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# Challenges of the Rural Environment in a Global Economy

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## ABSTRACT

INFORMATION HAS BECOME A CRITICAL part of successful economic development for individuals, businesses, and communities. Lack of access to information was at least partially responsible for rural America's inability to keep up with urban increases in population, high-wage occupations, income, and education levels during the 1980s. Among rural areas, growth in farming-dependent counties and persistent poverty counties was hindered by their remoteness from major metro areas. At the other end of the spectrum, rural high-amenity and retirement-destination counties had the advantage of attractive amenities, and rural counties adjacent to large metro areas benefited from their ties to the major centers of information. Nearly all rural counties contain public libraries, some of which are already telecommunications linked. With funding for infrastructure and human capital improvements, more rural libraries could serve as links in improving rural access to the information highway and the knowledge transported on that highway.

## INTRODUCTION

Access to information and its effective use as knowledge are critical elements of successfully living in today's world. Moreover, this fact is increasingly recognized as equally true for people, businesses, and communities. The much touted Information Age is very real. In an article in the *Atlantic Monthly*, Peter Drucker (1994) writes about the world transformation into a knowledge society: "Increasingly, an educated person

will be somebody who has learned how to learn, and who continues learning, especially by formal education, throughout his or her lifetime [and] ...how well an individual, an organization, an industry, a country, does in acquiring and applying knowledge will become the key competitive factor" (pp. 66-67).

Information is just as critical a resource for people, businesses, and communities in rural areas as it is for those in urban areas. In the past, being removed from the daily hustle and bustle of urban society was not particularly important in the economic and social life in rural America. Now, instant access to information on financial markets, new technological innovations, developments in medical research, and changing conditions in global markets are critical to the economic viability of rural businesses and communities. But the characteristics of being rural—especially small population bases and relative remoteness from large metro areas which are the centers of information flows—make it hard for rural communities, residents, governments, and businesses to access information and to translate that information into useful knowledge. This intersection of the importance of information with rural areas' difficulty in effectively accessing it is a central challenge for rural areas in the Information Age.

How well rural areas are able to respond to this information challenge will play a major role in determining the future well-being of rural people and their communities. Access to, and use of, information will not guarantee a prosperous future, but its absence will almost certainly sentence rural areas to an even more secondary role in the life of the nation than they have today.

Rural libraries, in facilitating access to, and use of, information, can and are playing a critical role in responding to the challenges of the Information Age. Several articles in this issue and last year's *Library Trends* article by Senkevitch and Wolfram (1994) provide a wealth of information on current telecommunications efforts by rural libraries and suggestions for establishing more rural libraries as integral players in the dissemination of knowledge about, and information from, network sources.

Given the diversity found across rural America, rural libraries' participation almost certainly does and will vary from place to place. Even similar places will have to tailor their responses to unique local circumstances. An understanding of broader national trends in the evolution of rural America and its economy will help inform the many decisions that will need to be made by libraries, local governments, and other disseminators or users of information in designing an information system that will effectively serve rural America.

### RURAL AMERICA FELL BEHIND DURING THE 1980s

In the aggregate, rural America did not fare well in the 1980s. The major characteristics that define being rural—small places, low population density, and remoteness from large metro areas—were working to

make it particularly hard for rural economies to effectively compete in national and global markets. The problems of the 1980s are reflected in many of the standard measures of well-being. Slow population growth; outmigration; lagging employment, income, and earnings growth; and slowly improving educational attainment were all experienced by rural America. The changing industrial and occupational structure of employment in rural areas and the concomitant decline in rural wages appear to have been a primary cause of the widening gap between rural and urban conditions.

#### *Industrial and Occupational Changes*

During the period 1980 to 1990, nonmetro employment growth was relatively slow, 10.5 percent, and much slower than the metro rate of 20.5 percent. The structure of the rural economy, relative to the urban economy, explains at least some of this differential. The overall structure of the rural economy in many ways resembles the urban economy with more than half the jobs in the service sector, and essentially all the employment growth over the last decade in both rural and urban areas was in the service sector. But there are significant differences. The most obvious difference is that farming, agricultural services, forestry, and fishing account for almost 7 percent of nonmetro jobs but less than 2 percent of metro jobs. Rural employment in these industries continued to decline during the 1980s, albeit much more slowly than during earlier decades. In contrast, metro employment increased as more urban-oriented sectors such as lawn and garden services, veterinary services, and greenhouses added jobs.

The share of employment in manufacturing is slightly higher in nonmetro areas, and, while rural employment in the sector declined slightly over the decade, urban manufacturing employment fell much more. However, the growing difference between the industrial and occupational structures of manufacturing jobs in the two areas is even more important. During the 1980s, rural manufacturing employment became more concentrated in routine manufacturing in response to strong competition from within and outside the country. The rural manufacturing sector, traditionally using routinized production methods, found itself squeezed between more urban-based high-value complex manufacturing and routine manufacturing increasing anywhere in the world where there are low wages.

High-value manufacturing tends to be based on short and quick turn-around production runs facilitated by good access to information on new technologies, transportation, and financial and product markets. All of these important ingredients to being competitive in so called "niche markets" are more readily available in urban areas, putting rural manufacturers at a disadvantage. At the same time, the standardization of the

technology of more routine production forces rural manufacturers to compete with manufacturing located in other parts of the world where the cost of labor is low. This competition on both the high end and the low end of manufacturing has left rural areas needing to find a new niche in a very competitive market. Increasing competition from off-shore manufacturers pushed rural wages down while the concentration of complex manufacturing in urban areas widened the disparity in wages between urban and rural areas.

Similar differences in the structure of service sector employment also exist. Rural areas have more than their share of low paying consumer-oriented services, and urban areas have a disproportionate share of higher paying business oriented services. Having been the dominant source of rural job growth in the 1980s, low wage service jobs contributed to the overall decline in rural earnings during the decade.

#### *Earnings and Income*

The changing industrial and occupational structure of rural employment helps explain why, even in periods of employment growth, rural earnings have remained depressed. In 1992, nonmetro real earnings per nonfarm job were 9 percentage points lower than they were at their peak level reached in 1978, fourteen years earlier (Ghelfi, 1994). Over the same period, the nonmetro/metro earnings ratio fairly steadily declined from 81 to 73 percent, indicating the extent to which rural workers have lost ground relative to urban workers in the national economy.

After rural areas had made significant progress in narrowing the gap with urban areas during the 1970s, rural income, measured in real median family income, was stagnant (-.6 percent) during the 1980s, even as urban income levels increased modestly (6.4 percent). The net result was that rural income slipped from 78 to 73 percent of the metro level from 1979 to 1989 (Lahr, 1993). Earnings account for more than three-quarters of family income, with dividends, interest, rental income, social security, and other transfer payments accounting for the remainder. So the industrial and occupational trends and their effect on earnings also largely account for stagnant rural income and the widening gap with urban income.

#### *Educational Attainment*

Traditionally, the urban population has achieved higher levels of education than the rural population. Over the 1980s, education levels increased substantially in both metro and nonmetro areas; however the metro-nonmetro gap continued. Rural people narrowed the gap somewhat in the share completing a high school education but lost ground in the share of the population that had completed college. In 1990, 13 percent of the nonmetro population had completed college compared to 22.5 percent of their metro counterparts (Parker, 1993).

The better paying managerial, professional, and technical jobs disproportionately found in metro areas typically require higher skills levels and therefore higher levels of education. The enigma associated with that relationship, explored in an article by McGranahan and Ghelfi (1991), is whether the demand for highly skilled workers has drawn the highly educated to metro areas or whether the supply of highly educated workers in metro areas has caused the highly skilled jobs to amass there. On one hand, there is evidence that highly educated rural people migrate to metro areas for work commensurate with their skills. This suggests that if highly skilled jobs had been available in rural areas, more of the highly educated would stay in rural areas, raising rural education levels. On the other hand, there is evidence that businesses needing highly skilled workers tend to locate near one another, drawing a large enough pool of highly educated workers to fill their collective needs. This suggests that rural areas will continue to lose the highly educated because their economies are too small to support such an agglomeration of businesses.

#### *Population and Migration*

Higher urban wages and more high-paying jobs have helped fuel a continuation of the out-migration of rural people, particularly youth, during the 1980s. In stark contrast to the net in-migration to rural areas in the 1970s, in the 1980s, roughly 500,000 more people moved out of rural areas than into them (Cromartie, 1993).

Rural outmigration was a major contributor to slow overall population growth in nonmetro areas over the decade. In the aggregate, nonmetro population grew by 2.7 percent compared with 11.8 percent growth in the metro population, and, individually, over half of all nonmetro counties lost population during the 1980s (Ghelfi & Parker, In press). These trends are another indication of the stronger position of the urban economy relative to rural economy.

#### ACCESS AND ASSETS DIFFERENTIATE RURAL AREAS

Changes occurring in agriculture, manufacturing, and the service sector play out in different ways in different regions, depending on their economic structure as well as their more fundamental characteristics and history. Inevitably, differences among regions, counties, and communities result in great diversity in the rural experience across the country. At the same time, between the aggregate conditions and trends described above and the specifics of individual places are some regional patterns/trends that are useful in considering the future of rural America. Developments in four types of nonmetro counties are particularly noteworthy. Farming-dependent counties, persistent poverty counties, retirement-destination counties, and counties that are adjacent to large metro areas performed very differently during the 1980s.

*Farming-Dependent Counties*

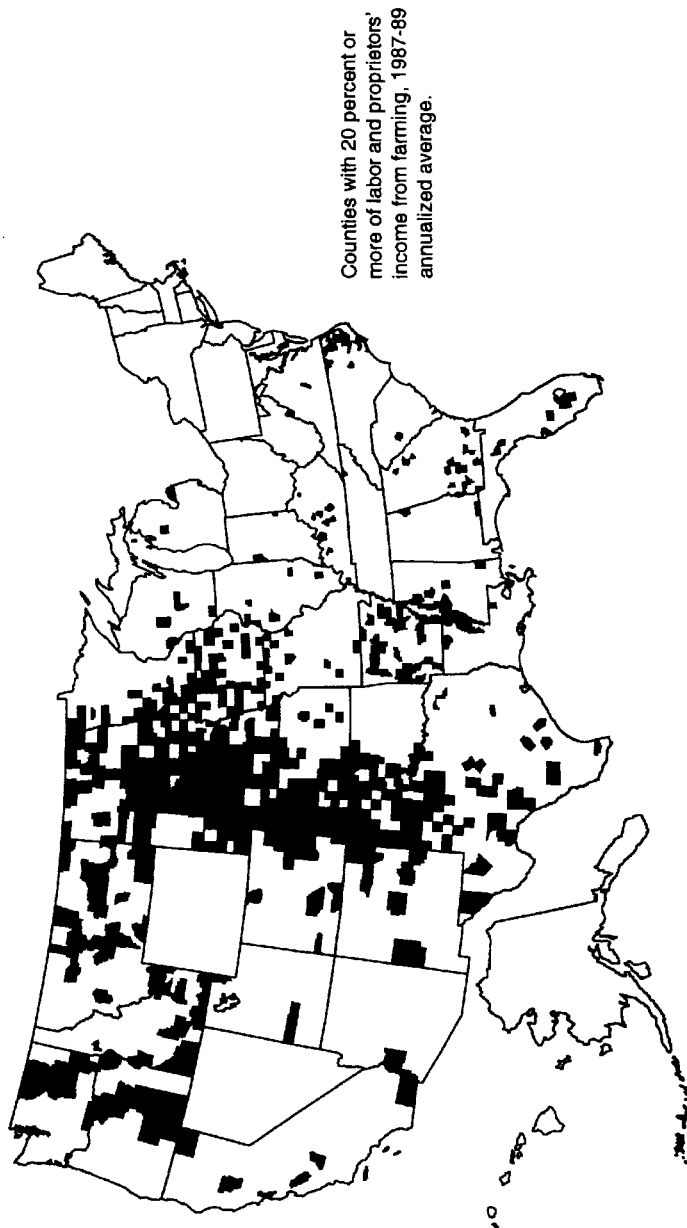
While once most of rural America based its economy on agriculture, today only 556 counties derive 20 percent or more of their earned income from farming (see Map 1). Located principally in the Great Plains, these counties have experienced decades of population outmigration as the demand for jobs in agriculture shrank and no other industry developed a sufficient number of jobs to counterbalance the decline in agriculture.

While the decline in employment in agriculture is a product of increasing productivity, this success has taken its toll on the small rural communities that dotted the countryside. In 1990, two-thirds of the farming-dependent counties had no town with over 2,500 population (Cook & Mizer, 1994). During the 1980s, farming-dependent counties as a whole lost population as significant numbers of people moved away. The resulting small population levels and associated increase in the per person cost of basic public services have placed severe economic stress on the communities and county governments in the region. Recent data for 1990-94 suggest that the population loss and outmigration experienced by these counties may be abating. Whether or not that can be sustained, it seems likely that farming-dependent counties will continue to be challenged by the dual disadvantages of dependency on an industry with shrinking employment needs and very small communities removed from major metropolitan centers.

*Persistent Poverty Counties*

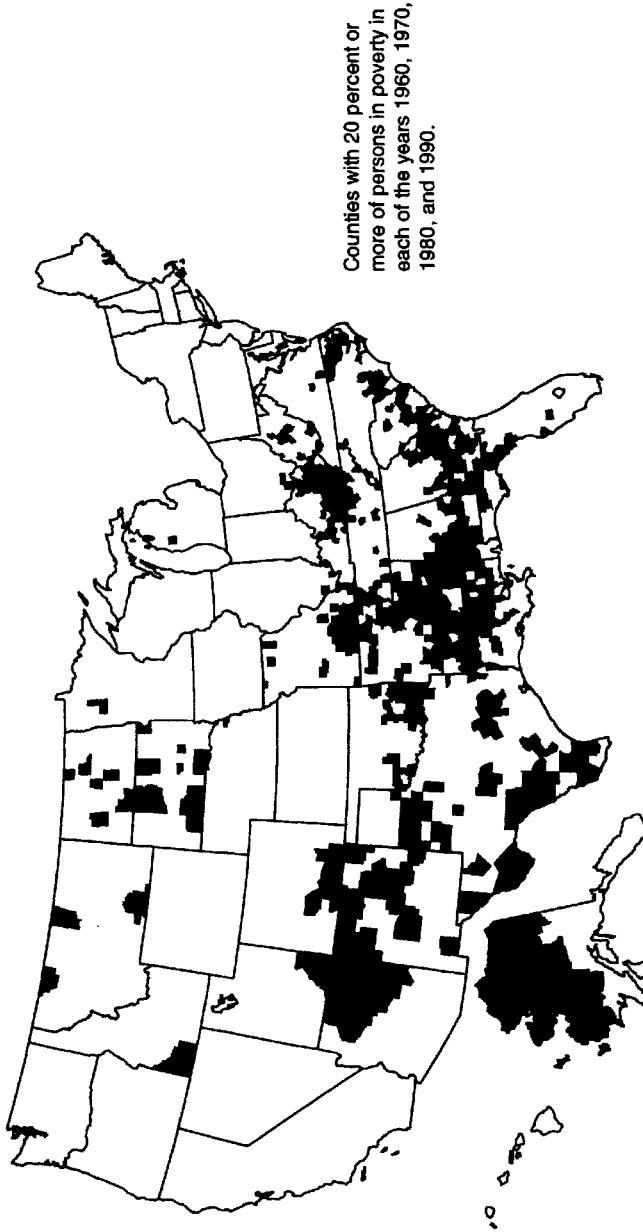
The persistence of high levels of poverty defines a second set of counties. Found principally in the South, these 535 counties had 20 percent of their population with income below the poverty level in 1960, 1970, 1980, and 1990 (see Map 2). In 1990, the poverty rates in these counties ranged from 20 to 63 percent with an average of 29 percent (Cook & Mizer, 1994). In these counties, poverty defines not only the experience of many families but also of many communities. The populations have unusually high levels of people with characteristics that make them prone to economic disadvantage, such as low educational levels and living in female-headed households. Many of these people are not equipped to participate effectively in today's economy. Earnings per job were much lower in persistent poverty counties than in nonmetro counties overall in 1989, suggesting that even if a significant share of the poverty population are working, their low earnings are not enough to raise their family out of poverty. The size of the poverty population in these counties leads to a community-level experience of economic disadvantage and a struggle to provide the community with basic public services such as good school systems, good water and waste water systems, and adequate health care services.

Map 1—Nonmetro Farming-Dependent Counties, 1989



Source: Rural Economy Division, Economic Research Service, USDA.

Map 2—Nonmetro Persistent Poverty Counties, 1990

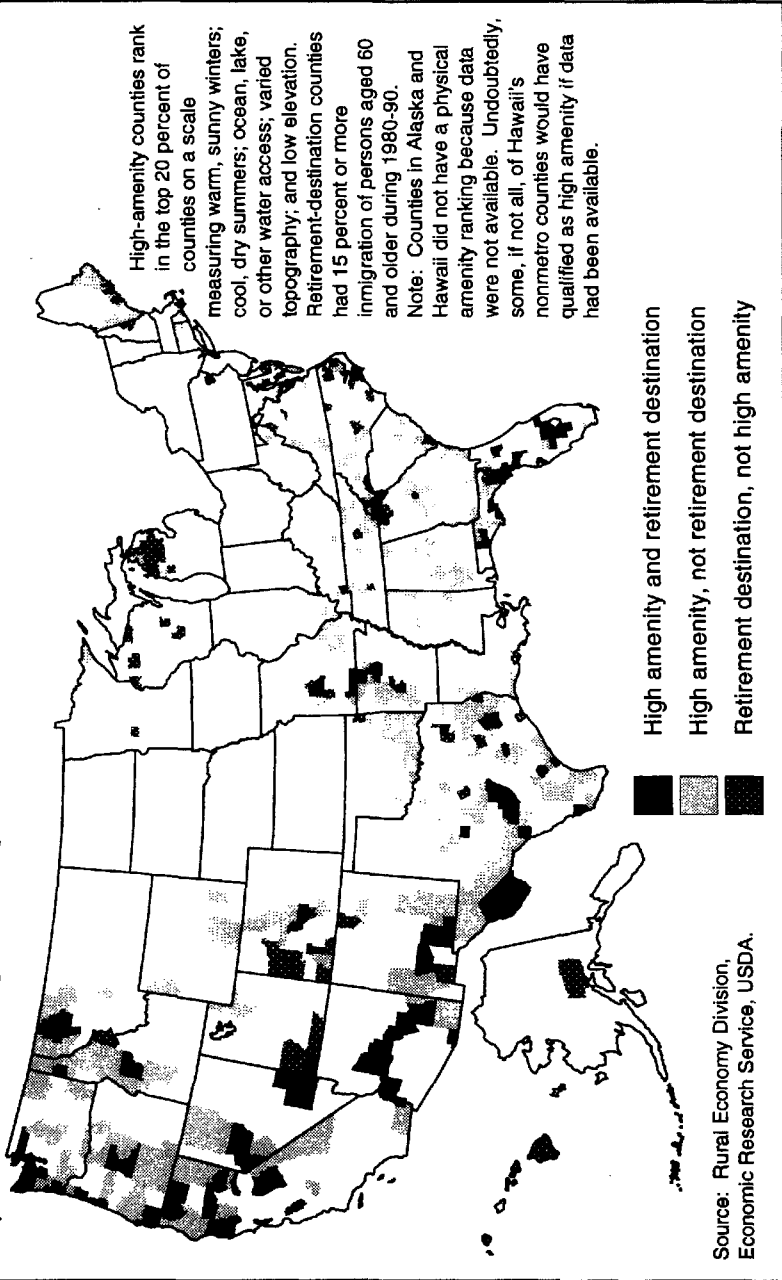


Counties with 20 percent or more of persons in poverty in each of the years 1960, 1970, 1980, and 1990.

Source: Rural Economy Division, Economic Research Service, USDA.



Map 3—Nonmetro High-Amenity and Retirement-Destination Counties, 1990



*High-Amenity and Retirement-Destination Counties*

A third set of counties is defined by their high level of physical amenities. High-amenity counties rank in the top 20 percent of nonmetro counties on the basis of relatively warm sunny winters; cool dry summers; ocean, lake, or other water access; varied topography; and low elevation (McGranahan, 1993). The 404 counties in this group are naturally concentrated along the Atlantic and Pacific coasts (see Map 3). Just as the rich soil and conducive growing conditions of the Plains and the coal deposits of Appalachia in earlier times strongly influenced their development, good climate and scenic surroundings have recently influenced the development of the high amenity counties.

Over the last two decades, high-amenity counties captured a disproportionate share of rural population growth and generated a disproportionate share of rural jobs. During the 1980s, the population of high-amenity counties grew 12 percent compared with less than 3 percent growth in nonmetro counties overall. Employment in high-amenity counties grew 20 percent, nearly twice as fast as in nonmetro counties overall.

While there is reason to anticipate that retirement-, tourism-, and recreation-related activities in these counties will continue to generate new employment, there is less reason for optimism that such activity will help to counter the underlying problem of low earnings and wages that is found throughout much of rural America. The down side of job growth in high-amenity counties is that the service jobs associated with the expanding activities tend to be low wage.

Data on a set of retirement-destination counties that are predominantly also high-amenity counties illustrate the relationship between employment and earnings growth in economies that are dependent upon retirees and others attracted by natural amenities. The retirement-destination counties are so named because they experienced 15 percent or more growth in the population sixty and older due to immigration during the 1980s. The 190 counties in this group are concentrated along the coasts, overlapping considerably with the high-amenity counties (see Map 3). The number of jobs in the average retirement-destination county increased 34 percent during 1979-89, three times the 11 percent growth in the average nonmetro county (Cook & Mizer, 1994). Service sector jobs increased even more rapidly—65 percent in the average retirement-destination county compared with 37 percent in the average nonmetro county. After a decade of outstanding job growth, earnings per job in the average retirement-destination county stood at \$17,603 in 1989, still 5 percent less than the average nonmetro county's earnings. So while the success in population growth and job creation in these counties and the high-amenity counties suggests that they are well positioned to capitalize on the new and growing market for vacation and retirement experiences, that new economic activity is likely to reinforce, not remedy, the underlying rural problem of low earnings.

*Counties Adjacent to Large Metro Areas*

While growth in retirement counties and other counties with physical amenities is largely based on the desire of people to enjoy a lifestyle and engage in activities not available in big cities, many other rural counties adjacent to big cities also are experiencing economic and population growth because the adjacency brings with it the ability to take advantage of economic opportunities found in those cities. For people it means jobs. For businesses, it means quick access to information, markets, and technical assistance, all of which facilitate quick response to opportunities and problems, one of the keys to effectively running a business.

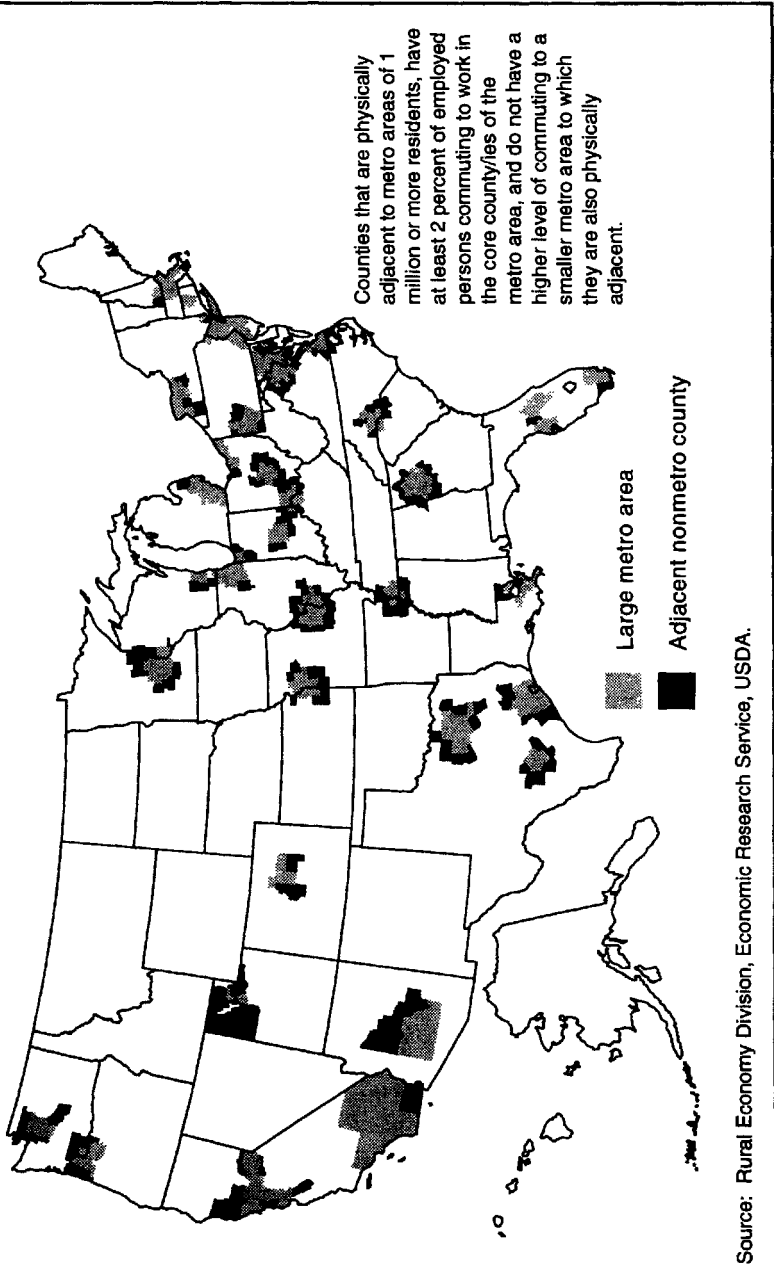
There were 186 nonmetro counties that met the Economic Research Service's definition of adjacency to large metro areas (population of 1 million or more) in 1990 (see Map 4). The adjacency criteria include physically abutting the metro area and also having workers commute to the metro area's core counties. These classification rules explain why most large metro areas are not completely ringed by adjacent nonmetro counties. Statistics on both population and employment growth in adjacent counties support the importance of linkage to metro areas in promoting economic activity. In the 1980s, the population of counties adjacent to large metro areas grew more than twice as fast as the total nonmetro population—7.5 percent compared with 2.7 percent—and twice as fast as those nonmetro counties adjacent to smaller metro areas (Ghelfi & Parker, *In press*). The same pattern of growth differentials existed for employment over the 1980s, but the differences in growth rates were not as large. The faster growth in rural areas bordering large metro areas suggests the powerful advantage of being connected to metropolitan economies and the need to help rural areas overcome their isolation if they are to be competitive in the national and international economies.

## CONCLUSIONS

The overall picture emerging from this analysis of the demographic and socioeconomic trends of rural America is that the basic character of being rural places rural areas at a serious disadvantage in the national economy. The absence of economies of scale and the remoteness from metro areas in combination seriously impede the creation of highly skilled, high-paying jobs in rural areas. The information superhighway is one means to overcome that liability by making information that is available in metro areas also available in rural areas. The challenge to rural areas is to make sure that their people, businesses, and communities have access to that information superhighway and, once on the highway, know how to use it to improve their status.

Expenditures data from the 1987 Census of Governments indicate that nearly all rural counties supported libraries, spending an average of \$142,000. The 1992 survey of public libraries by the National Center for

Map 4—Nonmetro Counties Adjacent to Large Metro Areas, 1990



Education Statistics, U.S. Department of Education, confirms that nearly all rural counties (97.4 percent) have at least one public library outlet (central or branch library or bookmobile service), averaging 3.3 outlets per rural county. Even 96.8 percent of the most remote rural counties (defined as nonmetro counties that are not adjacent to a metro area and do not contain a city with 10,000 or more residents) have at least one public library outlet.

As other articles in this issue and those by Senkevitch and Wolfram (1994), the Office of Technology Assessment (1991), the National Commission on Libraries and Information Science (1994), and the National Association of Development Organizations Research Foundation (1994) point out, most rural libraries need funding for infrastructure improvements to obtain computers and online access to data, text, and video information sources. They also need funds to invest in their staff, training them in computer operations so that they can facilitate rural libraries' transitions into telecommunications nodes. The authors of many of those reports maintain that this transition is a natural evolution of the information dissemination role that libraries were designed to play when print was the only medium.

A small grant program, the Telecommunications and Information Infrastructure Assistance Program (TIIA), administered by the National Telecommunications and Information Administration at the U.S. Department of Commerce, promotes that new role for libraries by providing matching funds for nonprofit organizations and state and local governments to invest in telecommunications. The program targets "communities that might otherwise be bypassed by the information superhighway" (U.S. Department of Commerce, 1995). Complementing the grant program, the U.S. Departments of Commerce and Agriculture recently initiated a "Get Connected" campaign to urge rural residents and groups that are not likely to own computers (e.g., persons with low income or low educational attainment) to start learning how telecommunications and information technologies can benefit them (U.S. Department of Agriculture, 1995). The campaign promotes establishing centers, possibly with TIIA matching grants, across the country to give people access to computers and training on how to use them. Although the TIIA grant program is small and "Get Connected" is a public education campaign, some rural libraries may become nodes on the information highway with help from these programs. In Drucker's (1994) view of the transformation of society:

the possibility of acquiring knowledge will no longer depend on obtaining a prescribed education at a given age. Learning will become the tool of the individual—available to him or her at any age—if only because so much skill and knowledge can be acquired by means of the new learning technologies. (p. 67)

Rural libraries linked to information networks are one of the "learning technologies" through which rural residents and businesses could continuously build their skill and knowledge bases and improve their competitive position in the coming century.

## REFERENCES

- Cook, P. J., & Mizer, K. L. (1994). *The revised ERS county typology: An overview* (RDRR No. 89). Washington, DC: U.S. Department of Agriculture, Economic Research Service.
- Cromartie, J. B. (1993). Nonmetro outmigration exceeded immigration during the 1980's. *Rural Conditions and Trends*, 4(3), 24-25.
- Drucker, P. F. (1994). The age of social transformation. *Atlantic Monthly*, 274(5), 53-80.
- Ghelfi, L. M. (1994). Rural nonfarm earnings edged upward in 1992. *Rural Conditions and Trends*, 5(2), 14-15.
- Ghelfi, L. M., & Parker, T. S. (In press). *A new county-level measure of urban influence*. Paper to be presented at the Rural Sociological Society meetings, Pentagon City, Virginia, August 18.
- Lahr, M. L. (1993). Nonmetro real family income stagnated during the 1980's. *Rural Conditions and Trends*, 4(3), 46-47.
- McGranahan, D. L. (1993). *Population loss in remote rural areas* (AIB No. 664-70). Washington, DC: U.S. Department of Agriculture, Economic Research Service.
- McGranahan, D. L., & Ghelfi, L. M. (1991). The education crisis and rural stagnation in the 1980's. In *Education and rural economic development: Strategies for the 1990's* (AGES-9153). Washington, DC: U.S. Department of Agriculture, Economic Research Service.
- National Association of Development Organizations Research Foundation. (1994). *Telecommunications and its impact on rural America*. Washington, DC: NADO.
- National Commission on Libraries and Information Science. (1994). *Public libraries and the Internet: Study results, policy issues, and recommendations*. Washington, DC: NCLIS.
- Office of Technology Assessment. (1991). *Rural America at the crossroads: Networking for the future*. Washington, DC: OTA.
- Parker, T. S. (1993). Nonmetro college completion rates fall further behind metro. *Rural Conditions and Trends*, 4(3), 32-33.
- Senkevitch, J. J., & Wolfram, D. (1994). Equalizing access to electronic networked resources: A model for rural libraries in the United States. *Library Trends*, 42(4), 664-675.
- U.S. Department of Agriculture. (1995). Clinton administration urges Americans to get connected to the information age. *Ag News Fax* (Release No. 0213.95).
- U.S. Department of Commerce. (1995). NTIA announces second round of information infrastructure grants. *Commerce News*, February 10 release.