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When Low Wages Aren't Enough Anymore: Prospects for Remote Branch Plant Regions in the International Economy

Project Summary

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Prospects for Remote Branch Plant Regions in the New International Economy**

Project Summary

In 1992 the Aspen Institute (with funding from the Ford Foundation), the Appalachian Regional Commission, and the Economic Development Administration sponsored this examination of the influence of globalization on branch plants. The analysis focuses on branch plants in rural America and the Appalachian region. The central concern of the study can be stated simply: the U.S. economy appears to be integrating into the global economy; how will its peripheral and less developed regions fare during this period of economic change?

The study comprises four phases. In the first phase, an analysis was conducted of data compiled by the U.S. Small Business Administration that allowed us to examine the importance and spatial distribution of branch plants at the national, regional, state, and non-metropolitan levels. In the second phase of the study we examined key industries in rural America and in the Appalachian region. The textiles and apparel, food processing, and automotive parts industries were studied in detail to determine their relative competitive position in the global economy. In the third phase of the project a typology of firm-competitive strategies was developed based on size of firm and corporate affiliation. The fourth phase of the project consisted of interviews with branch plant managers and managers of local firms to determine which methods are being used to compete in the national and international marketplace during the current global economic integration.

The report is divided into seven sections. In section one current trends in economic integration are discussed; section two contains a description of the importance of branch plants in the structure of U.S. corporations and outlines a methodology designed to allow state and local agency analyses of industries, firms, and branch plants. In section three the spatial distribution and importance of branch plants in U.S. regions, Appalachia, and America's rural communities are discussed. Sections four through six present detailed case studies that were executed using the methodology outlined in section two. Section seven contains conclusions and recommendations. Highlights from each section follow.

**Section One: Globalization and Its Impacts
on Rural Communities and the Appalachian Region**

The competitive context of corporate branch plants and broader industry-wide trends is evaluated in light of international economic integration. At the most general level, branch plants are cost centers established as firms expand both horizontally and vertically. As a cost center, the facility produces a semi-finished product shipped within the firm to another location for final assembly. The goal of such an operation is to produce an input at its lowest cost as part of the overall corporate production process. These establishments typically embody little or no strategic decision-making capability. This means that plant personnel may or may not govern the purchase of inputs, the composition of employee training, and the scheduling of production. They may wield little or no control over either the type of product produced or the market for their facility's product. By its very structure, a branch plant cost center is dependent upon the parent.

In rural areas, large firms and multi-locational corporations provide the bulk of manufacturing employment. In remote areas such as Appalachia, employment at non-locally owned manufacturing establishments constitutes as much as 57 percent of total manufacturing employment--with much higher concentrations in selected industries and counties. Few communities have established effective working relationships with their branch plants and larger employers. Yet these organizations are major elements of rural America's economic fabric;

therefore, communities need to be concerned about the productivity of these enterprises. Large employers are important because:

They have little commitment to place. As firms press toward globalization, they are finely tuning their production and institutional systems. Site-specific advantage takes on new meaning as firms choose from a continuum of organizing opportunities ranging from establishing an operation to subcontracting out with local businesses.

Large, multi-locational employers are a critical source of good jobs. They often provide for occupational mobility through job advancement. Large firms also are more likely to provide health benefits compared with small firms. Large employers are more likely to provide workers with advance notice of layoffs or plant closures, and they frequently provide displaced worker assistance services.

They are the most mobile (therefore the most capable of adjusting location) when new opportunities arise. While firms have demonstrated significant mobility in the past, the future will bring substantial job losses as establishments seek to raise productivity.

Why be Concerned about Big Firms Now?

Rural and peripheral communities' comparative advantages have traditionally been in areas of lower costs and, to some degree, greater flexibility. Part of the attraction of rural communities is that work forces can be easily collected and dispersed, and local governments are pliable regarding rules and regulations. This greater flexibility has allowed firms to make limited commitments to places.

The advantages of low wages and a hard-working labor force are no longer unique to rural America. Corporations are aware that alternative production sites in developing nations offer vastly lower labor cost scenarios and often have better trained and more productive workers.

International trade is also becoming an increasingly important variable in the corporate calculus of competitiveness. Where American multinational firms have historically defined their markets on a nation-by-nation basis, the emergence of global competitors in nearly all major industrial segments is forcing them to reformulate their operating strategies on a worldwide scale.

Corporations are realizing that the early rationale for branch plants may not fit with the new economic conditions they face. Increased international trade has led to intense competition and the compression of profit margins on many if not most standardized products. Rural branch plants as low-cost producers have historically geared operations toward the production of such goods.

In short, being labor-intensive and wage-sensitive, the majority of rural and Appalachian branch plants are in industrial sectors that have experienced significant price competition over the last two decades. They have already been rendered increasingly uncompetitive vis-a-vis low-wage production sites in developing nations.

National Trade Policy Significantly Influences Rural Industries

National trade policy has been important in the persistence of labor-intensive industries in the U.S. Industries with branch plants in rural areas have benefitted from past rounds of trade policy that have limited access to the U.S. market. With the probable passage of the Uruguay Round of the General Agreement on Trade and Tariffs and the anticipated passage of a North American Free Trade Agreement (NAFTA), traditional rural industries are likely to face intensified international competition.

Although most analyses suggest that the impacts of NAFTA in the U.S. will be insignificant, we do know that the sectors most likely to be affected will include food processing, textiles and apparel, automotive parts, and furniture--essentially all labor-intensive activities. Labor-intensive low-cost sectors are located in the nation's rural communities, in the South (the recipient of industrial decentralization), in the Midwest (where the automobile-consumer electronics-food processing complex shifted production to rural locations), in the Appalachian region, and along the nation's border with Mexico.

NAFTA is only one of many developing trade policies that will affect rural manufacturing. The general sentiment is that firms which are already international will continue to take advantage of freer trade by further penetrating foreign locations to access markets' low wages. Other firms see competition in their niche markets from larger firms that will move more standard operations off-shore, leaving domestic capacity available for more specialized goods. Still others see competition coming from Mexican firms or, more probably, from other multinationals that move into low-wage locations to take advantage of access to the U.S. market.

Section Two: Assessing the Importance of Branch Plants

As America's most important homes for manufacturing branch plants, rural and Appalachian communities are likely to undergo significant adjustment in response to changes in corporate competitive strategy. This section presents a discussion of definitions used in the study and outlines the methodology used to evaluate an industry and firm's competitive context.

What is a Branch Plant?

A branch plant is a facility owned by a corporation, usually with non-local headquarters. The majority of branch plants are cost centers established as firms expand both horizontally and vertically. As a cost center, the facility produces a semi-finished product that is shipped within the firm to another location for further modification or for final assembly. By its very structure, a branch plant that is established as a cost center is almost totally dependent upon its parent.

There are important distinctions between branch plants created as part of a corporate expansion plan and branch plants acquired through a merger. Corporations expand via the establishment of branch plants by horizontally integrating, vertically integrating, or diversifying. There are strategic considerations about expansion through acquisition that are important to understanding the long-run viability of an individual branch plant. In particular, a branch plant's original role--profit or cost center--may be altered as the result of an acquisition.

Although there are no hard and fast rules, some evidence suggests that an acquired branch plant may have more decision-making capability if it was an independent business or a profit center prior to its acquisition. Conversely, if the acquisition is the result of a merger of a corporate cost center division, then the facility may have little or no autonomy or strategic capability. In this instance, management personnel may lack knowledge or experience in marketing and new product development.

The key issues surrounding branch plants are: a) how they came into existence (as part of corporate expansions or as part of acquisitions); b) whether they operate as cost or profit centers; c) whether operations were the result of vertical or horizontal expansions; and d) whether acquisitions represent movements toward diversification. These four attributes are paramount in determining the problems and prospects of local branch plants.

The Selection of the Industries for Study

The case study industries were selected because of their importance to rural communities and the Appalachian region. The selection of these four industries was based on three criteria: 1) the share of rural manufacturing comprised by the industries; 2) structural factors influencing recent developments in the industry that might have broader application to other industries; 3) the regional distribution of the industries. On the basis of these criteria, four industries were selected for study: apparel, textiles, automotive parts, and food processing.

Branch Plant Assessment

The analysis was based on a four-step process. The first level of analysis included an assessment of the structure of competition in the global industry. The second stage of the research evaluated the U.S. industry in the context of global competition. In the third stage, we examined the competitive strategies and financial condition of key U.S. firms competing in each of the four industries. This analysis formed the basis for the development of typologies of firm strategies. Building on the previous levels of analysis, at the fourth stage we analyzed the role of individual branch facilities in the larger parent corporation's strategic development. By combining these four levels of analysis we were able to discern serious weaknesses in branch plant-dominated economies of rural communities and Appalachian counties.

The local establishment was evaluated in the broader context of both its parent and the industry in which the parent competes. A profile was developed showing where and how the firm fit into the corporate organization. We inquired about whether products produced at a facility were the cutting edge of the market, and whether up-to-date production processes were employed. We determined whether the facility was a cost or a profit center. We also inquired about the state of the capital equipment base and physical plant. We pursued questions concerning the skills levels of the work force and the extent of possible basic skills deficiencies. Manifestations of local autonomy (such as control over and the flexibility of corporate policies regarding training, materials acquisition, vendor selection, and manufacturing process development) were also examined. We found these indicators to be important clues to the local establishment's flexibility in adapting to changing circumstances that could affect its own future, and ultimately, to how rewarding it might be for the public sector to intervene in productivity-enhancement programs (if welcomed).

Section Three: An Examination of the Structure of Branch Plants in the U.S. and in the Appalachian Region

This section paints a broad-brush picture of the extent to which non-locally owned manufacturing facilities (branch plants and subsidiaries) constitute major players in the national economic base. Employment dependence on these types of facilities varies both regionally and by industrial sector, but in every area of the nation, branch plants employ large numbers of U.S. workers. While all industrial sectors have expanded their production capacity through branch plants, our data support the fact that these facilities are disproportionately represented in traditionally low-wage rural and Appalachian regions of the country.

Branch Plants: The National Level

Manufacturing branch plants employed almost 14 million Americans in 1988. Similar to general population distribution patterns, metropolitan branch plants account for 78.1 percent of this employment, and nonmetropolitan plants for 21.9 percent. Distribution of manufacturing branch plant establishments is nearly identical.

The South stands out as the nation's branch plant region, accounting for 34.2 percent of total branch plant employment and 33.7 percent of all establishments; 30 percent of this employment is in non-metropolitan counties. In the West, branch plants, though more numerous (11% of the total), account for a smaller share of the nation's branch plant employment (9%). The Midwest region accounts for a large proportion (29%) of branch plant manufacturing employment; 22 percent of these jobs are in rural counties. The industrial Northeast, once considered the cornerstone of American manufacturing, hosts only 20.6 percent of total branch plants; 12 percent of these jobs are in rural counties.

The industrial sectors that account for the highest proportions of all employment in branch plants are food processing, industrial and communications machinery, electronics, and transportation manufacturing. Together, these sectors account for almost one-half of all branch plant employment. Not surprisingly, these are also among the largest industries in the nation. In contrast, branch plant establishments are concentrated in somewhat different sectors (including printing and publishing, fabricated metals, food processing, and chemicals).

Several sectors' branch plants are disproportionately represented in nonmetropolitan counties. These include the lumber and wood sector, of which 60.3 percent of employment and 47.7 percent of establishments occur in nonmetropolitan counties, and stone, clay, and glass manufacturing (30.0% of employment and 29.4% of plants, respectively). Fifty-one percent of textiles and 49.9 percent of apparel branch plant employment is concentrated in nonmetropolitan areas. Other industries in which branch plant employment is highly rural include: food processing, furniture, paper, rubber, and leather manufacturing. More than one-half of rural branch plant employment is concentrated in the South. The Midwest's share, though considerably smaller (30%), still suggests that this region, too, has benefitted from industrial decentralization.

The Appalachian Region Branch Plant Experience

In 1988, approximately 32,000 manufacturing facilities provided 2.1 million jobs in the Appalachian region. Branch establishments provided in excess of 1.2 million of these jobs. Although branch plants constitute only 20 percent of all establishments, multi-establishment facilities control 57 percent of the region's total manufacturing employment. Branch plants are also some of the region's largest employers. In almost all sectors, the average size branch plant substantially exceeds the average size of all establishments in that sector.

Branch plants are particularly numerous in sectors that are both resource-dependent and subject to considerable economies of scale. These include industries such as paper, chemicals, petroleum refining, and metals.

Sectoral differences in branch plant employment are also evident across metropolitan and nonmetropolitan areas of the Appalachian region. In nonmetropolitan communities, branch plant employment is concentrated in mature industries such as apparel, textiles, wood products, furniture, and stone, clay, and glass. In contrast, metropolitan branch plant employment is concentrated in non-electrical and electrical products, metals and metals processing, transportation equipment, and food processing.

Branch Plant Importance in Appalachian Regional Commission (ARC) States

The importance of branch plants in ARC states varies considerably. In two-thirds of these states, the share of establishments made up of branch plants exceeds the regional average for all industries. Similarly, nine of 13 states' share of employment in branch plants exceeds the region's average for branch plant employment. States in the South generally have a higher proportion of branch plants in the industrial population compared with states in the North.

The next three sections represent applications of the methodology outlined in section two. The emphasis in these studies is the determination of strategic options available to multi-locational firms in an era of globalization.

Section Four: The Textiles and Apparel Industries Complex

In 1989, U.S. textiles and apparel firms employed 1.7 million workers domestically and accounted for about 9 percent of total manufacturing employment. Textiles and apparel employment is particularly concentrated in the Mid-Atlantic and Southeast regions of the U.S. Four states--Georgia, Pennsylvania, and North and South Carolina--accounted for 40 percent of all domestic employment in the two sectors. Of the 771 rural counties in the ten southeastern states, 209 (27%) had 20 percent or more of their 1987 private non-farm employment in the textiles and apparel industries. Both industries are an important source of employment for women, minorities, and new immigrants--providing an entree into the labor force for many unskilled workers.

Production Options for Textiles and Apparel Firms

The U.S. textiles and apparel industries contain three broad categories of participants: textiles producers, apparel producers, and apparel production organizers/distributors. Textiles producers are generally concerned with the process leading to the creation of cloth, and apparel producers undertake the creation of garments. Apparel production organizers design, plan, and coordinate the manufacture of garments fiber-forward--from textile design to final product. Apparel producers compete in one of three ways:

- on the basis of price, focusing on volume and product standardization.
- by filling production gaps--smaller and medium-sized firms manufacture garments of varying grades on short order.
- by targeting very specific market segments and by providing additional services such as single-item packaging.

Textiles producers compete in one of three ways:

- by producing standardized goods for large markets and by using the economies of scale associated with high-volume production to reduce marginal costs and compete on the basis of price.
- by supplying larger markets and tapping the extremely low-cost labor of developing nations.
- by producing small volumes of specialized goods for specific market niches.

Production organizers with limited or no manufacturing facilities compete on the basis of:

- systems of production organized from design and manufacture of raw fabrics to delivery of goods to retail establishments.
- highly sophisticated design capability with state-of-the-art telecommunications and distribution structures, and with the capacity to market garments that range from very high fashion to very low quality.
- the organization and regulation of worldwide production and sourcing systems.

Competitiveness Problems in the Textiles and Apparel Industries

The U.S. textiles and apparel industries face different, though related, competitiveness problems. While the apparel industry generally suffers from a persistent reliance on low-wage, low-skilled labor, firms in the industry also have failed to develop strategic alternatives to combat competition from low-wage nations. The textiles industry, currently far more competitive than the apparel industry, must contend with problems of global unused capacity combined with corporate rigidities that emphasize high volume and low cost. While both industries benefit from the considerable protection of federal trade policies, the apparel industry continues to lose to foreign competitors. The textiles industry, while more globally competitive, has chosen to retreat from the more lucrative and competitive apparel fabric market.

The Apparel Industry

For a host of organizational reasons, productivity in a large portion of the U.S. apparel industry substantially lags behind best-practice levels.

Modern Management Practices and New Technology are Lacking

The failure to attain world-class productivity standards arises because firms fail to adopt both modern management practices and efficiency-increasing technologies. Failure to adopt new technologies stems from both human resource scarcity and management attitudes. Modern apparel production technology is very capital-intensive and designed for high-volume operations.

Quality is a Problem

U.S. apparel firms significantly lag behind many of our competitors in product quality. While a low-cost producer might be able to ignore quality standards, as a high-cost nation, quality is critical to the long-run competitiveness of our firms. Poor quality is tied to labor turnover. Poor working conditions, low wages, and paternalistic labor relations all contribute to low productivity and high turnover.

The Gap is Growing Between the Needs of the Apparel Industry and the Capabilities of the Textiles Producers

While the trend in the apparel industries of advanced industrial countries is toward lower volume, higher value-added production, U.S. textiles producers' apparel fabric strategy has been built around high-volume, low-cost, standardized goods. As the trend toward higher value goods has evolved, few American textiles producers have followed this strategy. This has forced apparel firms to purchase foreign fabrics that are subject to tariffs. As a result, apparel producers are at a cost disadvantage.

The Textiles Industry

The textiles industry in the U.S. is considered by many industry analysts to operate at global best-practice standards. On the basis of costs, U.S. firms are the global leaders in a large number of high-volume product areas. However, the textiles industry continues to pursue a production strategy that relies primarily on high-volume, standardized goods production. This strategy has resulted in the emergence of very large oligopolists specializing in high-volume niches.

Retreat from Apparel Fabrics

U.S. firms have pursued product differentiation, shifting product mix toward non-apparel (home furnishings and industrial) goods rather than competing in the more lucrative apparel fabric market.

U.S. Firms Lack an Export Orientation

Because of the size of the domestic market, U.S. firms have traditionally paid little attention to exporting. To date, U.S. firms' forays abroad have lost money. Failure to penetrate foreign markets has been described as a result of the longstanding unwillingness of U.S. firms to redesign goods for export markets.

The Industry Lacks R&D Capacity

During the 1980s, firms in the textiles industry were the target of corporate takeovers. To reduce the debt liabilities associated with these multi-billion dollar mergers, takeover firms dismantled the targeted textiles firms and the most valuable assets were sold off. Consequently, one of the first components to be rationalized in these mega-mergers was internal R&D divisions. By the end of the decade very few firms maintained research labs.

U.S. Firms Are No Longer a Major Player in the Textiles Machinery Industry

The U.S. is no longer a major supplier of technology to the textiles industry. In contrast, Japan's and Germany's strategies to compete in the world textiles industry have been to control the pace of technological change in the equipment industry. Lost technological competency may generate serious competitiveness problems in the future.

Textiles Producers Resist Adopting "Quick Response" (QR)

While much has been made of new organizational developments such as QR programs, few firms have been willing to reconfigure production in order to compete in a QR mode. Only the largest firms competing in standardized product markets have signed on to QR. According to representatives of the American Textile Manufacturers Institute, there is little incentive for textiles producers to gear up for QR. Firms indicate that the risk of linking closely with downstream markets is high relative to the demonstrated returns from following QR.

U.S. Firms' Response to Competitiveness Problems

While U.S. firms' responses to foreign competition have varied widely, the broad theme underscoring most actions is cost competition. Over the last three decades both industries have relocated production facilities to low-wage areas of the U.S. to reduce overall production costs--generally avoiding the need to more radically restructure along the lines taken by European and Japanese firms.

Since the early 1980s U.S. firms have moved out of apparel fabric markets and into the more protected industrial fabric markets. As U.S. firms have abandoned fabric markets, demand for imports of apparel textiles has been fueled. In some textiles product segments the U.S. maintains virtually no capacity.

Because U.S. garment makers must often import cloth and pay associated tariff penalties, they simply cannot be price-competitive.

The increased number of apparel production organizers has forced the U.S. to shift to global sourcing and has affected the demand for domestically produced apparel and textiles products. In the late 1970s and early 1980s, recognizing unfulfilled demand created by changing demographic trends, new apparel suppliers sought to infuse their products with contemporary design elements appealing to large consumer segments. Simultaneously, the declining capabilities and flexibility of U.S. textiles and apparel manufacturers caused them to turn to overseas contractors at this critical juncture.

Multinational Apparel Firms, Global Sourcing, and Cut-and-Sew Operations

When we examined firms competing in the apparel industry we noted several strategic topologies. Multinational apparel firms with domestic and international production capacity are using new technology to simultaneously increase productivity while reducing stress on the work force. These firms' market strengths translate into solid financial positions. They have highly differentiated and sophisticated organizational structures. Recognizing increasing foreign competition, a combination of marketing and more strategic placement of foreign direct investments has been initiated to secure globally competitive positions.

Branch plants of multinational firms are often both favorably positioned and simultaneously at risk. While these establishments may have access to the full resources of the corporate parent to implement new technology and progressive worker training programs, they may be in competition with other branch plants in a global system.

Firms engaged in far-flung sourcing without direct ownership of manufacturing production capacity overcome the problem of distance by increasing the level of product differentiation and influencing customers' perceptions of clothing seasons. Key companies increased the number of clothing seasons from two to six, thus eliminating the need to restock items. Such firms source goods globally usually working with or acting as an intermediary to coordinate production operations and product delivery. The competitive advantage in these cases lies mainly in marketing and design expertise and the ability to organize a highly geographically dispersed and disaggregated production system. In the industry, these firms are trend setters and are establishing new competitive imperatives.

Best-practice contractors of multinational apparel firms may be at risk because they rely disproportionately upon sales to one or a few customers. As global sourcing options expand, competitive pressures will increase--regardless of how well-managed the firm is.

Branch plants competing on the basis of price emphasize highly variable, low-cost market segments. Capital investments in these firms are kept to a minimum, and production organization follows a traditional pattern of high worker specialization based on minimal skill content. These firms typically contract on a short-term basis with larger apparel distributors.

Archaically organized cut-and-sew operations are most subject to the vicissitudes of international competition. These establishments often exist solely to produce highly standardized goods needed irregularly to complete orders on a rapid turnaround basis.

Textiles Producers: Globalization and Geographic Mobility

Textiles branch plants compete on the basis of price. Volumes are high and technology is extensive. These operations face the constant threat of lower cost producers and the possible erosion of market share by intermediaries and other more flexible operations. Branches are predominantly cost centers and therefore are in competition with other facilities in a parent corporation's portfolio of investments. Given unused capacity and continuous import pressure, the

textiles industry continues to consolidate around product lines. Product lines are increasingly the target of acquisitions, often to eliminate competition in contested markets.

Over the last two decades firms in the textiles industry have emphasized capital investments to reduce labor content and to achieve increasing scale economies. In the past, industry observers have argued that, as a low-cost producer, the U.S. textiles industry has had little need to decentralize production to lower cost locations. The prospect of NAFTA is likely to change all that.

The elimination of U.S. tariffs, coupled with lower Mexican wages, still offers substantial labor cost savings to U.S. firms competing for the U.S. and Mexican markets. Currently, U.S. broadwoven fabric payroll costs run about 46 percent of value-added and 20 percent of total shipment value. In knit fabric, payroll accounts for about 16 percent of shipment value. Additional savings would result from labor cost reductions in construction, warehousing, and transportation. Currently, Mexican-produced fabric does not qualify for maquila-related reductions. Thus, U.S. tariffs on imported fabric offset a significant part of wage and non-wage-related savings.

U.S. mills producing at high volume may follow their customers to Mexico for efficiency and cost reasons. Mexican production could provide a much more convenient and competitively priced source than U.S. fabric mills for a burgeoning Mexican apparel industry. Most existing Mexican mills are considerably less efficient than U.S. facilities. Thus, they are vulnerable to investment by more modern foreign operators. Already, Mexican firms are aggressively seeking foreign sources of capital and technology to help reduce this vulnerability through modernization. Firms from other major textiles-producing countries such as Germany, Italy, and Japan are making investments in Mexico.

In the long run, given the substantial cost savings that can be realized from producing in Mexico and the growing investment by foreign competitors to access cheap labor and gain better access to the U.S. market, American firms are beginning to rethink their domestic production strategies. Branch plants are facing more intensive competition and the threat of relocation is thinly veiled. We conclude that many branch plants in the textiles industry are ultimately at risk as U.S. firms relocate production to access new markets and old customers and to enjoy low wages.

Small Firm Niches Based on Proximity are Changing

In the past, smaller U.S. firms have been able to compete with large, low-cost domestic producers by carving out market niches based on quick turnaround and flexible operations that can accommodate small orders or inventory stock-outs. For many smaller specialized firms it is critical to be located in areas that are geographically proximate to vital inputs, value-added services, and contractors. Proximity enables these firms to turn orders around more quickly.

The significance of spatial proximity also is cited by smaller firms as key to their ability to take on orders of sufficient volume to sustain operations. Because of increasing emphasis on value to the consumer, the quality of subcontracted work also must be assured. In the U.S., this has historically been achieved by physical oversight.

Yet the bonds of such spatial proximity are vulnerable to the lure of low-cost production locations and the strategy of large firms to position themselves geographically. For smaller firms, insufficient capital may make such options moot. Conversely, large firms may make massive investments at foreign greenfield locations, vertically integrate, and eliminate reliance on ancillary services that had previously tied them to domestic locations.

To prevent the dissolution of the U.S. textiles-apparel complex and, in particular, to competitively entrench smaller firms, many industry specialists advocate replacing traditional hierarchical and adversarial sourcing with new streamlined, cooperative, interfirm transactions. This notion of QR theoretically reduces inventory requirements and eliminates stock-outs at the retail level, thus offsetting the higher cost of domestically produced apparel.

While some QR demonstration-type projects have been undertaken, little headway has been achieved in adopting this type of inter-firm sourcing network on a broader basis. Foreign manufacturing locations or subcontractors continue to hold the edge over U.S. apparel firms (evidenced by the ongoing trend to move production or sourcing). The advent of a North American trading block means that apparel producers may have the best of both worlds. They will be able to produce within a QR framework in a low-cost location.

Apparel and Textiles in the Appalachian Region

Textiles and apparel branch plants are a critical component of the Appalachian region's manufacturing base. These two industries rank first and second in terms of manufacturing jobs in Appalachia. According to the database used in this report, the two industries comprise more than 440,000 jobs, or one-fifth of total regional manufacturing employment.

The Importance of Branch Plants in the Two Industries

The textiles and apparel industries are major branch plant employers. Twenty percent of the region's branch plant employment is concentrated in these industries. Textiles facilities comprise the single largest contribution to branch plant employment.

Textiles

The distribution of textiles employment is highly concentrated in a select set of states in the region. Five of the 13 Appalachian states account for almost 90 percent of employment in the textiles industry. Georgia and South Carolina alone account for almost 50 percent of total textiles employment.

Apparel

The distribution of apparel employment in the region differs substantially from that of the textiles industry. Three states--Alabama, Pennsylvania, and Tennessee--account for 50 percent of the region's apparel employment. There appears to be a modest relationship between the fraction of the region's total apparel employment by state and the concentration of employment in headquarters and single establishment firms. In contrast, employment in branch plants is concentrated in Tennessee and Alabama. Together, the two states account for 30 percent of branch plant employment.

Conclusions

Textiles and apparel industries are governed by long-standing, nationally initiated, and internationally recognized trade policies. Trade policies have allowed American firms to operate behind various trade barriers. These have reduced the imperative to compete globally or according to global standards.

American textiles firms have divided up the market into segments that have allowed firms to establish largely uncontested oligopolistic positions. In contrast, apparel firms have been increasingly forced to retreat from markets in which the U.S. textiles industry no longer competes.

American apparel firms are therefore operating in a disadvantaged context due to a multitude of circumstances.

New entrants to the apparel industry have achieved major market positions by using global sourcing as a competitive strategy. Thus very large apparel firms have emerged and compete with (and increasingly displace) smaller producers. Industry response to lower cost but distant competitors in third world nations has been to institute programs that reduce the time between order-taking and production. These efforts have provided momentary breathing room in an intensely competitive environment.

National trade policies and the probable passage of NAFTA are likely to further destabilize the industry. We conclude that textiles and apparel producers are at risk. This means that at the firm level, markets, financial strength of organizations, and strategic trajectory of firms become paramount.

Section Five: Trends in the U.S. Food Processing Industry

In 1987, one of every 20 U.S. manufacturing companies was a food processor, and 1.65 million workers (approximately 8% of the manufacturing labor force) were employed in food processing. A large proportion of this employment is in branch plants (1.1 million jobs). Almost 30 percent of these branch plant jobs are in rural areas of the U.S. Based on value of shipments, food processing is the largest U.S. manufacturing industry.

The American food processing industry is both large and highly productive. In 1985, workers in the industry accounted for the second highest sales-to-employment ratio (\$200,000) among manufacturing sectors. In addition, as of 1982 (the most recent statistics available), U.S. production made up 26.9 percent of global food manufacturing output and 25.7 percent of value-added in food production for all market economies internationally.

High levels of productivity in the industry have been achieved largely through capital-intensification. Investments in new capital equipment and other physical infrastructure by the industry have increased at slightly faster rates than have values of shipments. In 1990, food processing companies built 219 new factories and financed 201 major plant renovations.

Aggregate trends in the industry are toward fewer and fewer companies, plants, and (to a lesser extent) employees. By 1987, the number of companies had declined to less than 50 percent of 1963 figures (from 32,613 to 15,692 companies).

Industry Consolidation

Across the board in the food industries--from agricultural commodity growing to advertising of value-added processed products to food services--companies resulting from the most recent 1980s round of consolidations are enormous organizations producing and marketing products worldwide and across all food categories. A strategy of some of the largest conglomerates is to achieve competitive advantage through backward and forward links to other food-related industries--effectively increasing vertical integration on a grand scale. Simultaneous trends into the distribution and sale of generic and retailer branded goods have resulted in enhanced power in the retailers' position. With the enormous proliferation of products, space on the shelves at retail outlets has become a valuable commodity.

Rationalization

In this context, food manufacturers have begun to rationalize operations. Large job losses are occurring at administrative levels, and plant closures and work-force layoffs are accelerating as well. While production cutbacks would be anticipated in older, less productive facilities, it appears that processors are first addressing unused capacity across product lines. There is a mounting tendency toward greater and greater scope across the board in food processing in areas such as distribution and advertising. Small and medium-sized independent firms are no longer competing only on the basis of price differentials affected by the economies of scale of larger firms. More importantly, new and increasing economies of scope are crowding "non-members" out. While production barriers to entry into the food processing industry on a small scale can be low, non-production barriers and costs of new technologies are more difficult to overcome.

Internationalization of the Industry

Although food processing is a highly "exportable" industry, statistics on import and export activity do not indicate that this potential is being realized on a large scale. In 1991 the balance of trade was positive with exports of \$19.6 billion--a marginally higher amount than the \$19.0 billion in food imports.

U.S. food processors have historically gained international market share more through foreign direct investment than through export activity. This trend has gained momentum and attention with recent industry consolidation through merger and acquisition. Nevertheless, while foreign investments in production capacity have increased over the past five years, American investments abroad lag behind foreign investment in the U.S. by a significant margin.

Several ongoing trends in the food processing industry and in trade policy could affect these patterns. Of importance to domestic production potential is recent U.S. investment in Mexico and other Latin American countries. U.S. firms or their affiliates own 12 of 73 processing plants in Mexico, and U.S. firms are expected to expand their presence in Mexico through additional acquisitions. Evidence also suggests that additional investments by established firms will follow market needs and maximize export opportunities, as well as develop local consumer demand.

The constraints to producing in Mexico and Latin America are numerous. Mexico's industry is made up of thousands of small, undercapitalized producers and growers. In addition, inefficiencies are exacerbated by the lack of distribution, marketing, and transportation infrastructure. Mexico has an underdeveloped rail and food storage system. The Mexican food industry has also been highly subsidized by the government to keep domestic prices low. But Latin America has two enormous advantages. Climate in much of the area supports three or even four growing seasons--compared with one or two in much of the United States. Second, laborers work for much lower wages than American workers. In addition, tariffs and phytosanitary regulations on crops and animal products are already beginning to fall--even without the pending NAFTA.

The implications of internationalization and consolidation of the food processing industry will be to squeeze smaller and non-affiliated firms out of competition. Firms possessing international production capacity (and experience) will clearly be ahead as world market barriers decrease and industries in general internationalize further. With the passage of NAFTA, employment is expected to continue to shift into Mexico as U.S. firms take advantage of joint ventures between multinational corporations. Commodities will be grown and processed in Mexico and then shipped back to the U.S. for further processing or to final markets.

Poultry: A Geographically Concentrated Rural Industry

Domestic demand for poultry products has expanded rapidly over the last 20 years. In 1991 poultry surpassed beef in terms of per capita consumption in the U.S. To keep up with increased demand, broiler production has grown rapidly--more than 45 percent since 1985. In 1991, one of every 16 new manufacturing jobs added to the U.S. economy was linked directly to the poultry processing industry. Now production is outstripping demand. Average profits for the broiler industry have fallen since 1989.

U.S. Broiler Production

A typical integrated broiler-producing complex includes a hatchery, feed mill, and processing plant supplied by anywhere from 150 to 300 regionally proximate growers. Processors supply growers with chicks and feed and agree to purchase mature birds at a fixed price. Growers provide land, chicken houses built to processors' specifications, and labor. The wholesale price for fresh-packed chicken parts is comprised of approximately 66 percent feed, 20 percent labor (primarily for processing), and 14 percent of other inputs to production.

The combination of rising consumer demand and increased vertical integration of production have created important operating scale economies in the industry. Large-scale operations have been created partly through mergers and acquisitions as the industry has become increasingly concentrated in fewer and fewer firms. Over the last 20 years, the number of major U.S. processors fell from more than 100 to approximately 30.

The Geographic Distribution of Poultry Processing

In 1990, 472 poultry processing establishments in the U.S. employed 170,850 workers. Five southern states (Alabama, Arkansas, Georgia, Mississippi, and North Carolina) currently account for over 60 percent of broiler production in the U.S. Low wages, an abundant supply of underemployed labor, and a growing population are among the primary reasons for the location of poultry processing. These factors have facilitated the relatively recent but now pervasive strategy used by processors to reduce risk and lower costs by contracting out growing activities to independent farmers.

The Appalachian Region

Poultry processing in Appalachia is characterized by large branch plants that tend to be located in remote nonmetropolitan and metropolitan-adjacent, yet still rural counties. This tendency is most prevalent in the southern portion of Appalachia. Ownership patterns vary greatly within Appalachia. Establishments in northern Appalachian counties are much more likely to be privately-held single location firms than are those located in the South. The largest establishments are also concentrated in the South--particularly in Alabama and Georgia.

Firm Strategies in the Poultry Processing Industry

Within the poultry industry, there are three broad categories of firms. These include very large corporations with global operations, large regionally based corporations, and smaller niche-oriented or specialty processors. The large-scale multi-plant corporations serve broad sections of the domestic U.S. market and/or international markets. The intermediate-sized multi-establishment firms serve regional domestic markets. The very small processors serve specialized niches (such as kosher processing) or local markets. These firms are too small to be vertically integrated and rarely grow birds; instead, they purchase carcasses for further processing.

The Regional Poultry Producers

After a decade of rapid expansion, the regionally based poultry producers are faced with serious competitive threats. First, growth in demand for poultry products is slowing. Ongoing consolidation in retail grocery distribution has put additional pressure on operating margins. The regionals are responding by investing in technology and, to a lesser extent, attempting new product development. They are concentrating sales in traditional distribution channels, i.e., retail grocers. Yet this segment as a percentage of the aggregate market for poultry products is contracting.

The Small Independent Firms

The smallest players in the poultry industry simply cannot compete directly with the regional and largest producers. They cannot produce on a cost-competitive basis, nor can they match productivity enhancements stemming from capital investments in modernization. Moreover, as consolidation occurs both within the poultry processing and retail distribution sectors, small independent poultry processors are being forced out of traditional markets. In response, smaller firms are seeking to exploit specialized niche markets. But, as niche markets grow, they are attractive to the larger firms in the broader poultry industry.

The Implications of Recent Actions by Major Firms on Local Branch Establishments

While state-of-the-art technology is expensive, basic poultry production technology costs are coming down, and equipment is available worldwide. This means that domestic growth will necessarily be in the innovative, high value-added further-processed areas of production such as oven-roasting. Distribution and quality control are critical to these advancements.

Technological change and ongoing consolidation within the industry negatively impact local branch operations. Technology investments have been driven by competition to reduce costs and increase the development of new products; thus, the drive toward modernization on the part of the major poultry producers is increasing capacity by speeding up processing time. For local establishments, technological innovations that increase production capacity are often based on automation. Thus, employment requirements are declining.

Increasing Globalization of the Industry

The U.S. is the leading poultry processing nation in the world. The efficiency and productivity of the U.S. poultry processing industry has been widely acknowledged and accounts for much of the industry's contribution to current trade account surpluses in agricultural commodities. In 1990-1991, poultry imports were negligible, declining from \$42.7 to \$34.3 million. Yet while growing, 1992 exports nevertheless represented a mere 4 percent of total value shipped by the domestic industry.

The development of controlled environment confinement systems for raising birds has broken agriculture's traditional dependence on geographic and climatic factors. This technology is readily transferred to developing countries. Indeed, it has been estimated that the portion of poultry production occurring in these modern systems is between 70-90 percent in the higher income countries of Latin America, North Africa, and the Far East.

Labor and Environmental Issues Affecting International Competitiveness

Poultry processing is characterized by low-wage, unskilled, and semi-skilled employment and therefore is a likely candidate for geographic dispersion to even lower cost locations. However, while labor costs are much lower in Mexico, it appears that even under NAFTA, the U.S.

will remain competitive in the short run because aggregate production costs are still 28 percent higher in Mexico. Feed costs are at least twice as high in Mexico as in the U.S. Under a free trade scenario there will be a fifteen-year transitional period during which Mexican farmers will continue to receive substantial protection from more cost-competitive U.S. feed exports.

In the past, problems with health and inspection requirements have prevented the transplanting of poultry production and processing to Mexico. However, probably recognizing the developmental potential of increased poultry production for export, Mexico's Secretary of Agriculture and several producer organizations are currently collaborating to institute poultry disease eradication programs. The programs' principal objective is to make the State of Sonora free from Newcastle disease (a highly contagious chicken respiratory disease).

U.S. and Mexican authorities are currently cooperating to improve and harmonize inspection of Mexican poultry. Moreover, the Mexican government has also recently petitioned the U.S. Food and Drug Administration for approval of individual processing establishments to export poultry products to the U.S. Such actions would enable U.S. producers to ship live birds or carcasses to Mexico for slaughter and/or further processing and then re-export to the U.S. (and other countries).

Environmental problems associated with poultry processing are also critical. Even a modest sized broiler plant processing 50,000 birds per day disposes of 125,000 to 705,000 gallons of liquid waste per day. In the short run, concerns about a shortage of water needed for poultry processing may limit the relocation of the U.S. poultry industry to Mexico. However, in areas where poultry processing presently occurs, there is a significant potential for the reallocation of water away from agricultural uses such as grain cultivation toward food processing industries.

Prospects for Trade in Poultry Products under NAFTA

According to the U.S. International Trade Commission's most recent review of NAFTA's potential impacts on the U.S. economy, several key provisions of the proposed agreement have significant implications for bilateral trade with Mexico. Tariffs that range from .2 to 14.8 percent on an ad valorem basis for imported poultry products from Mexico into the U.S. will be dropped immediately. While most Mexican poultry production is currently barred from import because it does not meet U.S. animal health and processing plant inspection regulations, special negotiations underway between the Mexican and American governments seek to reduce many existing constraints.

Conclusions

In this examination of recent and ongoing consolidation and "multinationalization" of the food processing sector we have attempted to highlight trends and strategies that we feel have rapidly accelerating implications for communities which depend on vitality in the domestic food industry. Local establishments that are part of large food processing organizations are vulnerable to closure or downsizing due to strategic rationalization of production which may be beyond their control. Even very productive and established firms are vulnerable to acquisition by organizations that may not actually require their production capacity. Recent merger activity has resulted from strategies based more on controlling market share or improving financial position than on other strategic orientations.

International phytosanitary restrictions and commodity quotas have protected and regulated trade in agriculture and processed foods despite the domestic industry's productivity and cost-competitiveness. Freer trade could thus have unanticipated impacts on the scale of domestic production as the industry seeks the potential lower costs of Latin American production platforms.

NAFTA holds the potential for fundamental reorganization of the location of food production for the U.S. market. Climatic conditions in Latin America are more amenable than those in the U.S. for the production of many basic commodities. Acquisition of Latin American market share may be facilitated by firms' abilities to produce for re-export to the U.S. while nurturing domestic distribution channels and demand. While historically, trade policies and a huge domestic market have allowed American firms to operate with little incentive to assess global demand or to manufacture products for international tastes, this is rapidly changing.

Section Six: The U.S. Automotive Parts Industry

In 1960, the United States produced 51 percent of the world's new automobiles--by 1989 that share had dropped to 19 percent. Overseas competition scarcely dented the American domestic market in the early 1960s, accounting for less than 5 percent of new car sales. But within three decades, foreign automakers--principally the Japanese--had captured over 30 percent of the new car market in the U.S.

The automotive industry is one of the largest sectors in terms of contribution to gross national product and employment; in 1991 it accounted for \$189 billion in personal consumption expenditures by consumers and directly employed 776,000 workers in the manufacture of motor vehicles and equipment in the U.S. The U.S. domestic supplier base is currently faced with tremendous unused manufacturing capacity. This capacity is the result of import penetration by foreign automakers, the fact that these global competitors have transplanted production capacity to North America, and global market saturation for automotive products. Continuing changes in the global competitive context and the evolving strategic options available to U.S.-based manufacturers have serious implications for domestically based motor vehicle parts production in cities and rural areas throughout America.

Parts Production: Captive Producers, Independents, and Transplants

Automakers control the production of parts via formal ownership or contractual relationships. In some instances automakers have vertically integrated the production of parts into their organizations. In the past the major North American and European automobile producers relied on more vertically integrated sourcing systems, while the Japanese have utilized sourcing systems maintained by cross-corporate ownership and long-term contractual relationships.

While automotive parts manufacturing is spread across the U.S., it is heavily concentrated in the Midwest and the Upper South. Of the 2,725 domestic automotive parts-producing establishments located throughout the U.S. in 1990, Indiana, Michigan, New York, and Ohio possessed 31 percent of total establishments and 48 percent of total employment in the sector. Yet, despite the historical concentration of the automotive industry in the Upper Midwest, the traditional complex is shrinking with the establishment of transplant production facilities in peripheral states such as Alabama, the Carolinas, and Georgia.

Within these states with growing transplant employment, much of the industry expansion has skirted Appalachian counties. Of the Japanese parts producers that have established operations in Appalachian states in the "Transplant Corridor," only a few have located in Appalachian counties. In the western regions of the Carolinas future establishment and employment growth is anticipated due to parts suppliers locating near the new BMW assembly plant currently under construction outside Spartansburg, South Carolina.

The Recent Performance of the U.S. Domestic Automotive Parts Industry

In 1992 U.S. industry shipments of automotive parts totaled an estimated \$94.9 billion, which represents an increase of about 7 percent over 1991. This increase in domestic parts production mirrored an uptick in the aggregate sales of U.S.-assembled automobiles. However, when adjusted for inflation, total value shipped remained below the 1987 level of \$133.3 billion. The Big Three's shrinking share of the U.S. domestic market has definitely taken a toll on traditional U.S. parts suppliers. The industry contracted by 5 percent between 1991 and 1992 due to supplier consolidation and bankruptcies. While Japanese transplants have increased their purchases of parts from U.S.-based parts suppliers as their North American automobile production has risen, the rate of growth in domestically sourced automotive parts is slowing. Vehicles produced at Japanese transplant operations include an estimated 48 percent of U.S. parts versus 88 percent for the Big Three's vehicles assembled in North America. Domestic sourcing by assembly transplants is through newly established transplanted parts operations. Traditional U.S. parts producers selling to the Japanese transplants are supplying larger, bulkier items that tend to have lower value-to-weight/volume ratios. The net effect is that demand for parts from traditional U.S. suppliers has dropped--creating significant unused capacity.

Recent estimates of unused capacity at North American automotive assembly plants run as high as 40 percent. This underutilization reflects the build-up of surplus production capacity resulting from the Japanese-transplanted assembly facilities coming on-line. By 1992, U.S.-based Japanese assembly plants accounted for 17 percent of total U.S. domestic production. However, the increase in total automobile production capacity in the U.S. has not been offset by a commensurate contraction in production capacity by other U.S.-based automakers. Unused capacity is leading to regional integration.

Continuing cost inefficiencies within protected national markets are also fueling the momentum for multinational organizations to create global production systems. In the face of the current crisis of unused capacity, governments and industry are now dismantling trade barriers and constructing regional trading blocks. NAFTA would allow and perhaps accelerate the continuation of a process of regional integration. By phasing out tariffs and export balancing requirements, the flow of trade in parts and vehicles would be increased, particularly for light trucks imported into the U.S. which are still subject to a 25 percent tariff.

By removing barriers to further integration, NAFTA is at a minimum expected to expand the opportunities for the Big Three automakers and the larger parts producers to reorganize their operations on a continental scale. They will be able to capitalize on low-wage production sites while simultaneously developing a new, contained market for their automobiles and automotive products in Mexico.

Strategic Options for Automotive Parts Producers in the U.S.

All three U.S. automakers have been shifting labor-intensive operations to low-wage areas to address the issue of high internal cost structures. A substantial portion of foreign direct investment in Mexico has been geared toward establishing production platforms for automotive parts. Employment in auto parts maquiladoras exploded from under 10,000 in 1980 to 130,000 in 1991. With 27,000 workers, General Motors is Mexico's largest employer.

But restructuring moves by the Big Three represent more than downsizing and reorganizing production to establish scale economies. Outsourcing is clearly being pursued to escape the high costs of internally produced parts, and the movement away from direct proprietorship of parts production is increasing. Furthermore, to create incentives for controlling costs at surviving internal operations, all three automakers are phasing out preferential treatment for their captive suppliers.

Captive suppliers are being made to compete head-to-head with foreign and domestic suppliers on all contracts--even those already negotiated for future models.

The Independent Parts Producers

The traditional U.S. parts suppliers are being propelled into several strategic paths simultaneously. The independent suppliers are investing in new geographic and product markets. Some are relocating production to low-wage areas. Others are forming strategic alliances--often in the form of joint ventures. Some are also entering into tiering arrangements within the supply chain, whereby they become component suppliers of larger parts producers that have direct contractual relationships with the automakers. Finally, other parts manufacturers are restructuring and attempting modernization along the lines of the lean production model.

The larger independents are using their ability to capture benefits from shifting large-scale operations to low-cost areas. As outlined previously, firms have downsized and moved operations from unionized locations in the Midwest to nonunion areas in the South. Many larger independents already have production facilities in Mexico, so for them NAFTA may simply offer the prospect of rationalizing existing operations.

Modernization--in some form--is perhaps the universally endorsed if not applied strategy of independent parts manufacturers. Though a costly option, upgrading plant and equipment is tied to productivity enhancements both in terms of quality and flexibility. Hence it is seen as the key to many firms' survival--particularly smaller ones.

Branch Plant Operations of Captive Suppliers

The competitive impacts incurred by the U.S. automakers have of course been felt by their internal operations. The Big Three are closing down, selling off, or transferring production while they simultaneously attempt to improve productivity at remaining facilities through modernization programs. However, the magnitude of operating losses experienced by the U.S. automakers means that decisions will often be based on the criteria of cash conservation--at least in the short term.

One problem with the Big Three's attempts to implement modernization programs is that where technology has been applied to assembly or parts production facilities, often the goal has been to eliminate labor by automating assembly and manufacturing processes. But workers have neither the skills necessary to operate new equipment nor the incentive to acquire them. Highly sophisticated machinery is often underutilized (or ill-used), and labor-management relations have deteriorated. While some success has been achieved in enhancing productivity by modernizing parts production operations, relatively poor operating performance is limiting all three automakers' ability to devote adequate financial resources to modernization programs.

The Japanese-transplanted Parts Producers

A key and often overlooked factor in the success of the Japanese automotive firms is that demand was expanding both in their domestic market and worldwide. Furthermore, they generally entered foreign national markets at points where they met with little competitive resistance. Projecting the continuation of global and domestic market growth, the Japanese have steadily plowed billions back into increasing production capacity. But global demand has slowed as growth in the domestic Japanese market has faltered, protectionist sentiments in the West have risen, and competition from U.S. and European automotive firms has intensified. These pressures are likely to accelerate transplant parts producers' capture of U.S. market share.

The reduced aggregate demand for automotive products both in Japan and abroad is reverberating through the supply system. In Japan, it is threatening the most fragile link--the myriad small, family-owned tool and die firms, regarded as a key factor in Japan's competitive edge. These tool and die operations historically have performed critical component design and development functions for parts producers. Because of their small size, they have operated with great flexibility and cost efficiency--but they have been sustained by a steady demand for their products. It is, therefore, also unclear how a weakening of this highly integrated supply system may impact Japanese parts manufacturers' ability to feed their more remote operations in the U.S. with new products and technology.

Branch Plants of Independent Suppliers

Branch operations of independent parts suppliers have felt the impact of the recent economic slow-down and increased competition. Decreased demand for parts due to their customers' loss of market share has created underutilization at the branch plant level. Just as in the case of captive plants, this means that older, higher cost plants are generally more at risk of closure than newer, more efficient facilities. However, financial and other considerations such as technological developments that create product obsolescence or the elimination of vehicle platforms play havoc with this logic.

Modernization has been problematic at the branch level for both management and production workers. Managers at the branch plants we visited often appeared greatly over-worked and to have little real input into modernization programming. In some cases at branch plants of both independent and captive suppliers, there was actually a disincentive to modernize because of financial performance measures.

Finally, managers' inability to implement change is also due in part to their isolation. Certainly in remote rural areas this is the case, but even in areas with a high concentration of parts-producing branch plants, we found that branch plant managers often did not know who their local industry colleagues were--much less did they discuss issues of common interest. Moreover, while geography to an extent contributes to this dearth of information exchange, the hierarchical relationship of the branch to the parent also seems to govern the flow of information to plant managers.

In short, rural-based branch plants and smaller firms in the automotive parts industry are ill-positioned to meet the ongoing globalization of the industry--much less the enormous challenges presented by the restructuring of the Big Three U.S. automakers (in particular General Motors) or the potential impacts of NAFTA. Both captive and independent suppliers face great obstacles in obtaining the necessary information to enable them to pursue new market opportunities and to stimulate the awareness of the need for modernization. Moreover, local management has little incentive or ability to pursue such ends. But even in instances in which firms are attempting to take steps toward productivity enhancements or other more sophisticated strategic moves, they are buffeted by conflicting forces propelling them back to pure cost-based competition.

Section Seven: Conclusions

The competitive conditions facing American firms with branch plants in rural communities and in the ARC region vary by size of firm, degree of internationalization, and the extent to which firms are geographically mobile. America's largest firms have the greatest capacity to take advantage of globalization. These organizations are able to maximize the use of resources around the globe while penetrating growing markets. These organizations also have substantial experience operating globally and therefore have a strategic advantage over firms only now contemplating global operations.

Domestic firms that have emphasized the U.S. market to the exclusion of either exporting to, or establishing production in, growing markets now face increased competition from multinational organizations that can effectively utilize cost differences across geography to sell into the U.S. at a competitive price. Large multinational firms also have the organizational infrastructure to sell into foreign markets using distribution channels as a competitive weapon to restrict competition from newcomers.

Small firms that have traditionally competed in specific market niches or used geographic proximity and quick turnaround as competitive advantages, are now at risk given that production in regions such as Mexico offers a viable alternative to domestic production.

The branch plant operations of both U.S. multinationals and nationally based firms are facing a new environment in which high levels of productivity and low costs are necessary but not sufficient means to ensure long-run survival. Even the most productive operations face the prospect that the parent firm's strategy is in flux and therefore subject to change.

As America's most important homes for manufacturing branch plants, rural and Appalachian communities are likely to undergo significant adjustment in response to changes in corporate competitive strategy. Past economic development practice has emphasized reducing the costs of doing business. This strategy is too simplistic for today's global environment. It ignores the impact of global competition and the prospect that parent corporations of branch plants confront a multitude of opportunities and constraints which may force the shift of operations to lower cost locations or require drastic reductions in domestic capacity, replaced with global sourcing. Economic development policy and practice must begin to incorporate strategic intent whereby states and localities develop a more sophisticated understanding of the operations of major employers. Policy can no longer rest on a limited understanding of a firm's strategic trajectory. Future analysis must be based on a complex understanding of the environment in which a local facility competes.

The experiences of branch plant modernization efforts indicate that successful programs require considerable political commitment on the part of state and local levels of government and substantial financial resources on the scale of today's branch plant recruitment efforts. Retaining a branch plant through modernization efforts often involves hundreds of workers with major retraining requirements and physical facilities with serious deficiencies in modern technology and infrastructure. Programs which have been given sufficient resources have demonstrated that large firms are willing to cooperate with state and local levels of government in retention programs. Widespread dissemination of information about the existing branch plant retention experiences is needed.

Multi-level governmental efforts are needed to foster and strengthen intergovernmental efforts to promote branch plant retention programs. Interstate rivalries surrounding branch plant attraction inhibit states from working together on sector-specific modernization programs. Sub-state organizations may be better able to transcend political boundaries by supporting the development of a dialogue between representatives of industry (that are likely to experience change in the future) and local communities. There is a need to establish pilot training programs to assist local communities in developing an understanding of their large employers. Many development organizations have funded a number of sector studies; there is a need to take the results of these reports and translate them into usable information for local development officials. As first steps, these types of efforts can help build community-level capacity and interest in working with major employers to manage change.

At what level of government should strategic assessments of global industries, U.S. industries, and firms be conducted? In our interviews with program directors and technical

assistance providers, the information about the local plant/context was considered best collected at the community level. On the other hand, the types of strategic information we used in our report are not currently collected systematically and processed in a reliable and accessible fashion at any level of government. Some states' industrial recruitment programs do undertake sector studies and more specific analyses of firms' locational cost constraints. However, the majority of these studies are superficial and lacking in firm-level assessments. From our discussions with practitioners and development officials, strategic studies may be best undertaken at a state or regional level where presumably the required level of resources can be found.

The results of this study suggest a need for:

The construction of a context for discussions among industry leaders and state and local economic development professionals about the broad outlines of branch plant retention programs.

The construction of a context in which both economic development practitioners and state and local recruitment professionals can determine what shared capacity exists to undertake strategic studies.

The construction of a context in which local service delivery agencies and state economic development directors can discuss issues of implementation of strategically-informed branch plant retention and modernization programs.

The construction of a federal-level forum in which state development organizations experienced in working with branch plants, firm representatives, and federal program directors, can discuss the program modifications and resource commitments required to provide life-long learning opportunities and modernization options for branch plants.