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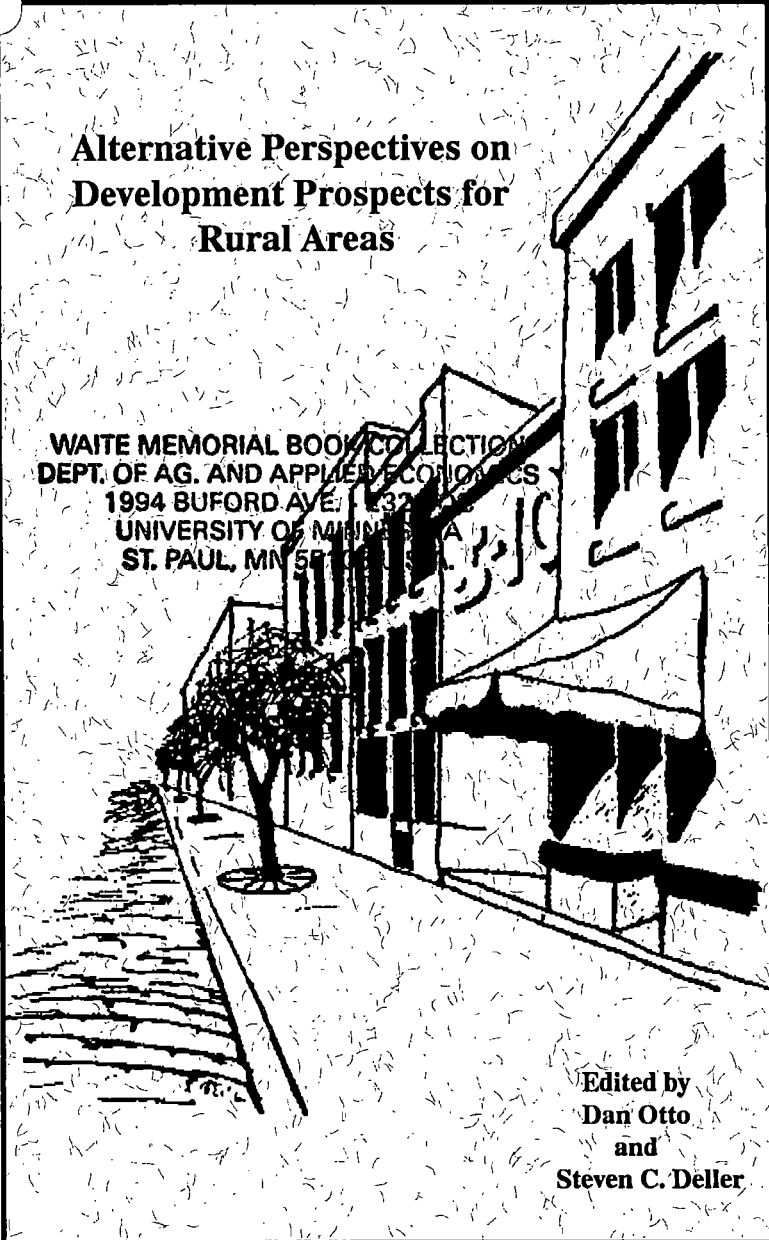
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Alternative Perspectives on Development Prospects for Rural Areas

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RURAL DEVELOPMENT IN A GLOBAL ECONOMY

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The spatial evolution of the U.S. economy over the last twenty years challenges rural researchers and practitioners to formulate a comprehensive theory of rural development. Emerging from the 1960s, scholars were persuaded that the decades old pattern of rural decline had ended. Rural areas were poised for a new era of revitalization. The basis for these views was a perception that population would continue to deconcentrate from U.S. cities, and manufacturing and services decentralization would follow.

Almost as quickly as the rural renaissance was noted, development trends reversed. Rural areas once again fell into a pattern of slow population and income growth and exhibited persistently high levels of poverty and underdevelopment. The reversal of rural fortunes continues to perplex researchers attempting to formulate a theory of rural development for the 1990s (Kale, 1989).

Post war rural development trends have been conceptualized on the basis of urban and regional interpretations of spatial change. At present we lack a unique framework in which to situate rural development. Progress theorizing non-metropolitan development patterns requires challenging conventional wisdom. We need distinct theories of rural change that incorporate social theory, sectoral analysis, and an understanding of corporate strategy and structure.

Volumes of empirical research have been written about rural development over the last five years. Most of this research,

however, is a historical. Yet with the exception of the 1960s, patterns persist in the evolution of rural economies. Authors such as Gavin Wright and James Cobb have made provocative contributions to our understanding of the historical development of America's regions (Wright, 1987; Cobb, 1982). Their work clearly illustrates how history shapes the present day economy of the South. Comparable research about other U.S. regions would enhance our understanding of contemporary rural problems.

Furthermore, studies of rural development would be strengthened by a more comprehensive evaluation of the role of institutions in regional development. It is impossible to explain the development of the rural South, for example, without acknowledging the role of labor and defense policies of the 1940s and 1950s. Rural areas in the West and Midwest have also been influenced by the actions of institutions such as the Farmers Home Administration, the Soil Conservation Service, the Bureau of Land Management, and the Army Corps of Engineers. Yet with the exception of a few scattered studies, our knowledge of institutions and how they have shaped rural development remains embryonic.

Development research must also be oriented toward the future. Rather than describing non-metropolitan development based on recent past events, rural research would benefit from incorporating an understanding of changes presently evolving in the international economy.

I begin by situating my discussion in context with developments in the post war U.S. space economy. I will illustrate how wholesale adoption of urban and regional models mis-specifies what actually occurs in rural areas. On the basis of this discussion I will suggest how an understanding of industries, corporations, and international events informs research and policy on non-metropolitan development. I will conclude with some thoughts about the

role of practitioners and suggest that our efforts need to take into account the changing global economy.

THE POST WAR TRANSFORMATION OF THE U.S. SPACE ECONOMY

Over the last 20 years we have witnessed profound changes in the national and international space economy. As Gordon Clark notes, prior to the 1970s, American firms were essentially protected from international competition (1989). Trade agreements between the U.S. and Britain effectively set the conditions for U.S. global hegemony. Bretton Woods specified the nature of international trade based on the existing comparative advantage of different nations. Accordingly, the U.S. produced and sold mass-manufactured goods while other countries provided the raw resources for their manufacture. Furthermore, emerging from the Second World War, the U.S. was the world's largest intact economy and the most integrated market. American firms competed amongst themselves for both domestic and international market share.

Manufacturing decentralization of the 1950s and early 1960s occurred in response to cost pressures experienced by national firms competing in the domestic market. Although manufacturing had been shifting out of the Northeast since the turn of the century, continued cost pressures accelerated the movement of labor-intensive employment southward (Barkley, 1990). In an effort to remain competitive, cost-sensitive firms restructured operations to lower labor costs and rationalize production.

Nonetheless, industry relocation was not simply in response to interregional factor cost differentials. State and federal institutions were instrumental in this spatial reordering. One need only read a 1960s copy of *Fortune* magazine to verify states' aggressive

efforts to woo business to the south. Local officials enticed corporations to relocate by offering lucrative financial incentives and promises of labor peace.

Federal defense policy was another important stimulus of industry relocation. Members of Congress made strategic compromises about the location of national defense investments including base placement and material procurement. Under the guise of deconcentrating vulnerable facilities, the South received a healthy dose of federal defense operations. And the West became the nation's center for aerospace and strategic operations. Government actions contributed significantly to distributional changes of population and industry over the post war period (Markusen et. al., 1990).

Migration flows and the formation of new markets further encouraged industry location outside the nation's traditional centers of population and industry (Kasarda, 1988). Population shifts of the 1950s and '60s reinforced migration patterns that had been unfolding since the early decades of the 20th century. Excluding the depression years, migrants flooded into Florida and Texas, eschewing states in the Deep South (Poston, Serow, and Weller, 1981). The West was also an important destination for migrants.

Following the Viet Nam war, another round of industrial restructuring occurred as U.S. firms, concentrated in the manufacturing belt, experienced the pressure of global competition. By the early 1970s, the U.S. economy was becoming more international as manufacturing shifted to other industrialized countries in search of markets, and to third world locations in search of cheap labor. Initially cheap wages enticed American firms to shift assembly abroad. Over time labor cost savings were overshadowed by gains derived from skill levels in other countries. Additionally, Asian

firms, particularly Japanese firms, were steadily eroding the technological leadership of U.S. corporations (Henderson, 1989). Although U.S. firms did not yield command of key sectors until the 1980s, nonetheless the competitive edge of U.S. corporations was steadily eroding over time.

The terms of trade also began to change. With the rescission of Bretton Woods in the early 1970s, America became just another trading nation, subject to exchange rate fluctuations and international events (Clark, 1989). The American market became the final destination for goods produced by newly industrializing nations. Foreign firms began to penetrate and ultimately dominate markets previously controlled by U.S. corporations.

Exogenous shocks were also important determinants of the changing spatial structure of population and jobs. The oil crises of the 1970s precipitated rapid growth of energy and minerals exploration in the western U.S. The tripling of oil prices made millionaires out of Texas dirt farmers (Glickman and Glasmeier, 1989). A new axis in America's post war geography emerged as resource exploitation incorporated previously peripheral locations into the national space economy. Rural areas were momentary beneficiaries of this development.

This new round of restructuring was expressed geographically in further shifts of population and jobs to the West, and more significantly, to the South. Jobs in heavy industry such as steel, rubber, and machinery began declining overall, even as further decentralization occurred. High tech industries emerged, with dramatic growth rates made more apparent by the weakness of traditional industrial sectors. Services became more prominent as manufacturing job growth stagnated. Although manufacturing was an important source of new job growth in the South, expansion of

the residentiary sector (including retail, wholesale, and construction), was the real driver of the region's expansion.

By the late 1970s the spatial distribution of economic development had become more uneven. States in the nation's mid-section were hemorrhaging. Traditional mainstay industries such as steel and autos shed hundreds of thousands of jobs, sending workers into the streets with uncertain futures. Key states along the East and West coasts were showing healthy signs of growth fueled by high tech, services, and accelerated defense spending. Migrants continued to flood into Florida and Texas. While the Rocky Mountain states experienced rapid growth, this proved ephemeral. Outside of resource extractive regions, rural areas were only minor participants in the late 1970s round of economic change.

The recession of the early 1980s proved disastrous for subregions of the country. While selected states in the Midwest and Northeast experienced dramatic declines in basic industry equally concentrated growth occurred in states in the West and South. But even within rapid growth states such as California, decline in basic sectors (timber and autos) elevated state unemployment levels. And job loss in the South's traditional industries (textiles and apparel) was only partly offset by continued growth of population-dependent sectors. While Texas was relatively unaffected by the recession, oil price declines in the early 1980s quickly eroded the state's "go go" image.

THE PRESENT

In the contemporary period even more profound changes are occurring in the organization of the world economy. The U.S. no longer has an undisputed lead in many fundamental technologies. Newly industrializing nations' state-led development policies

have created production complexes capable of manufacturing entire products, including the most advanced components (Glasmeier, 1990a). Asia's productive capacity is so sophisticated that many American firms no longer consider manufacturing first generation technologies in the U.S. Today Hong Kong, Singapore, Taiwan, and South Korea challenge both U.S. and Japanese firms' manufacturing dominance in many sophisticated mass produced goods.

This latest round of industrial restructuring is altering previous patterns of spatial development. The East coast economy is weakening in response to a decelerating high tech sector, an overheated real estate market, a contraction in producer services--- particularly finance--and real declines in defense spending. While the West coast economy is momentarily more buoyant, thanks to a diversified economy, defense spending declines threaten large areas of the region with recession. Whether high tech remains high flying depends on industry ties to defense spending.

Although no longer reeling from the devastating effects of economic restructuring of the 1970s, the Midwest still exhibits signs of slow growth. Service sector expansion has not kept pace with national trends. While the region has maintained its historic share of national output, manufacturing industry provides far fewer jobs than just a decade ago.

The new growth poles of the early 1980s--Texas and Florida--are facing uncertain futures. The Texas economy has been in retrenchment for much of the past five years. Real estate is not expected to recover before 1995. While oil exploration has picked up recently, drilling activity is still below pre-1980s levels. Population growth has slowed considerably, and per capita income levels hover just below the national average.

Only Florida remains somewhat growth-oriented. Nonetheless, the state shows serious signs of over-building. While retirees

continue to migrate into the state, officials fear that public expenditures needed to pay for past growth will outstrip existing resources.

Given this forty year pattern of development, how do we understand the role of rural areas in advanced industrial nations during a period of global integration? Where once rural economies were removed from national international economic events, at the end of the 20th century rural communities find themselves buffeted about by economic forces beyond their control.

THE EVOLUTION OF THE U.S. SPACE ECONOMY IS NO LONGER TIED TO NATIONAL ECONOMIC EVENTS

To begin with, it will be increasingly difficult to forecast rural development based on events occurring within a single nation's geographic boundaries. Exchange rate fluctuations, state-led industrial policies, and evolving corporate strategies make predictions about U.S. economic development based on conventional theory hazardous at best.

A case in point is strict interpretation of industrial location based on the product cycle model. In the 1960s and early 1970s, the product cycle model was useful in describing the development path of manufacturing. Today, however, the validity of this forecasting tool is in question. The high degree of corporate mobility and rapidly shrinking product cycles juxtaposed against existing labor constraints resulting from heightened technological change present special difficulties when theorizing the location of industrial activity.

For example, there are two primary interpretations of high tech industry location in rural areas. The first, based on industrial filtering, suggests rural areas gain jobs as industries mature, technology stabilizes, and labor costs become paramount in

determining market share distribution. Empirical evidence of the early 1980s, however, indicates that job growth in high tech industries occurred in sectors growing rapidly at the national level. These results contradict product cycle predictions.

An alternative interpretation, combining insights from sectoral analysis, the division of labor, and corporate strategy, provides additional precision in explaining rural high tech location in the late 1970s (Glasmeier, 1990a). A number of introductory points are worth noting. First, almost since their inception, high tech industries have been subject to intense international competition. Consequently, the "super profit stage" accompanying the introduction of new products has been steadily shrinking. Second, the rate of change in the development of new technology has been accelerating over time. Each generation of technology is not just more powerful, but it is also much cheaper. Third, the cost of new productive capacity has increased dramatically. In the early 1970s, two million dollars purchased a state-of-the-art semiconductor production facility. Today a new semiconductor manufacturing facility costs in excess of \$250 million. Fourth, because of accelerating product cycles, high tech industries tend toward over supply and stagnant demand as new generations of technology supersede previous models. Hence, in the late 1970s, the context in which high tech firms were making location decisions was changing rapidly over time.

In the late 1970s and early 1980s, these problems were exacerbated by growing spatial constraints in existing high tech complexes. Land costs were rising, and wage rates of professional workers were rocketing skyward. Simultaneously, production processes were becoming increasingly complex and therefore requiring a more highly skilled labor force. Increased demand for technical labor placed additional pressures on already congested

labor markets. Industry decentralization occurred as firms tried to manage the problems of land and labor constraints, rapidly changing technology, and the need to establish new capacity for the manufacture of increasingly sophisticated products. A noticeable share of rural high tech growth occurred in communities adjacent to cities where agglomeration economies, amenities, and importantly, skilled labor could be found.

Based on this interpretation, rural high tech growth was very much tied to developments in urban areas, but in a rapidly changing international economic context. By emphasizing sectoral development, while recognizing the difficulties associated with the creation of a spatial division of labor, we can deepen our understanding of the development potential of high tech industries in rural areas.

THE FUTURE

These same factors have now given way to yet different spatial imperatives as U.S. firms struggle to remain internationally competitive. It is now mandatory that corporations manufacture in key markets of Asia and Europe. Co-production agreements, joint ventures, and strategic alliances are culminating in a new round of spatial reorganization. Today the location of both production, and more importantly R&D (once thought spatially fixed), is up for grabs. Competitor countries are creating their own technology base and positioning domestic industry to compete on the basis of both product sophistication and price. Thus important question is how this development affects rural areas.

THE NEED FOR SECTOR STUDIES

A missing ingredient in rural industrial location studies is an understanding of sectoral behavior. Yet it is difficult to

comprehend the development path of industries without acknowledging production mandates and market structures. Sector studies have been instrumental in informing us about the evolution of the U.S. space economy. We have learned a great deal about the constraints governing contemporary location decisions. These studies have also enhanced our ability to describe likely development consequences of industry location. It is no longer enough (I question whether it ever truly was) to chart the location of even four-digit industries and make assumptions about their development implications.

Today within semiconductors, for example, there are a myriad of production processes, ranging from the most vertically integrated and capital intensive, to the most fragmented and decentralized. The labor process, and therefore the development implications of these establishments, varies. In the former case, plants can decentralize as most functions are internalized within a single establishment. In the latter case, spatial proximity is crucial to the successful operation of disintegrated production. Owing to this variation, we must now examine not only what is manufactured in different locations, but also how it is manufactured, and ultimately what market it is destined for.

WILL OTHER SECTORS FOLLOW THE PATH OF MANUFACTURING?

The same developmental concerns--the composition of an economic activity, the corporate organization, and the mode of production--arise when considering the growth potential of services in rural areas. Current research, based on a minimum cost framework, is forecasting services decentralization. Again, caution is advised in making such pronouncements.

The growth of services nationally is the result of many different factors--labor force changes and alterations in consumption patterns, government policies, third party transfer payments, the increasing division of labor in manufacturing, and the restructuring of corporations (Glasmeier and Borchard, 1989). Each of these developments has implications for services decentralization.

In the extreme, some research implies that services will follow the path of manufacturing, decentralizing to rural areas in search of lower land and labor costs. Policy proposals reflect this optimism. Robert Reich suggests rural areas need only better telecommunications to compete effectively for new industry (Reich, 1988a; Daniels and Lapping, 1988; Reich, 1988b). Reich argues that industry is no longer geographically bound, and therefore with the right infrastructure, rural areas can compete for services and flexible manufacturing. This sounds rather optimistic. In the first place, the suggestion is simplistic and ignores long standing limitations that inhibit rural communities' ability to compete for all forms of economic development. Better infrastructure will no doubt be helpful; however, it is more likely a necessary, but not sufficient condition to foster future rural growth. Furthermore, the claim that industry is geographically footloose ignores contemporary industry location behavior. The service sector remains spatially concentrated and requires intense spatial proximity to facilitate face to face contact (Glasmeier, 1990b).

More importantly, industry location is only one component of the development problem. It is not simply whether rural areas can compete for services but rather what kind of industrial activity non-metro communities are ultimately able to compete for (Gillespie and Robins, 1989). While it would be nice to interpret rural development based strictly on national events, it is increasingly hazardous to do so. Before speculating about services and rural

development, we need a better understanding of the services we are talking about, how they are produced, who produces them, and how international events influence their development (Martinelli, 1989).

ECONOMIC DEVELOPMENT FADS: SMALL BUSINESSES AND INDUSTRIAL DISTRICTS

The failure of manufacturing decentralization to sustain rural development in the 1980s has led researchers to focus their attention on small businesses, and more recently industrial districts, as future sources of rural economic development. Missing from most discussions of these urban economic development initiatives is a critical appraisal of their applicability to rural areas. At a minimum, small business and industrial district promotion should be evaluated, not only on the basis of cross sectional and longitudinal analysis, but more importantly in context with developments occurring in the international economy.

James Miller of the U.S. Department of Agriculture's Economic Research Service (ERS), recently wrote a thoughtful paper on the role of small business in rural development (1990). While rural small businesses make major contributions to job generation, Miller cites evidence that suggests the growth of small businesses in the 1970s was an aberration--a symptom of how badly big businesses were doing during the period. Other research challenges the validity of virtues previously ascribed to small businesses such as their longevity, their marketing capabilities, and their technological innovativeness. On the contrary, recent comparative research of small business development in advanced industrial countries, suggests small businesses are very turbulent (Harrison, 1990; Markusen et. al., 1983); many develop new technologies but have difficulty commercializing them independently

(Shan, 1990); and small firms lag in the adoption of new technology (Kelly and Brooks, 1989).

Working conditions and skill levels, not to mention wages rates and pensions, are important issues that require consideration when proposing small business development strategies for rural areas (Brown, Hamilton, Medoff, 1990). All too often we focus on the Schumpeterian attributes of small firms without examining the social consequences of such development.

NEW INDUSTRIAL DISTRICTS: AN ALTERNATIVE TO MASS PRODUCTION

Perhaps the newest trend influencing economic development policy is the reemergence of industrial districts comprised of disintegrated production networks. According to one perspective, mass production, as the organizing principle of post war capitalism, is giving way to more flexible forms of manufacturing. Owing to increased consumer preference for differentiated goods, proponents argue that gains from flexible manufacturing outweigh benefits of scale economies through mass production (Piore and Sabel, 1984). Increased product variability discourages large investments in fixed capital and therefore diminishes barriers to entry by small firms. As a result, a window of opportunity has opened for small firm manufacturing. To compete successfully in this new era of production, however, small firms must specialize. The success of such an arrangement depends on a firm's ability to purchase in the market what it cannot produce internally. In this instance, economies of agglomeration override those of economies of scale. Therefore this type of production encourages the formation of small firm complexes.

These complexes achieve vitality from the highly interactive nature of production which fosters product innovation and ensures

complex integration. Because products change rapidly and investments in capital are low, workers must be highly skilled and able to work with general purpose equipment. Some authors argue this new development embodies significant potential for rural areas.

The most celebrated example of this development is the Emilia Romagna region of Central Italy. Many of these industrial districts are located in small towns outside major metropolitan areas. Firms specialize in high value-added products such as machine engineering, high fashion clothes, designer shoes, and ceramic tiles. At the base of many Italian production districts is a tradition of small, family-owned business. Owing to a history of active local government in Central Italy, the public sector provides important services that contribute to the success of these complexes. While not denying the existence of industrial districts, it is important to acknowledge the uniqueness of certain localities, and accept that disintegrated production relations are subject to change over time.

Some scholars suggest the industrial district model is unique to Italy and not widely found in other European countries (Quevit, 1990; Amin and Robins, 1990). A number of countries (Denmark among them) are experimenting with programs designed to create the support structure needed to sustain such development (Rosenfeld 1990). Nonetheless, efforts to artificially construct the institutional basis for fragmented production systems are embryonic.

There is emerging controversy about the long term stability of this mode of manufacturing organization. Recent research indicates numerous industrial districts are undergoing vertical integration as micro enterprises are being consolidated into larger corporate groups (Harrison and Kelly, 1990). Mounting evidence further questions the independence of industrial district firms.

Studies show that many small firms are highly dependent upon a single large firm for their market. In contrast with the model of entrepreneurial independence described in some accounts, many of these small firms rely on large firms for material acquisition, market access, and new technology.

Furthermore, the technical attributes of disintegrated production systems do not necessarily translate into progressive skill-enhancing work settings. On the contrary, research indicates that the labor process is often little more than disintegrated de-skilled production (Amin, 1989; Rosenfeld, 1990). Thus the portrayal of flexible specialization as a progressive alternative to corporate paternalism may have limits.

Finally, the geographic significance of this development is a subject of some debate. As Niles Hansen and Stuart Rosenfeld both note, it is erroneous to describe these small European towns as "rural." Most industrial districts are in cities adjacent to metropolitan areas, or they are in small cities of some historic significance (1990). Therefore it is questionable whether this model has realistic applicability to rural areas.

THE NEED FOR GREATER REALISM AND COMPLEXITY IN THEORIZING ABOUT RURAL ISSUES

The purpose of raising these issues is to suggest that there are emerging opportunities to inject greater realism, and therefore complexity, into contemporary discussions of rural development. We need to move toward the development of a conceptual framework that treats rural as more than simply a residual of urban development. To do otherwise abdicates the responsibility of conceptualizing rural development to others. Future rural research would benefit from examining how urban and rural development processes interact (Seib, 1990). Greater scrutiny of urban and

regional development processes is also needed. As Niles Hansen notes, many of the trends presumed descriptive of the U.S. space economy of the 1970s were often overstatements based on very aggregate measures (1988).

Rural industry location studies need to expand the dimensions of inquiry to incorporate sectoral development. Industries evolve on the basis of many imperatives. Their spatial evolution cannot simply be read off aggregate trends or highly stylized models. Labor quality, production processes, market instability, changing technology, and new competitors are all important factors influencing industrial location. Understanding how industries evolve will help us interpret patterns in aggregate data and therefore construct better theory--distinct from urban-based interpretations.

As part of a deeper understanding of sectoral development we need to reconsider the nature of corporations. Although studies of corporations were quite popular in the 1970s, research on corporate strategy fell out of favor as its focus gave way to concern about production processes. While not denying the latter's importance, it is imperative that we understand how organizations make strategic decisions. For example, corporate strategy and choice of production technology are converging over time (Schoenberger, 1990). While increasing a firm's ability to manufacture a variety of goods, flexible manufacturing systems are extremely costly to own and operate. In order to rationalize this type of investment firms must run flexible manufacturing systems at full capacity. One implication of this development is that firms no longer divide up production across space strictly to minimize a single input cost, such as labor. New facilities manufacture complete products destined for global markets. A task of future

research is to anticipate how this development will influence the location of industry in rural areas.

As practitioners we have a special responsibility to scrutinize proposals and programs coming out of the economic development community. To accept the latest fashion in economic development planning without questioning its applicability to rural problems can only lead to disappointment. Industrial districts, small business, tourism, and retirement are but a few of the many proposals deserving careful evaluation before incorporating them into community development programs.

We must also accept that long established economic development patterns are not likely to change in the near term. Therefore, this may require a more realistic appraisal of communities efforts to attract branch plants. Instead of discouraging branch plant promotion efforts, communities would be better served by learning how to negotiate with corporations making location decisions. Since we know what corporations expect, we must determine how this knowledge can be used to the advantage of rural communities. This does not mean we should become glorified deal-makers, giving corporations everything they want. Rather we must continually search for quid pro quo agreements that enrich communities with tangible benefits beyond strictly low wage jobs.

Important research has been completed about rural America over the last ten years. Experimentation and innovation characterizes efforts to apply current knowledge about processes of economic change to rural development problems. In the future, greater attention to international events, industrial structure and analysis, and corporate strategy will enhance our work. The time is ripe for more concerted efforts to theorize the meaning of rural development in a global context.

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DISCUSSION

Question: You said that you felt that the assumption that many more firms were footloose than we previously thought was perhaps an error, and that there seems to be evidence that it was suburban or outlying urban areas where growth was in fact taking place. If I understand what your saying, there is still something about agglomeration that is meaningful in contemporary society. Am I correct?

Glasseier: Yes, I'm saying that, but I'm also saying that companies are both extremely spatially bound and have infinite spatial possibility. Depending on the corporate organization, depending on the sector and international circumstances that sector is currently imbedded and the marketing strategy that firms undertake, you are going to find both agglomeration and decentralization. But I'm not sure if decentralization is within the domestic boundaries. That is the concern that I have.

Question: Does that mean everything is unique?

Glasseier: People who conduct sector analysis have been able to make generalizations about certain aspects of industry and their locational behavior. Now, we are in a period of tremendous change. So what we might be able to do is describe tendencies looking forward into the future. I think it's not as easy for us today to be able to say industries follow this pattern and this pattern alone. But that does not mean you can not generalize.

Question: Have you studied the impacts of rural versus urban for something like a national health plan. In our case rural areas tend to have much lower level of coverage. In some ways that helps certain types of firms because they do not provide health plans. But it also creates a very unlevel playing field. Have you thought about the implications of this issue for locations and different industries?

Glasseier: I've been doing some outlook scans and analysis looking at the role of services in rural areas and the number one sector that keeps coming up over and over again in terms of jobs generated is the health care sector. Whether or not national health care policy would help provide medical services into rural areas or whether it would create centers of medical services I think is a question of the way in which the government sets the policy, the scale economics, and the feasibility of certain kinds of procedures. It would be interesting to know the level of unused capacity of health care facilities in rural areas and if there is any type of specialized services that they might be able to provide, emergency services for example. Since rural facilities can not provide a whole range of service, I assume would have implications, but to read it off spatially I think is hard to do.

Question: You suggest that we should consider doing more varied disaggregated sectoral studies. Any guidance for how we can target our efforts, target the kind of sectors that we should be studying? It seems to be a very high risk game, especially when your concerned with rural areas. You might come up some very interesting results, but they may not apply to rural areas any more than they apply to the regional economy as a whole.

Glasseier: There are quite a few sector studies that have been conducted. I think a modest body of literature has developed that actually analyzes spatial implications of different industries and relatively minor sectors. But we have not actually taken full advantage of that literature yet. I think the first step might be to take that literature and mine it for what we see in terms of peripheral locations. In some cases it may be a crap shoot. You pick one and then it's not particularly important in any given period of time. So I would take the same position. There is enough analysis for key sectors that tend to end up rural areas. For example, because I have done some work on foreign investment in the U.S. looking at the auto industry, somebody recently asked me if rural America is going to be the single location for Japanese investments. Well it turns out that if you look at the spatial locations of the Japanese investments in autos, sure enough, it's

smack dab right in the middle of the midwest or the northern part of the south and it tends to be rural areas. In my opinion if you only get that much information you do not know the answer. The answer is that there are particular strategic decisions the Japanese made distributing production in different states so that they would have political influence. They picked certain kinds of rural communities and they did not pick others. It may turn out, if you look at trends in automobile sales that the U.S. is going to have excess production capacity. Therefore, the implications are that there may not be an increase in production, or if there is increased production, it may be at the expense of American firms. On the question of whether rural areas are going to be the center for foreign investment, I would have to say the probability is not high, given the sectoral circumstances. So, I would say there are benefits from looking at what has already been done and that there are also some strategic sectors in rural areas that probably would benefit from more in depth analysis.

