Socioeconomic Impacts of Manufacturing in Selected Arkansas and Texas Communities

Technical Document #2
Manufacturing Sector Dynamics

Michael E. Cline, Steve White, Steve Murdock

Institute for Demographic and Socioeconomic Research
The University of Texas at San Antonio

Zola Moon and Frank Farmer

Rural Sociology Program
The University of Arkansas, Fayetteville

April 2008

Socioeconomic Impacts of Manufacturing in Selected Arkansas and Texas Communities

Technical Document #2
Manufacturing Sector Dynamics

Michael E. Cline, Steve White, Steve Murdock

Institute for Demographic and Socioeconomic Research
The University of Texas at San Antonio

Zola Moon and Frank Farmer

Rural Sociology Program
The University of Arkansas, Fayetteville

This report was prepared under an award (No. 08-69-03952) from the Economic Development Administration, U.S. Department of Commerce.

The project was conducted by the Institute for Economic Development and the Institute for Demographic and Socioeconomic Research at the University of Texas at San Antonio. This report was written from research conducted with support from Mike Woods (Oklahoma State University Extension), Javier Oyakawa, Michaela Robertson, Kevin Eifler, and David Cabrera

All project reports are available at http://ccbr.iedtexas.or

Table of Contents

List of Tables

List of Figures

Chapter 1 : Introduction

Background and Rationale for the Study

In the United States, employment in the manufacturing sector has trended downward for several years. From 1979 (the historic peak of manufacturing employment) to 2004, the manufacturing sector declined by 5.2 million jobs (Congressional Budget Office, 2004). By January of 2005, 14.3 million people were employed in manufacturing, a 17.5 percent decline since 2000 (Bureau of Labor Statistics 2006). Although some of these job losses were directly attributed to the recession of 2001, most economists agree that many of these jobs will not return. The reasons for this decline are multifaceted, including: 1) productivity gains brought about by technological and process improvements; 2) continued movement of manufacturing to lower cost labor areas; 3) increasing consumer demand for services as opposed to manufactured goods; 4) international fiscal policy (the dollar valuation compared to other currencies); and 5) economic structural changes whereby manufacturers outsource more of their in-house functions to service related firms[1] (Congressional Budget Office, 2004; National Research Council, 2004; Ward, 2006).

For communities, the manufacturing sector represents a "basic" activity – an activity that brings dollars into the community by exporting products that it sells in other areas of the country and the world. In addition, many communities see manufacturers as desirable because the perception is that they pay above average wages for those with little education and skills. If manufacturing employment will not recover to previous levels because of the aforementioned changes, how do the losses of manufacturing jobs impact local communities? In today's economy, how important is manufacturing to local communities? How different are manufacturers from other types of businesses in creating wealth and contributing to local economies? What is being gained and lost with manufacturing jobs relative to socioeconomic well being of individuals and communities? These were the key questions guiding our research. In addressing these questions, the research aims to achieve a better understanding of how best to respond to changes in the economy as it relates to manufacturing and the well being of local communities.

[1] Today, many functions that might have been done by employees of a firm are now outsourced by a company specializing in that function. Previously, the job would be counted within manufacturing (the company's primary industrial sector) but would now be counted within the service sector (the primary sector of the firm performing the service).

Study Goals and Objectives

The purpose of this section of our research is to measure the socio-economic impacts of manufacturing job loss and gain among selected communities in Texas and Arkansas. A primary goal is to help investigators understand the relative importance of the manufacturing sector in local economies and how communities and workers are responding to global economic trends. The study uses a case study design to compare socioeconomic changes among similar communities in Arkansas and Texas.

Two general types of communities were selected for the two states. The first type of community was a community that added manufacturing jobs during the late 1990s and early 2000s and had at least fifteen percent of its workforce employed in manufacturing at some point during the 1990s or early 2000s. For the remainder of this report, this first type of community is referred to "Manufacturing Gain." The second type of community had a substantial loss of manufacturing employment during this same period of time – primarily by way of a plant closure or mass layoff event. In addition, at least fifteen percent of their employment was found in manufacturing for at least one year during the 1990s or early 2000s. This type of community is referred to as "Manufacturing Loss." The researchers selected communities that were as similar in as many other factors as possible so that comparisons could be made between the different types of communities[2]. At least one location representing each of these types of communities was selected for Arkansas and Texas. In Texas, two sites were selected representing Manufacturing Loss so that our overall analysis included five communities in total.[3]

Several methods and sources were used to locate communities that had substantial gains or losses and met the other criteria outlined previously. The researchers consulted the Bureau of Economic Analysis' (BEA) Regional Economic Information System (REIS); workforce data from each state; reviewed archival newspaper articles; consulted the Worker Adjustment and Retraining Notice Act (WARN) and Trade Adjustment Assistance (TAA) data; and talked with economic development experts in each state. Ideally, in order to measure the impact of manufacturing, it would be best to have communities that were similar in every way except for the employment gains and losses. Since this is not practical, cities were chosen to be as similar in all aspects as possible (size, socio-demographic makeup, economic base, general location within the state, etc).

[2] For example – similar population sizes, location in the same region of each state, etc.

[3] We initially selected a Manufacturing Gain and Manufacturing Loss site in Texas for comparisons. After initial field research in the Manufacturing Loss community, Hurricane Rita devastated both of our original sites. Since some data were already collected for our loss site, we report it as part of our research (referenced as Manufacturing Loss Area 2).

Analytical Techniques

First, economic impact analyses were prepared for each of the sites in order to estimate the economic loss or gains to each of the communities due to changes in manufacturing employment. In order to measure economic impacts the research team requested financial and employment data from each of the impacted firms. In addition, secondary resources were utilized to confirm local manufacturing plant data and to estimate primary impacts for those firms not reporting (either because they were no longer in the community, they were not willing to share information with the research team, or the firms no longer existed). These manufacturing plant level data were then aggregated with other community firms' data and used as part of an Input/Output economic analysis utilizing MIG, Inc.'s IMPLAN I/O model.

In the second part of the analysis surveys were administered in five of the study areas – two areas that added manufacturing employment in recent years and three areas that lost manufacturing employment during the same timeframe. In each community, two surveys were performed. The first survey was administered to community leaders and asked their opinions about community factors, the importance of manufacturing to their community, and either how they have worked to gain manufacturers and manufacturing employment, or how they have adjusted when manufacturing employment was lost in their community. Initial community leaders were identified through site visits. These initial community leaders consisted of elected officials such as members of city councils, county commissions, and school boards, and un-elected officials such as the chamber of commerce president, leaders within minority communities, and church leaders. Additional subjects were identified through a snowball survey technique whereby surveyed leaders identified other individuals considered to be official or unofficial community leaders.

The second survey was administered to those who currently or recently worked for selected manufacturing firms. In general, two groups of individuals were selected for survey completion: those that currently work for manufacturing firms in Manufacturing Gain communities and those that previously worked for manufacturing firms in Manufacturing Loss communities. The final survey instrument was printed in a booklet for easy distribution. In both cases, researchers used the drop off and pickup survey method (Krannich et al. 1989, Little and Krannich 1989) in which surveys were dropped off at households, worksites (with permission), or workforce centers (with permission). The survey instrument was left with the subject for completion. The researchers then returned to pick up the completed questionnaire.

The final part of the analysis used secondary data that were collected from governmental sources, including the Census, Bureau of Economic Analysis and local and state government.

Descriptive data from the 1990 and 2000 Census were used in some cases, while annual data for other factors were collected from 1995 to 2005.

Limitations of the Study

Any study trying to capture the intricacies of how socioeconomic impacts relate to changes in the economy is limited by a lack of access to all of the data necessary to fully model such relationships. Even during a downturn as occurred during the recession of 2001, jobs are being added in some companies and in some localities. This study measures only selected aspects of socioeconomic impacts for five communities in Texas and Arkansas, thus any generalizations from the results should be used with caution.

Because of the nature of the study and changes in privacy laws, it was difficult to obtain a sampling frame from which to develop a random sample of workers.[4] Similar studies were able to obtain sample frames from unions or utilize cooperative companies as intermediaries (Pohlmann and St. John, 1999; Tomaney, Pike & Cornford 1999; Leistritz and Coon 1997). Unions represent a minor portion of employees in Texas and Arkansas, which are Right-to-Work states. Workers were represented by unions in only one of the firms studied. Thus we were not able to work with unions to obtain an adequate listing. Because of similar limitations, other researchers have utilized snowball samples to obtain information from laid off workers (Beneria and Santiago 2001; Virick 2003; Koeber 2002). Working with existing employers and community leaders, we were able to obtain a nonrandom sample relying on snowball techniques. Thus, the results of this study are not obtained from a random sample, although there is a sufficiently large N when results are pooled to overcome this limitation statistically.

Additional limitations of the study include difficulty in obtaining responses in two of the communities (one a loss community and one a gain community). Reasons for this difficulty are thought to include the limited educational level of the targeted groups and replacement of workers in targeted industries with Spanish-speaking employees. Additionally, there appeared to be more concern in the one gain community about "rocking the boat" by filling out the survey. Although confidentiality was guaranteed, workers and management seemed more insecure in the one gain community and less willing to provide information because they feared they might somehow jeopardize their employment in the case of the workers or morale of the workforce in the case of

[4] In the past, Polk Citywide Directories provided employer information in their residential listings. According to an e-mail correspondence with customer service, this has not been a part of their listings for at least 5 years. The Gramm-Leach-Bliley Act limits disclosure of credit reporting information to marketers, which presumably is where this information was formerly obtained.

management. This attitude contrasted sharply with two of the loss communities, where employees and management alike were anxious and willing to share their stories and negative impacts results from the closing of plants.

Chapter 2 : Background and Estimated Economic Impacts to Study Areas

Economic impact studies measure the estimated effects of economic changes in a region brought about by some negative or positive stimulus (Leistritz and Murdock 1981: 19). Generally, these studies are undertaken to estimate the impacts of a particular business or industry on a community or region prior to the business or industry locating in or leaving a community (Davis, 1990:5). In this chapter we provide estimates of economic impacts in four study areas caused by employment expansions or layoffs from manufacturing firms in the late 1990s or early 2000s. This analysis is done in order to understand the economic effects of these events on these communities. An overview of each of the study areas is provided, followed by the estimates of economic impacts as modeled by an Input/Output model.

In order to measure the economic impacts, estimated employment, output and payroll information was collected for each of the study area firms through surveys, or in some cases, estimated from a combination of sources including company reports, newspaper, state workforce agencies, and the 2002 Economic Census. MIG, Inc.'s IMPLAN Input/Output model was used to analyze estimated direct and additional impacts to the study areas. Although these analyses provide reasonable estimates of economic impacts, there are limitations in the information provided. First, Input/Output models are developed as a snapshot in time for a particular region. Any major changes in the economic makeup of the underlying regions will not necessarily be reflected in the economic impact estimates. Furthermore, in order to estimate the combined economic impacts of manufacturing gains or losses, we modeled the impacts as if they occurred within the course of one year, and thus the resulting impacts are an estimate of one year of output gains or losses of the selected firms. For the Arkansas loss community and the second Texas loss community this is, in fact, what occurred, as the studied firms completely shutdown their operations within a course of one year. In the first Texas loss community, the impacts occurred over several years, as each firm staggered their shutdowns and layoffs over a course of two to three years. Still, the estimates provide an approximation of the yearly economic impacts that the firms would have provided had they stayed in full operation. For the Texas gain community, the employment growth for one firm was gradual when it grew from a start-up operation to fully operational by 2004. The other two firms merged operations from other localities during 2002 and 2003. Again, these estimates provide an approximation of the yearly economic impacts that these firms provide to the community after adding these additional employees and accompanying output.

Two models were used for these economic impact estimates, one created to model the economy for 1999 and another to model the economy for 2002. The 1999 IMPLAN model was used for the impact estimates of the Arkansas loss community as the losses occurred during this year. The 2002 model was used for the remaining sites. The impact events occurred between 2000 and 2005, with the largest losses or gains occurring during 2002 and 2003. In order to ease interpretation of results, all of the economic impacts are reported in 2005 current dollars.

Background and Impacts in Manufacturing Gain Communities

Two study areas were analyzed due to having maintained or added manufacturing employment during the late 1990s or early 2000s. For Arkansas, although there were no major employment expansions, several manufacturers added employees between 2000 and 2005, when most manufacturers in Arkansas were letting people go. For Texas, three firms expanded their operations by adding employees between 2000 and 2005. Table 2-1 provides an overview of the manufacturing employment gains in the study area communities. This is followed by an overview of the estimated economic impacts occurring in each site.

Table 2-1: Manufacturing Firm Data for Gain Sites

	Arkansas	Texas
Number of Firms	8	3
Industries	Boats, Plastics, Industrial Machinery	Signs, Venting, Air Conditioning Components
Date of Expansions	2000-2004	2000-2004
Nature of Expansions	Expansions	Consolidations, Expansions
Employment Prior to Expansions	392	534
Estimated Annual Payroll, Prior to Expansions	$14.7 Million	$12.9 Million
Employment Added	137	486
Payroll Added	$4.6 Million	$11.6 Million
Employment, 2005	529	1,020
Est. Annual Payroll, 2005	$19.3 Million	$24.5 Million

Source: Company and Economic Development Corporation Surveys; 2002 Economic Census; Company Financial Reports; Chamber of Commerce; MIG Inc. IMPLAN 2002

Arkansas Study Area

The Arkansas Manufacturing Gain County lies in the Arkansas River Valley, although the northern portion of the county is in the Ozark Mountains. The county is in the west central region of the state. Nearly half of the northern portion of the county is Ozark National Forest and includes two wildlife management areas. Well-known hunting, fishing, canoeing, hiking and camping areas are located in the north. The study area community serves as the county seat and has rich river valley farmland in the southern half of the county producing cattle, fruit, vegetables, soybeans, and grains.

The community itself is nestled along a tributary of the Arkansas River. Although agriculture has always been important in the county, a diversified economic sector, including light manufacturing, has played a key role in the county's success. Major employers in the county include a chicken processing plant, a hosiery manufacturer, a retail distribution center, a medical center, and a plastics manufacturer. Agriculture accounted for 6% of personal income in 2000 while manufacturing accounted for 20%. The manufacturing sector accounted for 40% of total covered employment in the study area county in 2001, compared with a statewide figure of 21%. The county was 9th among 71 counties for which data were available in percentage of manufacturing employment in 2001.

The Arkansas Manufacturing Gain County has experienced notable population growth over the last decade. In 2000, the county's population was 22,781, which represents a 25% increase from 1990. The Hispanic population grew significantly by 7% in 2000, more than double the statewide figure of 3%. The population of the studied community increased 32% from 1990 to 2000 to a total of 7,719. Although the poverty rates have declined slightly over the 1990s, the studied community has a poverty rate of slightly over 16%. Low educational attainment is a continuing problem, as approximately 1/3 of the adults (persons 25 and over) in both the study area community and county lack a high school diploma.

Following several major manufacturing plant closures during the 1980s, leaders in the community made efforts to ensure long term economic development for the city and county. The Chamber of Commerce helped lead several capital investments in the early 1990s that resulted in several relocations and expansions of existing manufacturers within the community. There were no major expansions between 2000 and 2005 but smaller manufacturing employers added approximately 137 employees during this time and others maintained employment levels despite major employment losses for most communities in Arkansas during the recession. The following text provides an overview of the aggregate impacts of these eight employers who added employees on the Arkansas Gain Community.

Estimated Output Impacts

A total of 137 employees were added to eight firms between 2000 and 2005. As a result of these expansions, firms added a total combined economic output of $29.8 million to the county economy. This included $24.3 million in direct output from eight area firms, $3.3 million in additional impact from purchases made from the impacted firms to local businesses (indirect impacts), and an additional $2.2 million of expenditures from households and secondary businesses (induced expenditures). The total $29.8 million in output is roughly equivalent to three percent of total output for the county. The economic impacts were felt primarily in the Manufacturing, Public Administration, Retail Trade, and Health and Social Services sectors (See Table 2-2).

Table 2-2: Output Impacts by Industry, Arkansas Gain

Industry	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	0.0	129.6	30.8	160.4
21 Mining	0.0	0.3	0.0	0.4
22 Utilities	0.0	92.8	31.1	123.9
23 Construction	0.0	52.8	12.8	65.5
31-33 Manufacturing	24,314.3	1,613.3	100.2	26,027.7
42 Wholesale Trade	0.0	139.8	18.1	157.9
48-49 Transportation & Warehousing	0.0	288.8	28.7	317.5
44-45 Retail trade	0.0	75.0	411.8	486.8
51 Information	0.0	54.7	29.4	84.1
52 Finance & Insurance	0.0	170.6	118.0	288.6
53 Real Estate & Rental	0.0	76.0	61.3	137.2
54 Professional -Scientific & Tech Svcs	0.0	66.9	24.7	91.6
55 Management of Companies	0.0	6.2	0.2	6.5
56 Administrative & Waste Services	0.0	45.1	18.7	63.8
61 Educational Svcs	0.0	3.4	47.4	50.8
62 Health & Social Services	0.0	0.1	478.6	478.8
71 Arts- Entertainment & Recreation	0.0	2.1	2.9	4.9
72 Accommodation & Food Services	0.0	90.8	205.1	295.9
81 Other services	0.0	49.8	102.5	152.2
92 Public Administration	0.0	352.3	477.9	830.3
Total	**$24,314.3**	**$3,310.3**	**$2,200.2**	**$29,824.7**

In thousands of 2005 Dollars. Totals may not add up due to rounding.

Source: MIG, Inc. IMPLAN Model, 2002.

Estimated Employment Impacts

The firms added a combined total of 137 employees between 2000 and 2005. A total of 53 additional employees were supported from purchases by the firms and expenditures by firm employees. This combined employment impact is roughly one percent of the total employment for the county (See Table 2-3).

Table 2-3: Employment Impacts by Industry, Arkansas Gain

Industry	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	0	1	0	1
21 Mining	0	0	0	0
22 Utilities	0	0	0	0
23 Construction	0	1	0	1
31-33 Manufacturing	137	8	1	145
42 Wholesale Trade	0	1	0	2
48-49 Transportation & Warehousing	0	2	0	3
44-45 Retail trade	0	2	8	10
51 Information	0	0	0	1
52 Finance & Insurance	0	1	1	2
53 Real Estate & Rental	0	1	1	2
54 Professional -Scientific & Tech Svcs	0	1	0	2
55 Management of Companies	0	0	0	0
56 Administrative & Waste Services	0	1	0	1
61 Educational Svcs	0	0	1	1
62 Health & Social Services	0	0	7	7
71 Arts- Entertainment & Recreation	0	0	0	0
72 Accommodation & Food Services	0	2	5	8
81 Other services	0	1	2	3
92 Public Administration	0	1	0	2
Total	**137**	**24**	**29**	**191**

Totals may not add up due to rounding.
Source: MIG, Inc. IMPLAN Model, 2002.

Estimated Value Added Impacts

While output impacts approximate industry sales, it does not provide an indication of what wealth stays in the community. A true estimate of economic impacts is how much wealth was added to the community as measured by value added economic impacts, a close approximation of gross regional product. Value added impacts include wages, salaries, benefits, profits, and returns on equity. Due to these employment additions firms provided an estimated direct value added impact of $8.4 million dollars and an additional $2.9 million in indirect and induced impacts to the local area, for combined value added economic impact of $11.3 million, roughly three percent of total value added per year in the county.

Texas Study Area

The county selected as the Manufacturing Gain study area for Texas is located in East Texas near the Manufacturing Loss study area. This county is an important recreation and retirement area due to its abundance of rivers, lakes, forests and its proximity to major metropolitan areas. The community selected for this study is the largest city in the county, although it is not the county seat. The community has a strong, historic dependence upon manufacturing. That manufacturing base remains diverse, with products ranging from boats, electronic signs, metalworking, plastics, medical devices, wood products, and air conditioning components. The agricultural base is primarily in nursery plants, timber and cattle. The community has two junior colleges located within the town.

Manufacturing has been an important part of the economic base for the community going back to at least the 1950s, when a couple of major manufacturers located in the study area from Houston. These early industries eventually spun off other businesses. The various economic agencies have a long history of working together. The sales tax funded Development Corporation and the member funded Chamber of Commerce are located in the same facility. This relationship developed over the years due to strong leadership by those interested in facilitating industrial growth. Three industrial parks are located within the community. The latest industrial park was developed by the development corporation and has a total of 131 acres. The two other industrial parks were created in the 1950s and 1960s.

In 1999, a metal working facility was established in the newest industrial park. Initially, this operation employed 36 people. From 2000 to 2005, this facility expanded to 160 employees. The facility manufactures venting products for a major department store as well as independent hardware stores. According to company management, the facility located in the city due to the availability of facilities as well as the availability of a workforce that was knowledgeable of manufacturing processes. The company markets its products nationwide, so location was not as important as other factors when deciding to move to the community.

The second facility manufactures components for air conditioning units. There is a substantial air conditioning industry in the region, with major manufacturers located in nearby metropolitan areas, so that the company can take advantage of access to suppliers and customers. The firm is one of the largest employers in the area and has been a long-term part of the community, having started in 1971. Today, the community is home to company headquarters and all manufacturing operations for the firm. The firm expanded in the city during 2002. An additional 30,000 square feet of manufacturing facilities and approximately 50 additional employees were added. In addition, a manufacturing plant in another community was consolidated into the impact area. This added a total of 281 employees in the community. By 2005, the firm employed 530 people at its facilities in the community.

The last firm within the Texas Manufacturing Gain Area manufactures signs for major retailers. The facility was established in the community in 1901 and is one of the largest employers in the county. Of the three firms analyzed, this was the only one to include a unionized workforce. In 2002, this firm consolidated operations located in a nearby community into the facilities in the study area city, adding approximately 130 employees. As of 2005, the company employed approximately 330 employees within the area. In 2005, this firm was bought out by one of its competitors but remains in full operation.

Due to the expansions and consolidations of these manufacturing firms, a total of 486 manufacturing jobs were added to the community between 2000 and 2005. According to the local Economic Development Corporation other, smaller expansions occurred during this time, primarily in small manufacturing firms. These additional expansions added approximately 80 more manufacturing jobs to the community[5]. Despite these expansions, the community was not immune to manufacturing employment losses. One large manufacturing facility was closed in 2004 due to changes in demand for its product (a specialized product for printing presses). This facility employed 196 people prior to its closure.

[5] These additional jobs were not counted in the estimated economic impact models.

Estimated Output Impacts

Through these expansions and consolidations, the three facilities added a combined economic output of $60.1 million to the county economy. This included $46.3 million in direct output from the three firms, $8.2 million in additional impact from purchases made from the impacted firms to local businesses (indirect impacts), and an additional $5.5 million of expenditures from households and secondary businesses (induced expenditures). The total $60.1 million in output is roughly equivalent to three percent of total output for the county. The economic impacts were felt primarily in the Manufacturing, Public Administration, Wholesale Trade, and Retail Trade sectors (See Table 2-4). Total estimated impacts were $2.9 million, $1.8 million, $1.6 million and $1.2 million in additional output by sector, respectively (besides the initial $46.3 million in output by the three firms).

Table 2-4: Output Impacts by Industry, Texas Gain

Industry	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	0.0	90.4	51.3	141.8
21 Mining	0.0	36.2	19.6	55.8
22 Utilities	0.0	452.3	228.9	681.1
23 Construction	0.0	171.3	36.5	207.8
31-33 Manufacturing	46,335.0	2,811.9	100.5	49,247.4
42 Wholesale Trade	0.0	1,437.7	207.9	1,645.6
48-49 Transportation & Warehousing	0.0	538.0	94.5	632.5
44-45 Retail trade	0.0	145.2	1,077.7	1,222.9
51 Information	0.0	517.7	110.8	628.5
52 Finance & Insurance	0.0	539.6	458.8	998.4
53 Real Estate & Rental	0.0	343.1	154.2	497.3
54 Professional -Scientific & Tech Svcs	0.0	120.5	50.3	170.8
55 Management of Companies	0.0	144.6	5.9	150.5
56 Administrative & Waste Services	0.0	140.0	48.4	188.4
61 Educational Svcs	0.0	24.8	87.3	112.1
62 Health & Social Services	0.0	0.0	865.1	865.1
71 Arts- Entertainment & Recreation	0.0	58.0	57.3	115.3
72 Accommodation & Food Services	0.0	108.8	340.8	449.6
81 Other services	0.0	82.7	217.9	300.7
92 Public Administration	0.0	449.7	1,356.4	1,806.2
Total	**$46,335.0**	**$8,212.5**	**$5,570.3**	**$60,117.8**

In Thousands of 2005 Dollars. Totals may not add up due to rounding.
Source: MIG, Inc. IMPLAN Model, 2002. Amounts in 2005 dollars.

Estimated Employment Impacts

The firms added a combined total of 486 employees between 2000 and 2005, with the majority of these additional employees added during 2002 and 2003. A total of 132 additional employees were supported from purchases by the firms and expenditures by firm employees. This combined employment impact is roughly three percent of the total employment for the county. Employment impacts were felt especially in the manufacturing, retail trade, and wholesale trade sectors, where 21, 21 and 17 employees were supported by the initial output of the study firms (See Table 2-5).

Table 2-5: Employment Impacts by Industry, Texas Gain

Industry	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	0.0	0.3	0.4	0.8
21 Mining	0.0	0.1	0.1	0.2
22 Utilities	0.0	1.3	0.8	2.1
23 Construction	0.0	2.2	0.4	2.6
31-33 Manufacturing	486.0	20.2	0.7	506.9
42 Wholesale Trade	0.0	15.2	2.2	17.4
48-49 Transportation & Warehousing	0.0	5.2	0.9	6.1
44-45 Retail trade	0.0	2.4	18.1	20.4
51 Information	0.0	3.4	0.7	4.0
52 Finance & Insurance	0.0	3.5	2.5	6.0
53 Real Estate & Rental	0.0	1.5	1.0	2.4
54 Professional -Scientific & Tech Svcs	0.0	3.4	1.2	4.6
55 Management of Companies	0.0	3.1	0.1	3.2
56 Administrative & Waste Services	0.0	3.3	1.2	4.6
61 Educational Svcs	0.0	0.2	1.1	1.3
62 Health & Social Services	0.0	0.0	12.9	12.9
71 Arts- Entertainment & Recreation	0.0	1.7	1.6	3.3
72 Accommodation & Food Services	0.0	2.5	8.1	10.6
81 Other services	0.0	0.9	4.6	5.5
92 Public Administration	0.0	1.7	1.2	2.9
	486.0	**72.1**	**59.8**	**617.9**

Totals may not add up due to rounding.
Source: MIG, Inc. IMPLAN Model, 2002.

Estimated Value Added Impacts

While output impacts approximate industry sales, it does not provide an indication of what wealth stays in the community. A true estimate of economic impacts is how much wealth was added to the community as measured by value added economic impacts, a close approximation of gross regional product. Value added impacts include wages, salaries, benefits, profits, and returns on equity. Due to the expansions and consolidations, the three studied firms provided an estimated direct value added impact of $12.0 million dollars and an additional $7.7 million in indirect and induced impacts to the local area, for combined value added economic impact of $19.7 million, roughly two percent of total value added per year in the county.

Background and Impacts in Manufacturing Loss Communities

Three study areas were analyzed due to having major manufacturing employment losses during the late 1990s or early 2000s. In most cases, the manufacturing losses were a result of plant closures. In one case, a whole manufacturing line was shut down while another remained open. Table 2-6 provides an overview of the manufacturing employment losses in the study area communities. This is followed by an overview of the estimated economic impacts occurring in each site.

Table 2-6: Manufacturing Loss Comparison by Site

	Arkansas	**Texas 1**	**Texas 2**
Number of Firms	2	3	2
Industries	Automotive Parts, Clothing	Medical Devices, Manufactured Homes, Clothing	Wood Products
Date of Losses	1999	2002-2004	2001-2002
Nature of Loss	Plant Closures	Plant Closures, Line Closure	Plant Closures
Employment Prior to Layoffs	1,060	1,174	534
Est. Annual Payroll, Prior to Layoffs	$25.4 Million	$29.9 Million	$18.1 Million
Employment Lost	1,060	867	534
Payroll Lost	$25.4 Million	$20.3 Million	$18.1 Million
Employment, 2005	0	307	0

Source: Company and Economic Development Corporation Surveys; U.S. Economic Census; Company Financial Reports; Chamber of Commerce

Arkansas Study Area

The community selected for the Arkansas Manufacturing Loss city is a county seat with a 2000 population of nearly 7,000 people in a county of just under 21,000. An interstate highway provides reasonably easy access to the metropolitan area of the state capital, less than an hour's drive away. The county is in the foothills of the Ozark Mountains and located adjacent to the Arkansas River.

The local economy consists of manufacturing, tourism, retail and agriculture and all four sectors play key roles. A state park located in the county has over 400,000 visitors annually. Major employers range from higher education to healthcare services to light manufacturing and a call center. The county economic development corporation has been and continues to be active in supporting existing businesses and recruiting new businesses. Primary agricultural commodities are livestock (poultry, hogs, and beef) followed by grain crops, largely forage and soybeans. The study area city serves as the retail center for its own county as well as a neighboring county.

Between 1990 and 2000, the county experienced a 6% population growth to slightly over 20,300. The population estimate for 2004 is 20,589, a continued growth of 1%. This growth is slightly smaller than the statewide growth rate of approximately 2% since 2000 and a growth rate of 14% between 1990 and 2000. A small but growing Hispanic community showed a growth rate between 1990 and 2000 over 200% but the community represents a small fraction of the overall population (0.5% in 1990 and 1.8% in 2000). The Arkansas loss study county shows greater racial and ethnic diversity than the Arkansas gain study county, having 84% White population compared to 94% in the gain county in 2000.

Farm income represents 4% of total income earnings and manufacturing is more than double that at 9%. Transfer payments total 25% of total personal income according to government figures. The manufacturing sector accounted for approximately 12% of the covered employment in the Arkansas Loss County in 2004. The poverty rate in 2000 was 16%. Slightly over 25% of the population 25 and older lacks a high school education, giving this county a slightly higher educational attainment rates than other rural counties in the state, although slightly lower than the average in urban areas. The community today touts its relatively well-educated workforce as well as the strong work ethic found in the area. The community is within 50 miles of at least 10 different colleges and universities and has a community college in town.

In 1984, a major textile mill in the study area closed. The textile plant had been in operation in the county since 1948 and had employed about 1,000. The community was unprepared for the jolt, according to local leaders. In the wake of that closure, community leaders began looking for ways to make the community more resilient such as bringing in new industries and retaining what was already located in the city. These steps included community development work in the mid-1990s community leadership training classes. Two other major efforts in this time period were community clean-up efforts and workforce training.

In 1999, the two largest employers in the study area closed within one week of each other. The first company manufactured clothing and like many similar firms, began contracting their sewing operations from foreign operations where labor costs were less. The second firm manufactured automotive parts. The company's executives attributed the erosion of its customer base in the late 1990s to overproduction in the auto parts market. In an effort to maximize shareholder value, executives attempted to sell the company or parts of its operation but failed to find a buyer. Ultimately, the company filed bankruptcy and closed.

Suddenly 1,100 people in a community of 6,500 were unemployed. Local community development agencies already in place rapidly coordinated with state agencies to create a response strategy. New jobs were added to the community within a year after the closures. A call center was opened in August of 1999, adding 250 jobs and a manufacturer of loudspeaker equipment opened in the former auto parts plant, employing an additional 250 people. In addition, an existing firm announced a 100,000 square foot expansion of its manufacturing facility, adding up to an additional 75 jobs.

In spite of the community's relatively rapid and broad response to the closures, the experiences of the two groups of laid-off employees differed. While the textile mill provided a generous severance package, including eight months of wages, the automotive parts manufacturer employees were given little notice and no severance benefits. In addition, because the textile plant was certified as NAFTA impacted, employees received additional governmental assistance, including education and training grants. Anecdotally, the former textile mill employees seem to have retained company loyalty while the former automotive parts plant employees display more bitterness over their experience and report having more difficulty recovering.

The community seems to have experienced mixed results in its recovery. Although the call center and expansion happened relatively quickly after the major closures, total employment is just now returning to 1999 levels. The population has grown slightly but lagged behind rates seen in other, apparently more dynamic counties. The commuting rate for the county is 40%, compared to a statewide average of half that at 20%. Still, median family income is only slightly lower than that state average ($38,179 compared to $38,663) and higher than that in the paired Arkansas gain community ($33,630).

Estimated Output Impacts

These manufacturing plants provided an estimated yearly economic output of $110.0 million. As the result of these plant closures, an additional $23.4 million in economic output was lost, for a combined total of $133.4 million, approximately fifteen percent of total output for the study area. The sectors most impacted by the closure included Manufacturing (with $5.7 million in additional economic output lost beyond the initial direct impacts), Wholesale Trade ($4.4 million), Finance and Insurance ($1.5 million), and Retail Trade ($1.5 million).

Table 2-7: Output Impacts by Industry, Arkansas Loss

Industry*	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	0.0	-60.3	-67.7	-128.0
21 Mining	0.0	-0.3	-0.1	-0.4
22 Utilities	0.0	-188.1	-113.3	-301.4
23 Construction	0.0	-635.2	-176.3	-811.5
31-33 Manufacturing	-114,224.5	-1,315.0	-200.4	-115,739.9
42 Wholesale Trade	0.0	-4,084.7	-385.7	-4,470.4
48-49 Transportation & Warehousing	0.0	-1,162.8	-228.5	-1,391.3
44-45 Retail trade	0.0	-60.2	-1,446.7	-1,506.9
51 Information	0.0	-714.4	-126.6	-841.0
52 Finance & Insurance	0.0	-1,006.7	-518.5	-1,525.1
53 Real Estate & Rental	0.0	-502.4	-896.5	-1,398.9
54 Professional -Scientific & Tech Svcs	0.0	-408.4	-107.0	-515.4
55 Management of Companies	0.0	0.0	0.0	0.0
56 Administrative & Waste Services	0.0	-1,362.1	-59.8	-1,421.9
61 Educational Svcs	0.0	-0.9	-36.2	-37.1
62 Health & Social Services	0.0	-0.1	-1,421.7	-1,421.8
71 Arts- Entertainment & Recreation	0.0	-59.3	-57.9	-117.2
72 Accommodation & Food Services	0.0	-264.1	-435.7	-699.7
81 Other services	0.0	-147.9	-411.0	-558.9
92 Public Administration	0.0	-400.0	-161.1	-561.1
Total	**-$114,224.5**	**-$12,373.0**	**-$6,850.4**	**-$133,447.9**

*Data shown here closely approximate current North American Industrial Codes; however, estimates are based upon older Standard Industrial Classification System and should not be directly compared to tables for other communities.

In Thousands of 2005 Dollars. Totals may not add up due to rounding.
Source: MIG, Inc. IMPLAN Model, 1999. Amounts in 2005 dollars.

Estimated Employment Impacts

The estimated employment impact from the closures of these two factories totaled 1,353 jobs. The sectors impacted the most by the closures were the Wholesale Trade (56.7 jobs), Retail Trade (45.2 jobs) and Health & Social Services (30.4 jobs).

Table 2-8: Employment Impacts by Industry, Arkansas Loss

Industry*	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	0	-2	-2	-4
21 Mining	0.0	0.0	0.0	0.0
22 Utilities	0.0	-0.7	-0.4	-1.1
23 Construction	0.0	-10.2	-2.1	-12.3
31-33 Manufacturing	-1,060.0	-9.8	-1.0	-1,070.8
42 Wholesale Trade	0.0	-51.8	-4.9	-56.7
48-49 Transportation & Warehousing	0.0	-12.5	-2.8	-15.3
44-45 Retail trade	0.0	-1.6	-43.6	-45.2
51 Information	0.0	-6.2	-0.8	-7.0
52 Finance & Insurance	0.0	-6.4	-3.4	-9.8
53 Real Estate & Rental	0.0	-6.1	-3.4	-9.5
54 Professional -Scientific & Tech Svcs	0.0	-8.6	-2.1	-10.7
55 Management of Companies	0.0	0.0	0.0	0.0
56 Administrative & Waste Services	0	-28	-1	-29
61 Educational Svcs	0.0	0.0	-0.9	-0.9
62 Health & Social Services	0.0	0.0	-30.4	-30.4
71 Arts- Entertainment & Recreation	0.0	-1.2	-2.3	-3.6
72 Accommodation & Food Services	0	-10	-15	-25
81 Other services	0.0	-2.8	-13.4	-16.3
92 Public Administration	0.0	-3.4	-1.3	-4.6
Total	**-1,060.0**	**-161.6**	**-131.1**	**-1,352.7**

*Data shown here closely approximate current North American Industrial Codes; however, estimates are based upon older Standard Industrial Classification System and should not be directly compared to tables for other communities.

Totals may not add up due to rounding.
Source: MIG, Inc. IMPLAN Model, 1999.

Estimated Value Added Impacts

These two manufacturing plants provided an estimated yearly value added impact of $35.4 million per year prior to their closures. Including indirect and induced impacts, these plants contributed to a total of $46.3 million in valued added per year, approximately twelve percent of total value added in the county at the time the losses occurred.

Texas Study Area 1

The Manufacturing Loss County consists of rolling, partly forested land in East Texas. Two major rivers and two major lakes are located within the county, with other smaller lakes located throughout. A total of thirty-two private and public lakes can be found in the county. These environmental features and the county's proximity to major metropolitan areas make the county an important recreation and retirement area and is the cause of the growth of many of the smaller communities in the county. The county has had a strong manufacturing base historically - manufacturing clothing, furniture, electronics, medical devices, boats, bricks, wood products, and pottery and processing vegetables. Oil was discovered in 1934 and became an important part of the economy of the county. Other minerals include lignite coal, natural gas, sulfur and clay. Cattle and horticulture are the main agricultural products in the Texas Manufacturing Loss County.

The community selected for further analysis is the largest community in the Texas Manufacturing Loss County and is the county seat. Most of the manufacturers are located in this city, as other communities serve as primarily residential neighborhoods. The community experienced major closures in the late 1980s and early 1990s that prepared them for the more recent losses. In the early 1990s, 600 people were laid off from an electronic manufacturing plant and a sewing operation due directly to foreign competition. Another 300 people were laid off at a boat manufacturing plant. These closures had major impacts on the community as two of the manufacturers had been an important part of the community since the 1950s. These closures lead community leaders to look for other ways to diversify the economy.

In the early 2000s, three manufacturers laid off a total of 810 people. At the same time, other closures and layoffs occurred in other industries, including 220 employees of two different distribution warehouse businesses. Manufacturing employment has recovered somewhat since these layoffs, as two firms are now operating out of the old manufactured housing facilities. One builds manufactured homes and the other manufactures home filters. Approximately 160 people were employed in these two facilities by the end of 2005. In addition, two non-manufacturing facilities were locating in the city; a regional industrial distributor and a call center. At the same time, a private-public partnership developed in order to create a biotechnology incubator to facilitate further development of medical device manufacturing within the community.

Three major manufacturers laid off an estimated total of 810 employees between 2000 and 2005, with most of those layoffs occurring during 2002 and 2003. These employers operated in three different industries: manufactured housing, medical devices, and specialty clothing. The manufactured home firm closed two operating plants over a course of two years, with direct impacts to households because the typical employee was male and the source of the primary income of the home. In general, these plants paid wages that were higher than many other similarly skilled jobs in the community. In addition, because the jobs were indoors and thus not affected by changes in the weather, the pay was steadier than similar construction-type jobs. The specialty-clothing manufacturer employed mostly women for sewing and similar types of jobs. The pay was lower than the manufactured homes plant jobs and was not that different than service and retail-type wages but employed a substantial number of people. Finally, the medical device company laid-off approximately 200 people and closed one product line. This appeared to have impacts that were more widespread since the pay was higher than the other plants and other businesses were directly impacted by the loss. Several small firms that were direct suppliers to this firm closed their operations within the community as a result of the closure.

The reasons for the closures were varied, all related to competition and changes in how the parent company operated – but none were due to direct foreign competition. The medical device company was initially established in the city, but over the years had experienced a series of buyouts, mergers, sales, and bankruptcies. In 2003, the firm was purchased by two different companies, with one merging the product line with their facilities in another state, and the other product line remaining in the study area community. Today, approximately 300 of the original 561 employees still work at the manufacturing line remaining in the city as part of a different company. The manufactured homes industry was overbuilt in the early 2000s and the industry suffered from a high level of repossessions. In addition, changes in Texas financing laws impacted the industry directly. In the face of this downturn, manufactured home companies closed many facilities, including the two operating in the study area.

The clothing and textiles industry has faced stiff competition from cheap labor overseas. However, there are a few niches of clothing manufacturing that remain in the United States. The plant that closed in the Manufacturing Loss area was one such example. The plant's customers required the plant to manufacture uniforms that were consistent from year to year and could be produced and shipped within weeks. Because of these requirements, they were not directly competing with overseas manufacturers, but rather domestic ones. The closure occurred due to a buyout by the company's major competitor and a change in business models, from one of direct ownership of operating plants to a model that relied on contractors for product manufacturing.

Estimated Output Impacts

According to the Input/Output model, the layoffs amounted to a combined yearly output of $81.9 million lost. From this direct output, an additional $28.9 million in output was lost in other sectors. These losses equated to an estimated total of $110.8 million in output losses to the county, roughly six percent of total yearly output. Besides the initial $81.9 million in output lost, the manufacturing sector was impacted by an additional $7.1 million output lost due to loss in expenditures by the industry to other manufacturers in the county. Other industries that show the greatest losses in economic output include: Retail Trade ($2.4 million in losses), Public Administration ($2.5 million in losses), and Transportation and Warehousing ($2.4 million in output lost). Table 2-9 provides an overview of the economic output losses by sector.

Table 2-9: Output Impacts by Industry, Texas Loss 1

Industry	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	0.0	-3.9	-66.7	-70.7
21 Mining	0.0	-79.5	-74.6	-154.1
22 Utilities	0.0	-718.5	-511.3	-1,229.9
23 Construction	0.0	-338.5	-84.2	-422.7
31-33 Manufacturing	-81,868.3	-6,849.1	-312.1	-89,029.5
42 Wholesale Trade	0.0	-1,616.8	-274.1	-1,891.0
48-49 Transportation & Warehousing	0.0	-2,084.9	-315.8	-2,400.8
44-45 Retail trade	0.0	-452.9	-2,064.2	-2,517.1
51 Information	0.0	-683.8	-349.0	-1,032.8
52 Finance & Insurance	0.0	-1,017.9	-776.6	-1,794.5
53 Real Estate & Rental	0.0	-676.9	-415.6	-1,092.5
54 Professional -Scientific & Tech Svcs	0.0	-964.9	-212.3	-1,177.2
55 Management of Companies	0.0	-72.2	-3.3	-75.5
56 Administrative & Waste Services	0.0	-852.4	-201.3	-1,053.8
61 Educational Svcs	0.0	-1.3	-45.2	-46.5
62 Health & Social Services	0.0	-0.8	-1,909.9	-1,910.7
71 Arts- Entertainment & Recreation	0.0	-83.1	-160.8	-243.9
72 Accommodation & Food Services	0.0	-320.7	-920.1	-1,240.9
81 Other services	0.0	-340.8	-524.6	-865.4
92 Public Administration	0.0	-326.3	-2,180.2	-2,506.5
Total	**-$81,868.3**	**-$17,485.5**	**-$11,402.1**	**-$110,755.9**

In Thousands of 2005 Dollars. Totals may not add up due to rounding.
Source: MIG, Inc. IMPLAN Model, 2002. Amounts in 2005 dollars.

Estimated Employment Impacts

Output lost is not as meaningful unless there is some measure of how this output impacts employment in a community. The three firms laid off a combined 867 people. Since these businesses were no longer producing products in the community, they were no longer purchasing items from local businesses nor were their employees spending in the local area as a direct result of their paid employment with these firms. The effect of these losses is that an additional 307 jobs were no longer supported by these expenditures. The total estimated employment loss for the county was 1,174 jobs, approximately five percent of the labor force in the county. Again, the industry most impacted by these initial losses was the Manufacturing sector, where the initial layoffs caused an additional loss of 64 jobs. The other sectors with the most jobs lost include Retail Trade (38), Accommodations & Food Services (32), Health & Social Services (28), Transportation and Warehousing (23), and Wholesale Trade (23). Table 2-10 provides an overview of the estimated employment losses by major industrial sector.

Table 2-10: Estimate Employment Impact, Texas Loss 1

Industry	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	0.0	-0.1	-1.8	-1.9
21 Mining	0.0	-0.4	-0.4	-0.8
22 Utilities	0.0	-2.1	-1.6	-3.8
23 Construction	0.0	-3.2	-0.7	-3.9
31-33 Manufacturing	-867.0	-60.7	-2.8	-930.5
42 Wholesale Trade	0.0	-20.0	-3.4	-23.4
48-49 Transportation & Warehousing	0.0	-20.6	-2.8	-23.4
44-45 Retail Trade	0.0	-6.8	-30.9	-37.6
51 Information	0.0	-4.5	-1.9	-6.3
52 Finance & Insurance	0.0	-7.2	-5.3	-12.5
53 Real Estate & Rental	0.0	-3.6	-4.4	-8.0
54 Professional -Scientific & Tech Svcs	0.0	-16.7	-4.4	-21.1
55 Management of Companies	0.0	-3.2	-0.1	-3.4
56 Administrative & Waste Services	0.0	-10.7	-3.9	-14.7
61 Educational Svcs	0.0	0.0	-0.2	-0.2
62 Health & Social Services	0.0	0.0	-27.6	-27.6
71 Arts- Entertainment & Recreation	0.0	-3.3	-4.6	-7.9
72 Accommodation & Food Services	0.0	-8.1	-24.2	-32.3
81 Other services	0.0	-3.5	-9.5	-13.0
92 Public Administration	0.0	-1.2	-0.6	-1.8
Total	**-867.0**	**-176.0**	**-131.1**	**-1,174.1**

Totals may not add up due to rounding.
Source: MIG, Inc. IMPLAN Model, 2002.

Estimated Value Added Impacts

While output impacts approximate industry sales, it does not provide an indication of what wealth leaves the community when industry output is lost due to plant closures or downsizing. A true estimate of economic impacts is how much wealth was lost to the community as measured by value added economic impacts, a close approximation of gross regional product. Value added impacts include wages, salaries, benefits, profits and returns on equity. Due to these closures, an estimated direct value added impact of $20.8 million dollars was lost. An additional $16.1 million in indirect and induced impacts to the local area were lost, for a combined value added economic impact of $36.9 million, or about four percent of total value added in the county.

Texas Study Area 2

A second site was selected as a site for understanding manufacturing loss. This community served as one of our initial Texas communities but was impacted by Hurricane Rita during the course of our research. Because we had already collected some data for this site, we report that information within our report. This second Manufacturing Loss site consisted of two counties in east Texas. The county seats of these two counties are the largest cities in each county and thus were most impacted by the closures of two wood product manufacturing plants, one of which was located in a rural area. This area has been historically dependent upon the forest industry and major logging operations remain in the area. Manufacturing primarily consists of wood product related industries including sawmills, plywood mills, OSB mills and the like. The area also serves as a tourist destination for some, due to the forests and the lakes located there. While the communities have tried to diversify in most recent years, they are limited by their location and lack of access to major transportation routes (including railroad and interstate highways). Like other rural areas, these communities found prisons to be one way of diversifying their economy and each county has a prison, one a state penitentiary and the other a private prison housing prisoners from all over the nation. In late 2001 and in 2002, two wood product mills closed, displacing a total of 534 people. Employees of these two mills were skilled in wood related manufacturing but often knew little else beyond this industry. According to a survey of workers at the time of plant closure, 20% of employees at the plant had worked for the company for over 15 years. Besides the immediate losses to individual workers, these impacts were severe for these communities due to the fact that their industrial base is made up of one primary industry: wood products. The closure of these plants meant that the companies no longer bought product from independent loggers and that their employees no longer spent their money at local retail stores or restaurants (many of the employees came from nearby counties). Still, one of the study area communities appeared to be less impacted than the other as major retailers have located in the community since the closures.

Estimated Output Impacts

These manufacturing plants provided an estimated yearly economic output of $112.0 million. As the result of these plant closures, an additional $76.1 million in economic output was lost, for a combined total of $198.1 million, approximately ten percent of total output for the study area. Not surprisingly, due to the nature of the manufacturing plants, the industry most impacted by the loss of expenditures by these firms was the Agriculture, Forestry, Fishing & Hunting sector, with a total of $49.0 million in output lost. Besides this sector, the industries with the largest secondary output impacts include: manufacturing ($10.9 million), Public Administration (primarily government - $4.1 million) and utilities ($3.2 million).

Table 2-11: Output Impacts by Industry, Texas Loss 2

Industry	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	0.0	-48,848.5	-122.0	-48,970.5
21 Mining	0.0	-109.6	-25.2	-134.8
22 Utilities	0.0	-2,584.3	-588.6	-3,172.8
23 Construction	0.0	-216.7	-91.0	-307.7
31-33 Manufacturing	-112,038.5	-10,700.6	-171.4	-122,910.5
42 Wholesale Trade	0.0	-1,940.6	-326.2	-2,266.8
48-49 Transportation & Warehousing	0.0	-2,100.9	-259.8	-2,360.7
44-45 Retail trade	0.0	-185.8	-2,709.4	-2,895.3
51 Information	0.0	-227.6	-282.0	-509.6
52 Finance & Insurance	0.0	-1,369.8	-939.6	-2,309.4
53 Real Estate & Rental	0.0	-158.9	-303.1	-462.1
54 Professional -Scientific & Tech Svcs	0.0	-492.1	-430.0	-922.1
55 Management of Companies	0.0	0.0	0.0	0.0
56 Administrative & Waste Services	0.0	-114.8	-63.3	-178.1
61 Educational Svcs	0.0	0.0	0.0	0.0
62 Health & Social Services	0.0	-1.4	-2,553.6	-2,555.0
71 Arts- Entertainment & Recreation	0.0	-59.0	-226.0	-284.9
72 Accommodation & Food Services	0.0	-323.6	-1,009.6	-1,333.2
81 Other services	0.0	-1,687.8	-696.1	-2,384.0
92 Public Administration	0.0	-864.1	-3,271.8	-4,136.0
Total	-$112,038.5	-$71,986.2	-$14,068.6	-$198,093.4

In Thousands of 2005 Dollars. Totals may not add up due to rounding.
Source: MIG, Inc. IMPLAN Model, 2002. Amounts in 2005 dollars.

Estimated Employment Impacts

These manufacturing plants were essentially value added processors of agricultural (forestry) products. As such, their impacts were felt primarily in the agricultural and forestry industries. Employment losses due to secondary effects were also felt primarily in the agricultural and forestry sector, where 242 jobs were lost, this is followed by Retail Trade (53 jobs), Manufacturing (52 additional jobs), and Health & Social Services (43 jobs). Table 2-12 provides an overview of the estimated employment impacts by sector due to these plant closures. An estimated total of 1,090 jobs were lost as a result of these mill closures, roughly seven percent of total employment.

Table 2-12: Employment Impacts, Texas Loss 2

Industry	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	0.0	-237.5	-4.4	-241.9
21 Mining	0.0	-1.1	-0.2	-1.3
22 Utilities	0.0	-4.2	-1.1	-5.3
23 Construction	0.0	-2.6	-0.9	-3.5
31-33 Manufacturing	-534.0	-51.2	-1.0	-586.3
42 Wholesale Trade	0.0	-19.5	-3.3	-22.8
48-49 Transportation & Warehousing	0.0	-22.3	-2.5	-24.8
44-45 Retail trade	0.0	-3.4	-49.8	-53.2
51 Information	0.0	-1.3	-1.5	-2.8
52 Finance & Insurance	0.0	-12.3	-7.6	-19.9
53 Real Estate & Rental	0.0	-0.8	-1.7	-2.6
54 Professional -Scientific & Tech Svcs	0.0	-3.2	-2.4	-5.6
55 Management of Companies	0.0	0.0	0.0	0.0
56 Administrative & Waste Services	0.0	-2.4	-1.5	-3.9
61 Educational Svcs	0.0	0.0	0.0	0.0
62 Health & Social Services	0.0	0.0	-43.1	-43.1
71 Arts- Entertainment & Recreation	0.0	-1.4	-4.4	-5.8
72 Accommodation & Food Services	0.0	-8.1	-26.4	-34.4
81 Other services	0.0	-15.0	-12.7	-27.7
92 Public Administration	0.0	-2.7	-2.7	-5.4
Total	**-534.0**	**-389.0**	**-167.4**	**-1,090.3**

Totals may not add up due to rounding.
Source: MIG, Inc. IMPLAN Model, 2002.

Estimated Value Added Impacts

The losses from these two firms created an estimated loss of $18.7 million in direct value added impacts with an additional $36.1 million in indirect and induced impacts for a combined total of $54.8 million of valued added impacts lost in the study area – approximately five percent of total value added in the area.

Conclusion

Although every attempt was made to obtain actual financial information from the studied firms, this was more difficult than originally anticipated. While some of the firms were cooperative and provided generalized financial information used to adjust the impact models, others were less forthright. In the loss communities, primary data were not always available due to the fact that the firms no longer operated in the community or were closed completely. However, reasonable estimates of payrolls, employment and expenditures were obtained by talking to former managers of the closed plants, accessing public financial reports, reviewing newspapers and comparing industry figures from the U.S. Economic Census.

Input/Output models such as the one used in this chapter provide reasonable estimates of economic impacts. Although widely used, there are limitations in the information that these models can provide. One limitation is that they can only provide short-term estimates of economic changes and are not able to account for long-term adjustments within the local economy (Coughlin and Mandelbaum 1991). Even with respect to these communities, despite closures in the Manufacturing Loss communities, new industries located or expanded. In the Manufacturing Gain communities, major employment losses also occurred. The next chapter will provide an overview of economic changes occurring within the communities, both from a long term and short-term perspective to understand more fully how these expansions or contractions impacted the economy of these communities.

Chapter 3 : Economic Changes in Study Areas

The previous section estimated economic impacts as a result of the manufacturing employment gains and losses based upon an economic input/output model. While the models provide reasonable estimates of economic impacts, these may be mitigated by gains in employment in other sectors or the magnitude of the impacts may not be large enough to impact the overall economy as a whole. Only in two sites did the estimated economic impacts account for ten percent or more of yearly output, despite the number of people unemployed. The following chapter provides summaries of selected economic indicators to provide an overview of the economic changes in these communities prior to and after the impact events in order to understand how the events may have impacted the selected communities and their respective counties. After these are presented, results of surveys of residents of these communities are provided in order to understand how individuals perceive these economic changes.

Selected Indicators of Economic Change by Study Areas

Firm Employment Changes in Study Areas

Employment at the selected firms declined by over 1,000 in the Arkansas community (2 firms) and by over 500 in both of the Texas loss study areas (a total of 5 firms). At the same time, employment increased at the selected firms by over 500 employees within the Texas gain community (3 firms). Manufacturing employment in the Arkansas gain community was not attributable to one major expansion, but rather by modest growth in manufacturing employment overall. Table 3-1 provides employment estimates for the study area firms by year from 1999 to 2005. Shaded areas in the tables indicate years in which expansions or contractions occurred.

Table 3-1: Total Yearly Employment in Selected Firms, by Study Area

	1999	2000	2001	2002	2003	2004	2005	Change 1999-05
Arkansas								
Manufacturing Loss	1,060	-	-	-	-	-	-	-1,060
Texas								
Manufacturing Gain	534	534	562	652	915	966	1,020	486
Manufacturing Loss 1	1,174	1,174	1,174	1,110	1,010	512	307	-867
Manufacturing Loss 2	534	534	534	409	-	-	-	-534

Jobs

Total employment by study area is shown in Table 3-2. These numbers reflect the number of jobs located within the study area counties and not necessarily the number of individuals from the study areas who were employed. In general, employment in all of the study areas reflected changes in the national economy, with significant employment gains in all counties during the 1990s, followed by slower growth or decline between 2000 and 2004. In terms of employment changes, no clear pattern emerges from the data. The Arkansas Gain Community serves as a regional trade center and has benefited from employment growth in manufacturing and in wholesale distribution development. Like the Arkansas Gain Community, the First Texas Manufacturing Loss community has been able to increase its share of employment in the wholesale distribution arena, despite its losses in manufacturing employment. In addition, residential development in the northwestern portion of the county has spurred retail development, creating jobs in the retail sector[6] in order to serve these new populations.

Table 3-2: Job Change by County Type

	Total Employment			Percent Change (Annualized)	
County Type	**1990**	**2000**	**2004**	**1990-2000**	**2000-2004**
Arkansas					
Manufacturing Gain	7,402	11,446	11,851	4.5	0.9
Manufacturing Loss	8,796	10,485	10,605	1.8	0.3
Texas					
Manufacturing Gain	19,225	23,645	23,391	2.1	-0.3
Manufacturing Loss - 1	18,618	28,835	28,897	0.0	0.0
Manufacturing Loss - 2	15,405	20,509	20,586	3.0	0.1

Average by Study Area Type

	Total Employment			Percent Change (Annualized)	
County Type	**1990**	**2000**	**2004**	**1990-2000**	**2000-2004**
Manufacturing Gain	13,314	17,546	17,621	3.3	0.3
Manufacturing Loss	14,273	19,943	20,029	1.6	0.1

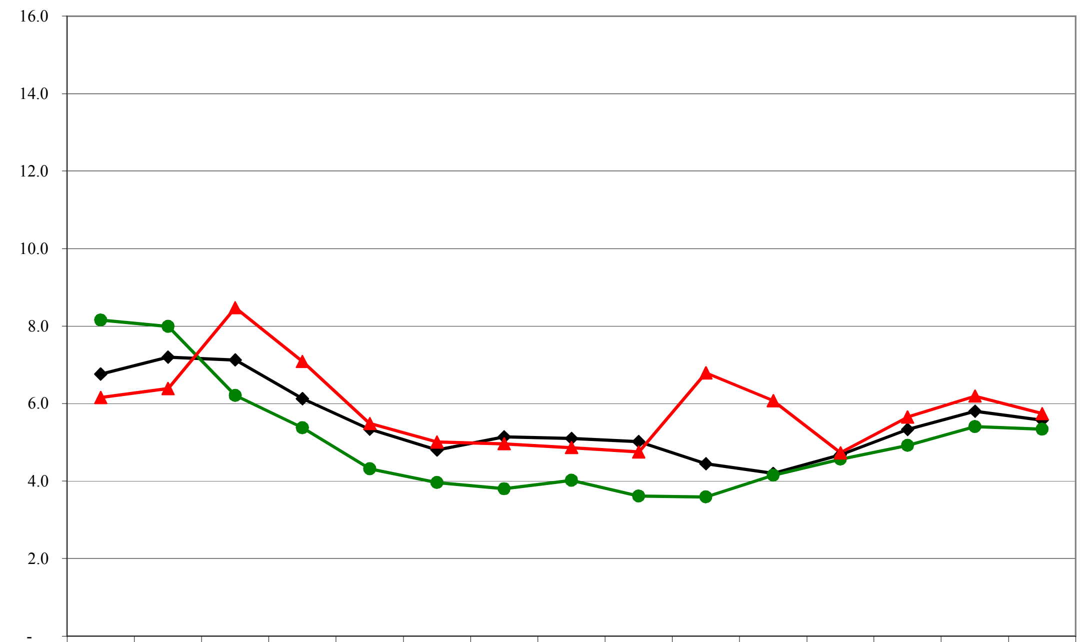
Sources: U.S. Bureau of Economic Analysis, Regional Economic Information System, 2006

[6] These data provide estimates of jobs and do not distinguish part time or full time jobs.

Unemployment

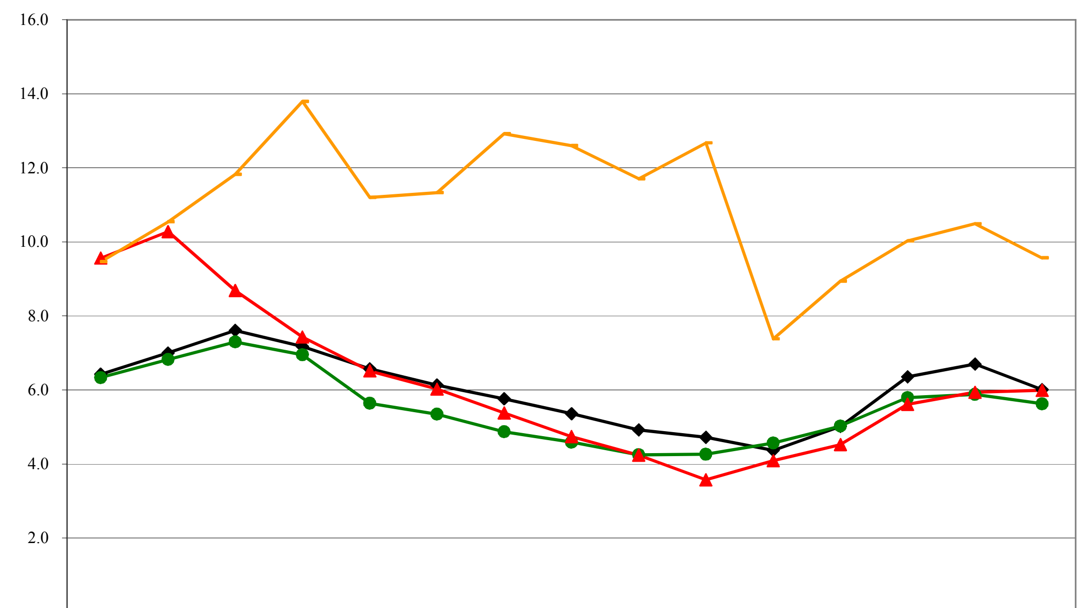
The average annual unemployment rate in 2004 was highest in the Manufacturing Loss counties compared to all other counties. The charts in Figures 3-1 and 3-2 show unemployment rates for each area compared to the unemployment rates of their respective states for each year from 1990 to 2004. Unemployment rates were at or below the state unemployment rate for both Manufacturing Gain counties in Arkansas and in Texas for most of those years – including the post 2000 period. Manufacturing Loss Counties show more diversity in unemployment rates. For the Arkansas Loss County, the unemployment rate decreased over the 1990s and at times was below Arkansas' unemployment rate. A major spike in unemployment can be seen immediately after the layoff events (1999 and 2000), and the unemployment rate has remained slightly above the State's rate. However, the unemployment rate never reached the 1992 high of 8.5%. In Texas, the unemployment rate for the first Loss County declined over the 1990s, and from 1999 to 2003, was below that of the Gain County. The unemployment rate has increased for this county over the 2000 to 2004 period but remained below the state unemployment rate. Historically, the Second Manufacturing Loss area has had rates of unemployment significantly higher than the unemployment rate for Texas overall. The unemployment rate for this area has increased over the post-2000 period following the layoff events but was lower than those rates experienced between 1992 and 1999.

Figure 3-1: Unemployment Rates by County vs. State (Arkansas)



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
State	6.8	7.2	7.1	6.1	5.3	4.8	5.1	5.1	5.0	4.4	4.2	4.7	5.3	5.8	5.6
Growth	8.2	8.0	6.2	5.4	4.3	4.0	3.8	4.0	3.6	3.6	4.2	4.6	4.9	5.4	5.3
Loss	6.2	6.4	8.5	7.1	5.5	5.0	5.0	4.9	4.7	6.8	6.1	4.7	5.7	6.2	5.7

Figure 3-2: Unemployment Rates by County vs. State (Texas)



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
State	6.4	7.0	7.6	7.2	6.6	6.1	5.8	5.4	4.9	4.7	4.4	5.0	6.4	6.7	6.0
Growth	6.3	6.8	7.3	6.9	5.6	5.3	4.9	4.6	4.3	4.3	4.6	5.0	5.8	5.9	5.6
Loss	9.6	10.3	8.7	7.4	6.5	6.0	5.4	4.7	4.2	3.6	4.1	4.5	5.6	5.9	6.0
Loss 2	9.5	10.5	11.8	13.8	11.2	11.3	12.9	12.6	11.7	12.7	7.4	8.9	10.0	10.5	9.6

Per Capita Personal Income

Per capita personal income provides a measure of overall wealth and development of a community. Estimates of per capita personal income were collected from the Bureau of Economic Analysis' Regional Economic Information System. Per capita personal income declined in three of the four Texas study areas, while it increased slightly in all of the Arkansas study areas. Per capita income in 2004 was highest in the Texas Manufacturing Gain County and the smallest in the second Manufacturing Loss study area. At the same time, per capita personal income has increased in the Arkansas Manufacturing Gain community but the county per capita personal income is still lower than the other Arkansas study areas.

Table 3-3: Change in Per Capita Personal Income

	Per Capita Income ($2004)				Percent Annualized Change		
Area	**1980**	**1990**	**2000**	**2004**	**1980-1990**	**1990-2000**	**2000-2004**
Arkansas							
Manufacturing Gain	$14,565	$16,973	$19,627	$21,028	3.5%	1.6%	1.8%
Manufacturing Loss	$16,237	$19,190	$23,771	$24,767	4.6%	2.4%	1.0%
Texas							
Manufacturing Gain	$18,449	$19,697	$24,382	$24,270	3.2%	2.4%	-0.1%
Manufacturing Loss - 1	$18,459	$19,420	$25,069	$23,982	3.6%	2.9%	-1.1%
Manufacturing Loss - 2	$17,808	$17,759	$21,173	$21,544	1.9%	1.9%	0.4%
			Average by Community Type				
Manufacturing Gain	$16,507	$18,335	$22,004	$22,649	3.3%	2.0%	0.7%
Manufacturing Loss	$17,501	$18,789	$23,338	$23,431	3.3%	2.4%	0.1%

Source: Bureau of Economic Analysis, REIS.

Retail Sales

As the economic impact estimates provided by the Input/Output model show, the retail sector is typically one of the industries most impacted by economic changes as a result of owners, managers and employees spending money locally. A strong retail sector that provides a wide variety of products can allow for more sales occurring locally than elsewhere. Besides the additional spending occurring from money spent locally, cities benefit directly from retail sales through local sales taxes. Retail sales per capita for the Texas study areas were compared for pre- and post- 2000 periods. Similar information for Arkansas was not available due to limitations in the way that sales taxes are collected and reported.

When comparing per capita retail sales for the Texas study areas, the Manufacturing Gain county actually shows a percentage decline while one of the Manufacturing Loss counties shows a percentage increase. However, this may be explained by the proximity to major metropolitan areas and the location of growth within the study area counties. In the case of the first manufacturing decline county, the county has experienced tremendous population growth and subsequent retail development north and west of the study area community. In the case of the Manufacturing Gain, residential development in the northern part of the county is located near a larger city in a nearby county – causing retail “leakage” outside of the study area county. On a city only basis, per capita retail sales has actually increased in the Manufacturing Gain city and declined in the first Manufacturing Loss community and increased only slightly in the other, though it is still lower than all other areas.

Table 3-4: Change in Retail Sales Per Capita

	Per Capita Retail Sales ($2004)			Percent Change	
	1995	**2000**	**2004**	**1995-2000**	**2000-2004**
Texas Counties					
Manufacturing Gain	$8,304	$7,926	$7,856	-4.6	-0.9
Manufacturing Loss - 1	$8,870	$8,813	$9,041	-0.6	2.6
Manufacturing Loss - 2	$11,939	$9,465	$7,750	-20.7	-18.1

	Per Capita Retail Sales ($2004)			Percent Change	
	1995	**2000**	**2004**	**1995-2000**	**2000-2004**
Texas Cities					
Manufacturing Gain	$13,742	$16,756	$18,313	21.9	9.3
Manufacturing Loss - 1	$19,595	$25,234	$23,163	28.8	-8.2
Manufacturing Loss - 2	$18,347	$25,831	$25,922	40.8	0.4

Source: Texas Office of the Comptroller; U.S. Census Bureau Estimates of the Population
Note: Retail Sales for Arkansas Communities not Available.

Respondents’ Perceptions of Economic Changes

Perceptions of overall economic changes within the study areas are reflected in the survey results. Survey participants were asked to indicate whether they perceived economic changes within the past five years to be positive or negative. When comparing the two community types, 45 percent of the manufacturing gain respondents indicated an overall positive economic change, while only 18 percent of those in the loss communities responded similarly (Table 3-5). When comparing respondent types within each type of community, community leaders were more likely to respond positively than workers, although the majority of leaders’ responses reflected the opinions of the workers.

Table 3-5: Economic Change in Last 5 Years

Economic Changes	Manufacturing Gain			Manufacturing Loss		
		Response Within Community***			Response Within Community***	
	All***	Worker	Leader	All***	Worker	Leader
Positive	45.0	33.8	86.8	18.2	11.7	38.6
Negative	22.2	26.8	5.3	60.6	62.6	54.4
Don't Know/No Opinion	32.8	39.4	7.9	21.2	25.7	7.0
N=	180	142	38	236	179	57
$\chi 2$	64.0	34.1			24.7	
Cramer's V	0.39	0.44			0.32	
Tau-c	-0.11	-0.35			-0.27	

****Significant at the .001 level.*

Impacts to and Satisfaction with Selected Economic Factors

These economic changes are also reflected in respondent's attitudes about individual community satisfaction measures. Measures of satisfaction concerning job opportunities, earnings options, retail options and housing costs show the same general patterns as those concerning overall economic changes, although to different levels of satisfaction. Table 3-6 provides the results of the surveys by community type for each economic factor.

Although less than a majority of those residing in the Manufacturing Gain communities were positive, the relationship between study area type and satisfaction rating was statistically strong and significant. Residents of the Manufacturing Loss communities were more likely to indicate that they were dissatisfied or very dissatisfied with job opportunities and opportunities to earn a decent income when compared to those residing in the Manufacturing Gain study areas. Over 75% of respondents residing in Manufacturing Loss areas indicated that they were dissatisfied or very dissatisfied.

Respondents were asked to indicate their level of satisfaction with the availability of retail in their community. Those in Manufacturing Loss communities were more likely to indicate that they were "dissatisfied or very dissatisfied" than those in the Manufacturing Gain communities. With the exception of housing costs, the overwhelming majority of responses to community satisfaction questions by persons in Manufacturing Loss communities indicated that they were dissatisfied or very dissatisfied with such costs (Table 3-6). Interestingly, while the responses to these same measures were different in the gain communities (and statistically significant at the .001 level), the responses were not overwhelmingly positive. Of the four economic factors, only on housing costs did respondents indicate that they were satisfied or very satisfied. This same item received satisfied or very satisfied responses for 37 percent of those in the Manufacturing Loss areas. All of the study areas were in non-metropolitan areas, and housing costs relative to metropolitan areas are generally lower thus accounting for the limited number of dissatisfied or very dissatisfied responses.

Respondents were asked to rate manufacturer's impacts on selected community economic factors. These rankings ranged from "Very Negative" to "Very Positive." Of those responding in the Manufacturing Loss study areas, survey participants indicated that the manufacturers who terminated jobs had the greatest impacts on jobs (90% negative responses), residents' incomes (87% negative responses), other businesses (80% negative responses) and government revenue (74.1% negative responses). Only 41% of respondents perceived a negative impact for housing costs in Manufacturing Loss study areas (See Table 3-7). These items were ranked similarly in the Manufacturing Gain communities, with the greatest positive impacts seen in jobs (81%). Impacts to other businesses and residents' income were rated at 70% and 71% positive responses, followed by government revenues at 58%. Manufacturing firms were seen as having little impact on housing costs.

Table 3-6: Respondents' Satisfaction with Selected Community Economic Factors

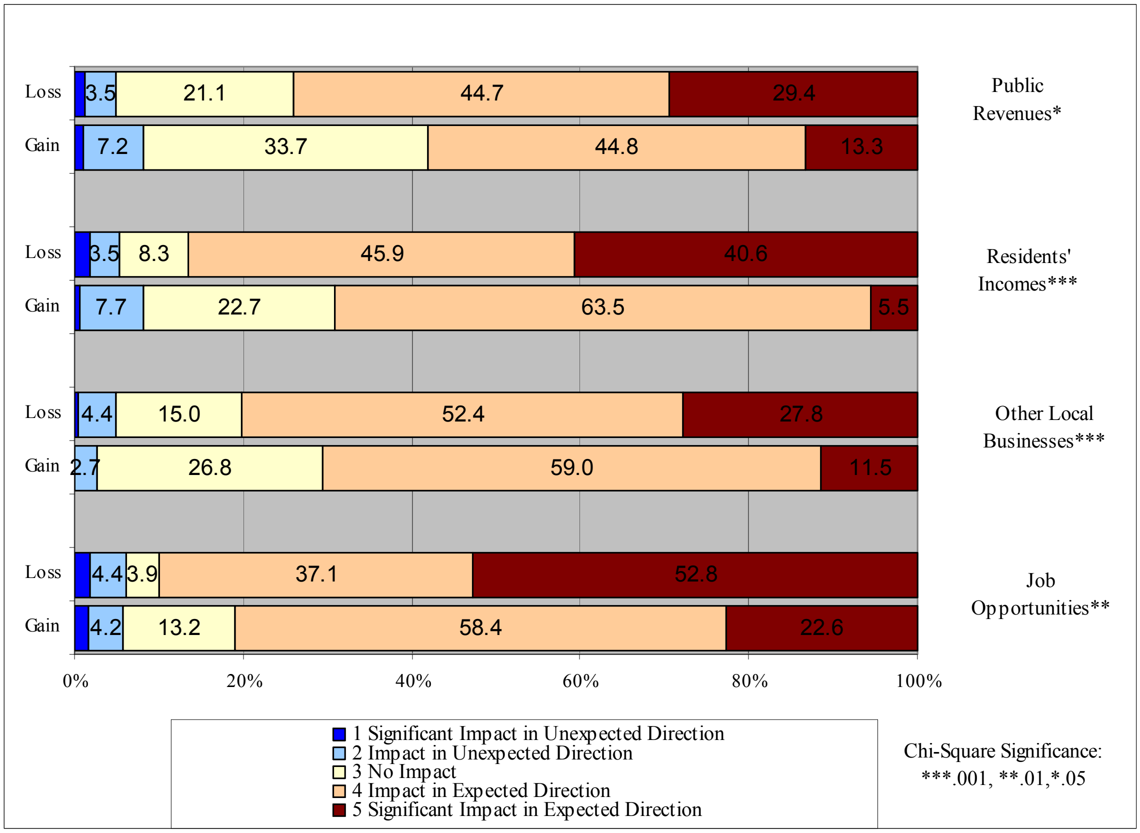
Response	Manufacturing Gain	Manufacturing Loss
Job Opportunities* **		
Very Satisfied or Satisfied	38.9	6.5
Very Dissatisfied or Dissatisfied	33.3	84.5
N	180	232
$\chi 2$	115.0	
Cramer's V	0.53	
Tau-c	0.52	
Opportunities to Earn Decent Income* **		
Very Satisfied or Satisfied	41.2	7.4
Very Dissatisfied or Dissatisfied	37.4	76.9
N	182	229
$\chi 2$	80.2	
Cramer's V	0.44	
Tau-c	0.44	
Retail Stores* **		
Very Satisfied or Satisfied	39.3	18.0
Very Dissatisfied or Dissatisfied	33.3	64.9
N	183	228
$\chi 2$	41.7	
Cramer's V	0.32	
Tau-c	0.33	
Housing Costs* **		
Very Satisfied or Satisfied	58.2	37.4
Very Dissatisfied or Dissatisfied	22.5	32.6
N	182	227
$\chi 2$	17.6	
Cramer's V	0.21	
Tau-c	0.20	

Table 3-7: Respondents' View of Manufacturers Impacts on Selected Economic Factors

Response	Manufacturing Gain	Manufacturing Loss
Jobs* **		
Positive	81.1	6.1
Negative	5.8	89.9
N	190	229
$\chi2$	298.4	
Cramer's V	0.84	
Tau-c	0.86	
Other Businesses* **		
Positive	70.5	4.9
Negative	2.7	80.2
N	183	227
$\chi2$	268.1	
Cramer's V	0.81	
Tau-c	0.86	
Residents' Incomes* **		
Positive	69.0	5.2
Negative	8.3	86.5
N	181	229
$\chi2$	256.4	
Cramer's V	0.79	
Tau-c	0.82	
Government Revenue* **		
Positive	58.0	4.8
Negative	8.3	74.1
N	181	228
$\chi2$	203.9	
Cramer's V	0.71	
Tau-c	0.75	
Housing Costs* **		
Positive	41.2	7.4
Negative	14.8	40.9
N	182	230
$\chi2$	76.8	
Cramer's V	0.43	
Tau-c	0.44	

It is not surprising that the impacts in manufacturing loss communities would be perceived as more negative than those in the manufacturing gain communities; but rather, what is interesting is the degree to which the respondents perceived each economic factor as impacted by the manufacturing firms. In order to further understand these relationships, the responses were recoded so that the responses by community type could be compared. In the original data, a five-point scale was utilized. The scale included 1 and 2 for negative impacts, a 3 for neutral or no impacts, and 4 and 5 for positive impacts. After recoding, codes 4 and 5 indicated responses of mild or significant impacts in the expected direction, whereby those in the Manufacturing Loss Study Areas who responded "Negative" or "Very Negative" impacts and those responses in the Manufacturing Gain Study areas who responded "Positive" or "Very Positive" impacts would be coded as 4 and 5. Alternatively, codes of 1 or 2 would indicate mild or significant impacts in an unexpected direction, meaning positive responses in Loss communities and negative responses in Gain communities. Figure 3-3 shows a comparison of responses in the two types of communities as coded in this fashion. Again the most important impact noted by respondents in both types of communities are manufacturer's impacts on job opportunities, followed by residents' incomes, other local businesses, and local public revenues. However, in all cases, the number of the expected responses is greater in the Manufacturing Loss study areas in comparison to those responses in the Manufacturing Gain study areas. There are two possible explanations for these results. First, in the manufacturing gain communities, the events under study involved plant expansions and were not resulting from the relocation of new firms into the communities. Although in all cases, these were large employers and in some cases the expansions were significant, the overall perception was probably not as great as if a new large employer relocated to a town. In the manufacturing loss communities, major employers laid off a large number of people and in most cases closed the operations altogether. Because of the closures, these events were reported in the local newspaper and more people were aware of the possible impacts. Still, despite these possible explanations, the results of the survey indicate real differences between the impacts in the two types of communities.

Figure 3-3: Manufacturers' Impacts on Economic Factors



Conclusion

Several indicators of economic change were reviewed to compare and contrast economic changes between Manufacturing Gain and Manufacturing Loss communities. These economic indicators were supplemented by soliciting workers and leaders for their opinions about economic changes. Overall, respondents in communities that experienced manufacturing employment losses were more likely to indicate negative levels of satisfaction compared to those in Manufacturing Gain communities regardless of whether or not they were community leaders or workers. The selected economic indicators show mixed results for the communities. In regard to job change, for some communities, the manufacturing losses appear to be absorbed by job growth in other sectors. And in the case of the Texas Gain County, despite growth in manufacturing employment, there was a slight decline in jobs overall. Similarly, change in per capita personal income was not differentiated by the type of community. Two items that are different according to community type are per capita retail sales at the city level and unemployment rates. Overall, the unemployment rates for the Manufacturing Gain communities decreased with time and were typically lower than that of the other communities. Although there were no data available for the Arkansas communities, Texas retail sales data show slower increases in per capita retail sales or actual declines for the Manufacturing Loss communities, while the gain community increased its per capita sales overall (when comparing cities instead of counties). These data suggest that the economic losses or gains were not substantial enough to show large negative or positive impacts either way. Those communities losing manufacturing jobs also gained manufacturing jobs or jobs in other sector. Similarly, job losses were also present in at least the Texas Manufacturing Gain community.

As would be expected, those respondents in the Manufacturing Gain communities indicated positive changes in overall economic outlook and for individual economic factors, while those in the Manufacturing Loss communities generally indicated negative outcomes. In addition, the survey results suggest the degree to which manufacturing firms impacted overall and individual economic factors was greater for those living in communities where layoffs occurred than those where manufacturing firms expanded. Although adding or expanding an employer in a community is important to the overall wellbeing of the community and region, the impacts may not be as great as often promised or perceived. Alternatively, negative impacts when employers close may be more significant because of the nature of the closures. Firms and industries that may have been a fabric of the community for decades may no longer be present. Thus the economic and psychological impacts may be greater.

Chapter 4 : Demographic and Public Service Changes in Study Areas

Impacts from economic developments can be both positive and negative. Although losses of major manufacturers bring about some obvious negative economic impacts, even economic expansions can bring about greater demands on services and the environment. Negative impacts can be seen if levels of services do not keep up with this demand. A limited number of data were collected to measure service impacts according to community type. In addition, surveys gauged residents' satisfaction levels and opinions about impacts to quality of life and selected services. The following chapter provides an overview of selected indicators of public service demands in the study areas, followed by survey results concerning community satisfaction and manufacturing impacts on communities.

Selected Indicators or Public Service and Demographic Change by Study Area

Demographic Changes

Population growth is a desirable outcome of economic development. Indeed, often population growth is considered an indication of economic success (Leistritz and Murdock 1981). In the Texas Manufacturing Gain community, two of the firms experienced consolidations of facilities from other nearby communities. Initially, employees from these consolidating facilities remained in their original community and commuted to the new plant. Long term, some may choose to relocate to the new community. The firms in the Manufacturing Loss communities had employment losses of 500 to over 1,000. These losses may have forced some to move to other communities to seek out employment opportunities. Population changes in the study area communities, however, are influenced by more than just manufacturing development. For example population losses in one of the Texas Manufacturing Loss communities may indicate limited employment opportunities within the study areas.

With the exception of the second Texas Manufacturing Loss study area, population growth at the county level was positive for all study areas from 2000 to 2004 (Table 4-1). At the place level, population change was flat or declined in both the second Texas Manufacturing Loss community and the Arkansas Manufacturing Loss community. Population increases for the first Texas Manufacturing Loss at the county and city level suggest developments beyond manufacturing may be occurring. Some of this is brought about by continued exurban development from nearby metropolitan areas. Both Manufacturing Gain communities and counties saw population increases over all time periods.

Table 4-1: Population Changes in Study Areas

Site Comparisons: County Population Change

Area	Total Population 1980	1990	2000	2004	Annualized Exponential Rate of Change 1980-1990	1990-2000	2000-2004
Arkansas					**0.3**	**1.3**	**0.0**
Manufacturing Gain	17,423	18,221	22,781	23,713	0.4	2.2	1.0
Manufacturing Loss	19,505	19,151	20,336	20,589	-0.2	0.6	0.3
Texas					**1.8**	**2.1**	**1.2**
Manufacturing Gain	38,127	41,049	46,659	48,091	0.7	1.3	0.8
Manufacturing Loss - 1	42,606	58,543	73,277	77,768	3.2	2.2	1.5
Manufacturing Loss - 2	44,035	44,671	50,676	49,954	0.1	1.3	-0.4
Total Study Area (Average)							
Manufacturing Gain	27,775	29,635	34,720	35,902	0.6	1.6	0.8
Manufacturing Loss	35,382	40,788	48,096	49,437	1.4	1.6	0.7

Site Comparisons: City Population Change

Area	Total Population 1980	1990	2000	2004	Annualized Exponential Rate of Change 1980-1990	1990-2000	2000-2004
Arkansas					**0.3**	**1.3**	**0.0**
Manufacturing Gain	5,237	5,833	7,719	8,187	1.1	2.8	1.5
Manufacturing Loss	7,355	6,551	6,550	6,555	-1.2	0.0	0.0
Texas					**1.8**	**2.1**	**1.2**
Manufacturing Gain	12,264	12,765	13,868	14,293	0.4	0.8	0.8
Manufacturing Loss - 1	10,197	10,982	11,297	12,461	0.7	0.3	2.5
Manufacturing Loss - 2	8,579	9,045	10,706	9,893	0.5	1.7	-2.0
Total Study Area (Average)							
Manufacturing Gain	8,751	9,299	10,794	11,240	0.6	1.5	1.0
Manufacturing Loss	8,710	8,859	9,518	9,636	0.2	0.7	0.3

Source: U.S. Census Bureau, 2004 Population Estimates, Census 2000, 1990 Census, 1980 Census

Public Service Impacts

Service level indicators show a mixed degree of impacts according to community type. Tables 4-2 through 4-4 show changes in service levels for various public services both before and after 2000. These include service level indicators for schools, public safety, health and social welfare payments.

Student enrollment grew between 1995 and 2000 and 2000 and 2003 for both Manufacturing Gain communities and one of the Loss Communities (Table 4-2). The other Manufacturing Loss study areas experienced student enrollment declines during both periods. The number of teachers generally stayed within range of the student enrollments. On an annual percentage change basis, change in student enrollment was fastest in the Manufacturing Gain communities and decreased the most in two of the Manufacturing Loss communities. Again, enrollment change in the first Texas Manufacturing Loss community was influenced by generalized population growth due to continued exurban expansion.

On a per 1,000 person basis, the number of law enforcement officers increased more rapidly in all of the Arkansas study areas after 2000. In Texas, the Manufacturing Gain county showed faster rates of law enforcement officer growth than the loss sites. Arrests per 1,000 people were up in the Arkansas loss and first Texas loss communities from 2000 to 2002, while all other study areas saw declines in their arrest rates. This could be a result of increased enforcement levels or a result of reporting errors. Some of the increased crime levels could be as a result of strains from employment losses as increases in the Arkansas loss community increased dramatically after 1999, when the layoffs occurred. Data on arrests are not available beyond 2002, which may not truly indicate changes after the losses in the Texas communities.

On a per 1,000 population basis, medical care as measured by the number of physicians and RNs increased more rapidly in the Manufacturing Loss communities and declined in the Manufacturing Gain communities. Thus, on a population basis, service levels have declined in the Manufacturing Gain study areas and increased in the Manufacturing Loss study areas. However, this does not measure the quality of service, demand by certain groups or any increases in demand.

Nongovernmental groups played an important role in serving the needs of those who were laid off in the loss communities. Churches, food pantries and family assistance groups provided services that were not always available through governmental agencies. Unfortunately, there is no consistent data source for tracking the number of clients for these facilities as a result of these impacts. Data on governmental assistance payments are available and serve as one means of tracking the service needs of these individuals (Table 4-4). These indicators show a mixed pattern of results over time, although on average, payments were lower per capita for the Manufacturing Gain Counties for most indicators as compared to the Manufacturing Loss Counties.

Table 4-2: Public School Enrollment & Students Per Teacher

	1995			2000			2003		
County	Students	Teachers	Students Per Teacher	Students	Teachers	Students Per Teachers	Students	Teachers	Students Per Teacher
Arkansas									
Manufacturing Gain	3,770	222	17	4,010	299	13	4,134	289	14
Manufacturing Loss	3,522	205	17	3,371	239	14	3,263	249	13
Texas									
Manufacturing Gain	7,574	552	14	7,878	599	13	8,229	623	13
Manufacturing Loss - 1	9,691	657	15	10,081	733	14	10,439	754	14
Manufacturing Loss - 2	10,303	734	14	9,755	761	13	9,550	744	13

Site Comparisons: Annual Percent Change

	1995-2000			2000-2003		
County	Students	Teachers	Students Per Teacher	Students	Teachers	Students Per Teacher
Arkansas						
Manufacturing Gain	1.3	6.3	-4.5	1.0	-1.1	2.2
Manufacturing Loss	-0.8	3.3	-3.6	-1.1	1.8	-1.9
Texas						
Manufacturing Gain	0.8	1.7	-0.9	1.5	1.4	0.2
Manufacturing Loss - 1	0.8	2.2	-1.4	1.2	0.9	0.3
Manufacturing Loss - 2	-1.1	0.7	-1.8	-0.7	-0.8	0.1

Source: National Center for Educational Statistics

Table 4-3: Law Enforcement & Healthcare per 1,000 People

	Law Enforcement				Medical	
	Officers		Arrests		Physicians	RNs
County	95-00	00-04	95-00	00-02	00-04	00-04
Arkansas						
Manufacturing Gain	1.3	5.4	-1.3	-0.8	1.1	-1.8
Manufacturing Loss	5.0	5.5	-7.0	70.8	4.5	2.6
Texas						
Manufacturing Gain	0.4	1.7	-5.5	-3.2	3.6	1.3
Manufacturing Loss 1	5.5	0.0	-2.7	1.2	5.4	1.6
Manufacturing Loss 2	0.4	-1.1	0.0	-6.9	5.0	1.1

Average by County Type

	Law Enforcement				Medical	
	Officers		Arrests		Physicians	RNs
County Type	95-00	00-04	95-00	00-02	00-04	00-04
Manufacturing Gain	0.9	3.5	-3.4	-2.0	2.4	-0.2
Manufacturing Loss	3.6	1.5	-3.2	21.7	5.0	1.8

Sources: FBI, Crime in the United States; FBI Uniform Crime Reporting System, 2004; Bureau of Economic Analysis Regional Economic Information System, 2005; AMA, Physician Characteristics and Distribution of the U.S., 2003-2004, Table 3-13, Arkansas Statistical Abstract; National Center for Crime Statistics; Texas State Department of Health

Table 4-4: Per Capita Social Service Transfer Payments

	Social Services Disbursements Per Capita ($2005)									
	Food Stamps					Family Assistance Payments				
Area	**1995**	**2000**	**2004**	**95-00**	**00-04**	**1995**	**2000**	**2004**	**95-00**	**00-04**
Arkansas										
Manufacturing Gain	$86.56	$81.43	$132.57	-1.0	13.0	$13.85	$14.08	$3.95	16.1	-26.4
Manufacturing Loss	$112.00	$103.04	$158.70	-1.4	11.4	$21.35	$25.90	$6.06	18.5	-28.9
Texas										
Manufacturing Gain	$126.67	$67.82	$128.24	-11.6	17.3	$30.85	$24.42	$19.23	-4.1	-5.1
Manufacturing Loss 1	$123.58	$48.60	$101.61	-16.6	20.3	$32.49	$17.09	$16.78	-10.8	0.6
Manufacturing Loss 2	$156.46	$97.42	$182.33	-9.0	17.1	$38.01	$34.99	$24.74	-1.3	-6.6
					Average by County Type					
Manufacturing Gain	$106.61	$74.63	$130.40	-6.3	15.2	$22.35	$19.25	$11.59	6.0	-15.7
Manufacturing Loss	$130.68	$83.02	$147.55	-9.0	16.3	$30.62	$25.99	$15.86	2.1	-11.7

	Medicaid					Unemp. Insurance				
Area	**1995**	**2000**	**2004**	**95-00**	**00-04**	**1995**	**2000**	**2004**	**95-00**	**00-04**
Arkansas										
Manufacturing Gain	$449.20	$611.10	$911.75	6.5	10.8	$77.04	$72.06	$95.73	-1.1	10.3
Manufacturing Loss	$666.03	$844.61	$1,314.34	5.0	12.2	$101.48	$164.29	$113.03	11.3	-4.4
Texas										
Manufacturing Gain	$905.02	$1,009.04	$1,317.07	2.3	7.0	$59.50	$49.45	$69.56	-2.9	12.1
Manufacturing Loss 1	$783.50	$776.04	$972.07	-0.2	5.9	$69.67	$46.89	$84.62	-7.4	22.9
Manufacturing Loss 2	$883.71	$952.17	$1,297.55	1.5	8.2	$121.65	$109.76	$117.59	0.1	9.3
					Average by County Type					
Manufacturing Gain	$677.11	$810.07	$1,114.41	4.4	8.9	$68.27	$60.76	$82.64	-2.0	11.2
Manufacturing Loss	$777.75	$857.61	$1,194.65	2.1	8.8	$97.60	$106.98	$105.08	1.3	9.3

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

Satisfaction with Community Factors

Overall Quality of Life

The majority of all respondents were satisfied or very satisfied with their community and their community's quality of life at the time of the surveys. However, those in Manufacturing Gain communities were more likely to indicate a positive level of satisfaction for quality of life and family life than those in Manufacturing Loss communities. In addition, while all indicated a similar level of satisfaction five years ago at 69% for Manufacturing Gain and 62% for Manufacturing Loss, 77% of Manufacturing Gain respondents and 54% of Manufacturing Loss respondents considered themselves satisfied or very satisfied with these same factors in 2005 (Table 4-5). These differences in responses were statistically significant at the p=.001 level of significance.

Employment losses or gains in the select manufacturers impacted these two factors (quality of life and family life) similarly. In the Manufacturing Loss community, 60.3% of respondents indicated that the manufacturing firms impacted the quality of life negatively, compared to 64% of Manufacturing Gain respondents who indicated positive impacts from the expanding firms. Similarly, 50% of respondents indicated a negative impact on family life from the plant closures compared to 60% of positive responses for firms expanding in the Manufacturing Gain communities.

Table 4-5: Respondents' Overall Satisfaction with Quality of Life

Response	Manufacturing Gain	Manufacturing Loss
Quality of Life**		
Very Satisfied or Satisfied	73.0	56.6
Very Dissatisfied or Dissatisfied	9.9	20.8
N	182	226
$\chi 2$	13.3	
Cramer's V	0.18	
Tau-c	0.18	
Family Life**		
Very Satisfied or Satisfied	82.3	69.2
Very Dissatisfied or Dissatisfied	8.3	12.8
N	181	227
$\chi 2$	9.5	
Cramer's V	0.15	
Tau-c	0.13	
Overall Satisfaction 2000*		
Very Satisfied or Satisfied	68.8	62.4
Very Dissatisfied or Dissatisfied	10.9	23.4
N	128	218
$\chi 2$	9.0	
Cramer's V	0.16	
Tau-c	0.09	
Overall Satisfaction 2005***		
Very Satisfied or Satisfied	76.6	54.2
Very Dissatisfied or Dissatisfied	8.8	31.6
N	137	225
$\chi 2$	26.1	
Cramer's V	0.27	
Tau-c	0.24	

Regardless of what community a respondent lived in, measures of satisfaction for various services were generally positive. Table 4-6 provides an overview of satisfaction measures for selected community services. Interestingly, the only item to show statistically significant differences in levels of satisfaction between Manufacturing Loss and Gain respondents was medical services. In Manufacturing Gain communities, 63% of respondents were “satisfied” or “very satisfied” with medical services, compared to just 41% who responded similarly in Manufacturing Loss communities. This is despite increases in medical professionals per 1,000 population in all of the Loss areas as reported in Table 4-3.

Table 4-6: Respondents' Overall Satisfaction of Selected Public Services

Response	Manufacturing Gain	Manufacturing Loss
Schools		
Very Satisfied or Satisfied	61.7	59.3
Very Dissatisfied or Dissatisfied	19.5	19.8
N	180	223
$\chi 2$	.35	
Cramer's V	0.03	
Tau-c	-.20	
Childcare		
Very Satisfied or Satisfied	43.3	39.0
Very Dissatisfied or Dissatisfied	11.7	12.6
N	180	223
$\chi 2$	0.8	
Cramer's V	0.04	
Tau-c	0.04	
Medical Services* **		
Very Satisfied or Satisfied	63.1	40.8
Very Dissatisfied or Dissatisfied	22.5	32
N	182	228
$\chi 2$	21.1	
Cramer's V	0.22	
Tau-c	0.2	
Streets & Roads		
Very Satisfied or Satisfied	46.4	41.7
Very Dissatisfied or Dissatisfied	26.8	37.3
N	183	230
$\chi 2$	5.5	
Cramer's V	0.11	
Tau-c	0.09	
Utilities		
Very Satisfied or Satisfied	46.4	39.1
Very Dissatisfied or Dissatisfied	36.5	43
N	181	230
$\chi 2$	2.4	
Cramer's V	0.08	
Tau-c	0.08	
Law Enforcement		
Very Satisfied or Satisfied	54.7	46.7
Very Dissatisfied or Dissatisfied	20.4	28.0
N	181	229
$\chi 2$	3.6	
Cramer's V	0.09	
Tau-c	0.09	

Response	Manufacturing Gain	Manufacturing Loss
Fire Protection		
Very Satisfied or Satisfied	63.5	63.3
Very Dissatisfied or Dissatisfied	9.9	17.0
N	181	229
$\chi 2$	5.7	
Cramer's V	0.11	
Tau-c	0.02	
Air Quality		
Very Satisfied or Satisfied	70.9	69.4
Very Dissatisfied or Dissatisfied	8.2	5.7
N	182	229
$\chi 2$	1.7	
Cramer's V	0.06	
Tau-c	0.01	
Water Quality		
Very Satisfied or Satisfied	69.0	68.1
Very Dissatisfied or Dissatisfied	15.5	13.1
N	181	229
$\chi 2$	1.1	
Cramer's V	0.05	
Tau-c	0.00	

Impacts on Community Services and Quality of Life

In order to understand perceptions of impacts on selected community related factors, respondents were asked to rank their evaluation of manufacturers' impacts on different aspects of community life (Table 4-7). Like the results for economic impacts reported in the previous chapter, responses to questions about manufacturers' impacts on selected community factors were recoded in order to further understand the impacts. In the original data, a five-point scale was utilized. The scale included 1 and 2 for negative impacts, a 3 for neutral or no impacts, and 4 and 5 for positive impacts. After recoding, codes 4 and 5 indicated responses of mild or significant impacts in the expected direction, whereby those in the Manufacturing Loss Study Areas who responded "Negative" or "Very Negative" impacts and those responses in the Manufacturing Gain Study areas who responded "Positive" or "Very Positive" impacts would be coded as 4 and 5. Alternatively, codes of 1 or 2 would indicate mild or significant impacts in an unexpected direction, meaning positive responses in Loss communities and negative responses in Gain communities. Figure 3-1 shows a comparison of responses in the two types of communities as coded in this fashion.

Table 4-7: Respondents' Perceptions of Manufacturers Impacts on Selected Public Service Factors

Response	Manufacturing Gain	Manufacturing Loss
Childcare* **		
Positive	45.9	8.0
Negative	2.7	36.0
N	183	225
$\chi 2$	111.4	
Cramer's V	0.52	
Tau-c	0.54	
Social Organizations* **		
Positive	51.1	11.7
Negative	2.8	40.4
N	182	230
$\chi 2$	114.8	
Cramer's V	0.53	
Tau-c	0.56	
Medical Services* **		
Positive	54.4	6.9
Negative	6.0	41.3
N	182	230
$\chi 2$	134.3	
Cramer's V	0.57	
Tau-c	0.59	
Streets & Roads* **		
Positive	37.2	8.3
Negative	13.7	34.5
N	183	229
$\chi 2$	58.8	
Cramer's V	0.38	
Tau-c	0.38	
Utilities* **		
Positive	35.9	7.4
Negative	14.4	30.6
N	181	229
$\chi 2$	55.1	
Cramer's V	0.37	
Tau-c	0.34	
Public Schools* **		
Positive	55.7	8.8
Negative	4.9	41.9
N	183	227
$\chi 2$	131.7	
Cramer's V	0.56	
Tau-c	0.60	

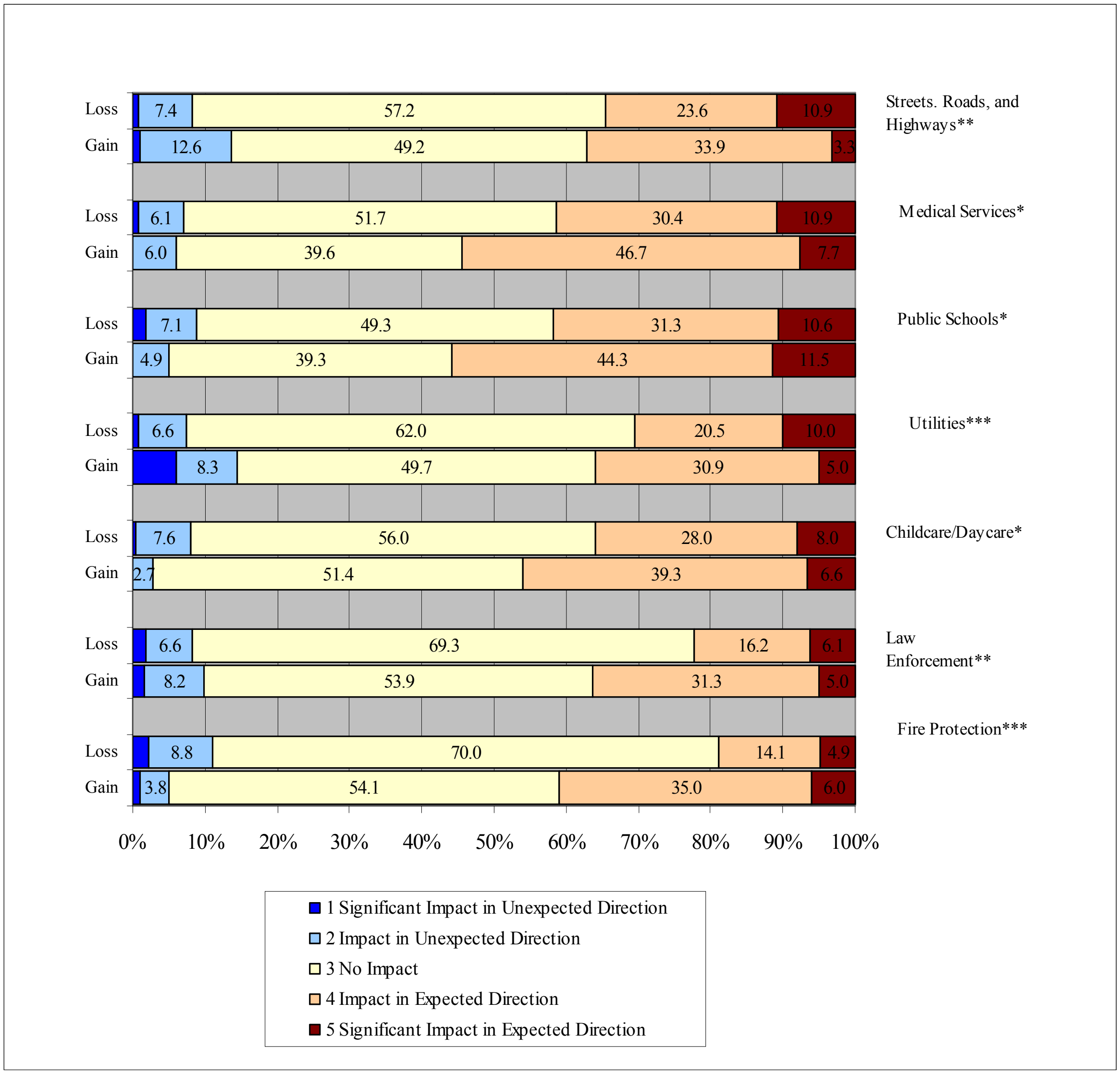
Response	Manufacturing Gain	Manufacturing Loss
Law Enforcement* **		
Positive	36.3	8.3
Negative	9.9	22.4
N	182	228
$\chi 2$	51.3	
Cramer's V	0.35	
Tau-c	0.32	
Fire Protection* **		
Positive	41.0	11.0
Negative	4.9	18.9
N	183	227
$\chi 2$	57.1	
Cramer's V	0.37	
Tau-c	0.36	
Crime* **		
Positive	30.2	7.9
Negative	15.9	33.0
N	182	227
$\chi 2$	40.2	
Cramer's V	0.31	
Tau-c	0.30	
Air Quality* **		
Positive	32.0	13.6
Negative	17.7	9.7
N	181	228
$\chi 2$	31.6	
Cramer's V	0.28	
Tau-c	0.09	
Water Quality* **		
Positive	30.8	11.5
Negative	16.5	9.7
N	182	227
$\chi 2$	32.7	
Cramer's V	0.28	
Tau-c	0.11	

****Significant at the p<.001*

The majority of responses to eight factors indicated no impacts from the manufacturing firms as reflected by leaders and workers of both types of communities. These include air quality, water quality, fire protection, law enforcement, crime/public safety, childcare/daycare, and utilities. The majority of no impact responses for Manufacturing Loss residents were also seen for Medical Services, Streets, Roads and Highways, and Housing Costs. The responses to five factors were larger for those in the Manufacturing Gain community compared to those in the Manufacturing

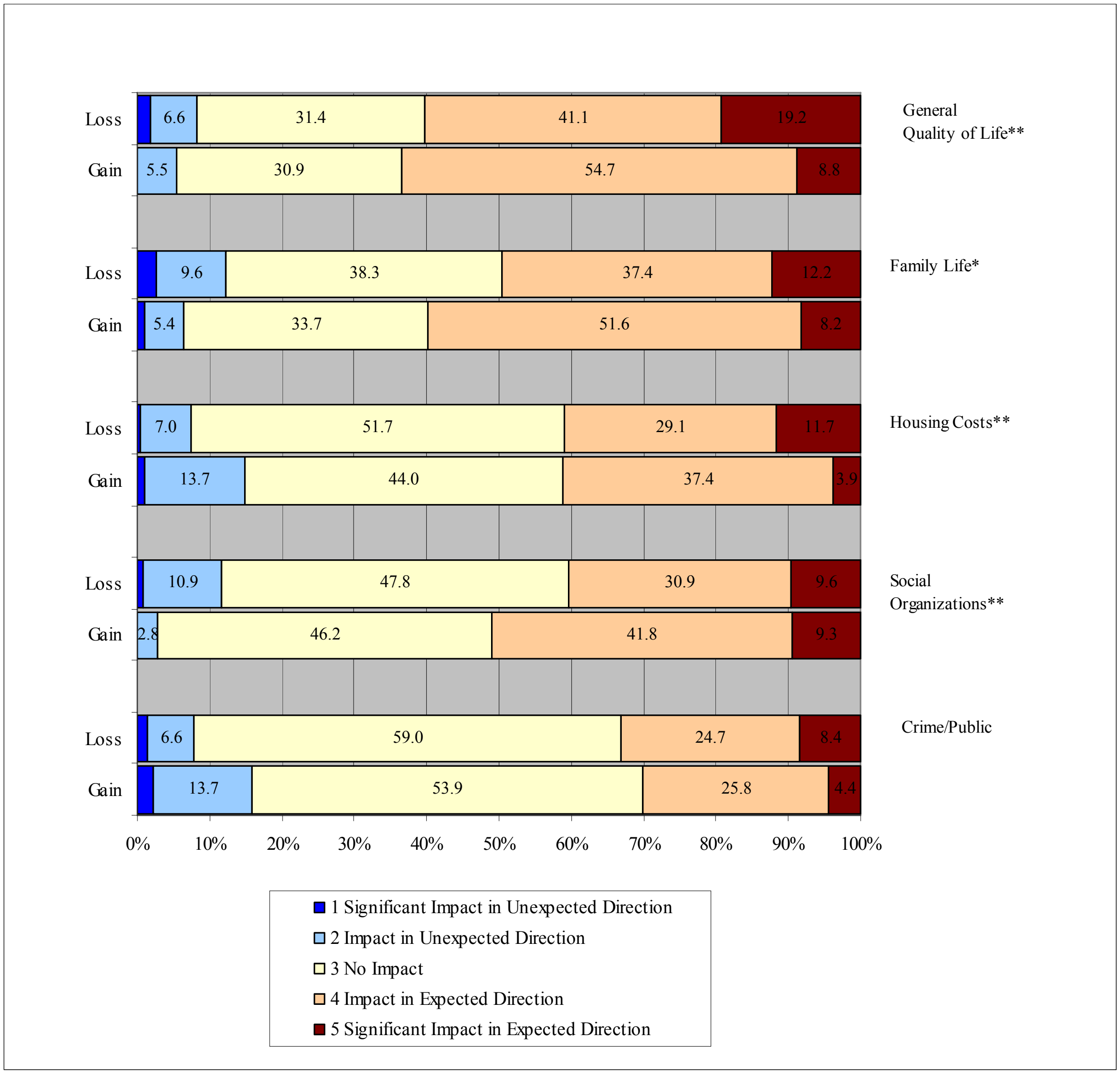
Loss community. The majority of positive impacts were found in Manufacturing Gain respondents for: Social Organizations (51%), Public Schools (55%), Quality of Life, Medical Services (54%) and Family Life (60%), and Quality of Life (64%). Only two factors received a majority of expected impacted responses for the Manufacturing Loss community: Family Life (50%) and Quality of Life (60%). Interestingly, in the case of community service factors, the only item to have more responses in the expected direction for Manufacturing Loss communities when comparing the Gain communities, was Crime/Public Safety. In all other cases, the majority of level 4 and 5 rates were higher than in the Manufacturing Gain Community. In other words, those in Manufacturing Gain Communities were more likely to rate positive impacts to community or quality of life factors than were those respondents living in the Manufacturing Loss communities. These relationships were statistically significant for at least the .05 level for all factors except Crime/Public Safety. The converse relationship was seen in regards to economic factors, where those in Manufacturing Loss communities were more likely to indicate a significant negative impact than those who rated a positive impact in the Manufacturing Gain Areas.

Figure 4-1: Manufacturers' Impacts on Selected Community Services



Significant at the *p <.05; **p < .01, or ***p < .001 level

Figure 4-2: Manufacturers' Impacts on Quality of Life Factors



*Significant at the *p <.05; **p < .01, or ***p < .001 level*

Conclusion

While not covering all of the services that might have been impacted by increases or decreases in employment, the overall results of the factors reviewed here as well as the survey results indicate limited impacts from the employment losses. Again, even when employment was lost or gained in the manufacturing sector, gains or losses in other sectors kept the overall service levels the same as before. However, the results of the surveys indicate that those in the loss communities perceived immediate impacts on their own family life and quality of life, but for separate factors of community life, the impacts were limited. In addition, respondents in Manufacturing Gain locations were more likely to indicate positive impacts than were Manufacturing Loss respondents to indicate negative impacts.

Chapter 5 : Impacts to Workers

The previous chapters provided an overview of the estimated economic and community service impacts to local communities from manufacturing plant closures or expansions. This next section provides an overview of the impacts to individual workers for both the Manufacturing Gain and Manufacturing Loss communities. First, an overview of the impacts to those workers who were employed by expanding firms in the Manufacturing Gain study areas is presented. The summary includes demographic information about the workers as well as information about the jobs that they currently hold. Comparisons in wages, job benefits and job satisfaction are made between their current and previous jobs. Upon completion of the overviews of the workers from the Manufacturing Gain areas, the same is presented for those who were previously employed by the selected manufacturing firms in Manufacturing Loss communities.

Manufacturing Gain Study Areas

Demographic Background of Workers Surveyed

Workers responding to the survey in the gain communities were slightly younger than the loss community (average age of 40) and the majority were male (54%) but were similar in all other respects to those in the Manufacturing Loss community. Although the majority of respondents were Anglo, over 30% were non-Anglo. Respondents were typically homeowners (76%), married (56%), and had children at home (56%). Table 5-1 provides an overview of the demographic background of the workers responding in each of the gain communities and for the study overall.

Table 5-1: Demographic Characteristics of Workers in Manufacturing Gain Communities

Characteristic	Arkansas	Texas	All
Age			
<25 Years Old	2.2	14.3	10.6
25-34 Years Old	15.2	25.7	22.5
35-44 Years Old	30.4	32.4	31.8
45-54 Years Old	37.0	16.2	22.5
55-64 Years Old	13.0	11.4	11.9
65 or Older	2.2	0.0	0.7
Median Age	45	37	39
Average Age	45	38	40
N	46	105	151
Sex			
Male	45.7	58.1	54.3
Female	54.3	41.9	45.7
N	46	105	151
Race			
White	95.7	53.8	66.7
Black	0.0	22.1	15.3
Other	2.2	2.9	2.7
Hispanic Origin	2.2	21.2	15.3
N	46	104	150
Marital Status			
Married	80.4	46.7	56.9
Living as Married	2.2	13.1	9.8
Widowed	2.2	0.0	0.7
Divorced	10.9	20.6	17.6
Separated	2.2	5.6	4.6
Never Married	2.2	14.0	10.5
N	46	107	153
Education Level			
<High school	2.1	3.8	3.3
High School, No Diploma	0.0	10.6	7.3
High school diploma or GED	53.2	49.0	50.3
Some college, no degree	23.4	23.1	23.2
Associates degree	8.5	8.7	8.6
Bachelors	4.3	1.9	2.6
Graduate or Professional	8.5	2.9	4.6
N	47	104	151

Characteristic	Arkansas	Texas	All
Currently Attending School			
GED Preparation	0.0	1.0	0.7
Training Related to Current Job	4.3	4.8	4.6
Training Related to Career Change	0.0	1.0	0.7
College	2.1	2.9	2.6
Not Attending School	93.6	90.5	91.4
N	47	105	152
Number of Persons Per Household			
1 Person	4.3	13.2	10.5
2 People	45.7	26.4	32.2
3 to 4 People	37.0	41.5	40.1
5 or More People	13.0	18.9	17.1
Mean	3.0	3.2	
Median	2.5	3.0	
N	46	106	
Number of People 65 and Over Living in Household			
0 Persons	89.1	98.0	95.3
1 Person	8.7	2.0	4.1
2 People	2.2	0.0	0.7
N	46	102	148
Number of People 18 and Younger Living in Household			
0 Persons	52.2	41.3	44.7
1 Person	19.6	22.1	21.3
2 People	19.6	20.2	20.0
3 to 4 People	8.7	13.5	12.0
5 or More People	0.0	2.9	2.0
N	46	104	150
Housing Type			
Apartment or Duplex	4.3	12.4	9.9
Single Family Home	78.3	57.1	63.6
Mobile Home	15.2	23.8	21.2
Other	2.2	6.7	5.3
N	46	105	151
Home Ownership			
Owned/No Mortgage	26.1	34.4	31.7
Owned/Mortgage	58.7	37.5	44.4
Rented	15.2	27.1	23.2
Free Rent	0.0	1.0	0.7
N	46	96	142

Characteristic	Arkansas	Texas	All
Household Income in 2005			
<$15,000	8.9	2.0	4.1
$15,000-$24,999	6.7	30.7	23.3
$25,000-$34,999	22.2	28.7	26.7
$35,000-$49,999	28.9	20.8	23.3
$50,000-$59,999	8.9	6.9	7.5
$60,000-$74,999	13.3	6.9	8.9
$75,000-$99,999	2.2	1.0	1.4
$100,000+	8.9	3.0	4.8
N	45	101	146

Changes in Compensation, Benefits and Hours Worked

Employees of manufacturing firms were asked if they were employed prior to their current position. Of those responding, 67% were employed full time and 4% part time, while twenty percent were unemployed. Forty-two percent of those responding were employed in manufacturing prior to obtaining their current position. No other sector had significant numbers of employees. Twenty-percent of the respondents were unemployed prior to obtaining their 2005 employment. On average, the employees were paid less at their previous jobs ($8.18 per hour) than what they were paid in 2005 ($10.60 per hour)[7]. In addition, the hours worked per week were, on average, slightly less than that for the current positions (although the median hours were the same).

Benefits are an important part of a compensation package. For those who were employed previously, only 51% had health insurance and only 42% had retirement benefits in their previous position. This compares to 64% and 71%, respectively for all respondents in 2005.

[7] Unlike the displaced workers in the previous section, there was no way to measure the dollar values on constant dollar basis as the times of employment varied and there was no date of reference for the previous jobs.

Table 5-2: Comparisons Between Past and Current Job

	Past Job	Current Job
Hourly Wage	%	%
Less than $7.50	44.6	6.5
$7.50 to $9.99	28.4	33.6
$10.00 to $14.99	24.3	56.1
$15.00 or more	2.7	3.7
Average Hourly Wage	$8.18	$10.60
Median Hourly Wage	$8.00	$10.50
Average Weekly Hours	41.60	44.00
Median Weekly Hours	40.00	40.00
Average Weekly Wages	$348.81	$469.36
Median Weekly Wages	$320.00	$458.00
Salary	%	%
Less than $25,000	37.5	39.5
$25,000 to $34,999	41.7	26.3
$35,000 to $49,999	8.3	23.7
$50,000 or more	12.5	10.5
Benefits	%	%
Health Insurance	51.4	64.4
Paid Retirement Plan	41.5	71.1
	%	%
Union Membership	9.4	12.4
Manufacturing Employee	41.8	100.0
	%	%
Relocated for Job	NA	7.8

Changes in Job Satisfaction

Overall, most respondents rated their 2005 job situation and each individual measures as slightly better or significantly better than their previous employment. When asked about their overall job satisfaction, 66% rated it as slightly better or significantly better than what they had in their previous job. All other measures of job satisfaction when compared to their previous jobs received a majority of responses of slightly better or significantly better. This included: job pay (66%), job stability (62%), healthcare benefits (60%), retirement benefits (59%), and educational opportunities (57%).

Table 5-3: Respondents Satisfaction with Current Job Compared to Last

Item	Significantly Worse	Slightly Worse	Same	Slightly Better	Significantly Better	N
Overall Job Satisfaction	8.5	6.6	18.9	29.3	36.8	106
Educational Opportunities	8.6	8.6	25.7	23.8	33.3	105
Healthcare Benefits	10.5	7.6	21.9	12.4	47.6	105
Job Pay	8.5	15.1	10.4	22.6	43.4	106
Retirement Benefits	12.6	6.8	21.4	13.6	45.6	103
Job Stability	4.8	8.6	24.8	18.1	43.8	105

Manufacturing Loss Study Areas

Demographic Background of Workers Surveyed

In all, former employees of seven different manufacturing plants within the three Manufacturing Loss study areas were surveyed. The types of manufacturing and the circumstances of each closure and/or layoff varied and were outlined in the previous chapter. Just as the circumstances of the plant closures differed, the reactions and experiences of individuals were dissimilar. In some cases, employees anticipated the layoffs and as a result either resigned without a job in place or sought and obtained employment elsewhere. Of those workers responding to the survey, 23% either took employment elsewhere or resigned without securing employment. In some cases, retirement was a viable option for the employee. One percent of the respondents retired while another one percent indicated that they were “fired.” The remaining 75% of respondents were laid off from their manufacturing employers.

Of those laid off, 80% were employed full time at the time of the survey, 6% were employed part time, and 8% were retired or on disability. In addition 3% were self-employed. Only 4% were unemployed at the time of the survey.

Respondents tended to be middle-aged, had worked for their employers for a lengthy time and were primarily white (although a substantial number of respondents were minority). Table 5-

4 provides an overview of the demographic background of those workers responding to the survey in the manufacturing loss communities. Workers had lengthy tenures at their previous jobs: 44% of respondents worked for their previous employers for more than 15 years (with 32% working for more than 20 years). The median age of these workers was 47. Overall, the respondents were 54% female and approximately 67% white. More than 30% of the responses in each of the communities were from minority populations.

Table 5-4: Demographic Characteristics of Workers in Manufacturing Loss Communities

Characteristic	Arkansas	Texas 1	Texas 2	All
Age				
<25 Years Old	0.0	3.3	0.0	0.6
25-34 Years Old	9.1	26.7	11.8	12.6
35-44 Years Old	26.4	26.7	23.5	25.9
45-54 Years Old	32.7	23.3	32.4	31.0
55-64 Years Old	28.2	20.0	32.4	27.6
65 or Older	3.6	0.0	0.0	2.3
Median Age	49	41	47	47
Average Age	49	42	48	47
N	110	30	34	174
Sex				
Male	27.0	80.0	76.5	45.7
Female	73.0	20.0	23.5	54.3
N	111	30	34	175
Race				
White	69.4	70.0	55.9	66.9
Black	27.9	10.0	44.1	28.0
Other	1.8	0.0	0.0	1.1
Hispanic Origin	0.9	20.0	0.0	4.0
N	111	30	34	175
Marital Status				
Married	71.2	70.0	70.6	70.9
Living as Married	0.0	10.0	0.0	1.7
Widowed	2.7	0.0	0.0	1.7
Divorced	17.1	10.0	8.8	14.3
Separated	0.9	3.3	8.8	2.9
Never Married	8.1	6.7	11.8	8.6
N	111	30	34	175
Education Level				
<High school	0.9	3.0	0.0	1.1
High School, No Diploma	3.6	9.1	5.9	5.0
High school diploma or GED	49.1	51.5	79.4	55.3
Some college, no degree	22.3	24.2	8.8	20.1
Associates degree	20.5	6.1	2.9	14.5
Bachelors	2.7	6.1	2.9	3.4
Graduate or Professional	0.9	0.0	0.0	0.6
N	112	33	34	179

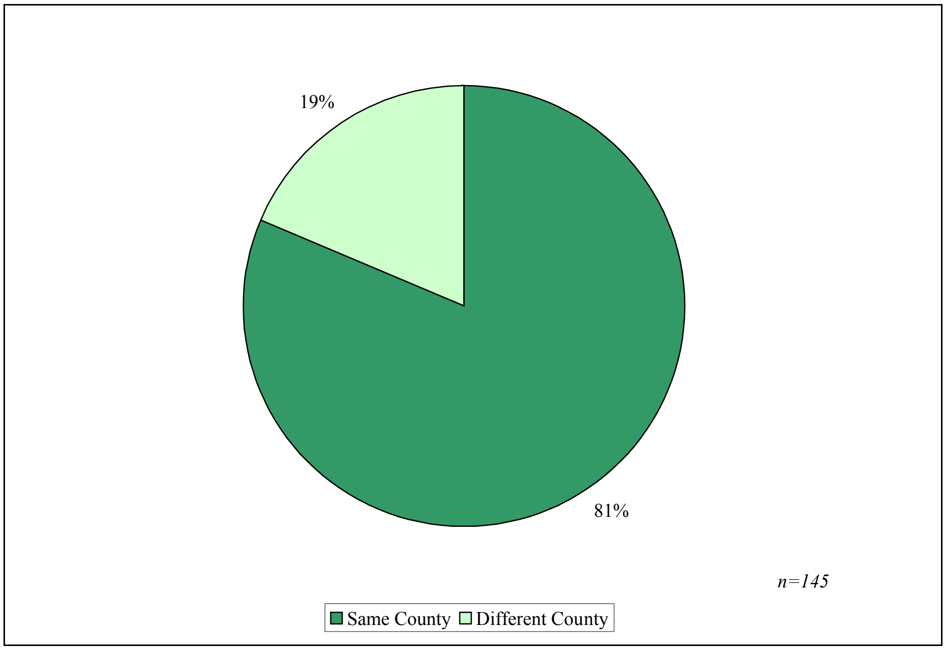
Characteristic	Arkansas	Texas 1	Texas 2	All
Currently Attending School				
GED Preparation	0.0	0.0	0.0	0.0
Training Related to Current Job	5.4	0.0	0.0	3.4
Training Related to Career Change	0.9	0.0	2.9	1.1
College	0.9	0.0	0.0	0.6
Not Attending School	92.9	100.0	97.1	95.0
N	112	33	34	179
Number of Persons Per Household				
1 Person	11.9	10.0	5.9	10.4
2 People	36.7	36.7	29.4	35.3
3 to 4 People	45.9	36.7	52.9	45.7
5 or More People	5.5	16.7	11.8	8.7
Mean	2.7	2.9	3.0	
Median	3.0	3.0	3.0	
N	109	30	34	
Number of People 65 and Over Living in Household				
0 Persons	88.0	100.0	97.1	91.9
1 Person	10.2	0.0	2.9	7.0
2 People	1.9	0.0	0.0	1.2
N	108	30	34	172
Number of People 18 and Younger Living in Household				
0 Persons	66.1	43.3	50.0	59.0
1 Person	13.8	30.0	29.4	19.7
2 People	14.7	16.7	17.6	15.6
3 to 4 People	5.5	10.0	2.9	5.8
5 or More People	0.0	0.0	0.0	0.0
N	109	30	34	173
Housing Type				
Apartment or Duplex	0.9	18.2	0.0	4.0
Single Family Home	76.9	51.5	67.6	70.3
Mobile Home	16.7	30.3	32.4	22.3
Other	5.6	0.0	0.0	3.4
N	108	33	34	175
Home Ownership				
Owned/No Mortgage	39.1	40.0	53.1	41.9
Owned/Mortgage	47.3	36.7	40.6	44.2
Rented	10.9	23.3	6.3	12.2
Free Rent	2.7	0.0	0.0	1.7
N	110	30	32	172

Characteristic	Arkansas	Texas 1	Texas 2	All
Household Income in 2005				
<$15,000	11.3	12.5	18.8	12.9
$15,000-$24,999	24.5	31.3	21.9	25.3
$25,000-$34,999	13.2	12.5	28.1	15.9
$35,000-$49,999	23.6	15.6	9.4	19.4
$50,000-$59,999	12.3	9.4	3.1	10.0
$60,000-$74,999	8.5	9.4	12.5	9.4
$75,000-$99,999	3.8	6.3	6.3	4.7
$100,000+	2.8	3.1	0.0	2.4
N	106	32	32	170

Sixty-one percent of the population had no college education, 86% were homeowners, and 41% had at least one child under age 18 at home. The majority of respondents lived within households with income less than $35,000 in 2005 (52%).

Of those indicating current employment, the overwhelming majority continues to work within the manufacturing sector. Employees either found work in local firms or searched elsewhere for similar employment. In fact, some employees indicated that because of their age and experience, they preferred to find jobs in similar industries even if the jobs were several miles away. Rather than migrate to the communities where they were currently employed, they preferred to commute. In some cases, individuals commuted weekly to jobs several hundred miles away and returned to their home on the weekends. Almost 20% of workers surveyed were currently employed outside of the impacted county (Figure 5-1). In addition, 2% of those surveyed indicated that they migrated to their new residence because of their current job. Of those currently employed, 67% continued to work in the manufacturing sector. No other sectors had substantial numbers of employees. Of those currently employed, 80% continued their employment within the study area county, with the remainder employed elsewhere, often in adjacent counties.

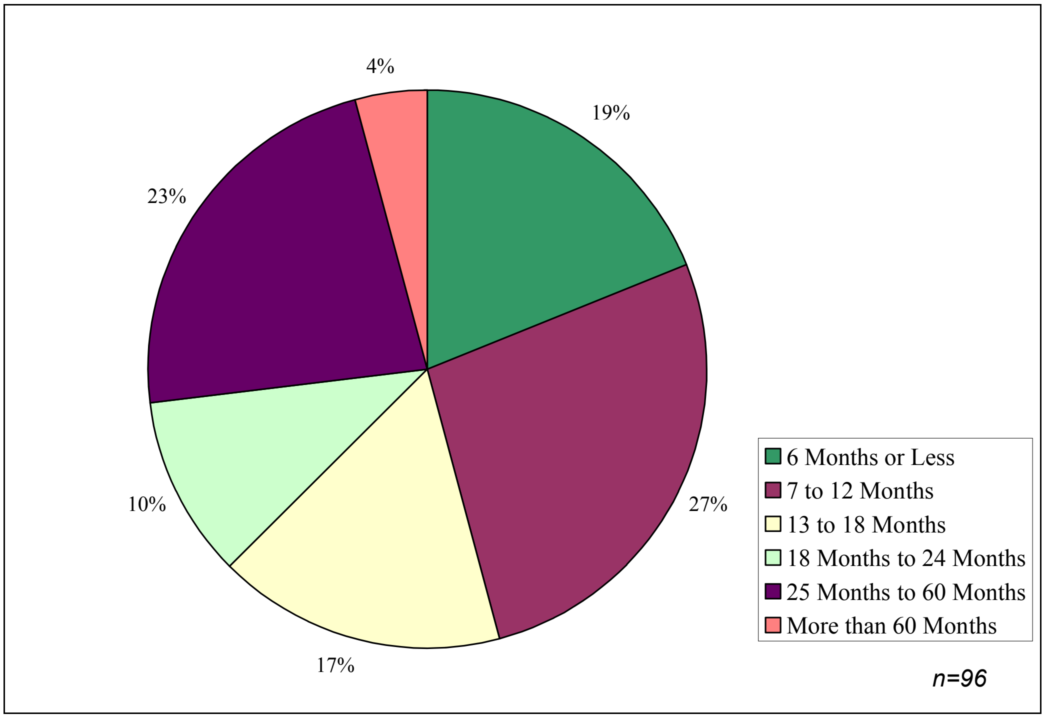
Figure 5-1: Current Employment by County



The overwhelming majority of employees had worked for their post-layoff employer less than five years.[8] Almost half (46 percent) obtained their current jobs within one year of being laid off or resigning (Figure 5-2). And 63 percent of those employees currently working obtained their jobs within 18 months of leaving their previous manufacturing job.

[8] Initial reviews of the data showed some employees who worked for over 10 years at their current job. While this first appeared to be inconsistent due to the fact that the plants were closed within the past 10 years, these discrepancies appear to be a result of the following: employees were initially laid off from the closing plants, but were eventually re-hired within the year by the same employer either at a similar plant within the area or elsewhere and retained their tenure for benefits purposes.

Figure 5-2: Years Prior to Obtaining Current Employment



Changes in Compensation, Benefits and Hours Worked

Although losing a job is a dramatic experience to those who have endured layoffs such as those studied here, jobs were added in all of the loss communities and individuals sought work elsewhere. Whether or not these new jobs are as good as the old is one of the general questions asked in this study. In order to understand if post-layoff jobs were the same, worse or better than their pre-layoff employment, several comparisons were made between post- and pre-layoff jobs of those who indicated that they were currently employed. These comparisons include compensation and job satisfaction measures.

Because the dates of the closures varied, wage rates were adjusted for inflation to 2005 dollars. Wage rates were adjusted from the year the plant closed using the Bureau of Labor Statistics Consumer Price Index. Current wage rates were not adjusted as the surveys occurred during 2005 and early 2006. Of those replying to the survey, 133 indicated that they were paid an hourly wage in their pre-layoff positions. The average weekly hours for these pre-layoff hourly wage positions was 42.9 hours per week compared to 40.8 hours per week at jobs held at the time of the survey (with 105 people indicating that they were paid an hourly wage). In addition, these jobs paid less than the jobs held at the closed manufacturing plants: $10.63 per hour on average versus $11.68 per hour on average in the previous positions.

In order to test if there is a statistical significant difference between pre- and post-layoff job wages, a matched t-test of means was performed for those who indicated being paid hourly wages in both situations. A total of 90 individuals indicated that they were paid hourly wage rates both before and after the layoffs. There was a statistically significant difference in the means between the pre- and post-layoff positions for these cases, at a difference of $.80 per hour. This translates to an approximate difference in average weekly wages of $32.00 per week for a 40 hour workweek. However, when considering average hours worked per week and hourly wage per person, the differences in average weekly wages amount to $62.20 (mean) and $59.06 (median).[9] In other words, the average weekly wage post-layoff was 87% of the pre-layoff wages. Some of these differences could be attributable to differences in job tenures between the employment situations. Employers are also seeking new ways to compensate individuals through performance bonuses above and beyond the hourly wage. In at least one of the loss communities, a CEO of a manufacturer who had employed many of the laid off employees indicated that although he did not pay as well as the previous employer, he did provide performance and attendance bonuses beyond the hourly wages. Still, in the immediate term, these wage differences were significant for the individual households.

[9] Weekly wages were calculated by multiplying the hourly rate times the average hours worked per week.

Table 5-5: Comparisons Between Past and Current Job

	Past Job	Current Job
Hourly Wage	%	%
Less than $7.50	2.1	13.3
$7.50 to $9.99	14.3	38.1
$10.00 to $14.99	72.9	38.1
$15.00 or more	10.7	10.5
Persons Paid Hourly Wage	140	105
Average Hourly Wage	$11.68	$10.63
Median Hourly Wage	$11.09	$9.98
Average Weekly Hours	42.90	40.80
Median Weekly Hours	40.00	40.00
Average Weekly Wages	$502.59	$436.49
Median Weekly Wages	$467.77	$398.40
Salary	%	%
Less than $25,000	13.3	21.1
$25,000 to $34,999	23.3	21.1
$35,000 to $49,999	40.0	44.7
$50,000 or more	23.3	13.2
Benefits	%	%
Health Insurance	81.8	60.5
Paid Retirement Plan	88.4	70.1
	%	%
Union Membership	20.0	4.6
Manufacturing Employee	100.0	67.3
	%	%
Relocated for Job	8.3	2.0

Not every respondent was paid an hourly wage. Of those responding, 30 were paid a salary pre-layoff, while 38 were paid a salary post-layoff. For those who were paid a salary, 37% were paid less than $35,000 per year pre-layoff compared to 42% post-layoff.[10] In order to further understand differences in pay pre- and post-layoff, weekly wages were multiplied by 52 in order to estimate yearly earnings. This assumes individuals were given two weeks paid vacation, which may overstate some workers' experiences. The resulting yearly earnings were then classified into the salary groupings and the data were combined with those who indicated being paid a salary either prior to or after the layoff. The results of the calculations are shown in Table 5-6. The overwhelming majority of respondents were paid less than $25,000 per year in both cases. Fifty-one percent of those employed prior to the layoffs earned $25,000 or less compared to fifty-five percent of the respondents who were currently employed at the time of the surveys. Furthermore there was some movement to the lowest earnings category: those earning less than $15,000 per year. Only three percent earned less than $15,000 per year at their previous job. At the time of the survey, fifteen percent were earning less than $15,000 per year.

Table 5-6: Workers by Yearly Earnings (Manufacturing Loss)

Yearly Earnings	Past Job	%	Current Job	%
Less Than $15,000	5	2.9	21	14.7
$15,000 to $24,999	82	48.2	58	40.6
$25,000 to $34,999	46	27.1	34	23.8
$35,000 to $49,999	29	17.1	23	16.1
$50,000 or More	8	4.7	7	4.9
Total	170	100.0	143	100.0

Includes those that indicated that they were paid a yearly salary as well as hourly wage earners.

Besides pay, individuals are concerned about losing benefits when manufacturing jobs disappear. Of those responding, 82% had health insurance in their previous positions, compared to 61% in current jobs. In addition, 88% had retirement plans in their previous positions. This compared to only 70% for those jobs held at the time of the survey.

Union jobs are seen to be the ones most vulnerable to the impact of deindustrialization (Metzgar 2002; Cowie and Heathcott 2003). Arkansas and Texas are both areas of low levels of unionization, however, of the respondents, 20% were part of a union or union-type organization during their pre-layoff employment. Of those employed in 2005, only 5% were members of similar organizations.

[10] Unlike wage responses, this question included salary ranges. For this reason, no inflation adjustments were calculated.

Changes in Job Satisfaction

For the respondents who were employed at the time of the survey, the jobs paid less and fewer had benefits similar to their previous, pre-closure jobs. Given these facts, do the respondents perceive their post-layoff jobs as better as or worse than their previous ones? Only 28% felt that their post-layoff job was significantly or slightly worse than their previous jobs. Almost half saw their employment situation in 2005 as slightly or significantly better than their previous jobs. Asked another way, only 27 percent of employees rated their overall job situation in 2005 as worse than the jobs they held prior to the closure. When asked about specific aspects of their positions; healthcare, retirement benefits and pay stand out. The majority of respondents (51%) rated healthcare benefits of their post-layoff employer as worse as or significantly worse than what they had at their previous employers. Over 42% of respondents rated retirement benefits and pay similarly.

Table 5-7: Respondents Satisfaction with Current Job Compared to Last

Item	Significantly Worse	Slightly Worse	Same	Slightly Better	Significantly Better	N
Overall Job Satisfaction	10.5	17.1	23.7	25.7	23.0	152
Educational Opportunities	15.8	7.2	40.1	25.0	9.9	149
Healthcare Benefits	25.7	25.0	27.0	13.2	8.6	151
Job Pay	21.1	21.7	11.8	27.0	19.7	154
Retirement Benefits	19.1	23.0	33.6	14.5	7.9	149
Job Stability	6.6	12.5	34.2	26.3	18.4	149

A series of comparisons were made between those that were employed in manufacturing versus those employed in other industries at the time of the survey. In terms of overall job satisfaction, individuals who were employed in manufacturing at the time of the survey did not rate their overall job satisfaction any differently than those employed in other industries. However, individual measures of job satisfaction do show differences in how those items were rated according to the industry of the employee. In terms of pay, those employed in manufacturing were more likely to rate their current job pay as slightly or significantly better than before, while those in other industries were more likely to rate their pay as slightly or significantly worse than before. The measure is statistically significant (at .05 level).

In terms of benefits available to employees, 77% of employees employed in manufacturing at the time of the survey had retirement benefits while 68% had paid health insurance benefits. This compared to 57% and 45% of employees of other industries having retirement and healthcare benefits, respectively. A chi-square test of significance showed a significant (at the .05 level) and meaningful, although moderate relationship (tau-b = .21). A respondent's level of satisfaction with these two factors, healthcare and retirement benefits, was somewhat related to a persons current employment, although 43% of manufacturing employees rated their current healthcare benefits as slightly or significantly worse than before and 41% rated the retirement benefits as the same as their benefits at their pre-layoff job. At the same time, 69% of those employed by businesses in other industries rated their healthcare benefits as slightly or significantly worse than before and 64% rated retirement benefits as slightly or significantly worse than before. Over forty percent of employees in both categories of employment rated their job stability as slightly or significantly better than before. There is no significant relationship between whether a person worked for a manufacturer or another industry and whether or not the employee felt that their job situation was more or less stable than before. Finally, although statistically significant at the .05 level of significance, the strength of the relationship between an employee's industry of employment (manufacturing or non-manufacturing) and their rating of educational opportunities is not strong. Perhaps the differences depended upon what other industry an employee was employed in and whether or not they felt that there were educational opportunities available to them. Unfortunately, there were no non-manufacturing industries that employed a sufficient number of individuals to determine the relationship between job satisfaction and industry of employment beyond this crude measure of non-manufacturing to manufacturing employment.

Table 5-8: Overall Job Satisfaction by Industry of Employment -2005

	Overall Job Satisfaction		
Level of Satisfaction	**Manufacturing**	**Other Industry**	**All**
Slightly to Significantly Worse	25.5	32.6	27.5
Same	22.6	23.3	22.8
Slightly to Significantly Better	51.9	44.2	49.7
$\chi 2$	0.93		
Cramer's V	0.08		
Tau-c	-0.08		

Table 5-9: Percent of Respondents with Selected Job Benefits by Industry of Employment -2005

Benefits	Manufacturing	Other Industry	All
Health Insurance*	67.6	45.5	61.1
Retirement*	76.6	56.8	70.9
$\chi 2$	6.41	5.93	
Tau-b	0.21	0.20	

**Significant at .05 level*

Table 5-10: Satisfaction of Selected Job Benefits by Industry of Employment - 2005

	Healthcare Benefits*			Retirement Benefits**		
Level of Satisfaction	Mfg.	Other Industry	All	Mfg.	Other Industry	All
Slightly to Significantly Worse	43.4	69.1	50.7	33.7	64.3	42.5
Same	31.1	16.7	27.0	41.4	16.7	34.3
Slightly to Significantly Better	25.5	14.3	22.3	25.0	19.1	23.3
			Statistical Measures			
$\chi 2$	7.92			12.39		
Cramer's V	0.23			0.29		
Tau-c	-0.21			-0.22		

**Significant at .05 level, **Significant at .01 level*

Table 5-11: Satisfaction of Other Job Factors by Industry of Employment - 2005

	Pay*			Educational Opportunities**			Job Stability		
Level of Satisfaction	Mfg	Other Industry	All	Mfg.	Other Industry	All	Mfg.	Other Industry	All
Slightly to Significantly Worse	34.6	59.1	41.7	16.5	39.5	23.3	20.2	19.1	19.9
Same	12.2	9.1	11.3	48.5	20.9	40.4	32.7	38.1	34.3
Slightly to Significantly Better	53.3	31.8	47.0	35.0	39.5	36.3	47.1	42.9	45.9
				Statistical Measures					
$\chi 2$	7.80			12.81			0.39		
Cramer's V	0.23			0.30			0.05		
Tau-c	-0.21			-0.09			-0.02		

**Significant at .05 level, **Significant at .01 level*

Conclusions

While our study is limited by the fact that we were not able to survey all of those losing or gaining jobs, the results are similar to findings in other research (Tomaney et. al 1999). Displaced workers who responded to our survey were typically older and split evenly between males and females (45% male and 55% female). In addition, although the majority were White, a good proportion of those responding were minority (primarily Hispanic or Black depending upon the study area). On average, for those that were displaced, post-layoff jobs paid less than their pre-layoff situation. For the most part, employees see their current job situation as better than before, although certain aspects, particularly health benefits, were seen as worse than their previous jobs (for workers in loss communities) or better (for workers in gain communities). Within the Manufacturing Loss community, those workers who were re-employed in manufacturing were more likely to rank selected job satisfaction measures (including pay) as the same or better than their pre-layoff position than those that obtained employment in other industries, although there was no difference in a worker's overall job satisfaction between those in manufacturing and non-manufacturing employment.

Chapter 6 : Community Leadership Actions and Responses

Developing pluralistic leadership within a variety of groups in the community in order to anticipate opportunities and more readily adjust to negative economic events can enhance local economic development. Although the events studied here occurred over the course of a few years, the experience of each community in preparation for gains or losses differed. This chapter provides an overview of the economic development activities of each community and how they reacted to the gains or losses. In addition, it provides an overview of how workers perceived leadership and how residents perceive causes of manufacturing decline.

What has leadership in Manufacturing Gain communities done to expand or maintain manufacturing employment in their communities? Conversely, what have those leaders in the loss communities done in response to manufacturing employment losses, both to assist those in the immediate aftermath of the losses and for the economic development of the community of as a whole? Several questions were asked of community leaders regarding leadership actions. These are provided in the following summaries, first providing an overview of leadership in the Manufacturing Gain communities, followed by leadership actions in response to Manufacturing Loss in the remaining communities.

Leadership Actions in Manufacturing Gain Communities

Arkansas Study Area

In the Arkansas Manufacturing Gain community, leaders took a number of concrete steps in the late 1970s and early 1980s to encourage manufacturing growth, including establishing training programs through the Chamber of Commerce, improving utility infrastructure, and developing community awareness. Current day community leaders credit the leadership in the 1980s with foresight that has paid off in helping the community retain its manufacturing base. Although the city lost a textile plant in the 1980s, the blow was not too severe in and of itself and resulted in spurring community leadership to begin taking steps to anticipate future problems.

Additional credit is given to creating and maintaining a business-friendly atmosphere. The community owns its own utilities and has worked with its largest consumers to negotiate rates acceptable to all parties. In one particular case, the ability to negotiate these rates kept a large manufacturer from leaving the community a few years ago. As with the Texas gain community, the Chamber of Commerce and local County Economic Development Corporation partnered and work in a collaborative atmosphere.

The location of the city along an interstate highway is also viewed as a positive factor providing access to goods and services as well as people. Another positive factor often credited is having a local college. With a well established educational institution in the community, educational attainment is higher than other places but still low compared to other regions of the country. Nevertheless, the college is seen as a source of leadership as well as a source of community stature and employment.

Local business leaders often cite low wages and an available pool of people with a strong work ethic as contributing to the community's success in retaining manufacturing employment. Other items attributed as positive factors in maintaining the manufacturing base include good schools, hospitals, and the general "quality-of-life" in the community.

However, current day leaders seem to be concerned that the city is now known as a "manufacturing" town and is losing out on opportunities to diversify its economy. This concern is interesting in light of the establishment of a large retail distribution center in recent years that has had a major impact on the economy and employment structure of the community. Anecdotally, manufacturing employers have indicated that the distribution center has soaked up surplus labor and put upward pressure on wages. From the viewpoint of managers of the manufacturers, the local distribution center has also shifted the demographics of the labor force, with more women remaining in manufacturing jobs and more men moving into the distribution center. Although the survey itself did not directly address these changes, community leaders expressed some concerns about the future implications of this demographic shift.

Community leaders continue to make a focused and concerted effort to support existing businesses as well as seek new and expanding opportunities in the manufacturing sector as well as other sectors.

Texas Study Area

Community leaders often cite unique features of their community when arguing for economic development potential. Factors such as quality of life, environment, good people, industrial parks, available land and economic development organizations are often touted as the reasons why development can or has occurred in a community. But most cities can cite many or all of these aspects when describing their community's attributes. For instance, economic development organizations are said to enhance a community's ability to expand existing or relocate new businesses to a city. While these organizations can be beneficial to the overall economic development of communities, the fact that one operates in a community does not necessarily equate to expanded economies. In Texas alone, there are 537 communities with 4a or

4b Economic Development Corporations (Texas Comptroller of Public Accounts 2006). What creates the environment for a community to succeed in economic and community development may be a combination of luck, historical patterns of development and community leadership. When asked to describe the strengths and weaknesses of their community, several aspects stood out – some perhaps more unique to the growth community than others.

The city developed a strong manufacturing base beginning in the 1950s, when a manufacturer of toy guns was located within the community. The owner of that company developed an apprentice program for training employees on how to maintain and operate the company's tool and die equipment. The owner also encouraged employees to go into business on their own and also encouraged businesses to relocate in the area. Organizations soon developed to help support industrial development. During the 1960s, several community leaders developed an industrial foundation in order to attract new industry in the area. The Industrial Development Foundation worked in concert with the local Chamber of Commerce over the years. During the 1990s, both the chamber and the industrial development foundation pushed for a ½ cent sales tax for economic development. Although the tax was defeated during the first election, the organizations tried again and passed the tax in 1995, thus creating the Economic Development Corporation. The corporation is set up as a 4b agency – one that can focus on economic and community development beyond just industrial development. Infrastructure within the community has developed over the years with an eye on supporting manufacturing. Wastewater treatment plants were built to handle industrial effluent and industrial parks were created to support existing manufacturers and recruit others.

One primary comment heard from both leadership and workers was that leadership within the Texas Manufacturing Gain community seems focused on industrial development, including expansion of existing employers and recruitment of industry into the community. Government and economic development organizations appear to be cooperative and work well with each other. Economic development leaders try to keep all parties informed of developments within the community. Unlike some communities, the Chamber of Commerce, Industrial Development Board and Economic Development Corporation are all housed within the same facility and share resources between them enabling greater cooperation and an understanding so that all are focused on the same goals. Comments from the leadership indicated that there was an attitude within the business community that allowed for development from within and from without. Unlike other communities where "old money" often conflicts with "new money," they felt that early on in the community's development people were willing to see others create businesses without feeling a need to share in the financial interests. Leadership is also more interested in industrial (i.e.

manufacturing) development and believes that development in retail does little to support the long-term interests of the city as retail will develop on its own as a result of industrial development.

Part of this singular focus on industrial development appears to be a function of historical development within the community and long-term cooperation of existing businesses. Unlike other communities, the city is advantaged in the sense that some of the manufacturers located within the community are either headquartered within the community or were founded and grew within the community (sometimes being sold to larger corporations with headquarters elsewhere). Workers and leaders alike indicated the importance of having some of these manufacturing firms as they have supported a large number of employees with good wages and have encouraged spin-offs of other businesses within the community.

Of course, there are detriments to a single-minded focus on industrial development. The primary complaint from leaders and residents alike are that community service needs are not always met and that some manufacturers pay low wages. Declines in street quality and the lack of recreational and cultural activities and facilities were mentioned in surveys of workers and leaders. While the city economic development leadership has aggressively recruited new businesses and has done a lot to support local industry, there are sometimes “failures.” During the early 2000s, one major employer employing over 200 people shut down due to changes in demand for their manufactured product. The community benefits by having a large number of manufacturing firms with different niches enables opportunities for new businesses to locate in search of a workforce skilled in manufacturing processes. However, by having several manufacturers within one location, labor supply can be limited. With a limited supply of labor, migrants (including immigrants) from other areas in search of employment bring about increased demand for community services.

Leadership Actions and Response in Manufacturing Loss Communities

Arkansas Study Area

In 1984, a textile mill located within the study area community closed. The textile plant had been in operation in the county since 1948 and had employed about 1,000 people. The community was unprepared for the jolt, according to local leaders. In the wake of that closure, community leaders began looking for ways to make the community more resilient, bring in new industries and keep what was already located within the city. These steps included community development work in the mid-1990s community development/training classes. Two other major efforts in the time period were community clean-up efforts and workforce training. As in the Arkansas gain community, the Chamber of Commerce and the local Economic Development Corporation are housed in the same facility and share staff and resources, working closely with one another.

In 1999 the two largest employers in the study area closed within one week of each other. Approximately 1,100 people in a community of 6,500 were unemployed. Local community development agencies already in place rapidly coordinated with state agencies to create a response strategy. Within a few months of the closures, a new call center was announced as opening in the community and sixty days after that, an existing firm announced a 100,000 square foot expansion of its manufacturing facility. Other community-led responses included financial planning, stress counseling, job fairs, job training and job search assistance. The community-at-large, led by the religious institutions in the community, provided on-going support activities for the laid-off employees as well as the employee's family members.

In spite of the community's relatively rapid and broad response to the closures, the experiences of the two groups of laid-off employees differed. While one firm provided a generous severance package, the employees of the other were given little notice and no severance benefits. Anecdotally, the former employees of the first firm seem to have retained company loyalty while the employees of the latter display more bitterness over their experience and report having more difficulty recovering.

Current-day community leaders seem to vary greatly in their level of optimism for the future of the city. Community leaders engaged in business activities are anecdotally more positive than those who deal with social problems on a daily basis. All seem concerned that the current employment structure does not provide high enough wages and generally lacks sufficient benefits, notably retirement and medical insurance. There is a general feeling that although the community is a great place to live and raise a family, increasingly people are commuting to larger communities or leaving the area altogether in search of higher wages. Integration of growing Hispanic populations seems to be placing something of a social strain on the community, as is true in a number of other communities in the state. The Arkansas Manufacturing Loss area displays more diversity than the Manufacturing Gain area as is evident both in its demographic structure as well as in the survey sampling.

Texas Study Area 1

Like the Texas gain community, the first Manufacturing Loss site has an Economic Development Corporation whose sole purpose is to assist in the recruitment of new and the expansion of existing businesses. As a community near the Dallas-Ft. Worth Metroplex, the county has experienced exurban growth from nearby communities. Many employees work in the Metroplex, commuting on a daily basis from the county. So to some degree, the community benefits from its location by serving as a bedroom community. Economic development has also benefited from the location as many businesses have direct links to the larger metropolitan area and new businesses seeking lower costs with access to a large metropolitan area seek to relocate here. Despite some major losses in the early 2000s, the community was also able to gain a major distributor into the community. Despite these successes, survey respondents indicated a concern that leadership is limited to a few. Unlike the Texas Manufacturing Gain Community, economic development groups are seperated with the Chamber of Commerce and Economic Development Corporation being located in separate portions of the city. This does not necessarily mean that the organizations are at odds with each other, but few indicated the strong, focused leadership on economic development that was found in the gain community.

Despite a feeling that leadership is lacking and despite some major employment losses in manufacturing and other industries during the 2000s, several events have occurred that have been beneficial to the city including the addition of three large employers and the expansion of medical facilities. Two of the employers are manufacturers and utilize the facilities left by one of the closing firms. The city leaders worked with the closing firm to ensure that the facilities would be available for further development. One of these facilities was utilized by a new company formed with the assistance of the economic development corporation. This new firm employed several of the employees of one of the closing manufacturing plants. In addition, the city has been focused on higher skilled medical industries and from this, developed a biotechnology incubator. This biotech incubator was developed within the community to take advantage of a skilled workforce in this field and to work with other businesses in the community and the region. The incubator was created through public-private partnerships that included the local economic development corporation and a local community college.

Texas Study Area 2

As required by Federal law, the largest of the mills closing informed the regional workforce board of pending layoffs in May of 2002. Employees and community leaders were informed in late June of 2002. As a result of these notices, local leaders formed a rapid response team and the workforce board outlined services that would be needed to support these displaced employees. The rapid response team lobbied state and federal agencies for support for the employees impacted by the closures. In addition, the firm assisted their employees by working with these community leaders to develop an employee assistance program. A career transition center was set up to provide a facility where individuals could attend workshops on financial and stress management, entrepreneurship, job search strategies, and resume writing. In addition, employees had access to the facility for job searching and area job fairs. Although the plant's closure was not certified as a NAFTA impacted closure, the local workforce board was able to obtain special workforce assistance funds from the U.S. Department of Labor because of the magnitude of the impacts to the region. These additional funds were intended for displaced workers. Services included job search activities, GED preparation, job training and transitional assistance, among other things. A total of 145 (35%) displaced workers of the total 409 employees from the second plant utilized these services over a two-year period.

Both of the counties are limited somewhat in the fact that large timber interests own a great portion of the land in their respective counties, limiting control for industrial development. In addition, limits on taxation of timber land limit these counties' tax base for development and maintenance of county infrastructure. Despite these limitations, leaders have worked to develop recreation and tourism and to seek ways to diversify away from traditional timber industries. Still, the major plant closures in historical important industries (timber milling), coupled with historically high rates of unemployment and poverty make it difficult for individuals to be confident in the leadership in the community.

Satisfaction and Confidence in Community Leadership

Those in Manufacturing Loss areas were more likely to be critical of leadership and have less confidence in organizations than those in Manufacturing Gain communities. While leaders generally responded positively to leadership actions regardless of community of residence, workers were more likely to have a negative view of community leadership in the loss communities and have no opinion in the Manufacturing Gain communities. This suggests that leadership may not get the praise for actions that support economic development but will no doubt be blamed for negative economic changes – regardless of any power to actually influence those changes. This also indicates a difficulty for people working within communities experiencing long-term economic downturns. As the economy weakens, confidence in leadership and other organizations is limited making it more difficult to take actions that may lead the community in new directions in support of positive economic change.

Table 6-1: Satisfaction with Community Leadership

Satisfied w/ Leaders	Manufacturing Gain			Manufacturing Loss		
	All	Worker	Leader	All	Worker	Leader
Yes	30.4	17.4	77.5	17.7	6.6	53.6
No	20.7	21.5	17.5	60.3	66.9	39.3
Don't Know/No Opinion	48.9	61.1	5.0	21.9	26.5	7.1
N=	184	144	40	237	181	56
		Statistical Measures				
$\chi2$***	67.5	57.6			65.9	
Cramer's V	0.40	0.56			0.53	
Tau-c	0.12	-0.47			-0.38	

****Significant at the .001 level.*

The respondents were asked to indicate their level of confidence in various organizations in helping to grow or maintain manufacturing jobs. Responses ranged from "1-no confidence at all" to "5-complete confidence." Mean responses by community type and respondent type are shown in Tables 6-2 and 6-3. The mean response was higher for all items for Manufacturing Gain respondents. Differences were statistically significant for all but one item: Community Colleges & Universities. This suggests that at least for this item, individuals in both types of communities have the same level of confidence. The highest mean level of confidence was found for Community Colleges and Universities in Manufacturing Loss communities (3.3). This same item was tied with Existing Manufacturers and Chambers of Commerce at a mean score of 3.4. When comparing mean confidence ratings for these items by respondent type, Community

Colleges and Universities had the highest mean score for workers (at 3.3) and were ranked third after Local Economic Development Agencies and Chambers of Commerce for leaders. This may indicate a greater level of trust for higher educational institutions than other types of institutions overall. Community colleges are not in positions to directly effect manufacturing plant expansions or closures, but many do work closely with businesses to train individuals on the skills needed by industry. This intermediate relationship between those who need work and employers who need workers may explain the level of trust seen in all of the communities and between the leaders and workers.

Table 6-2: Level of Confidence in Organization's Ability to Retain Existing Manufacturing Jobs by Community of Respondent (1 = no confidence, 5=complete confidence)

	Manufacturing Gain	Manufacturing Loss
Existing Manufacturers***	3.4	2.7
Other Businesses***	3.1	2.6
City Government***	3.0	2.4
County Government***	3.1	2.5
Local Economic Development Agencies***	3.2	2.7
Regional Agencies**	2.9	2.6
Local Workforce Boards**	2.9	2.6
Community Colleges & Universities	3.4	3.3
Chamber of Commerce***	3.4	2.6
Unions**	2.4	2.0
State Government***	2.8	2.5
Federal Government**	2.7	2.4

*Mann-Whitney U-test Significant at: *.05, **.01, and ***.001*

Table 6-3: Level of Confidence in Organization's Ability to Retain Existing Manufacturing Jobs by Respondent Type (1 = no confidence, 5=complete confidence)

	Worker	Leader
Existing Manufacturers***	2.9	3.3
Other Businesses***	2.7	3.2
City Government***	2.5	3.3
County Government***	2.6	3.4
Local Economic Development Agencies***	2.6	3.7
Regional Agencies***	2.5	3.2
Local Workforce Boards**	2.3	3.0
Community Colleges & Universities*	3.3	3.6
Chamber of Commerce***	2.7	3.7
Unions	2.2	2.1
State Government***	2.5	3.0
Federal Government	2.5	2.6

*Mann-Whitney U test Significant at: *.05, **.01, and ***.001*

Importance of Manufacturing Firms to Communities

Both leaders and workers were asked to rate the level of their agreement to several statements concerning the benefits of manufacturing firms (from strongly disagree to strongly agree). The responses varied by site, reflecting residents' experiences with the various types of manufacturing firms. Manufacturers were perceived to be more supportive of non-profit groups in the Arkansas communities than in the Texas communities. The majority of respondents in all sites agreed that manufacturers provide low skill jobs; while only in the Arkansas Loss community did the majority (50%) agree that manufacturers pay below average wages. The responses to these and other questions can be seen in Table 6-4.

Table 6-4: Benefits of Manufacturing Firms by Site

Response	AR Gain	AR Loss	TX Gain	TX Loss 1	TX Loss 2
Contribute to Non-Profits* **					
Agree or Strongly Agree	69.8	63.9	47.9	31.9	50.0
Disagree or Strongly Disagree	6.4	14.6	15.1	34.0	24.0
N	63	130	119	47	50
$\chi 2$	31.09				
Cramer's V	0.19				
Tau-c	-0.17				
Purchase Products/Services Locally **					
Agree or Strongly Agree	79.4	48.1	65.3	53.2	58.0
Disagree or Strongly Disagree	6.4	26.7	16.5	29.8	26.0
N	63	131	121	47	50
$\chi 2$	23.7				
Cramer's V	0.17				
Tau-c	0.04				
Provide Low Skill Jobs					
Agree or Strongly Agree	57.1	51.9	66.9	61.7	66.7
Disagree or Strongly Disagree	15.9	24.0	9.1	19.2	12.5
N	63	131	121	47	48
$\chi 2$	12.9				
Cramer's V	0.13				
Tau-c	0.11				
Pay Below Average Wages*					
Agree or Strongly Agree	25.4	50.4	42.2	47.8	45.8
Disagree or Strongly Disagree	39.7	29.8	37.2	37.0	33.3
N	63	131	121	46	48
$\chi 2$	14.3				
Cramer's V	0.13				
Tau-c	-0.03				

Response	AR Gain	AR Loss	TX Gain	TX Loss 1	TX Loss 2
Encourage Additional Businesses to Relocate to Area* **					
Agree or Strongly Agree	42.9	31.3	43.0	27.7	40.8
Disagree or Strongly Disagree	25.4	43.5	15.7	38.3	36.7
N	63	131	121	47	49
$\chi 2$	29.03				
Cramer's V	0.19				
Tau-c	0.05				
Enable Small Business Development* **					
Agree or Strongly Agree	52.4	34.4	47.5	40.4	36.7
Disagree or Strongly Disagree	17.5	35.1	12.5	25.5	42.9
N	63	131	120	47	49
$\chi 2$	29.3				
Cramer's V	0.19				
Tau-c	0.04				
Attract Undesireables to Area					
Agree or Strongly Agree	30.2	22.5	17.5	25.5	10.6
Disagree or Strongly Disagree	33.3	44.2	43.3	44.7	51.1
N	63	129	120	47	47
$\chi 2$	9.5				
Cramer's V	0.11				
Tau-c	-0.05				
Cause Environmental Damage					
Agree or Strongly Agree	17.5	22.5	15.7	17.4	13.0
Disagree or Strongly Disagree	44.4	44.2	41.3	39.1	47.8
N	63	129	121	46	46
$\chi 2$	3.4				
Cramer's V	0.07				
Tau-c	0.01				
Raise Overall Wages*					
Agree or Strongly Agree	50.8	30.8	36.4	40.9	39.6
Disagree or Strongly Disagree	20.6	50.0	33.1	36.4	37.5
N	63	130	121	44	48
$\chi 2$	19.4				
Cramer's V	0.15				
Tau-c	0.07				
Improve Local Schools					
Agree or Strongly Agree	47.6	33.1	37.5	28.3	39.6
Disagree or Strongly Disagree	14.3	25.4	20.8	28.3	22.9
N	63	130	120	46	48
$\chi 2$	7.1				
Cramer's V	0.09				
Tau-c	0.00				

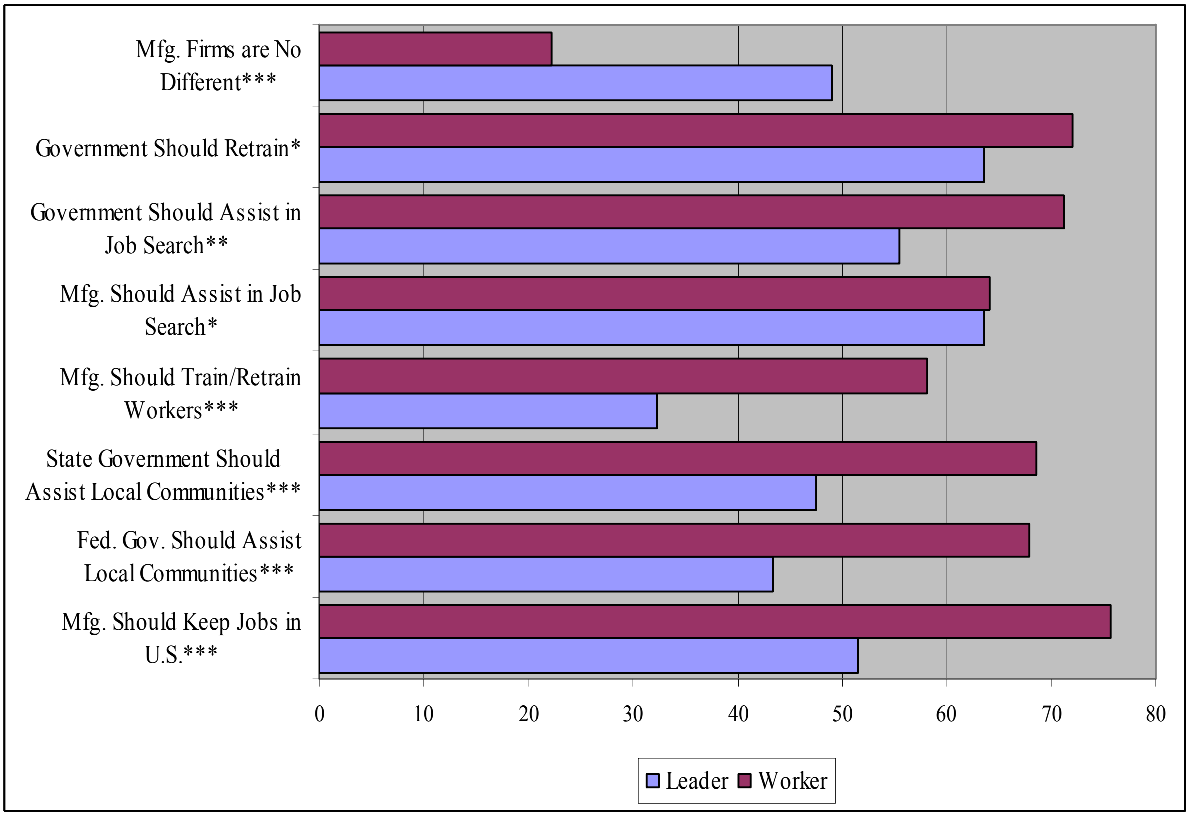
Institutional Responsibilities When Manufacturing is Lost

The respondents were also asked to rate their level of agreement concerning several statements about how institutions should respond when manufacturing jobs are displaced. Figure 6-1 provides the percentage of responses that are in agreement with the given statement by respondent type (worker or leader). While differences in responses can be seen according to respondent type, the majority of both types of respondents agreed with only four statements. These statements include:

- “When manufacturing firms lay off workers, government should assist those workers by providing training assistance.” (Worker: 72% agree; Leader: 64% agree)
- “When manufacturing firms lay off workers, government should assist those workers in finding new jobs.” (Worker: 71% agree; Leader: 56% agree)
- “Manufacturing firms that lay off workers have a responsibility to assist those workers in finding new jobs.” (Worker: 64% agree; Leader: 64% agree)
- “Manufacturing companies have an obligation to keep jobs in the United States.” (Worker: 76% agree; Leader: 52% agree)

Two of these items relate to direct government action: training and job search assistance of government. Coupled with the fact that of all of the institutions listed previously (Tables 6-2 and 6-3), community colleges and universities showed the highest level of confidence, these responses suggest that individuals still see a workforce training and assistance role for government.

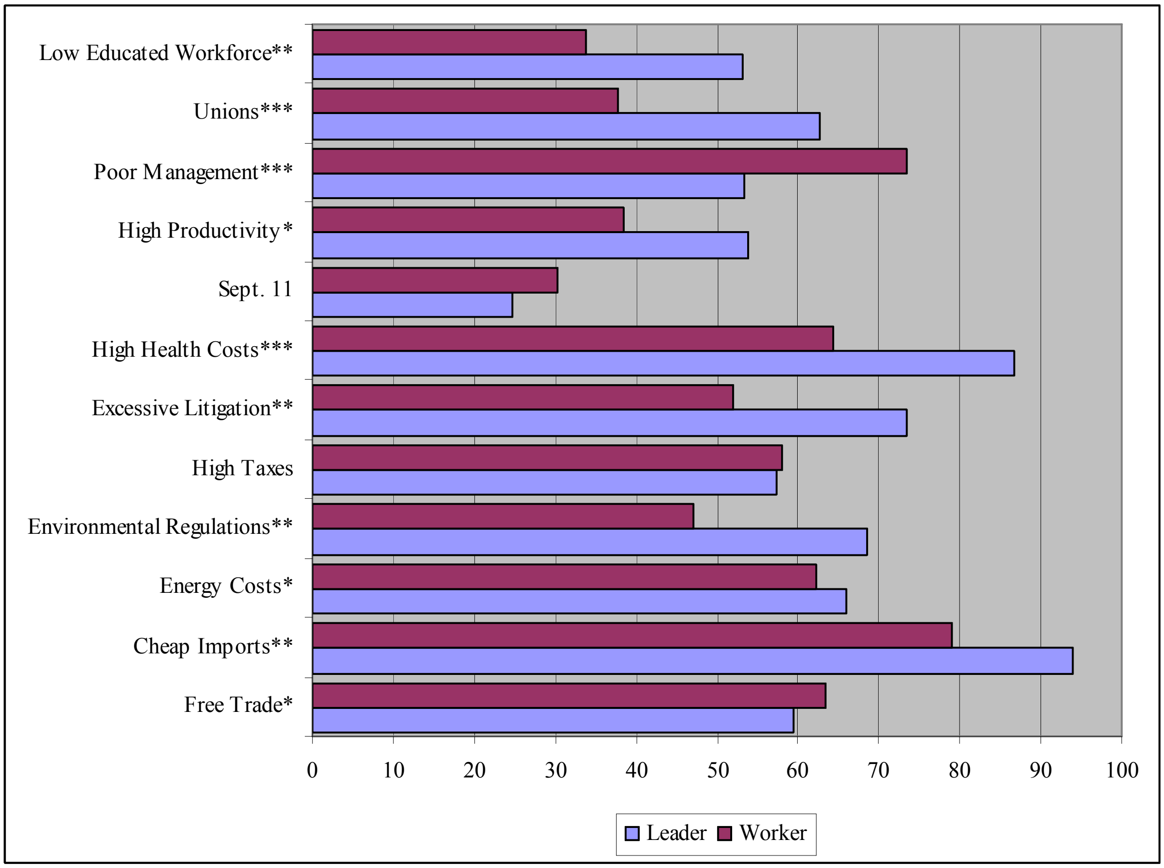
Figure 6-1: Percent of Respondents Who Agree with Statements Concerning Organizations' Responsibilities Regarding Manufacturing Change



Perceived Causes of Manufacturing Decline

The causes of manufacturing decline are varied but how people perceive the causes depends upon their perspective. Community leaders were more likely to blame manufacturing loss on cheap imports, high healthcare costs, excessive litigation, and unions while workers were more likely to blame cheap imports, poor management, high health costs, and free trade for these losses. Figure 6-2 compares worker and leader percentage who agree that factors have caused manufacturing decline.

Figure 6-2: Percent of Respondents Who Agree with Statements About Causes of Manufacturing Decline



Conclusion

All of the communities have established chambers of commerce and economic development groups. Some have been more active than others in developing local leadership and seeking ways to diversify their economies so that they can prepare themselves for losses or seek out ways to grow economically. Still, actions have been met with varying degrees of success. While the responses cannot be generalized to other communities, these data show that in communities where major losses were felt, confidence in community leadership was limited, even among the community leaders themselves. For those communities that had employment gains, leadership did not necessarily receive the accolades, although the level of confidence was at least better than for leadership in the Manufacturing Loss communities. Finally, the responses regarding institutional confidence and statements about responsibilities suggest that the respondents see at least one role for government regarding manufacturing policy: workforce preparation. Still, further research would be needed to understand the implications for public policy.

Chapter 7 : Summary, Conclusions and Implications

The purpose of this research was to understand how manufacturing employment gains or losses impact local communities in order to understand the relative importance of manufacturing for local communities. Our findings show that manufacturers are important to local community development but that the magnitude of their importance may depend more upon the type of jobs they provide, the purchases that they make locally, the overall economic context in which the community operates, and the interactions that manufacturers have within the local community. Furthermore, communities may suffer immediately from major employment losses, but long term and in the aggregate, these losses become less significant as the economy adjusts. Still, the burden of these losses can be severe to certain individuals and certain communities who cannot adjust because of circumstances of location (in the case of communities) or skills (in the case of individuals). This chapter summarizes our findings and provides suggestions for public policy.

Impacts to Individuals

Individual workers are impacted the most when manufacturing firms close. Results from our surveys indicate that for those who lost jobs due to major layoff events, their current jobs typically paid less than their previous jobs. In addition, many no longer had paid healthcare or retirement benefits with their current positions. In addition, after job losses, some individuals sought similar employment in other places and either relocated or commuted – thus increasing burdens on time and household travel costs. Individuals who were re-employed in manufacturing were more likely to have better wages, work hours and benefits than those employed in other industries. Conversely, those currently employed in manufacturing in the Manufacturing Gain communities had better wages, benefits and overall job satisfaction than in their previous jobs.

Impacts to Communities

Indicators of community impacts are not as distinguishable as impacts to individuals. Communities are impacted negatively in the short term by employment losses, although in the aggregate and in the long term the impacts are limited due to additions in other sectors and within the manufacturing sector itself. Some economic indicators are actually better for the communities that suffered from manufacturing losses than they are for those who gained manufacturing employment. This may be as a result of differences in location of the communities and the ways that they interact with their local regions. In addition, manufacturing employment per se is not as important as the quality of those manufacturing jobs and how those firms interact with other local firms and organizations (local purchases, support of local groups, leadership development).

Although we did not quantitatively measure the degree to which firms interacted socially with their local communities, anecdotal evidence lends support to the notion that locally oriented firms have greater positive impacts on the overall quality of life of local communities. These organizations support their local communities by providing leadership, volunteer assistance and, in some cases, financial support for local organizations and communities.

Implications for Public Policy

Our study measured socioeconomic impacts of selected communities in Arkansas and Texas. As such, there are limitations in how widely the results can be applied to other settings. Still, some findings stand out for these communities which may have wide applicability. First, in these communities, when jobs were lost, employees sought employment elsewhere in the region. For these communities, commuting increasingly plays an important role in matching labor to jobs. All of the loss communities were near larger metropolitan areas and rates of commuting have been consistently higher than in other areas since the 1980s. Still, growth in commuting has increased for all communities over time – indicating greater regional interactions. Thus economic development in one community can benefit surrounding communities. As metropolitan areas expand, these communities may find continued competition for wages with these areas as residents seek out better benefits and wages.

Although further research would be needed to understand the role of community colleges and Universities in economic development, our results indicate that for all of our study areas residents were more confident in community colleges and universities than other institutions in helping maintain and increase manufacturing employment. In addition, both leaders and workers tended to agree that government has an important role in providing workforce training and in matching labor to employer – something not exclusive to institutions of higher learning but certainly an important part of their role in economic development.

All of our Manufacturing Loss Sites experienced major employment losses when the layoffs occurred. In most cases, community leaders acted to either reduce the losses or at least minimize the impacts when the losses were inevitable. Still, in many ways, community leaders are limited in what they can do to stop mass layoffs when firms are making market decisions. Despite these limitations, at least for our communities, leadership appears to be blamed for the losses and lack of focus on economic development issues – particularly for those communities that experience high rates of unemployment, poverty and long term decline. This would seem to indicate that these types of communities may need additional outside assistance to overcome lack of confidence in local leadership.

Training assistance provided by government should recognize differences in needs of individual workers and communities. In the case of the Texas Manufacturing Loss Study Area, for instance, additional training and educational assistance was provided to those workers displaced. However, few former employees took advantage of these programs. Since employment opportunities were limited in the area, many individuals may have concluded that any training would not provide immediate returns. In addition, many of those laid off were older and closer to retirement. Further understanding of how older workers recover from employment loss may be needed in order to provide specialized services for such individuals.

Finally, although manufacturing firms are an important part of the local economy of many communities, the impacts of manufacturing employment gains or losses were not as great as popularly perceived. In the case of both manufacturing employment gain and loss, overall economic factors operated to create impacts greater than those involved in a single (or a few) manufacturing gain or loss events. In the long run, individuals and communities adapted in order to minimize losses. Still, certain individuals and communities were in a better position than others to adjust to employment losses.

Limitations

Our research estimated the socioeconomic impacts to selected individuals and communities, and even in those areas, differences in socioeconomic impacts and responses to changes were seen. Although we did find evidence that individuals indicated pay, benefits and job satisfaction better for manufacturing jobs than others, our inability to access a full listing of employees affects our results. Anecdotally, we do know that some individuals sought work elsewhere in order to find similar jobs, although we do not know how many nor do we know their characteristics (such as whether they were young or old, had families, etc.). In addition, measuring impacts from losses or gains is difficult in a dynamically changing economy. During site selection, some sites were quickly abandoned when new major events occurred. Manufacturing jobs were lost during the 2001-2002 recession nationwide and as yet have not recovered to their pre-2000 levels. We were able to locate major layoff events during this time period, but major employment gains in communities were limited. The sites selected for our Manufacturing Gain communities were sites that either maintained and slightly grew manufacturing jobs during this recession (Arkansas) or had comparatively minor gains when matched to the Manufacturing Loss communities. Because of these facts, our findings may actually show smaller differences between the communities than what would have been found had we been able to locate communities that experienced gains on the level of the losses.

Manufacturing is an important part of community economic development and an important part of the economy of both Arkansas and Texas. However, there are differences in how and where the manufacturing sector developed in each of the states. Today, more counties in Arkansas are reliant on manufacturing as a major proportion of employment and earnings than can be found in Texas. In Texas, major manufacturing areas are found primarily in metropolitan areas, in east Texas and along the coast. Thus, our choices for selecting sites in Texas were limited, especially when removing metropolitan areas.

References

Beneria, Lourdes and Luis E. Santiago 2001. "The Impact of Industrial Relocation on Displaced Workers: A Case Study of Courtland, New York." *Economic Development Quarterly*, Vol. 15(1) Feb. 2001. pp. 78-89

Brown, Ralph B., Clark D. Hudspeth and Katherine L. Stone 2000. *Social Impacts of Large Scale Economic Development Projects in the Rural South: A Longitudinal Re-Study of Vance, Alabama and the Impacts of Mercedes Benz.* TVA Rural Studies.

Congressional Budget Office 2004. "What Accounts for the Decline in Manufacturing Employment?" February 18, 2004. http://www.cbo.gov/ftpdocs/50xx/doc5078/02-18-ManufacturingEmployment.pdf

Coughlin, Cletus C. and Thomas B. Mandelbaum 1991. "A Consumer's Guide to Regional Economic Multipliers." *The Federal Reserve Bank of St. Louis Review*. January/February 1999.

Cowie, Jefferson and Joseph Hethcott 2003 (eds.). Introduction to *Beyond the Ruins: The Meanings of Deindustrialization.* Cornell University Press, Ithaca, NY.

Davis, H. Craig 1990. *Regional Economic Impact Analysis and Project Evaluation*. University of British Columbia Press, Vancouver, BC.

Knapp, Tim and John Harms 2002. "When the Screen Goes Blank: A Television Plant Closing and Its Impacts on Workers," *Sociological Quarterly*, Fall 2002; 43:4. pp 607-626.

Koeber, Charles 2002. "Corporate Restructuring, Downsizing, and the Middle Class: The Process and Meaning of Worker Displacement in the 'New Economy'" *Qualitative Sociology*, Vol. 25: 2. pp. 217-246.

Krannich, Richard S., E.H. Berry, and T. Greider 1989. "Fear of Crime in Rapidly Changing Rural Communities." In *Progress in Rural Policy and Planning*, ed. A. Gilg, D. Briggs, R. Dilley, O. Furuseth, and G. McDonald, 5-18. London: Belhaven.

Leistritz, F. Larry and Randal C. Coon 1997. *Workforce Profile of New or Recently Expanded Manufacturing and Exported Services Firms in North Dakota.* Agricultural Economics Report No. 380. North Dakota State University: Fargo, ND.

Leistritz, F. Larry and Steven H. Murdock 1981. *The Socioeconomic Impact of Resource Development: Methods for Assessment.* Westview Press: Boulder, CO.

Leistritz, F. Larry and Kenneth A. Root 2002. "Rural Community Response to Closure or Downsizing of a Major Employer," *Rural America*, Vol. 16:4. pp. 30-38.

Little, R. L. and Richard S. Krannich 1989. "A Model for Assessing the Social Impacts of Natural Resource Utilization on Resource-dependent Communities." *Impact Assessment Bulletin* 6(2):21-35.

Metzgar, Jack 2002. "Blue-Collar Blues: The Deunionization of Manufacturing." *New Labor Forum.* New York: Spring 2002., Iss. 10; pg. 20

MIG Inc. 1999. *IMPLAN Version 2.0 Social Accounting and Impact Analysis Software.*

------------2002. *IMPLAN Version 2.0 Social Accounting and Impact Analysis Software.*

Murdock, Steven H., Richard S. Krannich and F. Larry Leistritz 1999. *Hazardous Wastes in Rural America*. Rowman & Littlefield: Lanham, MD.

National Research Council 2004. *New Directions in Manufacturing: A Report of a Workshop.* Committee on New Directions in Manufacturing, Board of Manufacturing and Engineering Design, Division of Engineering and Physical Science. National Academies Press, Washington, D.C. pdf.

Pohlmann, Lisa and Christopher St. John 1999. "Life After Lay-Off In Central Maine." Maine Center for Economic Policy. September 1999. http://www.mecep.org/report-layoff/Layoff_report.htm Accessed on 4/25/2005.

Texas Comptroller of Public Accounts 2006. Personal correspondence re: Economic Development Corporation statistics.

Texas State Historical Association 2006. The Handbook of Texas Online. http://www.tsha.utexas.edu/handbook/online/

Texas Workforce Commissions 2005. *Worker Adjustment and Retraining Notice Act Database.*

Tomaney, John, Andy Pike and James Cornford 1999. "Plant Closure and the Local Economy: The Case of Swan Hunter on Tyneside." *Regional Studies*, Vol. 33.5 pp. 401-411

United States Department of Labor 2005. *Trade Adjustment Assistance Petition Database*. http://www.doleta.gov/tradeact/determinations.cfm

United States Bureau of Economic Analysis 2006. *Regional Economic Information System*.

United States Bureau of Labor Statistics 2006. *Employment, Hours and Earnings from the Current Employment Statistics Survey*. http://data.bls.gov/cgi-bin/surveymost

United States Census Bureau 2000. *Census 2000, Table DP-1. Profile of General Demographic Characteristics: 2000*.

United States Census Bureau 1990. *1990 Census, Table DP-1. Profile of General Demographic Characteristics: 1990.*

Ward, William A. 2006. "Manufacturing Jobs, 2005-2010." *Economic Development Journal*, Winter, 2006.