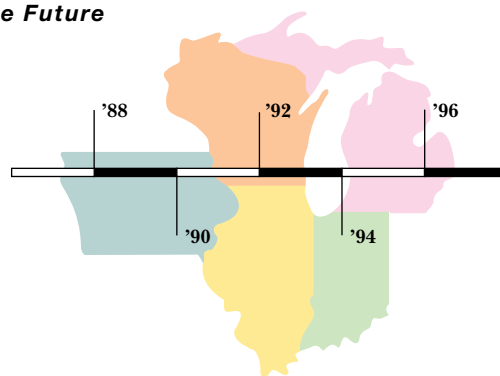


**ASSESSING THE MIDWEST ECONOMY**  
*Looking Back for the Future*



## The Changing Rural Economy of the Midwest

*Third in a series of workshops to be held at the Federal Reserve Bank of Chicago.*

The third workshop in conjunction with the Bank's long-term assessment of the Midwest economy was held at the Federal Reserve Bank of Chicago on March 8, 1996. This workshop explored the changing rural economy, assessing its recent performance and its prospects for the future. The first session of the workshop focused on human dimensions of the rural economy, especially the demographic trends, the quality of education, and worker productivity. The second session examined recent trends in manufacturing and the scope of the food processing industry. Following a luncheon address on *The Role of Government in the Rural Economy*, the workshop explored the contribution of the service industry to the rural Midwest economy. The concluding session addressed changes underway in key components of Midwest agriculture. The workshop presentations were mixed in tone, yet offered some optimism that rural areas will make a bigger contribution to the future economic performance of the Midwest.

*Population growth through migration in rural areas has exceeded that for urban areas in recent years. The only other recent era that saw faster migration gains in rural areas than in urban areas was during the “population turnaround of the 1970s.”*

## The Human Dimensions

### Demographic Trends

The workshop began with a session that looked at some of the key human dimensions of the rural economy. Ken Johnson of Loyola University of Chicago presented the first paper, which looked at demographic trends. He compared population growth patterns in the 1990s with those of prior years, using the most recent (1993) delineations between metropolitan and nonmetropolitan counties. He concluded that the latest population estimates, although lacking the rigor of the decennial census, show that rural population growth has rebounded appreciably in the 1990s and narrowed the gap with urban growth.

**Table 1** Population Growth Has Rebounded in Rural Areas

	% Change in Population			% of Counties with Population Gains	
	Rural	Urban	Total	Rural	Urban
United States					
1980-90	2.7	11.8	9.8	45	81
1990-94	3.9	4.9	4.7	74	91
Midwest <sup>a</sup>					
1980-90	-2.2	1.3	0.4	30	67
1990-94	2.4	3.0	2.9	74	92

<sup>a</sup>Illinois, Indiana, Iowa, Michigan, and Wisconsin.

Source: Kenneth M. Johnson, “Recent Nonmetropolitan Demographic Trends in the Midwest,” paper presented at the workshop “The Changing Rural Economy of the Midwest,” held at the Federal Reserve Bank of Chicago, March 8, 1996.

Johnson found that the population of rural counties nationwide rose 3.9% between April 1990 and July 1994. That increase substantially exceeded the 2.7% gain recorded in rural areas for the full decade of the 1980s, but trailed the 4.9% rise in metropolitan areas so far in the 1990s. Population growth in rural counties in the Midwest through mid-1994 was slightly lower than elsewhere, at 2.4% for the five-state region comprising Illinois, Indiana, Iowa, Michigan, and Wisconsin. However, this was in vivid contrast to the 2.2% decline that occurred during the 1980s. Moreover, the recent population gains in rural areas have been widespread. Some 74% of all rural counties in the Midwest and elsewhere have witnessed an increase in population so far in the 1990s (see table 1).

In analyzing the components of the latest population changes, Johnson noted a reversal of past norms in migration flows and natural change (births less deaths). So far in the 1990s, well over half of the population gain in rural areas has stemmed from migration gains. This contrasts sharply with the pattern of migration declines in rural areas that occurred during the 1980s. (See figure 1.) Moreover, population growth through migration in rural areas has exceeded that for urban areas in recent years. As Johnson noted, the only other recent era that saw faster migration gains in rural areas than in urban areas was during the “population turnaround of the 1970s.” An agricultural boom that decade led to an upturn in population in many rural areas.

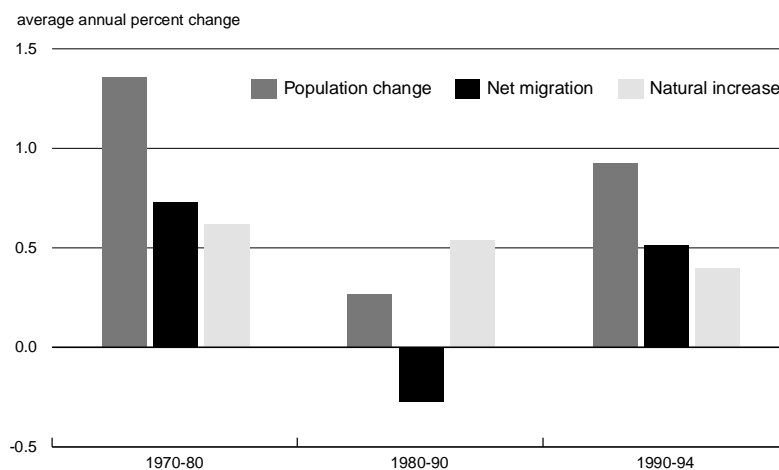
*The renewed population growth first evident in nonmetropolitan areas during the 1970s is continuing in the 1990s after a lull in the 1980s.*

Conversely, the annual rate of natural population change has slowed in rural areas and accelerated elsewhere. Through most of this century, population growth in rural areas has been sustained by births exceeding deaths. But that pattern has been broken in the 1990s, as an increasing share of rural counties nationwide have experienced natural decrease (deaths exceeding births). Johnson noted that “the incidence of natural decrease in American counties is now higher than at any point in history” and that it apparently continues to rise at an unprecedented rate. In the five-state Midwest region, 30% of rural counties have experienced a natural decline in population so far in the 1990s, up from less than 11% in the 1980s. A protracted migration of young adults from rural areas and the aging of the remaining population were judged to be the most important factors behind the trend.

Johnson found the rural Midwest population gains in recent years have been widespread in Wisconsin, the lower peninsula of Michigan, and most of Indiana, but tended to cluster around the metropolitan areas of Illinois and Iowa. Evidence of the population rebound is strongest in south and central Indiana and Illinois, eastern Iowa, and northern Wisconsin and Michigan, areas where a number of rural counties have recorded a shift from population declines in the 1980s to gains so far in the 1990s. These patterns were consistent with Johnson’s conclusions that rural counties that were destinations for retirement age migrants or centers for recreation were the fastest growing during the early 1990s. In addition, population gains were more likely in counties near metropolitan centers and in manufacturing- and government-related counties. Conversely, counties dependent on farming were least likely to gain population.

Johnson concluded that the “renewed population growth first evident in nonmetropolitan areas during the 1970s is continuing in the 1990s after a lull in the 1980s.” This represents a significant departure from the more typical view that the slow—or negative—growth in many rural areas in the 1980s was a return to the prevailing trend after a temporary disruption from the rural boom in the 1970s. Johnson noted that future rural growth or decline will be increasingly dependent on net migration and trends which are likely to become increasingly sensitive to national and global economic, political, and social forces.

**Figure 1** Recent Population Gains in Rural Areas Parallel the Pattern of the 1970s Boom



Source: Kenneth M. Johnson, “Recent Nonmetropolitan Demographic Trends in the Midwest,” paper presented at the workshop “The Changing Rural Economy of the Midwest,” held at the Federal Reserve Bank of Chicago, March 8, 1996.

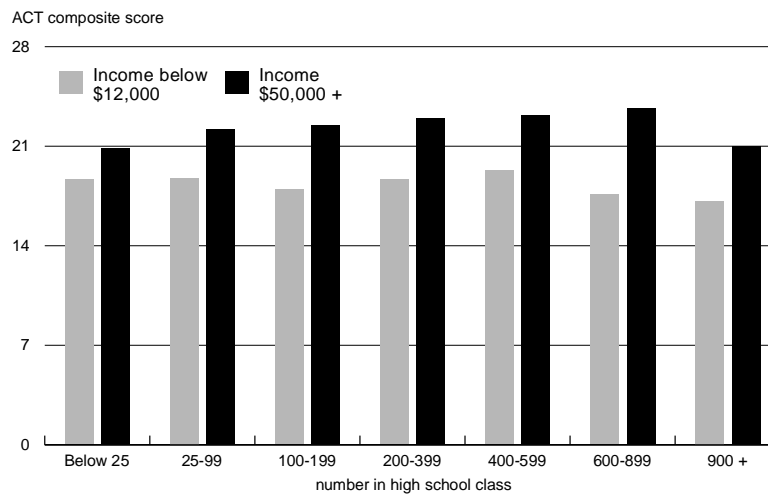
*The quality of public elementary and secondary education is increasing for rural and urban students alike.*

## The Quality of Rural Education

Thomas Pogue, an economist from the University of Iowa, looked at another key human dimension of the rural economy, the quality of rural education. He acknowledged there is a widespread view, in both rural and urban areas, that the educational system is inadequate. In rural areas, the inadequacy is typically attributed to a small and shrinking population, which translates into “declining enrollments, rising costs, and increasing pressure to curtail course offerings or merge with other districts or both.” Pogue addressed three questions about the quality of rural education: Is it improving or declining?; Is it comparable to urban education?; and Is it adequate for the times? His conclusions are based on data from the upper Midwest, including Wisconsin, Illinois, and especially Iowa.

Pogue found that “the quality of public elementary and secondary education is increasing for both rural and urban students alike.” Standardized tests that measure basic skills and educational development of Iowa students show a trend of stable to improving performance over the past decade and substantially higher performance relative to three decades ago. School drop-out rates have declined, course offerings have widened, and more students are taking advanced courses and pursuing post-secondary education. Scores on American College Testing (ACT) entrance exams, in Iowa and nationwide, have been stable in recent years despite a rising share of students taking those exams.

**Figure 2** ACT Composite Scores of 1995 Graduates in Midwestern States, by Income Level and High School Class Size



Source: Thomas F. Pogue, “The Quality of Rural Education in the Midwest,” paper presented at the workshop “The Changing Rural Economy of the Midwest,” held at the Federal Reserve Bank of Chicago, March 8, 1996.

With respect to rural/urban comparisons, Pogue noted that in Iowa drop-out rates are lower for smaller school districts, while scores on standardized tests show mixed results. Tests of educational development at grade 9 show roughly comparable scores for school districts of all sizes. However, ACT composite test scores tend to average lower among students in Iowa’s smaller districts. Comparisons of ACT test scores for several midwestern states confirm the Iowa pattern, showing slightly lower scores for those attending the smallest and the largest high schools (graduating classes of less than 25 and 900 or more, respectively). Pogue said that the lower scores of small schools are not necessarily a reflection of

*All things considered, the quality of rural education in the Midwest is high relative to what was available in the past and roughly on par with urban opportunities and outcomes.*

rural/urban differences in quality of classroom education. He felt other factors that were also correlated with lower ACT scores—such as a lower share of students taking college preparatory courses and a higher share of students from low-income families—and which were more prevalent among both the smallest and the largest schools may account for much of the observed differences in test scores (see figure 2).

Pogue noted that roughly 71% of all public high school graduates from all sizes of districts in Iowa undergo further education or training. But the mix of continuing graduates from small school districts shows fewer enrolling in a four-year college curriculum, and more in a two-year community college program than is the case among graduates from larger districts. For midwestern states in general, the percentage of graduates from small high school classes that plan on pursuing graduate or professional studies tends to be low.

In terms of the resources spent on education, Pogue found that rural districts in Iowa spend about the same per student for current expenditures as urban (large) districts. Rural districts have lower pupil-teacher ratios, but lower teacher salaries tend to keep the instructional costs for rural districts close to the overall average. Despite roughly equal spending, rural districts offer their students fewer curriculum units in major subject areas (e.g., foreign languages, higher levels of math, etc.) and more teachers in rural districts are expected to teach multiple subjects. Moreover, students in rural high schools tend to be more dissatisfied with their high school experience.

Pogue found consolidation among rural school districts has probably reduced the deficiencies in rural school districts, as have advances in telecommunications and area-wide resource utilization. Moreover, he noted that Iowa has an extensive array of facilities and public programs, often coordinated through community colleges, that are available to most rural communities. These programs and facilities provide traditional continuing education for adults, and, in many cases, offer programs with local businesses to recruit, train (or retrain), and evaluate employees. All things considered, Pogue concluded that the quality of rural education in the Midwest is high relative to what was available in the past and roughly on par with urban opportunities and outcomes.

### **Productivity of Rural Labor**

David McGranahan and Fred Gale of the U.S. Department of Agriculture completed the human dimension session of the workshop with a presentation on *The Productivity of the Rural Labor Force*. McGranahan and Gale noted the productivity issue will largely determine how rural areas fit into the evolving national and international economy. The important question, at least for manufacturing, is whether rural areas will fall into the “low-wage” niche or the “high-productivity” niche. In terms of value added, labor productivity in manufacturing rose in all areas between 1989 and 1992. However, the rural/urban gap widened, as rural labor productivity fell to 23% less than that for metropolitan labor. And although the gap in wage rates is even larger, rural areas seem to be preferred for low-productivity-type manufacturing jobs and unable to attract high-tech jobs.

One hypothesis for the observed productivity gap is that rural manufacturers are slower to adopt new technology. However, McGranahan and Gale’s analysis of the data from a 1993 census survey that looked at technology adoption rates for selected industries found that, if anything, rural manufacturers show higher rates of technology use.

Industry mix does appear to explain a considerable portion of the observed rural productivity gap. By comparing over a more consistent mix of industries, the authors found that the rural/urban productivity gap could be reduced from 23% to 15%. And in productivity comparisons for “routine manufacturing” industries—such as food processing, wood products, textiles, and apparel—the gap was even smaller (7%).

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*Bernat found that virtually all of the growth in rural manufacturing jobs in the Midwest occurred in “small rural” counties and in “less urbanized” rural counties.*

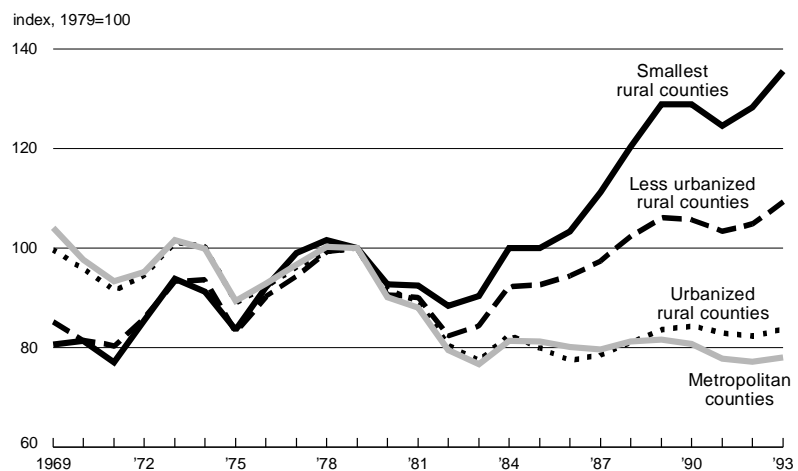
A third possible explanation, the human capital model, assumes the education and training of the rural labor force are of somewhat lower quality than those of the urban labor force. McGranahan and Gale suggested that the smaller percentage of rural workers with a post-high-school education largely reflects differences in types of jobs. Most management and research/development jobs in manufacturing tend to be centralized in urban areas. When educational levels of production workers are compared, most of the education gap is eliminated. Even so, the authors noted that it is difficult to know whether rural jobs reflect the education levels of the work force or the work force characteristics in rural areas reflect the types of jobs that are available. In reviewing the literature, however, the authors concluded that some studies suggest rural productivity is not limited by work force skills and the problem is more the type of jobs demanded. Alternatively, the pilot study for a survey of manufacturers seems to suggest that work force skills may be lower in rural areas.

### Manufacturing and the Midwest Rural Economy

#### Recent Trends

A paper prepared by G. Andrew Bernat of the U.S. Department of Commerce gives an overview of recent trends in manufacturing employment for the rural Midwest and addresses some likely implications of these trends. (As Bernat was unable to attend, Bill Testa of the Federal Reserve Bank of Chicago summarized Bernat’s paper for the workshop participants). Bernat points out that the overall loss of jobs in the manufacturing sector over the last 15 years or so was an urban phenomenon. While the number of manufacturing jobs in metropolitan counties of the Midwest fell more than one-fifth between 1979 and 1993, the number in rural counties increased slightly. As indicated in figure 3, Bernat found that virtually all of the growth in rural manufacturing jobs in the Midwest (Illinois, Indiana, Iowa, Michigan, and Wisconsin) occurred in “small rural” counties (population of less than 2,500) and in “less urbanized” rural counties (population of 2,500 to 19,999).

**Figure 3** Smaller Rural Counties Have Witnessed Most of the Growth in Rural Manufacturing Jobs in the Midwest



Note: Rural counties broken down by population: < 2,500 = the smallest rural counties, 2,500 to 19,999 = less urbanized rural counties, > 20,000 = urbanized rural counties.

Source: G. Andrew Bernat, “Manufacturing and the Midwest Rural Economy: Recent Trends and Implications for the Future,” paper presented at the workshop “The Changing Rural Economy of the Midwest,” held at the Federal Reserve Bank of Chicago, March 8, 1996.

Although the rise in rural manufacturing jobs translated into higher earnings, the rural/urban gap in earnings per manufacturing job widened. By 1993, rural earnings per job were 29% below urban manufacturing earnings, up from a 25% gap in 1982. Bernat attributes some of this gap to a differing mix of industries, because rural areas tend to have a higher concentration of low-wage industries (such as food processing and apparel). Occupational mix probably explains another significant part of the gap, since urban areas tend to have a greater concentration of higher-paid nonproduction (management, etc.) jobs.

Bernat's paper also addresses the question of whether growth in rural manufacturing employment has been accompanied by overall economic growth. As he and others have suggested, an economy based increasingly on service-producing industries tends to undercut the traditional rural development assumption that manufacturing job growth will automatically be accompanied by overall economic growth. But his cursory look at the data for the Midwest found that population gains and total job growth were far more pronounced in rural areas that experienced manufacturing job growth than in those with no rise in manufacturing jobs. Bernat notes that the positive relationship between manufacturing job growth and overall economic growth runs counter to some recent studies on the determinants of urban economic growth.

With respect to future prospects for the rural Midwest, Bernat views the dependence on durable manufacturing as both a positive and a negative. The positive is that the U.S. is competitive in world markets for many durable products. The negative is that rural counties in the Midwest and elsewhere have a number of durable manufacturing industries with substantial import penetration. Bernat also acknowledges that rapid technological change can lead to substantial increases in output per worker, which, in the face of limited overall economic growth, can translate into fewer rural job opportunities. Significant investment flows into rural areas—which have been lagging—will be needed to sustain future growth in rural manufacturing jobs. Finally, Bernat points out that the manufacturing restructuring process has led to an increased share of nonproduction workers who rely on information flows. He notes that many observers have concluded the restructuring puts more emphasis on centralization, favoring urban areas over rural areas.

### **The Food Processing Industry**

Mike Singer and Chris Barfels, both of the Federal Reserve Bank of Chicago, complemented the session with a paper on *The Food Processing Industry in the Midwest*. They noted that food processing ranks second among some 20 major manufacturing groups in the Midwest in terms of sales and value added and fifth in overall employment. The importance of food processing to rural areas is amplified by the tendency of food processors to locate plants in nonmetropolitan areas and by the fact that the finished consumer products component of U.S. agricultural exports has experienced faster growth during the 1990s than have other components.

Singer and Barfels used 1992 data to rank the top 15 food processing industries in the Midwest in terms of value added and to identify “winners” and “losers” among all food industries based on changes in employment and value added over the past decade. As indicated in table 2, the top 15 industries account for about 75% of all food processing in the Midwest and a sizable chunk of all food processing nationwide. Singer and Barfels pointed out the high correlation between the top-ranked industries and the major farm commodities produced in the Midwest and the substantial drop in ranking for meat packing, which presumably relates to declining beef production.

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Using a classification system defined by others, the authors found that “demand-oriented” industries (those that locate plants near centers of final use) in the Midwest registered below-average growth in all measures—employment, value added, and shipments—from 1982 to 1992. This paralleled the Seventh District’s sluggish population growth during that period. Conversely, “supply-oriented” firms and “footloose” firms registered sizable growth.

The authors also focused on growth prospects for the Midwest food processing industry by reestimating a model developed elsewhere that relates the change in value of shipments to changes in population and wage levels. Based on U.S. Department of Commerce projections of population growth, the model implies that food processing industries in each of the five Midwest states will grow at, or below, the projected annual rate (2.9%) for the nation. The projected growth rates for the five states range from 2.2% in Michigan to 2.9% in Iowa. The slower growth forecast for the Midwest is tied to the region’s slower population growth and relatively high wages.

**Table 2** The Top 15 Food Processing Industries in the Midwest

	Rank	Rank	Value Added		% of all Midwest Food Processing	
	1992	1982	1992	1982	1992	1982
	(--million dollars--)					
Breakfast Foods	1	3	3,470	1,264	10.6	6.9
Confectionery	2	2	2,489	1,472	7.6	8.0
Wet Corn Milling	3	5	2,386	902	7.3	4.9
Cheese	4	8	2,191	788	6.7	4.3
Meat Processing	5	7	1,849	799	5.7	4.4
Meat Packing	6	1	1,743	1,564	5.3	8.5
Processed Milk	7	9	1,687	783	5.2	4.3
Soft Drinks	8	6	1,654	845	5.1	4.6
Bread	9	4	1,482	1,113	4.5	6.1
Cookies and Crackers	10	15	1,210	521	3.7	2.8
Canned Fruits & Veg.	11	17	937	499	2.9	2.7
Flavorings	12	16	902	521	2.8	2.8
Fluid Milk	13	14	885	545	2.7	3.0
Frozen Specialties	14	18	859	393	2.6	2.1
Animal Feeds	15	13	738	575	2.3	3.1
Top 15			24,482	12,584	74.9	68.7
All Food Processing						
Midwest States			32,687	18,308	100	100
United States			156,843	88,419		

Note: Midwest states are Illinois, Indiana, Iowa, Michigan, and Wisconsin.

Source: Mike Singer and Chris Barfels, “The Food Processing Industry in the Midwest,” paper presented at the workshop “The Changing Rural Economy of the Midwest,” held at the Federal Reserve Bank of Chicago, March 8, 1996.



Singer and Barfels noted that given the region's strength in supply-oriented food processing industries—e.g., grain processing, dairy processing, and meat packing—policymakers would do well to focus on expanding and developing those industries. In addition, since footloose industries base location decisions on factors other than proximity to raw commodity supplies or final product sales, policymakers attempting to attract such industries could consider alternatives—such as taxes, utilities, and other infrastructure amenities—for making the environment more appealing to such industries. The long-term benefits to the economy from offering such incentives to footloose industries are likely to be greater than from offering similar incentives to supply-oriented or demand-oriented industries.

### The Role of Government

D. Gale Johnson of the University of Chicago gave a luncheon address on the *Role of Government in the Rural Economy*. To reinforce his view that there is a proper role for government, Johnson used Central Europe and the former Soviet Union as examples of the inherent inefficiencies of a government that is too deeply imbedded in product and labor markets, and the enormous—and largely unimagined—difficulties that arise when a government's role is abruptly redefined by a shift from a centrally planned economy to one that is market-oriented.

Johnson argued that research clearly shows the misallocation of resources that arises both from the agricultural policies of developed countries, which typically attempt to benefit farmers, and from the policies of underdeveloped countries, which often exploit farmers to benefit the urban population. Yet his argument is not one of *laissez faire*. Rather, he argued in favor of "...finding those activities for government that markets cannot adequately perform and where, if government adopts appropriate policies, the welfare of rural people will be enhanced."

Accordingly, Johnson acknowledged there is a role for government in the provision of public goods, including the maintenance of law and order, the protection of civil rights, national defense, public parks, agricultural research, some forms of communication, and roads. He also felt there is a role for government in providing (or regulating) goods and services that competitive markets might not provide in adequate amounts due to scale economies or suboptimal utilization by certain segments of the population (low income). The former is an argument for public utilities. The latter is a long-established argument for publicly funded primary and secondary education and, increasingly, for more universal access to health care—two areas that recognize the contribution of human capital investments to economic growth. Johnson also acknowledged a role for government—especially in developing economies—in building and maintaining a rural infrastructure. However, he pointed out that the priority of public infrastructure is often overstated. Accordingly, Johnson cited the unparalleled rates of growth of food production in developing countries as evidence that the returns to publicly funded agricultural research are "higher than those to the more glamorous...rural investments, such as dams and irrigation."

Johnson argued that government also has a role in gathering and disseminating market information and in providing the institutions that enhance a market economy. The latter suggests that government must actively limit the role of monopolies and provide a legal system that will define and enforce such things as property rights and contractual arrangements.

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Johnson concluded with two points that referenced the long history of farm policy dominating rural policy. The first was a note of caution against encouraging government intervention in a functioning market because of the difficulty in ending that intervention when the original needs no longer prevail. To illustrate this point, he noted that agricultural price policies born in the economic distress of the Great Depression still exist some 60 years later, “even though incomes of farm families now exceed urban family incomes.” As a counter argument, however, Johnson suggested that a major role for government action is to assist farm and rural people to adjust to declining employment opportunities in agriculture through education and retraining programs. He argued that the “welfare of farm people depends far more on the functioning of labor markets than on the markets for commodities.” As such, government has an important role in educating and retraining farm and rural people left in the wake of declining employment opportunities in agriculture.

### **The Service Industry and the Midwest Rural Economy**

The service sector is attracting increasing attention as an area that holds considerable promise for rural development. As one workshop participant noted, the industry’s share of employment in the five Midwest states increased from less than 60% in 1980 to nearly 67% in 1990, absorbing all of the shrinking share of manufacturing. The papers presented at the workshop were mixed, but in general provided support for the view that the service sector still offers favorable prospects.

#### **Producer Services**

In their analysis of *Producer Services Workers in the Nonmetropolitan Midwest*, Jeff Crump and Norman Walzer of Western Illinois University reached a less than optimistic conclusion about this sector’s growth potential. In general, producer services firms provide services to other businesses—such as accounting, advertising, legal, engineering, finance, insurance, and real estate—at comparatively high wages or fees. The consumer services industry includes elements of the above, but also provides restaurant, housekeeping, and auto repair services, which tend to command lower wages. The authors noted that the median annual earnings for producer service workers in the Midwest in 1990 were roughly \$17,700, well above the \$11,200 median for consumer service workers. However, their analysis showed that the growing producer services jobs in rural areas may not pay wages comparable to metro areas and, in some instances, may not pay much more than consumer services. They therefore concluded that the “expansion in producer services may not be the panacea for nonmetro underemployment that some have suggested.”

Crump and Walzer aggregated counties into labor market areas (LMAs) based on commuting patterns, and matched those regions with the income and employment status of the Census Bureau’s public microdata sample. In all, some 69 LMAs were identified for the Midwest, of which 27 were classified as rural LMAs. Analyzing past trends, the authors found that the growth in producer services employment during the 1980s in the rural LMAs of the Midwest lagged behind that nationwide, 33.6% versus 55.8%. Based on a shift-share comparison, the authors concluded that the vast majority of the slower growth in the Midwest was because local industries grew less rapidly than their national counterparts and only a small portion was because the region contained slow-growth industries. Crump and Walzer suggested that a leading cause for the slower Midwest growth may be that service industries depend on regional—rather than national—business conditions and that the manufacturing firms and others served by the producer services industries of the Midwest exhibited subpar growth.

*The “expansion in producer services may not be the panacea for nonmetro underemployment that some have suggested.”*

*The “export” revenues from third party health insurance payments—especially for Medicare and Medicaid—can be substantial for a local community that provides health care services only to its local citizenry.*

Crump and Walzer found that the earnings gap between rural and urban workers in the Midwest—based on median earnings—was 18%. The biggest gap was for producer services workers, 22%. The authors also found that a substantially higher share of the workers in rural LMAs have median incomes that fall near, or below, the poverty level and that the median annual earnings of rural producer services workers were slightly below those of all other rural workers. This counters the conventional view that producer services workers are highly skilled and command relatively high earnings. The subsequent discussion revealed, however, that these measures of the gap in job quality and earnings may have been distorted by the annualizing of contractual, or short-term employment, earnings and by the lack of an accounting for cost of living differentials between rural and urban areas.

In discussing policy considerations, the authors reiterated the important link between producer services industries and other local businesses. Other local industries must be doing well for producer services to prosper. While expressing some optimism about the prospects of rural communities located near metro areas, Crump and Walzer remained pessimistic for remote areas, which have limited or negative population growth and often lack the amenities and infrastructure that would appeal to many producer service workers.

### **Health Care Services**

The second presentation on the service industry focused on *Health Care Services and the Rural Economy*. Sam Cordes of the University of Nebraska explored the interaction between the provision of health care services and the economy of rural communities. In reviewing the important macro linkages, Cordes pointed out that just as investments in education enhance the stock of human capital, investments in health and nutrition can generate dividends in the form of more years of productive work life and more potential for generating economic output. He also noted that economic growth leads to a more healthy population, while economic recessions can have a “significant detrimental effect on both physical and mental health.”

In focusing on the impact of health services on the local economy, Cordes noted that there is a substantial multiplier effect associated with wages and revenues in the health care industry. Health care expenditures are large. And when local citizens are forced to go elsewhere for health services, the local community may also lose more of their expenditures for things other than health. However, except for places like the Mayo Clinic in Rochester, Minnesota, health care is not typically considered a basic employer in rural communities and, thus, does not typically fit the rural development preference for attracting industries that “export” their goods or services to other areas. Yet, health care can be organized on a regional basis, exporting services to a limited market. Less appreciated is the important “export” role played by insurance payments in the health care industry. The “export” revenues from third party health insurance payments—especially for Medicare and Medicaid—can be substantial for a local community that provides health care services only to its local citizenry.

Cordes also addressed the role of health services in furthering local rural development efforts and suggested that this may be a more significant attribute of health care in the long run than the direct generation of economic activity. The availability and quality of health care are acknowledged key factors in attracting and retaining residents (especially retirees) and business firms. In addition, a viable local health care industry (and the financial resources it requires) can be an important source for local investment funds and an important contributor to local leadership.

*Many people lack the financial resources to transform health needs into effective demand. Thus, if universal health insurance were to become a reality in some form, it could translate into a stronger demand for health care services in rural areas.*

*Health care should be considered a growth industry, especially as the sizable “baby boomers” generation reaches an older age. Many rural communities can position themselves in a way that will lead to increased economic activity as this industry continues to grow.*

The capture of these benefits by rural areas, however, is problematic. The health care industry today is incredibly dynamic as the so-called managed care movement leads to major consolidation and restructuring. Additionally, federal budget pressures will likely lead to major changes in Medicare and Medicaid. To assess the uncertainties, Cordes focused on some issues that may influence health care spending in rural areas. He noted that insurance reimbursement rates—especially for Medicare—for a given health service are typically less for rural providers than for their urban counterparts and that more equitable reimbursement patterns would generate more health dollars into rural areas. He also indicated that the Farm Bill pending in Congress (subsequently enacted) contains some provisions with respect to telemedicine and other options for enhancing health care in rural areas.

Other options for generating more health dollars in rural areas would entail efforts to expand the quantity of services rendered. In an environment of extreme concern about rising health care costs, Cordes acknowledged that the lower cost of health care services in rural areas holds some hope for attracting urban residents to rural providers of health care services. However, he said the two most likely alternatives for expanding the provision of health care services in rural areas were “translating unmet health care needs into a viable demand” and “aiding rural providers to recapture the health services now extended to rural residents by urban providers.” Cordes noted that unmet health care needs are directly correlated with the lack of health insurance. Without health insurance, many people lack the financial resources to transform health needs into effective demand. Thus, if universal health insurance were to become a reality in some form, it could translate into a stronger demand for health care services in rural areas, depending on how it was financed.

Other reasons for unmet rural health needs, according to Cordes, include the limited availability of health care services in many rural areas and, in some cases, concerns about the quality of rural health services. Various programs cited by the author offer hope for improving the quantity and quality of rural health resources, which could help convert unmet needs into effective health care demands and help fuel rural economic development. Cordes noted that communities might consider subsidizing local health care services or restructuring the type of health care services extended in the local community. For example, rural communities could collaborate to establish a multicomunity rural health center. Communities might also capitalize on advances in telecommunications and medical science to change the delivery of many types of local health care services from an in-patient (hospital) to an out-patient (clinic) basis. Other forms of viable restructuring for some communities include replacing the functions of a local hospital emergency room with the enhanced emergency medical services that can now be made more readily available in a modern, fully equipped ambulance with a trained crew.

Cordes concluded by noting that health care should be considered a growth industry, especially as the sizable “baby boomers” generation reaches an older age. Many rural communities can position themselves in a way that will lead to increased economic activity as this industry continues to grow.

### **Retirement and Recreational Services**

John Fraser Hart of the University of Minnesota expanded on some of his earlier work in a workshop presentation on *Retirement and Recreational Activities in Rural Communities*. Hart noted that “a summer cottage on a lake has been a symbol of the good life for generations.” In many cases, these summer homes or cottages take on a natural life of their own, progressing from primitive hunting shacks to year-round residences for retirement. Resort communities often have a similar history of evolution. The tourist season lengthens considerably over time, requiring and supporting a greater variety of consumer

*Resort areas can be as distinct from one another as they are from non-resort areas, with some offering more peace and quiet, some specializing in outdoor activities, and others catering more for families with children.*

*Students of rural development need to understand “far more about what attracts the attention and interest of large-scale developers.”*

and business services and a vastly expanded array of employment opportunities in both the private and the public sector. The change often transforms a hitherto sparsely populated location into a vibrant and bustling area for much of the year.

Hart pointed out that resort areas can be as distinct from one another as they are from non-resort areas, with some offering more peace and quiet, some specializing in outdoor activities, and others catering more for families with children.

Hart reviewed the history behind three distinct resort areas in Wisconsin—Door County, Vilas County (and the popular Eagle Chain of Lakes region), and the Wisconsin Dells area. He suggested that “each resort area should do its best to identify, establish, polish, and publicize a particular image, both to attract the kind of visitors who will find it congenial and to avoid attracting people who will be disappointed in it, dislike it, find fault with it, and harm its reputation.” Despite their differences, he points out that most resort areas share common problems of disagreement among the local natives as to the character of the evolving development. In his words, the debate is between the “gang plankers”—who want to preserve the area as it was—and the “bulldozers”—who are willing to develop everything if it will bring money to the area.

The author noted attitudes toward development are not predictable. For example, some local residents are eager for development, but local family-run businesses can feel threatened if outside developers open competitive local units of national chains. On the other hand, some second-home owners want to halt all further development, but others want improvements and better services for the local area. Second-home owners are often frustrated in the local policy arena. As nonresident home owners, they contribute—often significantly—to the local tax base but lack voting privileges in local decisions. Their influence may be limited even when they retire and take up permanent residence in the resort community, as the established residents can be “put off by the high and mighty ways of the new residents.”

Hart concluded by noting that massive external investment is often the differentiating factor between rural areas that change little over decades and others that seem to change almost overnight. He suggested that students of rural development need to understand “far more about what attracts the attention and interest of large-scale developers.”

## **Changes in Production Agriculture and the Midwest**

### **Industrialization in Pork Production**

The final workshop session focused on two key areas of Midwest agriculture, pork and milk production. Due to numerous issues that have accompanied the arrival of the so-called mega producers, many believe the Midwest could lose its dominance in these two commodities. In a presentation on *The Industrialization in Hog Production*, Gary L. Benjamin of the Federal Reserve Bank of Chicago characterized that dominance by noting that the five Midwest states historically have accounted for just under half of nationwide hog sales.

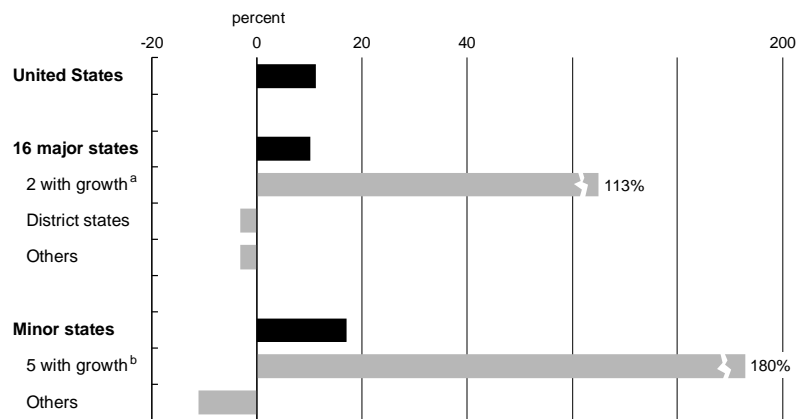
Benjamin noted the recent industrialization phenomenon, in many respects, represents only the latest wave in a decades-long restructuring process among U.S. hog farmers. That restructuring has led to a steep decline in the number of hog farms, a pronounced uptrend in the average size of the farms remaining in business, and little change in the inventory of all hogs on farms. Throughout that long restructuring process, the five Midwest states have maintained their share of production. However, the industrialization of recent years marks a more abrupt shift toward a few very large producers. It has also coincided with a sizable decline in the Midwest’s share of U.S. hog numbers in the last three years, from 48% to 42%.

Seven states are capturing most of the growth associated with the industrialization in hog production. None of these are among the key Midwest states and only two of them are among the traditional major hog-raising states

Benjamin found that seven states are capturing most of the growth associated with the industrialization in hog production. None of those are among the five states comprising the Seventh Federal Reserve District. Only two of the “growth” states—Missouri and North Carolina—are among the traditional 16 major hog-raising states. Over the last five years, hog numbers in Missouri and North Carolina combined have more than doubled, while hog numbers in all the other major hog-raising states collectively have retreated 3%. The other five growth states—Colorado, Mississippi, Oklahoma, Utah, and Wyoming—have sprung up among what historically were considered minor hog-raising states. Hog numbers in those five states combined have nearly tripled over the last five years (see figure 4).

**Figure 4** The Mega Hog Farms Are Mostly Apparent in a Few “Rapid Growth” States Which Now Account for Nearly One-Fourth of All Hogs

**Change in Hog Inventories, 1990–95**

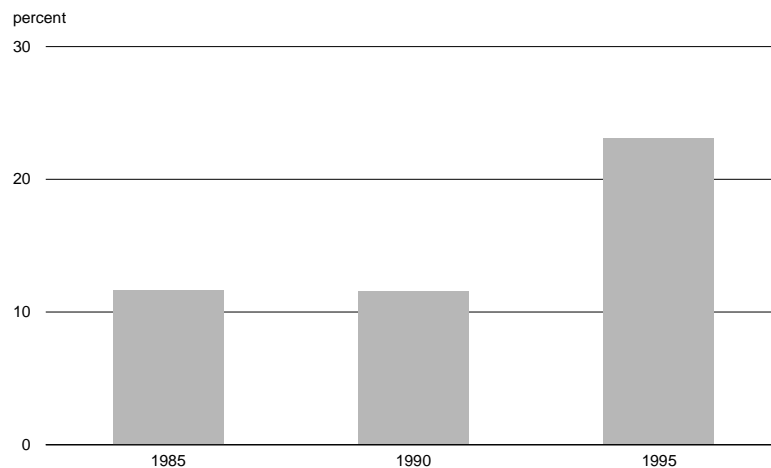


<sup>a</sup>Missouri and North Carolina.

<sup>b</sup>Colorado, Mississippi, Oklahoma, Utah, and Wyoming.

Note: District states are Illinois, Indiana, Iowa, Michigan, and Wisconsin.

**The “Growth” States’ Share of Hogs**



Source: Gary L. Benjamin, “The Industrialization in Hog Production,” paper presented at the workshop “The Changing Rural Economy of the Midwest,” held at the Federal Reserve Bank of Chicago, March 8, 1996.

*The large mega producers probably accounted for one of every three hogs raised in this country in recent months.*

A ranking of the largest hog producers (those that own at least 10,000 sows) reported by a major farm magazine provides a more dramatic view of the industrialization process. Last October, there were some 44 of these mega producers nationwide that collectively owned more than 1.5 million sows. While the inventory of hogs held for breeding purposes fell 5% nationwide during the year ending September 1, 1995, the inventory of sows among these mega producers rose nearly a third. Benjamin speculated that because of their greater production efficiencies, these large producers probably accounted for one of every three hogs raised in this country in recent months.

Benjamin noted that various studies show the move toward large farms is rooted in technological advances that offer lower production costs and/or enhance the quality of the final product that reaches consumers. Some observers have suggested that the break-even cost of production can range as much as \$10 to \$12 per hundredweight between the most efficient one-third of producers and the least efficient producers. In addition, the large producers exhibit a highly refined form of integration that has specialized labor and management for each stage of production (farrowing/gestation, nursery, and finishing) and often includes state-of-the-art feed mixing and veterinarian facilities. This integration increasingly extends all the way to the packer, both through direct ownership and through expanding contractual arrangements between producers and packers.

In reviewing whether the Midwest will continue to see its dominance in pork production erode, Benjamin noted that corporate farming laws and regulations, which are common in the Midwest, are often not compatible with the pork producing structures that have evolved during the industrialization process. But a far more serious issue for the Midwest relates to the environmental concerns that have reached a boiling point with the proliferation of large hog producers. These concerns mostly relate to the odor and the water contamination problems that can arise with the handling of the animal wastes. In many cases, these contentious issues in the more popular rural areas of the Midwest have led to very strong NIMBY (not in my backyard) sentiments, pitting the interests of farmers and others against the large producer. Strong pressures for laws and regulations limiting the location and manure-handling practices of all hog producers, with special restraints on large producers, have surfaced in many areas. Some observers have suggested the tendency of the mega hog farms to locate in nontraditional fringe states, despite much higher feed costs, is largely due to more benign environmental views and a stronger perceived need for economic development in those areas.

Changing markets and market-pricing arrangements are also key issues for the more traditional farmer/producer in the Midwest. With a significant, and growing, share of packer-owned or contracted hogs now moving to market, the independent Midwest hog farmer faces growing problems of market access and price volatility. In addition, the growing practice of extending significant price “premiums” to contract producers raises questions about the adequacy and coverage of the market price reporting system.

Another concern raised by Benjamin relates to the implications for the pork packing industry if the Midwest continues to lose its dominance in hog production. This is particularly critical for Iowa which—despite its ranking as the largest hog producing state by far—imports one out of every five hogs that are processed within its borders. The evidence so far clearly demonstrates the tendency of locating large and highly efficient packing plants near the mega producers. If the Midwest continues to lose its dominance in hog production, it will undoubtedly see an erosion of its dominance in hog processing, just as it lost its dominance in beef packing in the 1970s.

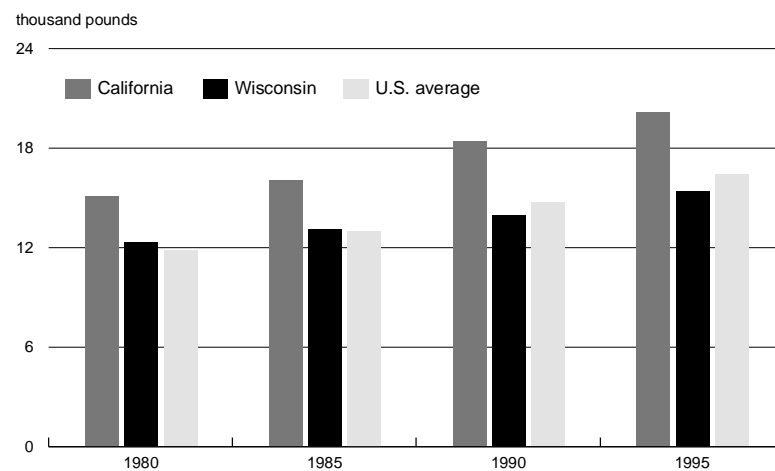
Even if the Midwest retains its dominance in hog production, the structural characteristics of the hog farm of the future will differ markedly from that family farm icon of the past that symbolized a multitude of independent farm operators.

Benjamin concluded that the hog producing/processing model that has evolved with the industrialization process in recent years suggests that all of the pork production for the U.S. could be supplied with about 12 packing plants handling the output of some 50 mega producers. Even if the Midwest retains its dominance in hog production, the structural characteristics of the hog farm of the future will differ markedly from that family farm icon of the past that symbolized a multitude of independent farm operators.

### The Changing Dairy Sector

The shifting structure of Midwest livestock production was also a theme in Mary Keough Ledman's remarks on *The Changing Dairy Sector*. Ledman reviewed recent trends in the nation's dairy sector, noting how the downtrend in dairy cow numbers has been offset by rising output per cow and a modest rate of growth (about 1%) in annual milk production. In addressing some of the regional issues in dairy production, Ledman pointed out that the three key upper-Midwest dairy states had experienced a modest decline in their proportionate share of U.S. production, while the Pacific and Southwest regions had carved out a larger share. In 1980, the three-state region of Michigan, Minnesota, and Wisconsin accounted for 29% of U.S. milk production. By 1995, its share had declined to 24%. The share accounted for by Illinois, Indiana, and Iowa retreated from 7% to 6%. By 2000, Ledman expects the seven-state area stretching from the Pacific Northwest through Texas to expand its share of milk production from 31% (in 1995) to 35%, while the combined shares held by the three upper Midwest states and the Northeast region will retreat from about 43% to about 41.5%.

**Figure 5** Annual Milk Output per Cow Tends to Be Lower in Midwest States Where Dairy Farms Are Smaller



Source: Mary Keough Ledman, "The Changing Dairy Sector," paper presented at the workshop "The Changing Rural Economy of the Midwest," held at the Federal Reserve Bank of Chicago, March 8, 1996.

Ledman noted that dairy farms in California and the Pacific/Southwest in general tend to be much larger than those in the Midwest and much more likely to specialize in milk production. In 1993, California surpassed Wisconsin to become the largest milk



*In 1995, the average dairy cow in California produced over 20.2 thousand pounds of milk, 31% more than the average for Wisconsin and 23% above the nationwide average. Over the last 15 years, the gap in productivity per cow between California and Wisconsin has widened.*

producing state. The average dairy herd in California is eight times that in Wisconsin (400 cows, compared with 50 cows). Over half (55%) of the dairy farms in California have 200 cows or more compared to only 1% of the dairy farms in Wisconsin. These large farms account for 95% of all dairy cows in California compared with less than 6% of the dairy cows in Wisconsin. The dairy farms in California tend to focus solely on milking cows, using hired labor and purchasing the feed and forages necessary to sustain the dairy herd. Wisconsin dairy farms tend to make extensive use of family labor, produce the majority of the feed and forage needed for the dairy herd, and often are engaged in other commercial farming activities. A harsher climate also typically requires a larger investment in buildings and structures on the Wisconsin dairy farm. In addition, milk cows tend to be much more productive in the Pacific region than in the upper Midwest. In 1995, the average dairy cow in California produced over 20.2 thousand pounds of milk, 31% more than the average for Wisconsin and 23% above the nationwide average (see figure 5). Over the last 15 years, the gap in productivity per cow between California and Wisconsin dairy farms has widened.

Despite the recent history of a declining share of production and a widening gap in output per cow, Ledman expressed confidence that some areas of the upper Midwest will bounce back in milk production. In particular, she predicted that Wisconsin would recapture the number one state ranking in milk production. She noted there is already some evidence of West Coast dairy producers seeking to relocate closer to the Midwest and its lower feed costs. Moreover, she noted that Wisconsin dairy farms are in the midst of a major restructuring that will lead to a greater number of large-scale producers that tend to be more specialized in dairy production. Wisconsin's renewed focus on promoting dairy and its continued dominance in processing milk and dairy products also auger well for its re-emergence as the leading dairy state, according to Ledman.

### **Concluding Remarks**

The rural Midwest has enjoyed an impressive turnaround in recent years. This is especially apparent in the 2.4% population gain during the four years ending July 1994, a reversal from the decline that occurred during the entire 1980s. Well over half the recent population gain stemmed from net migration into the rural areas of the five-state Midwest region. This pattern of migration gains propelling rural population growth, first evident in the 1970s, appears to be resuming after a lull in the 1980s. This provides renewed hopes and policy challenges regarding the future economic vitality of the rural Midwest.

The rural rebound has been associated largely with two goods-producing industries—agriculture and manufacturing—and the expanding tourism and retirement component of the service industry. Changing fortunes in the Midwest have long been tied to agriculture. Both the sagging agricultural fortunes of the early 1980s and the subsequent recovery through the mid-1990s mirrored the fall and rise in the overall Midwest economy. But agriculture's influence on overall economic performance has waned over the years and no doubt will continue to do so. Rural manufacturing has garnered an increasing influence in recent years. In the Midwest, rural manufacturing jobs rose slightly over the last 15 years, while those in urban areas declined by more than one-fifth.

Despite the rebound, rural population growth still lags that of urban areas. Rural communities face many challenges if the gap is to be narrowed. The linkages between the number and location of jobs and overall economic activity are complex and not always predictable. Ironically, much of the challenge facing the rural Midwest relates to the continuing productivity gains in both agriculture and manufacturing. Those gains are prerequisites for maintaining a competitive edge in an increasingly global marketplace. But they also

can translate into fewer jobs, despite expanding output. Looking to the future, the mega farms that characterize the latest wave of agricultural restructuring foreshadow continued declines in the number of farms and farm families. Perhaps more critically, the issues surrounding mega farms raise concern about whether the Midwest will retain its dominance in pork and milk production and related food-processing activities. Corporate downsizing, the centralizing of informational systems, and the need to stay on the cusp of technological advances may add obstacles to job growth in rural manufacturing. But these obstacles also bring challenges, since the more productive governmental efforts in rural development often lie in programs for retraining those whose jobs have been lost due to changing market conditions.

Other challenges are also evident. The producer services industry has enjoyed rapid growth nationwide in recent years, but in the Midwest, its growth has been comparatively modest. In addition, the rural/urban gap in wages is widening in both manufacturing and the producer services industry. From a broader perspective, high-skill and/or high-paying occupations are increasingly concentrated in metropolitan areas. This may, in part, reflect the perception that amenities, such as health care, cultural activities, and transportation, are better in urban areas. On a more encouraging note, however, it does not appear that rural workers are less productive than urban workers. Nor is the student of the rural school system impeded by a lower-quality education than that offered the urban student. Cause and effect are difficult to untangle, but there is some evidence that the characteristics of rural jobs may be more a reflection of the types of jobs offered than of the skills of the rural labor force.

Rural communities can pursue several avenues toward preservation, renewal, or growth. Lower living costs and access to a well-educated, highly productive labor force in rural areas remain key factors for communities seeking growth. Rural communities may also have important “quality of life” advantages, such as a cleaner environment, less crime, less congestion, and friendlier people. But the availability and quality of rural health care will remain a critical factor in how well rural life is judged. Advanced delivery techniques and strategic restructuring of health care facilities and services are allowing some rural areas to keep more health care dollars at home and to make rural living more appealing to workers and retirees alike.

Some rural areas may choose to develop their assets as resort or recreational facilities. The upper Midwest has much to offer in this regard. But the choices involved in such a pursuit illustrate the dilemma facing many rural communities. Well-chosen and well-directed development may help to preserve a rural lifestyle while enhancing its economic vitality. But externally driven changes can also overwhelm the very character of a rural community that is most appealing to its existing residents. Therein lies Falk’s conundrum: Rural communities have the option to change and survive or to refuse to change and run the risk of perishing through the continued out-migration of their most productive workers.

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## About the Workshop

Correspondence related to the March 8, 1996, workshop, "The Changing Rural Economy of the Midwest," should be directed to conference convenor Gary L. Benjamin, economic adviser and vice president in the Research Department at the Federal Reserve Bank of Chicago. Participants in the workshop included the following:

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Federal Reserve Bank  
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Southern Illinois University  
at Carbondale

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Federal Reserve Bank  
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**William Bergman**  
Federal Reserve Bank  
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**David Broomhall**  
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**Sam Cordes**  
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**Jeff R. Crump**  
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**Steve Deller**  
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**Mark Edelman**  
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**Fred Gale**  
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**D. Gale Johnson**  
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**Mike Nelson**  
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**Shirley Porterfield**  
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**John Rosine**  
Board of Governors

**Karl A. Scheld**  
Federal Reserve Bank  
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**Arnold C. Schultz**  
Grundy National Bank

**Mike Singer**  
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**Norm Walzer**  
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## Workshop Agenda

The workshop “The Changing Rural Economy of the Midwest” was held on March 8, 1996 at the Federal Reserve Bank of Chicago, 230 S. LaSalle St., Chicago, IL 60604.

- I. 8:30 a.m.
- Welcome and Opening Remarks  
**Presenter:** *William C. Hunter*, Federal Reserve Bank of Chicago
- II. 8:45 a.m.
- THE HUMAN DIMENSIONS OF THE MIDWEST RURAL ECONOMY**
- The Demographic Trends  
**Presenter:** *Kenneth M. Johnson*, Loyola University of Chicago
- The Quality of Rural Education  
**Presenter:** *Thomas F. Pogue*, University of Iowa
- The Productivity of the Rural Labor Force  
**Presenters:** *David McGranahan and Fred Gale*, U.S. Department of Agriculture  
**Discussant:** *Ron Shaffer*, University of Wisconsin
- III. 10:45 a.m.
- MANUFACTURING AND THE MIDWEST RURAL ECONOMY**
- Recent Trends and Implications for the Future  
**Presenter:** *G. Andrew Bernat*, U.S. Department of Commerce
- The Food Processing Industry in the Midwest  
**Presenters:** *Mike Singer and Chris Barfels*, Federal Reserve Bank of Chicago  
**Discussant:** *William A. Testa*, Federal Reserve Bank of Chicago
- IV. 12:15 p.m. Lunch
- THE ROLE OF GOVERNMENT IN THE RURAL ECONOMY**
- Presenter:** *D. Gale Johnson*, University of Chicago
- V. 1:30 p.m.
- THE SERVICE INDUSTRY AND THE MIDWEST RURAL ECONOMY**
- Producer Services Workers in the Nonmetropolitan Midwest  
**Presenters:** *Jeff R. Crump and Norm Walzer*, Western Illinois University
- Health Care Services and the Rural Economy  
**Presenter:** *Sam Cordes*, University of Nebraska
- Retirement and Recreational Activities in Rural Communities  
**Presenter:** *John Fraser Hart*, University of Minnesota  
**Discussant:** *Shirley Porterfield*, Washington University
- VI. 3:15 p.m. Coffee Break
- VII. 3:30 p.m.
- CHANGES IN PRODUCTION AGRICULTURE AND THE MIDWEST**
- The Industrialization in Hog Production  
**Presenter:** *Gary L. Benjamin*, Federal Reserve Bank of Chicago
- The Changing Dairy Sector  
**Presenter:** *Mary Keough Ledman*, Keough Ledman Associates  
**Discussant:** *Stanley R. Johnson*, Iowa State University

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## About the Project

The Federal Reserve Bank of Chicago is undertaking an extensive analysis of the Midwest economy. The goal of the project is to understand the Midwest's turnaround in economic performance since the early 1980s. In the Seventh Federal Reserve District—which includes Iowa and large portions of Illinois, Indiana, Michigan, and Wisconsin—unemployment rates are, at the time of this writing, lower than at any time since the 1977–78 period, as well as being below the national average.

The Midwest project will involve a series of workshops and research studies which will be carried out by Federal Reserve analysts and other researchers from the region. An advisory board representing a cross-section of Midwest leaders will provide guidance for the project (see back page). Workshops scheduled for 1996 will consider (1) the economic performance of the broad Midwest economy and the transformation of its manufacturing industries; (2) the rural economy of the Midwest; (3) labor force training and education; (4) global linkages with the region's economy; and (5) tax, spending, and regulatory influences on regional performance. The findings of the workshops will be communicated through a series of publications and broad public forums. The project will conclude with a conference and publication toward the end of 1996.

At the Bank, the “Assessing the Midwest Economy” project is being conducted through a cooperative effort of the Office of the President, Michael H. Moskow, president; Research Department, William C. Hunter, senior vice president and director of research; and Community and Information Services, Nancy M. Goodman, senior vice president.

Inquiries should be directed to William A. Testa, senior economist and assistant vice president, Research Department, or James Holland, public affairs officer.

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