time of vigorous economic activity in rural America and a time of convergence in the well-being of rural and urban residents.

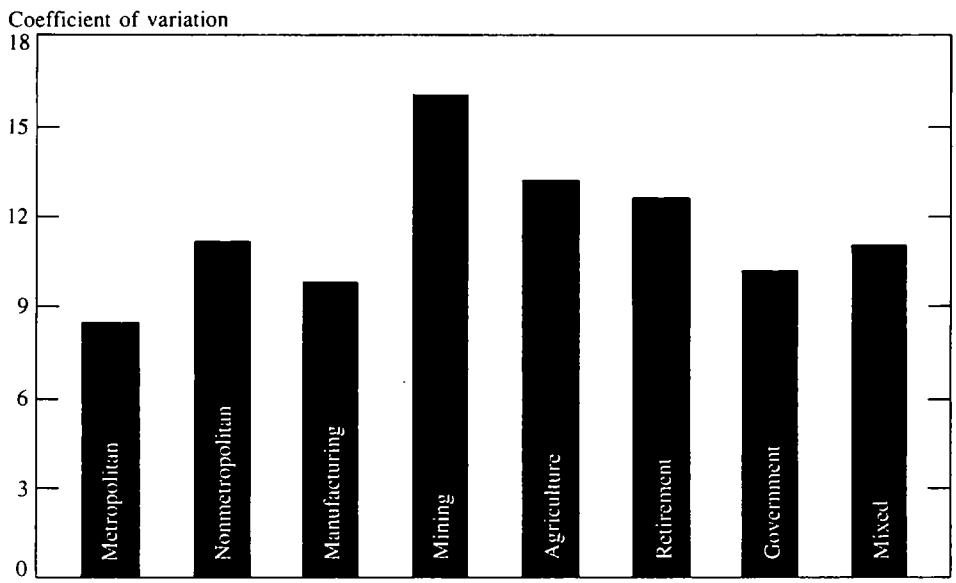
The gap in per capita income growth widened substantially between rural and urban counties from 1979 to 1984. This divergence underscores the conclusion that the economic health of rural America has worsened in the 1980s.

From 1973 to 1979, indicators of broad economic activity remained strong in nonmetropolitan counties. All types of nonmetropolitan counties—except those dependent on farming—had faster population growth during this period than metropolitan counties. Moreover, more rapid growth in nonmetropolitan personal income accompanied the growth in rural population. However, not only was this late 1970s growth in rural population temporary, but it was also concentrated in a small subset of rural counties—those dependent on retirement, mining, and government. Population increased 3.3 percent in counties dependent on retirement, 2.0 percent in counties dependent on mining, and 1.8 percent in counties dependent on government. In comparison, population growth in metropolitan areas averaged only 0.9 percent. Further, on average, total real personal income was falling in farm counties.

The gap in per capita income growth widened substantially between rural and urban counties from 1979 to 1984. Table 2 shows that the expanding overall gap between rural and urban wellbeing was also accompanied by slower rural rates of growth in total personal income and population. This divergence underscores the conclusion that the economic health of rural America has worsened in the 1980s. While the divergence in per capita incomes from 1973 to 1979 was associated with generally robust rural population growth, the divergence of the 1980s was in tandem with slower income and population growth in rural areas than in urban areas.

Thus, growth in the average level of wellbeing and the volume of rural economic activity have slowed significantly since 1979, both absolutely and relative to gains in metropolitan counties. In terms of income growth, the parts of rural America that have lagged the most are the tradi-

CHART 3
Variation in mean per capita income, metropolitan and nonmetropolitan counties, 1965-1984



tional rural counties—those depending on agriculture, manufacturing, and mining. Nonmetropolitan counties with economies based on government and retirement activities continue to outperform the metropolitan areas in both income and population growth.

Instability in rural incomes

Rural incomes have not only lagged behind metropolitan incomes, they have also ranged more widely over time—that is, they have not been stable. Since 1965, all of the nonmetropolitan county groups have experienced a wider range of fluctuations around the 20-year mean per capita income than have the metropolitan counties. This is illustrated in Chart 3, which plots the coefficient of variation, a statistic that measures the variation of observations around their mean value.[5]

The wide variations in income suggest that rural counties are highly sensitive to short-term economic events that affect the value of the commodities or goods they produce. As might be expected, the commodity-dependent counties—those depending on agriculture and mining—show the greatest instability. Those based on manufacturing and government activities show the least instability.[6]

[5] The index is the coefficient of variation (CV) of weighted per capita income in each group of counties. CV is the standard deviation of the group's weighted mean per capita income expressed as a percentage of the weighted mean per capita income. Large coefficients of variation indicate a large amount of variation within a county group around the group's mean per capita incomes.

[6] Rural counties also have had wider disparity in income at any particular moment in time. Some mining-dependent counties, for example, may consistently be found in the high-income range while others hover near the poverty line. The average of yearly coefficients of variation in the incomes of county groups from

The rural income gap: long-run trend or cyclical?

Views differ on whether the gap in rural and urban per capita incomes should be expected to disappear or to become larger as time passes.[7] One consideration is whether the gap is associated with phases of the business cycle. For example, urban per capita incomes might increase faster than rural per capita incomes during business expansions. If so, the per capita income gap would tend to widen during the expansion phase of the business cycle and the size of the gap would be partially a cyclical phenomenon.

A procedure to test for the influence of the business cycle is to express the gap in real per capita income over the past 20 years in terms of an annual index and then compare movements in that index with annual changes in real Gross National Product (GNP). The aggregate income gap index measures the dispersion of per capita income for each category of counties around the national average per capita income.[8] If per capita incomes of rural and urban counties are converging over time, this index should become smaller, indicating that the per capita income for each region is moving closer to the national average. The index also reflects per capita income differences between the various types of rural counties. Thus, the index is a measure of both the degree of income dispersion between rural and urban counties and between rural counties over the past 20 years.

Chart 4 plots the per capita income gap index against annual changes in real GNP. Examination of the gap index by itself supports the findings that the difference between urban and rural incomes narrowed and then widened. The index fell until 1973, indicating that the gap between rural and urban per capita incomes narrowed. Since 1973, however, the index has increased slightly, indicating that the income gap widened. The convergence of urban and rural incomes seems to have stalled for ten years.

Comparison of the gap index with annual percentage changes in real GNP shows no correlation. That conclusion is supported when the

1965 through 1984 shows that nonmetropolitan counties have a significantly wider range of income levels than metropolitan counties. Of the nonmetropolitan counties, those depending on manufacturing, retirement, and mixed bases have average disparity measures close to that of metropolitan counties. Farming and mining counties have much wider variations.

[7] Some analysts expect rural and urban per capita incomes to converge over a long time. Arguments for this view are based on a model of regional growth that predicts labor and capital resources will be sufficiently mobile to equalize rates of return to these resources over geographical areas. Resource movement continues until wage rates—and ultimately, per capita incomes—converge between regions.

Others view regional income gaps as the result of long-run structural problems that will not be reversed by resource reallocations in the economy. According to this view, once a region obtains some growth advantage, it will continue to grow faster than other regions. For example, agglomerative (or mutual attraction) forces in urban areas may arise from the diversified pools of skilled labor, services, and intermediate goods available mostly in urban counties. These forces may give a growth advantage to urban areas that will be cumulative and result in larger income gaps between rural and urban areas as the national economy expands.

[8] The index of the regional income gap derived from J. Williamson, "Regional Income Inequality and the Process of National Development: A Description of the Patterns," *Economic Development and Cultural Change*, 1965, pp. 1-45, and O. Amos, "The Sensitivity of Regional Income Variation to Cyclical Economic Fluctuations," *Review of Regional Studies*, Spring 1983, pp. 4-11.

$$Vw = \frac{\left(\sum_{i=1}^{n}(yi-y)^2 \, fi/N\right)^{1/2}}{y},$$

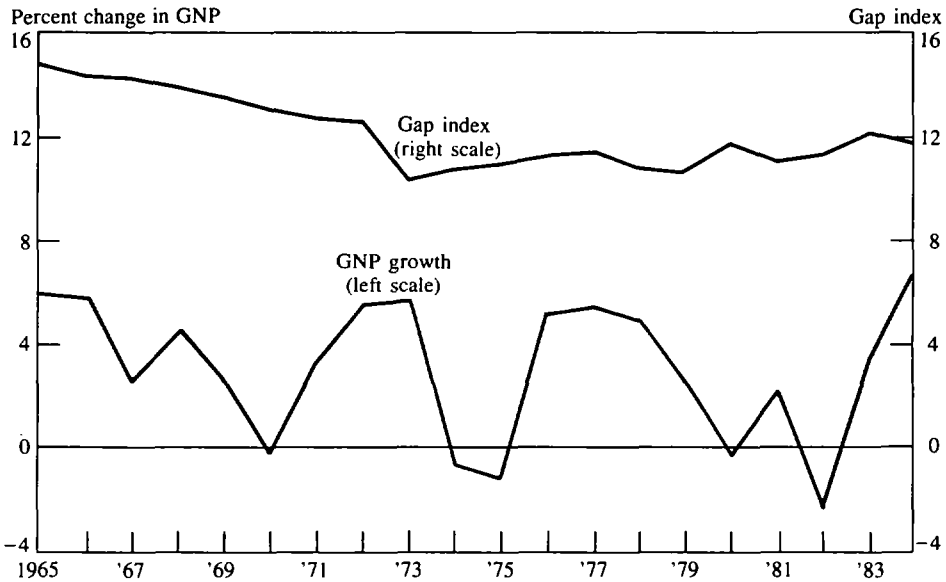
where

yi = mean income of the ith region
y = national mean income
fi = population in region i
N = national population
n = number of regions

In this article, there are seven nonmetropolitan regions defined by their economic base categories and one metropolitan region. The "other" category, which included 86 nonmetropolitan counties that could not qualify in any economic base categories, was eliminated from the national totals and, thus, did not enter into the calculation.

CHART 4

Relation of metropolitan to nonmetropolitan income dispersion to growth in real GNP



income gap index is regressed on the percentage change in GNP and some time variables. The coefficient that reflects the relationship between the gap index and percentage change in real GNP is not statistically different from zero.[9]

Thus, the rural income gap does not appear to respond to business cycles. This finding supports the view that the rural income problem is more a long-term structural issue than a manifestation of the business cycle. That being the case, such variables as public infrastructure, education and job skills, and institutional change take on added importance as factors affecting rural America.

[9] The estimated equation is:

$$Vw = \underset{(33.04)}{16.17^{*}} - \underset{(-0.23)}{0.01}\ GNPR - \underset{(-7.51)}{0.69^{*}}\ Year + \underset{(5.86)}{.025^{*}}\ Year^2$$

The t values in parentheses and the asterisks indicate regression coefficients that are significant at the 0.001 level. Vw is the gap index with a range shown in Chart 5: Year = 1 through 20, with 1965 = 1; GNPR is the real annual growth in GNP, with a range from −2.13 to 6.80. Summary statistics are:

Durbin-Watson = 1.43, or in the indeterminate range for positive autocorrelation. $R^2 = 0.86$. Use of a first order autoregressive correction procedure yielded results similar to those reported.

A second equation was estimated using the nonmetropolitan/metropolitan per capita income ratio as the dependent variable in place of Vw. Using the gap ratio from Chart 2 as the dependent variable also revealed no statistically significant relationship between GNPR and the gap ratio given the time trend in the gap ratio.

$$\frac{\text{Nonmetro Per Capita Income}}{\text{Metro Per Capita Income}} = \underset{(63.0)}{0.66^{*}} + \underset{(0.52)}{.0005}\ GNPR + \underset{(6.80)}{.014}*Year - \underset{(-5.34)}{.0005}*Year^2$$

Durbin-Watson = 1.26

$R^2 = 0.83$

Forces leading to rural economic change

As shown above, rural incomes have not made gains on urban incomes in the past ten years. And despite slight overall increases, real per capita incomes have declined in some rural counties during the last five years, especially in many of the traditional rural counties depending on mining and agriculture. In addition, the gap between rural and urban incomes appears to be structural, unrelated to the business cycle.

What forces explain the slowdown in the rural economy? This section discusses four forces that appear to have contributed to rural economic problems in the 1980s: international factors, the shift to services, deregulation, and agricultural change.

International factors

Several international factors have played a critical role in the U.S. economy in recent years. Those that have affected rural industries are brought into focus by examining the international forces at work in the national economy and then looking at how traditional rural industries have performed.

Mounting international competition has put many U.S. industries on the defensive in the 1980s. Good examples include basic manufacturing, agriculture, and forest products. A strengthening of the U.S. dollar from late 1979 to early 1985 intensified the competition by giving foreign producers a price advantage. Also, a deep worldwide recession in 1981-82 cut demand for many products traded in international markets, including food and energy, so that producers from various countries were left to compete for a stagnant or declining total world market. As the effects of the world recession linger, many international markets, especially for commodities, remain weak.

The net result of these international factors is that U.S. industries that export or compete against imports have not performed well in the 1980s. And, it is just such industries that form the economic backbone of the traditional rural economy.

Rural manufacturing has been especially subject to foreign competition in recent years. Rural manufacturing plants tend to produce labor-

U.S. industries that export or compete against imports have not performed well in the 1980s. And, it is just such industries that form the economic backbone of the traditional rural economy.

intensive goods and, thereby, face stiff competition from abroad where wage rates are often lower than in the United States. For example, the textile industry in the United States, which is concentrated in the rural Southeast, has seen a rise in textile imports from Pacific Basin countries that has replaced a significant share of domestic production in recent years. As a result, textile makers, like many other rural manufacturers, have had disappointing sales in the 1980s and employment has been pared.

Agriculture—a uniquely rural industry—has endured a deep recession in the 1980s that to a considerable degree can be attributed to developments in international food markets. Agriculture's downturn has put many rural communities under economic stress. Recent surveys suggest that nearly a fourth of rural nonfarm businesses are having severe financial problems.[10]

The energy industry also has undergone a sharp downturn due mainly to international factors. Like agriculture, energy production—the extraction of oil, gas, and coal—is largely a rural industry. Increased international energy supplies and stagnant

[10] *Agricultural Credit Survey*, Federal Reserve Bank of Kansas City, February 1986.

world demand have led to significant declines in energy prices in recent years. Because of the downturn in the international energy industry, many rural regions that developed rapidly when the industry boomed have recently had extremely weak local economies.

The forest products industry also has been affected by increased foreign competition, notably from Canada. Lumber production in the Northwest and, to a less degree, the Southeast has been curtailed partly because of the increase in imports. Thus, local economies in regions that depend on lumber production have been weak.

In general, the traditional rural economy has been adversely affected by international forces in the 1980s. Manufacturing, agriculture, energy, and forest products industries all have had difficult economic problems as a result of increased foreign competition, the strong dollar, and weak world markets. While the same international factors also have had negative effects on the urban economy, metropolitan areas generally have more diverse economies that buffer some of these effects. Rural economies, on the other hand, normally depend upon one principal industry, and none of the traditional rural industries have fared well in the 1980s.

The shift to services

While many U.S. basic industries have been in recession through much of the 1980s, the service portion of the U.S. economy has boomed. But urban areas have benefited more from that development than rural areas. Most rural counties essentially have been left behind in the nation's shift to a service-based economy.

Service jobs are less important in the rural economy than in the urban economy. Service jobs were about 15 percent of total rural employment at the end of 1984, compared with 22 percent of total urban employment. Thus, service industries are about half again more important in urban areas than in rural areas.[11] This difference means that if the service sector of the economy continues to grow faster than other sectors, most rural counties will likely have slower growth in total employment than urban counties.

Service jobs have grown in rural areas, but much more slowly than in urban areas. More than two-thirds of the new jobs created in the United States between the fourth quarter of 1979 and the fourth quarter of 1984 were in services—over 3.6 million jobs. Seven out of every eight of the new service jobs were in metropolitan areas. Over this period, service jobs increased 24.1 percent in metropolitan areas and only 18.0 percent in rural areas. Chart 5 shows that between 1979 and 1984 the increase in rural service jobs was concentrated in counties depending on retirement and government activities, where the percentage increase was greater than in metropolitan areas. Service jobs in the traditional rural counties increased much less than in metropolitan areas.

Most rural communities are ill-situated to benefit from the U.S. economy's shift to services. Recent studies indicate that the types of service employment that have increased most rapidly are business services, computer and data processing services, and temporary help services.[12] Firms that provide these types of services prosper in metropolitan areas, where potential clients are concentrated. They are not likely to locate in rural areas, where clients are fewer and much more dispersed.

Deregulation

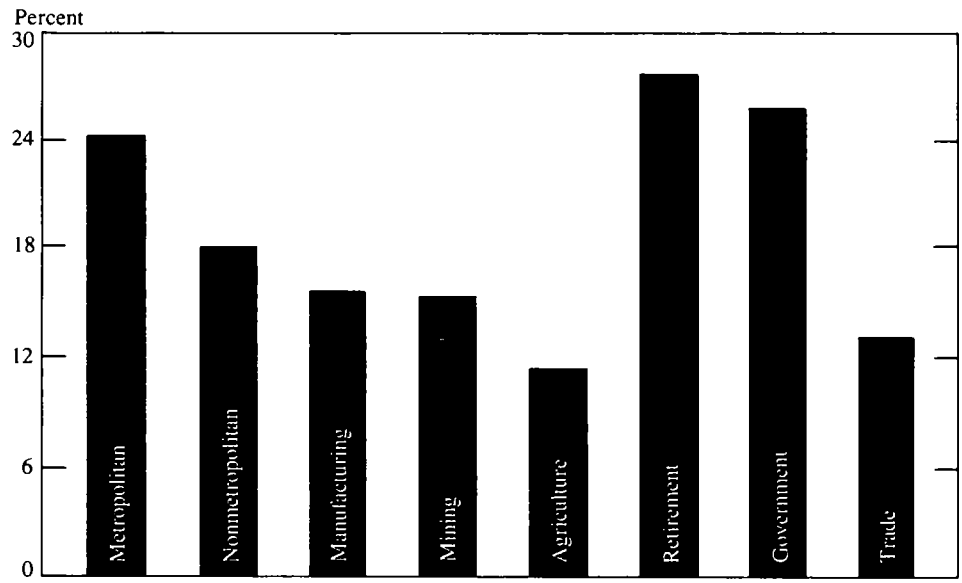
Deregulation, especially of financial markets, has been another force for rural economic change

[11] Federal Reserve Bank of Kansas City analysis of Bureau of Labor Statistics data. Services include lodging, business services, repair services, and health, educational, and social services, Standard Industrial Classification 2-digit groups 20 through 89.

[12] Wayne J. Howe, "The Business Services Industry Sets Pace in Employment Growth," *Monthly Labor Review*, April 1986, pp. 29-36.

CHART 5

Percentage change in service employment, metropolitan and nonmetropolitan counties, fourth quarter 1974 to fourth quarter 1984



in the 1980s. In essence, deregulation appears to have forced businesses in many rural areas to pay higher interest rates and, in some cases, higher transportation rates than in the 1970s, when both the banking and transportation industries were regulated.

Many analysts argue that deregulation of the banking industry has raised interest rates to rural borrowers.[13] When the interest rates banks could pay on deposits were regulated, the cost of funds to rural banks was lower, overall, than the cost of funds to urban banks. Many rural banks had large demand deposits that paid no interest. Because the cost of their funds was lower than metropolitan banks, rural banks charged lower interest rates for their loans. But with the lifting of interest rate ceilings under the Depository Institution Deregulation and Monetary Control Act of 1980, nearly all rural banks had to pay more to attract deposits. Thus, deregulation contributed to an increase in the cost of funds of most rural banks in the 1980s. As the cost of their funds increased, so did the interest rates they charged rural borrowers.

While the cost of capital in rural areas tended to be below the market in the 1970s, it has been about the same as the market in the 1980s. Hence, while rural business activity was spurred by low-cost capital in the 1970s, the higher cost of capital in the 1980s has slowed rural business activity. This negative effect of deregulation has been offset, at least to some degree, by the higher interest

[13] See Peter J. Barry, "Deregulation: A More Competitive Rural Credit Market," paper delivered at the meeting of the Federal Reserve System Committee for Agriculture and Rural Development, Kansas City, May 31, 1984.

rates rural savers receive on their deposits. On balance, however, economic activity in many rural communities probably has been negatively affected by the higher interest rates from deregulation. Higher debt service costs have an immediate effect on rural business activity while higher returns to rural savers increase rural wealth, which tends to influence spending and economic activity over a longer period of time.

Deregulation of the transportation industry has not affected the rural economy as much as the deregulation of banking, but it too has brought changes. Generally, transportation service to rural areas has not been reduced, but corresponding prices have increased in some cases, especially when compared with transportation costs for metropolitan areas. For example, airline service to rural areas has increased since deregulation, but the number of flights that service metropolitan areas has increased more.[14] Airfares to and from some rural locations have increased, while heightened hub travel at major airports has actually driven down airfares between many major cities. Truck freight hauling rates have risen in some rural areas, particularly remote places.[15]

Some small farm-dependent communities are likely to continue to suffer economically due to the evolving farm structure of U.S. agriculture.

In the past, regulation contributed to lower interest rates and transportation costs in rural areas than in metropolitan areas. Recently, though, deregulation has brought new market forces to bear on rural areas. And coming at a time when the rural economy was under many downward pressures, the effects of deregulation may have contributed to that stress.

Agricultural change

Farm financial stress is the most widely known reason for rural economic problems. That stress is leaving a trail of serious marks on the rural economy and is exacerbating an already well-established trend in U.S. farm structure. Increasingly, U.S. agriculture is dominated by a large number of small part-time farms that earn most of their family income off the farm and by a relatively small number of very large farms that produce most of the nation's food and fiber. The farms in between, the closest remaining relative to the "family farm," are those on the decline. Since many rural communities have built their local economy around servicing a large number of medium-sized farms, it is not surprising that these communities are having economic problems.

Recent data on U.S. farm numbers verify these trends. In 1984, 70 percent of the United States' 2.3 million farms had annual sales of less than $40,000. The vast majority of these farmers earned more income off the farm than on the farm. Together, they produced only 15 percent of U.S. farm products. But 1 percent of the nation's farms had annual sales of more than $500,000 and these farms produced nearly 30 percent of U.S. farm products.

A distinguishing feature of the large farms that control a mounting proportion of U.S. farm production is their sophistication in purchasing inputs and services and in marketing the commodities they produce. Dealing in large volumes, these farm operators often bypass small com-

[14] T. Moore, "U.S. Airline Deregulation: Its Effect on Passengers, Capital, and Labor," *Journal of Law and Economics*, XXIX(1), April 1986, pp. 1-28.

[15] See U.S. Department of Transportation, *Fourth Follow-up Study of Shipper/Receiver Mode Choice in Selected Rural Communities, 1984-1985* and U.S. Department of Transportation, *Trucking Deregulation in 1986.*

munities in search of better prices. Meanwhile, most of the small farms tend to be located near cities that offer employment opportunities. Such jobs often are not available in small farm communities. Some small farm-dependent communities, then, are likely to continue to suffer economically due to the evolving farm structure of U.S. agriculture.

Thus, a confluence of forces has negatively affected the rural economy. International competition and a strong dollar served to put traditional rural industries at a disadvantage in the first half of the 1980s. Also, the rural economy has not participated fully in the shift to service jobs. Moreover, deregulation has brought new market forces to bear on rural areas, and structural change in agriculture has placed financial and economic pressures on many rural communities tied to an earlier farm structure.

Conclusions

Rural America is in the midst of difficult economic change. A few of the nonmetropolitan counties, especially those depending on retirement and government, have continued to show income growth since 1979. Overall, however, the growth in rural incomes has slowed significantly since the 1970s, compared with growth in metropolitan incomes. The divergence in income growth does not appear correlated with movements in the business cycle; rather it appears related to longer term structural problems in rural areas. Thus, the causes for rural America's lagging incomes probably go well beyond short-run fluctuations in the demand for the goods that rural America produces.

Traditional rural America faces the most difficult problems. Real per capita income in farm-dependent counties has declined on an average annual basis since 1973. Counties depending on mining and manufacturing have also shown slow growth or declines in average income in recent years. Together, these three groups of traditional rural counties account for more than half of the rural population and income in the United States.

A new group of counties is moving to the fore of the rural economy. The bright spot in the rural mosaic currently is the strong growth in the retirement counties. Along with increases in the number of people seeking environmental amenities with retirement, the steady growth in transfer payments and other sources of nonwage income in these rural counties may provide the basis for a steady increase in the growth in the retirement-dependent counties. Similarly, the rural counties that depend on military bases, institutions of higher learning, and other government installations might expect stable growth in incomes. Rural counties that are becoming wholesale and retail trade centers may be another group with growth potential, though perhaps at the expense of traditional mainstreet business in neighboring small communities.

Much public attention has been focused on farm problems in the 1980s. But as the results of this study suggest, the economic problems now facing rural America encompass far more than just agriculture. Thus, as policymakers begin to consider rural problems, their challenge will be to craft policy that addresses the full scope of rural economic change. In the second article of this series, some new objectives and directions for rural economic policy will be explored.

Appendix

Definitions of each of the nonmetropolitan areas were derived from those used by Bender and others at the Economic Research Service (ERS), U.S. Department of Agriculture. Manufacturing counties received at least 30 percent of total labor and proprietor's income from manufacturing enterprises in 1979. Mining counties received at least 20 percent of this income from mining sectors in 1979. Farming counties realized at least 20 percent of their labor and proprietor's income from agriculture over the 1975-79 period, based on the weighted mean contribution of this income over the entire period. Government counties received at least 25 percent of their income from government payrolls. Retirement counties are identified by 1970-80 inmigration patterns. If the number of inmigrants over the age of 60 comprised more than 15 percent of the 1980 over 60 population, the county was assumed to be a retirement county. Income in these counties is likely to depend highly on transfer payments, private pensions, dividends, and interest earnings. Mixed counties are those meeting more than one of the economic base criteria. Diverse counties do not fall into any of the other categories mentioned and may be trade centers that derive income by providing goods and services to surrounding counties. Of the 86 counties classified as "other," half were poverty counties and half were federal land counties that did not qualify for any of the economic base categories.

The approach in cataloging the counties was to emphasize a single economic base for each county and allow the poverty and federal lands counties to sort to the economic base group where they belonged. Counties that satisfied more than one of the economic base groups were assigned to the mixed group. This process allowed an accounting of population, income, and employment shares for each type of rural county.