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Editor's Notebook

This month's *Rural Development Perspectives* takes a look at new developments in some of the older themes important to the rural economy—rural manufacturing, passenger railroad service in rural America, direct marketing of farm products, and small farms.

Manufacturing's share of jobs nationally has been in a long-term decline, but in rural areas the number of manufacturing jobs has been growing. G. Andrew Bernat, Jr., finds that manufacturing jobs in the rural Midwest increased in the 1980's and 1990's, especially in less urbanized and completely rural counties, where earnings from manufacturing jobs have become an increasingly larger share of total county income. For the future, the rural Midwest may be in a good position for further manufacturing growth because of its proximity to urban manufacturing and its concentration on durables production.

The significance of passenger rail service has changed with time. At the turn of the last century, a vast network of rail lines linked thousands of rural communities. Today little more than the main-line routes of Amtrak endure and these continue to dwindle as Amtrak reduces its service. Nevertheless, Dennis Brown's article shows how passenger service remains an important alternative for the approximately 180 nonmetro communities still served. Communities faced with loss of service have tried a number of successful strategies, including organized opposition, subsidies, and finding new uses for abandoned rights-of-way.

Fred Gale discusses the possibility of using direct marketing as a rural development tool. Direct selling by farmers to consumers, once the most common way of marketing perishables, has recently become popular again. Although often promoted as a way of enhancing farm income and the rural economy, the direct marketing of farm products through farmers' markets, pick-your-own farm operations, and similar strategies is concentrated near metro areas convenient to urban customers instead of in those counties where agriculture is the primary source of personal income. For most farms, direct selling represents only a small portion of farm income, but many farmers, especially the small farmers who do most of the direct selling, have shown an entrepreneurial spirit and have pioneered innovative ways to reach their customers.

Small farms remain important to rural areas, and their nature has changed significantly in the half century since World War II. Once small-scale farming was often equated with poverty, since small-farm households had to depend on the meager income that modest farm operations could generate. Today, commercial-sized farms have become larger, more specialized, and more capital-intensive. A majority of all farms are still small (with sales under \$20,000 per year) but, as Cheryl Steele's article shows, these are now mostly part-time operations whose household income derives mainly from the diversity of economic opportunity that now characterizes rural areas. Even so, small farms remain important in the production of many crops and contribute in significant ways to the rural economy and as preservers of the rural landscape.

Finally, in our Indicators piece, Linda Ghelfi and Timothy Parker show social and economic changes that have occurred in nonmetro counties classified by level of urban influence. The urban influence classification groups nonmetro counties by the size of the metro areas they adjoin and by the size of their own largest cities. These new categories will permit researchers to better study the effects of population centers on nonmetro counties. The authors look at the relationships of adjacency and own city size with growth in population, employment, and earnings and the location of institutions of higher learning, hospitals, and physicians.

Douglas E. Bowers

Manufacturing and the Midwest Rural Economy

Recent Trends and Implications for the Future

Rural communities in the Midwest gained manufacturing jobs during the 1980's and into the 1990's even as urban areas sustained large job losses. Mirroring national patterns, most of the rural manufacturing job gains were in less urbanized and completely rural nonmetro counties. In addition, counties that have gained manufacturing jobs exhibited substantially better economic performance than other counties. These recent trends indicate that, as long as rural manufacturing firms are able to maintain their competitiveness, manufacturing may well provide the basis for continued economic growth.

A great deal has been written in recent years about the deindustrialization of America and the declining importance of manufacturing. However, one of the most striking trends is continued growth of manufacturing jobs in smaller rural areas, even in the face of large job losses in urban areas. Clearly, rumors of the death of manufacturing as a generator of rural jobs have been greatly exaggerated. In fact, manufacturing has replaced agriculture as the primary economic base for much of the rural Midwest (Testa). While the rural manufacturing job picture remains positive, jobs are only part of the story and the relatively bright picture of manufacturing job growth fades when the widening gap between rural and urban earnings per job is taken into account.

This article is divided into three major parts. First, recent trends in rural manufacturing are described for five Midwestern States (Illinois, Indiana, Iowa, Michigan, and Wisconsin), emphasizing job and earnings trends since the early 1980's. The next looks briefly at what these trends have meant to rural communities in terms of overall job, income, and population growth. The third part discusses

what the future might hold for rural manufacturing in the Midwest and the communities that depend on it.

Jobs and Earnings Rose during the 1980's and 1990's

Changes in Manufacturing Jobs. The massive loss of manufacturing jobs since 1979 and continuing throughout the 1980's is a familiar story. U.S. manufacturing jobs declined by over 2.2 million (10 percent) between 1979 and 1982. The subsequent recovery brought only slow and uneven growth in manufacturing jobs. After 1989, manufacturing industries once again began shedding jobs, and all the jobs gained during the recovery were lost in the recession in 1990. By 1994, despite more than 3 years of recovery, the number of U.S. manufacturing jobs was still 2.5 million (11 percent) below the 1979 peak of 21.5 million jobs.

As the traditional center of U.S. manufacturing, the Midwest sustained a large share of these job losses. The Midwest lost 811,282 manufacturing jobs (20 percent) between 1979 and 1982—about 36 percent of the total U.S. losses, even though the region accounted for only 19 percent of the jobs. As in the Nation as a whole, the number of manufacturing jobs in the Midwest grew modestly between 1982 and 1989. Since 1989, the Midwest has fared slightly better than the Nation as a whole, with

G. Andrew Bernat, Jr., is a regional economist with the Regional Economic Analysis Division, Bureau of Economic Analysis, U.S. Department of Commerce. The views expressed in this paper are solely the author's and do not necessarily reflect the views of the Bureau of Economic Analysis or the U.S. Department of Commerce.

more moderate job losses through 1991 and greater job growth from 1992 through 1994 (table 1).

Metro-nonmetro patterns. This is a rather grim picture of manufacturing as a source of jobs and income but, as is often the case with aggregate numbers, looking at total manufacturing jobs obscures the fact that much of the picture is an urban phenomenon. Mirroring the experience of rural communities throughout the Nation, many rural communities in the Midwest actually experienced manufacturing job growth during the 1980's and the early 1990's.

Both metro and nonmetro counties lost a substantial number of jobs during the recessions of the early 1980's. Job losses in metro counties were greater, both in absolute and in relative terms, than in nonmetro counties. Between 1979 and 1982, the number of metro manufacturing jobs declined by 676,646 (20 percent) compared with nonmetro losses of 135,834 jobs (18 percent). By 1989, metro counties had regained only a fraction (72,216 or 11 percent) of the losses experienced between 1979 and 1982. Additional job losses after 1989 meant that there were only 33,000 more metro manufacturing jobs in 1993 than in 1982 and 642,000 (19 percent) fewer than the 1979 peak.

In contrast, nonmetro counties added 129,514 manufacturing jobs between 1982 and 1989, a 21-percent gain. Another 60,761 jobs were added between 1989 and 1994, despite the recession of 1990-91. By 1994, the number of nonmetro manufacturing jobs was 7 percent above the 1979 peak (table 2).

Rural communities have not shared equally in this recent growth in manufacturing jobs. In the Midwest, as in the rest of the country, virtually all of the growth in manufacturing jobs during the 1980's occurred in less urbanized and completely rural counties. These rural counties expe-

County Types and Data Sources

The three types of nonmetro counties are derived from the 10-category rural-urban continuum as described in Butler and Beale, 1994. Urbanized nonmetro counties have an urban population of 20,000 or more, less urbanized counties have an urban population of 2,500 to 19,999, and completely rural counties have an urban population of less than 2,500. Employment, earnings, and population data are from the Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce. Estimates of the number of establishments in export industries are derived from County Business Patterns data, Bureau of the Census, and data from the International Trade Administration.

Table 1

Job growth in the Midwest and United States, 1969-94

Midwest manufacturing job growth stronger than U.S. growth since 1982

	Midwest		United States	
	Change in jobs	Rate	Change in jobs	Rate
	Thousands	Percentage	Thousands	Percentage
1969-79	-68.6	-1.7	951.2	4.6
1979-82	-811.3	-19.9	-2,227.0	-10.4
1982-89	202.1	6.2	727.4	3.8
1989-94	22.4	.6	-968.5	-4.8

Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Dept. of Commerce.

Table 2

Rural and urban job growth in the Midwest, 1969-94

Most Midwest manufacturing job growth has been in rural counties

	Rural		Urban	
	Change in jobs	Rate	Change in jobs	Rate
	Thousands	Percentage	Thousands	Percentage
1969-79	72.0	10.6	-140.7	-4.1
1979-82	-135.8	-18.1	-675.6	-20.4
1982-89	129.5	21.0	72.2	2.7
1989-94	60.8	8.2	-38.5	-1.4

Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Dept. of Commerce.

rienced substantially higher growth rates than either metro counties or urbanized nonmetro counties (see box, p. 3, for definitions).

These trends are illustrated in figure 1, which shows manufacturing jobs relative to the 1979 level for the county groups. All four types of counties followed similar paths up to the end of the 1982 recession. Since 1982, job growth has been nonexistent in metro counties, low in urbanized nonmetro counties but fairly substantial in both less urbanized and completely rural counties (fig. 2).

Earnings. Reflecting their growth in manufacturing jobs, rural counties exhibited stronger growth in earnings from manufacturing than urban counties. However, rural growth in manufacturing earnings has not been as strong as was the case with jobs. Nationally, earnings per worker in manufacturing grew only 3 percent during the 1980's compared with growth of over 13 percent during the 1970's. In rural areas, earnings per worker rose gradually to a plateau of approximately \$31,000 in the mid-1980's and then have declined about 3 percent, after adjusting for inflation, to roughly the same level as in 1977. As urban and rural earnings per worker have moved in opposite directions, the gap between rural and urban

earnings per job grew from about 25 percent in 1982 to 30 percent in 1994 (fig. 3).

Some of this gap is due to industry composition. Rural areas have a greater concentration of jobs in low-wage industries such as food processing and apparel. However, recent data from the Annual Survey of Manufactures indicate that rural wages are substantially lower than urban wages in almost all manufacturing industries, so only a small portion of the wage gap can be attributed to industry mix effects (Bernat, 1995).

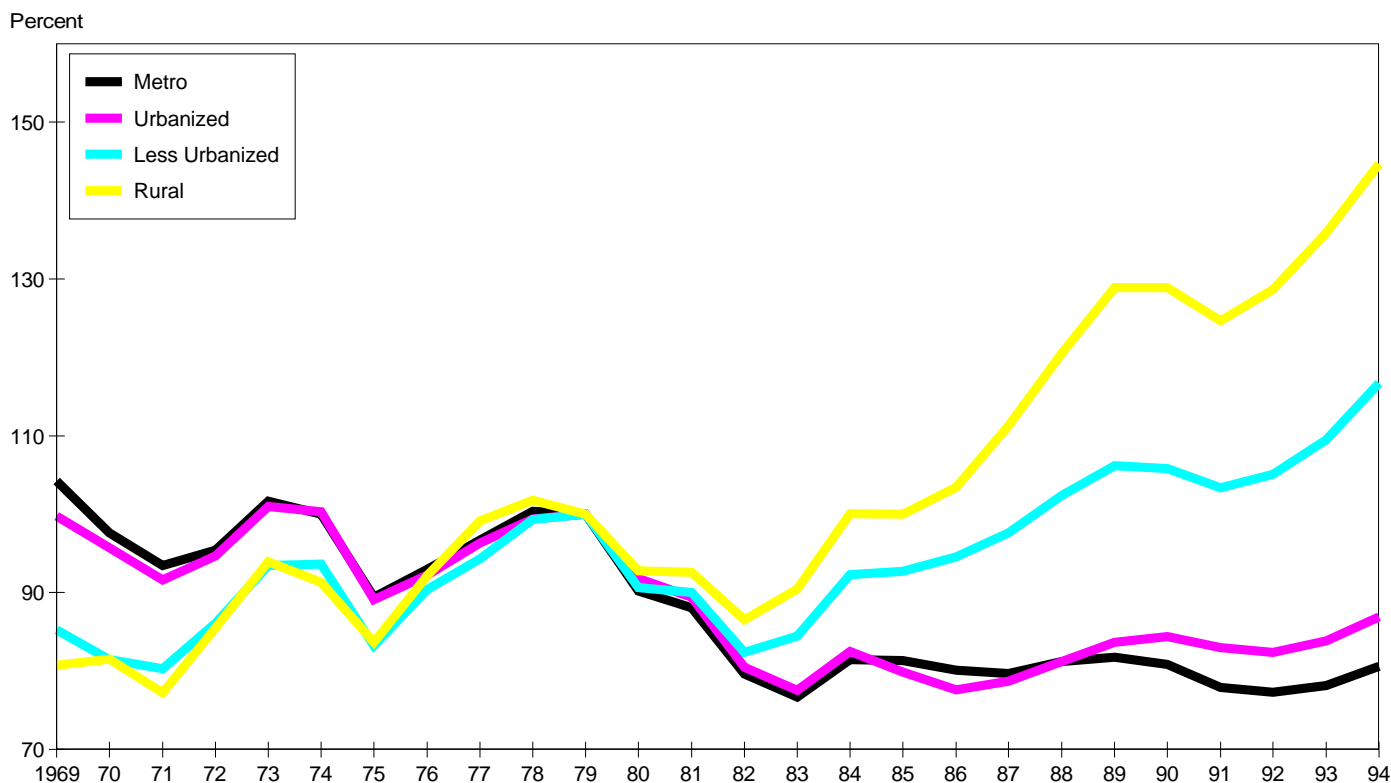
A more important factor is the difference in occupational mix. While the number of nonproduction workers has grown considerably in rural manufacturing establishments, the number has grown much faster in urban establishments. In other words, there is an increase in the spatial division of labor. Because nonproduction workers (mainly white collar) are paid substantially more than production workers, the increase in the spatial division of labor contributes to the increasing gap between urban and rural wages.

Effects on Rural Communities. One important consequence of the growth in manufacturing jobs and earnings

Figure 1

Manufacturing jobs relative to 1979

Manufacturing jobs grew fastest in completely rural counties after 1982

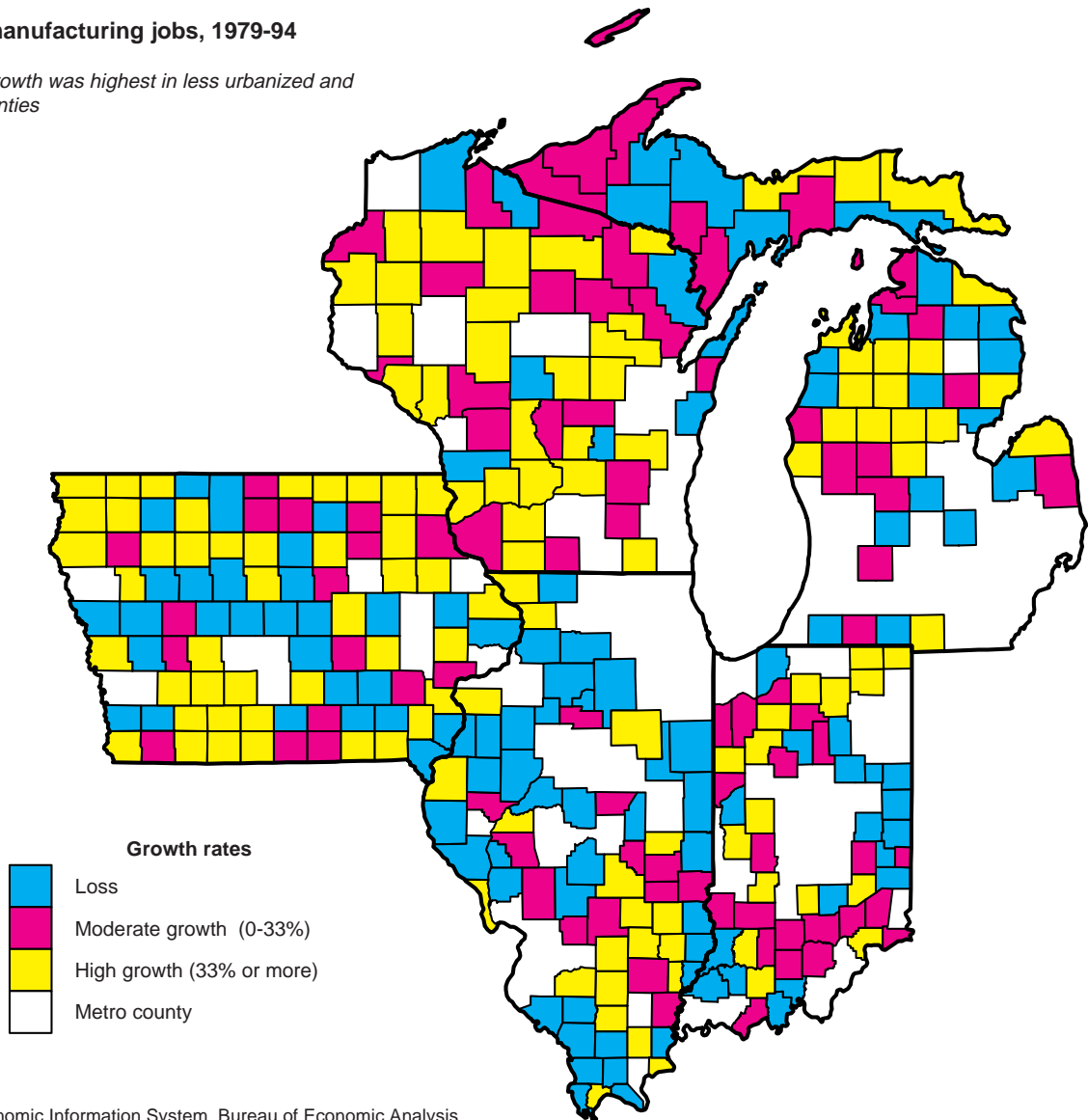


Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce.

Figure 2

Growth in rural manufacturing jobs, 1979-94

Manufacturing job growth was highest in less urbanized and completely rural counties



Source: Regional Economic Information System, Bureau of Economic Analysis, Department of Commerce.

is the increased importance to rural economies of manufacturing, especially in less urbanized and completely rural counties. Manufacturing's share of total jobs has declined steadily in both metro counties and in urbanized nonmetro counties, from approximately 30 percent in 1969 to under 20 percent in 1994. In completely rural counties, manufacturing's share of total jobs remained around 11 to 12 percent throughout the 1970's and early 1980's before starting to rise in the late 1980's. The share of total jobs accounted for by manufacturing in less urbanized counties has fluctuated around 17-18 percent since 1969 (figs. 4 and 5).

The increased importance of manufacturing is more pronounced in the case of earnings than jobs. As was the case with jobs, manufacturing earnings in urbanized counties have generally followed the same downward course as in metro counties, although the decline was

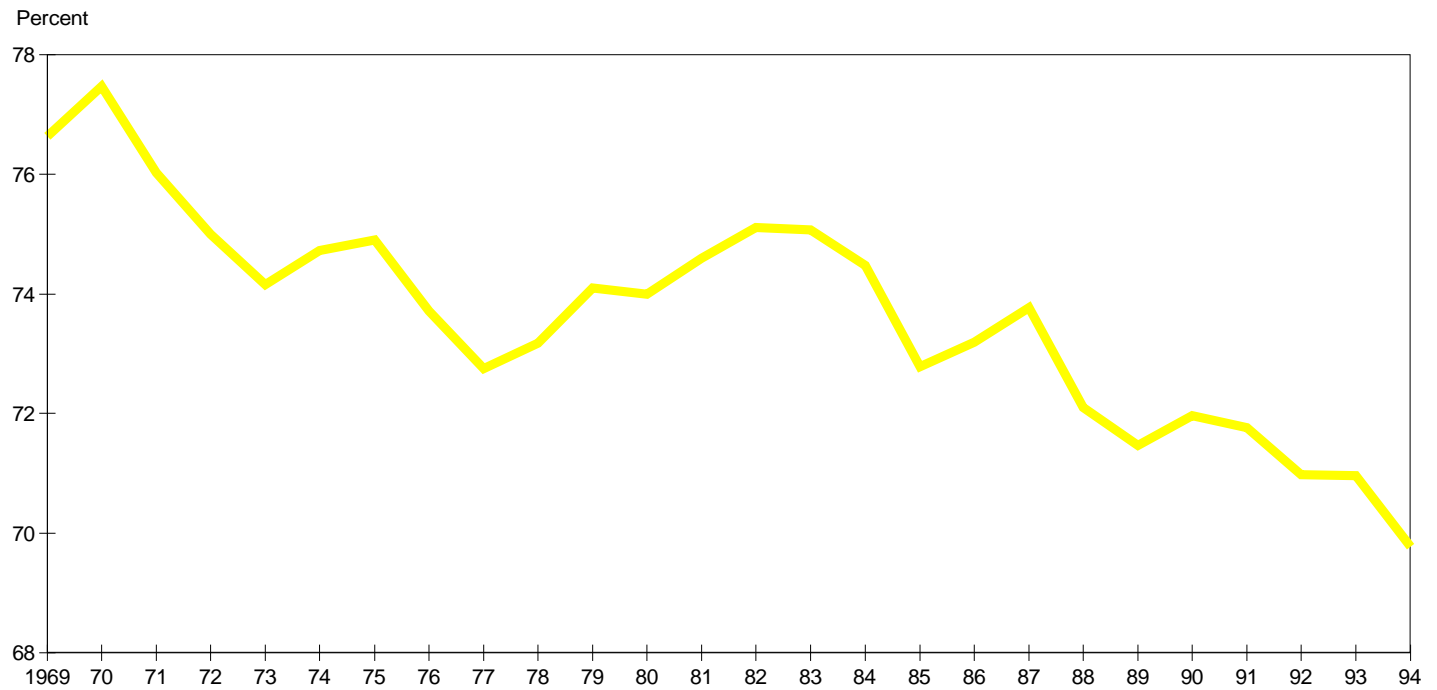
more moderate during the 1980's. Despite this long-term decline, manufacturing earnings accounted for over 30 percent of total earnings in urbanized nonmetro counties. The importance of manufacturing earnings increased in both less urbanized counties and completely rural counties, rising from about 23 percent in 1969 to 28 percent in 1994 in less urbanized counties, and from about 14 percent to 23 percent in 1994 in completely rural counties (fig. 6).

Looking a little more closely at manufacturing jobs by type of industry, durable manufacturing is slightly less important in nonmetro counties than in metro counties. Total earnings from durables industries accounted for 60 percent of all urban manufacturing earnings and 56 percent in rural.

Figure 3

Earnings per rural job as a percentage of urban job earnings

The gap between rural and urban earnings per job has grown since 1982

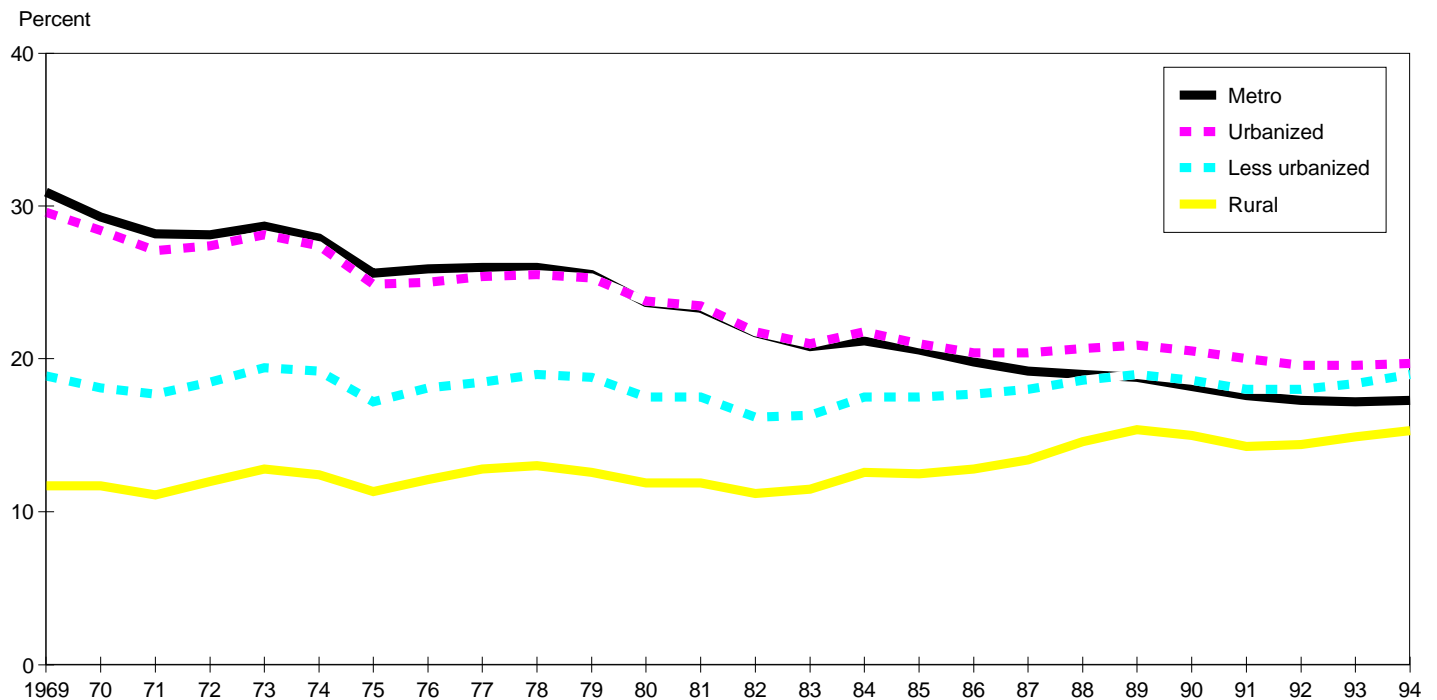


Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce.

Figure 4

Manufacturing's share of total jobs

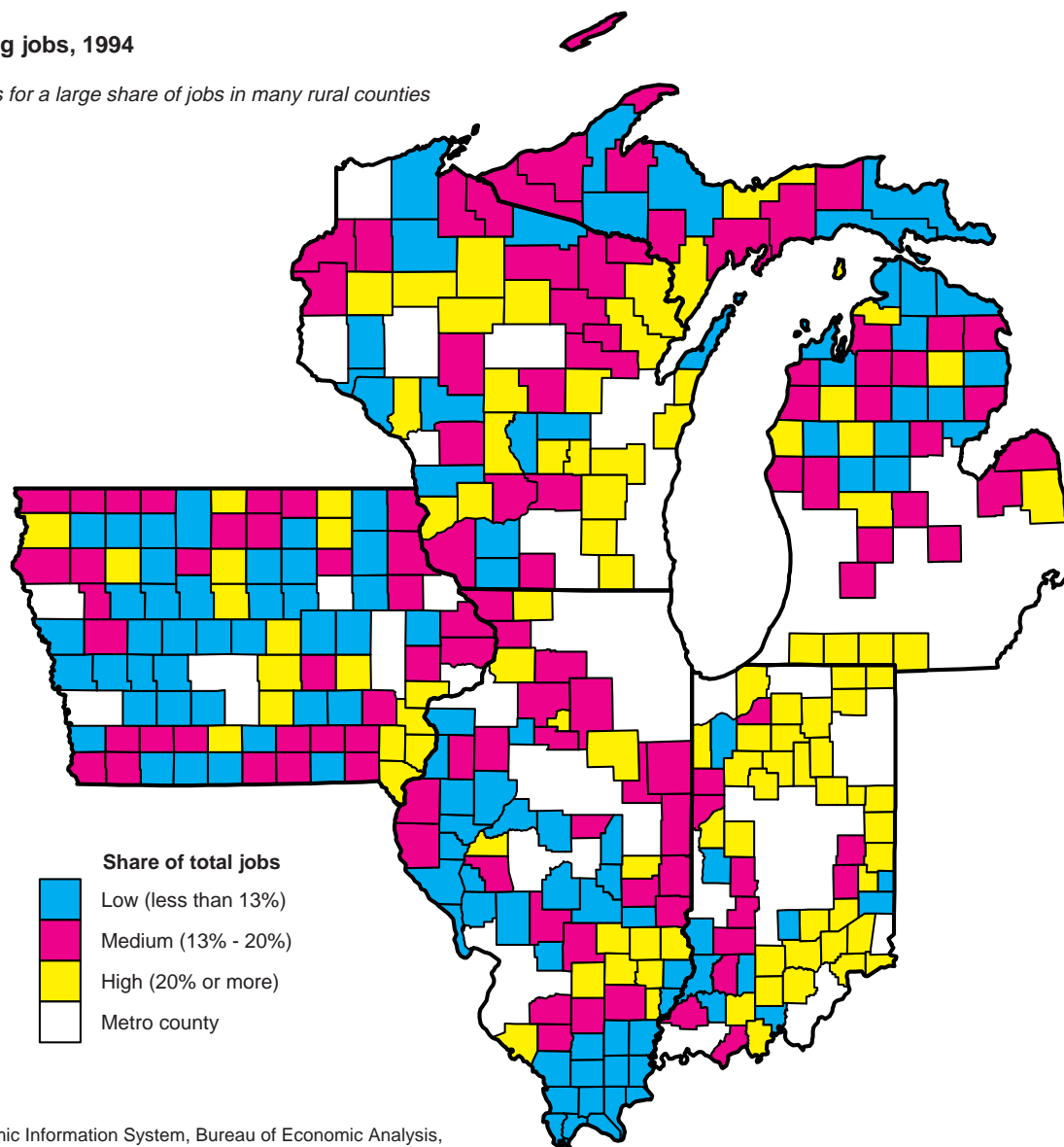
Manufacturing's share of jobs in less-urbanized and completely rural counties has grown since 1982



Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce.

Figure 5
Rural manufacturing jobs, 1994

Manufacturing accounts for a large share of jobs in many rural counties



Source: Regional Economic Information System, Bureau of Economic Analysis, Department of Commerce.

This difference is small but potentially important. First, wages in durables-producing industries are approximately 15 percent higher than in nondurables-producing industries. Second, durables-producing industries appear to have greater potential for future job and earnings growth. Employment in nondurables manufacturing has been remarkably constant for the past 20-30 years, providing little reason to believe that nondurables will be a source of significant job growth in the future.

In contrast, employment in durables manufacturing has varied widely in response to business cycles and changes in international trade. International trade is the key reason that durables manufacturing may have greater potential for job growth because most of America's exports of manufactured goods are durables. Of the 20 manufactur-

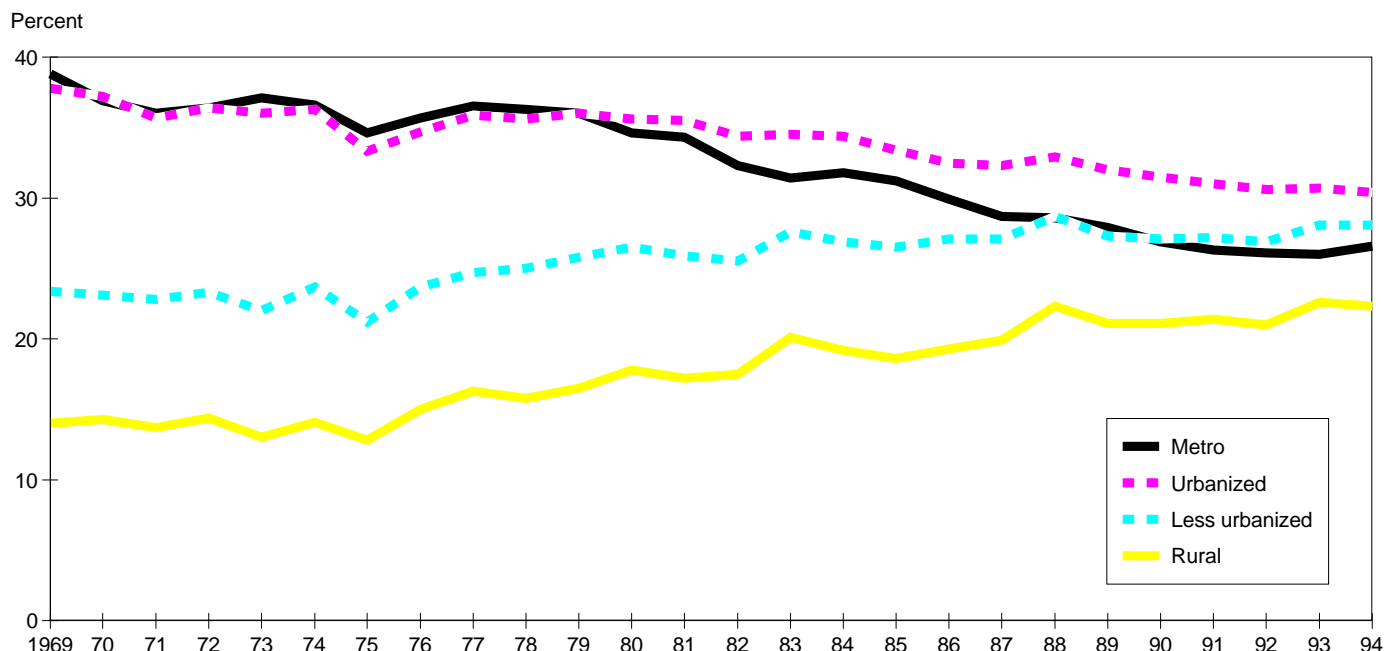
ing industries, the only four industries for which exports are equal to 20 percent or more of the value of production are durables (machinery, electrical equipment, transportation equipment, and instruments). An expanding world economy means that the potential market for exporters will expand faster than will the domestic market. Thus, while the possibility of significant job losses certainly exists in durables-producing industries, there is also greater potential for growth.

Export industries comprise 42 percent of all metro manufacturing establishments in the Midwest but only 26 percent of the establishments in nonmetro counties. While nonmetro counties have relatively fewer establishments in export industries, the industries comprise a high proportion of the manufacturing base in many counties (fig. 7).

Figure 6

Manufacturing's share of total earnings

Manufacturing's share of earnings in less-urbanized and completely rural counties has grown since the mid-1970's



Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce.

Moreover, about half of nonmetro establishments had at least some exports in 1995 compared with slightly fewer than 57 percent in metro areas. Even manufacturers in the most remote rural areas exported 9.5 percent of their production (Gale, "Rural Manufacturers").

Manufacturing and Growth Associated with Higher Overall Growth

To what extent has this growth in rural manufacturing been accompanied by overall economic growth? Much of the discussion of manufacturing's role in rural development is predicated on the notion that growth of an important economic base industry like manufacturing will be accompanied by improvement in overall local economic conditions. However, as the economy continues to shift from a strong reliance on goods-producing industries for jobs to one in which the vast majority of jobs are in services-producing industries, manufacturing job growth may not lead to overall job or income growth. While a rigorous study of the determinants of rural growth is beyond the scope of this article, the following look at growth patterns indicates that counties exhibiting growth

in manufacturing jobs also exhibited higher rates of overall economic growth.

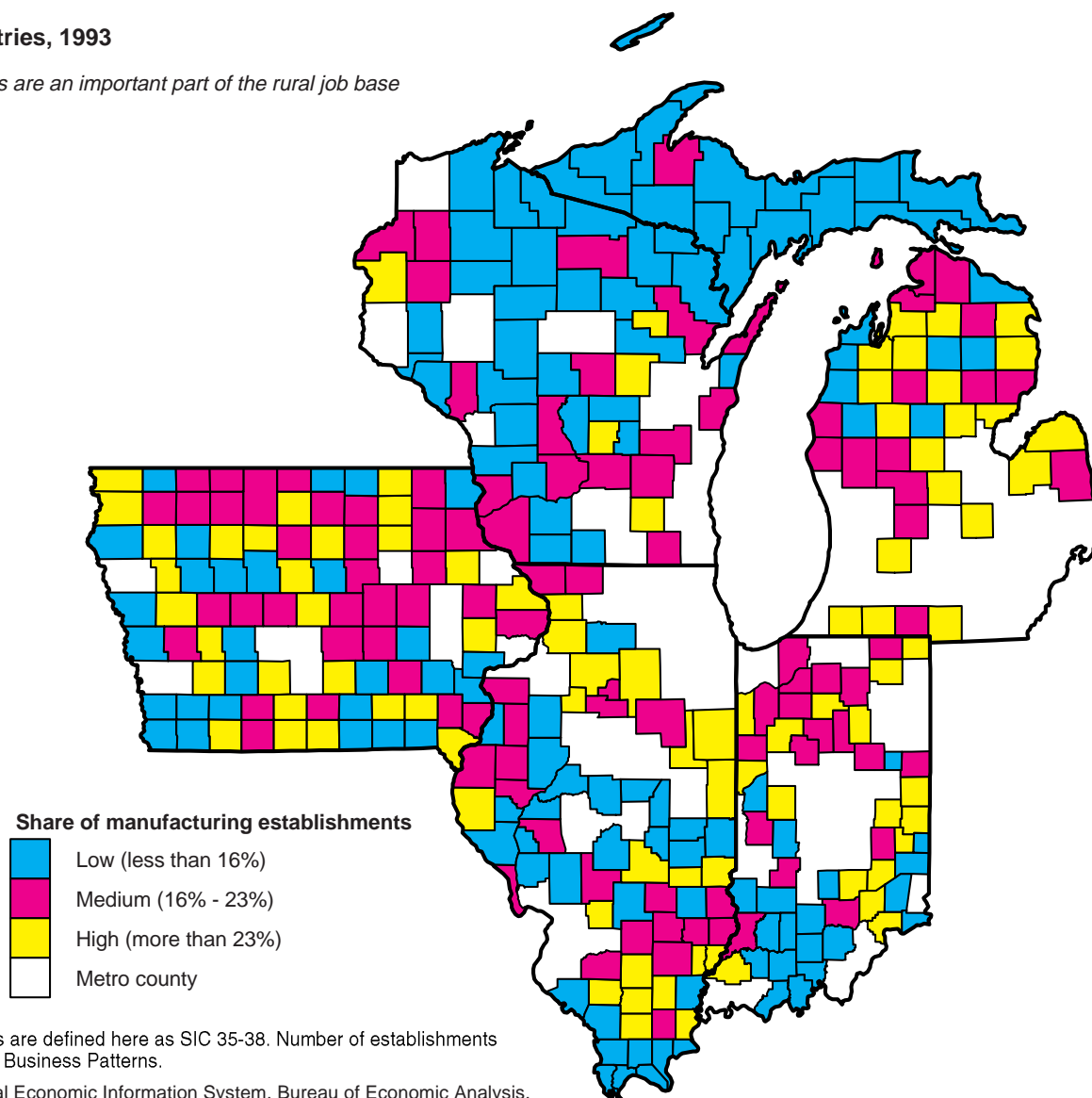
Midwest counties experiencing any growth in manufacturing jobs during 1979-94 indeed had better economic performance. Nearly two-thirds of all nonmetro counties in the Midwest experienced some growth in manufacturing jobs compared with half of metro counties. Nonmetro counties with no manufacturing job growth between 1979 and 1994 experienced an average population loss of 3.2 percent, average growth in total jobs of 6.4 percent, and an average loss of 24.8 percent of manufacturing jobs. In dramatic contrast, counties with at least some growth in manufacturing jobs had population growth of 1.2 percent, total job growth of 20.2 percent, and manufacturing job growth of nearly 66 percent (table 3).

The positive relationship between manufacturing and overall economic conditions seen in table 3 runs counter to some of the recent work on the determinants of urban economic growth. For instance, Glaeser, Scheinkman, and

Figure 7

Export industries, 1993

Export industries are an important part of the rural job base



Export industries are defined here as SIC 35-38. Number of establishments are from County Business Patterns.

Source: Regional Economic Information System, Bureau of Economic Analysis, Department of Commerce.

Shleifer concluded that low rates of economic growth were associated with high initial shares of manufacturing jobs. However, preliminary work using a model similar to Glaeser's shows just the opposite for nonmetro counties in the Midwest: counties in which manufacturing had a high share of total jobs at the beginning of the period tended to have higher rates of overall growth.

Three Factors Will Affect Future Manufacturing Growth

While we can only speculate about the course manufacturing will take and how this will affect rural communities, there are a number of broad trends that will affect rural manufacturing. These issues can be grouped under three broad, interrelated topics: the globalization of manufacturing, changing technology, and restructuring of manufacturing.

Globalization. Certainly a key condition for rural manufacturing is international trade. The dependence of the Midwest—rural as well as urban areas—on durables manufacturing is both an advantage and a disadvantage. The advantage is that the United States is still quite competitive in the production of many durables. While nonmetro counties, both in the Midwest and the Nation, tend to be relatively specialized in nondurables such as food processing, apparel, and paper, a substantial proportion of rural establishments are in export industries in many counties. These counties may thus be well-positioned to share in any growth in world markets.

The disadvantage of relying on durables manufacturing is that trade can be a two-edged sword: along with the large and growing market for U.S. output is a large and growing pool of potential competitors. Many durables-producing industries not only export a high proportion of their

output, they also exhibit a high degree of import penetration. Therefore, firms and establishments that do not produce world-class products will face strong competition from other nations.

Trade thus presents both opportunities and risks. Establishments that are able to compete globally are likely to prosper. Recent research conducted at the Census Bureau's Center for Economic Studies (Bernard and Jensen) has shown that exporting establishments have much higher growth, pay higher wages, and survive longer than establishments that do not export. The communities where these establishments are located will share in this prosperity. In contrast, the relatively high specialization of many rural economies on nondurables means that these communities may face substantial international competition for their products but with much less opportunity for exporting.

Technology. The rapid pace of technological progress and change also presents both opportunities and risks. Recent research shows that rural manufacturers have adopted advanced technology at rates comparable with urban plants (Gale, Aug. 1997). One of the most obvious results of advancing technology is the substantial increase in output per worker. This means that even with growing output, employment levels could fall. For instance, most economic projections show manufacturing gross State product per job growing approximately 38 percent (1.8 percent per year) between 1992 and 2010 (U.S. Department of Commerce). Under such a scenario, rural manufacturing employment will grow only if existing establishments are able to increase output by more than 1.8 percent per year or if rural communities are able to

attract new manufacturing establishments. Significant, sustained increases in output per worker will require significant capital investment; however, recent data indicate that capital expenditures per worker are lagging in rural areas (Bernat, 1995). For rural communities to attract new manufacturing, manufacturers will have to view these communities as profitable locations. The generally lower productivity of rural establishments implies that the rural advantage is still largely a cost advantage.

Restructuring. Closely related to both increased globalization of manufacturing and rapid changes in technology is the notion that the manufacturing sector is undergoing fundamental restructuring. This has received a great deal of attention in both the popular press and academic literature. Rapid changes in technology and markets have brought about vastly increased emphasis on information and on flexibility, which have in turn affected virtually all aspects of the manufacturing industry: the production process, marketing, and even the organizational structure of manufacturing firms.

One aspect of this restructuring is a shift from production to nonproduction workers. Thus, access to a labor pool with workers in occupations such as engineering, marketing, customer service, and finance is becoming increasingly important for firms in many industries. Another aspect of this restructuring is the increasing importance of information flows and the role of information in overall economic growth. The most recent literature on urban economic growth, which focuses on the role of information, innovation, and human capital accumulation in the growth process, concludes that a greater need for information and innovation makes central locations with con-

Table 3

County population, per capita income, and job growth by level of manufacturing job growth, 1979-93

Counties with manufacturing job growth had higher overall economic growth between 1979 and 1993

Type	Population	Per capita income	Total jobs	Manufacturing jobs	Manufacturing job share	Share of counties
Percentage						
Counties with no manufacturing job growth:						
Nonmetro	-3.2	12.0	6.4	-24.8	14.1	26.2
Urbanized	-4.2	11.5	7.4	-24.3	18.2	5.6
Less urbanized	-4.5	12.0	2.1	-25.5	14.3	15.2
Rural	1.7	12.8	17.6	-23.3	9.2	5.4
Metro	3.2	13.5	12.4	-26.6	17.4	13.5
Counties with manufacturing job growth:						
Nonmetro	1.2	16.3	20.2	66.3	17.8	46.9
Urbanized	4.8	14.6	24.5	29.9	21.7	2.2
Less urbanized	.7	16.1	19.4	54.0	18.6	32.5
Rural	1.8	17.4	21.6	106.2	14.8	12.1
Metro	15.2	19.8	43.0	38.6	20.4	13.5

Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Dept. of Commerce.

centrations of similar firms more desirable than ever before (Glaeser, Scheinkman, and Shleifer).

Many observers have thus concluded that the process of restructuring favors urban locations over more remote, rural areas as the future location of manufacturing activity (for example, Malecki, Henderson, 1988). Recent studies on urban growth indicate that growth in a particular industry is strongly related to both past concentration in that industry (Henderson, Kuncoro, and Turner) and on the diversity of industrial structure (Henderson, 1995). Other studies indicate that human capital accumulation occurs more rapidly in urban areas (Glaeser, Scheinkman, and Shleifer).

Rural Midwest Well Positioned for Future Growth

Predictions of the future course of the manufacturing sector paint a grim picture for rural manufacturing and the communities that depend on it. Despite the compelling logic underlying these predictions, however, two things must be kept in mind, especially with respect to rural manufacturing in the Midwest.

First, these predictions do not appear to be materializing, despite the fact that many of these changes have been going on for some time. Industries that can be identified as undergoing the most restructuring do not appear to be recentralizing. Similarly, Wojan and Pulver argue that the product cycle, the model of industrial location that plays a prominent role in much of the more pessimistic work on rural manufacturing growth, does not explain patterns of industrial location well and that rural areas in the Midwest have proven to be profitable locations for high-growth industries.

Second, even if these predictions do materialize nationally, rural communities in the Midwest are in a relatively good position. As argued above, the industry mix of many of these communities appears to be favorable because of its reliance on durables industries. Perhaps more important for future rural manufacturing growth is the proximity to concentrations of urban manufacturing. To the extent that proximity to a diverse industrial structure is a precondition for growth of successful manufacturing firms, rural communities in the Midwest may have a competitive advantage over other rural areas.

Obviously, it is impossible to predict how rural manufacturing will perform in the future. Many of the factors that will play very large roles in determining the fate of rural firms and the communities that depend on them—for instance the national business cycle and growth in international trade—are entirely beyond their control or influence. However, even if external conditions are not optimal for overall rural growth, those firms and communities that are able to compete in world markets are likely to

prosper. As Kanter argues, firms and communities cannot ignore the fact that we are in a global economy. Firms, businesses, and communities that try to ignore this reality are likely to be overtaken by those who actively participate and take advantage of the opportunities that the global economy presents.

For Further Reading . . .

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When Rural Communities Lose Passenger Rail Service

Some rural areas have recently had cutbacks in passenger rail service. While the loss of this service usually does not, by itself, threaten a town's economic survival, it may have adverse effects that can be offset by public policy. This article explores some of the options available to these communities.

Passenger rail service is an integral part of rural America's transportation network, serving as one of the few options for intercity public transportation for many small communities. Especially for rural residents without automobiles, access to passenger trains can provide a relatively inexpensive, safe, and environmentally friendly mode of transportation. Some nonmetro communities have recently experienced cutbacks in passenger rail service, encompassing both reductions in the frequency of service and, in some cases, outright abandonment. This article explores the issues surrounding the provision of passenger rail service to nonmetro communities and discusses some of the options available to these communities.

Background

Responding to pressure from the railroad industry, Congress passed the Rail Passenger Services Act in 1970 which established Amtrak. Amtrak is a federally subsidized, for-profit corporation, providing nationwide intercity passenger rail service. Before Amtrak, Federal regulations required rail freight companies to provide passenger service. This activity was, however, very unprofitable. By 1970, combined annual losses for passenger rail service were estimated to be \$1.7 billion (in 1995 dollars) and were increasing annually (U.S. General Accounting Office, 1995). Amtrak service began in 1971. Still, many smaller communities were not served by the new system because only about half of all passenger routes were taken over by Amtrak and many rural towns lost passenger rail service at that time (Due and others, 1990).

Amtrak Operates a National Network

Amtrak's current national passenger rail network stretches some 24,000 miles across 45 States and serves approximately 530 communities (fig. 1). The system emphasizes the high-density, urban commuter corridors of the Northeastern States, parts of the Upper Midwest centered around Chicago, and the West Coast, but it also continues to serve a number of smaller rural communities. About 180 destinations served by Amtrak are in nonmetro counties. In many of these smaller towns, especially those without commercial air service, passenger rail is the only mode of public transportation available other than intercity buses.

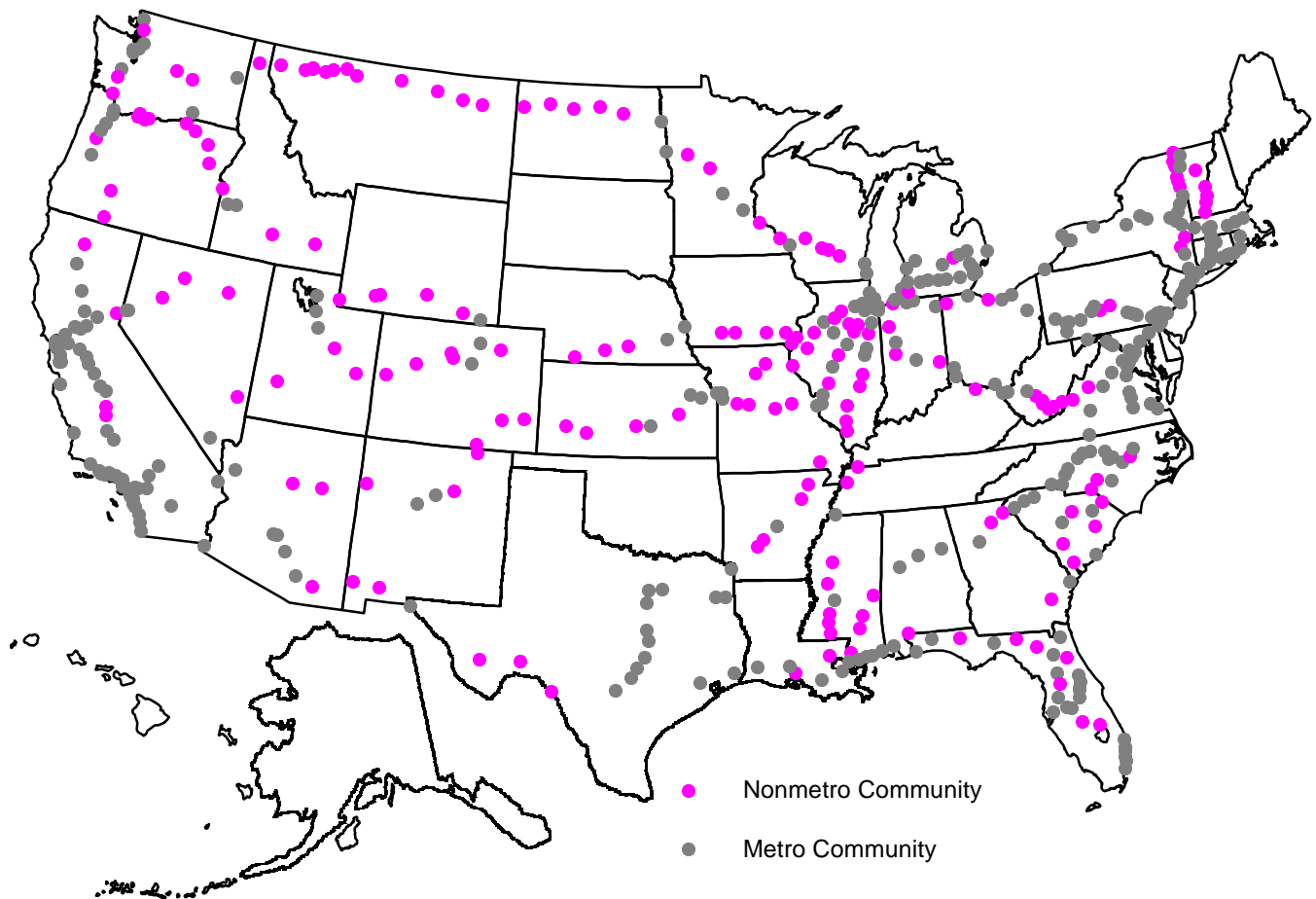
Amtrak's most pressing concern is its declining financial situation, which is putting the integrity of portions of its national network at risk. Stemming from a large underinvestment in capital stock and overly optimistic revenue projections in the late 1980's, Amtrak's operating deficit started to exceed its Federal subsidy by the early 1990's (U.S. General Accounting Office, 1995). As a result, it was forced to take such difficult measures as assuming additional debt, delaying maintenance and capital improvements, and sharply reducing staffing levels. Furthermore, Amtrak received a nearly 22-percent reduction in its total Federal subsidy for operations in fiscal year 1997, following a 27-percent cut in fiscal year 1996. (Amtrak currently estimates that with continued capital investment, it will no longer need Federal operating subsidies by the year 2002.) These conditions have led to a decrease in the quality of service on many routes, which has further hurt ridership levels and reduced revenues. Other factors have also contributed to declining ridership on many rural routes in recent years, including the rise of low-fare air

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Figure 1

Communities with Amtrak service, June 1996

Most rural towns have no passenger rail service



Note: Amtrak currently has no service in Alaska, Hawaii, Maine, Oklahoma, or South Dakota (although passenger rail service is available in Alaska through Alaska Rail).

Map excludes Amtrak Thruway Bus service.

Source: Calculated by ERS using data from Amtrak.

carriers, a number of natural catastrophes (mainly floods) that have temporarily closed some routes, and several major passenger train accidents (Due, 1996).

Because Amtrak represents one of the few transportation options for rural residents, these reductions in services may hurt some nonmetro communities. Those most affected by the loss of passenger train service are individuals without access to cars, mainly the elderly and the poor. Strong opposition to proposed cutbacks has been voiced at State and local levels, bolstering the cause of passenger rail transportation in the short term. The central problem of declining ridership levels on many routes

indicates, however, that more difficult long-term choices lie ahead.

Types of Service Reductions

Service reductions can be of two types: (1) partial, where frequency of service is decreased but the route is still preserved or (2) total, where the route is eliminated entirely. While both types of reductions entail adjustments for a community, the total abolishment of passenger rail service is obviously more disruptive than a simple reduction in the frequency of trains.

In June 1995, a partial reduction occurred when Amtrak reduced the frequency of trains on the *California Zephyr* line, operating between Salt Lake City and Oakland, from daily service to four trains per week. Several rural Nevada communities, including Elko and Winnemucca, lost daily passenger service both within the State and to points beyond. The towns affected by this cutback are small, isolated communities (with populations of less than 20,000) in the northern part of the State, and the loss of daily service curtailed the transportation alternatives for individuals without access to automobiles.

Total reductions in service usually occur for one of three reasons. First, passenger boardings may be too low to justify continued service, with a station having fewer than a certain number of boardings per day. Second, Amtrak may choose to close an entire route, often for financial reasons. Third, a community may lose service due to a decision to abandon the line made by the freight, or "host," company that owns the track on which Amtrak operates. Freight lines own about 95 percent of the track in the national passenger network, Amtrak owns about 3 percent, and commuter railroads own the remainder. Even though Amtrak gets about 50 percent of its revenues from track that it owns (mainly in the Northeast), large portions of the rest of its system are vulnerable to abandonment. Communities facing loss of service for this reason often find that they have little recourse if a freight line decides to close a route. Even though boardings may be adequate from Amtrak's viewpoint, these towns are affected by circumstances beyond their control.

A total reduction of service occurred in September 1995 when Batesville, Mississippi, permanently lost its passenger rail service. This small town in northern Mississippi (with a population of about 5,000) lost its passenger rail service due to a decision by the host freight carrier, Illinois Central, to move the route to west Mississippi, even though ridership levels were sufficient to continue passenger service. Located on the *City of New Orleans* route (connecting New Orleans with Chicago), passenger rail service in Batesville was primarily used for long-distance travel, with common destinations being New Orleans, Memphis, and Chicago.

While the impact on Batesville (located in a poor, rural county with a per capita income about 10 percent lower than the rest of nonmetro Mississippi) is not likely to be devastating, it has resulted in what one local resident described as "a general sense of loss." Because Batesville still retains its intercity bus service, the town has options for long-distance public transportation, but the loss of

passenger train service has reduced the number of transportation choices for the local community.

Further Rail Freight Consolidations May Affect the Rural Passenger Network

The rail freight industry is consolidating at a rapid pace. Faced with increasing competition from the trucking industry, waterway transportation, and pipelines, the national rail network has been steadily decreasing from a peak of 254,000 miles in 1916 to only about 170,000 miles by 1995, a 33-percent reduction (Association of American Railroads, various years). This trend became more pronounced with passage of the Staggers Rail Act of 1980, which deregulated the rail freight industry, as carriers attempted to improve their profitability through aggressive restructuring. Much of the merger activity has come at the expense of rural areas, as many have experienced service reductions on branch lines that are important components in the nonmetro passenger rail network. Further contractions in the rail freight industry, as illustrated by the 1996 merger of the Union Pacific and Southern Pacific lines and the proposed splitting of Conrail between CSX and Norfolk Southern railways (as of this writing), will likely continue to have direct implications for passenger rail service, and may pose new risks for the rural passenger network.

Local Opposition to Cuts Can Preserve Passenger Rail Service

Local opposition to proposed cutbacks in passenger train service can sometimes be very effective in ensuring that Amtrak service is preserved. When combined with the involvement of State and Federal officials, well-organized opposition can be an important element in preventing the loss of train service, as the following examples illustrate.

Quincy, Illinois. Quincy is a town of about 40,000, located along the Mississippi River in rural Adams County, in western Illinois. Situated in the central Corn Belt, Adams County specializes in services, retail trade, and manufacturing, and has a per capita income about equal to the nonmetro average for the State. Quincy, the county seat, has a small municipal airport and intercity bus service.

In April 1995, the town of Quincy faced a partial cutback in three out of seven weekly round trips in its daily passenger train service from Chicago. But vocal opposition to the proposed cutbacks prevented them from occurring. Amtrak is very popular in Quincy because it provides a relatively cheap, quick link to Chicago, and to intermediate rural communities. While the trip to Chicago takes about 4 ½ hours by train, it takes about 5 ½ hours by car, and 9 hours by bus.

Ultimately, Quincy was spared the sharp reductions in passenger train service largely because the State of Illinois was willing to offset the shortfall in funding that necessitated the proposed cutbacks. The State accomplished this by increasing its budget for passenger rail service by nearly \$4 million (a 150-percent increase) in fiscal year 1996, thereby sparing Quincy and other rural communities in Illinois the loss in daily service. Similar commitments have been made by other States such as California, New York, and Vermont. In return for maintaining rail service in Illinois, the State required that affected communities be responsible for utility and maintenance costs associated with passenger rail service, which, in some cases, included paying ticket agents' salaries. The State has also initiated a marketing program for passenger rail service in Illinois, with matching funds available for this purpose. Thus, for Quincy, as well as for similar communities throughout Illinois (for example, Carbondale), the critical components for the preservation of daily passenger rail service were the vocal support at the local level and a political will at the State level.

Meridian, Mississippi. Meridian, Mississippi, provides another illustration of local opposition to planned service reductions in passenger rail. Meridian is a town of about 40,000, located in Lauderdale County, in east-central Mississippi. With an important government presence (both Federal and local), Lauderdale County is relatively well off, having a per capita income nearly 25 percent higher than the nonmetro average for the State. The town of Meridian is also well-situated near the convergence of two interstate highways, and has a municipal airport and intercity bus service.

In 1995, Meridian experienced a partial reduction of its daily passenger train service on the Atlanta-to-New Orleans segment of the *Crescent* line to three trips per week. However, local opposition was very vocal and well organized. The campaign against the proposed cuts was led by the mayor of Meridian, and was strongly supported by key members of Congress, which helped to ensure its success. It focused on the use of local marketing initiatives, conducted in partnership with Amtrak, to advocate the benefits of rural passenger service in the Southeast, and was so successful that by mid-1996 Amtrak had fully restored daily service on the route.

The experiences of Quincy and Meridian indicate that local opposition to service cutbacks can sometimes make a difference. Whereas Quincy succeeded largely due to a recognition of the importance of Amtrak by the State, Meridian's success resulted more from a combination of effective local leadership and involvement of key Federal officials.

Bus Service Can Be Substituted for Rail Service

Sometimes rural communities can do little to prevent the loss of passenger rail service and other transportation options must be pursued. In 1987, Vermont temporarily lost significant portions of its passenger train service as track repairs were made. The shutdown of the main line in Vermont meant that a number of small towns (such as Waterbury, Montpelier, and Brattleboro) lost Amtrak service and needed some alternate form of transportation. Intercity public transportation was maintained along the same route by substituting buses for trains via Amtrak's *Thruway Bus* service. This proved to be so popular that when the track renovations were completed and train service was restored in 1989, the *Thruway Bus* service was also kept. As a result, some communities in Vermont (and in neighboring New Hampshire and Massachusetts) have Amtrak bus service as a substitute for trains, with some rural communities served by both modes of transportation. Elsewhere, Amtrak has permanently substituted buses for train service, as in 1995 when the *Gulf Breeze* line, operating between Birmingham and Mobile, Alabama, was terminated.

Converting Abandoned Rails into Rail-Trails

Not all communities have the flexibility of pursuing alternative modes of transportation when passenger rail service is lost. But the experience of Marion, Indiana, illustrates that communities in such situations can still benefit when they lose Amtrak service.

Marion is a town of about 32,000, located in Grant County—about midway between Indianapolis and Fort Wayne—in the north-central Indiana portion of the Corn Belt. Aside from agriculture, the county has important manufacturing activity, mainly fabricated metals and electronics production, and has a per capita income about equal to the average for all nonmetro Indiana counties. Marion has no commercial air service, but it has intercity bus service, with Indianapolis being a popular destination (about 65 miles away).

In 1986, Marion permanently lost passenger rail and freight service on Amtrak's *Cardinal* route connecting Washington, DC, with Chicago, when the host carrier, Chesapeake & Ohio (since renamed CSX Corporation), changed the route. Some residents of Grant County were deprived of an important link to Chicago, the most popular destination, and, to a lesser extent, to Cincinnati. Although local travelers can still get to these destinations via intercity bus service, all routes connect through Indianapolis, which makes the trip much longer. For example, the 3 1/4-hour train ride to Chicago now takes 8 hours by bus, and the 4-hour train trip to Cincinnati is 8 hours by bus.

Residents in Grant County decided to make the most of this loss by converting large portions of the abandoned rail line into recreational use through the *Rails-to-Trails* program, which was established in 1986 by the Rails-to-Trails Conservancy (RTC). By some estimates, 2,000 - 3,000 miles of track are abandoned annually as freight lines attempt to make their operations more profitable. The RTC attempts to mitigate some of the negative effects associated with these abandonments by converting the unused track into recreational uses such as hiking, biking, running, skateboarding, roller skating, snowmobiling, horseback riding, and cross-country skiing (Cupper, 1991).

To establish a "rail-trail," local or State authorities must initially acquire a "right-of-way" of the abandoned track from local landowners, with costs typically ranging between \$10,000 and \$40,000 per mile. This is done under the process of "rail banking," in which a local or State agency keeps the abandoned routes for possible future railroad use, but allows them to be used as recreational trails in the interim. Improvements must then be made on the track by upgrading or converting it for recreational use (for example, by laying wood chips or asphalt, or modifying bridges). Funding typically comes from a variety of State and local sources and foundations, although the Federal Government sometimes also provides assistance.

Rail-trails have various benefits that can enhance the lives of local residents. Public use is generally controlled on the abandoned routes, with strict rules excluding unwanted motorized vehicles (other than snowmobiles). Also, proponents argue that rail-trails enhance property values, and are important in reviving local pride, especially in the face of abandoned rail service. Local landowners often oppose rail-trails, arguing that opening public right-of-ways can encourage unintended and undesirable use of the trails. But the Rails-to-Trails program has been popular and overwhelmingly successful, with the national rail-trail system being used approximately 75 million times annually (Rails-to-Trails Conservancy).

Conclusions

Amtrak offers an environmentally friendly, safe, and generally inexpensive form of public transportation for a wide variety of rural residents, especially for those individuals without access to automobiles. However, Amtrak's recent financial difficulties have put the national network in jeopardy, especially in some rural areas. While the loss of passenger rail service by a small community will not usually, by itself, threaten its economic survival, it may have adverse effects that can be offset by public policy. For this reason, it is important that communities carefully consider their options when faced with service cutbacks and look to the examples of other towns that have come out ahead.

For Further Reading . . .

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Direct Farm Marketing as a Rural Development Tool

Many farmers, government officials, and rural advocates are enthusiastic about the prospects of direct farm marketing for bolstering farm income and promoting rural development. Direct marketing plays a role in rural development by encouraging a climate of entrepreneurship and innovation, attracting agricultural tourists, and promoting alternative forms of agriculture. However, an analysis of 1992 Census of Agriculture data indicates that the income from direct selling is relatively small and limited to communities near urban areas. Communities in remote locations need to make a concerted effort to benefit from direct marketing.

In a highly urbanized society, direct farm marketing provides a link between urban consumers and rural food producers that can be valuable in developing sustainable communities. Farmers, extension workers, and government officials look to direct marketing as a means of identifying alternative income sources, preserving small farms, strengthening economic and social ties between farms and urban residents, and as an outlet for organic and specialty farm products. Direct sales to consumers can benefit small farms and rural communities in general by channeling a larger share of urban residents' spending on food and recreation back to the communities where food is grown. Direct purchases from farmers provide city residents with a source of inexpensive fresh produce and an opportunity to get in touch with their rural roots.

Growing Interest by Consumers and Producers

Direct selling was once a common marketing method in the United States, but declined in importance as the Nation urbanized and increased its consumption of processed foods. Today, most food moves from the farm gate to the consumer through a highly efficient food marketing system that takes advantage of scale economies and specialization to keep processing and distribution

costs low. Most farmers are content to devote their limited time to what they know best—planting, growing, and harvesting food—and leave the processing and marketing to agribusinesses, but selling directly to consumers seems to be gaining popularity among farm producers.

Several reasons may account for this renewed interest in direct farm marketing. One is dissatisfaction with low farm-gate prices. The farm price is often only a fraction of retail food prices. Prices received for produce sold directly to consumers can be substantially higher than typical wholesale prices, yet still be below supermarket prices. Small farms also often turn to direct sales because they may be snubbed by wholesalers who deal only with large-volume producers. For larger farms, direct selling can be an important sideline operation or a means of selling products that do not meet the quality or size standards required by wholesalers.

The outward spread of suburbs and residential development of formerly rural farming communities has spurred direct marketing by reducing the physical distance between farms and consumers. As suburbs grow, residential and commercial development often results in the break-up of larger farms into smaller pieces, and more exurban commuters start up part-time hobby farms.

Increased interest in food safety, the environment, and alternative agriculture has also supported growth of direct

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sales. Organic produce and other specialty food products are frequently grown by small producers who favor direct marketing at premium prices. Consumers of these specialty products like to deal face-to-face with growers to ensure that products were grown chemical-free or with other desired techniques. Complementing that preference, ecological awareness spurs consumers' interest in agricultural tourism, farm-based recreational activities, and direct-selling arrangements that involve contact with farms and farmers.

Innovative Farm Entrepreneurs Use Diverse Direct Selling Methods

Farmers' markets are, of course, the oldest and most common type of direct selling. A 1993 directory of farmers' markets published by the USDA listed 1,755 operating markets. The total number of farmers' markets may actually be much larger, since this was not an exhaustive list and probably excluded many smaller markets. Marketing specialists at USDA and land-grant colleges believe that the number of farmers' markets is growing, although there are no historical statistics for comparison. Markets vary widely. Some are year-round, others are seasonal; some are held in permanent indoor facilities, others are held in parking lots.

Pick-your-own fruit and berry operations, cut-your-own Christmas trees, and roadside stands are also common forms of direct marketing. Many farms have expanded their roadside stands by offering crafts, baked goods, flowers, and related items. Other innovative farm entrepreneurs offer urban residents a recreational experience in a rural farm setting. An apple grower in Virginia introduced a "rent-a-tree" operation, where individuals can pay a set amount to rent a particular tree in the orchard. This entitles the renter to all the apples harvested from his or her tree during that season and to visit and picnic on the grounds. Some farms take advantage of the Halloween/harvest festival theme to offer haunted pumpkin patches and hayrides. A recent conference on farm direct marketing featured a day-long seminar on how to set up an onfarm haunted house. Ornamental gardens, restaurants, hunting, shooting and golf driving ranges, and other recreational services have also been offered by farmers exploring ways to bring consumer dollars directly to the farm.

A movement known as Community Supported Agriculture (CSA) has appeared as a new form of direct selling, spurred by interest in organic produce and ecological awareness. CSA usually involves a cooperative arrangement in which consumers pay nearby growers a fixed amount of money at the beginning of the growing season and over the course of the season receive a bag each week containing whatever produce is being harvested at that time. In some CSA arrangements, customers

pick up their produce at the farm, while in others a central distribution point is established in town. CSA producers usually use organic growing methods, and participants generally value the freshness and organic nature of the produce and the direct contact with the people who grow their food. CSA helps growers with cash flow, since they are paid at the beginning of the season. Consumers shoulder more of the risk in CSA because they pay a fixed amount, regardless of the quantity and quality of the harvest. Although an advantage of CSA for producers, such an arrangement can cause consumers to shy away from CSA groups.

Rural Development Impacts

Direct selling can have positive economic and social impacts on rural and urban communities. The clearest impact is the direct flow of income from consumers to farms. By selling directly to consumers, farmers retain the value added to their products through various transportation and marketing activities that are usually performed by urban-based wholesale and retail establishments. A larger share of the consumer's retail food dollar returns to the rural communities where food is grown, but direct marketing activities are costly in time and labor.

Premium prices can be an additional economic benefit for some directly marketed products. Retail prices for organic or specialty food products sold directly to consumers are often higher than store prices for similar items. For example, in November 1994, Maryland farmers were selling fresh turkeys to customers for \$1.25 per pound or more, while supermarket prices were 79 cents per pound for fresh turkeys and 59 cents for frozen.

By providing alternative marketing channels and higher returns per acre, direct marketing may also contribute to the rural economy by preserving small farms. A local economy characterized by numerous small farms is regarded by many as more desirable than one with a few large industrialized farms.

By adding a recreational component to food consumption, many direct-marketing enterprises draw urban people to farm communities, where they may spend additional dollars on restaurant meals, shopping, or other services. Such "agricultural tourism" may have a "multiplier" effect on local economies. A 1994 study (Leones and others) of spending at farm outlets and pick-your-own operations in an Arizona county found that groups visiting from outside the county spent an average of \$18 in the local community in addition to the \$40 they spent at farm outlets. Most visits are day-visits, but some involve overnight stays. The Arizona study found that day visitors spent an average of \$54, including spending at farm outlets, while overnight visitors spent \$130. Agricultural tourists spent \$1 million per year, which led to additional

economic activity of \$900,000 throughout the local economy. The study further found that direct farm marketing supported 41 jobs at farm outlets and an additional 27 jobs elsewhere in the county's economy.

Agricultural tourism is associated mainly with types of direct marketing that include an onfarm recreational component. Other direct marketing efforts require that farmers do most of the traveling. For example, farmers' markets and distribution points for CSA groups are often at urban and suburban locations. A survey of vendors at nine New York markets found that full-time growers traveled an average of 22 miles to the farmers' market, and part-time growers traveled an average of 12 miles. Obviously, the economic impact of direct marketing on the farm community is much lower when farmers, instead of consumers, do the traveling.

While most of the traveling to farmers' markets is done by vendors, consumers are also willing to travel a little farther to patronize farmers' markets than they will for traditional retail food shopping. The USDA's Agricultural Marketing Service estimates that a farmers' market draws consumers from within a 10-mile radius, compared with a 2- to 3-mile radius for a supermarket. Farmers' markets in many communities just outside the urban fringe are close enough to draw urban and suburban customers to their communities. More remote communities need to work harder to draw urban visitors to farmers' markets by establishing an identity associated with a locally grown product, lifestyle, or heritage (such as Amish and Mennonite) or a concentration of farms offering products and services for sale.

Social issues are an important reason for the popularity of direct marketing. Supporters of direct marketing activities stress the importance of educating consumers about the source of their food supply. The social dimension, albeit of a different type, is also important to sellers. A survey of vendors at nine rural New York farmers' markets found that the most important reasons identified by the vendors for selling at a farmers' market were social: "We enjoy visiting with customers and other vendors," and "We enjoy doing it." These reasons were rated higher than "We want extra income," and "Our other income sources are limited." It is also likely that many of the small urban-fringe farms that participate in direct selling are part-time farms that depend on off-farm income sources. For the operators of these farms, the motivation to farm is often noneconomic.

How Big Are Direct Sales and Who's Selling?

While direct marketing seems to be enjoying wide popularity among farmers, extension workers, and government officials, no one knows just how big the industry has grown or what types of farms participate in these activi-

ties. Since direct marketing is hard to define and includes diverse activities, it is hard to measure, so we have little statistical information. USDA completed some studies in selected States during the 1970's, but the only recent nationwide data available are from the 1992 Census of Agriculture, which asked farms to report the dollar amount of food products sold directly to consumers. These data probably understate dollar amounts obtained through direct marketing because they include only sales of food products grown on the farm and exclude products bought from others and resold, processed foods, services, and nonedible products. Despite the limitations of these data, however, they can still give us an idea of the magnitude of direct sales income.

Nearly 1 in 20 U.S. farms (4.5 percent) reported direct sales of food products to consumers totaling \$404 million in 1992. Direct sales per farm for those reporting direct sales averaged \$4,675. Direct sales are concentrated in regions where vegetable and fruit production is common and where farms are near large populations, primarily in the Northeastern States from Maryland to Maine, Florida, the Great Lakes region, the West Coast, and Hawaii (fig. 1). Direct sales are low in the Great Plains, most of the Mountain region, the western part of the Corn Belt, and most of the South.

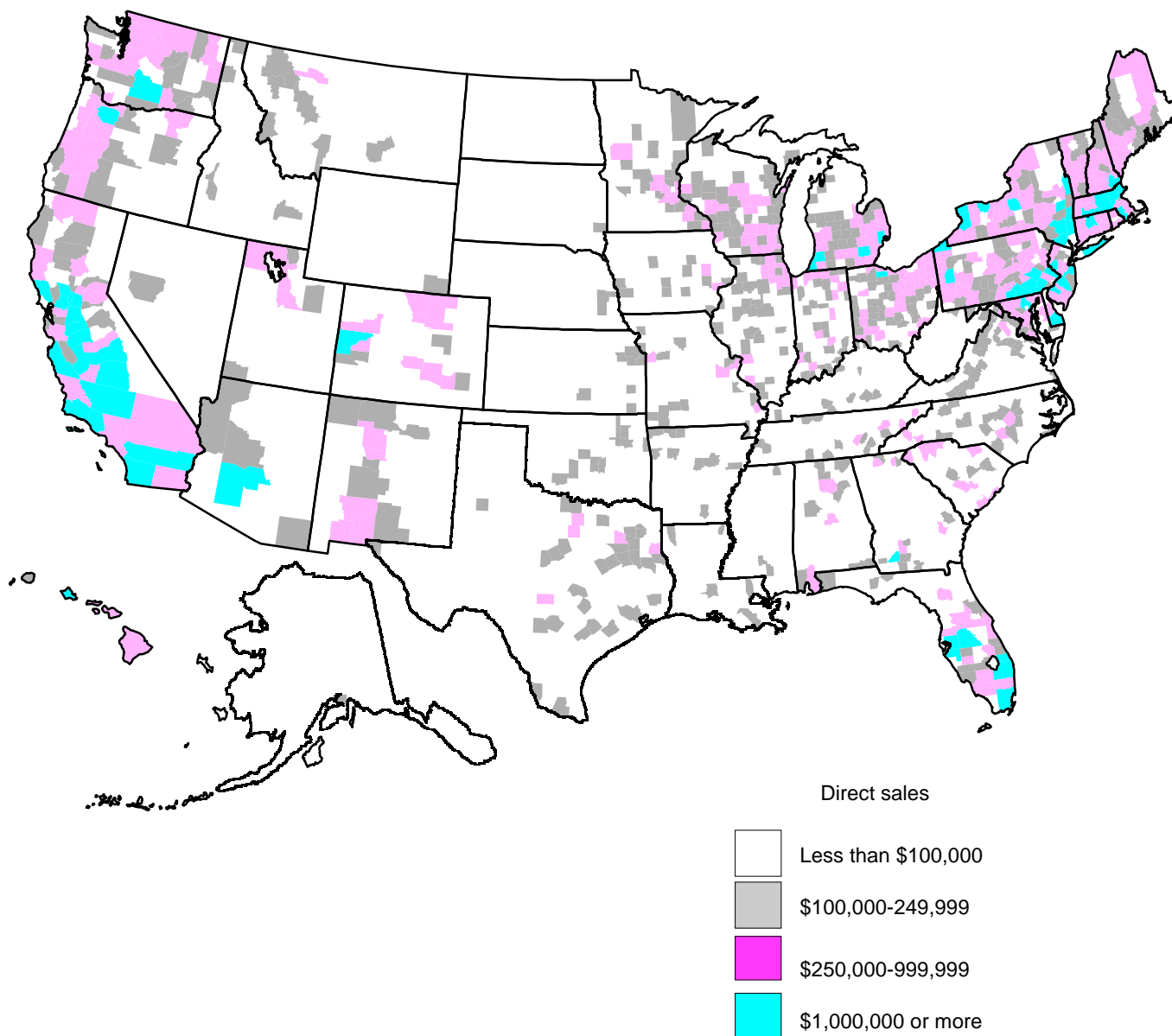
Direct sales are most common among farms whose primary products are vegetables and fruits, because these products often do not require further processing, are not highly perishable, and are best suited to pick-your-own operations. Forty percent of vegetable farms and 14 percent of fruit farms reported direct sales. These two farm types combined reported 58 percent of all direct sales. Fruit and vegetable farms reported direct sales averaging about \$9,500 and also had the highest share of sales through direct channels, 1.5 percent for vegetable farms and 1.3 percent for fruit farms (table 1).

Direct selling is often portrayed as a marketing strategy for small farms. Small farms are more likely to use direct selling—direct sales amounted to 2.1 percent of total sales for the under-\$10,000 sales class, compared with less than 1 percent for larger sales classes. But midsized and larger farms that sell directly do so in larger quantities, and consequently farms in those sales classes account for nearly half of direct sales. In 1992, 48 percent of direct sales were reported by farms with total sales of \$100,000 or more. Less than 3 percent of midsized and larger farms reported direct sales, but the average direct sales per reporting farm was over \$14,900 for farms with total sales of \$100,000 to \$499,999, and over \$54,600 for farms with total sales of \$500,000 or more. Among the smallest farms (those with less than \$10,000 in total sales), 5.6 percent reported direct sales of \$65 million, an average of only \$1,300 per reporting farm.

Figure 1

Direct sales from farms to consumers, 1992

Direct sales are concentrated in the Northeast, Great Lakes region, West Coast, and Florida



Source: 1992 Census of Agriculture.

For most farms, direct sales are very modest, but a small number sell substantial amounts through direct channels. Of the 86,400 farms reporting direct sales in 1992, 73 percent reported less than \$5,000. Of that number, over 43,000 reported less than \$1,000 in direct sales and another 30,000 reported \$1,000-\$4,999. On the other hand, nearly 13,000 reported direct sales of \$5,000 or more, including 1,260 with direct sales exceeding \$50,000. The over-\$50,000 group reported over \$172 million in direct sales, for an average of about \$136,500 per farm.

Most Sales Are In or Near Metro Areas

Reviewing total direct sales by county can indicate the economic impact of direct sales. For most counties, the economic impact is modest. About three-fourths of counties had less than \$100,000 in direct sales in 1992, while just under one-fourth had sales of \$100,000 to \$1 million. Only 63 counties had direct sales over \$1 million. For a handful of counties, though, direct sales are sizable. Lancaster County, PA, posted over \$4.6 million among over 550 farms reporting direct sales. Lancaster and

Table 1

Direct farm sales to consumers, by farm type, value of sales, and metro-nonmetro status, 1992*Fruit and vegetable farms, large farms, and those in metro areas account for a large share of direct sales*

	Direct sales	Share of all sales ¹	Farms reporting sales	Share of all farms ²	Direct sales per farm ³
	Million dollars	Percent	Thousand	Percent	Dollars
Farm type:					
Cash grains	15	<0.1	6.1	1.5	2,600
Field crops	14	<.1	5.3	2.1	2,600
Vegetables and melons	112	1.5	11.9	40.2	9,400
Fruits and tree nuts	123	1.3	12.9	14.5	9,500
Horticultural specialties	13	.6	2.0	5.2	6,500
General farms, primarily crops	20	.1	2.9	5.9	6,900
Livestock, except dairy, poultry, animal specialties	64	<.1	35.8	4.4	1,800
Dairy	25	.1	3.4	3.0	7,400
Poultry and eggs	9	.2	2.3	6.6	3,900
Animal specialties	6	.1	2.6	3.2	2,300
General farms, primarily livestock	3	<.1	1.1	4.3	2,700
Total farm sales:					
Less than \$10,000	65	2.1	50.7	5.6	1,300
\$10,000 - \$39,999	81	.9	18.4	4.5	4,400
\$40,000 - \$99,999	65	.4	8.0	3.2	8,100
\$100,000 - \$499,999	121	.2	8.1	2.8	14,900
\$500,000 or more	71	.1	1.3	2.7	54,600
Urbanization:					
Counties in metro areas—					
Metro areas of pop. 1 million or more	109	.7	16.9	8.2	6,450
Metro areas of pop. 250,000-999,999	101	.4	15.3	6.1	6,600
Metro areas of pop. under 250,000	37	.2	8.8	5.3	4,200
Nonmetro counties—					
Adjacent to metro area	97	.2	26.0	4.0	3,700
Not adjacent to metro area	59	.1	19.4	3.0	3,000
All farms	404	.2	86.4	4.5	4,700

¹Direct sales as a percentage of total farm sales.²Percent of farms reporting any direct sales.³Direct sales divided by the number of farms reporting direct sales.

Source: 1992 Census of Agriculture.

neighboring York County (ninth on the list with \$2.4 million) are part of "Pennsylvania Dutch Country," reflecting the unique character of the Amish community and the most notable success of agricultural tourism. California and Pennsylvania, with over \$35 million each, were the leading States in direct sales in 1992, followed by New York, Ohio, and Florida. Nearly all the leading counties are located in these States, with the addition of Massachusetts (table 2). These States grow more commodities suitable for direct sale than other States and offer easy access to urban consumers in large cities.

Census data indicate that direct selling is employed predominantly by farms in or near metro areas (see table 2 and fig. 2). Farms in metro areas accounted for over 61 percent of direct sales in 1992. (In contrast, these counties accounted for only 33 percent of all farm sales.) The

largest metro areas, those with a population of 1 million or more, accounted for \$109 million of direct sales, over one-fourth of the total, and metro areas with a population of 250,000-999,999 accounted for \$101 million. Small metro areas with a population under 250,000 accounted for \$37 million. Of the \$156 million of direct sales in nonmetro counties, \$97 million were in counties adjacent to metro areas. Of the top 20 counties ranked by value of direct sales, only 1 was a nonmetro county, while 5 were in metro areas with a population of 1 million or more and 14 were in metro areas with a population of 250,000-999,999 (table 2). Only 7 nonmetro counties had direct sales over \$1 million.

The percentage of farms with direct sales and the direct sales per reporting farm were also higher in more urbanized counties. In the largest metro areas, 8.2 percent of

Table 2

Top 20 counties in direct sales from farms to consumers*All but 1 of the top 20 counties are in metro areas*

County	State	Direct sales	Direct sales farms	Share of farm sales ¹	Share of farms ²	1990 county population	Type of county ³
		1,000 dollars	Number	Percent	Percent	1,000	
Lancaster	PA	4,656	554	0.7	12.3	423	Mmetro
Worcester	MA	4,072	208	8.2	20.9	710	Mmetro
Washtenaw	MI	3,148	91	6.0	.6	283	Lmetro
Palm Beach	FL	3,004	39	.3	4.2	864	Mmetro
Suffolk	NY	2,763	93	2.1	15.8	1,322	Lmetro
Dutchess	NY	2,753	82	8.3	14.8	259	Mmetro
Sonoma	CA	2,593	268	.9	9.8	388	Lmetro
Ulster	NY	2,462	70	4.8	16.2	165	Nonmetro
York	PA	2,424	241	2.0	14.2	340	Mmetro
Riverside	CA	2,345	294	.3	8.4	1,170	Lmetro
Ventura	CA	2,299	118	.3	5.4	669	Lmetro
Bristol	MA	2,262	107	7.6	20.5	506	Mmetro
Berks	PA	2,216	168	.9	10.8	337	Mmetro
Orange	NY	2,161	74	2.9	11.5	308	Mmetro
Stanislaus	CA	2,131	205	.2	47	371	Mmetro
Middlesex	MA	2,122	130	1.7	24.3	1,398	Lmetro
Maricopa	AZ	2,058	148	.4	8.0	2,122	Lmetro
San Diego	CA	2,021	462	.4	7.0	2,498	Lmetro
Hillsborough	FL	2,011	163	.8	5.9	834	Lmetro
Erie	PA	2,001	141	3.1	12.1	276	Mmetro

¹Direct sales as a percentage of all farm sales in the county.²Farms reporting direct sales as a percentage of all farms in the county.³Counties classified as follows: Lmetro-metro area of population 1 million or more; MMetro-metro area of population 250,000-999,999.

Source: 1992 Census of Agriculture.

farms reported direct sales averaging \$6,450 per farm. In nonmetro counties not adjacent to a metro area, 3 percent of farms reported direct sales averaging \$3,000 per farm.

The counties with the largest direct sales are in metro areas. Although those counties also include small communities that have a rural character, the data indicate that direct selling tends to benefit farms and communities within a short drive of major population centers. Ulster, NY, is the only nonmetro county among the top 20 in direct sales, and it is on the fringe of the New York City metro area. Also in the top 20 are Dutchess, Orange, and Suffolk Counties on the fringe of the New York metro area. Riverside, Ventura, and San Diego Counties are close to population centers in southern California. Lancaster and York Counties have cities of only modest size and have a largely rural character, but they are within a short drive of Philadelphia and other population centers along the east coast.

Conclusion

Although complete data are not available to make an adequate quantitative assessment of direct marketing, 1992 Census of Agriculture data indicate that only a small

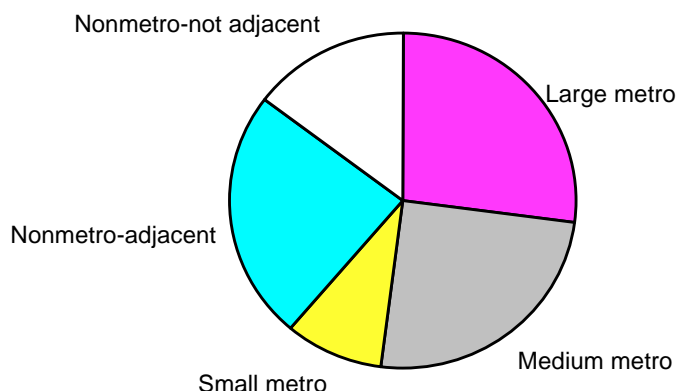
minority of farms generate significant income from direct selling. For most, direct sales are a small sideline business. The social aspects of direct selling appear to be as important as the economic benefits, if not more so.

It appears that direct marketing also mostly benefits farms in or near urban areas, where the bulk of direct sales occur. This outcome is largely dictated by the type of commodities that can be sold directly and the cost of either transporting products to consumers or of transporting consumers to the farm. To benefit from direct marketing, communities in more remote locations will need to make a concentrated effort to draw urban consumers to take advantage of the growing interest in travel, tourism, and ecological/environmental issues. Local producers might be organized to offer multiple farm outlets or a local farmers' market based on a common theme related to a distinct local product or lifestyle. Some producers have taken advantage of the growth of mail-order marketing and the growing demand for upscale, distinctive products to market fruits, nuts, jams, jellies, and similar items directly to consumers. Mail order can overcome the distance problem for farms far from the consumer.

Figure 2

Direct farm sales by degree of urbanization

Most direct sales are in metro areas or counties adjacent to a metro area



Note on county types:

Large metro: in a metro area of population 1 million or more

Medium metro: in a metro area of population 250,000-999,999

Small metro: in a metro area of population under 250,000

Nonmetro-adjacent: adjacent to a metro area

Nonmetro-not adjacent: not adjacent to a metro area

Source: 1992 Census of Agriculture.

The diverse mix of direct marketing methods used by U.S. farms, however, reveals the degree of innovation and creativity that characterizes farm entrepreneurs in the United States. By encouraging a climate of entrepreneurship and risk-taking and by bringing income and outside visitors to rural communities, direct marketing makes a significant contribution to rural development, especially in rural areas near urban centers. Direct marketing may also contribute to rural development by supporting diversity in the farm sector, offering an alternative source of income for small farms, organic farms, and other alternative farms that in turn support rural businesses.

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Russell Tronstad and Julie Leones, *Direct Farm Marketing and Tourism Handbook*, Tuscon: Arizona Cooperative Extension, 1995. Available on-line in Adobe Acrobat format at <http://ag.arizona.edu/AREC/dmkt/tabcontents>.

Drew Weaver, "More Turkey Buyers Going to State Farms," *Washington Times*, Nov. 24, 1994, p. C7.

An additional source of information on direct marketing is 'direct-mkt,' an on-line discussion forum concerned with direct farm marketing. To subscribe to direct-mkt, send an e-mail to majordomo@reeusda.gov with the following message: subscribe direct-mkt <your e-mail address>

Why U.S. Agriculture and Rural Areas Have a Stake in Small Farms

Despite a two-thirds decline in the number of farms since 1945, small farms remain important contributors to rural communities and U.S. agriculture. They constitute 60 percent of all farms, own 29 percent of farmland held by farmers, and hold 39 percent of the farm sector's net worth. Small farmers often concentrate on alternative crops and niche markets, pioneering new areas for U.S. agriculture. They also contribute significantly to the rural economy as purchasers of inputs and supplies, preservers of the rural landscape, and sources of off-farm workers in local economies.

Small farms are still important to U.S. agriculture and rural communities even though the overall number of farms has been in long-term decline. Defined here as farms with sales of less than \$20,000 per year (see glossary, p. 27), small farms make up about 60 percent of all farms, 1,138,584 according to the 1992 Census of Agriculture (fig. 1). They also remain vital to rural communities even though farm families, on average, now make up less than 10 percent of the population of rural counties. Examining the contributions of small farms helps in understanding why both agriculture and rural communities have a stake in their viability and sustainability. Recent debates on small farm policy and conferences such as the First National Small Farm Conference (in Nashville, TN, September 1996) have underscored the continuing importance of small farms.

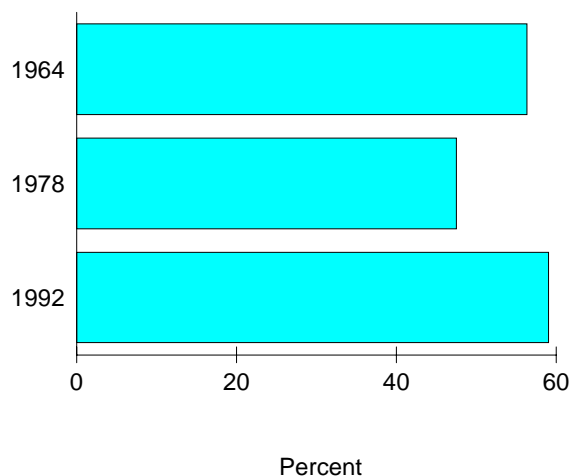
All segments of the American population are found on small farms. Although racial minorities accounted for only 3 percent of small farm operators in 1992, most minority farmers operated small farms. According to the 1992 Census of Agriculture, 86 percent of Black farmers produced less than \$20,000 in sales per year, as did 75 percent of Native Americans, 70 percent of Hispanics, 52 percent of Asian-Americans or Pacific Islanders, and 75 percent of other races (fig. 2). Seventy-seven percent of

women farm operators operated small farms in 1992. Small operators also include a disproportionate share of retirees.

Figure 1

Small farms as share of all U.S. farms, 1964-92

Small farms have remained near or over 50 percent of all farms for several decades



Note: To adjust for inflation, farms counted as small in 1964 had sales under \$5,000, in 1978 under \$10,000, and in 1992 under \$20,000.
Source: 1992 Census of Agriculture.

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Glossary

Federal agencies, including the U.S. Department of Agriculture (USDA), the Bureau of the Census, and the Bureau of Economic Analysis (BEA), define a *farm* as any establishment that produces and sells (or normally would have sold) at least \$1,000 worth of agricultural commodities within a given calendar year.

The definition of a small farm adopted here is consistent with the Food and Agricultural Act of 1977, which defines a small farm as any establishment with annual gross agricultural sales of less than \$20,000.

Alternative agricultural enterprises are considered to be new or seldom-grown agricultural products usually aimed at niche markets.

Community-supported agriculture is a marketing approach whereby the farmer sells shares in the future crop of the farm to local consumers, providing the small farmer with a prepaid market, market stability, and cash-flow.

A *cooperative* is a user-owned business that may fill a variety of needs for its member-users, including processing and marketing their products, purchasing their production supplies or consumer goods, providing credit, or building and operating utilities to serve rural areas.

Debt/asset ratio is a solvency measure used to indicate the relative dependence of the farm business or firm on debt, and the ability of the business to obtain additional credit.

Empowerment Zones and *Enterprise Communities* were established under the Revenue Reconciliation Act (RRA) of 1993 in an effort to revive the economies of some of the Nation's most economically depressed areas. Under the RRA, an individual can claim a tax credit for a qualifying contribution to a designated *community development corporation (CDC)*. Tax credits for contributions to designated CDC's should increase the funds available to such organizations to promote employment and business opportunities.

Purchase development rights (PDR) programs buy limited rights (called easements) to prevent farmland and similar lands from converting to other uses, especially residential or commercial development. Easements measure the public's valuation of preserved farmland and compensate farm landowners for the lost development value of their farmland.

Sustainable agriculture as defined in the Food, Agriculture, Conservation, and Trade Act of 1990, is an integrated system of plant and animal production practices having site-specific application that will, over the long term, satisfy human food and fiber needs; enhance environmental quality and the natural resource base upon which the agricultural economy depends; make the most efficient use of nonrenewable resources and onfarm resources; integrate, where appropriate, natural biological cycles and controls; sustain the economic viability of farm operations; and enhance the quality of life for farmers and the society as a whole.

Small Farms Contribute to Local Economies

Although they make up only 4 percent of all U.S. agricultural sales, small farms account for a significant proportion of the production value of several commodities. About 20 percent of hay and tobacco, for example, were produced on farms with total sales under \$20,000 in 1994. Over 11 percent of cattle and calves and sheep, lambs, and wool were sold from small farms (fig. 3). The marketing activities of small farmers help generate jobs in local economies.

Small farm operators invest in farm machinery and other capital inputs, adding directly to the economies of local and neighboring communities. Small farms purchased 11 percent of noncapital inputs in 1994 within the farm sector and 22 percent of capital inputs. Other rural businesses are also affected by the patronage of small farm families.

Finally, small farmers are significant as owners of wealth and as taxpayers. Despite low sales, small farms held 39 percent of farm assets (fig. 4) and only 18 percent of farm debt in 1994. In general, small farms incur little farm debt. Seventy-five percent of small farms had a low debt/asset ratio in 1992 (no more than 10 percent), compared with 48 percent of other farms. In addition, small farm operations pay 24 percent of the real estate and property taxes within the farm sector, adding to local government revenues.

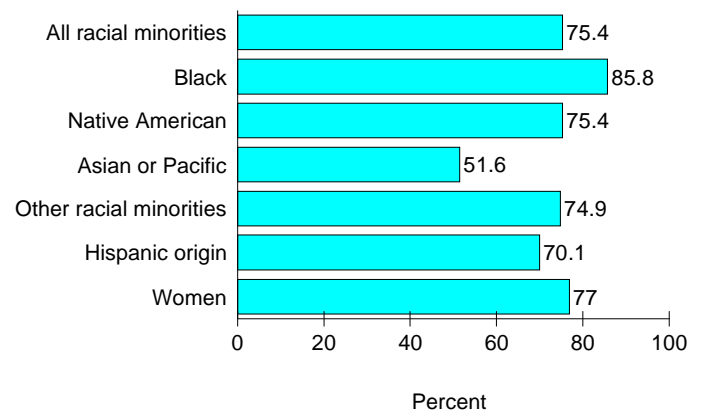
Small Farms Own a Significant Portion of the Farm Sector's Land Base

Farms with sales under \$20,000 own 29 percent of U.S. agricultural land held by farmers even though they have

Figure 2

Share of minority and female farm operators who run small farms

Most minority or female operators run small farms

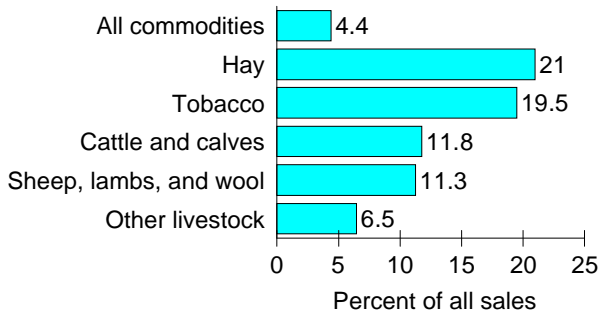


Source: 1994 Farm Costs and Returns Survey.

Figure 3

Share of U.S. value of production from small farms for selected commodities

Small farms account for 4 percent of value of production, but larger proportions of specific commodities



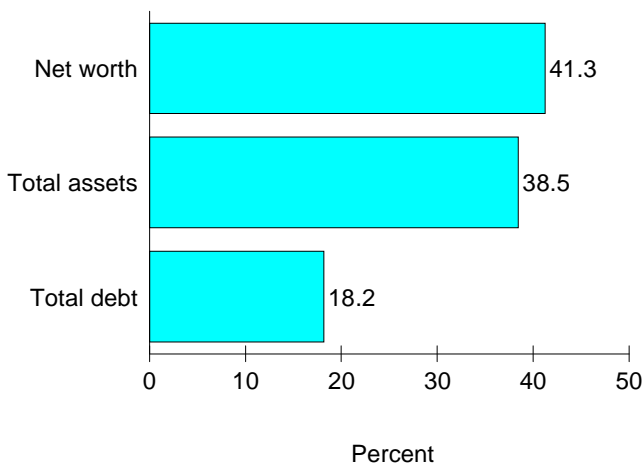
Note: Other livestock consists of horses and ponies; mules, burros, and donkeys; bees and honey; goats, mohair, and goat milk; mink and pelts; rabbits and pelts; and fish and aquaculture products. The coefficient variations for sheep, lambs, and wool, and other livestock are between 25 and 50.

Source: 1994 Farm Costs and Returns Survey.

Figure 4

Small farms' share of the U.S. agricultural sector's assets, debt, and net worth

Small farms account for a large share of farming's net worth



Source: 1994 Farm Costs and Returns Survey.

less land per operation (134 acres on average) than the average for all U.S. farms (448 acres).

The large proportion of land owned by small farmers makes them important participants in the preservation of the U.S. agricultural sector's land base. In addition to their own farming operations, small farmers frequently

provide land for larger enterprises. Small farmers rent out 39 percent of all land rented in the United States by farmers from other farmers. Operators of larger farms often find that renting or leasing allows them to use resources without tying up their own capital.

Like other farmers, owners of small farms are faced with the problem of protecting the ecosystems on which their farms depend while preserving the quality of community and life. Small farms participate in the Conservation Reserve Program (CRP) at the same rate as larger farms (13 percent). Forty-one percent of all CRP acreage is from small farms. In an effort to provide long-term protection to environmentally sensitive lands, the 1996 farm legislation established the Environmental Conservation Acreage Reserve Program (ECARP), whereby existing acreage can be renewed under CRP and new acreage can be enrolled.

Small Farms Seek Alternative Agricultural Enterprises

Operators of small farms often pursue alternative agricultural enterprises to gain a competitive edge in domestic and foreign markets. Small-scale farmers use such resources as farmer cooperatives, community-supported agriculture, and farmers' markets to gain access to niche and specialty markets. (See the article by Fred Gale in this issue.)

Small farmers often recognize the need for innovation in marketing that will allow them not only to survive but to thrive in the global marketplace. State and farmers' commodity associations aid small-scale operations in looking for new crops, new methods of production, and new products to provide a competitive edge for the small-scale farming operation. Collaborative small farm programs help small-scale enterprises identify niche markets. Products suitable for these markets may be nontraditional specialty crops or livestock, a traditional crop harvested out of season, or crops enhanced through processing or marketed with special packaging (see "USDA and State Programs Offering Assistance to Small Farmers and Rural Communities," p. 29).

One nontraditional crop being tried by small farmers is shiitake mushrooms grown on scrap pieces of hard wood and sold for medicinal purposes and their superior taste. Small farmers in California, North Carolina, and Bullock County, Alabama, are growing this crop for export as well as domestic consumption. The Kerr Center for Sustainable Agriculture in Oklahoma teaches small farmers to add value to this product by marketing shiitake mushroom gravy for sale in airport gift shops. In moving toward a more market-oriented agricultural economy, the 1996 farm legislation authorized \$10 million annually for the next 7 years for projects that help private farms or cooperatives to develop alternative products.

USDA and State Programs Offering Assistance to Small Farmers and Rural Communities

Alternative Farming Systems Information Center (AFSIC), operated by the National Agricultural Library (NAL), provides information about sustainable and alternative agricultural systems, new and industrial crops, and alternative crops. Popular topics of inquiry include community supported agriculture, organic farming, exotic livestock production, whole-farm sustainable systems, and industrial fiber crops.

USDA's *Sustainable Agriculture Research and Education* (SARE) supports AFSIC's *Sustainable Agriculture Network* (SAN) and is a cooperative effort of university, government, farm, business, and nonprofit organizations dedicated to the exchange of scientific and practical information on sustainable agriculture.

The *Rural Business-Cooperative Service* (RBS) was established under USDA's former Rural Economic and Community Development (RECD) mission, renamed the Rural Development Mission under the 1996 farm legislation. The mission of RBS is to enhance the quality of life for all rural Americans by providing leadership in building competitive businesses and cooperatives that can prosper in the global marketplace. Major RBS programs include Business and Industrial Guaranteed Loans, Rural Business Enterprise Grants, Economic Development Loans and Grants, and Local Technical Assistance and Planning Grants.

RBS seeks to empower rural residents to pursue economic development opportunities through networking, leveraging loan and grant funds, and through access to the "Information Superhighway." RBS also works closely with the *Alternative Agricultural Research and Commercialization* (AARC) Corporation, an arrangement that encourages research and assists with the commercialization of new nonfood uses of agricultural commodities. AARC's goal is to create jobs, enhance economic development of rural communities, and diversify markets for raw agricultural/forestry products and animal byproducts.

The *Cooperative Extension System*, in partnership with USDA's *Cooperative State Research, Education, and Extension Service* (CSREES), delivers programs and services to the small-scale farmer and rancher at the local level. *Land Grant Colleges and Universities* (both 1862 and 1890 schools) have extension programs that offer a wide range of services and benefits to small farms and many of the Land Grant Colleges have specific small farm programs.

The *Office for Small-Scale Agriculture* (OSSA) within CSREES provides national leadership to respond to the needs of the small-scale farmer and coordinates activities to enhance the national status of small-scale farmers. Ongoing initiatives focus on enterprises with potential for the small-scale agricultural entrepreneur. For example, the University of California-Davis operates a small farm program that concentrates on alternative marketing, specialty production and enterprises, getting started in farming, and the needs of small-scale, under-represented farm groups. Washington State-Pullman faculty works with owners of small farms, who are growing as urbanization creates smaller parcels of land. Florida State University's Low Input Sustainable Agricultural Program for Small Farmers in north Florida designs, tests, and evaluates low-input technologies for crop/livestock systems and compares their economic benefits with traditional systems. The University of Nebraska has launched new outreach efforts to small farmers that make use of electronic media, including World Wide Web sites, to direct farmers to appropriate information sources. North Carolina State University's "Ways to Grow" program reaches farmers through training (Small Farm Institute), applied research (farm demonstrations), and networking (collaboration of government and nongovernment organizations). The program focuses on introducing small-scale farmers to specialty products like greenhouse tomatoes, basil, shiitake mushrooms, catfish, botanicals, ornamental landscape plants, timber, sawdust, and compost.

The Large Number of Small Farms Helps Preserve the Rural Landscape

The Nation's rural landscapes are blanketed by small farms. Major concentrations are in the South and on the east coast (fig. 5). Small farms constitute over 50 percent of all farms in 39 States and at least 30 percent of all farms in every State. In States such as Alabama, Florida, Hawaii, and Tennessee, small farms account for over three-fourths of total farms. The greatest share of small farm enterprises is in West Virginia (88 percent). This high density of small farms perpetuates the traditional quality of rural landscapes.

In the Northeast, where historic associations are an especially important element in tourism, farmland preservation is integral to the cultural heritage and its marketabili-

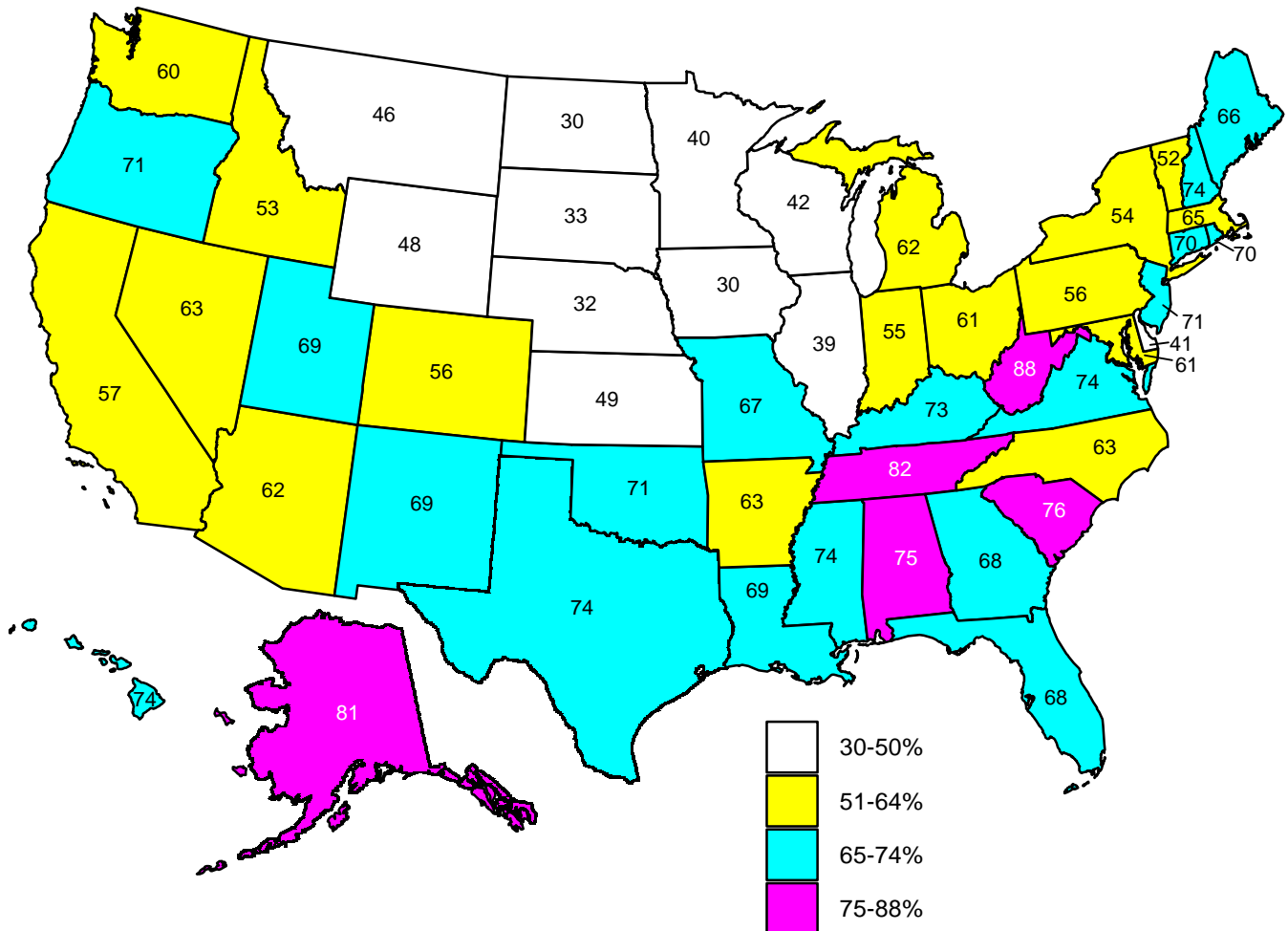
ty. Rural and small farm communities are developing tourism as an important sector within their economies.

Governments are increasingly ensuring the protection of agricultural lands by slowing conversion to urban uses. Legislation at the Federal, State, and local levels has been enacted favoring the preservation of open areas, including farmland. The Federal Agriculture Improvement and Reform Act of 1996 established a \$35 million fund through the new Farmland Protection Program authorizing the Secretary of Agriculture to purchase voluntary easements with emphasis on conserving natural resources and preserving wildlife habitation.

Figure 5

Small farms as a share of all farms, 1992

Small farms account for over 50 percent of farms in 39 States



Source: Calculated by ERS using data from the 1992 Census of Agriculture.

Small Farm Well-Being Closely Tied to Off-Farm Job Market

Most operators of small farms (75 percent) reported a nonfarm principal occupation as contributing significantly to their household income. Farm operator household income is the sum of income from farm and nonfarm sources. Small farm households averaged \$42,686 in income from nonfarm sources in 1994, compared with a U.S. farm household average of \$38,093 (fig. 6). Because most small farms had negative farm income, they averaged just \$38,281 in total household income in 1994, or 89 percent of that for all U.S. households. But this was still larger than the \$33,571 average for all nonmetro U.S. households.

The importance of off-farm income to the financial well-being of small-farm households illustrates the link between the farm and nonfarm sectors of the economy.

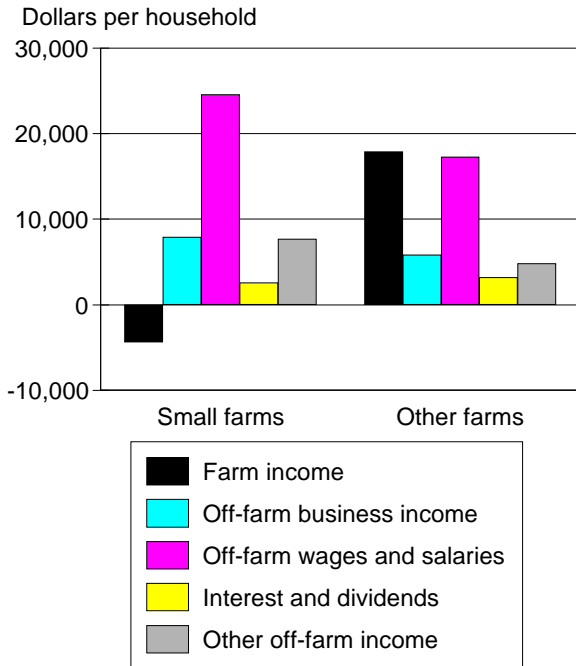
The more diversified mix of jobs now available in rural areas has smoothed out the effects of wide fluctuations in farm income which once affected many rural communities. Where many small farmers once endured poverty because their farm resources were too small to produce adequate incomes, greater opportunity for off-farm jobs in rural areas has helped raise the household incomes of farm families. Furthermore, because so many small-farm operators are also employed off the farm, policies that support rural economic and community development through such means as Community Development Corporations, Empowerment Zones, and Enterprise Communities may also assist in maintaining the economic viability of small farms.

Off-farm employment has, in turn, affected the operations of small farms. Farm investment decisions, choice of enterprise, input use, and production practice are all

Figure 6

Components of farm operator household income

Small farm households depend on off-farm income



Note: Total farm operator household income equals the sum of income from farm and nonfarm sources.

Source: 1994 Farm Costs and Returns Survey.

influenced by off-farm employment and the resulting income. Many small farmers have found it profitable to specialize in products like beef cattle, tobacco, and hay, which do not conflict with off-farm employment. For many small operators, farming has become a means of attaining economic diversification, asset security, and retirement income.

Conclusion

Trends suggest that small farms will persist in their production of specialty crops, while small farmers contribute to local economies by buying consumer and capital goods, using service industries and financial institutions, and paying taxes.

As increasing global competition affects international trade, small farms will likely find niche markets increasingly attractive. With urban encroachment and large-scale specialization, small farms must remain innovative to survive. Small-scale operations will more than likely hold a distinct advantage in specialty crop production.

The large number of small farms suggests that they will continue to preserve natural resources and the environment by rebuffering or slowing residential and commercial development. Environmental stewardship at the small-farm level increases the vitality of U.S. agricultural systems.

Small farms' involvement in production and grazing practices that are environmentally sensitive, including preservation of natural habitats, strengthens the agricultural sector's land base and the viability of U.S. agricultural systems and communities.

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Data Sources

Farm and operator characteristics and financial data for farms with sales less \$20,000 and their related households are from the 1994 Farm Costs and Returns Survey (FCRS).

Farm numbers and minority operator characteristics data are from the 1992 Census of Agriculture.

Linda M. Ghelfi and Timothy S. Parker

A County-Level Measure of Urban Influence

An area's geographic context has a significant effect on its development. Broad sets of economic opportunities accrue to a place by virtue of both its size and its access to larger economies. And, access to larger economies—centers of information, communication, trade, and finance—provides the conduit through which the smaller economy connects to national and international marketplaces. These relationships among economies are basic concepts of central place theory commonly studied in regional economics (Lösch, Nourse). Population size, urbanization, or access to larger communities are often central in much research that is dependent upon county-level data sets. For purposes of enhancing research on the geographic differences in economic opportunities, we developed a set of county-level urban influence categories.

The Urban Influence Codes

The urban influence codes divide counties, county equivalents, and independent cities in the United States into nine groups. For simplicity, the term “county” is used to refer to all 3,141 counties, parishes, boroughs, census-defined areas, independent cities, and Yellowstone National Park reported in the 1990 Census of Population and Housing data files. Metro counties are divided into two groups by the size of the metro area—those in “large” areas with at least 1 million residents and those in “small” areas with fewer than 1 million residents. Nonmetro counties are divided into groups by their adjacency to metro areas—adjacent to a large metro area, adjacent to a small metro area, and not adjacent to any metro area. Nonmetro counties adjacent to either size metro area are further classified by the size of their “city”—those containing all or part of a city of 10,000 or more residents and those containing

no part of a city that large. Nonmetro counties not adjacent to a metro area are further divided by the size of the largest place they contain—all or part of a “city” of 10,000 or more residents, all or part of a “town” of 2,500 to 9,999 residents, and “totally rural,” containing no part of a town with at least 2,500 residents. The widely used ERS rural-urban continuum codes group counties by an aggregate measure of urban population, not largest city size, and do not identify which size of metro area adjacent counties abut (see “How Our Codes Compare with the Rural-Urban Continuum Codes,” p. 40, for more details).

There are 836 metro counties; 311 are part of large metro areas, and 525 are part of small metro areas. There are 2,305 nonmetro counties. Of the 183 nonmetro counties that are adjacent to large metro areas, 63 have their own city. Another 815 nonmetro counties are adjacent to small metro areas, 188 of which have their own city. Among the 1,304 nonmetro counties that are not adjacent to a metro area, 234 have their own city, 555 have a town, and 515 are totally rural. The maps show that not all the metro areas are completely surrounded by adjacent counties (figs. 1 and 2). Some of the counties abutting metro areas do not meet the 2-percent commuting requirement to be considered “adjacent.” Other nonmetro counties have more commuting to a nearby metro area of the other size, so they are classified as adjacent to that other area. (For more details, see “Classification Methods,” p. 34.)

Some of the urban influence groups are concentrated in particular Census Divisions. Most concentrated are the totally rural nonadjacent counties—41 percent of them are in the West North Central division (fig. 3 and table 1). Researchers using the urban influence codes should be conscious of this concentration and the lower, but still significant, concentrations of other urban influence categories in several of the Census Divisions.

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Figure 1

Large metro areas and their adjacent nonmetro counties

Large metro areas influence many nonmetro counties

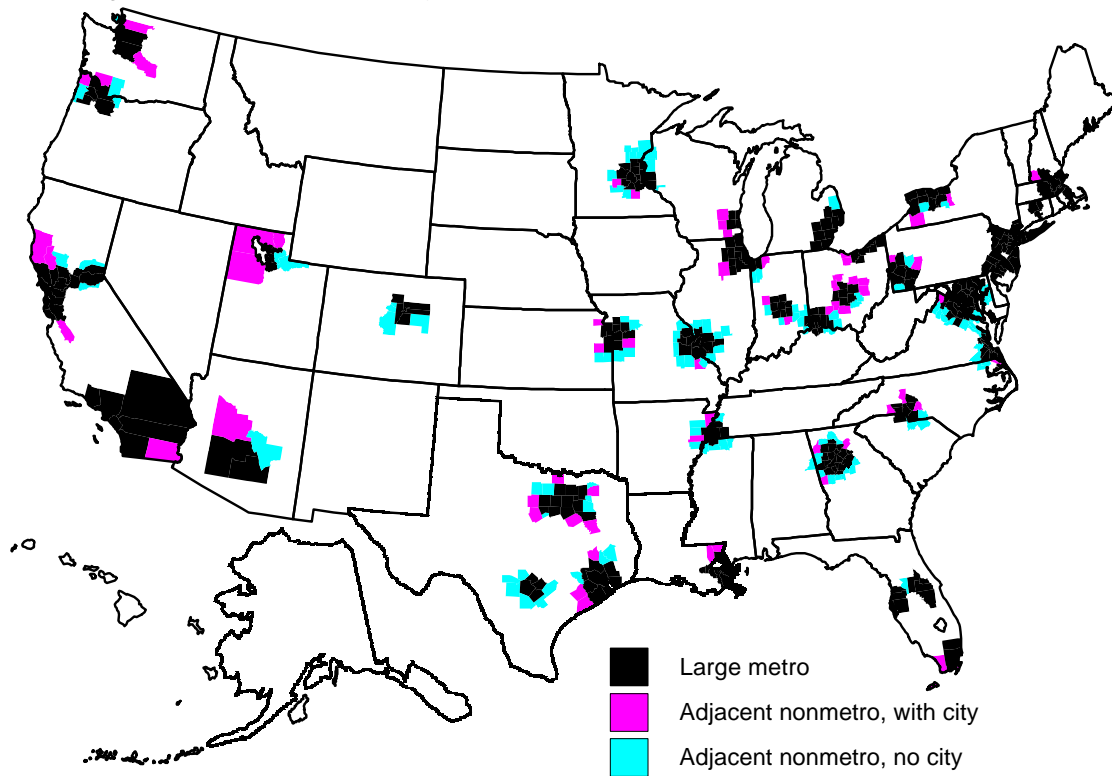
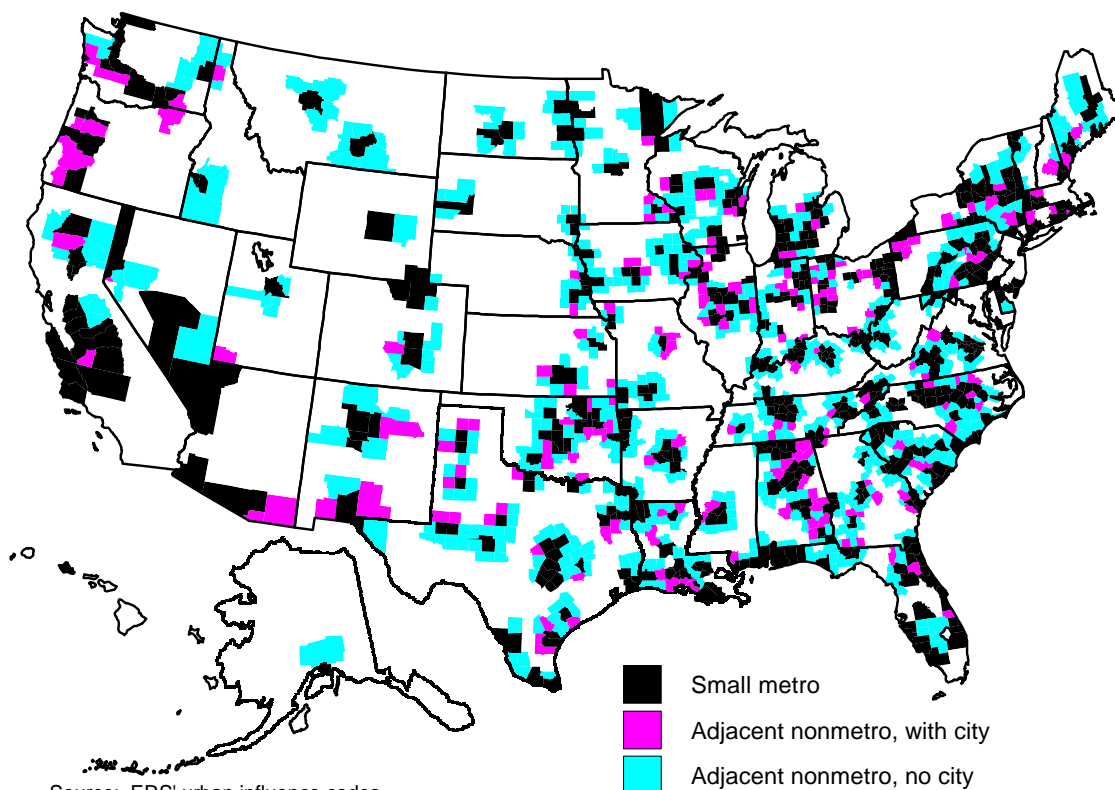


Figure 2

Small metro areas and their adjacent nonmetro counties

The more numerous small metro areas influence a much larger group of nonmetro counties



Source: ERS' urban influence codes.

Classification Methods

These codes group metro and nonmetro counties according to the official metro status announced by the Office of Management and Budget in June 1993, based on population and commuting data from the 1990 Census of Population.

A Metropolitan Statistical Area (MSA) is a county or group of counties containing at least one city of 50,000 or more residents or containing a Census Bureau-defined urbanized area of at least 50,000 residents with a total metro area population of at least 100,000. In addition to the county or counties containing the main city or urbanized area, an MSA may include other counties having strong ties to the central city. For a more thorough definition of metropolitan, see U.S. Department of Commerce, Bureau of the Census, *State and Metropolitan Area Data Book*, 1991.

Nonmetro counties lie outside metro areas. They are defined as adjacent if they physically abut a metro area and have at least 2 percent of employed persons commuting to work in core county(ies) of the metro area. When a nonmetro county met the criterion of adjacency to more than one metro area, it was designated as adjacent to the metro area to which the largest percentage of its workers commuted.

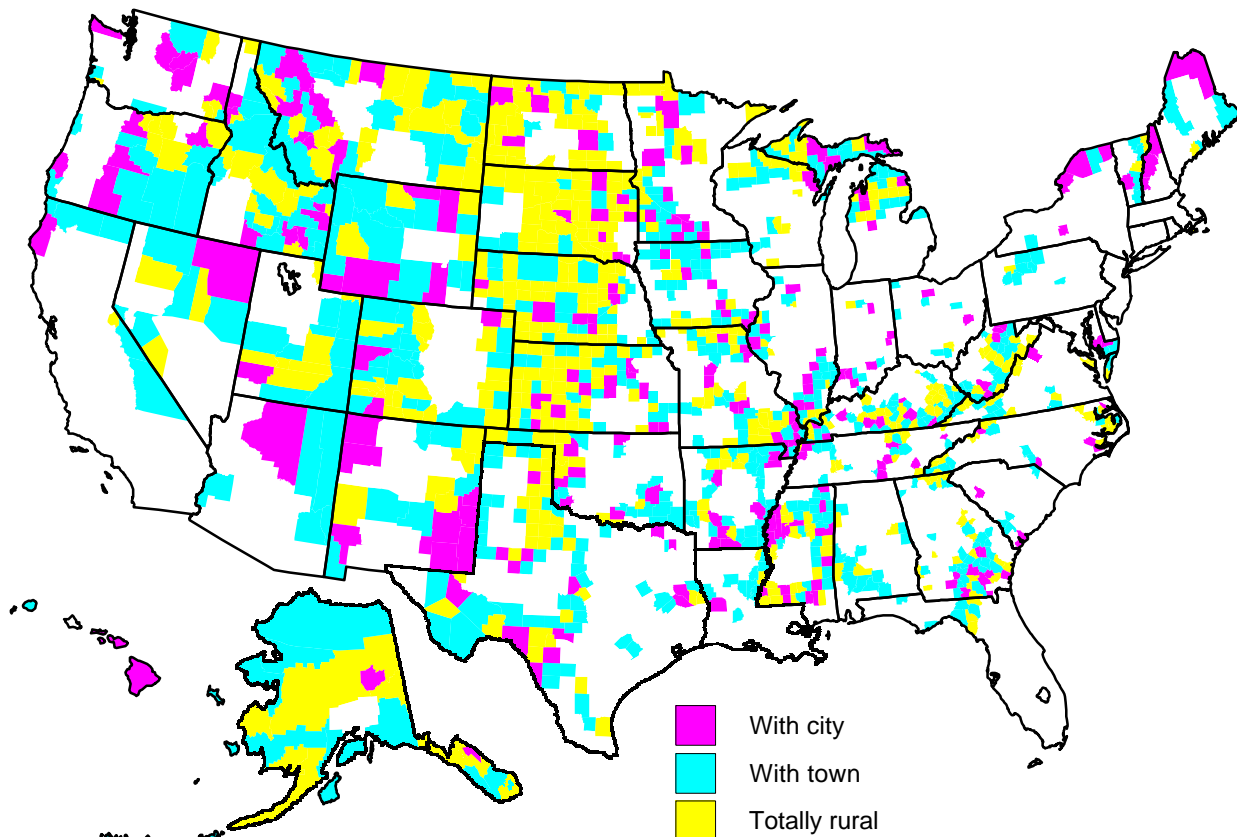
The cut point for nonmetro city size is set at 10,000 residents. In creating an earlier, 1980, version of the urban influence codes, we tested higher cut points of 15,000 or more and of 20,000 or more residents, but too few nonmetro cities were that large. In a special Census issue of *Rural Conditions and Trends* (Ghelfi, ed.), a wide set of social and economic characteristics were analyzed using the older codes.

Census Defined Places are considered to be cities or towns in this classification. Virginia's independent cities are considered in determining the largest city or town in the counties which the independent cities border, Hawaii's Kalawao County is considered to have the size of place that island-sharing Maui County, HI, has, and Montana's Yellowstone National Park is considered to have the size of place that adjoining Park County has.

Figure 3

Nonadjacent nonmetro counties by city size

Totally rural nonadjacent counties are concentrated in the West North Central States



Source: ERS' urban influence codes.

Table 1

Counties by Urban Influence and Census Division*Nonadjacent rural counties are concentrated in the West North Central division*

	Census Division ¹									U.S. total
	NE	MA	ENC	WNC	SA	ESC	WSC	M	P	
	Number									
All counties	67	150	437	618	591	364	470	281	163	3,141
Metro:										
Large	10	47	59	29	83	10	33	11	29	311
Small	20	45	90	43	136	66	74	23	28	525
Nonmetro:										
Adjacent to large metro—										
With city	1	4	17	6	10	0	13	4	8	63
No city	0	4	25	18	35	9	18	7	7	123
Adjacent to small metro—										
With city	8	11	39	20	28	26	37	9	10	188
No city	11	25	84	100	144	91	121	36	15	627
Nonadjacent—										
With city	5	4	27	62	24	33	30	33	16	234
With town	8	9	60	131	70	68	94	86	29	555
Totally rural	4	1	36	209	61	61	50	72	21	515
	Percentage of counties in Census Division ²									
All counties	2.1	4.8	13.9	19.7	18.8	11.6	15.0	8.9	5.2	100.0
Metro:										
Large	3.2	15.1	19.0	9.3	26.7	3.2	10.6	3.5	9.3	100.0
Small	3.8	8.6	17.1	8.2	25.9	12.6	14.1	4.4	5.3	100.0
Nonmetro:										
Adjacent to large metro—										
With city	1.6	6.3	27.0	9.5	15.9	0	20.6	6.3	12.7	100.0
No city	0	3.3	20.3	14.6	28.5	7.3	14.6	5.7	5.7	100.0
Adjacent to small metro—										
With city	4.3	5.9	20.7	10.6	14.9	13.8	19.7	4.8	5.3	100.0
No city	1.8	4.0	13.4	15.9	23.0	14.5	19.3	5.7	2.4	100.0
Nonadjacent—										
With city	2.1	1.7	11.5	26.5	10.3	14.1	12.8	14.1	6.8	100.0
With town	1.4	1.6	10.8	23.6	12.6	12.3	16.9	15.5	5.2	100.0
Totally rural	.8	.2	7.0	40.6	11.8	11.8	9.7	14.0	4.1	100.0

¹NE=New England, including Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.

MA=Middle Atlantic, including New Jersey, New York, and Pennsylvania.

ENC=East North Central, including Illinois, Indiana, Michigan, Ohio, and Wisconsin.

WNC=West North Central, including Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota.

SA=South Atlantic, including Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia.

ESC=East South Central, including Alabama, Kentucky, Mississippi, and Tennessee.

WSC=West South Central, including Arkansas, Louisiana, Oklahoma, and Texas.

M=Mountain, including Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming.

P=Pacific, including Alaska, California, Hawaii, Oregon, and Washington.

²Bold numbers in this panel denote that the share of counties in the urban influence group is as high or higher than the share of all counties in the Census Division.

Source: ERS' urban influence codes.

Urban Influence Groups Differ Along Many Social and Economic Dimensions

Several social and economic characteristics of counties show interesting differences among the urban influence groups and changes in their growth patterns between the 1980's and the early 1990's. In general, urbanization and

adjacency are positively related to growth and access to opportunities.

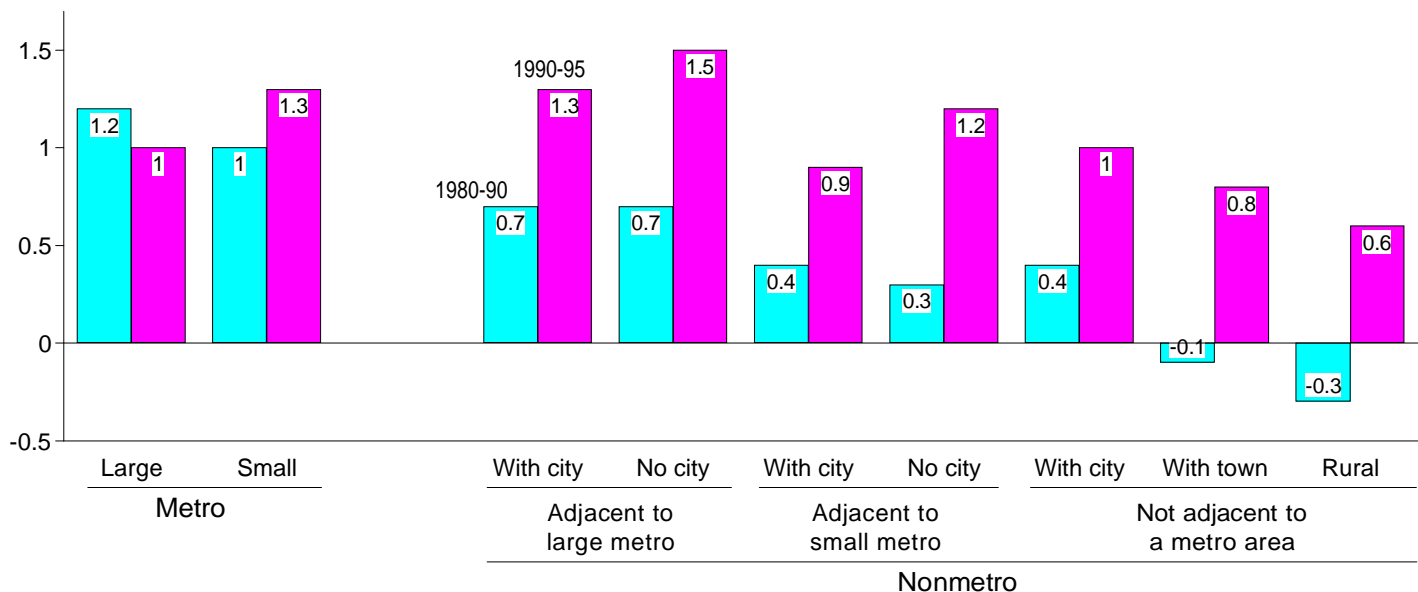
Population growth favored metro areas during the 1980's (fig. 4). Nonmetro counties adjacent to the large metro areas were the fastest growing nonmetro groups, whether

Figure 4

Population change, 1980-95

Urbanization and adjacency meant faster population growth during the 1980's; less urban counties have fared much better so far in the 1990's

Average annual percent change



Source: Calculated by ERS using data from the Bureau of the Census.

or not they had their own cities. Those nonmetro counties adjacent to the smaller metro areas did not receive the same kind of boost from their location. While the small metro areas grew almost as fast as the large metro areas, the nonmetro counties adjacent to the small metro areas grew less than half as fast as the small metro areas did.

At the nonadjacent end of the nonmetro spectrum, counties with their own cities experienced moderate population growth during the 1980's, as fast as that experienced by the counties with cities that are adjacent to small metro areas. Those counties with towns averaged slight annual losses of population, and the totally rural counties averaged 0.3 percent annual population loss.

Federal-State estimates of county population since the 1990 census show that population growth has favored nonmetro areas in the early 1990's. Nonmetro counties adjacent to large metro areas had faster population growth during 1990-95 than the large metro areas themselves had. Small metro areas are now growing faster than the large metro areas and are still growing faster than their adjacent nonmetro counties, but by only a slim margin. And, countering their decline during the 1980's, the population of nonadjacent counties with towns grew by 0.8 percent annually and the totally rural counties grew by 0.6 percent annually during 1990-95.

In the 1980-90 period, the population of adjacent nonmetro counties with cities grew at about the same rate as

those without cities within both the large and small metro adjacency groups. It was in the nonadjacent group that having a city appeared to boost population growth. During 1990-95, the population of adjacent counties without cities grew somewhat faster than that of the adjacent counties with cities. These nonmetro areas appear to be benefiting more now from their location next to the metro areas than they did during the 1980's. However, the adjacent counties without cities may also be facing the pressures of balancing the development they are experiencing from metro migrants seeking less dense, less expensive housing with the desires of longer term residents to maintain the "rural" quality of life.

The nonadjacent counties with cities experienced faster population growth than the other nonadjacent counties in both the 1980's and the early 1990's. Many of the cities in nonadjacent counties undoubtedly perform trade center functions that the adjacent nonmetro counties may obtain through the metro areas they have access to.

Educational attainment, measured here by the proportion of adults 25 and older who have completed a 4-year college education, also suggests that the nonadjacent counties with cities perform trade center functions. Among all nonmetro groups, the nonadjacent counties with cities have the highest proportion of college-educated residents (fig. 5).

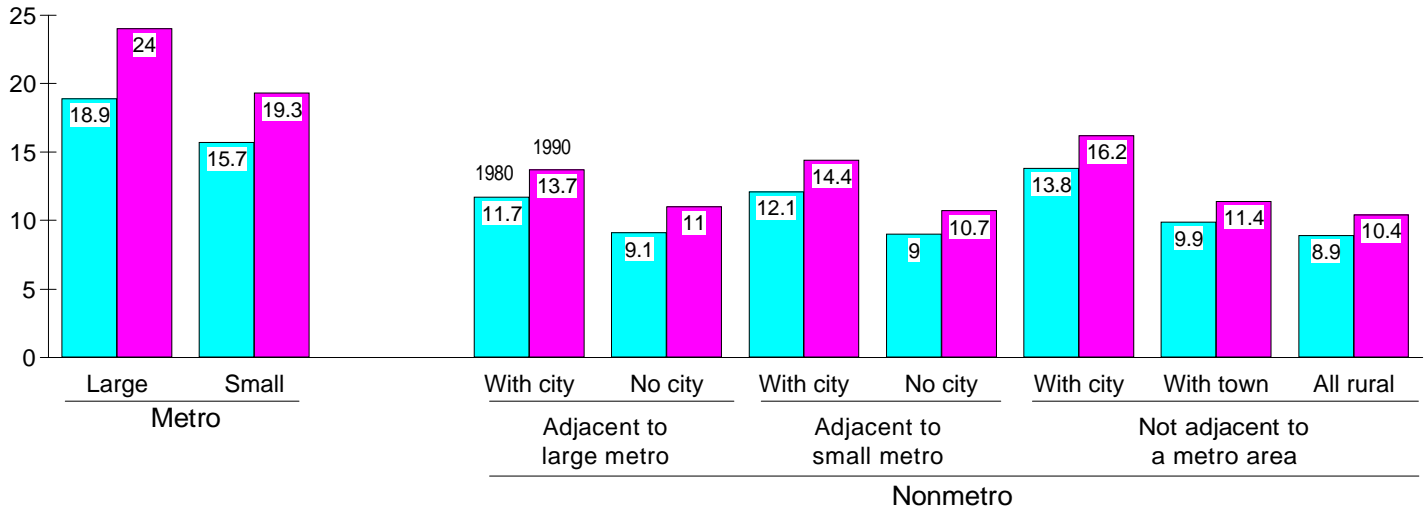
Employment growth, like population growth, has favored the nonmetro counties that are adjacent to large metro

Figure 5

Population 25 and older having completed a college education, 1980-90

More urban counties attract highly educated residents; the nonadjacent counties with cities have the highest proportion of college-educated residents of all the nonmetro groups

Percent who completed college



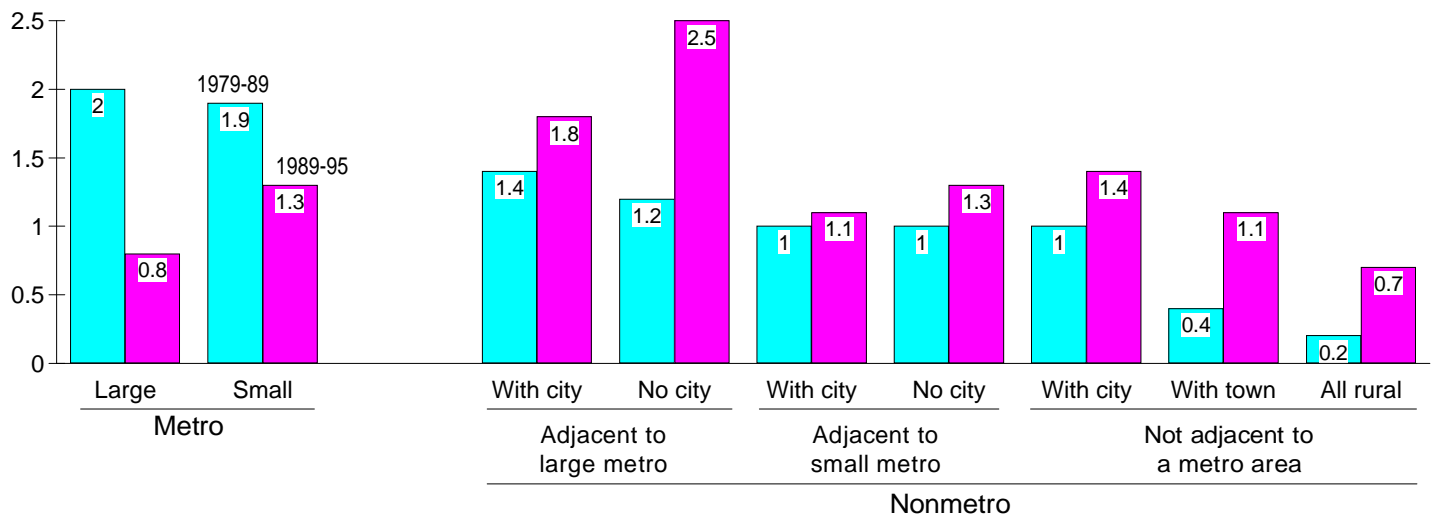
Source: Calculated by ERS using data from the Bureau of the Census.

Figure 6

Employment change, 1979-95

While employment growth favored metro areas during the 1980's, residents of nonmetro areas adjacent to large metro areas have benefited from faster employment growth during the early 1990's

Annual average percentage change



Source: Calculated by ERS using data from the Bureau of Labor Statistics.

areas, especially those without cities (fig. 6). Among nonadjacent counties, those with cities continue to have faster employment growth than the counties with towns and the totally rural counties, but the advantage is not as great in the early 1990's as it was during the 1980's. Commuting data from the 1990 census, although based on an earlier metro-nonmetro designation, suggests that many of the jobs adjacent county residents obtain are actually in the

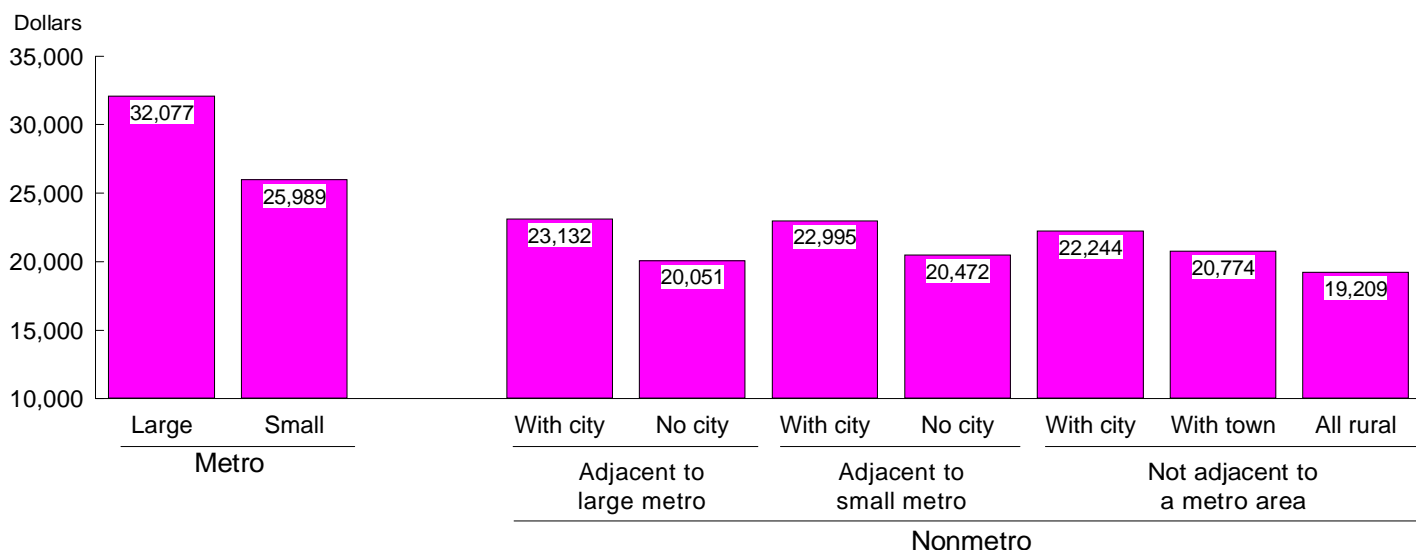
metro areas. Faster population and employment growth in the adjacent nonmetro counties during the 1990's may be a function of the increasing availability of jobs in the outer fringe of metro areas.

Earnings per job are measured at the place of work. In 1994, the jobs in large metro areas averaged about \$9,000 more in earnings than jobs in their adjacent nonmetro

Figure 7

Earnings per job, 1994

Large metro areas have the highest earnings per job, followed by smaller metro areas and the nonmetro counties with cities

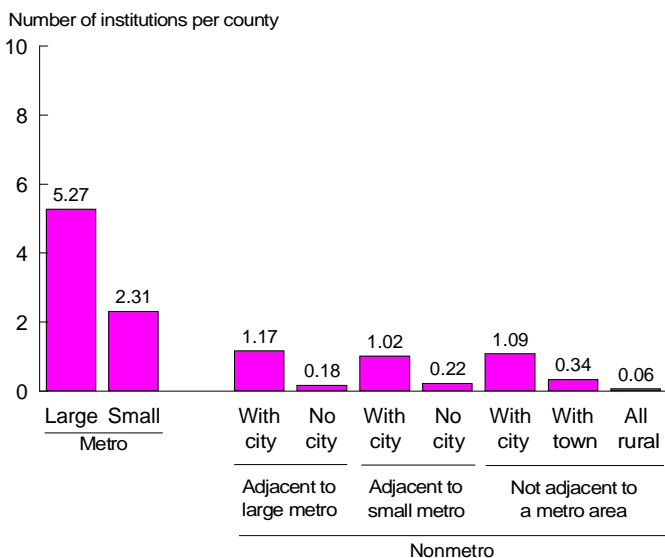


Source: Calculated by ERS using data from the Bureau of Economic Analysis.

Figure 8

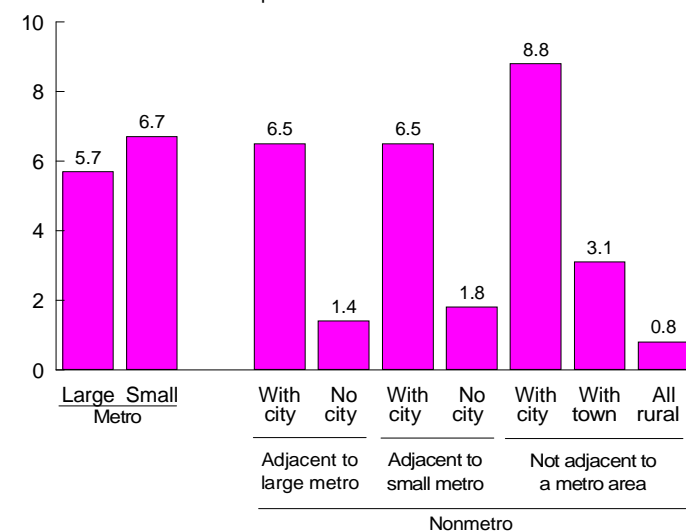
Higher education access measures, school year 1994-95

The groups of nonmetro counties without cities average less than one institution of higher learning per county...



...the number of students enrolled per 100 residents also shows that the counties without cities provide scarce opportunities for higher learning; the nonmetro counties with cities compare much more favorably with metro areas on this measure of access

Number of students enrolled per 100 residents



Source: Calculated by ERS using data from the U.S. Department of Education.

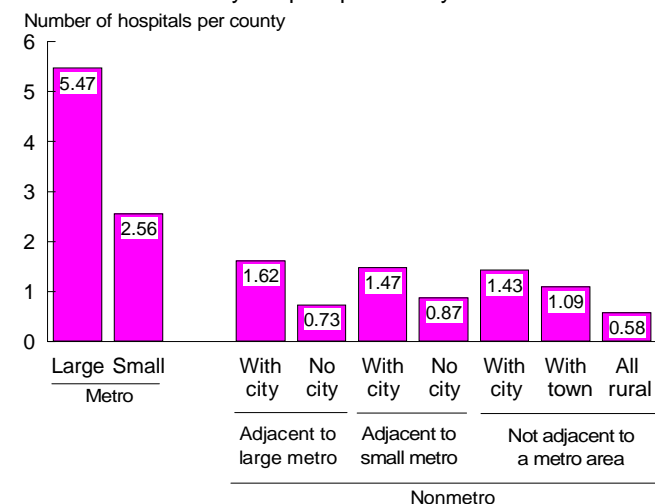
counties with cities and about \$12,000 more in earnings than jobs in their adjacent counties without cities (fig. 7). The jobs in small metro areas also averaged higher earnings than jobs in their adjacent counties, but the advantage was in the \$3,000 to \$5,000 range. Higher earnings

are undoubtedly part of the reason for adjacent nonmetro residents' interest in commuting to metro jobs. Earnings in the nonadjacent counties are highest in counties with cities. Few workers in nonadjacent counties have the

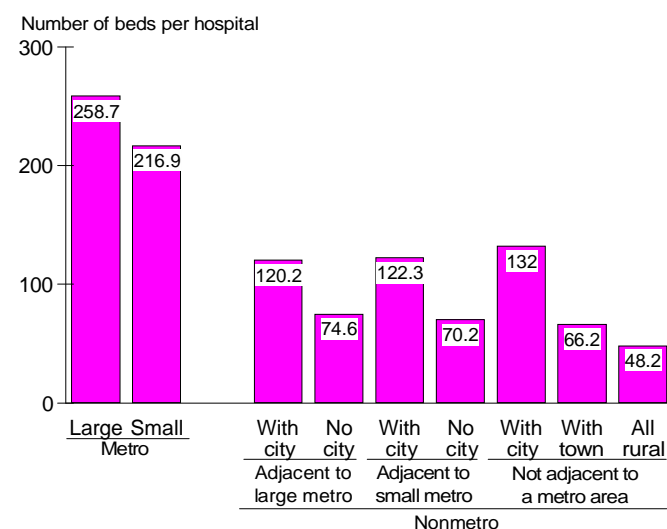
Figure 9

Hospital and physician supply measures, 1993-94

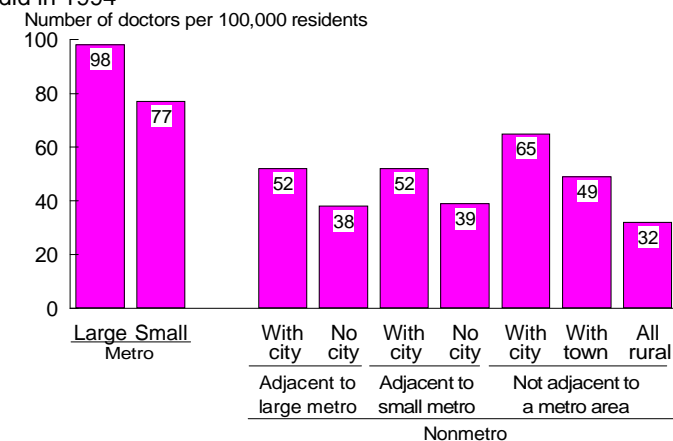
Nonmetro counties without cities averaged less than one short-term community hospital per county in 1993....



...the hospitals in nonmetro counties without cities averaged fewer beds than other nonmetro hospitals...



...and counties without cities also averaged fewer primary care doctors per 100,000 residents than counties with cities did in 1994



Note: Alaska counties are not included in these data.

Source: Calculated by ERS using data from the American Hospital Association, Annual Survey of Hospitals, 1993, and the American Medical Association, Physicians Masterfile, 1994.

option of working in metro areas, so local earnings are more indicative of their opportunities.

Institutions of higher learning, here defined as 2- or 4-year degree-granting colleges, illustrate the access residents have to local educational opportunities. The average number of institutions per county shows that large metro areas have the highest density of colleges (fig. 8). Having a city greatly increases the chances of a nonmetro county having a college. When access is measured by the number of students enrolled per 100 residents, the advantage nonmetro counties with cities have over those without cities is just as striking, but the metro advantage disappears. All the groups of nonmetro counties with cities have higher ratios of students to residents than the metro areas do. Residents of adjacent counties may also commute to metro colleges, giving them more access than their local options suggest.

Hospital and physician supply favor metro areas in all three ways we measured. The number of short-term community hospitals per county is largest in large metro areas (fig. 9). As in access to colleges, having a city greatly increases the chances of a nonmetro county having a hospital. In addition, nonmetro hospitals average fewer beds than metro hospitals. Among nonmetro county groups, the counties without cities have the smallest hospitals. Furthermore, large metro areas had the highest ratio of primary care physicians to residents. Among the nonmetro groups, the nonadjacent counties with cities have the highest physicians/population ratio. Hospitals and physicians in metro areas may provide care to residents of adjacent nonmetro counties. The hospitals and physicians in nonadjacent counties with cities may provide care to residents of surrounding counties with sparser populations and fewer medical resources.

Conclusions

The urban influence codes measure the importance of adjacency to the large and small metro areas and the importance of the size of the largest city within a nonmetro county, concepts that are not directly measured in other widely used typologies. We caution researchers, however, that the coding structure of the variable from 1 to 9 should not be viewed as reflecting a continuous decline in urban influence.

As with the rural-urban continuum codes (Butler and Beale) and the ERS typology codes (Cook and Mizer), we developed the urban influence codes for our own and others' use. The codes are available through the ERS homepage on the Internet. (See "Access to the Urban Influence Codes," p. 40.) If other researchers use them in investigating some of the myriad facets of life in rural America, we would appreciate receiving copies of the analyses and comments on the classification.

For Further Reading . . .

M. A. Butler and C. L. Beale, *Rural-Urban Continuum Codes for Metro and Nonmetro Counties, 1993*, USDA-ERS, AGES 9425, Sept, 1994.

P. J. Cook and K. L. Mizer, *The Revised ERS County Typology*, USDA-ERS, RDRR-89, Dec. 1994.

L. M. Ghelfi, ed., *Rural Conditions and Trends*, Special Census Issue, Vol. 4, No. 3, Fall 1993.

A. Lösch, *The Economics of Location*, Yale University Press, New Haven, CT, 1954.

H. O. Nourse, "Systems of Cities," chapter 3 in *Regional Economics: A Study in the Structure, Stability, and Growth of Regions*, McGraw-Hill, New York, 1968.

Access to the Urban Influence Codes

The urban influence codes are available on the ERS homepage on the INTERNET. To read the file and download it, if you want to, go to

<http://www.econ.ag.gov/briefing/rural/data/urbinfl.txt>

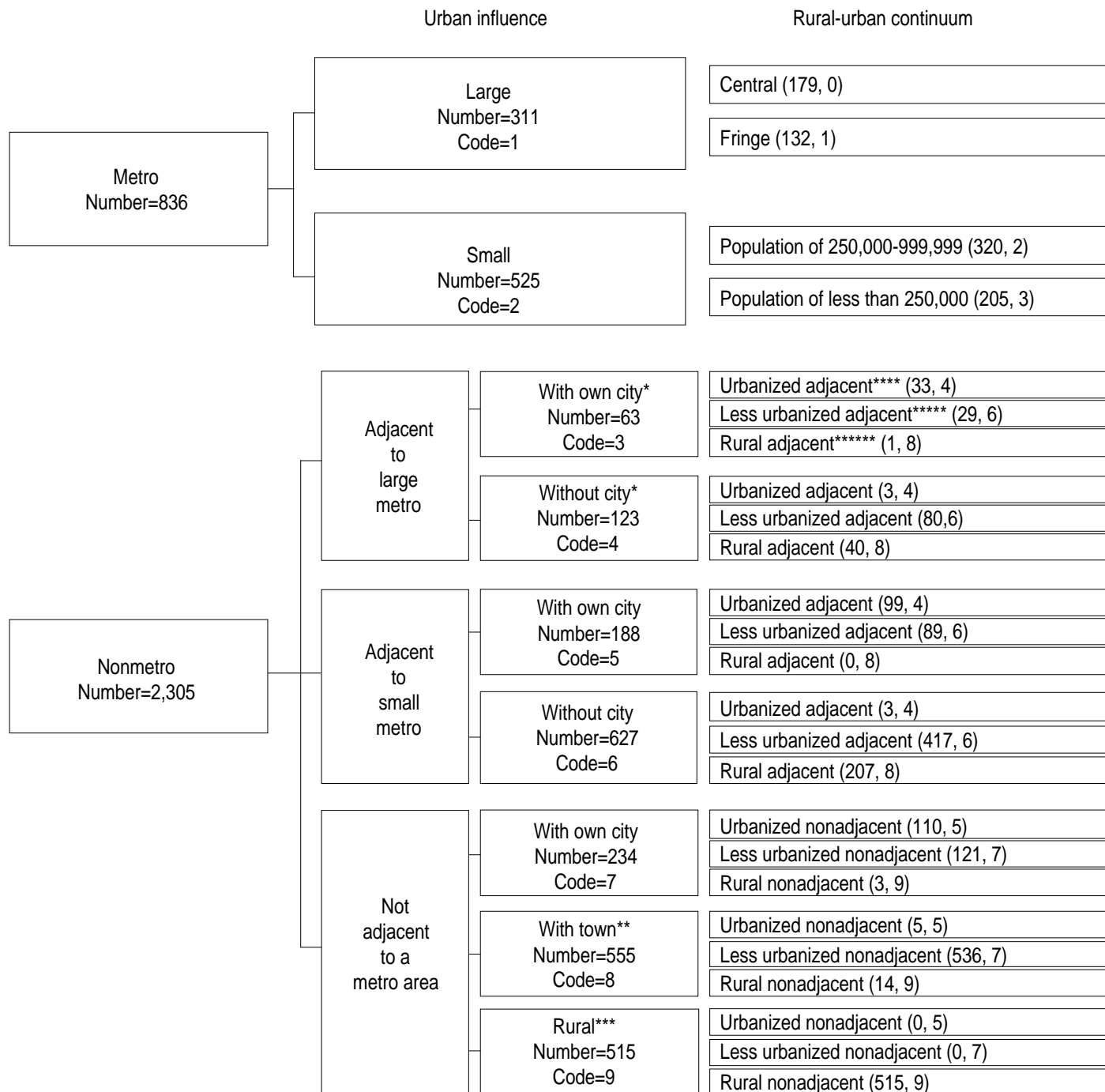
How Our Codes Compare with the Rural-Urban Continuum Codes

Because many researchers are very familiar with the ERS rural-urban continuum codes ("Beale" codes), we show here how our codes relate to the continuum codes. While we break metro areas only into large and small, the continuum codes differentiate central and fringe counties within the large category and two sizes of metro areas within the small category. The definition of a core county of a large metro area is no longer restricted to counties containing all or part of the central city, so we decided not to differentiate between the two types of large metro counties. We had planned to break our small metro category into the two size classes used in the continuum codes, but in analyzing population and employment growth in nonmetro counties adjacent to the two sizes of smaller metro areas, we found little difference between the effects the two smaller sizes of metro areas had on surrounding counties. Therefore, we chose not to differentiate between them.

It is in the groupings of nonmetro counties where the two classifications differ substantially. The continuum codes identify nonmetro counties that are adjacent to any metro area while our codes distinguish nonmetro counties that are adjacent to large metro areas from those adjacent to small metro areas. In the continuum codes, nonmetro urbanization is measured on the basis of the total number of urban residents in the county. In our codes, urban influence is based on the size of the largest city that is at least partly in the county.

As one would expect, the "urbanized" continuum counties mostly fall into our "own city" categories, only 12 of them do not contain any part of a city of 10,000 or more residents. However, many of the "less urbanized" continuum counties have their "own city." And, four of the "rural" continuum counties contain part of a city of 10,000 or more residents. The one of those four counties that is classified as adjacent to a large metro area is Camden County, NC. It is adjacent to the large metro area of Norfolk-Virginia Beach-Newport News, VA, and contains 29 residents of Elizabeth City, a nonmetro city of over 14,000 population located predominantly in Pasquotank County, NC. The other three rural continuum counties that we classify as nonadjacent with city are Montgomery County, GA (contains 111 residents of Vidalia, a city of 11,000 mostly in Toombs County, GA), Leelanau County, MI (contains 29 residents of Traverse City, a city of 15,000 mostly in Grand Traverse County, MI), and Ralls County, MO (contains 269 residents of Hannibal, a city of nearly 18,000 mostly in Marion County, MO).

Counties by Urban Influence and Rural-Urban Continuum Codes



Note: Numbers in parentheses after the rural-urban continuum names are the number of counties and the rural-urban continuum code.

*Own city means the county contains all or part of a city containing at least 10,000 residents and without city means the county contains no part of a city that large.

**Town means the county contains all or part of a city containing 2,500-9,999 residents.

***Rural means the county contains no part of a city containing at least 2,500 residents.

****Urbanized means the county contains at least 20,000 urban residents.

*****Less urbanized means the county contains 2,500-19,999 urban residents.

*****Rural in this classification means the county contains 0-2,499 urban residents.

Compiled by Dennis Roth

Branch Plants and Rural Development in the Age of Globalization

Amy Glasmeier, Amy Kays, and Jeffery Thompson, with Rob Gurwitt. Washington, DC: The Aspen Institute, 1995, 82 pages. ISBN 0-89843-180-8 (paper) \$10.00. To order, call 1-410-820-5326.

For rural America, manufacturing is an extremely important economic activity, accounting for more than one out of every five nonmetro jobs. These relatively high-paying jobs are most commonly found in "branch plants" (or multiunit firms), which usually have deep associations with the small towns in which they are located. Branch plants are often crucial to rural economic development and many small towns owe their very existence and continued vitality to their presence.

Since the 1980's, many nonmetro communities, especially in the South and the Midwest, where rural branch plants are most prevalent, have been forced to adjust to new global economic forces. Cheap land, low wages, and a probusiness, antiregulatory environment are no longer sufficient in attracting and retaining manufacturing jobs. Many rural industries (such as textiles, wood products, furniture, and leather) also tend to be mature and slow-growing and face stiff foreign competition from low-wage countries.

Some of the difficulties facing rural America in competing for manufacturing jobs in the new global economy are identified in *Branch Plants and Rural Development in the Age of Globalization*. By describing in detail the nature of these problems, and then offering a number of specific prescriptions for the local development practitioner, this concise book contains much useful information relating to rural industrial development.

The authors open with a description of the importance of branch plants for rural economic development. The postwar period leading up to the mid-1980's is sharply contrasted with the rural experience in the last 10 years, in which small communities have had to adjust to a rapidly changing environment where global economic forces have threatened the existence of local branch plants.

The book continues with several case studies, illustrating how rural manufacturers may follow either a "high road" approach, in which a branch plant's work force and internal organization are upgraded, or a "low road" approach, where the firm competes by relying on low-skill, low-wage workers, most often in overseas locations. Most rural areas benefit when a firm takes the "high road," because it indicates a commitment by the manufacturer to preserve the local plant. Usually this entails a significant amount of reorganization, both in the production line

and in the local work force, and workers often are given a greater degree of autonomy in the decisionmaking process.

The authors note that while economic globalization contains inherent dangers for many rural areas, it also presents opportunities. In particular, rural communities must learn how to become actively involved in making local firms more globally competitive and ensure that investment by local companies is geared towards the community and not simply a means to generate short-term profits. The authors suggest eight specific issues that local development officials should discuss with branch plant management. These deal with such things as employment stability, ownership of the establishment, degree of autonomy of local management, profitability and efficiency issues, capital investment in plant and equipment, and overall economic outlook for the industry. Working with management in addressing these issues may not always be straightforward, but, ultimately, unless they are given careful consideration, local development efforts are destined to be more reactive than proactive, and rural areas may be at risk of losing their branch plants.

The book concludes with a section highlighting the successful experiences of development strategies in Western New York and Michigan's Upper Peninsula. By identifying what steps development officials took in retaining local branch plants, the authors strive to show that even in economically depressed areas promising results can be achieved.

Reviewed by Dennis M. Brown, a regional economist in ERS-FRED.

Any Way You Cut It: Meat Processing and Small-Town America

Edited by Donald D. Stull, Michael J. Broadway, and David Griffith. Lawrence, KS: University Press of Kansas, 1995, 269 pages. ISBN 0-7006-0721-8 (paper) \$17.95. To order, call 1-913-864-4155.

Some rural communities have attracted meat processing plants since the early 1980's as a means of enhancing local economic development. Lured by the potential of increased employment and income, local officials often view the red-meat, poultry, and fish processing industries as appealing targets for economic development. Attracting meat processing jobs, however, can also bring about unintended negative consequences, such as increased crime, school overcrowding, housing shortages, poverty, and social disorder, as some of these small communities have discovered.

Any Way You Cut It is a collection of essays describing how meat processing has affected the economic, social, and cultural fabric

of these “host” communities. Through an interdisciplinary perspective that combines the viewpoints of various academic disciplines, including anthropology, geography, sociology, and journalism, but not economics (which may help to explain the inappropriate use of various economic statistics throughout the text), the book attempts to answer the question, “Does the pursuit of meat processing jobs by rural communities represent a good development strategy?”

The book opens with a general overview of recent trends in the red-meat, poultry, and fish processing industries. It notes that since the early 1980’s these three industries have been among the very few food processing industries to experience employment growth in rural areas. In the case of red-meat packing, beef and pork processing shifted from urban to rural areas as processors sought to hold down costs by locating closer to the supply of raw materials, the fed cattle and hogs, and also to take advantage of the cost savings associated with a nonunionized labor force. In the poultry and fish processing industries, rural employment gains derived from the rapid, nationwide growth of these industries, as consumers sought lower fat alternatives to red meat products.

Many small communities have been ill-prepared to adequately deal with the significant changes brought about by this rapid employment growth. Because many of these towns did not have an adequate supply of labor, processing firms recruited many workers from outside the region. Meat processing is not only difficult and dangerous work, but also is generally low-paying, and therefore recruitment efforts have been targeted to those individuals with few employment alternatives—primarily, immigrants, minorities, and women. The influx of these newcomers has dramatically altered the social and economic fabric of many of the host communities, as illustrated by the experience of Garden City, Kansas. Home to the world’s largest red-meat packing plant, this small town in western Kansas experienced a sharp influx of Mexican and Southeast Asian workers in the early 1980’s when the plant was opened. Garden City had an inadequate resource base to deal with many of the problems that resulted from absorbing a large number of low-wage, non-English-speaking, frequently transient workers. The town experienced sharply increasing school enrollments, greater demand for housing and health care, and increased criminal activity (including both violent and property crimes). Exacerbating these problems were the local government revenue losses that resulted from overly generous tax breaks and other financial incentives the plant received in return for locating there.

Any Way You Cut It describes these trends of the last 1½ decades through a series of case studies and attempts to place many of these issues in a larger context. A common theme throughout the book is the issue of workers’ rights. The final chapter asserts that recent trends in meat processing provide evidence that contemporary American society is increasingly becoming characterized by a two-tiered wage structure in which those lacking higher skills are forced to toil under difficult working conditions for extremely low wages. To support this, it is noted that meat processing is still the most dangerous occupation in America (something which has changed little since the early part of this century when Upton Sinclair wrote *The Jungle*) and that industry restructuring has resulted in the elimination of many high-paying union jobs.

This book is an important contribution to the rural development literature. By providing a timely, easy-to-read, and comprehensive overview of the most important contemporary trends in

red-meat, poultry, and fish processing, the discussion provides for interesting reading and offers the reader a framework for better understanding these three, often overlooked, industries in the context of rural America.

Reviewed by Dennis M. Brown, a regional economist in ERS-FRED, and author of “Poultry Processing Created More Rural Jobs than Red-Meat Packing During the 1980’s,” in RDP, vol. 9, no. 2.

Ripples in the Zambezi: Passion, Unpredictability, and Economic Development

Ernesto Sirolli. Murdoch, Australia: Institute for Science and Technology Policy, 1995, 184 pages. ISBN 0 86905 400 7 (paper). Available from the author at 1215 S. 5th Avenue, Sioux Falls, SD 57105, for \$16.75 including shipping and handling.

New ideas in rural development seem few and far between. When they do come, they tend to be of the marginal improvement variety: combine this with that to get efficiency if not synergy, target here or there to increase effectiveness if not fairness. Enter Sirolli, whose stuff is radical—at least for the “dismal science.”

This eclectic work draws on everything from theology to psychology, from chaos theory to management theory. The liberal helping of quotes come from an “interdisciplinary group” including Shakespeare, Goethe, Christ, and Pink Floyd (!). From this odd mixture, Sirolli weaves an elegant philosophy that applies to economic development as well as education and—with a bit of stretching—governance. The elegance is a function of both its simplicity and its verisimilitude.

In a nutshell, the concept (as applied to economic development) is this: The key to rural development lies in facilitating the success of entrepreneurs—thus, the name of the model: “enterprise facilitation.” Enterprise facilitation, begun by Sirolli somewhat serendipitously in Australia, works like this: A facilitator goes into a community and makes it known that she is available to meet (one-on-one and in confidence) with anyone who has an idea about starting a new business or expanding an existing one. The approach is passive and responsive. She does not pursue, cajole, motivate, or strategize. She waits. When someone does come to her, she responds. The objective of her response is to ascertain the would-be entrepreneur’s passion for pursuing the idea. Passion is all important. For as Sirolli states “...economic development is the result of hundreds and thousands of people doing beautifully what they love doing ...” p. 77. Absent passion—the kind of passion that calls the entrepreneur to pursue the dream—the conversation is over. No motivational talks. No brainstorming of other ideas. Ideas are cheap; it’s passion that counts. But, if passion burns, the facilitator goes to work.

The next step is to assess the idea. If the idea makes sense, go with it. If not, say so and save the entrepreneur time, money, and possibly heartbreak.

The third step is skills assessment. “A grasp of the fundamentals of management is required before we engage in successful facilitation. No matter how big or small a business is, three areas of activities need to be taken care of: 1) the technical skills necessary to produce the goods or services one wishes to sell, 2) the ability to market one’s goods or services, 3) the ability to financially manage one’s affairs” (p. 99). Rarely can one indivi-

dual do all three. Therefore, the facilitator helps to find the missing team members. In fact, Sirolli asserts that the most likely to succeed are those who are most capable of enlisting the support of others.

The final step—facilitation—involves helping the entrepreneur assemble the team and remove the obstacles that stand between them and the fulfillment of the dream. For example, in Esperance, Australia, where the model was born, this meant helping a would-be fish processor obtain the necessary loan, permits, and equipment to set up shop.

This is a simple, perhaps radical, approach, considering the dominant model of rural development in the United States. The Federal Government offers a wide array (some 800 programs) of assistance that affects rural areas. Most of those programs provide infrastructure, credit, or technical assistance of some kind. Current emphasis on “bottom-up” approaches and program flexibility notwithstanding, these programs are still very standardized. The role of government, according to Sirolli, “needs to be both pro-active (top-down) and responsive (bottom-up). It will have to encourage a change in attitudes towards work and success, and will have to provide infrastructures to facilitate this development. It will also need to be responsive to requests for assistance and provide the entrepreneurs with the information, advice and resources appropriate to the individuals’ needs” (pp. 126-127).

In the United States, government is very good at providing the infrastructures. It is, in fact, at the heart of the bulk of those 800 some programs. Responding with customized assistance “appropriate to individuals’ needs,” is another story.

The book’s claims are bold and the numbers impressive. According to Sirolli, in a community of 10,000, in 1 year 150-200 clients will see the local facilitator. Of those, 25-35 will open a new business or expand an existing one, creating 25-60 new jobs.

Will Sirolli’s approach work? Some people in Minnesota and South Dakota think so. They have hired Mr. Sirolli to facilitate enterprises in their communities and train others to do so. On a national scale, however, at least two obstacles come to mind. First, even in an era of “reinventing government” and “empowering people” this concept may not sit well with those who currently benefit (in votes, administrative power, etc.) from delivering programs to rural people. Second, providing enterprise facilitators in every rural community in the United States is an enormously labor-intensive proposition.

Whether or not enterprise facilitation takes hold in the United States, the book is a well-written, almost light-hearted, easy-to-read alternative to most books on rural development. And I recommend it if for no other reason than to expose the reader to a different way of thinking about the subject.

Reviewed by Thomas Rowley, a social science analyst with ERS-FRED.

Transforming Rural Life: Dairying Families and Agricultural Change, 1820-1885

Sally McMurry. Baltimore, MD: The Johns Hopkins University Press, 1995, 291 pages. ISBN 0-8018-4889-X (cloth) \$39.95. To order, call 1-800-537-5487.

Transforming Rural Life is the second in a series entitled *Revisiting Rural America*. The titles of both books reflect a focus on the family and the changing roles of women in agriculture during selected historical periods. Central New York, Oneida County in particular, serves as the example of changes that were happening in several other areas of the Nation dominated by dairy farming during 1820-1885.

Cheesemaking is the primary “production” activity described. Cheese production was essentially a home-based activity prior to and during much of the period identified in the book. However, in 1851, a fundamental change took place, and Oneida County was the place where it took hold. Jesse Williams, a well-to-do farmer in Rome, NY, is generally credited with establishing the first modern-style cheese “factory” as a viable alternative to home cheese production. By 1895, factories had pretty much replaced home cheese production in central New York.

The book’s 10 chapters split rather neatly into two distinct (yet ultimately linked) emphases: Chapters 1-5 describe the “pre-factory” dairy farming and cheesemaking activities in quite a bit of detail. The author makes use of much local history to paint a picture of cheesemaking as a production activity expected to contribute to the economic functioning of the farm and as an activity involving the dairy family and others (hired laborers and nonwage-earning outside family workers) in a dynamic social relationship. Chapters 6-10 relate the rise of the cheese factory, the initial effects of the more commercialized business aspects of cheesemaking, and the social adjustments of the populace to this new institution.

Woven into the story of the changing production methods for cheesemaking is the role of gender issues on the dairy farm. Dairying, due to the European backgrounds of most American settlers at the time, carried along the traditions of women’s involvement in it. Clearly the traditions were not as strong but they were still present. Cheesemaking was clearly seen as within the purview of the dairy farm wife and daughters (men did participate also but not to the extent of women). The same is true, at least early on, of milking. By the end of the book, the factory system of cheese production essentially redirected dairy farm women’s activities in other directions, on the farm to poultry and eggs and off the farm to local community activities. The farm women both welcomed and rued the changes taking place.

That “duality” permeates much of the story of dairying and cheesemaking related in the book. While cheese was still made in the homes, it was viewed as both a subsistence activity and a commercial activity to obtain either other goods and services or, to a more limited extent, cash payments. Marketing was also a face-to-face activity since cheese factors traveled the dairy areas making deals for cheese to deliver to buyers and there was a personal touch. Terms such as “mutuality” and “competence” are used to define the nature of cheesemaking so that both the noncommercial and commercial sides of the coin are accommodated. It is argued that these connections made the transition to the factory system, seen as a profit-driven, competitive activity where local social relationships among the dairy farmers were strained, much easier than in other agricultural products.

As the transition toward factory production was taking place, significant changes were also occurring on the farm. Improved animal care and a switch from native to more pure-bred cows, use of better feeds and shelter, and general technological developments greatly changed the labor burdens of the farm family.

In one area, the development of the dairy barn as a more specialized structure devoted to the production of milk augured the role of the factory. In some cases, the barn itself was even described in terms that alluded to a factory. The barn was, according to the author, also the realm of the men, a change from previous times when women were significant contributors to the milking of cows.

The factory system moved cheesemaking to the status of a competitive business venture operating in the public eye. The factory system created tensions which eventually helped establish class distinctions in the farming community by clearly identifying owners (managers) of the factory and the patrons (those who brought milk to the central site for manufacture into cheese). These tensions were highlighted in questions of milk quality (adulteration) and Sunday cheese production. Factories, the author argues, also brought cheesemaking more into the position of "men's work" since factory owners were usually men and, after an initial period where women did outnumber men as factory workers, so too were the factory employees. Dairy farm women applauded the development of the factories, since they tended to ease their labor burdens, while at the same time being saddened by the effects on the dynamics of the family and rural communities.

Once the cheese factory became entrenched in the dairy economy, dairy farm women redirected their attentions toward other farm activities and both on- and off-farm cultural and community issues. One of the major issues faced by farming families during this period was advanced education for women and girls. It was feared that education would ultimately drive farm women to off-farm activities and jobs or greatly change how they viewed farm work if they remained. Education did alter women's views but so too did war, as it has during other periods in the history of the United States. The Civil War took men away from farms in large numbers and women were left to carry on. That they did, but they also became more involved in non-farm activities such as support groups for soldiers and returning veterans which may have helped them switch to activities other than cheesemaking after the rise of the factories.

There are many more examples of changes in the dairy economy and how dairy families responded to those changes. I would recommend that anyone interested in both the historical development of dairying as a farm enterprise and the changing roles of gender in agriculture read this book. In the conclusion, the author sounds the alarm that dairy farming and rural communities are now in "crisis." This theme has been at the forefront of numerous debates related to agriculture for many years. This book clearly describes the events of more than 100 years ago that have led to a much different dairy industry today. It also suggests that dairy farmers themselves were prime movers in this evolutionary process, and, I believe it is safe to say, still are. This book offers a look into the evolutionary process and debunks the rhetoric of some who would suggest that rural change is something that rural residents do not want and have had forced upon them.

Reviewed by Donald Blayney, an economist with ERS-MTED.

The Political Economy of the American West

Terry L. Anderson and Peter J. Hill (editors). Lanham, MD: Rowman & Littlefield Publishers, Inc., 1994, 178 pp. ISBN 0-8476-7911-X (cloth) \$44.50. To order call 1-301-306-0400.

The Political Economy of the American West is a collection of essays on the economic history of the region. Terry Anderson and Peter Hill have put together this collection to establish economic history as the most accurate, cutting-edge tool for describing the history of the American West. Anderson and Hill believe that their emphasis on rent-seeking behaviors and the competition for resources presents a more accurate picture of the American West than the sentimentalism of traditionalists or the liberalism of revisionists.

The book begins with three essays on property rights. Anderson and Hill set the antithetical tone of the book with their essay arguing for the economic efficiency of speculation. Douglas Allen contradicts Anderson and Hill in "Homesteading and Property Rights." Allen argues that the costs of government protection made homesteading an economically rational system for distributing land to settlers and securing U.S. claims to the West. Sanchez and Nugent, in "When Common Property Rights Can Be Optimal," argue that common property was the most efficient use of land for animal husbandry activities in arid and semi-arid regions. Sanchez and Nugent portray the cattle frontier as an idealistic (and almost socialistic) place where ranchers worked together to subvert the unpleasantness of capitalism and government regulation.

Stewart Mayhew and B. Delworth Gardener ("The Political Economy of Early Federal Reclamation in the West") and Randy Simmons ("The Progressive Ideal and the Columbia Basin Project") present well-argued criticisms of Federal reclamation projects in the West. Mayhew and Gardener base their research on a model of a market for political favors that is accurate but typical of economic frameworks that do little more than explain the obvious. Despite the limitations of their model, Mayhew and Gardener effectively demonstrate that most Western water projects did not produce positive economic returns and only served to redistribute wealth from the rest of the country to Western farmers. Simmons vents his rage against Progressivism with a well-argued, multi-layered attack on the Columbia Basin Project and the shortcomings of centrally planned economic projects that it exemplifies.

Anderson and Hill must not have had a plethora of essays to choose from for this volume. The last three essays wind out the book in very unresounding fashion; they are irrelevant at best and unmanageable at worst. In stark contrast to their opening essay on property rights, Anderson and Hill's case study of Yellowstone National Park ("Rents from Amenity Resources: A Case Study of Yellowstone National Park") is incomplete and unconvincing. Anderson and Hill effectively demonstrate that Northern Pacific Railroad and other parties attempted to preserve Yellowstone for economic gain but they fail to prove that the altruism of conservationists was unnecessary.

David W. Brady and Roger G. Noll ("Public Policy and the Admission of the Western States") do an excellent job in presenting their research on the effect of Western expansion on the

political climate of the country. Unfortunately, their conclusions that a majority of Western senators were Republican and that western Republican Senators voted in favor of western issues provide little insight on the political climate of 19th-century America.

Examining history with the tools of economics is helpful in reconstructing the past, but it is no more comprehensive than revisionism or traditionalism. Historical actors do not always behave in economically rational ways; the authors adherence to strict economic models limits their understanding of history.

Life exists outside of markets and all behaviors are not driven by rent-seeking. The social and cultural past is missing from Anderson and Hill's vision of the West. Likewise, Anderson and Hill's focus on economic activity ignores the roles women and minorities played in shaping the American West. *The Political Economy of the American West* is a solid collection of essays; it is not an effective manifesto for the cause of economic history.

Reviewed by Margaret Missiaen, an agricultural economist, ERS-MTED, and Christopher Missiaen, a historian.

Compiled by Dennis Roth

Guide to Rural Data

Priscilla Salant and Anita J. Waller. Washington, DC: Island Press, Revised Edition, 1995, 140 pages. ISBN 1-55963-384-0 (paper) \$22.95. To order, call 1-800-828-1302.

Although population data from the early 1990's show that conditions are improving in many small towns, rural America still lags the rest of the country in income growth. This guide, an updated version of *A Community Researcher's Guide to Rural Data* published in 1990, will acquaint researchers with current data sources from which they can obtain information on rural communities. It explains how to find both printed and electronically distributed data and how to use those data to analyze social and economic change. Chapters describe data on local population and community resources, rural economies, and rural governments. Appendixes include details about Federal statistics programs and addresses/phone numbers for State and Federal offices that house or collect data. The guide also includes a glossary of rural and statistical terms, an index, and reference charts for commonly used statistics. After this book was published, ERS set up its own homepage on the World Wide Web (<http://www.econ.ag.gov>) and ERS staff now have different e-mail addresses (for example, use jimh@econ.ag.gov instead of jimh@ers.bitnet as shown on page 128). Despite the rapidly changing use of various electronic media for storage and communication of data on rural America, this guide can help researchers, especially those unfamiliar with statistical data, find the information they need.

Community and University: Case Studies and Commentary on University of California Cooperative Extension Interventions

Alvin D. Sokolow, ed. Davis, CA: California Communities Program, University of California, 1995. 160 pages. Publication 3371 (paper) \$12.00. To order, call 1-916-752-0979.

How university educators and researchers tackle community problems is the focus of this small book. Based on case studies of projects in six different California regions, it examines both the risks and opportunities involved in applying university expertise to controversial local issues. Several commentaries compare

the six cases and offer general lessons about making the transition from academic knowledge to practical application. Much of the book emphasizes strategies for engaging effectively in public policy work at the community level, including aspects of project selection, timing, and collaboration with local actors. The case studies were written by county advisors and campus specialists of the University of California Cooperative Extension who directed recent projects. The community issues they describe deal with water quality, farm animal facility siting, public lands, Hispanic leadership, military base reuse, and Native-American reservations. Interested readers should include outreach educators, program developers, community leaders, and field representatives of development organizations.

Entitled to Power: Farm Women and Technology, 1913-1963

Katherine Jellison. Durham, NC: The University of North Carolina Press, 1993, 217pp. ISBN 0-8078-4415-2 (paper) \$13.95. To order, call 1-919-966-3561.

Farm women have always performed functions essential to production and family, but the nature and extent of their work have been obscured by the heavy emphasis given to men's economic roles. This neglect has persisted until quite recently despite the fact that, since the early 20th century, mechanization has allowed women to expand or change their roles both on and off the farm. This book is a history of Midwestern farm women's experience with mechanization from 1913 to 1963. Early extension policies encouraged farm women to adopt labor-saving devices so that they could become domestic consumers like middle-class women in the cities. Instead, machinery freed women to gain extra time to pursue off-farm employment and to contribute more to farm-related work. World War II enabled farm women to participate more in field work, thus to some extent breaking down the barriers between spheres of work. During the post-war years, American farms increased capital investments, grew larger in size, and generally became more specialized or more integrated. These farm structural changes provided farm women with more opportunities in farm business. Modern farm conveniences changed the composition of farm women's work, but did not detract from their contributions to the business of farming.