Competitiveness in Rural U.S. Regions: Learning and Research Agenda

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I. Introduction

Current policies to improve the disappointing economic performance of rural regions are, by and large, not working. This is increasingly the consensus among policy makers across political parties, not only in the United States but also in many other countries around the globe. Not only is the performance of rural regions lagging, but the gap in performance levels between rural and urban areas seems to be widening. This state of affairs exists despite significant efforts to boost rural regions through a wide variety of policies with budgets of billions of dollars in the United States alone.

The failure of current policies for rural regions has many costs: First, it draws on limited government resources at a time of budget deficits and cuts in spending. With many other competing demands on public sector funds, policies that fail to generate results are getting increasingly hard to defend.

Second, rural counties account for 80% of land area, and 20% of U.S. population. Weak performance in rural regions retards national productivity and national prosperity, and fails to effectively utilize the nation's resources. As the growth of the U.S. workforce slows, making all parts of the economy productive is an important priority.

Third, the inability of rural areas to achieve their potential leads to an inefficient spatial distribution of economic activity in the United States. Activities that could be performed more efficiently in rural areas either migrate offshore or add to the congestion of urban centers.

Fourth, weak rural performance creates demands for interventions that threaten to erode the incentives for productive economic activity. The lack of competitiveness of rural economies has been a prominent cause of agricultural subsidies as well as import barriers that hurt the U.S. position in the international trading system without addressing the underlying challenges rural regions face.

These broad conclusions about rural economic development are, by and large, not surprising. The United States has the need and the opportunity to lead in this field. Advances in thinking on competitiveness and regional economic development over the last decade provide an opportunity to now examine rural regions in new ways.

The Institute for Strategy and Competitiveness at Harvard Business School has undertaken a long-term project on the competitiveness of rural areas, drawing on its expertise in studying competitiveness more generally in national, state, and regional economies as well as in economically distressed urban areas. In addition to the theoretical framework and body of case studies drawn from previous research, we also utilize a unique data set on U.S. economic geography to investigate the economic performance

We are grateful to the Economic Development Administration and Harvard Business School for their support of this project. We are also grateful to the many individuals who consented to be interviewed and shared their candid views.

and composition of rural regions statistically. EDA has generously contributed a grant of $100,000 to defray a portion of the cost of this ongoing project.

This report summarizes a selective, interpretative review of the literature on the economic performance, the composition and evolution of rural economies in the United States, the nature of the business environment in rural regions, and evidence on the role of clusters in these areas. Clusters, or geographically concentrated groups of companies, suppliers, educational organizations, and other institutions in a particular field, have drawn increasing interest in the economic development literature and, more recently, in the work on rural regions. This report also briefly reviews U.S. policies towards rural regions and the institutional network serving them. Finally, it summarizes the policy recommendations for rural regions in the literature. In each section of the report, we offer our recommendations for future research. The report concludes with our interpretation of the state of rural competitiveness and highlights the opportunity to take rural policy to the next stage.

We must emphasize that this exploratory study does not aim to be exhaustive, but to inform a longer-term research and policy process. Such a preliminary assessment cannot hope to capture all aspects of the literature nor reach specific conclusions and recommendations for policy. Instead, our focus is on sketching some of the beginnings of a conceptual framework for examining rural regions, adding some new data to the discussion, and outlining a research agenda for the field.

Our aim is to contribute to a new stage of U.S. economic policy towards rural regions, and to stimulate new research and new initiatives. As a next step, a conference or a series of conferences on rural economic development would be highly beneficial in bringing together the players to advance this important agenda.

II. Rural Regions as a Unit of Analysis

Rural regions, for purposes of this analysis, are geographic areas not part of metropolitan areas as defined by the U.S. government. The way rural regions are defined has had a strong influence on the way researchers and practitioners have framed the challenge of economic development in these regions. A number of implicit assumptions have been prominent in the field, which should be examined.

First, rural regions have been treated as different from other regions. This has led to institutions and policies for rural regions that are distinct and different from those in other parts of the country. It is clear that rural regions share one important characteristic that distinguishes them from metropolitan regions: their lower population density. Population density is important because it reduces the potential for positive externalities among companies and other institutions while increasing the costs of providing physical infrastructure and support services. While grappling with the implications of low density must be incorporated into thinking about rural areas, however, it does not suggest the need for a fundamentally different economic development approach. For example, a 1996 survey by the USDA compared top priorities businesspeople in rural and metropolitan regions saw for government. The priorities turned out to be virtually identical. Rural regions are governed by the same basic competitiveness drivers as other regions.[2]

Second, rural regions have been defined as a unit of analysis about which generalizations are possible. While many observers have recognized the existence of differences among rural regions,[3] there is a tendency to see these differences as less important then the overall classification of a region as rural. In this report, we begin with the premise that each region is unique, whether it is urban or rural. While the same general framework can be applied to any region, the unique characteristics of each region will determine the priorities for improving competitiveness.

Third, rural regions have usually, although not always, been seen as distinct and independent from metropolitan areas, with policy prescriptions set accordingly. Here, we treat rural regions as imbedded in their surrounding economic geography, with potentially significant interactions between adjacent areas. In particular, we begin to examine how the performance and structure of rural regional economies depends on that of neighboring metropolitan regions.

This report, then, examines rural regions with the same perspective as would be applied to any region: a region is an economic unit with its own distinct economic composition, business environment, and relationships to neighboring regions. Examining economic development in rural regions using the same analytical lens as applied to economic development generally will hopefully shed new light on their prospects and appropriate policy.

[2] For a summary of our research on regions see Porter (2003a) and Porter, Council on Competitiveness, and Monitor Group (2001).
[3] Quigley and Henry (1998), Drabenstott (1996)

III. Economic Performance in Rural Areas

Economic Performance of Regions: Theoretical Framework

Any examination of regional economic performance must begin with a clear framework for how to measure performance and its underlying causes. A region's standard of living is determined by the *productivity* of its economy. Productivity is measured by the *value* of goods and services produced per unit of labor, capital, and the natural resources employed. Productivity sets the wages that can be sustained and the returns to investment in the region - the two principal components of per capita income. Income derived from other sources, such as transfer payments or subsidies, is not a reflection of a region's underlying economic performance. Similarly, government employment is not determined by underlying competitiveness. In this report, then, we focus on the wages earned from private sector activities. This differs from some other analysis which combines all types of employment and income.

Productivity, contrary to popular usage, is more than just efficiency. It depends on the *value* of the products or services that a region's firms can produce, as measured by the prices they can command, not just their efficiency of producing standard items. The central challenge for a region is to create the conditions that enable companies operating there to achieve high productivity and sustained productivity growth.

Regional economic performance must be measured on multiple levels to capture current prosperity, productivity, and the capacity to improve productivity over time. The sustainable standard of living can be measure by the level and growth rate of average wages and the proportion of a region's citizens that are employed. Standard of living is also affected by the cost of living, which is normally lower in rural areas. Over time, a region's performance is reflected in its ability to attract and retain increasing levels of population.

Productivity is driven up as firms operating in a region are able to serve the local market more effectively. However, regional productivity can be increased even faster if a region is able to export competitive products across regional and national boundaries. This allows a region to grow the fields in which it is most productive beyond its local market size. Export value per employee and export growth, then, are indicators of the health of productivity growth. In addition, inflows of investment into a region are another indicator of the attractiveness of a region as a place to do business.

Over time, the sustainable level of prosperity, productivity, and wages in advanced economies is determined by a region's ability to create and commercialize innovations. The intensity of patenting, the creation of new firms, and the deployment of venture capital are indicators of a region's innovation potential.

Figure 1 below shows a series of regional performance measures that can be employed in examining regions and their progress. While not all of them were available within the scope of this review, we examined the available data to shed light on recent regional performance.

FIGURE 1

Measures of Regional Economic Performance

Current Economic Performance	Innovation Performance
• Employment / employment growth	• Patents / patent growth
• Workforce participation	• Venture capital investments
• Unemployment rate	• New establishments / new establishment growth
• Average wages / average wage growth	• Fast growth firms
• Cost of living	• Initial public offering proceeds per 1,000 firms
• Poverty rate	
• Gross regional product per employee	
• Regional export levels / annual growth in exports	
• Inward business investment	

Rural Economic Performance: Findings from the Literature

While there is no truly comprehensive assessment of the performance of rural regions in the literature, researchers have explored many of the relevant measures. The general consensus is that rural areas in the U.S. are underperforming metropolitan areas, and that the gap is widening. A good example is the work by Quigley, who provides a detailed analysis of economic trends in rural and urban areas over the last three decades.[4] He finds long-term trends of declining rural population, a steep decline in total rural personal income, rural per capita incomes at about 70% of urban incomes, and a rising income gap between rural and metropolitan regions.

The fall in the share of the U.S. population living in rural regions is a long historical trend: The number of people living in urban regions in the U.S. first exceeded the number living in rural regions in 1920. By the 1990 census, most Americans lived not only in urban areas but in metropolitan areas of more than one million people.[5] The only period in recent history where rural regions did not lose population were the 1970s, when rural regions actually increased their share of national population. It appears that this was due to the shift of manufacturing out of urban areas to lower cost rural locations during that period which opened up new job opportunities.[6]

There is a higher incidence of poverty in rural regions versus the United States average. Jolliffe analyzes the incidence and severity of poverty in US metropolitan and non-

[4] John Quigley, "Rural Policy and the New Regional Economics: Implications for Rural America," University of California, Berkeley, May 2002.
[5] USDA / Economic Research Service, "Understanding Rural America," February, 1995.
[6] Robert Atkinson, "Reversing Rural America's Economic Decline," Progressive Policy Institute, 2004.

metropolitan areas in the 1990s.[7] He finds that the share of residents defined as poor is higher in rural versus metropolitan regions. He also finds, however, that the severity of poverty in rural regions, measured by income level relative to the region's average, is less than in metropolitan regions. Compared to the urban poor, then, the rural poor are relatively better off.

Rural regions receive a disproportional share of social and other transfer payments. Quigley finds that transfer payments to rural areas have been on the rise for at least the last 15 years, and are at a level of 19% of total income in rural areas vs. 12% in urban areas. He argues that this level of transfers is driven by a combination of weak economic performance and an aging population.

Government farm payments are only a small percentage of overall rural income. However, farm payments in aggregate are substantial and represent significant subsidies on a per farm-worker basis. Subsidies go primarily to large farms.[8] Stauber estimates the level of US agricultural subsidies at about $25 billion, and bemoans the lack of evidence on the efficacy of this policy. He, as do many others in the field, argues that farm subsidies have a negative impact on rural areas by "absorbing resources, propagating the myth that rural and agriculture are the same, and making it difficult for rural areas to develop new areas of competitive advantage."[9] Farm subsidies also distort market forces that would make agriculture more efficient while blocking needed manufacturing crucial to diversify rural economies and make them more competitive.

There are indications that rural prosperity is actually higher than measured because of lower cost of living levels. For example, Quigley reports an increasing level of home ownership and improving housing quality in rural regions relative to metropolitan regions.

While there is some qualitative discussion in the literature of other indicators such as measures of regional innovation and entrepreneurship, such as patents, new business formation, venture capital investments and growth of companies, there are few, if any, comprehensive data-driven analyses of these indicators.

Performance heterogeneity

It is widely recognized in the literature that there is substantial heterogeneity of economic performance among rural regions. This has been revealed in a number of individual case studies of successful rural regions. Heterogeneity has also led to the development of various classification systems for rural regions that attempt to capture these differences.

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[7] Dean Jolliffe, "Comparisons of Metropolitan-Nonmetropolitan Poverty During the 1990s," Economic Research Service / USDA, RDRR-96.

[8] John Quigley, "Rural Policy and the New Regional Economics: Implications for Rural America," University of California, Berkeley, May 2002. See also Robert Atkinson, "Reversing Rural America's Economic Decline," Progressive Policy Institute, 2004.

[9] Karl Stauber, "Why Invest in Rural America—and How? A Critical Public Policy Question for the 21st Century," Economic Review, Second Quarter, 2001.

An example of case study research on a so called "high amenity" region is McCormick County, South Carolina. McCormick County is described by Barkley and Henry as the "poster child" for rural economic development in South Carolina.[10] The Savannah Valley Authority established a successful planned retirement community in the county, Savannah Lakes Village, in 1987. By 2000 it was estimated that the retirement community was responsible for 25% of the county's jobs and income and 35% of the tax revenues. Eighty new homes were being added each year and growth continued to be strong as of 2000.

Examples of systems for classifying rural regions are the regional classification and coding systems of the Bureau of Economic Analysis. Urban Influence Codes classify counties by the presence of cities and their proximity to metropolitan areas. Rural-Urban Continuum codes are based on population levels. County Typology Codes are based on the primary economic activity in the county. County Typology Codes are based on the importance of various government policies in the region, such as transfer payments.

FIGURE 2

Regional Classification Systems

Urban Influence Codes	Rural-Urban Continuum Codes	County Typology Codes - Activity	County Typology Codes - Policy
• Nine categories based on size, density, and proximity to other metro or city regions	• Ten categories based strictly on population levels	• Six categories based on primary economic activity - Includes farming, mining, services, manufacturing, government, and non-specialized	• Five categories based on government policy focus - Includes federal lands, retirement, commuting, persistent poverty, and transfer dependent

The efforts at developing typologies reveal the increasing recognition of the heterogeneity of rural areas and the need to break down the term "rural" into various more robust categories for purposes of economic development. However, no single typology has yet been widely adopted by rural economic development experts to examine comprehensively the economic performance of rural areas.

[10] David Barkley and Mark Henry, "Rural Industrial Development: To Cluster or Not to Cluster?" Review of Agricultural Economics, Vol 19, No. 2, Fall/Winter 1997.

The Effect of Proximity to Metropolitan Areas

A number of studies have explored the impact of proximity to an urban region on the performance of rural regions. Mills, for example, analyzes whether a rural community's adjacency to a metropolitan area has an effect on transition from unemployment to employment by rural workers.[11] He finds there is a significant incentive for young workers to migrate to metropolitan areas based on higher initial earnings. Adjacency to a metropolitan area speeds both the migration to the metropolitan area, and also the transition from unemployment to employment for rural workers. Overall, however, the link between rural and metropolitan areas has yet to be explored in detail.

Rural Economic Performance: Findings from the Cluster Mapping Project

The Cluster Mapping Project has developed a comparable set of economic performance indicators across all U.S. regions.[12] Here, we utilize the data to compare rural regions with each other and with metropolitan areas in a consistent way. Analysis proceeds at two different levels of aggregation: One approach utilizes the 3,004 U.S. counties as the unit of analysis, 2,166 of which are classified as rural.[13] County-based data is the most detailed data available but is subject to significant data suppression.[14] The other approach utilizes the 172 U.S. Economic Areas (EAs)[15] as the unit of analysis, dividing each EA into its rural and metropolitan components. Both approaches draw on the core County Business Pattern data set[16] that all private employment except for sole proprietorships and farm workers; supplemental data is available on these other employment groups. The data also excludes employment by government.

Overall performance

Our data confirm that rural regions account for a small and slowly decreasing share of U.S. employment. In 2001, rural regions registered 16.2 million employees, 14.2% of total U.S. employment. With 6 employees per square mile, rural regions have a much lower density of employment than metropolitan regions (147 employees per square mile). In 1990, rural regions accounted for 14.3% of U.S. employment. While metropolitan regions added 18 million new jobs over the 1990 to 2001 period, rural regions registered 2.9 million new jobs.

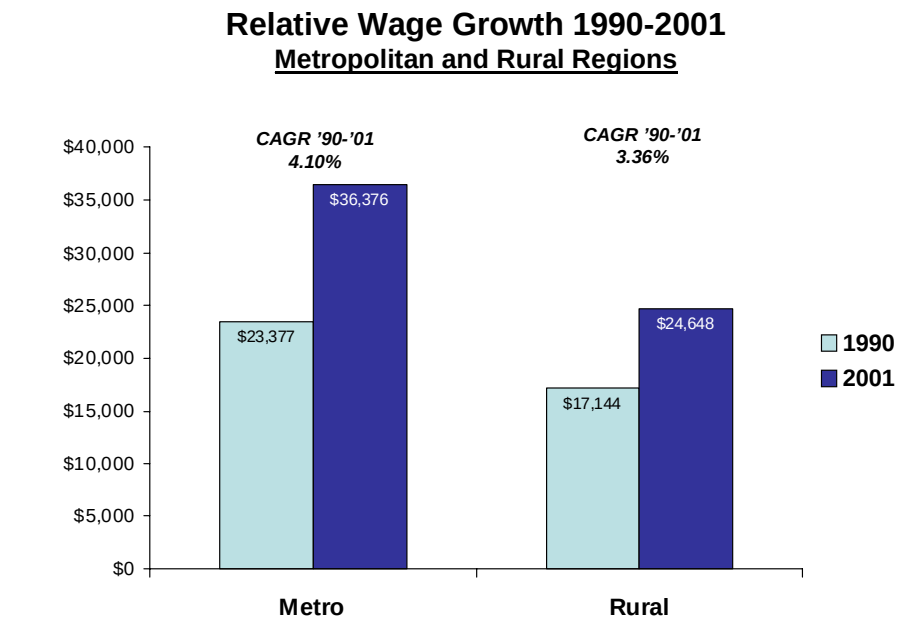
The most recent data indicates a fall in rural employment from 2000 to 2001, the first net loss of employment in rural regions since 1991; metropolitan regions continued to add jobs in 2001, although at a slowing rate. The recent downturn may have led to the

[11] Bradford Mills and Gautam Hazarika, "The Migration of Young Adults from Non-metropolitan Counties," American Journal of Agricultural Economics, 83(2), May 2001, pp. 329-340.
[12] For the Cluster Mapping Project and data see http://data.isc.hbs.edu/isc/cmp_overview.jsp
[13] The OMB has slightly revamped the classification of regions as metropolitan after the conclusion of this study. See http://www.ers.usda.gov/briefing/Rurality/NewDefinitions/ for details.
[14] The County Business Pattern dataset suppresses data in order not to release data about individual companies. The smaller the economic unit, the higher the likelihood that a company is the only regional employer in a given industry which leads to the suppression of its employment and wage data.
[15] EAs are defined by the Bureau of Economic Analysis and include both rural and non-rural areas.
[16] The raw data is available from the Census Bureau at http://www.census.gov/epcd/cbp/view/cbpview.html

perception that economic activity in rural regions has been shrinking over the last decade; it has actually grown, but not as fast as metro areas overall.

In 2001, rural regions reported an average wage of $24,648, 32.2% below the level of $36,376 reported for metropolitan regions. The wage gap has grown: In 1990, the gap between average wages in rural and metropolitan regions was 26.7%. The nominal average growth rate of rural average wages from 1990 to 2001 was 3.36% in rural regions compared to 4.1% in metropolitan regions.

FIGURE 3



Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

Poverty rates are higher in rural regions than in metropolitan regions. However, the gap has been shrinking with poverty rates falling more in rural than in metropolitan regions. The absolute number of people classified as poor in rural regions has dropped by 560,000 people between 1989 and 2000, compared to an increase of 610,000 in metropolitan regions.

In terms of innovation measures, 93.6% of all U.S. patents were issued to patentors in metropolitan regions in 2001. In metropolitan regions, 8.30 patents were issued per 10,000 employees versus 2.92 patents per 10,000 employees in rural regions. Establishments across all sectors grew at 1.18 % in rural regions versus 1.29% in metropolitan regions, a crude indication of relative levels of entrepreneurial activity.

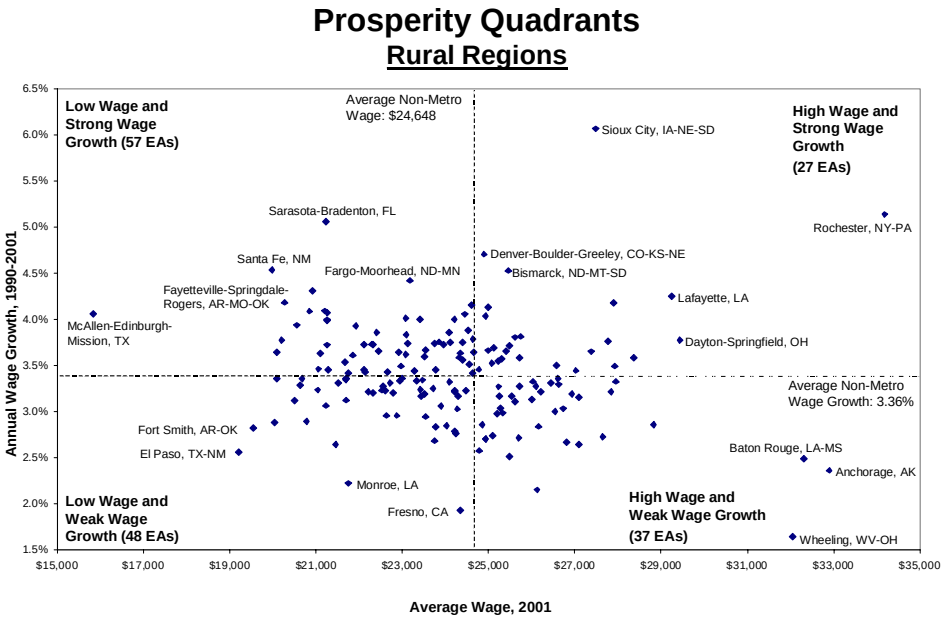
Performance heterogeneity

In previous work on all regional economies in the United States, we found that performance heterogeneity across regions tends to be substantial. Looking at the 172 economic areas in the U.S., the average wages of the lowest and highest wage EAs differ

by a factor of 2.5. The level of variation across regions is even higher for employment growth, and highest for measures of innovation.[17]

The degree of heterogeneity of economic performances for rural regions proves to be equally high. The average wage in the rural portions of economic areas is between $15,840 and $34,184, with most regions between $20,000 and $28,000. The annual rate of nominal wage growth between 1990 and 2001 in rural parts of economic areas ranges between 1.6% and 6.1%, with most rural regions between 2.5% and 4.2% growth. The difference in average wage between the highest and lowest wage rural region is about 2.5 times greater than the difference in average wage between the average of rural and the average of metropolitan regions.

FIGURE 4



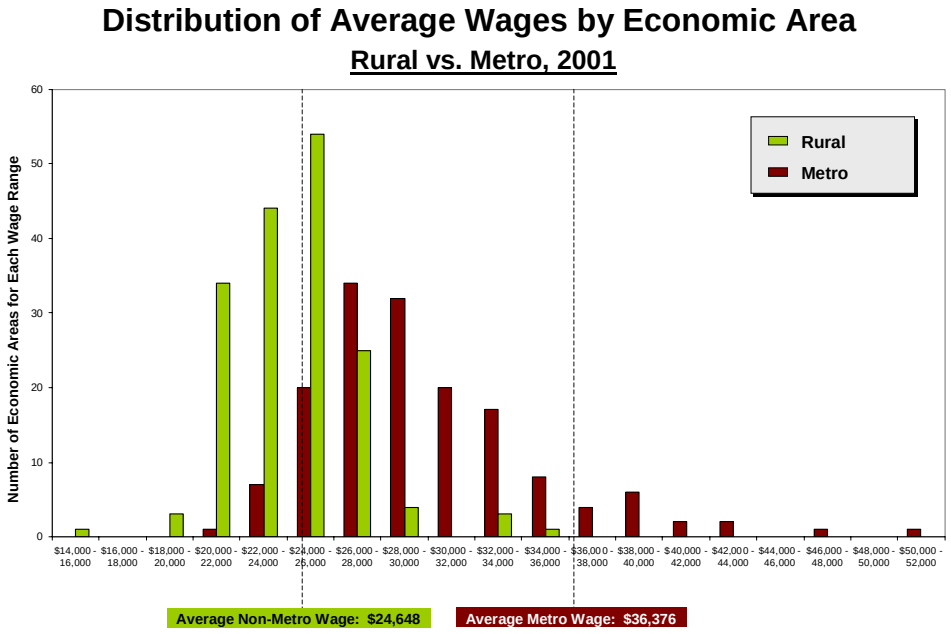
For all regions, absolute size (total number of employees per region) is associated with stronger economic performance. This relationship is strongest among metropolitan regions, and especially among smaller metropolitan regions. This relationship holds for rural regions as well. Larger rural regions tend to report better economic performance than smaller rural regions. Only 27 of all 172 economic areas have rural portions that register both higher average wage and higher wage growth than the average of all rural regions, suggesting that the larger employment rural regions do better; 37 rural regions have higher wage levels but below average wage growth. The average size of rural regions with above average wages is 118,353 employees versus 82,303 employees in rural regions with below average wages. This suggests that there are economic benefits to higher absolute levels of economic activity in a region. It also suggests that rural regions are overall at a disadvantage versus metropolitan areas because of their lower absolute

[17] Michael E. Porter, The Economic Performance of Regions, *Regional Studies*, Vol. 37 (2003)

size in terms of employment. However, the relationship is *less strong* among rural regions than among metropolitan regions.

The level of performance heterogeneity among both rural and metropolitan regions leads to a significant overlap in the distribution of average wages across the two populations. There are a substantial number of rural regions with higher average wages than the weakest metropolitan regions. Figure 5 shows that the average wage across metropolitan regions is strongly influenced by a few very large, very high wage regions (New York, Los Angeles, San Francisco Bay Area).

FIGURE 5

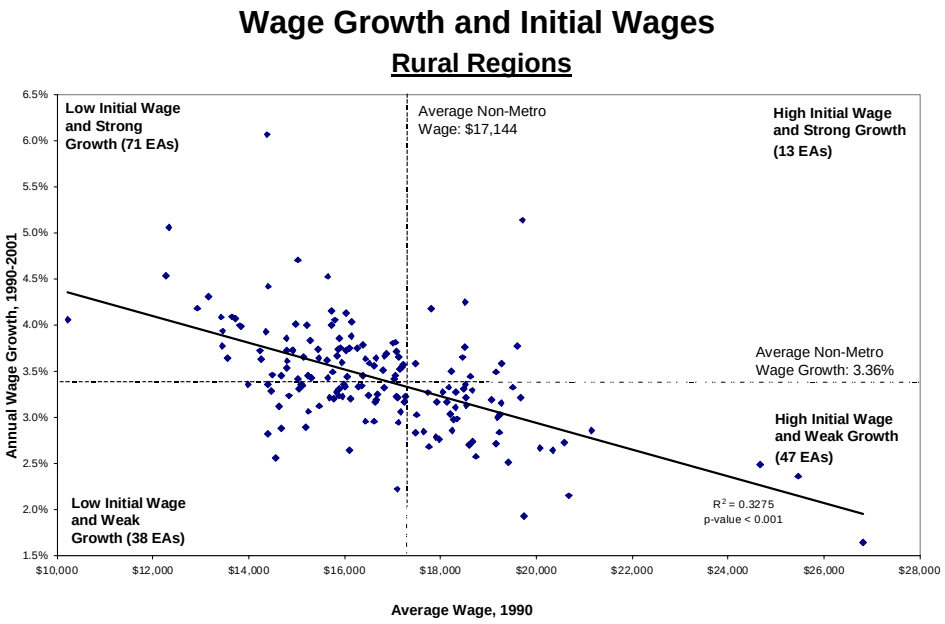


Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard University

An analysis of poverty rates across rural and metropolitan regions indicates higher heterogeneity among rural regions: The standard deviation of poverty rates across rural regions is significantly higher than across metropolitan regions. Interestingly, this heterogeneity is most pronounced for adjacent rural regions (see below).

While the performance heterogeneity among rural regions is significant, it is *decreasing* over time. Wages in rural regions have tended to converge: We test the impact of initial wage in 1990 on subsequent wage growth between 1990 and 2001 using data for the rural portions of the 172 economic areas. We find that higher initial wages are *negatively* and significantly related to wage growth (see Figure 6).

FIGURE 6



Source: Cluster Mapping Project, Institute for Strategy and Competitiveness

Over time, then, there has been a tendency for weaker rural regions to catch up. The relationship is the opposite in metropolitan counties, where leading counties tend to grow wages the fastest.[18] It is also the opposite of the relationship between metropolitan and rural regions, where metropolitan regions on average grew wages more strongly despite starting out with higher initial wages.

The evidence is consistent with the concept of "conditional convergence" prominent in the growth literature. Rural regions are revealed as a distinct group of regions with underlying characteristics that put them on a different growth path than metropolitan regions. Within their group, rural regions converge to one growth path while the two growth paths of the rural and metropolitan regions do not converge.

The Effect of Rural Proximity to Metropolitan Areas

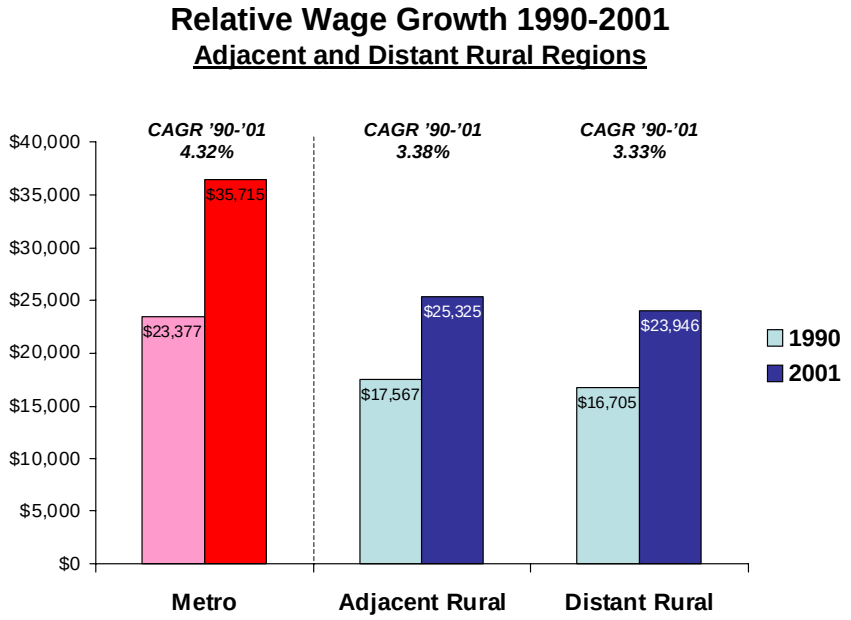
To analyze the effect of proximity to metropolitan areas on rural economic performance, we defined three groups of U.S. counties: 838 metropolitan counties as defined by the U.S. Census Bureau; 880 "adjacent" counties which are rural counties that border a "core" metropolitan county; and 1,386 "distant" counties which are rural counties bordering only other rural counties or non-core metropolitan counties. A "core" metropolitan county is a metropolitan county that has an urbanized center, as defined by the U.S. Census Bureau as having a minimum population of 50,000 persons.

[18] Michael E. Porter, "The Economic Performance of Regions," *Regional Studies*, Vol. 37 (2003), p. 562.

The 1,386 distant counties had an employment base in 2001 of 6.5 million jobs total, versus 6.8 million for the 880 adjacent counties. The average distant county registered 4,713 jobs, versus 7,708 jobs in the average adjacent county. Both were dwarfed by the 838 metropolitan counties which, with a 2001 employment base of 80 million jobs and an average size of 95,000 jobs, represented 86% of overall U.S. employment.

Employment growth rates from 1990 to 2001 were relatively consistent across all three county types: 1.9% for metro counties, 1.8% for adjacent counties, and 1.8% for distant counties. *Distant counties registered the lowest average wages—94.5% that of adjacent counties (Figure 7), some evidence that proximity to a metropolitan area benefits rural competitiveness.* Annual wage growth between 1990-2001 for distant counties was 3.33%, slightly below the 3.38% reported for adjacent counties. However, the economic health of adjacent metropolitan areas should also matter, as will be discussed below.

FIGURE 7

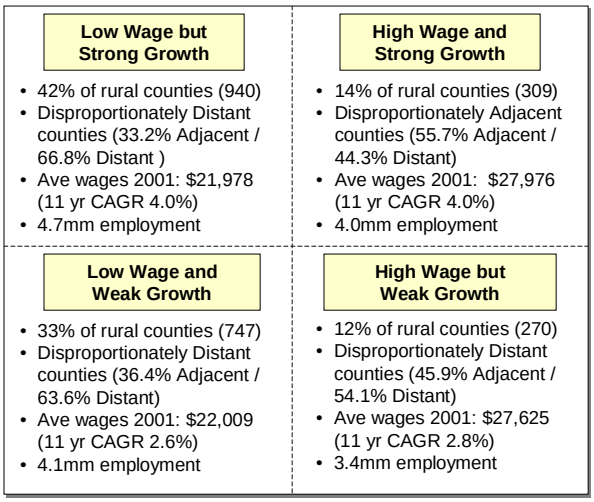


Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

Figure 8 divides all rural counties into four groups, based on wages and wage growth. Distant counties are disproportionately represented in the "Low Wage and Weak Wage Growth" and "Low Wage and Strong Wage Growth" quadrants. Adjacent counties are disproportionately represented in the "High Wage and Strong Wage Growth" category. This data provides additional evidence that proximity to a metropolitan area matters; despite a lot of within-group heterogeneity, distant counties are on average more likely to show lower economic performance than counties adjacent to metropolitan regions.

FIGURE 8

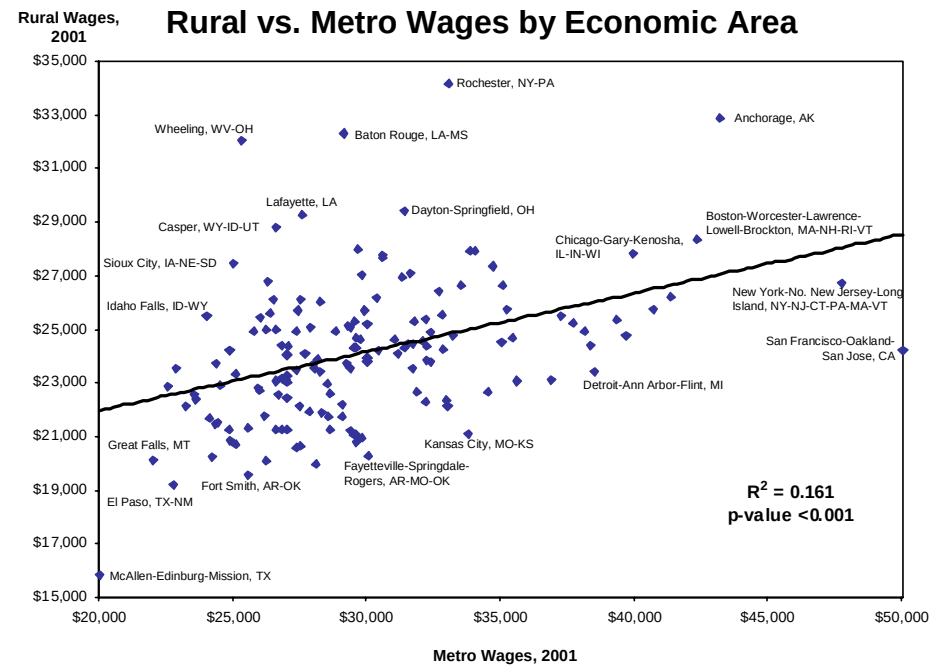
Rural Counties by Wages and Wage Growth



Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

The economic performance of the nearby metropolitan region also proves to be important for rural regions, not just their existence. Figure 9 shows the relationship of wage levels in the metropolitan and non-metropolitan portions of the 152 economic areas that include counties of both types. There is a clear and statistically significant positive relationship between metro and non-metro wages levels within an economic area; rural regions perform better if they are near economically stronger metropolitan regions. Metropolitan areas have higher wages in almost all economic areas; only in a few poor economic areas do the rural portions register higher average wages. These relationships are stronger for wage levels than for wage growth.

FIGURE 9



There is a clear need for further study of the nature of the linkages between rural and urban areas. The performance in distant counties may also be affected by their lower absolute size, so that the role of absolute size in regional performance needs further study.

Rural Economic Performance: Research Agenda

Our review suggests several areas for future research on the comparative economic performance of rural regions in the U.S.:

- An analysis of the relationship between the prosperity of rural regions and the characteristics and prosperity of the metro areas to which they are adjacent. Included in this would be a more detailed look at the effect of geographic distance and economic composition of adjacent urban areas on rural performance.
- Measurement of rural new business formation, the prevalence of fast-growing companies, venture capital investment, patenting rates and other measures of innovation and economic dynamism across rural and metropolitan regions.
- An analysis of the cost of living in rural areas to better understand their comparative level of prosperity.
- An analysis of transfer payments to better understand the role of redistribution in rural performance.
- Analysis of the patterns of population migration and the relationship of migration to job growth rates in rural vs. urban areas. It is important to explore the extent to which population migration is cause or effect.

IV. The Composition of the Rural Economies

The Composition of Rural Economies: Theoretical Framework

The economic performance of a region is affected by the composition of its economy. In any region, there are three broad types of industries, with very different patterns of spatial competition and locational drivers.[19] Distinguishing them is essential in understanding regional performance and its causes.

The first type of industry in regional economies is *local* industries. Such industries are present in every region and employment is roughly proportional to regional population. Local industries provide goods and services primarily to the local market, or the region in which the employment is located. Such industries compete in only a limited way with other regions. Most are services including local health services, utilities, retailing, and many types of construction. A few goods producing industries are revealed as local, including soft drink bottling, newspapers, concrete products, and ready-mixed concrete. Local industries account for the majority (about two thirds) of the employment in regional economies in the U.S. Because local industries serve only the local market and most are services, they have more limited opportunities for productivity growth.

A second type of industry in regional economies is *resource dependent* industries. Employment in these industries is located primarily where the needed natural resources are found. These industries not only serve the local market but also compete with other domestic and international locations. Examples of such industries include uranium ore, logging, beet sugar, and freight transportation on the Great Lakes. Resource dependent industries can support high wages but have limited scope in advanced economies. The performance and wages of resource industries depends heavily on their use of skill and technology. For example, despite virtually identical natural conditions, the pulp & paper industries in Finland utilize sophisticated technology to achieve much higher productivity then their less advanced competitors in Canada.

The third type of industries in regional economies is *traded* industries that are not resource dependent. These industries compete to sell products and services across regions and often to other countries. Traded industries can, in principle, be located anywhere. They locate in a particular region based not on resource availability but on broader competitive considerations. The employment concentration of traded industries varies markedly by region. Examples of traded industries include aircraft engines and engine parts, motion picture and videotape production, and automobile assembly.

Traded industries have a disproportionate influence on regional prosperity and economic growth. Traded industries have higher levels of productivity, higher productivity growth, and higher average wages than local industries. Because they can grow beyond the size and the needs of the local market, traded industries in which a region is competitive are major drivers of productivity and employment growth. Traded industries not only provide employment themselves, but drive the demand for local commercial services. Their high

[19] Michael E. Porter, "The Economic Performance of Regions," *Regional Studies*, Vol. 37 (2003).

wages have a strong influence on consumer demand in the region. Hence, while traded wages are significantly higher, the level of traded wages in a region is strongly correlated to the level of local wages, with causality appearing to go from traded to local.

A given traded industry will vary in productivity and competitiveness across regions. In those regions where a particular industry is more productive and innovative, wages in the industry will be higher. Industry wages in a given region are also affected, however, by the overall average traded wage. This is because an industry must compete with other industries in its region for employment.

Productivity tends to depend less on *what* traded industries a region competes in than *how* it competes. We find that the mix of clusters in a region accounts for only about 20% of the variation of average wages across regions, while differences in wages in *given* clusters explain 80% of the variation.[20] This finding contrasts with the widely held believe that poorer regions tend to suffer primarily because of an unfavorable composition of industries.

The Composition of Rural Economies: Findings from the Literature

Much of the public debate on rural regional economies is based on the belief that rural regions are home to an inherently less favorable composition of economic activity than metropolitan regions. In particular, there is a belief that rural regions are dependent on agriculture and on traditional manufacturing; both sectors seen as providing little basis for current and future prosperity. However, the literature offers a more sophisticated perspective.

The Role of Agriculture in Rural Economies

Many experts highlight the common misperception that agriculture is the dominant source of employment and income in rural economies. In fact, agriculture is important in *only a small number of rural counties*, and its overall impact on rural regions in the U.S. is negligible. Quigley finds that less than 10% of the rural population lives on farms. Less than 7% of employment in rural areas is in farming, and farm income represents only about 2% of total rural income.[21]

"Farming counties", or counties in which 20% or more of the county's total income is derived from farming, totaled 556 in 1997. They represent 18% of total U.S. counties and 25% of rural counties, a proportion that has been decreasing since the early 1950s. [22] Farming counties are concentrated in the Great Plains. They are remote and have low population densities relative to other rural areas, with little access to public services and infrastructure according to a study by the USDA. Even in farming counties, however, eight out of ten jobs are in non-farm sectors.

[20] Michael E, Porter, The Economic Performance of Regions, *Regional Studies*, Vol. 37 (2003)
[21] John Quigley, "Rural Policy and the New Regional Economics: Implications for Rural America," University of California, Berkeley, May 2002.
[22] USDA (1999)

Several experts have highlighted the fact that productivity growth in agriculture has limited rural job growth, making farming a "double-edged sword."[23] Technological advances have increased farm yields and efficiency over the last several decades, reducing farm jobs while boosting output. This is seen as hurting the economic performance of predominantly farming areas. Yet this analysis can yield misleading conclusions. U.S. agriculture is successful on world markets because of its strong productivity performance. This productivity growth is a sign of competitiveness, not a problem as some of the literature seems to suggest.

Agriculture itself is a heterogeneous sector: Large, export-focused farms in the Midwest face competitive issues very different from small farms close to metropolitan regions that have an advantages in supplying specialty or premium products. Sound rural economic policy needs to build on the competitive potential of the agricultural sector depending on each region's unique circumstances.

Seeing the fortunes of rural regions as tied to agriculture can be a barrier to developing appropriate strategies. *Just as dismissing agriculture is a mistake, trying to address the economic problems in rural regions by focusing on agriculture will almost inevitably fail. Rural policy needs to focus on where and how rural regions can be productive in agriculture relative to other locations.*

The Role of Manufacturing and Services in Rural Regions

Analyses of rural regions have registered concern about the overall shift from manufacturing to services in economic activity. In the United States, the share of manufacturing in total employment dropped from 29% in the late 1960s to 16% in 1995.[24] The literature proposes a number of different explanations for this shift, some interpreting it as a natural process of economic and technological advancement while others seeing policy and management failures at work. Recently, the outsourcing of manufacturing activities to China and other countries has refueled the controversy.

The trend towards services has been seen as important for rural regions because many of them rely heavily on manufacturing jobs that have been threatened by foreign competition. Researchers have sought to identify the types of manufacturing that will have a future in rural regions. A USDA study suggests that differentiated, non-commodity manufactured products with a low share of labor in total costs will offer the most potential for U.S. rural regions. Rural U.S. locations can offer rapid or "just-in-time" deliveries and shorter production cycles that competing regions abroad.[25] The USDA study also notes that those rural regions that are already competing successfully in manufacturing tend to be adjacent to urban centers, have higher than average population densities, and greater access to services.

[23] USDA / Economic Research Service, "Understanding Rural America," February, 1995.
[24] Dean Baker, "The US Wage Gap and the Decline of Manufacturing," Economic Policy Institute, Washington, D.C.
[25] USDA (1999)

As services have gained in relative importance this trend has occurred in rural regions as well. Interestingly, those rural regions that derive at least 50% of their total earned income from service employment have stronger population growth. Their growth has come primarily from services in recreation, tourism, and retirement living.[26] Advanced business services growth tends to be concentrated in urban areas.

The Composition of Rural Economies: Findings from the Cluster Mapping Project

The Cluster Mapping Project allows analysis of the composition of regional economies at two levels. First, it provides data on the relative importance of local, traded, and resource dependent industries. Second, it allows a systematic examination of the cluster composition in rural areas. A detailed description of the methodology utilized in developing this data is given in Porter (2003)

Overall, we find that the composition of rural and metropolitan regions is quite similar in terms of the share of local, traded, and, to a lesser extent, resource dependent industries. Far greater differences emerge at the cluster and sub-cluster level. We also find that there is significant heterogeneity of economic composition across regions, whether they are rural or urban.

Local, Traded, and Resource dependent Industries

Local industries and clusters account for the majority of employment in both rural and urban US counties. At 64.2% of total employment in 2001, local clusters accounted for slightly less employment in rural regions than in metropolitan regions, where they accounted for 67.8%. This gap is closing, however, as local cluster employment growth was 2.8% over the last decade in rural regions versus 2.6% in urban ones. Local cluster wages in rural regions in 2001 were 66.6% of the level in metropolitan regions versus 67.8% in average wages. Rural regions report lower wage growth in local industries over the last decade with 3.5% annually compared to 3.8% in metropolitan regions.

Traded cluster employment accounts for nearly identical equal shares of rural (32.6%) and metropolitan (32.5%) employment. Growth in traded employment, however, has been higher in urban areas over the 1990 to 2001 period (1.7% annually) than in rural areas (1.2%). This difference is the main driver of the lower overall employment growth rate in rural regions. Traded cluster wages in rural regions in 2001 were just 52.2% of traded wages in metropolitan regions versus 67.8% for average wages as a whole. *This suggests that traded employment in rural regions is relatively less advanced and productive than rural local employment.* Traded wage growth was 4.0% annually in rural regions over the last decade compared to 5.3% in metropolitan regions.

Resource dependent employment represents by far the smallest share of overall employment in an advanced economy such as the U.S. However, resource dependent employment is a much higher share of rural employment (3.2%) than in metropolitan

[26] USDA (1999)

regions (0.4%). Rural counties account for 62% of all resource dependent employment in the U.S. though representing just 14% of total U.S. employment. Employment growth in resource-dependent clusters was negative in both rural and urban areas, though it shrank faster in urban regions.

Average wages in resource dependent industries in rural areas are almost 90% of the comparable wage in metropolitan regions, by far the smallest gap of the three types of industries. Rural areas can be as productive in resource-dependent industries as metropolitan areas can. Rural wage growth in resource-dependent industries is only 2.4% versus 3.4% in metropolitan areas, however, perhaps reflecting the upward pressure of overall metropolitan wage increases on the resource-dependent activities located there.

FIGURE 10

Composition of Regional Economies

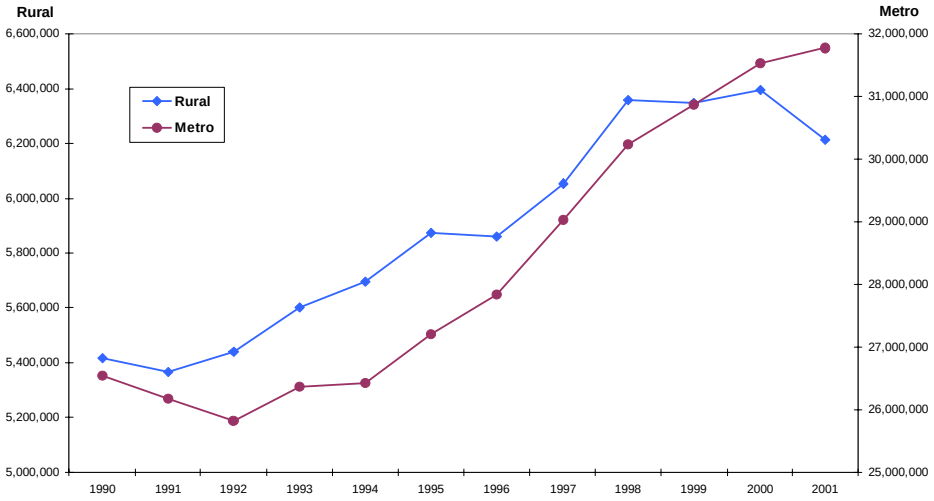
	Traded Clusters			***Local Clusters***			***Natural Resource-Driven Industries***		
Indicator	**Rural**	**Metro**	***U.S.***	**Rural**	**Metro**	***U.S.***	**Rural**	**Metro**	***U.S.***
Share of Employment	32.6%	32.5%	*31.6%*	64.2%	67.1%	*67.6%*	3.2%	0.4%	*0.8%*
Employment Growth, 1990 to 2001	1.2%	1.7%	*1.6%*	2.8%	2.6%	*2.6%*	(0.5)%	(2.1)%	*(1.1)%*
Average Wage	$26,481	$50,746	*$44,956*	$19,401	$29,126	*$28,288*	$33,186	$37,260	*$33,245*
Relative Wage			*133.8*			*84.2*			*99.0*
Wage Growth	4.0%	5.3%	*4.5%*	3.5%	3.8%	*3.7%*	2.4%	3.4%	*3.1%*
Establishment Formation	3.5%	4.0%	*4.0%*	2.0%	2.1%	*2.1%*	(0.2)%	(0.3)%	*(0.2)%*
Patents per 10,000 Employees	7.8	22.5	*21.7*	0.5	1.4	*1.3*	1.0	14.5	*7.2*
Number of SIC Industries	590	590	*590*	241	241	*241*	48	48	*48*

Between 1998 and 2001, traded employment in rural areas actually declined while continuing to grow (albeit at a slower rate) in metro areas (see Figure 11). Almost all the rural decline occurred in 2001, and was driven by a few clusters (see below).

FIGURE 11

Change in Annual Traded Employment Levels, 1990-2001

Metro vs. Rural Areas

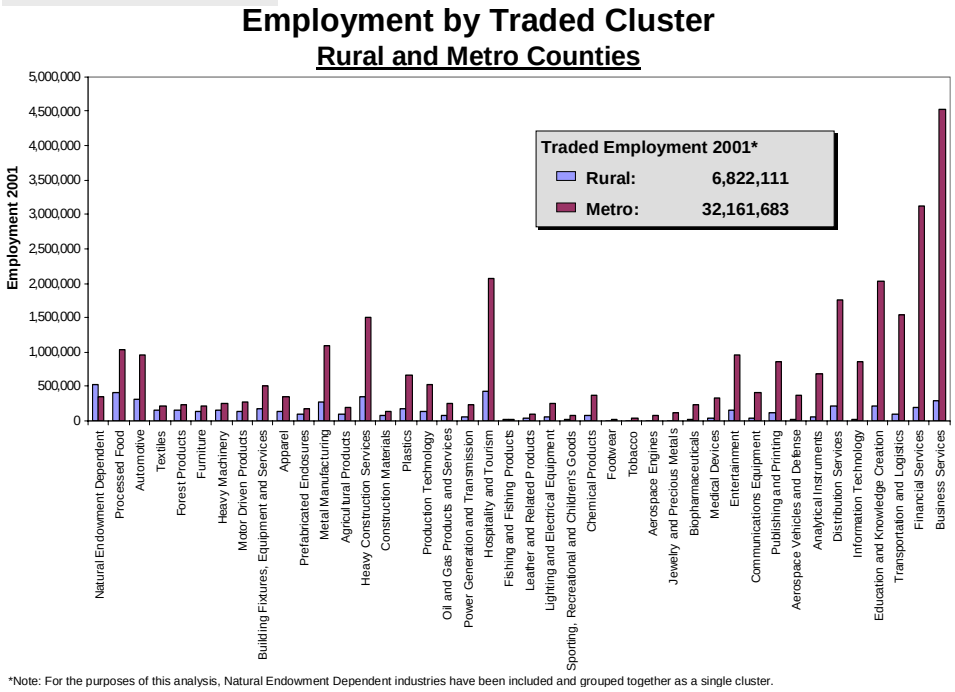


Cluster composition in rural areas

The traded industries in U.S. regional economies can be grouped into 41 clusters based on the actual patterns of U.S. employment across geography. Clusters consist of related industries in a sector that are prone to co-locate. We observe significant differences in the cluster composition of rural and urban economies. While a full analysis of these differences is beyond the scope of this exploratory study, we sketch some of the most important ones here.

Figure 12 shows absolute employment by traded cluster in rural and metropolitan regions. While all clusters have employment in both types of regions, the mix of employment in rural and metropolitan regions is quite different. The traded clusters with the highest absolute level of employment in rural regions in 2001 were Hospitality and Tourism, Food Processing, Heavy Construction Services, Automotive, Metal Manufacturing, and Business Services. Together, these six traded clusters (out of 41) accounted for 38.4% of traded employment in rural regions. In comparison, the largest traded clusters in metropolitan regions were Business Services, Financial Services, Hospitality and Tourism, Education and Knowledge Creation, Distribution Services, and Transportation and Logistics, together accounting for 50.6% of traded employment in these regions.

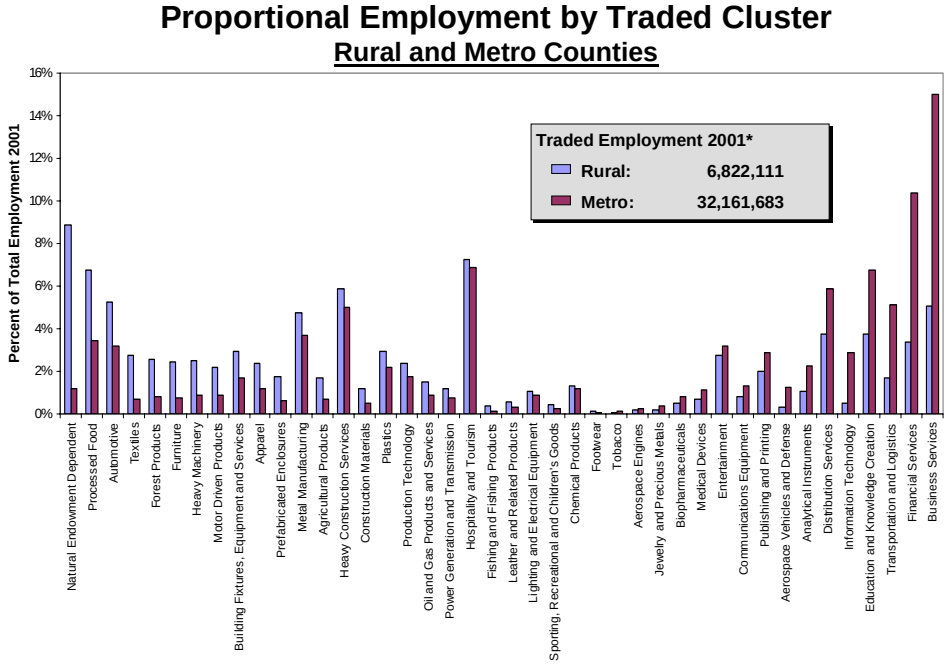
FIGURE 12



*Note: For the purposes of this analysis, Natural Endowment Dependent industries have been included and grouped together as a single cluster.

Figure 13 arrays traded clusters by share of employment in rural and urban areas. Clusters are arranged from left to right based on the percentage difference in employment, with clusters relatively more important in rural regions on the left. Rural regions have a higher proportion of employment in *25 of the 41 clusters*, though these clusters are *smaller*, on average, than the clusters in which urban areas dominate.

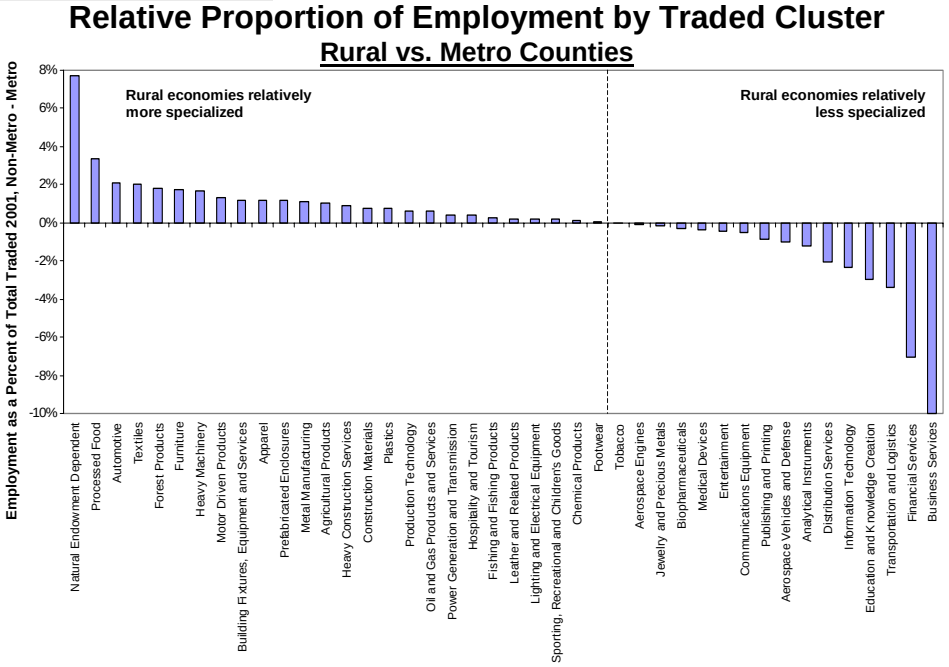
FIGURE 13



*Note: For the purposes of this analysis, Natural Endowment Dependent industries have been included and grouped together as a single cluster.

Figure 14 shows percentage differences in the employment share of clusters in rural and metro regions. Rural regions are stronger in resource-dependent industries and traditional manufacturing clusters such as processed food, automotive, forest products, furniture making and motor driven products. Metropolitan regions dominate in most services (with

FIGURE 14



Note: For the purposes of this analysis, Natural Endowment Dependent industries have been included and grouped together as a single cluster.

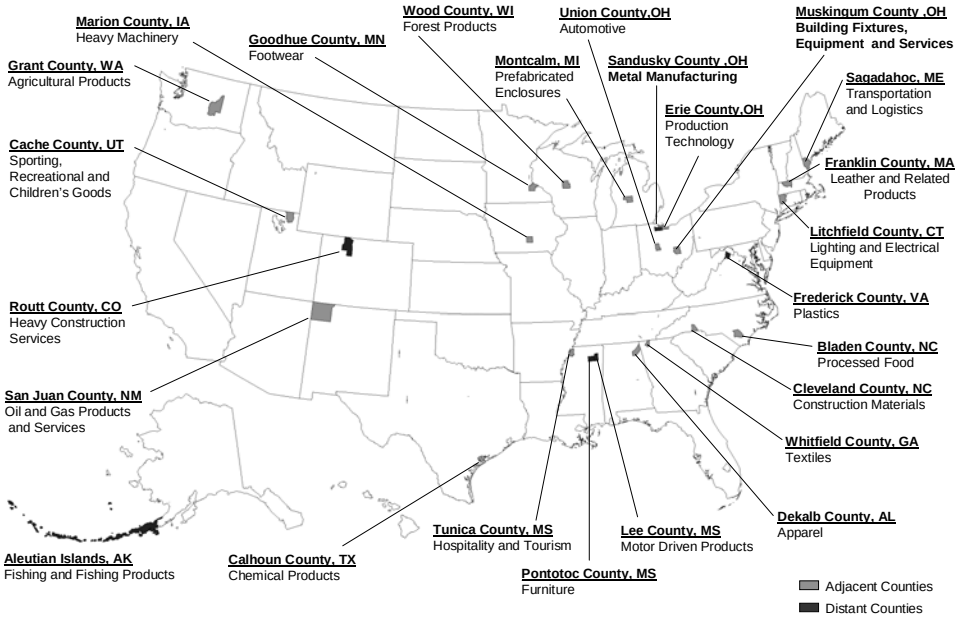
the exception of tourism) and in technology-intensive manufacturing such as analytical instruments and aerospace. These findings, which fit well with intuition, reveal the challenges faced by rural areas as the economy has shifted toward technology and sophisticated services.

Specialization of rural regions by traded cluster

While rural regions as a group have a different mix of clusters than urban areas, we observe *large differences among rural regions in their cluster specialization.* For each of the 25 traded clusters in which rural regions have higher relative employment, we identify the leading U.S. rural county on Figure 15. For 20 clusters, the leading rural county is classified as adjacent while in 5 clusters the leading county is classified as distant.

FIGURE 15 **Leading Rural Counties**

For 25 Traded Clusters with Higher Overall Relative Employment in Rural Regions



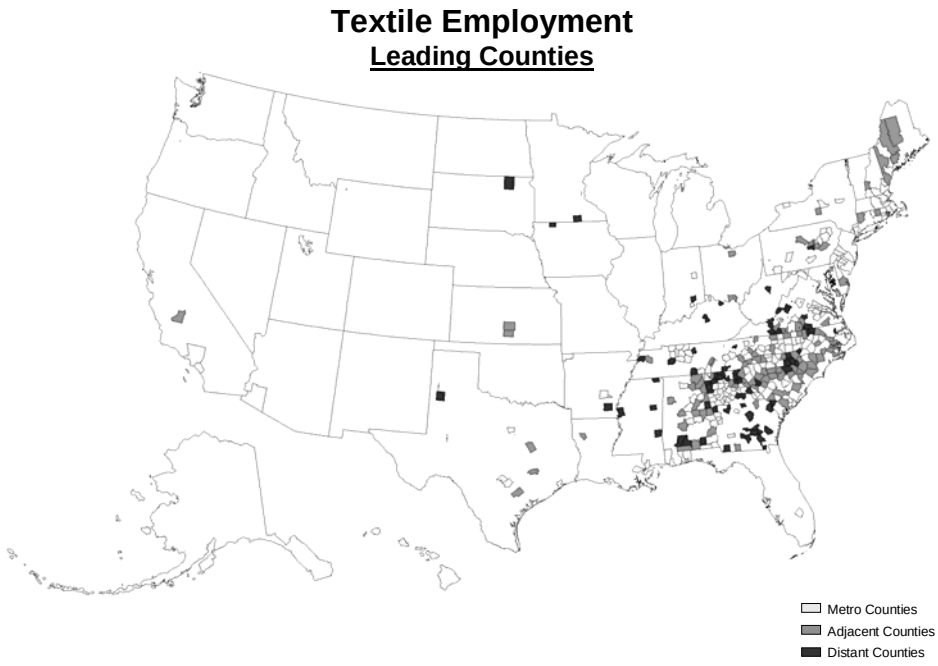
Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

In order to better understand the patterns of geographic specialization by cluster, we identified the counties with twice or more the national average share of employment in each of the 41 traded clusters. We dropped rural counties with an absolute cluster employment level below 100, and included metropolitan areas with absolute employment among the top 20 metropolitan areas in the cluster nationally. These adjustments were necessary given the major differences in the absolute size of rural and metropolitan counties.

Figure 16 presents the findings for the Textile cluster. The strong presence of rural regions in this cluster is confirmed by the significant number or rural counties among the

leading counties. Data suppression means that some employment and wage data is not available for some counties. For counties with available data, Whitfield County, Georgia is the leader of all 3,104 U.S. counties in terms of total employment in textiles.[27] Comparable data for other clusters is available from the authors.

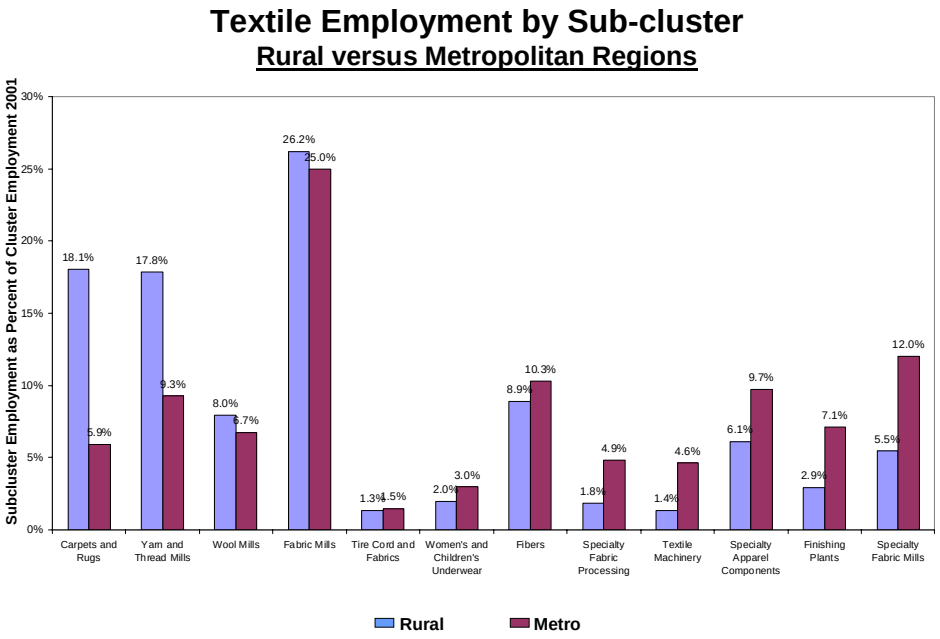
FIGURE 16



To better understand the patterns of specialization in rural and metropolitan counties, we also examined data at the sub-cluster level. For the Textile cluster, for example, rural counties are much stronger in basic mills (Yarn and Thread, Wool, Fabric) and carpets while metropolitan counties are more specialized in downstream activities (Specialty Fabric Mills, Finishing Plants, Specialty Apparel Components, and Specialty Fabric Processing).

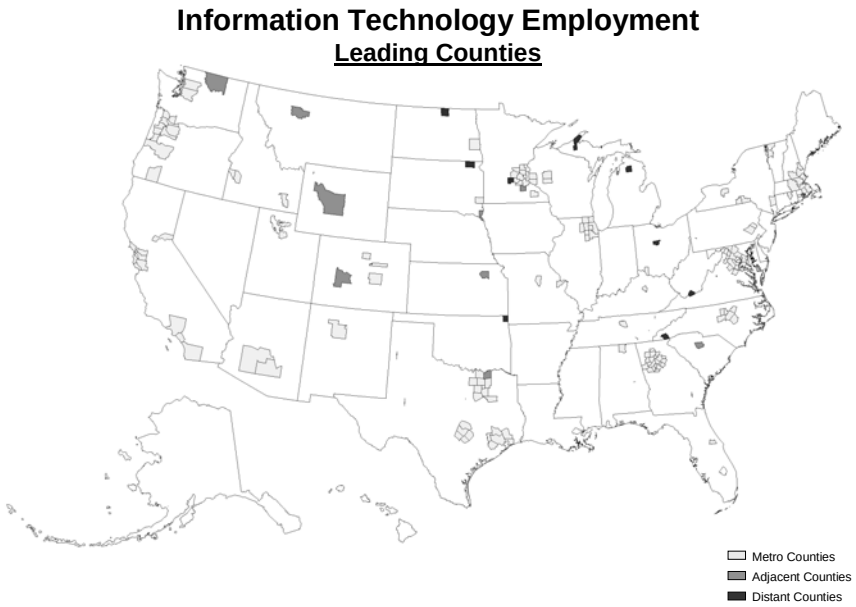
[27] Whitfield county is also known as the "carpet capital of the world"; see www.whitfieldcountyga.com

FIGURE 17



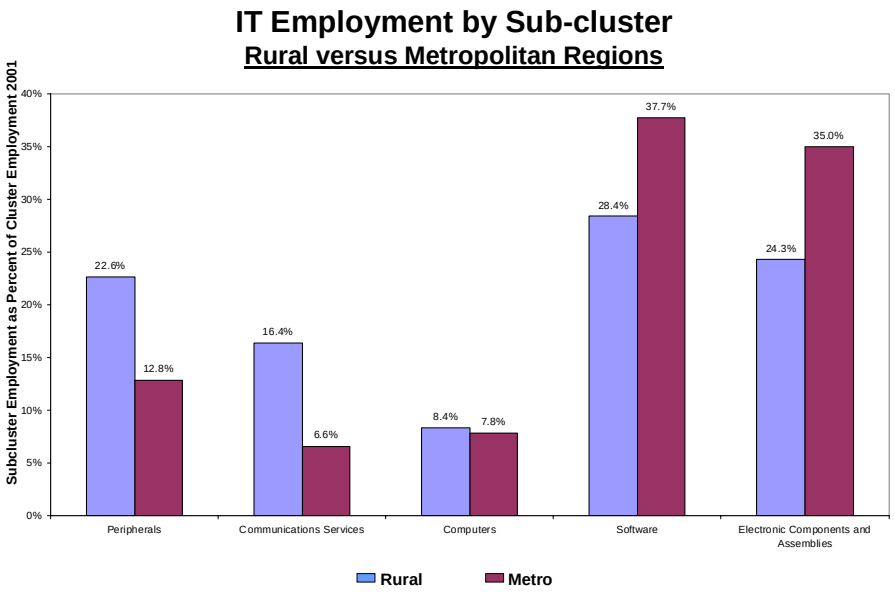
The Information Technology (IT) cluster, shown in Figure 18 exhibits a different pattern than textiles. Rural regions are weak in IT, and only a few rural counties have a high relative specialization in this cluster.

FIGURE 18



Rural counties specialize in different IT subclusters than urban areas. Rural regions have relatively more employment in sub-clusters such as peripherals and communications services, while metropolitan counties tend to specialize in subclusters such as Electronic Components and Software. Computer assembly has roughly the same low employment shares in both rural and metropolitan counties.

FIGURE 19



Rural cluster composition in local clusters

All regions have about two-thirds of their jobs in local clusters. Consistent with theory, the composition of local clusters proves to be very similar when comparing rural to metropolitan counties. In both cases, local health services, local real estate and construction, and local hospitality and entertainment are among the largest local clusters.

However, there are two significant differences in local employment between rural and metropolitan counties. First, Local Commercial Services are significantly more important in metropolitan counties, mainly driven by larger metropolitan employment in commercial support services. Second, employment in Local Utilities are growing in importance in metropolitan counties and declining in importance in rural counties, mainly because of a surge of jobs in communication services in metropolitan regions that rural regions have not participated in. Metropolitan counties dominate as business and commercial centers.

Composition of Rural Economies: Research Agenda

The availability of detailed data on economic composition in regional economies allows a deeper analysis than previously attempted of the patterns of specialization within rural economies and the relationships between the economic composition of rural areas and nearby metropolitan areas. A number of specific areas for future research are indicated:

- Incorporating data on agriculture and government employment into the Cluster Mapping Project data.
- Securing access to unsuppressed data at the county level to allow a more accurate analysis of employment patterns, wages, and trends by cluster. Appropriate safeguards on publication would need to be put in place.
- Analyzing the link between cluster composition, cluster specialization, and the performance of rural regions. The relative impact of cluster mix versus wages levels in given clusters on prosperity can be analyzed, as can the relationship between the strength of a region's position in a cluster and wages.
- Deepening the analysis of the relative specialization of urban and rural areas by sub-cluster, and how it is changing. Preliminary analysis suggests that rural regions have a higher concentration of manufacturing components of a cluster, and stronger positions in the subclusters with lower wages.
- Exploring the connections between cluster mix in urban areas and the surrounding rural regions.
- Examining the causes of differing economic composition across rural areas.

V. The Evolution of Rural Economies

The Evolution of Rural Economies: Theoretical Framework

A region's economic composition, especially its mix of traded clusters, is the outcome of an evolutionary process. The composition of regional economies shifts slowly, and economic development policies will take years to affect employment patterns.

Some of the factors that influence the evolution of regional economies over time are inherited or externally given. Natural resource endowments or geographic location are among the most notable of them. The influence of inherited endowments is often still recognizable in the composition of regional economies after many decades, even in advanced economies such as the United States. For example, Pittsburgh's proximity to coal and oil fields in nearby parts of Pennsylvania and its presence astride river transportation centers is still evident in its presence in chemicals and steel, though Pittsburgh's role as a raw material provider has all but ended.

While inherited factors are important, however, they do not determine the evolution of a regional economy. Choices made within a region shape its economic trajectory, such as investments in infrastructure and the formation and support of universities. Also, the creation of companies through acts of entrepreneurship can trigger the development of clusters via spin-offs and the establishment of suppliers or related companies. The presence of research and training institutions, such as government laboratories and universities is of increasing importance in modern competition. In rural regions, land-lease colleges and agricultural research institutions have played an important role in economic development. The composition of a region's economy at every point in time creates its own opportunities. New businesses typically emerge out of existing ones. In Wichita, for example, the combination of an oil and gas cluster (because of natural endowments) and strong presence in aircraft manufacturing created an environment conducive for the emergence of a plastics cluster.

Regional economic development can proceed under its own momentum with regions enjoying important strengths able to prosper without conscious economic plan. However, many case studies reveal the influence of local leadership and choices made in the private and/or public sector. In San Diego, for example, leaders decided many decades ago to pursue a U.S. Navy post in the city, making major investments in dredging the harbor and other areas. The arrival of the Navy had a significant impact on economic development to this day. The subsequent establishment of the Space and Naval Warfare Systems Command in San Diego, with its associated research capability, gave rise to San Diego's current success in the telecommunications cluster.

Regional economic development is perhaps best seen as a combination of a natural evolutionary process driven by market forces together with conscious planning which aims to identify strengths to reinforce, improve the business environment, and invest to seize opportunities that have presented themselves. The series of reports resulting from the Cluster of Innovation project provide a more detailed account of regional economic

evolution, with in-depth examples drawn from five U.S. regions in different parts of the country, with different levels of economic performance and cluster composition.

The Evolution of Rural Economies: Findings from the Literature

Overall, there has been relatively little literature documenting the evolution of rural economies in the United States. Stauber[28] offers an interesting historical perspective, describing the changing role of rural regions in the U.S. economy. During the 1800s, rural regions produced food for metropolitan centers and raw material exports that financed the import of capital goods from Europe. During the industrial revolution of the 1890s, rural regions evolved towards manufacturing, producing industrial commodities such as bulk chemicals, specialty chemicals, medicines, dyes, iron, steel, and others, in addition to food. By the 1980s, rural regions were struggling to compete as deregulation meant that subsidies for services to rural areas were disappearing (e.g., telecoms, airlines), and liberalized international trade opened manufacturing to new competitors.

Atkinson offers a consistent perspective focusing more on the recent decades.[29] He notes the shift of manufacturing from urban to rural areas in the 1970s, a trend which has continued. Hence rural areas actually increased relative population in the 1970s. It is only more recently that pressures from foreign competition have come to have a major impact.

The two dominant external forces shaping the evolution of rural economies that have been discussed in the literature are globalization and technological change. The increasing pressure from foreign competitors is seen as an important factor reducing the role of manufacturing in rural regions. Torgerson and Hamrick, for example, discuss the new challenges presented by globalization to rural regions producing manufactured or food products vulnerable to overseas competition.[30] At the same time, technological change, especially in agriculture, is seen as reducing overall employment in this part of the rural economy.

There is little literature that we have uncovered that charts the detailed evolution of rural regions over time and the choices that shaped their evolution. Such research is badly needed.

The Recent Evolution of Rural Economies: Findings from the Cluster Mapping Project

Earlier, we discussed a widening gap between rural and metropolitan performance. The Cluster Mapping Data allows a preliminary analysis of the evolution of economic composition in rural regions relative to urban regions since 1990. In general, the data paint a somewhat better picture than some observers have suggested.

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[28] Stauber (2001)
[29] Atkinson (2004)
[30] David Torgerson and Karen Hamrick (1999), "Global Conditions Hurting Rural Economy," Rural Conditions and Trends, vol. 9, No. 3, pp. 7-10.

Rural regions in the United States added about 767,000 traded cluster jobs between 1990 and 2001, or 12.6 percent (see Figure 20 below). Roughly 1.3m new jobs were created while 532,000 were lost. Employment growth came from a relatively broad array of clusters, ranging from traditional manufacturing to even advanced services. The six clusters that added 70,000 or more rural jobs were Business Services, Hospitality and Tourism, Heavy Construction Services, Automotive, Entertainment, and Education and Knowledge Creation. Rural traded employment losses were dominated by the Apparel, the Textiles, and the Footwear clusters, accounting alone for 385,661 lost jobs over the last decade. Job losses in other clusters were comparatively modest. The most recent data for the period 1998 to 2001 shows more significant net employment losses in other clusters as well. In absolute terms, Heavy Machinery, Prefabricated Enclosures, and Motor Driven Products reported the strongest job losses. Relative to the size of the clusters, Leather Products, Sporting, Recreational and Children's Goods, and Tobacco contracted most in rural regions.

Manufacturing versus Services

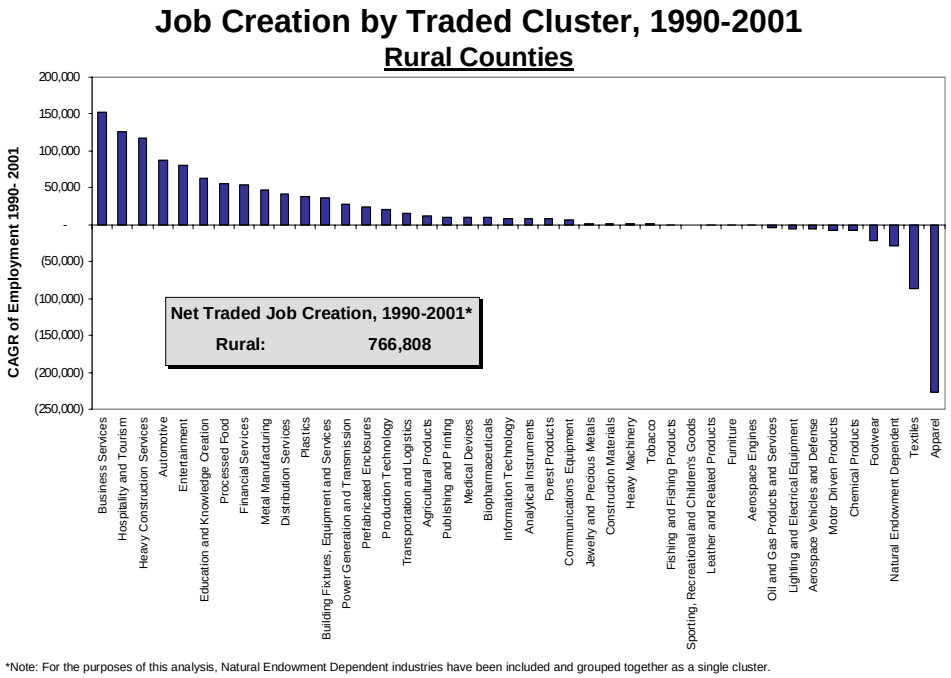
Across clusters, our data reveals interesting differences between rural and metropolitan regions in the shift of employment from manufacturing to services. Rural regions have added manufacturing jobs at an annual rate of .03% every year between 1990 and 2001. Metropolitan regions lost manufacturing jobs at the annual rate of -.67% over the same period. Job creation in services was strong in all regions, and even stronger in rural regions leading the relative share of manufacturing employment in rural regions to drop by 6.4% versus 5.4% in metropolitan regions between 1990 and 2001.

The increase in the relative share of service employment has occurred steadily since 1990, in both rural and metropolitan regions. Changes in employment growth have occurred roughly in parallel in services and manufacturing, with services at a high average rate of job creation. Manufacturing has registered net employment growth in rural regions between 1991 and 1998 with the exception of 1996. In metropolitan regions, manufacturing job creation started only in 1994. In both type of regions manufacturing jobs have been lost since 1998, about 300,000 in rural regions and 700,000 in metropolitan regions.

Job Creation by Cluster

While our data is consistent with an overall shift towards services in rural economies, it points to the need to look in more detail to understand the full complexity of the compositional trends in rural economies. In particular, using Apparel and Textiles as a metaphor for the state of the rural economies is highly misleading.

FIGURE 20

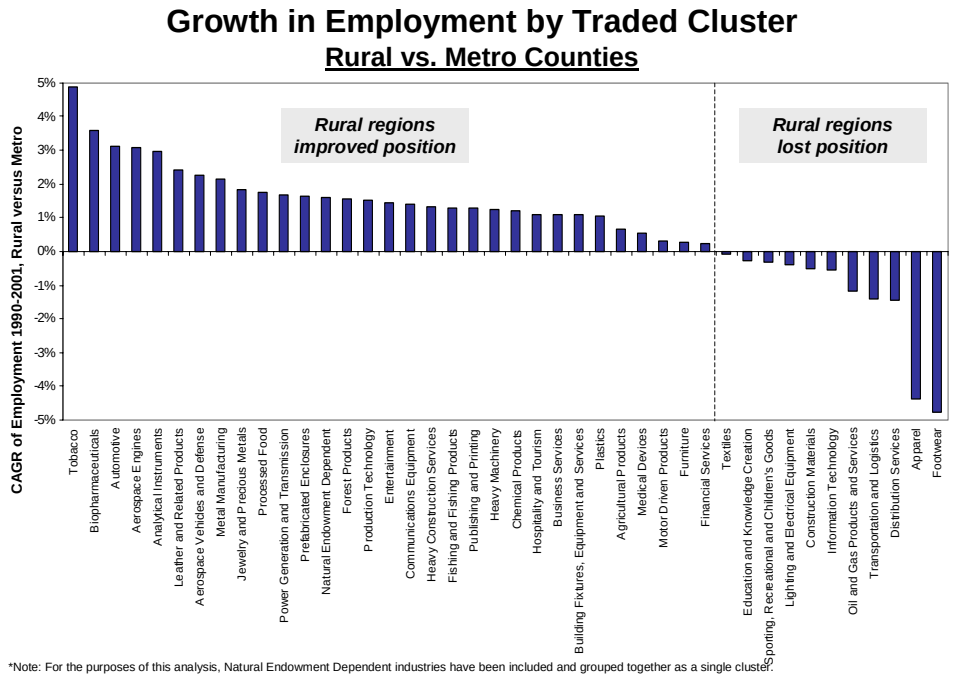


*Note: For the purposes of this analysis, Natural Endowment Dependent industries have been included and grouped together as a single cluster.

Overall, rural regions lost national position in the traded economy between 1990 and 2001. However, rural regions improved their share of national employment in *31 out of 41 traded clusters* (see Figure 21 below). Rural regions registered the strongest relative gains in employment in clusters related to manufacturing and primary products such as Automotive, Tobacco, Leather Products, Forest Products, Prefabricated Enclosures, and natural resource-dependent industries as a group. This is consistent with the long-term trend. Rural positions in clusters such as Business Services, Financial Services, Medical Devices, and Information Technology have been relatively stable. Significant decline in the proportional rural employment occurred in Footwear (loss of 14% national share) and Apparel (loss of 12% national share). Rural regions have also lost relative position in some clusters where employment growth in metropolitan regions has been rapid. This has been the case in Distribution Services, Logistics and Transportation, and Education and Knowledge Creation. Urban centers have become increasingly important in these fields.

While there has been a lot of public attention on job losses in rural regions, it is important to note that these job losses have been concentrated in a small number of traditional clusters that now account for a small part of rural employment (Apparel, Footwear, and Textiles account for 1.9% of total rural employment in 2001, down from 4.9% in 1990). These clusters are not representative of other rural clusters. And they are regionally concentrated in the South and Southwest of the U.S.; rural areas in other parts of the country register better results.

FIGURE 21



*Note: For the purposes of this analysis, Natural Endowment Dependent industries have been included and grouped together as a single cluster.

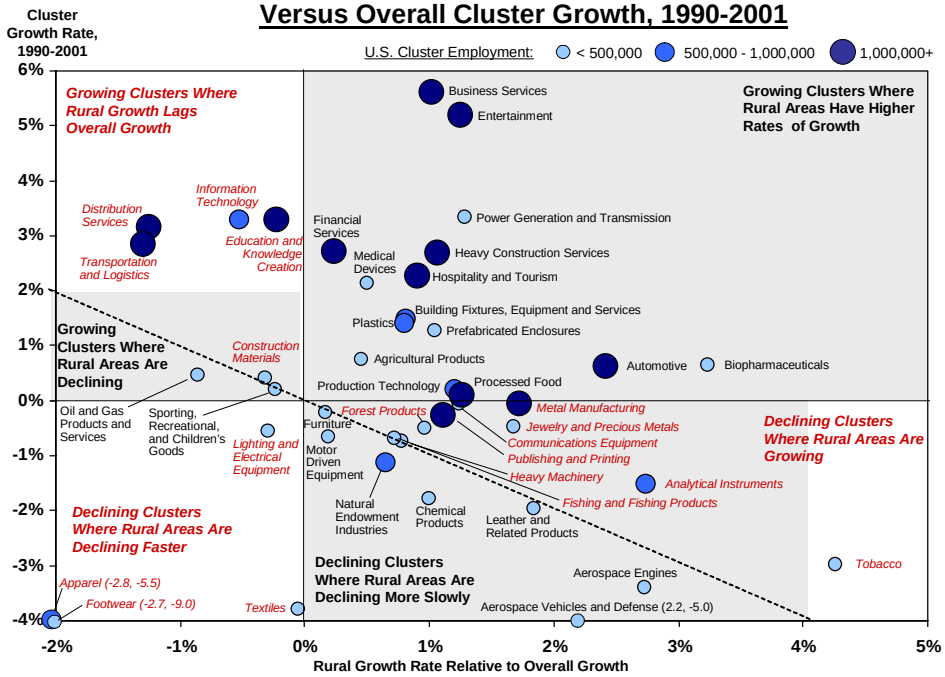
Patterns of relative cluster growth in rural and urban areas

Figure 22 shows the growth rate of each cluster in rural areas versus the economy as a whole. It reveals a number of important observations. First, rural areas are *gaining employment faster* in the great majority of clusters. Second, rural areas are gaining faster not just in slow growth clusters but high growth clusters as well. Third Apparel, Textiles and Footwear are the exceptions, not the rule. They are declining clusters in which rural areas are shrinking faster. Fourth, the slower job growth is rural areas is due to these three clusters plus the fact that rural areas are gaining more slowly in a few large clusters such as Transportation and Logistics, Distribution Services, and to a lesser extent, Information Technology and Education and Knowledge Creation. If we remove Apparel, Footwear, and Textiles, the growth of traded and Natural Endowment Dependent employment between 1990 and 2001 is actually *higher* in rural areas (CAGR of 1.80% vs. 1.75%).

The downturn in rural traded employment between 1998 and 2001 is also driven largely by Apparel, Textiles, and Natural Endowment Dependent industries. There were also modest declines in a few cyclical manufacturing clusters such as Heavy Machinery, Prefabricated Enclosures, and Motor Driven Products. We would expect job growth in these industries to rise rapidly during an economic recovery.

FIGURE 22

Rural Cluster Employment Growth
Versus Overall Cluster Growth, 1990-2001



This data reveals that the performance of rural economies is far from dismal, and is actually promising in many fields. This suggests that there may well be more opportunities for economic growth in rural areas than are generally perceived.

The Evolution of Rural Economies: Research Agenda

The economic profile of rural regions in the U.S. is changing, but we know remarkably little about the dynamics of this shift. There is a pressing need to move beyond broad aggregates such as manufacturing, services, and agriculture to see the detailed realities of rural economic changes and to understand the heterogeneity we observe in the performance of rural economies. Some specific future priorities in research on the evolution of rural economies include the following:

- A deeper analysis of the evolution of the mix of clusters in specific rural regions over time to understand why some regions have evolved successfully while others have declined.
- Analysis of the dynamics of rural position in specific clusters.
- Exploration of the process by which metropolitan economies influence the trajectory of surrounding rural areas.
- Cases studies of the long-term evolution of rural regions and the choices and events that have influenced them. This would include studies of the institutional processes of economic development that have taken place.

VI. The Business Environment in Rural Areas

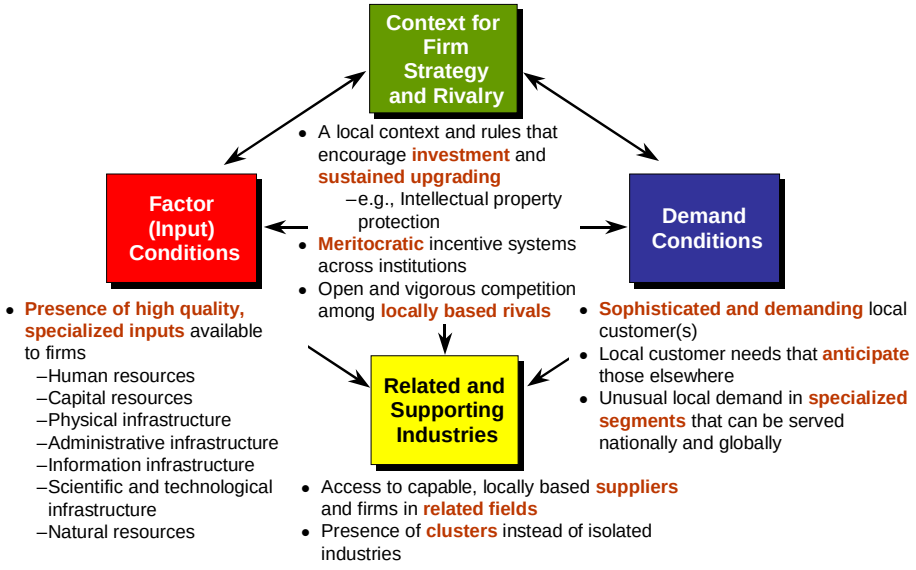
Business Environment: Theoretical Framework

The productivity and innovativeness of a regional economy benefit from sound fiscal policies, stable political structures, and sound legal institutions. However, wealth is essentially created by the microeconomic foundations of competitiveness. Productivity in a region depends ultimately on the firms and subsidiaries operating in the region. However, the sophistication with which firms compete rests heavily on the quality of the regional business environment in which they operate. For example, the productivity of companies is affected by such things as the specific skills of employees they can attract, the efficiency of the local logistics and transportation systems, and the extent to which local regulations impede productivity and innovation or encourage them.

The quality of a region's business environment consists of four broad areas (see Figure 23). Each area affects the level of productivity that can be achieved as well as the local rate of innovation.[31]

FIGURE 23

Productivity and the Regional Business Environment



Factor conditions: Achieving high levels of productivity depends on the presence of high quality and specialized pools of human resources, applied technology, infrastructure and capital. The quality of more generic and basic factors such as high school graduates or the local transportation system are foundations that every region most have. Increasingly, however, competitiveness depends on the presence of advanced and more specialized factors that are tailored to the needs of particular industries.

[31] See Michael E. Porter, *The Competitive Advantage of Nations, New York:* The Free Press (1990).

Demand conditions: The quality of demand in a region has a strong influence on the process of creating and improving products and services. Sophisticated customers in the region press firms to improve and offer insights into existing and future customer needs. Traditionally, less populated regions were seen to suffer from small local market size and larger distance to attractive metropolitan markets. A large local market, it was believed, would allow local companies to exploit economies of scale and improve competitiveness. When productivity drives competitiveness and firms can easily access national and international markets, however, the quality rather than the quantity of local demand is what becomes important because it is what drives innovation.

Context for firm strategy and rivalry: The rules, incentives and pressures governing the competitive process in a region have a fundamental influence on productivity. Policies that encourage investment, protect intellectual property, and open the local market for trade, for example, foster productivity growth and competitiveness. Also exerting a strong influence on productivity is the presence of competing rivals in a region and the intensity of local rivalry. Spirited local rivalry among Wichita's Beach, Cessna, Lear, and Boeing subsidiaries, for example, drove the emergence of the region as the world's center for general aviation aircraft. Local rivalry pressures companies to improve, while attracting suppliers and otherwise improving the overall business environment.

Related and supporting industries: Local sourcing from capable suppliers based in the region enhances productivity and improve the capacity for innovation through allowing quicker and less costly communication, fostering the flow of ideas, and enhancing flexibility. Traditionally, many regional development programs have focused on attracting individual companies and industries. However, isolated companies cannot be productive without the presence of related and supporting industries. The presence of related and supporting industries also gives rise to new clusters. For example, the plastics cluster in Wichita developed from the presence of petrochemical producers combined with local aircraft manufacturers who became customers for plastic parts.

These four parts of the regional business environment are self-reinforcing. The concentration of rivals in a particular field, for example, stimulates the development of unique pools of specialized skills and the formation or attraction of specialized suppliers. Active local rivalry works to upgrade regional demand by creating more demanding customers. Weaknesses in any part of the business environment, conversely, can erode other parts and with them the competitiveness of a region.

Government influences (positively or negatively) the business environment in virtually every area. Government is not monolithic, and its influence occurs through a myriad of distinct departments and entities. While the Federal government is often seen as having the greatest impact on competitiveness, policies at the regional and even local level are often equally if not more important. Each level of government affects various aspects of the business environment, and the policies of different units of government can frequently be conflicting.

In addition to government, many other national and local institutions have a role in competitiveness and economic development. The influence of universities and schools is growing as knowledge and technology become more and more central to competition. The private sector has also become a crucial actor in improving competitiveness and in setting economic policy. It is not only a user of the business environment, but often plays an important role in shaping it. Individual firms as well as collective industry bodies such as trade associations play important roles in improving infrastructure, organizing training, and developing export markets.

Indeed, a whole new class of institutions, which we term Institutions for Collaboration (IFCs), plays an important role in competitiveness.[32] Neither government agencies, educational institutions, nor firms, these organizations -- trade associations, entrepreneur networks, standard setting agencies, quality centers, technology networks, and many others -- are a common feature in the most competitive regions. IFCs play an essential role in connecting the parts of the diamond and fostering efficient collective activities in both advanced and developing countries.

The Business Environment in Rural Areas: Findings from the Literature

There is general consensus in the literature that the business environment in rural areas tends to be weaker than that in metropolitan regions. The lower density of population and economic activity raises the cost of physical infrastructure, makes it harder for educational institutions to specialize while serving the needs of the region, supports a smaller number of local competitors, and creates barriers to achieving a critical mass of related and supporting industries. The weaker performance of rural regions has also tended to lead to a higher level of government intervention in the form of subsidies, import barriers to shelter industries in rural regions, and transfer payments to individuals.

Stauber, for example, discusses some of the ways in which rural regions are economically disadvantaged by their low population densities.[33] Low population density makes it more costly for both businesses and communities to provide critical services. He argues that there is a negative cycle of a less advantageous business environment leading to losses in employment and income which drive even more people to leave rural regions exacerbating the problem of low population density. Atkinson offers a consistent perspective. Rural economies have not been able to penetrate knowledge-based industries, while facing growing cost disadvantages as deregulation eroded cost subsidies in areas such as airlines, telecommunication, and trucking. The full effects of low population density have now been revealed in market prices.

Glaeser and Mare[34] find other evidence that business environments in rural regions have a negative impact on relative productivity. They attribute the existing 33% wage gap

[32] Michael E. Porter, Willis Emmons, "Institutions for Collaboration", 2003.
[33] Karl Stauber, "Why Invest in Rural America—and How? A Critical Public Policy Question for the 21st Century," Economic Review, Second Quarter, 2001.
[34] Edward L. Glaeser and David C. Mare, "Cities and Skills," Journal of Labor Economics, Volume 19, Issue 2, Apr 2001, 316-342.

between employees of similar skills in rural relative to metropolitan regions to the lower productivity in rural regions.

Most of the literature on the business environment in rural regions is focused on the quality of available workforce skills. Quigley notes that populations in rural areas tend to be older and less well educated than in metropolitan regions. He also reports an increasing gap in college completion rates.[35] In high school completion rates, however, the trend is the opposite with rural regions now very close to metropolitan regions.

Gale and McGranahan[36] argue that rural regions not only suffer from a lower overall level of skills but also from a disadvantageous skill mix. These authors see rural regions relying on traditional skills in mass production, with a weak position in skills needed for modern services and the use of advanced technologies. The current business environment in rural regions, they argue, suffers from weaknesses in the quality of schools, natural amenities, transportation networks, and other infrastructure to attract and retain a workforce with these new skills.

Several experts have written about the role of universities and training programs in rural areas. Many universities and colleges in rural areas are focused on agriculture, particularly those near farming communities. Several experts have suggested that curricula in these schools need to be upgraded to include business management and entrepreneurship.

The important role of community colleges for rural regions is emphasized in the work by Rosenfeld.[37] Examining four case studies on community colleges, he finds that a community college can have a significant and positive impact on the regional economy if it specializes in particular skills relevant to regional industries.. Benefits to the region include better-trained workers, increased social capital and knowledge sharing, increased use of information technology, and increased levels of wages and innovation.

While low population density can be a disadvantage for some kinds of economic activities, it can be beneficial for others, for example tourism and retirement communities. Many authors have highlighted the success of such "high amenity" rural regions. They show strong economic performance by attracting tourists, retirees, and other residents with a higher quality of life. With scenic beauty or tourism offerings such as beaches or mountains, such areas attract visitors and residents who stimulate local business development, boost the demand for higher quality local services, and elevate per capita income. Several case studies in the literature highlight these exceptions to the generally poor economic performance of rural areas, for example, describe the success of the retirement community in McCormick County described earlier.

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[35] Quigley (1998, 2002)

[36] Fred Gale and David McGranahan, "Nonmetro Areas Fall Behind in the 'New Economy,'" Rural America, vol. 16, No. 1, pp 44-52.

[37] Stuart A. Rosenfeld, "The South's Rural Community Colleges in the New Millenium," The Rural South: Preparing for the Challenges of the 21st Century, SRDC, Mississippi, Feb 2000.

Several of these findings from studies on individual aspects of the rural business environment find support in a comprehensive statistical study of growth drivers in rural regions commissioned by the USDA. Based on a review of 35 previous studies, the authors identified 24 factors that were expected to affect rural economic growth and examined them in a multiple regression analysis of rural counties. They found that skill levels (measured by high school completion rates and spending on education), transportation infrastructure (proximity to an airport), and natural attractiveness (climate index, presence of retirees) were positively and significantly related to growth (see figure 24.)

FIGURE 24

Statistical Analysis of Growth Drivers in Rural Areas
USDA / ERS Study 1997: Principal Variables and Findings

Variables in Model	Hypotheses	Expected effect	Actual result
Demographic Factors • Total urban populations • Percent African American • Percent Hispanic • Retirement Community • Percent of populations age 25-64	• Agglomeration eco's assoc. w/lgr urban populations could lead to more growth • Bias or other factors could lead to slower growth • Bias, language barriers, or other factors could lead to slower growth • Consumer demand and amenities assoc w/ret. counties should lead to growth • A relatively large working-age pop. Could provide a foundation for more growth	+ - or + - or + + +	 -- ++
Labor market factors • Mean annual earnings per job • Right-to-work law • Labor Force participation rate	• Higher wages are likely to deter businesses and slow growth, but attract immigrants • Businesses more likely to locate and/or grow where there are no unions • Areas with lower labor force partic. rate have a larger pool and may grow faster	- or + + +	-- +
Education levels and activity • Percent high school grads • Percent college grads • Percent dropouts (age 16-19) • Local college enrollment	• Areas with a better educated workforce are likely to have seen faster growth • Same as above • Same as above • Amenities assoc with college communities, and avail. of workers may have faster growth	+ + - +	+
Local taxes and expenditures • Local tax level • Education spending per pupil	• Business and workers are likely to avoid high-tax areas unless those taxes pay for services they desire • Higher levels of education spending may improve workforce quality and may attract employers whose workforce is sensitive to quality of life concerns	-or + - +	 ++
Transportation access • Highway interchanges • Highway intersections • Airport in county • Airport within 50 miles	• Bus. more likely to locate / prosper in areas w/ better access to markets • Same as above • Same as above • Same as above	+ + + +	+ ++

Business and banking structure: small businesses as % of all in: • Goods-producing industries • Producer service industries • Other service industries • Branch banking law	• May be assoc w/faster growth if small bus are primary sources of job growth • Same as above • Same as above • More liberal branch banking laws may stimulate growth by increasing access to capital, or may retard growth by drawing capital out of rural areas	+ + + + or -	-
Amenities • Climate quality index • Topography (mountainous) index • Water coverage index	• Areas w/ more attractive quality of life should have more earnings growth • Same as above • Same as above	+ + +	++
Relationship to metro areas • Population of metro areas within 50 miles	• Ready access to major input and output markets should be associated w/faster growth	+	
Economic base • Transfer payments • Industrial diversification index	• Transfer payments likely to be stabilizing because do not decline during downturns. May foster faster growth if stability is attractive • May be assoc w/faster growth if businesses or individuals are attracted by greater economic stability, or if inter-industry linkages foster growth	+ +	--

Note: signs indicate direction and strength of effect
Source: Aldrich, Lorna and Kusmin, Lorin, "Rural Economic Development: What Makes Rural Communities Grow?" USDA / ERS Report, September 1997, Ag. Information Bulletin No. 737,

Some recent studies have highlighted the potential benefits to rural areas of the fact that information technology can allow outsourcing of services. This could allow rural areas to boost growth in services, though they will face competition from foreign locations.[38] Also, information technology offers the potential to offset some of the disadvantages of low population density through things such as distance learning and telemedicine.

[38] Atkinson (2004)

The Business Environment in Rural Areas: Research Agenda

The existing literature on business environments in rural regions is clearly addressing important issues. However, it has concentrated almost exclusively on factor conditions, with other parts receiving relatively little attention. Moreover, the literature tends to provide generalizations about the business environment despite considerable heterogeneity across rural areas.

There is a clear need to deepen the analysis further, which will require new studies and the application of new statistical methods. Areas of research to deepen our understanding of the rural business environments include the following:

- In-depth case studies of rural regions at different levels of economic performance, examining the influence of the business environment
- Development of a data set on business environment conditions across rural and metropolitan regions in the United States, covering all elements of the diamond
- Further cross-sectional studies of elements of the business environment expected to be especially important for rural regions, such as colleges and universities and the quality of broadband telecommunication access.
- Better measurement of the innovative output of rural economies relative to metro economies including understanding of innovation inputs such as universities and colleges, faculty, curricula, technology patenting and licensing, and the linkage of these indicators to economic performance data.
- Research on mechanisms to mitigate the influence of low population density on business environment conditions, with an assessment of best practices.
- Research on service outsourcing to rural areas

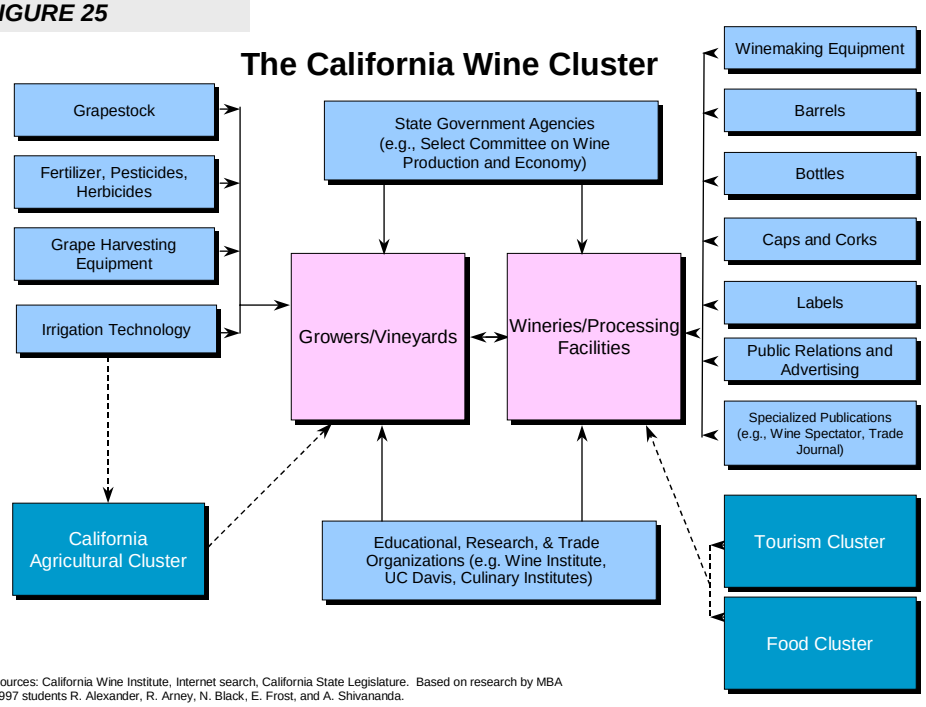
VII. Clusters in Rural Areas

Clusters and Cluster Development: Theoretical Framework

One of the most striking features of regional economies, especially in advanced economies, is the presence of clusters. Clusters are geographically concentrated groups of interconnected companies and associated institutions in a particular field, such as general aviation aircraft in Wichita, office furniture in western Michigan, and recreational vehicles in Indiana. Clusters are often contained within a geographic area where ease of communication, logistics, and personal interaction is possible, sometimes in a single town

The notion of clusters has a long history, but clusters have become a prominent concept in economic development since 1990. As of 2003 there are hundreds of cluster initiatives under way at the national, state, and local level in numerous countries.[39]

FIGURE 25



Sources: California Wine Institute, Internet search, California State Legislature. Based on research by MBA 1997 students R. Alexander, R. Arney, N. Black, E. Frost, and A. Shivananda.

Clusters cut across traditional industry classifications. They take various forms depending on the state of development of the region and the cluster itself. Well-developed clusters, however, normally include end product or service companies; locally based suppliers (e.g. local firms or subsidiaries of firms headquartered elsewhere) of specialized inputs, components, machinery, and specialized services; financial institutions with products tailored to the cluster; and firms in related industries. Clusters also often include firms in downstream or customer industries; producers of complementary products; specialized

[39] For a brief history of the cluster concept see Porter (1990). See Solvell/Ketels/Lindqvist (2003) for a survey of more than 250 such initiatives worldwide.

infrastructure providers; special government departments or agencies, universities, and a variety of other institutions providing specialized training, education, information, research, and technical support; and standard setting agencies. Finally, many clusters include trade associations and other private sector collective bodies that support cluster members. Figure 25 above provides a graphic depiction of the cluster surrounding wineries in California.

Clusters enhance competitiveness in three ways.[40] First, they *improve productivity* because firms have ready, efficient access to specialized suppliers, skills, information, training and technical in a demanding competitive environment. Transaction costs are low. Extensive market, technical, and other specialized information and know-how accumulates. Specialized inputs can be easily assembled. Relationships are readily forged among cluster participants. Firms can access trained people and specialized technology from the surrounding environment at much lower cost than developing it internally. The presence of a full range of knowledge, inputs, machinery, and services makes experimentation easier and promotes greater efficiency and flexibility than vertical integration or relationships with distant suppliers.

Second, clusters *foster innovation* by increasing the ability of companies to perceive opportunities for new products, new processes, and meeting new needs due to the sheer concentration of entities in the field. The presence of a full range of local suppliers and research institutions also encourages knowledge creation and makes experimentation easier.

Third, clusters *facilitate the commercialization of innovation* by lowering the barriers to entry of new firms via startups, spin-offs and new business lines of established firms. Establishing a new business in a cluster location is easier than elsewhere because most of the needed inputs are locally available. Also, commercialization is eased by the cluster awareness and expertise among capital providers such as banks and venture capitalists.

The development of a cluster is a long process stretching over a decade or more. A good number of existing clusters trace their roots back for many decades, growing out of historical strengths in the business environment. One prominent motivation for the formation of early companies is the local availability of pools of factor inputs, such as specialized skills, university research expertise, an efficient physical location, or particularly good or appropriate infrastructure. Clusters may also arise from unusual, sophisticated, or stringent local demand. The prior existence of supplier industries, related industries, or entire related clusters also provides another seed for new clusters.

Chance events are often important to the birth of a cluster. The early formation of companies in a location often reflects acts of entrepreneurship. Such companies, in other words, could have sprouted at any one of a number of comparable locations. The role of chance, however, is often less then it seems. What looks like chance may be as much the result of preexisting local circumstances. Also, the existence of a favorable business

[40] For a more detailed discussion see Chapter 7 in Porter, *On Competition*, 1998

environment allows an entrepreneur to prosper in one location while struggling in another.

Cluster development is partly a natural, evolutionary process driven by market forces. However, there is growing evidence that public and private awareness, policy choices, and conscious investments can play a major role in the process.

Clusters in Rural Areas: Findings from the Literature

Over the last several years, clusters have become a widely used concept in the literature on economic development in rural regions. Most of the work concentrates on descriptive case studies of individual clusters. The focus has been to understand how clusters can be an effective organizing principle in economic development. Examples of case studies include the following:

- Retirement, Hospitality and Tourism in McCormick County, SC (Barkley/Henry)
- Wireless Technologies in Mankato, MN (Munnich, Schrock and Cook)
- Automation Technologies in Alexandria MN (Munnich, Schrock and Cook)
- Recreational Transportation Equipment in MN (Munnich, Schrock and Cook)
- Carpet Industry in Dalton, GA (Rosenfeld)
- Recreational Vehicles and Manufactured Housing in Northern IN (Rosenfeld)
- Furniture in Tupelo, MS (Rosenfeld)
- Furniture in North Carolina (Rosenfeld)
- Fishing Gear in Woodland, WA (Cortright)
- Houseboats in Southern Kentucky (Rosenfeld)

Figure 26 summarizes three case studies to illustrate the richness of this literature.

FIGURE 26

Clusters in Rural Areas
Selected Case Studies from the Literature

Case	Source	Comments
McCormick County, South Carolina	David Barkley and Mark Henry, "Local Economic and Fiscal Impacts of a Planned Retirement Community in South Carolina", Chapter 10 in Schaeffer and Loveridge, Small Town and Rural Economic Development: A Case Studies Approach".	• "poster child" for rural economic development in SC. • Savannah Valley Authority established a successful planned retirement community, Savannah Lakes Village, in 1987. by 2000 estimated that SVL responsible for 25% of the country's jobs and income and 35% of the tax revenues. 80 new homes are added each year and growth continues. • McCormick Country offered an attractive location for retirees because of its mild climate, rolling wooded hills, and access to Lake Thurmond. • The development was jump started when the state made available a large tract of lakefront land for an attractive price. Cooper Communities, Inc. an experienced developer of retirement communities led the planning
Carpet Industry, Dalton, GA	Rosenfeld et al (cited in Munnich, Lee; Schrock, Greg; Cook, Karen; "Rural Knowledge Clusters: The Challenge of Rural Economic Prosperity")	• Almost 90% of the functional carpet produced world-wide is made within a 25-mile radius of this north Georgia city. • Catherine Evans Whitener and her bedspread cottage industry was the genesis. In 1917 she formed the Evans Manufacturing Company. U.S Highway 41 become known as "Chenille" or "Bedspread" Alley. • The railroad lines played a key role in industry expansion. • The technology used by the company transferred to the manufacture of carpet. Introduction of wall-to-wall carpet fueled additional expansion.
Recreational Vehicles and manufactured housing, Northern Indiana	Rosenfeld et al (cited in Munnich, Lee; Schrock, Greg; Cook, Karen; "Rural Knowledge Clusters: The Challenge of Rural Economic Prosperity")	• More than 40% of U.S. domestic RVs are made in north central and northeast Indiana, first in the nation • Access to labor and suppliers, as well as major highway routes for delivery, make northern Indiana an ideal center to supply the nation. • Maple City Industrial Park contains many plants for building recreational vehicles, manufactured housing and components to those industries. • Recreational Vehicle and Manufactured Housing Hall of Fame in Elkhart

There is also an emerging literature to quantify the effects of clusters on various aspects of performance. Gibbs and Bernat (1997), for example, find that a worker in a rural cluster firm tends to earn 13% more on average than a worker in a non-cluster. The authors attribute the wage gap to the higher productivity because of cluster effects, information flows, higher skill accumulation, and higher wages. Henry, Barkley and Zhang (1997), in a study of the benefits of clustering in the Tennessee Valley Authority (TVA region), find a positive association between the extent of clustering and income growth in rural regions.

While there is a general consensus about the importance of clusters in economic development, some authors caution against focusing on only one or two clusters in a given region. Henry, Barkley and Zhang note the possible danger of industry-specific shocks on regions dependent on one cluster. Historically, many "one company-towns" in rural regions saw their fortunes decline.

Clusters in Rural Areas: Evidence from the Cluster Mapping Project

This assessment did not allow an in-depth analysis of the Cluster Mapping Project data for individual clusters. However, preliminary evidence confirms clear clustering of the traded sectors in rural economies and sharp differences in cluster specialization across rural areas.

Clusters in Rural Areas: Research Agenda

The numerous case studies on clusters and cluster initiatives in rural region provides a good foundation for a new stage of research. Additional areas for research include the following:

- Research which examines the role of urban and surrounding rural areas in particular clusters
- Comparative studies of a given cluster in several rural locations to strengthen our understanding of underlying drivers of success and failure
- Collection of a comprehensive data set of cluster initiatives in U.S. states and regions. This data, which could include on-going surveys of participants, would be invaluable in better understanding the types of interventions that can enhance cluster development and how economic development processes are best organized.
- Development of case studies in several cluster initiatives to investigate how they can best be structured and managed to have the most positive effect on cluster performance

VIII. Federal Policy toward Rural Regions

Regions differ in performance in part because of policy choices. Choices about infrastructure and tax incentives influence locational choices of companies. Subsidies distort economic composition. Investments in universities give rise to new opportunities.

Here, we focus on policy at the federal level. It is clear, however, that state and local policies are critical as well. We also note efforts to set policy for regions that span several state borders, and the importance of organizations that span such regions. We find these organizations promising but have not been able to examine them in depth. Finally, we have not reviewed the substantial literature on the political economy of policies towards rural regions which illustrates why policies have evolved in particular ways.

Current Policies towards U.S. Rural Regions: Findings in the Literature

Reeder and Calhoun[41] compare federal funding of rural and metropolitan regions in six broad federal government policy areas: agriculture and natural resources, community resources, defense and space, human resources, income security and national functions. Most federal funding in both rural and urban areas is diverted to income security programs such as Social Security, Medicare and Medicaid.

Reeder and Calhoun find that per capita federal funding is lower in rural than in metropolitan regions.[42] They found that rural regions received $5,481 per capita in federal funding in 2000, 4.5% less funding per capita than metro areas. Rural areas received more funding in the form of retirement and disability pay as well as direct payments (particularly farm payments and grants). Most of the lower funding to rural areas is explained by lower spending on defense and space programs and other national functions such as criminal justice, law enforcement and, importantly, research. Interestingly, they find that rural areas also received less federal funding for community resource programs such as housing, infrastructure and business assistance.

The USDA's policies and programs to benefit rural areas fall into five major policy areas: business assistance, telecommunications, energy infrastructure, other rural infrastructure, and "other." Business assistance is provided mainly at the state and local levels, and has expanded over the past several years to include support of existing businesses through retention and expansion programs, support of entrepreneurial activities through seed capital and microfinance, and strengthening of marketing, worker training, and business networks. At the federal level, the emphasis is on filling the gaps, primarily through funding and technical expertise.

Federal funds are also being used to bridge the "digital divide." Telephone, cable TV, computers and the Internet now comprise the key elements of the federal

[41] Rick Reeder and Samuel Calhoun, "Funding Is Less in Rural Than in Urban Areas, but Varies by Region and Type of County," Rural America, Fall 2001, Vol. 16, Issue 3.
[42] Richard J. Reeder and Samuel D. Calhoun, "Payments Vary by Region and Type of County," Rural America, Volume 17, Issue 3 / Fall 2002.

telecommunications policy for rural areas. The focus is on expanding service access to all regions, as well as telemedicine and distance learning.

Enhancing energy infrastructure, electricity markets, and alternative energy production is another area of focus for US rural development policy. Rural utilities receive special federal attention because of the challenges of small size, isolation, and the high costs of service provision to rural areas.

Rural transportation is a final area of policy focus for the US government. The federal government provides rural areas with information for accessing funds and technical assistance to improve their local transportation networks. The last 25 years have seen deregulation across all transportation modes and a steady devolution of responsibility from the federal government to the state and local governments. Transportation infrastructure persists as one of rural America's key challenges according to the Economic Research Service.

Other federal programs that affect rural areas include community development programs such as the Enterprise Communities and Empowerment Zones (ECs and EZs), which selects communities for funding based on strategic plans. The federal government also includes tax policies and overseeing the State Rural Development Councils (see below) among its rural development programs.

Federal funding was highest in farming dependent counties, followed closely by persistent poverty areas (counties which had poverty rates of 20 percent or higher in 1960, 1970, 1980, 1990, and 2000) and government dependent areas (counties that specialize in Federal, State, and local government activities). Transfer-dependent counties (those counties whose economies are heavily based on unearned income from government transfer payments, including social security, unemployment insurance, Medicare, Medicaid, food stamps, government pensions, and welfare benefits) benefited most from direct payments to individuals, including retirement pay. Funding was lowest to manufacturing areas and commuting areas (counties where at least 40 percent of workers commute to jobs in other counties in 1990).

Historical Overview of U.S. Policies towards Rural Regions

As the role of rural regions has changed in the U.S. economy, so have the policies aimed at addressing them. We were unable to locate a comprehensive review of policy changes over time. Based on individual sources and interviews, we developed a timeline of some of the key events in US rural policy, focusing mainly on the post-1980 period (see Figure 27 below).

Figure 27
U.S. Rural Economic Development Policy Timeline
Selected Highlights 1933-2002

1933 Tennessee Valley Authority (TVA) is established. Provides for rehabilitation and redevelopment of the Tennessee Valley. An experiment in regional river-basin planning.

1933 The Agricultural Adjustment Act is passed. Regulates agricultural trade practices, production, prices, supply areas, and land use. A recovery measure during the Depression.

1937 Farm Security Administration established. Successor to the Resettlement Administration and administrator of many programs to aid the rural poor.

1964 A Cabinet-level Department of Housing and Community Development is established as part of President Johnson's War on Poverty.

1965 The Economic Development Administration (EDA) is established. Extends aid to lagging regions to foster redevelopment. Part of Public Work and Economic Development Act.

1965 The Appalachian Regional Commission is established through the Appalachian Regional Planning Act. Plans and allocates resources for the region comprising West Virginia and parts of 12 other states.

1972 The Rural Development Act is passed. The Secretary of Agriculture will provide leadership within the executive branch and assume responsibility for coordinating a "nationwide rural development program." Authorized rural development and small farm extension programs. State Rural Development Advisory Councils established.

1980 Rural Development Policy Act of 1980 (P.L. 96-355).
- The USDA will develop 1) national goals and strategies for rural development, and 2) a process for gathering and assessing regional, state and local data
- Authorized an Under Secretary for Small Community and Rural Development;
- Authorized increased funds to pay for specialists to help local governments prepare requests for the Federal Government

1980 State Rural Development Councils formed by forty state governors

1981 Office of Rural Development Policy (ORDP) is established. Incorporates the planning assistance and rural program coordination responsibilities formerly assigned to the Rural Development Service.

1982 National Advisory Council on Rural Development appointed (renewed in 1984).

1982 Formerly independent State Rural Development Councils become subcommittees on rural development of the USDA State Coordinating Councils.

1983 USDA-ORDP issues a strategy report entitled "Better Country: A Strategy for Rural Development in the 1980's". Focuses on rural infrastructure and services, assistance to local governments, housing, and jobs.

1985 Congress declines to continue funding the ORDP and the office is closed.

1987 USDA announces the Rural Regeneration Initiative
- Commits the Extension Service to increase its emphasis on rural education and training;
- Organizes state-level Rural Enterprise Teams to assist communities with

business / employment problems;
- Creates a Rural Information Center at the National Agricultural Library;

Increases research on rural development topics, and redirects FHA Business and Industry Loans toward job creation in communities with high unemployment.

1988 National Advisory Council on Rural Development is established. Thirty members from different parts of the country are appointed by Secretary of Agriculture to advise on rural development policy.

1988 USDA issues a report asserting that Federal resources made available to rural areas should "manifest themselves as information, technical assistance, direction and support and where absolutely necessary, dollars from the Federal coffers."

1989 National Advisory Council on Rural Development issues the "Final Report to the Secretary."
- Call to emphasize the nonagricultural aspects of rural development; suggested renaming the Department of Agriculture, the Department of Agriculture and Rural Affairs.
- State and local governments should lead in rural development. Suggests increase in the Extension Services and efforts to publicize more broadly USDA's rural development programs

1990 USDA Rural Revitalization Task Force appointed. Produces "A Hard Look at USDA's Rural Development Programs"

1990 White House's Working Group on Rural Development produces President's Initiative on Rural America:
- Presidential Council on Rural America established. Comprised of farmers, state and local officials, rural businesses, and high-tech industries to advise on Federal rural development policy
- State Rural Development Councils (SRDCs) re-established to coordinate Federal rural development programs. Part of the National Rural Development Partnership (NRDP)
- Economic Policy Council's Working Group on Rural Development established. Acts as a standing committee, ready to implement initiatives by the President's Council on Rural America
- First 8 pilot SRDCs established: Kansas, Maine, Mississippi, Oregon, South Carolina, South Dakota, Texas, Washington

1991 Rural Development Administration (RDA) established. Designs national rural development strategies. Part of 1991 Farm Bill.

1992 State Rural Development Councils (SRDCs) expand into 34 states

1993 7 RDA Regional Offices established. Serve as liaisons to state governments and to the system of SRDCs, bringing Federal programs closer to communities. RDA Strategy Development Staff is created to assist rural communities develop economic strategies

1993 P.L. 103-66 authorizes rural Empowerment Zones and Enterprise Communities (EZs/ECs): targets tax incentives, wage tax credits, special deductions, and low-interest financing to impoverished urban and rural communities

1994 RDA Regional Offices close.

1994 RDA and Farmers Home Administration functions merge into the Rural Business-Cooperatives Development Service (RBCDS), Rural Housing Service, and Rural Utilities Service.

RDA Strategy Development Staff is transferred to RBCDS and renamed Community Outreach Staff (COS). Empowerment Zones and Enterprise Communities EZ/EC Branch placed under COS.

1994 Passage of NAFTA

1996 Rural Community Advancement Program (RCAP) initiated. Gives Rural Development State Directors flexibility to move funding but requires them to prepare 5-year strategic plans. Priority is given to the poorest communities.

1997 Taxpayer Relief Act (P.L. 105-34) authorizes five new rural Empowerment Zones (EZs) and 20 new Enterprise Communities (ECs) (Section 766 of P.L. 105-277)

2000 Number of SRDCs is up to 40

2000 Round III Empowerment Zones (EZs) authorized by the Community Renewal Tax Relief Act of 2000 (Pub. L. 106-554).

2002 The Farm Security and Rural Investment Act of 2002 features more than $70 Billion for rural development initiatives

- National Rural Development Partnership coordinating the SRDCs is recognized for the first time in 12 years and authorized $10 million. The Farm Bill charges the NRDP to "empower and build the capacity of States and rural communities to design flexible and innovative responses to their own special rural development needs, with local determinations of progress and selection of projects and activities."

Over a number of years, regional development organizations have been created to supplement the Appalachian Regional Commission and the Tennessee Valley Authority. Newly created organizations include: the Denali Commission (Alaska), the Delta Regional Authority (Mississippi Delta), the Northern Great Plains Authority (Iowa, Minnesota, Nebraska, North Dakota and South Dakota, and the Canadian provinces of Manitoba and Saskatchewan). Others that have been proposed include: Southwest Border Authority, Southeast Crescent Authority

The late 1960s and early 1970s saw a push to clarify responsibility for rural development within government and several new institutions were created. The Economic Development Administration (EDA) was created in the Department of Commerce in 1965 to extend aid to poor regions and foster redevelopment. In 1972 the Rural Development Act was passed, designating the Secretary of Agriculture as responsible for coordinating a national rural development program. As part of the Act, State Rural Development Advisory Councils were formed to carry out a series of rural development and small farm extension programs.

The last twenty years were characterized by the attempts of different administrations to devise more effective structures to develop and deliver policy to rural regions. The Reagan administration made its mark with the signing of the Rural Development Policy Act of 1980, assigning responsibility for a national strategy for rural development to the USDA. After attempts to reorganize institutional responsibilities for rural regions within the federal government met Congressional resistance, the USDA launched a new policy initiative in 1987.

The first Bush administration started with a review of policies towards rural regions. It established the National Advisory Council on Rural Development in 1988 and issued a number of strategy reports on rural policy. This work culminated in the 1990 Presidential Initiative on Rural America, creating new structures at the federal and especially the state level. The Rural Development Administration (RDA) was created.

The Clinton Administration concentrated initially on implementing the changes initiated previously by expanding the presence of state-level institutions. In 1993, it launched a new policy authorizing development zones that were subject to special tax rules and regulations. It also began to reorganize the institutional framework, merging the RDA into a new institution in 1994.

The current Bush administration has continued the practice of development zones. The 2002 Farm Bill provided significant new funds for rural development, especially at the state level.

Over the years, there has been considerable friction and turmoil around institutional structure at the federal level. The ORDP, launched only in 1981, was closed down under pressure from Congress in 1985. The RDA launched in 1991, was merged into a new institution in 1994. The RDA regional offices, established in 1992, were closed down in 1994.

A constant, however, seems to be the increasing move to devolve decision power over the use of federal programs to the local and state level. Increasingly important institutions in this process were the State Rural Development Council's (SRDC), re-launched in 1990 after a previous existence in the 1980s. SRDCs existed in at least 40 states by 2000. Another important move in the same direction was the creation of a number of cross-state, "regional" organizations building on the tradition of the Tennessee Valley Authority, particularly in recent years.

U.S. Rural Policy: Towards a Preliminary Assessment

Overall, the literature is quite critical of policy toward economic development of rural regions. Stauber describes post-1970 rural policy as unfocused.[43] As the U.S. became a suburban nation, he notes, the "social contracts" with rural America disappeared. Marshall describes the current rural policy as "a motley collection of many different policies, with no unifying mechanism and leaning mainly on farm policy for its focus."[44] And even a senior policy maker admits that "we have no national rural strategy."[45]

Not only is there a lack of overall strategy, but individual policies appear not to match with the needs of the business community in rural regions. A 1996 USDA survey found

[43] Karl Stauber, "Why Invest in Rural America—and How? A Critical Public Policy Question for the 21st Century," Economic Review, Second Quarter, 2001.
[44] Ray Marshall, "Rural Policy in the New Century," International Regional Science Review, vol. 24, No. 1, 2001, pp. 59-83.
[45] Interview, federal government official

that the federal policies toward rural areas were not well aligned with the priorities expressed by businesspeople. While businesspeople valued reductions in state and local taxes, worker training and technical assistance, industrial parks, and enterprise zones, the federal government provided most of its assistance in the form of funds for credit- and grant-oriented programs.

While the results are questionable however, what is clear is that persistent efforts have been made to make things better. The shortcomings of past efforts are not a sign of rural regions having been abandoned by the federal government. Instead, the problem seems to be a lack of understanding about what to do.

US Rural Policy: Research Agenda

A more detailed review of policy, which encompasses regional, state, and local efforts, is needed to increase our understanding of what policies have been attempted, what has worked, and what has not worked. Areas for further research include the following:

- A comprehensive review of spending on rural, urban and regional development programs over time by various levels of government (federal, state and local). The aim is to track the evolution of priorities and distribution of responsibilities within the government. Also, spending patterns need to be compared to economic performance.
- A review of the policies, processes, and results of the regional development organizations such as the Appalachian Commission and the Delta Regional Authority.
- Specific analysis of the states and local programs for rural development, especially in the area of “business assistance”.
- A critique of each of the major rural development programs.
- A content analysis of the economic development plans for individual regions under the various planning efforts. What are the lessons to be learned from the plans and their outcomes.

IX. The Institutional Network Serving Rural Areas

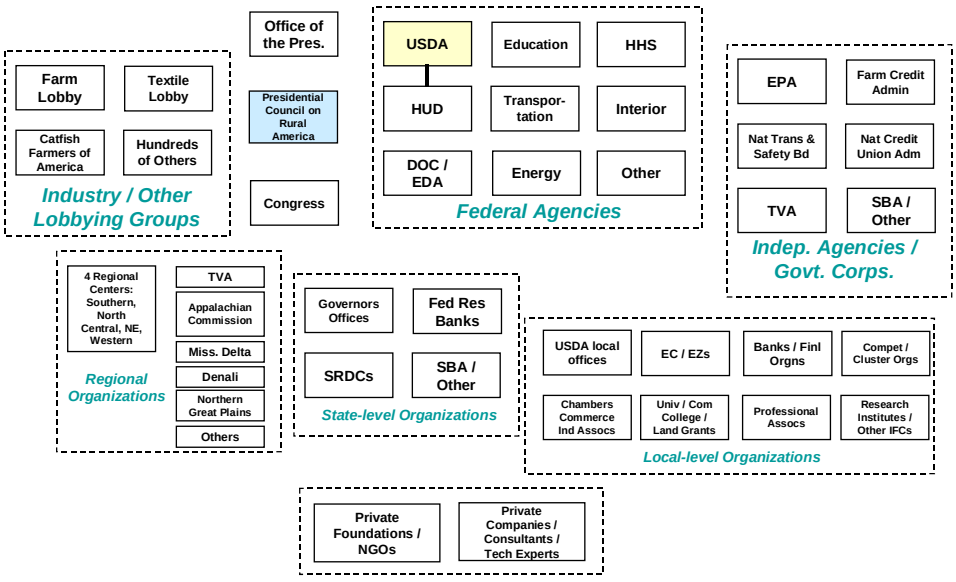
The Institutional Network in Rural Areas: Findings from the Literature

The institutional network to support rural economic development receives a good deal of attention in the literature. The general consensus among experts is that the set of institutions involved is overly complex, uncoordinated, and dominated by federal institutions. Federal agencies are often described as "silos" of rural development activity. Attempts at coordinating the network, including several attempts by the White House via various committees and task forces, have largely failed.

Several experts have concluded that the current institutional network is too focused on agriculture and is outdated for managing the current challenges in rural areas. Other experts have advocated better coordination among the myriad of institutions present. However, the trend toward a more regional and local focus is widely noted and supported. Some pockets of coordination have been identified in case studies of local communities. It is noted that national institutions, such as the USDA, are seen as most effective when their program administration is decentralized to the regional or local level. One of the reasons cited in the literature for the complexity and lack of coordination within the rural economic development network is the lack of a cohesive conceptual framework and strategy around which policy makers, thought leaders, and practitioners can coalesce.

FIGURE 28

Institutional Network Serving Rural Regions
Selected Institutions



Although there are regular references to the various rural development institutions in the literature, there is no comprehensive analysis we are aware of the institutional structure

and its effectiveness. Figure 28 above offers our rough attempt to capture pictorially the network and some of its key parts. This diagram is deceptive because, according to participants, the actual working of the network does not correspond to the logical grouping or organization. With few exceptions, the connections between the various entities tend to be weak or nonexistent. All those interviewed expressed a desire for more and better information, particularly the policy makers.

One of the most noteworthy characteristics of this institutional network is that much of it is geared *solely toward rural areas*, rather than toward broader regions encompassing both rural and metropolitan areas. Given this focus, separate policies for rural regions are the rule. There is little or no structure in place to forge the strategic linkages between rural and nearby urban areas that will be critically important in moving to the next level of economic development.

The Institutional Network: Research Agenda

There is a clear need to redraw the institutional network for economic development in rural areas based on a new framework. However, some analyses of the existing network would help to illuminate past successes and failures. Areas for further research include the following:

- Catalogue the entities and agencies serving rural areas and their scope, roles, and programs
- Collect systematic feedback from business, government, and other leaders about the efficacy of various rural development institutions
- Compare institutions that serve rural and metro areas in similar program areas

X. Recommendations in the Literature for Rural Economic Development

Regional economic development is partly a spontaneous process of responses to market forces but it can be strongly affected by purposeful action. Government at all levels, the private sector, and many other institutions have a role in economic development. If their efforts can be encouraged and aligned, regional development is more rapid.

Strategy for Economic Development: Framework

In our broader study of US regional competitiveness, some of the principles of creating and implementing a successful regional strategy were the following: [46]

- A shared economic vision and agenda for the region helps elicit broad support and coordinate activities
- Strong public and private leadership, with impetus from the private sector, is necessary if economic development is to be sustained over time
- A strong fact base and rigorous strategic analysis is an important early step in implementing a regional strategy. Otherwise, entrenched opinions and biases will dominate
- Many things matter in determining competitiveness. A strategy for economic development must identify strengths and weaknesses and primary areas for action
- A cluster-based approach is essential to engaging the private sector in issues where they will perceive value and take ownership
- Successful economic development builds on own strengths, rather than attempting to emulate the actions of other regions
- Broad-based collaboration among institutions and constituencies is needed if economic development institutions are to address the range of issues affect competitiveness
- An overarching organizational structure for economic development, which goes beyond government, is very helpful to coordinate and drive the process

Rural Economic Development: Recommendations in the Literature

A wide array of recommendations from researchers, policy makers and practitioners has been put forward about how to revitalize rural economies. Our review cannot do justice to all of them, instead we summarize the main threads in the literature and cite some representative contributions.

Linkages to metropolitan regions

Many have suggested that there should be a policy focus on the strategic linkages between rural areas and nearby urban centers. Henry and Drabenstott (1996) advocate that public policy should assist industries in rural regions by helping them to network with nearby urban centers. Stauber (2001) recommends on increasing complementary

[46] Michael E. Porter, Council on Competitiveness, Monitor Group: Clusters of Innovation – National Report, Washington, D.C. (2002).

investments in the urban periphery and sparsely populated areas to create new market demands and linkages.

The USDA recommended, in a 1999 study, to improve connectivity to urban areas through dissemination of information and improving infrastructure through investments in advanced telecommunications infrastructure. This would support targeting of specialized niche markets and creating flexible manufacturing network where firms work together on product development, marketing and purchasing, multi-community collaboration to jointly buy services and equipment or provide municipal services, and improving competitiveness by enhancing the skills of management and labor by investing in the ability to obtain and use information, technology and new management techniques.

Upgrading the business environment

A range of authors advocates strategic investments in the rural business environment, specifically in human capital, transportation infrastructure, and communication infrastructure around the theme of "connectivity". Marshall endorses the focus on education and technology infrastructure, primarily telecommunications infrastructure. Gale and McGranahan recommend investments in transportation networks, good schools, and programs to upgrade skills in the existing workforce. Drabenstott recommends making technology available and affordable in rural areas; a theme echoed by several authors. He also advocates encouraging rural entrepreneurs and providing access to critical resources including financial capital and training. Atkinson also advocates seed capital funds to support entrepreneurship. Drabenstott also advocates a movement away from commodity supports in agriculture to focus on higher-value added farm products. Also, rural environments should be preserved to attract and retain people, policies to improve human capital in rural areas are essential.

Stauber[47] identifies a number of action areas with a focus on increasing human capital in sparsely populated and high poverty rural areas. He recommends redefining and restructuring the rural college and university system, and canceling the Morrell Act which initiated the land-grant university system in favor of a federal grant policy focused on getting critical knowledge and new skills into rural areas. He also advocates a significant focus on technology infrastructure investments for sparsely populated and high-poverty areas, with a focus on using technology to overcome remoteness. Finally he recommends encouraging immigration to rural communities to increase human capital in sparsely populated and high-poverty areas.

Cluster development

Rosenfeld and many others advocate a shift to cluster-focused rural economic development policies. State and local governments should invest in social capital and learn what industries are feasible for growth in their region. Government at all levels should support clustering activity. The federal government, he argues, needs to provide leadership, guarantee services, fund cluster studies, and be less constrained on political jurisdictions when supporting clustering activity that moves across borders.

[47] Karl Stauber, "Why Invest in Rural America—and How? A Critical Public Policy Question for the 21st Century," Economic Review, Second Quarter, 2001.

Institutions for collaboration

In their study of rural knowledge clusters, Munnich, Schrock and Cook (2002) conclude that designing effective institutions for a knowledge-based economy will be an important part of the economic development strategy for rural areas. In the Mankato, MN, wireless technologies cluster, for example, they find an important role for the Wireless & Communications Technology Alliance and the informal Radio Club. Drabenstott (2001) is another author that emphasizes the importance of developing a clear sense of what types of organizations are best able to support improvements in rural business environments. Atkinson advocates the creation of a networks and collaborative activities to offset the information and scale deficiencies of rural areas.

Agriculture

A number of authors advocate an end to distortive agricultural subsidies that flow primarily to rural areas, and shifts towards higher value added activities in agriculture.

Policy process

Finally, there has been increasing advocacy for a bottom-up, community-based planning and policy development processes in rural areas. Some of the advocates of this approach in the literature include Beaulieu of the Southern Rural Development Center,[48] and Fluharty of the Rural Policy Research Institute[49]. This community-based leadership approach is also advocated by government officials at the USDA.[50] Atkinson (2004) advocates a new Federal Rural Prosperity Cooperation to pull together rural policy, with a strong emphasis an enabling state and local strategies.

Recommendations for Rural Economic Development: Commentary

The existing literature provides a rich discussion of many useful policies that would clearly be beneficial to rural regions. While sensible, however, these recommendations fall short of an overall strategy for rural economic development for at least two reasons. First, the recommendations are not integrated into an overall framework. The focus has been on reducing disadvantages of rural regions rather than identifying and building competitive advantages. There has been a heavy weighting of attention on factor inputs relative to other parts of the business environment. Less attention has been directed at a clear statement of how rural regions will gain a competitive advantage.

Second, while there is widespread understanding that rural regions are heterogeneous, this awareness is largely de-coupled from policy recommendations. Most recommendations focus on generic policies to be applied across all rural regions.

There is a pressing need to move beyond discrete recommendations to a more holistic policy framework that would address the specific circumstances of particular regions.

[48] Leonel J. Beaulieu, "A Focus on the 21st Century: New SRDC Policy Series on the Rural South," The Rural South: Preparing for the Challenges of the 21st Century, SRDC, Mississippi, Jan. 2000.
[49] Charles W. Fluharty, RUPRI.
[50] USDA interview.

This framework would highlight local strengths, incorporate linkages between the rural region and nearby urban areas, and address particular local disadvantages in the context of an overall strategy. Such a framework would draw on the generic policy insights that have been suggested in the literature, but their application would vary widely in each specific case.

Also missing from the literature on policy toward rural regions is any significant discussion of organization and process. What mechanisms should be created to develop and implement policy in a rural region? Who should be involved? What should be the role of various levels of government as well as other institutions such as universities, technical schools, and the private sector itself? Our experience has been that developing the economic development strategy is just the start of improving prosperity in a region. Of equal importance is how to build consensus and enable action.

XI. Conclusions

Overview of the Literature

This literature of rural economic development proves to be rich and revealing of the challenges facing these areas. It contains many interesting ideas, and there is a clear commitment to mobilizing the inherent potential of rural regions. What is lacking is an overall framework that puts individual ideas into context and provides policy makers with actionable guidance on how to develop and implement a new strategy.

The literature reveals remarkable consensus on many issues. There is agreement around the performance gap and the challenges confronting rural regions; there is widespread recognition of several important components of rural business environments that require upgrading; there is a universal agreement on the lack of coordination within the institutional network supporting rural development, and among policy makers, thought leaders, and practitioners; there is a growing understanding that the central issue is competitiveness, and there is widespread agreement on the importance of cluster thinking in rural economic development.

There are also some areas in which research progress has been more limited: there is still no rich understanding of the composition and evolution of rural economies at the industry cluster level; there is no comprehensive and detailed understanding of the evolution of rural development policy; aside from case studies, there is little comprehensive evidence on regional, state, and local rural initiatives; finally, there is an overwhelming focus on the problems of rural areas with much less focus on the opportunities.

Overall, many participants in the research debate lament the disconnect between what is advocated in the literature and current U.S. rural economic development policy. Policy does not seem to drive rural development, but responds to special interests. The many sensible ideas proposed by experts are not acted upon. The evidence that we have reviews for this report confirms this view. Without a strong conceptual foundation, it is not surprising that economic development efforts for rural regions have been particularly vulnerable to political pork battles between small but well organized interest groups, frequent institutional redesigns without lasting effect, and the re-invention of old policies under new names.

More broadly, the lack of a clear strategy for rural development may also be a symptom of a larger problem. Economic development in rural regions has often been framed as a task inherently different from economic development more generally. This has created policies and institutions that are not well integrated with regional development activities in metropolitan regions. And it has tied rural regions too strongly to agriculture, both by focusing too much emphasis on this sector and by unjustifiably blaming agriculture for disappointing rural economic performance.

Summary of Findings

1. Rural regions as a unit of analysis and policy
    a. Rural regions rise or fall economically based on the *same principles* as other regions; treating them as different runs the risk of concentrating on peripheral issues, not fundamental drivers
    b. Rural regions, just as metropolitan regions, are a *heterogeneous* group; focusing on the characteristics they share ignores many of the most important factors driving an individual regions' performance
    c. Rural regions are in many cases *tightly linked to nearby metropolitan regions*; approaching rural regions as self-contained economies will obscure and policy choices
2. Economic performance and composition of rural regions
    a. Rural areas have clearly *underperformed* urban areas in economic performance over the last decade, and have been *disproportionally hard hit* in the recent economic downturn
    b. However, the perception of rural economic performance has been affected by *negative trends in a few, regionally concentrated clusters,* notably Apparel, Footwear, Textiles.
    c. Many rural regions have done much better over time.
    d. Rural regions have *grown employment faster than metro areas in most clusters*, including large and growing clusters.
    e. The different composition of rural economies in the traded sector of the economy is an important factor in understanding rural economic performance
        i. Rural regions have largely similar economic compositions in the local (non-traded) economy, as we would expect.
        ii. Rural regions have strong positions in traditional manufacturing though a lower base of advanced services. Across all rural regions most clusters are growing, including services. Three manufacturing clusters are struggling (Apparel, Footwear, Textiles) while services are growing. If we omit these three clusters, rural areas have actual gained traded employment *faster* than metro areas.
        iii. Agriculture is a relatively small part of rural economies, except in a small number of counties. Even in these counties, agriculture is a modest portion of overall employment.
    f. There is a lack of systematic evidence about the composition and evolution of rural economies at the cluster and sub-cluster level, and little

knowledge about how rural areas relate to nearby urban economies on the level of specific clusters. Research in these subjects is among the most pressing priorities for enhancing policy thinking toward rural areas.

3. Business environments in rural regions
    a. There are some *common business environment weaknesses* shared by many rural areas, often associated with low population density. These areas have naturally been the overwhelming focus of policy.
    b. However, many other characteristics of the business environments *vary significantly* among rural regions, and these collectively appear *more important* in explaining rural economic performance.
4. Policy for economic development in rural regions
    a. Rural economic development must focus on the *unique strengths of each area*, rather than concentrating on ameliorating generic weaknesses. Rural areas will never match urban infrastructure, services, and amenities.
    b. Viewing regional economies in terms of *clusters* is central to understanding the competitiveness of rural areas and how it can be improved. Each rural area will differ in its cluster composition and in the opportunities created by the cluster strengths in nearby metropolitan areas.
    c. There are a number of *economic opportunities* available to many rural areas, to varying degrees. Some of them include the following:
        - Hospitality and tourism, including second homes and retirement homes
        - Outsourcing of services from labor constrained urban areas
        - Specialty agriculture focused on serving urban markets, including niche products, fresh produce, feed produced using sustainable methods, and farmers' markets.
        - Overall, the growing congestion and scarcity of land in urban areas
        - Demographic trends that will produce workforce shortages as the economy grows, making the rural workforce more valuable
5. Policy process
    a. Traditional rural constituencies and current institutional structures have failed to develop policies that mobilize the potential of rural regions; this is not a result of neglect but of the absence of a consistent strategy based on sound understanding of the economies of rural areas.
    b. The current institutional framework for rural policy is *fragmented and uncoordinated*, and needs to be radically restructured. Institutional changes will require new thinking by traditional rural constituencies.
        i. The focus of rural policy institutions around agriculture is particularly counterproductive. Agricultural policy must move

away from commodity price supports and towards *specialty products* and *serving nearby urban markets*. This will require a distinct agricultural strategy for each rural area.

c. Given the heterogeneity of rural areas, policy for rural areas must be set at the *local and regional level*, not at the state or national level. Federal and state programs must devolve decision-making to communities themselves.

d. The appropriate *processes for economic development* for rural areas, and the roles of business, government, colleges and universities and other constituencies, is not well understood. This is a priority for further research.

The Opportunity for Progress

We see a significant opportunity to rejuvenate and redirect the field over the coming decade. There is a clear interest in the Bush Administration and in Congress to address the economic development in rural regions, but a lack of strategic direction. All sides appear frustrated with the current state of affairs. We are optimistic that it is possible to bring together the players, reveal the many points of agreement, translate these into an overall strategy, and win support for instituting the policies and organizational adjustments to enable real change.

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This bibliography is just a partial list of useful and important literature in the field of rural economic development. Compiling a fuller bibliography and a more comprehensive survey of the literature is an important area for future research.

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