

Targeting Industrial Growth Opportunities in Southeast Iowa

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Project Overview and Summary

This project analyzes the industrial structure of the 5 county region that contains Des Moines, Henry, Lee, Louisa, and Muscatine counties in Iowa, collectively referred to in this study as Southeast Iowa. The overall goal of this process is to bring research-based information to bear on the region's economic development activities so that scarce public and private resources are maximized towards promoting economic growth and regional stability. There are seven categories of assessment in this report, the main features and findings of which are summarized next.

Section I. Industrial Targeting Analytic Approach

A multiplicity of industrial targeting, industrial cluster, and other focused economic development methodologies and activities are currently in practice across the U.S. This report distinguishes among several approaches to industrial clustering and demonstrates the particular research and procedural advantages of these approaches. In general, top-down oriented approaches determine for a state or a region sets of desired industries that align with the larger economy or the policy directions the state or region have developed in the name of economic development. Bottom-up approaches allow for community level research and processes to determine regional needs, perceptions, capacities, and goals.

Our research advocates the determination of each study region's economic strengths and characteristics utilizing industrial targeting research methods that allow regional economic development planners to work from a position of local economic knowledge instead of state or national economic development oversight. Our approach also calls for significant local involvement and economic development programming.

It is important to determine exactly why we engage in these kinds of research activities and practices and what might be the practical benefits of a particular approach. Industrial targeting research has the potential to create regional economic development by focusing talent and resources on existing regional industrial strengths, identifying potential growth industries, or identifying potential markets for regional commodity production.

The overall expected outcome of all industrial assessment processes is to bring insight and information to bear on the economic development activities so that scarce public and private resources are maximized towards promoting economic growth and regional stability. Regardless of the approach, whether top-down, heavily researched, locally-participatory, or a blend of them all, the process should be driven by participant consensus in three major areas:

1. The region is responsible for developing its economic development goals and identifying the specific objectives that it intends to accomplish in support of those goals.
2. The region, ultimately, is responsible for selecting the industries that best fit with its goals and with the region's collective expectations for industrial growth. Analysts can provide lists of desirable industries and criteria for evaluating them, but outside analysts do not select the region's goals or its industrial priorities.
3. The region develops procedures, programs, and activities designed to recruit industries, retain or expand industries, provide or otherwise facilitate technical assistance to improve industrial productivity, and, not to be forgotten, promote programs to assist small business development and entrepreneurial activity in keeping with its industrial recruitment and development goals. Economic development is a comprehensive process that is conducted in light of community and regional capacities and the collective needs of the citizenry.

When an industrial targeting approach is employed, it provides a research and procedural foundation for focusing both private and public resources in support of community and regional growth.

By using a goal-driven process for identifying industrial prospects, the region should be able to

- better identify the region's industrial needs and its capacity for growth,
- more efficiently utilize existing resources, and potentially,
- limit its reliance on or otherwise focus growth inducements, like tax abatements or other development incentives

Section II. Demographic, Labor Force, and Economic Overview

There are several demographic, workforce, and economic findings that highlight Southeast Iowa's strengths and vulnerabilities. During the last decade the region's population grew more slowly than the state, and since 2000 the region has experienced population declines. Added to the problem of stagnant population performance, the region has proportionately fewer young, working-age adults than the state and the nation giving it an older workforce. Due probably to having a slightly older average population, the region has lower labor force participation rates among men and women, yet higher combined unemployment rates than the state. Finally, the region has significantly fewer college educated workers as a proportion of the potential workforce than the state of Iowa as a whole.

Where the nation enjoyed 4.6 percent job growth between 1998 and 2002, Iowa grew by just .8 of a percent, but the region suffered a 4.1 percent decline in jobs. Regional earnings per job historically were higher than the state average, but those earnings advantages have eroded so that average regional earnings per job are the same as the state's.

Section III. Occupational Summaries, Commuting flows, and Migration Characteristics

The Southeast Iowa region employs significantly more workers in production and transportation fields than the state average. The region employs significantly fewer workers in finance, insurance, and information industries than the state average.

Southeast Iowa is generally an employment destination for workers living beyond its borders. The region has lower outcommuting rates and higher incommuting rates than the state average, and only Louisa County among the constituent counties has more net outcommuting than incommuting.

Like much of Iowa, the region is not realizing net immigration. But the characteristics of in and out migrants are also important. In this research we looked at the education and the occupational characteristics of persons that had either migrated into or migrated out of Southeast Iowa during the 1995 to 2000

period. On a net migration exchange basis, the region lost significantly more college educated residents to other states and the rest of Iowa than it attracted. Furthermore, on a net migration exchange basis, the region lost significantly more persons working in sales, office and administrative support jobs than it attracted.

Section IV. Regional Industrial Summary

This section introduces readers to the industrial structure of the Southeast Iowa region. In so doing it provides comparative statistics in several economic categories to allow for a characterization of industrial activity. The main objective of this section is to provide readers with an understanding of broad Southeast Iowa competitive strengths and weaknesses.

The region had 94,560 jobs and produced \$5.032 billion in total value added. Value added is the sum of payments made to workers, to owners, to investors, and indirect payments to governments.

The major industrial sector in the region is manufacturing. Manufacturing accounted for 54 percent of industrial output, which is a measure of the sales value of all production, 23 percent of regional jobs, and 38 percent of all value added. The region's competitive position in manufacturing is exemplified by its 9.6 percent share of all manufacturing jobs in Iowa, which is nearly twice its all-sector job share of 5 percent.

In other areas of the economy, the region appears to have strong competitive positions in the state in transportation industries and in the management of companies. The region appears to have weak competitive positions in information, finance and insurance, wholesale trade, education services, and real estate jobs.

Section V. Major Industrial Changes in the U.S. – An Overview

It is difficult to understand the characteristics of local economic change without noting broader state or national patterns of change. This section introduces readers to national industrial changes, especially during two relatively recent periods of growth and decline. The purpose of this component, too, is to

encourage local officials to make sure that economic development planning is conducted in light of U.S. economic conditions.

This section identifies, considering all economic change, which sectors in the U.S. had greater or lesser rates of growth and had greater or lesser numerical growth. This section also differentiates between the relatively robust national growth period of 1993 through 2000 and the economic adjustment that occurred in the U.S. between 2000 and 2003.

Among the more salient observations we found that during the early to latter 1990s, there were very strong gains made in technology, information processing, electronics manufacturing, and scientific and technical consulting firms nationally. During the 2000 to 2003 period, however, most of these gains had turned into losses. Science, technology, information, and computer-related firms are not as prominent in the nearer term (2000 to 2003) as they were in the longer term view (1993 to 2003).

For the 2000 to 2003 period strong increases in jobs in wineries were logged (24 percent), office administrative services at 23 percent, tortilla manufacturing at 14.5 percent, and personal care services at 12 percent. Among this top 25, there were two other manufacturing categories posting strong growth: coffee and tea manufacturing at 8.2 percent, and pharmaceutical and medicines at 6.6 percent. Strong numerical gains were found in food services, ambulatory health care, hospitals, finance and insurance, and in educational and social services.

Over both periods, industries affiliated with textile manufacturing suffered grievously in terms of proportions of jobs lost and the number of jobs lost. Eleven of the bottom 25 industries in terms of percentage losses were in this broad category. Besides eroding technology related jobs, very strong losses are evident in the U.S. in the 2000 to 2003 period for employment service jobs, jobs associated with telecommunications, transportation and warehousing, auto parts manufacturers, and printers.

Section VI. Identifying Industrial Targets

This section introduces the industrial targeting methodology employed in this study. The methods are intended to clearly identify major regional competitive industries, identify industries that historically prefer this region, and ascertain

whether regional industries are currently competitive, stable, or declining. We also identify regional emerging industries – industries in which there is early evidence of growth in excess of national patterns.

This section also establishes and demonstrates evaluation criteria to help planners understand characteristics of regional targeted industries. Accordingly, scoring or rating criteria are employed to assist readers in readily evaluating specific industries in specific categories.

Southeast Iowa has a diverse set of key industries, a very large fraction of which are manufacturing firms. The region has eleven key and competitive manufacturing industries where locational advantages are very evident. In addition, the region has 21 key manufacturing industries that could be classified as stable, many of which are both major employers and scored relatively high on measures of productivity, returns to workers, and linkages to the regional economy. The region has eight key industries that show evidence of decline, two of which are not manufacturing groups. The region has five industries that are growing substantially faster than the national average. Finally, of the region's 47 key or emerging industries, 19 can be classified as potential industrial clusters.

Section VII. Import Substitutes

The primary way in which economic development occurs is through the successful promotion of exporting industries in a region. Goods that are exported bring dollars back into a region, which in turn buy goods and services locally. Industries that produce for export often have important linkages with local supplying firms so their continued export sales also have a ripple effect on local suppliers. When exports go up, then the local economy generally benefits in terms of increased purchases from suppliers and increased local spending by workers.

Another way to buck up a local economy is to stem imports. Every purchased import commodity is a dollar that leaves a community. By identifying the flow of imported commodities into a region, we can zero-in on industrial growth opportunities that might reduce dependence on imported goods and sustain local employment. This section identifies the magnitude of commodity imports into the region and identifies whether there is sufficient commodity demand to warrant the development of firms to supply those commodities locally.

The top 5 imported commodities were semiconductors and other electronic components at \$110.7 million, iron and steel mills at \$107.5 million, resins and synthetic rubber at \$67.53 million, plastics products at \$61.4 million, and paperboard containers at \$56.6 million. Several of these industries, however, are not good candidates for regional industrial recruitment given national concentrations of these industries in other regions and the overall change in those industries nationally in recent years.

Several commodity groups, however, seemed to offer the potential for economic development as measured by the number of average firms that could be supported. The industries with the highest new firm equivalent scores were machine shops at 16; other fabricated metal products, ornamental and architectural metal products, and printing at six firms equivalents; and semiconductors, etc., paperboard containers, and forging and stamping at five firm equivalents.

Section VIII. Regional Export Potential

While Southeast Iowa must be attentive to global, national, and state markets, a large fraction of their economic competitiveness is associated with their ability to sell to nearby population centers. This section identifies the major commodity imports of the metropolitan areas that are within 75 miles of the Southeast Iowa region. The reasoning behind this analysis is that nearby demand for goods and services is more competitively met by nearby suppliers.

Using a combined regional import threshold of at least \$50 million as the cutoff, we found that alumina and aluminum products, semiconductors, iron and steel mill goods, and motor vehicle parts accounted for \$2.6 billion in surrounding metropolitan area inputs. Many of these industries are not necessarily good candidates for regional industrial growth. There were, however, several industries with low firm threshold size and high metropolitan import values. These included machine shops; printing; plate work and fabricated structural products; semiconductor and other electronic components; and coating, engraving, heat treating, and allied activities. The import activity in the selected metropolitan markets would support 30 or more average-sized firms producing these diverse commodities.

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Introduction

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The Southeast Iowa region possesses several industrial competitive advantages: four of the 5 counties border the Mississippi River, the area has long been known for its manufacturing and its transportation capacities, and the region possesses a large pool of skilled production workers. In 2002, the workers in the region were nearly twice as likely to be employed in manufacturing as the average worker in Iowa. That statistic is even more significant because the state of Iowa itself has a competitive advantage in manufacturing when compared to the nation. As it has a demonstrable lead in manufacturing employment, we would suspect that there are meaningful industrial concentrations already in evidence in the region.

The region's geography, its industrial structure, and its workforce are all reflected in its mature, historical economic base. Recent erosion in this base has placed the region at a crossroads in economic development strategy. This project attempts to reconcile the region's industrial heritage with its future goals by introducing a systematic evaluation approach for targeting industrial development.

I. Industrial Targeting Analytic Approach

Section Objectives:

- *Explain industrial analysis terminology.*
- *Identify economic advantages and disadvantages of industry clusters.*
- *Compare and contrast different approaches to targeted industrial assessment.*
- *Outline broad scope of responsibilities of analysts and local officials.*

Key Topics:

- *Industrial linkages and clusters.*
- *Industrial targeting strategies.*
- *Cautions for targeted industrial recruitment*
- *Importance of local goal setting.*

What Do We Mean by Industrial Linkages and Industrial Clusters?

Linkages

There are two types of industrial organizations pertinent to this research: those with *horizontal* relationships and *vertical* relationships. These relationships are also called *linkages*. Horizontal linkages occur when similar firms producing similar products rely on shared input sources. These kinds of firms have access to highly efficient and common suppliers, skilled labor pools, and may even benefit from public infrastructure designed specifically for their industrial group. These kinds of firms may also collectively, develop product ideas, promote their products collectively, and cooperatively organize to influence laws and regulations (lobbying). Good examples might include computer software and advanced information technology sectors in, for example, Seattle or the Silicone Valley region of California.

Vertical linkages exist when we find evidence of significant relationships along different lines of production. In Iowa, for example, there may be a very rich vertical relationship from crop production, to animal production, to meat slaughtering, to specialized processing. These kinds of relationships imply a rich “multiplier” effect to the extent that the multiplier reflects the value of successive processing that may occur in a region.

These two types of configurations are not mutually exclusive. Horizontally-linked firms certainly may and most likely will have rich and significant linkages to sets of suppliers in their region. Vertically-linked firms, on the other hand, can very well exist in the absence of any significant horizontal relationships, especially in more rural areas. It is therefore important for the analysts to thoroughly research the potential for or the value of supplying relationships (linkages) in a study region so that the reader understands whether there are meaningful multiplier effects to be considered or whether there are other, non-multiplier effects at work in an economy.

Clusters and Agglomerations

There is also a geographic component to industrial analysis. When like industries (those horizontally configured) or inter-related firms (vertically configured) exist in some meaningful proximity to one another, they constitute a proximal “cluster.” Some industrial location research incorporates spatial statistics of actual firm locations to determine whether there are, in fact, significant geographic correlations in evidence in a region. This research will not look at firm specific locations; instead, it looks at the presence, size, and comparative competitiveness of industries in the region. As we will demonstrate in later sections, the region of study has several locational advantages regarding the historical development of several categories of manufacturing capacity coupled with the region’s storage and transshipment capacities. Southeast Iowa, in and of itself, is a cohesive economic region into which more workers flow into than out of on a daily basis. Consequently, many of the spatial advantages of urbanization and concomitant agglomerations (another word for some clusters) are in place.

Economic Advantages and Disadvantages of Clusters

There are both advantages and disadvantages to the existence of clusters in a region.

As advantages,

- Clusters are part of what are often termed “localization” economies or localization agglomerations. These economies accumulate because firms are able to tap into more specialized (and efficient) suppliers of inputs and producer services, and the firms are able to access an adequate pool of specialized and skilled workers.

- Significant industrial clusters may be more responsive to demands for re-organization, re-investment, and related industrial spin-offs as a consequence to their proximity to each other, because of their pool of both specialized suppliers and labor in the region, and the need to remain not just globally but regionally competitive with one another.
- Clusters maximize the opportunity for inter-firm and intra-industry communication, cooperation, and coordination regarding their collective capacities to identify markets, share and disseminate expert industrial knowledge, and otherwise operate beneficial formal and informal networks.
- Last, clusters have the potential for larger localized economic impacts than industries that pop up where there are no clusters in evidence. The existence of linked, affiliated or supplier firms in a region and the ability of those firms to concomitantly grow with, adapt to, or gear up to supply necessary inputs into new firms implies a greater regional multiplier effect. A multiplier is simply a ratio that expresses the relationships of one kind of firm in an economy to other businesses. The higher the multiplier, the greater the linkages, the greater the value of a firm's growth (or decline) to the local economy.

As a disadvantage,

- The presence of locational clusters can be disadvantageous to an area. A notable national example is the entire textiles industry. This industry has been significantly concentrated in the Middle Atlantic and Southern states. Over just the past 10 years, the nation's textile industries have lost 570,000 jobs. Those manufacturing job losses are highly localized among urban areas and result in significant multiplied-through losses in fabric mills, accessory manufacturers, cut and sew apparel makers, fiber and yarn mills, and thread manufacturers. The advantageous multipliers of growth are highly disadvantageous to regional economies during declines.

Targeted Industrial Analysis and Programming

Regional economic development planning organizations increasingly rely on industrial analysis techniques designed to "target" potential and desirable industrial recruitment opportunities. Using research to limit the field of

candidate industries, these methods aid the efficient use of public and private economic development resources.

There are several general approaches to this type of analysis, all of which are designed to yield a manageable set of desirable industries for development activities.

Top-Down Targeted Industry Approaches: Relying on an established list of “desired” industries, a region’s industrial portfolio may be assessed to ascertain how closely it aligns with the list. This research is typically used to gauge an area’s overall economic strengths and alignment with a set of overarching growth goals for a regional or a statewide economy, thus its characterization as a “top-down” approach. For example, the state of Iowa, relying on research conducted over many years, has determined three major categories of desired growth are compatible with its existing industrial strengths, represent possible emerging industrial growth opportunities, or will otherwise beneficially diversify the state’s economy. These industries, and there are hundreds of them, are organized into three main groups to include life sciences industries, advanced manufacturing, and information solutions.

Pre-defined Clusters: Analysts may also assess a region’s industrial structure to detect the presence of industries that align with specific, nationally pre-defined industrial groupings. These groupings are now also commonly called industrial clusters. Following the “birds of a feather” maxim, the presence of an industry fitting into a proto-typical cluster might suggest a local competitive advantage in attracting other firms or industries in that cluster grouping. However, identifying cluster potentials based on national industrial criteria may contribute little information to a region about its own, unique industrial structure and relationships, its intrinsic strengths and weaknesses, nor how the interplay of those factors shape its overall attractiveness to different types of industrial prospects.

Hybrid Industrial Cluster/Agglomeration Analysis: This approach begins with the assumption that if a region demonstrates a competitive advantage, there will be significant agglomerative benefits in evidence. Such evidence might include shared, specialized providers of inputs and labor, other external scale economies, or other similarities in significant supplier or customer

characteristics. This kind of analysis fits within the generic rubric of “cluster” industrial assessment; however, distinct from the version mentioned above, analysts rely on actual, local industrial configurations to identify potential clusters of industrial activity. This approach may be used to identify a region’s historical competitive strengths and to assess how well its economy aligns with dominant national industrial trends. For example, a region with significant concentrations of capacity in an industry declining nationally may find itself deciding between working to enhance and complement this existing strength or diversify industrial recruitment into un-related but still desired categories.

Targeted Industrial Analysis Combined with Local Goal Setting: Planners might also consider, based on both internal and external research and intrinsic, expert-based knowledge of their region, sets of their own industrial targets or industrial recruitment goals as well as an assessment of existing industrial clusters, opportunities for cluster industry enhancement, and a realistic assessment of their region’s capacity to attract specific types of growth. This blended approach relies heavily on local or regional economic development goal setting, a thorough assessment of an area’s social, demographic, and economic structure, and the opportunity to work iteratively over a period time with analysts, industry leaders, community decision makers, and state and federal agencies. This approach has top-down characteristics in that the methods chosen for analysis will determine industries warranting additional scrutiny. The approach has bottom-up characteristics in that it is not the analysts job to choose which industries the region wishes to study further or, ultimately, target for recruitment. This is the model employed in this study.

Cautions on Targeted Industrial Development Strategies

- This entire process pits local leaders and economic development planners against the entire regional, national, and global economies and puts them in the position of sorting out industrial winners from losers. It’s asking them to be smarter than they can possibly be. The consequences, on the margins, can be great, for choosing poorly. While, for example, people in northwest Iowa still bemoan the lost opportunity when Gateway Computers abandoned its Iowa base near Sioux City and relocated to North Sioux City, South Dakota, the fact remains that the computer

industry has tremendously transformed itself over the past decade or so. Even though the nation added more than 130,000 jobs in semiconductor and electronic component manufacturing between 1993 and 1998, it turned around and lost 188,000 of these jobs between 1998 and 2003. Five years of relatively robust growth were followed by five years of stark decline. Industrial development officials at the state and local levels that cut multi-year deals with these kinds of firms found themselves increasingly holding the bag, rhetorically, for something that was once quite promising that is now bust. Perhaps another local example is the Mitsubishi Motors situation in Bloomington, Illinois, which is now, after not very long in existence, significantly downsizing.

- Fads. The term industrial clustering is bandied about so much that it may have muddled meaning. There are other categories of industrial change occurring continuously that may or may not have an impact on local production, local capacity, or local growth. It is difficult for most planners and elected leaders to sort out fad and faddishness from fact. A case in point: Iowa aggressively promotes its potential in biotechnology, especially as they relate to the state's existing cash crops. It is not surprising that at least 49 other states also list biotechnology industries among their top industrial recruitment prospects. It is implied that, because Iowa is heavily and valuably farmed, it has an obvious advantage in this area. It can also be implied that such a heavily and valuably farmed region can be placed at risk if rules and safeguards are not put in place to protect traditional agriculture from emerging agriculture and non-agricultural uses of farm commodities. In short, the entire biotechnology category of industrial growth potential is substantively lacking regarding product definition, market growth, producer and community risks, and global acceptance of future products and processes. Sorting fad from fact, growth opportunity from risky venture, and isolating the appropriate investment levels of public infrastructure and resources requires insights into the future that most local officials, nor anyone else, could possibly possess.
- The whole targeted industry process has risks. Statistical measures are applied to assist decision makers and to provide guidance. But statistical measures in and of themselves must be tempered by both expert perspective on the parts of analysts, assessments of recent trends and

transformations in the economy, and the considered local expertise that development officials possess. If the two dimensions are not able to communicate clearly, industrial targeting research and programming can be an exercise in futility.

- In addition, expectations for both job and income growth and regional change must be made explicit and be based on realistic data. There is often a large difference between the rhetoric of growth (declared new jobs, retained jobs, etc., and regional multipliers) than actual quantified growth. Iowa's local governments are easily dedicating in excess of \$200 million annually towards economic development as investment in urban revitalization, infrastructure or development site investments, or more and more commonly as simple tax abatements in support of industrial growth. The state of Iowa of late has dedicated hundreds of millions more. The relationship between direct state and local investment in economic development and the likely beneficial outcomes to the entire Iowa economy are very poorly demonstrated. In short, in an era where governments must increasingly pay to play in the arena of economic development, and the "pay" is taxpayers' money of some form or another, it is very unclear what the payoff is to communities, the state as a whole, and the average well-being of its citizens per public dollar invested.

All of this acknowledged, however, regions and planners engaged formally in industrial targeting activities should be able to attain a competitive advantage vis a vis regions that have not undergone this kind of a process. And this process should assist planners in focusing their efforts, targeting scarce public resources, and in increasing their likelihood of adding to the stability of their regional economies.

Regional Economic Development Research and Programming Requirements

The overall expected outcome of all industrial assessment processes is to bring insight and information to bear on the economic development activities so that scarce public and private resources are maximized towards promoting economic growth and regional stability. Regardless of the approach, whether top-down, heavily researched, locally-participatory, or a blend of them all, the process should be driven by participant consensus in three major areas:

1. The region is responsible for developing its economic development goals and identifying the specific objectives that it intends to accomplish in support of those goals.
2. The region, ultimately, is responsible for selecting the industries that best fit with its goals and with the region's collective expectations for industrial growth. Analysts can provide lists of desirable industries and criteria for evaluating them, but outside analysts do not select the region's goals or its industrial priorities.
3. The region develops procedures, programs, and activities designed to recruit industries, retain or expand industries, provide or otherwise facilitate technical assistance to improve industrial productivity, and, not to be forgotten, promote programs to assist small business development and entrepreneurial activity in keeping with its industrial recruitment and development goals. Economic development is a comprehensive process that is conducted in light of community and regional capacities and the collective needs of the citizenry.

In this entire process it is important for the region and the participating analysts to pay particular attention to the region's strengths, whether they are industrial, labor based, or locational, along with the region's capacity to supply public goods. When an industrial targeting approach is employed, it provides a research and procedural foundation for focusing both private and public resources in support of community and regional growth.

By using a goal-driven process for identifying industrial prospects, the region should be able to

- better identify the region's industrial needs and its capacity for growth,
- more efficiently utilize existing resources, and potentially,
- limit its reliance on or otherwise focus growth inducements, like tax abatements or other development incentives

II. Demographic, Labor Force, and Economic Overview

Section Objectives:

- *Demonstrate regional-wide contrasts with the nation or the state for individual county representatives.*
- *Introduce readers to key trends or indicators to help rank or gauge the region's strengths or weaknesses.*

Key Topics:

- *Demographics – characteristics of the population.*
- *Labor force size and composition.*
- *Recent jobs and earnings trends.*

Findings Overview:

- *During the last decade the region's population grew more slowly than the state, and since 2000 has experienced population declines.*
- *The region has proportionately fewer young, working-age adults than the state and the nation.*
- *The region has fewer college educated workers as a proportion of the potential workforce than the state of Iowa as a whole.*
- *Due probably to having a slightly older average population, the region has lower labor force participation rates among men and women, yet higher combined unemployment rates than the state.*
- *Where the nation enjoyed 4.6 percent job growth between 1998 and 2002, Iowa grew by just .8 of a percent, and the region suffered a 4.1 percent decline in jobs.*
- *Regional earnings per job historically were higher than the state average, but those earnings advantages have eroded so that average regional earnings per job are the same as the state's.*

Basic Characteristics of the Population

The total population of the Southeast Iowa region grew during the decade of the 1990s, but slid into decline during the 2000 to 2003 period (See Table 1). During the 1990 to 2000 period, Henry County had the highest rate of growth among the five at 5.2 percent, or nearly as rapidly as the state overall average. Louisa and Muscatine counties also grew. Since the 2000 census, however, Henry County

lost population. Louisa and Muscatine are still posting gains, but only Muscatine is growing at least as fast as the state as a whole.

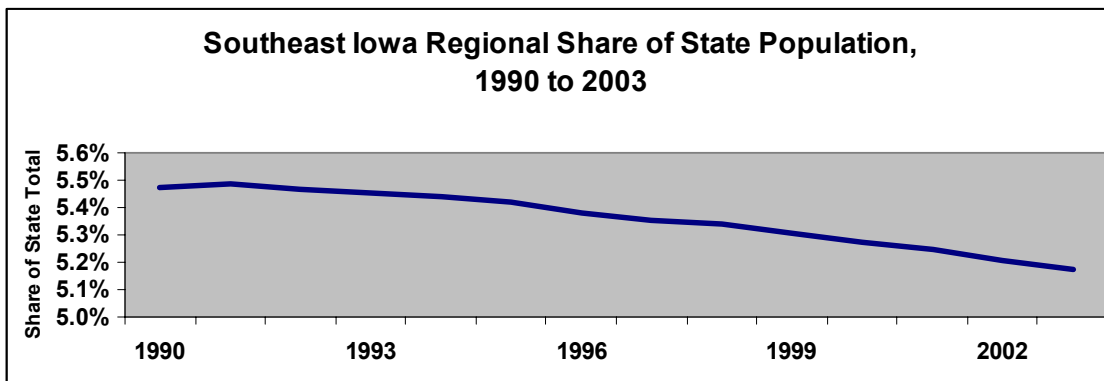
In all, the region grew much slower than the state during the 1990s and lost population of late. Consequently, the region’s share of the state’s population eroded considerably from nearly 5.5 percent in the 1990 to 1991 period down to an estimated 5.17 percent in 2003 (Figure 1).

Table 1

Population Changes for Southeast Iowa

	1990	2000	2003	Change 1990 to 2000	Percent	Change 2000 to 2003	Percent
State of Iowa	2,781,018	2,928,514	2,944,062	147,496	5.30%	15,548	0.5%
Des Moines	42,668	42,287	41,247	-381	-0.89%	-1,040	-2.5%
Henry	19,296	20,301	20,023	1,005	5.21%	-278	-1.4%
Lee	38,632	37,938	36,714	-694	-1.80%	-1,224	-3.2%
Louisa	11,620	12,176	12,201	556	4.78%	25	0.2%
Muscatine	39,969	41,790	42,093	1,821	4.56%	303	0.7%
Region	152,185	154,492	152,278	2,307	1.52%	-2,214	-1.4%

Figure 1



Figures 2 and 3 are graphical representations of the distribution of the region’s population by age group. Figure 2 compares the distribution of males and females in the region to the state of Iowa distribution, where the “error bars” represent the state values. It is evident that the region has proportionately fewer males in all of the categories from ages 15 through 34. The region has

proportionately fewer females in the ages 15 through 24 groups. The slightly larger percentage of men ages 35 to 39 is likely attributable to the prison population in Lee County.

Figure 2

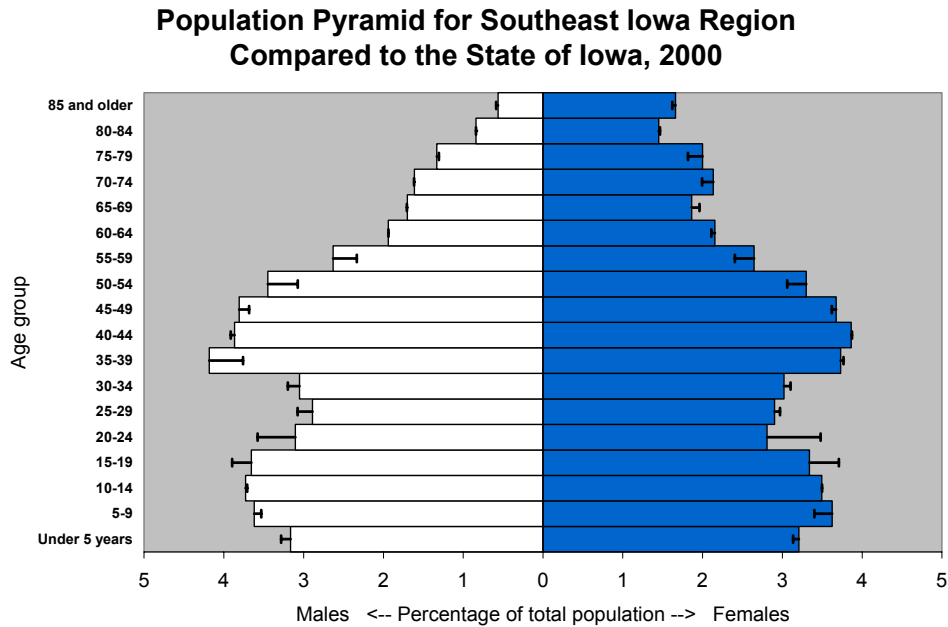
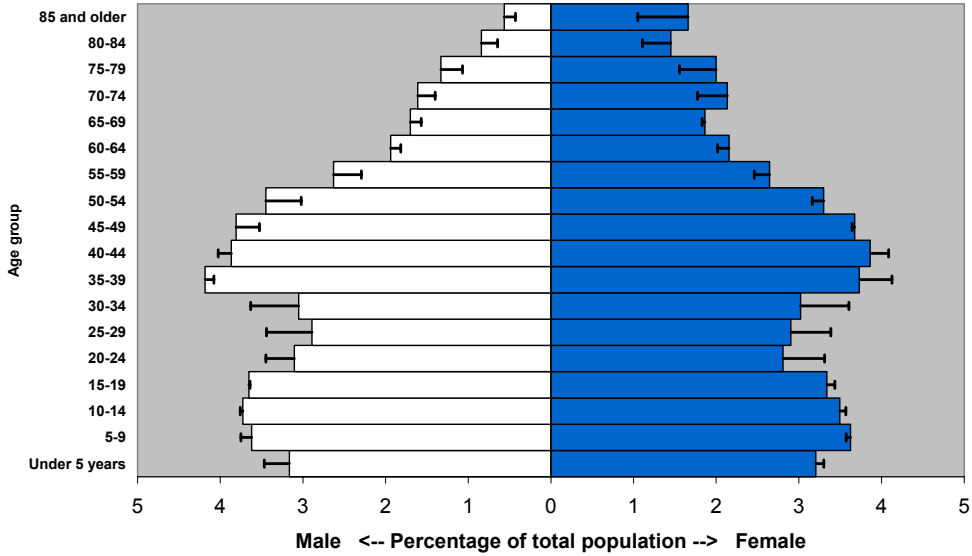


Figure 3 compares the region to the nation, where the “error bars” represent the U.S. values. Here the distributional differences among the primary working-age populations are pronounced. Among males, the region has a significantly lower fraction in the ages 20 through 34 age groups. Among females, the proportionate deficit is in evidence from ages 20 through 44. Lastly, we can see that the region has, by inference, proportionately more residents of both sexes who are ages 50 through the oldest categories.

Figure 3

**Population Pyramid for Southeast Iowa Region
Compared to the United States, 2000**



Recent Migration Patterns

We can learn more about the residential origins of persons who moved into our counties during the 1995 to 2000 period using U.S. census estimates. These statistics give us a relatively recent snap-shot of regional migration patterns. We detail more characteristics of migrants in the next section of this report.

For the region, between 1995 and 2000, 14.4 percent of its 2000 population lived in another Iowa county during the previous five years. The highest percent was in Henry County at 18.2 percent, followed closely by Louisa at 17.8 percent. The lowest percentage was Lee at 13.1 percent. Inmigrants from another Iowa county were 7.1 percent of the regional total, led again by Henry County at 12.1 percent and Louisa at 10.6 percent.

The highest rate of immigration from other states was found in Lee County at 8.0 percent, and the highest fractions of the population coming from another country was in Louisa County at 1.4 percent and Muscatine at 1.2 percent. Despite four of the five counties in the region abutting Illinois or Missouri, proportionately fewer of the region's 2000 census counts came from another state or another country than were the averages for the state of Iowa.

Table 2

Regional Migration Characteristics from the 2000 Census

	Percent of Population Migrated in 1995 to 2000	From Other Iowa County	From Other State	From Other Country
Des Moines	13.6%	6.4%	6.4%	0.7%
Henry	18.2%	12.1%	5.6%	0.4%
Lee	13.1%	4.5%	8.0%	0.5%
Louisa	17.8%	10.6%	5.8%	1.4%
Muscatine	13.5%	6.8%	5.5%	1.2%
Region	14.4%	7.1%	6.4%	0.8%
State of Iowa	NA	NA	7.3%	1.3%

Educational Attainment

Another important aspect of any economic region is the educational composition of its workers. In Table 3 we see that the region has proportionately more residents with just a high school diploma or less (55.7 percent) than the state average (50.0 percent). Louisa County has the highest fraction of workers with just a high school diploma or less (61.3 percent), followed by Lee County (59.1 percent). As expected, the region has fewer residents with college degrees. In Iowa, 21.2 percent of those ages 25 and over have a bachelors degree or greater, but in the Southeast Iowa region that percentage is 15.1 percent. The highest fraction is in Muscatine Co., at 17.2 percent. The lowest is found in both Lee and Louisa counties at roughly 12.6 percent.

Table 3**Educational Attainment of the Region**

	Des Moines	Henry	Lee	Louisa	Muscatine	Regional Total	State of Iowa
Total Population Ages 25 +	28,425	13,509	25,828	7,828	26,877	102,467	1,895,856
Less than High School	4,035	1,872	4,239	1,592	5,293	17,031	263,436
High School Diploma	11,173	5,361	11,035	3,206	9,282	40,057	683,942
Some College, No Degree	6,214	3,217	5,599	1,494	5,489	22,013	405,748
Associates Degree	2,468	876	1,723	542	2,201	7,810	140,640
Bachelors Degree	3,050	1,539	2,365	725	3,322	11,001	278,350
Post-Bachelors Degree	1,485	644	867	269	1,290	4,555	123,740
<i>As a Percents of Totals</i>							
Less than High School	14.2%	13.9%	16.4%	20.3%	19.7%	16.6%	13.9%
High School Diploma	39.3%	39.7%	42.7%	41.0%	34.5%	39.1%	36.1%
Some College, No Degree	21.9%	23.8%	21.7%	19.1%	20.4%	21.5%	21.4%
Associates Degree	8.7%	6.5%	6.7%	6.9%	8.2%	7.6%	7.4%
Bachelors Degree	10.7%	11.4%	9.2%	9.3%	12.4%	10.7%	14.7%
Post-Bachelors Degree	5.2%	4.8%	3.4%	3.4%	4.8%	4.4%	6.5%

The Labor Force

Other important characteristics of the adult population are found in Table 4 where labor force information from the 2000 census is displayed. Both average male and female labor force participation rates in the region are lower than the state average. The labor force participation rate is the percentage of non-institutionalized persons ages 16 and over who were either working or actively looking for work. The regional male participation rate is 2 percentage points lower than the state average, with the lowest rate scored for Lee County at 67.2 percent and the highest rate in Muscatine County at 76 percent. Among regional women, the participation rate was 3 percentage points lower than the state mean value of 62.6 percent. Again, Lee County had the lowest rate at 56.1 percent, and Muscatine the highest at 60.5 percent.

The unemployment rates posted from the census counts are typically higher than those recorded by state and federal labor agencies. In that year the highest unemployment for men was recorded in Des Moines County at 5.6 percent, and the highest among women was in Lee County at 6.1 percent.

Table 4**Labor Force Participation From the 2000 Census**

Civilian Labor Force	Des Moines	Henry	Lee	Louisa	Muscatine	Regional	State of Iowa
						Total	
Males	11,778	5,452	9,893	3,335	11,691	42,149	817,557
Employed	11,118	5,202	9,347	3,200	11,223	40,090	780,662
Unemployed	660	250	546	135	468	2,059	36,895
Unemployment Rate	5.6%	4.6%	5.5%	4.0%	4.0%	4.9%	4.5%
<i>Civilian Labor Force Participaiton Rate</i>	<i>74.2%</i>	<i>68.1%</i>	<i>67.2%</i>	<i>73.3%</i>	<i>76.0%</i>	<i>72.0%</i>	<i>74.0%</i>
Females	10,370	4,876	8,518	2,754	9,926	36,444	737,165
Employed	9,809	4,674	7,998	2,628	9,542	34,651	709,154
Unemployed	561	202	520	126	384	1,793	28,011
Unemployment Rate	5.4%	4.1%	6.1%	4.6%	3.9%	4.9%	3.8%
<i>Civilian Labor Force Participaiton Rate</i>	<i>59.5%</i>	<i>61.7%</i>	<i>56.1%</i>	<i>59.0%</i>	<i>60.5%</i>	<i>59.2%</i>	<i>62.6%</i>

Table 5 lists labor statistics as gathered by the U.S. Department of Labor for 2004 as distinguished from the census-derived statistics in 2000. Here we see that the region's unemployment rate was a full 1.3 percentage points above the state average for all of last year. It was highest in Lee County at 7.7 percent, a rate nearly 80 percent higher than the state value; Henry County's rate of 6.2 percent was also high. Muscatine had the lowest rate at 4.1 percent, just slightly less than the state average.

Table 5**Labor Force Statistics for 2004**

Civilian Labor Force	Des Moines	Henry	Lee	Louisa	Muscatine	Regional	State of Iowa
						Total	
Civilian Labor Force	22,250	10,910	17,260	5,840	22,020	78,280	1,627,800
Employed	20,950	10,230	15,930	5,570	21,120	73,800	1,556,200
Unemployed	1,300	680	1,330	270	900	4,480	71,600
Unemployment Rate	5.8%	6.2%	7.7%	4.6%	4.1%	5.7%	4.4%

Regional Jobs

During the last decade, the nation, the state, and the Southeast Iowa region posted persistent job gains. Between 1990 and 1998, jobs in the U.S. grew by 14.5 percent, the state grew faster at 15.1 percent, and total jobs in the region expanded by 11.2 percent. In the region during that time, Henry County had the most overall growth at 14.4 percent, and Louisa the least at only .5 percent.

After 1998, however, the overall rates of national, state, and local growth changed. While the U.S. still posted a 4.6 percent expansion in total jobs, the state grew by just .8 percent, and the region declined by 4.1 percent. For this

downturn period, Lee County recorded a 9.7 percent reduction in jobs, while Louisa County, in contrast, posted 5.3 percent job growth.

Table 6

Total Jobs 1990, 1998, and 2002

Total Jobs	1990	1998	2002
U.S.	139,380,900	159,628,200	167,033,500
Iowa	1,645,944	1,894,251	1,909,934
Des Moines	26,648	29,994	28,719
Henry	12,722	14,560	13,966
Lee	21,894	24,085	21,750
Louisa	5,307	5,331	5,611
Muscatine	24,515	27,299	27,026
Regional Total	91,086	101,269	97,072
	Percentage Changes		
	1990 to 1998	1998 to 2002	
U.S.	14.5%	4.6%	
Iowa	15.1%	0.8%	
Des Moines	12.6%	-4.3%	
Henry	14.4%	-4.1%	
Lee	10.0%	-9.7%	
Louisa	0.5%	5.3%	
Muscatine	11.4%	-1.0%	
Regional Total	11.2%	-4.1%	

Figure 4 clearly shows the pattern of change in total jobs realized by the region. The region enjoyed persistent job growth from 1983 through 1998, but declines thereafter. In 2002 there were 4,200 fewer jobs in the region than in 1998.

Figure 4

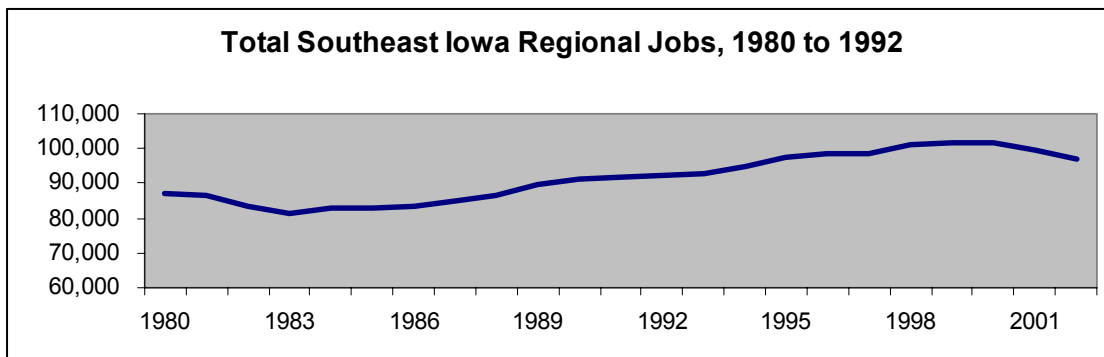
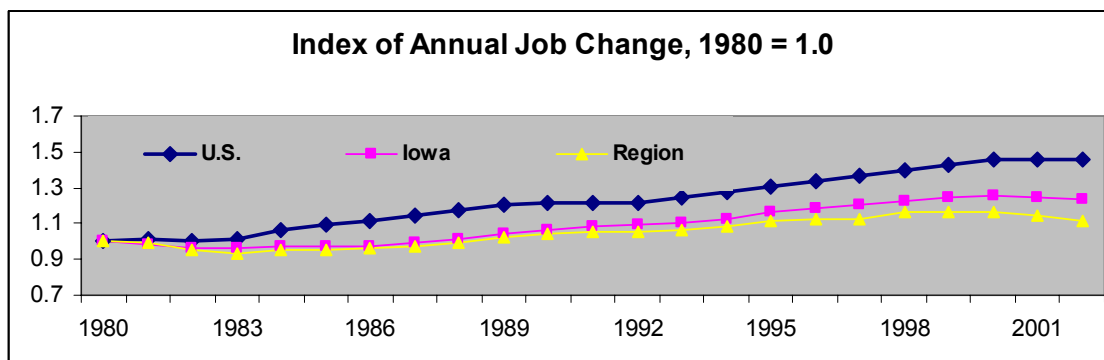


Figure 5 tracks the total rate of job growth for the U.S., Iowa, and the region over the past two decades. In this graph, 1980 values equal 1 (or 100%), and the plots track patterns of change since that origin. For the Southeast Iowa region and the state of Iowa, job growth lagged the U.S. until the mid to late 1980s. Southeast Iowa began to diverge negatively away from the state and from the U.S. by the early 1990s, and posted slower annual changes for the remaining period measured.

Figure 5



Sources of Income and Worker Earnings

Figure 6 allows us to compare the derivation of income for our region as compared to the U.S. and to Iowa. In the U.S., in 2002, just over 68 percent of incomes were derived from earnings. Earnings are the payments that are made to workers and the normal returns to sole proprietors. The Iowa fraction from earnings was slightly less than the U.S. at 65.6 percent. The Southeast Iowa region earnings percentage of income was 61.3 percent.

Iowa and the region derive proportionately more of their incomes from non-earnings sources. We can see that the region gets nearly 20.5 percent of its regional income from property or investment sources (dividends, interests, and rents) and 18.2 percent from transfers. Transfers include welfare payments, social security, federal payments for health care, and other income or food security payments. A portion of this increased dependence is attributable to the larger share of elderly persons in the state and in the region than the U.S.

Figure 6

Derivation of Income, 2002

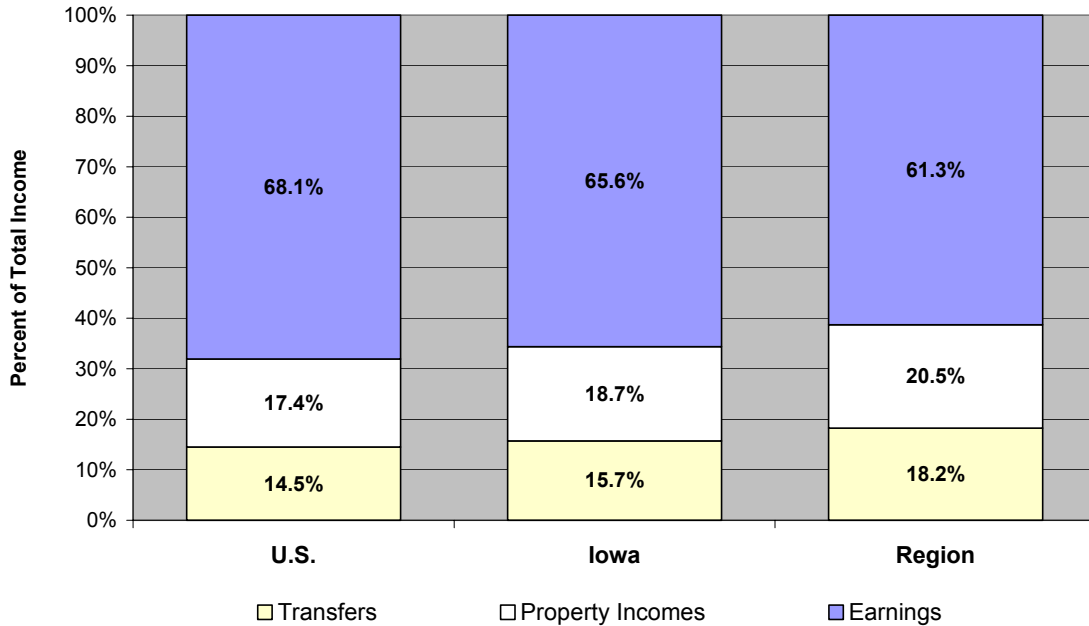
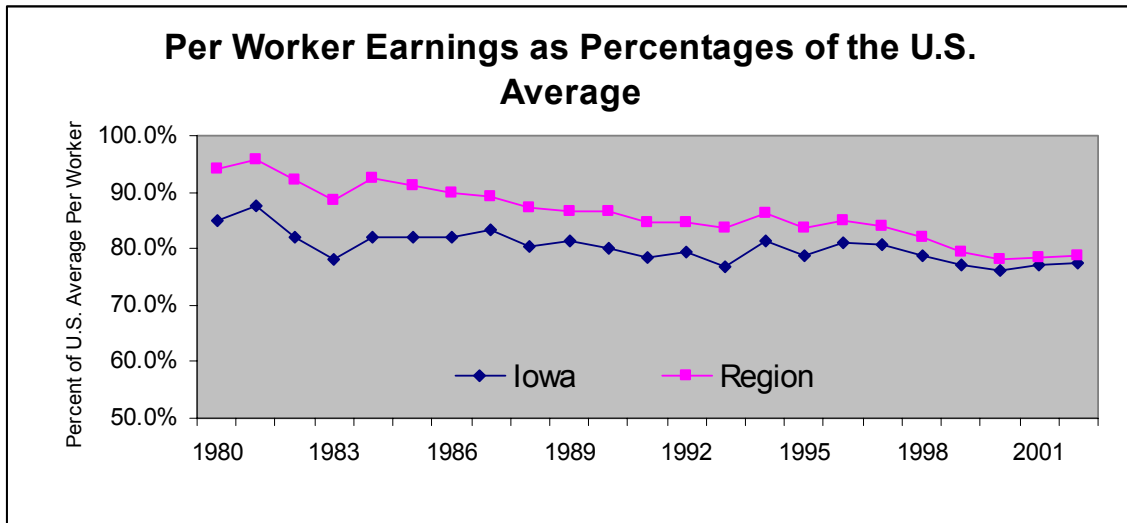


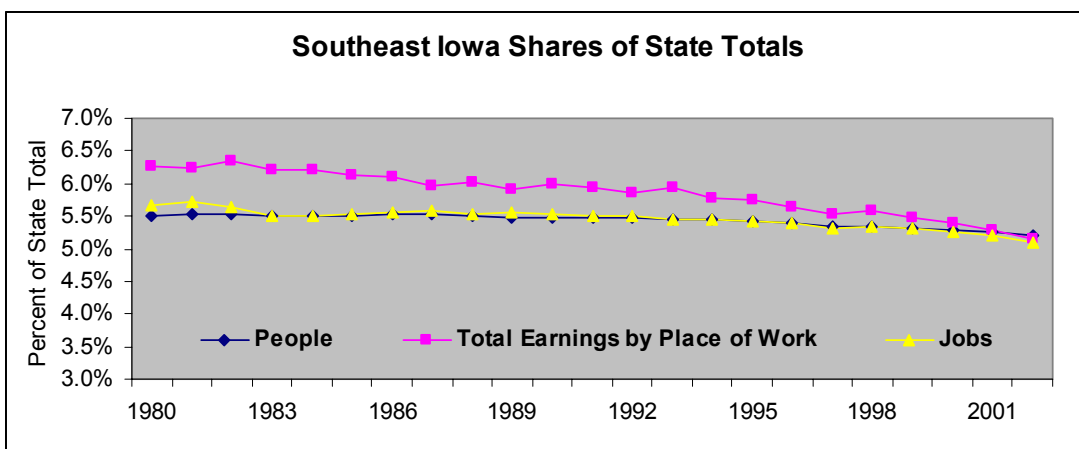
Figure 7 allows us to see what has happened to the average earnings of workers in Iowa and in the region when compared against the U.S. averages. In 1981, the average Iowa worker earned 87.5 percent of the U.S. average wage, and the average Southeast Iowa worker earned 94.5 percent of the U.S. average. Those comparative positions eroded persistently over the next two decades to the point in 2002 where both Iowa and Southeast Iowa workers earn per job 78 percent of the U.S. average. The erosion in wage value per job in the region has been significant and to the point where it now converges with the state of Iowa's performance after leading it for over two decades.

Figure 7



Finally, we can summarize the region’s overall demographic, job, and income performance as it compares to the state. In Figure 8, the region’s shares of people, jobs, and earnings by workers in the state are displayed. While there’s been a slow erosion in population and job shares over the time period, the erosion in earnings is most pronounced: In 1981 the region accounted for about 6.35 percent of earnings paid to workers in Iowa; by 2002 that share had dropped to 5.2 percent.

Figure 8



III. Occupational Summaries, Commuting flows, and Migration Characteristics

Section Objectives:

- *Detailed assessment of occupational composition, commuting patterns, and characteristics of in and out migrants.*
- *Develop comparative and qualitative measures of regional change.*

Key Topics:

- *Occupational detail*
- *Characteristics of commuters*
- *Income and educational characteristics of migrants*

Findings Overview:

- *The region employs significantly more workers in production and transportation fields than the state average.*
- *The region has lower outcommuting rates and higher incommuting rates than the state average.*
- *On a net migration exchange basis, the region lost significantly more college educated residents to other states and the rest of Iowa than it attracted.*
- *On a net migration exchange basis, the region lost significantly more jobs in sales, office and administrative support jobs than it attracted.*

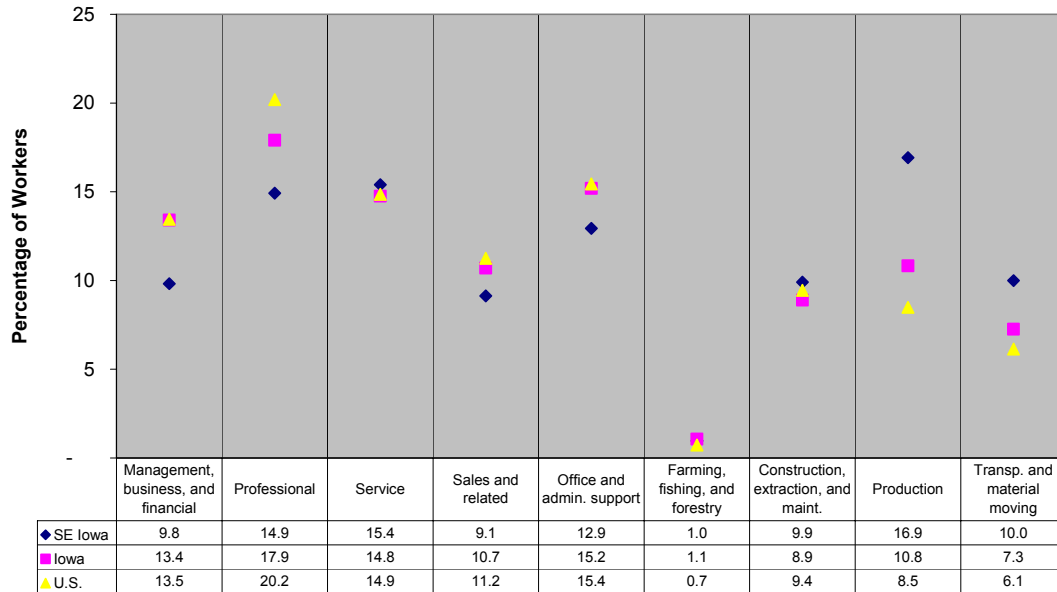
Regional Occupational Comparisons

The previous section provided a brief scan of the regional workforce and economy. This section looks more specifically at characteristics of Southeast Iowa workers' occupations, where they work, and the characteristics of persons migrating into and out of the region.

Figure 9 gives us a good sense of the broad occupational composition of the region, state, and nation during the 2000 census. For persons living in Southeast Iowa, it was much less likely that they would be employed in management, business, or financial jobs; as well as professional jobs; sales and related positions; or office and administrative support jobs.

Figure 9

Composition of Employment by Occupation



The region demonstrated comparatively higher percentages of resident workers employed in production jobs. The U.S. average was 8.5 percent, and the regional average was 16.9 percent. Also, the region’s rate was a full 6.1 percentage points higher than the state average. Workers in the region were twice as likely as a U.S. worker to be working in a production related occupation. Regional job holders also were more concentrated in transportation and material moving positions. Where the national average in this broad category was 6.3 percent, in the region it was 10.0 percent.

Characteristics of Commuting in Southeast Iowa

To get a good idea of the area’s development potential, it is necessary to assess where its workers work. In this analysis, we have assessed the commuting patterns of persons in the Southeast Iowa region. To get a better handle on the flow of workers in the region, both into and out of on a daily basis, we have increased our territory of analysis to include all counties in Iowa, Illinois, and Missouri that border our 5 study counties. These counties are termed in our

subsequent tables as the “secondary region.” We also have controlled for whether workers worked outside the primary (Southeast Iowa) or the secondary region and in fact worked beyond the immediate logical, primary commuting territory.

Table 7 provides a basic description of the commuting preferences of Southeast Iowa workers and nonresident workers who came into the region to work during the census year. That total, the resident workforce of the region plus all workers who came into the region to work, was 87,557 in 2000. Of that total, 67,506 (77 percent) lived and worked in the region, just under 6 percent commuted out to the secondary ring of counties, and a scant 1.5 percent commuted beyond the secondary region to work.

The secondary region contributed 13.6 percent of this total number of affiliated workers, and we can see that the net exchange between the Southeast Iowa region and the secondary region yielded 6,900 more workers flowing into the region daily than flowing out. Last, just 2 percent of the affiliated workers originated from beyond the one county border (“elsewhere”).

Table 7
Commuting Flow Summary for Workers Affiliated with the Southeast Iowa Region

Living in:	Working in:	<i>SEIA-affiliated workforce</i>	
		Number of Workers	Percentage of Workers
Southeast Iowa Region	SEIA Region	67,506	77.1%
	Secondary Region	5,042	5.8%
	Elsewhere	1,309	1.5%
Secondary Region	SEIA Region	11,940	13.6%
Elsewhere	SEIA Region	1,760	2.0%
Grand Total		87,557	100.0%

Table 8 provides much more detail for our intra-county and inter-regional assessment of the workforce. This table allows us to track the flow of workers in the region and beyond. The row totals represent the size of the county workforce in 2000. The column totals are the number of persons that worked in our county (or as in the case of the secondary region and elsewhere, the number of workers from the Southeast Iowa region that worked there). The highlighted values are

the number of workers who worked in their county of residence. Readers can analyze this table to identify either as row percentages or column percentages, the strength of worker-flow relationships in the region.

Table 8

Commuting Flow Details for Counties in Southeast Iowa

Living in:	Number of workers employed in:							Grand Total
	Des Moines	Henry	Lee	Louisa	Muscatine	Secondary Region	Elsewhere	
Des Moines	18,529	938	562	150	57	160	292	20,688
Henry	843	7,780	246	54	26	599	232	9,780
Lee	1,440	681	13,946	12	0	739	281	17,099
Louisa	575	349	17	2,693	1,447	594	77	5,752
Muscatine	16	27	10	566	16,542	2,950	427	20,538
Secondary Region	2,258	1,191	3,872	294	4,325			11,940
Elsewhere	607	252	491	26	384			1,760
Grand Total	24,268	11,218	19,144	3,795	22,781	5,042	1,309	87,557

It is very evident that this region has a net and natural attraction for labor and production. Four of the five counties have more employment than employed persons in their counties, indicating a high dependence on incommuters. Furthermore, the region attracted 6,900 more workers than it sent to the secondary region, and about 450 more workers than it sent elsewhere, or beyond the primary and secondary area assessed.

Table 9 summarizes the net exchange of workers among our counties, for the region, and for the state. There are three summary statistics of note: the net inflow of workers, the outcommuting rate, and the incommuting rate. The net inflow of workers is the incommuters minus the outcommuters. A positive value means you attracted more workers than you shipped out. The outcommuting rate is the amount of outcommuters in your county divided by the resident workforce; it is the proportion of resident workers that sought employment out of the county. The incommuting rate is the fraction of county employment that is filled with persons from another county.

Table 9**Commuting Flow Summary for Counties in Southeast Iowa**

	Des Moines	Henry	Lee	Louisa	Muscatine	SE Iowa Region	Iowa
Resident workforce	20,688	9,780	17,099	5,752	20,538	73,857	1,469,763
less outcommuters	-2,159	-2,000	-3,153	-3,059	-3,996	-14,367	-319,900
equals resident employment	18,529	7,780	13,946	2,693	16,542	59,490	1,149,863
plus incommuters	5,739	3,438	5,198	1,102	6,239	21,716	314,229
equals county employment	24,268	11,218	19,144	3,795	22,781	81,206	1,464,092
Net inflow of workers*	3,580	1,438	2,045	-1,957	2,243		
Outcommuting rate**	10.4%	20.4%	18.4%	53.2%	19.5%	19.5%	21.8%
Incommuting rate^	23.6%	30.6%	27.2%	29.0%	27.4%	26.7%	21.5%

* Net inflow of workers = incommuters minus outcommuters

** Outcommuting rate = outcommuters / resident workforce

^ Incommuting rate = incommuters / county employment

First, we can see that the region's incommuting rate of 26.7 percent was much higher than the state average of 21.5 percent. The highest incommuting rate was 30.6 percent in Henry County. The highest number of incommuters was in Muscatine County at 6,239. The highest amount of net worker inflow (incommuters minus outcommuters) was found in Des Moines County at 3,580. Only Louisa County posted a net outflow of workers. Interestingly, Henry County had the highest incommuting rate yet the lowest number of net worker inflow of our four counties with positive values, while Des Moines had the highest net inflow but the lowest incommuting rate.

Next we can assess outcommuting rates. The state average was nearly 22 percent in 2000, but Southeast Iowa's average was 19.5 percent. Louisa's rate of outcommuting is by far the highest at 53.2 percent, and we can see from Table 8 that the preponderance of those workers traveled to Muscatine County. Des Moines County, in stark contrast to the regional average had an outcommuting rate of just 10.4 percent, slightly more than half of the regional average.

The next two figures (10 and 11) demonstrate vividly the relative density of worker flow and the county of origin of incommuters into our 5 county region. The color of the dots tell us into which county workers commuted. The location of the dots tells us, relatively, where the workers lived in 2000. There is, for example, strong densities in Scott County flowing into Muscatine, as well as comparatively strong in-flows of workers from Henderson and Hancock counties in Illinois, and Clark County in Missouri.

Figure 10

Incommuting Flows for Southeast Iowa Counties

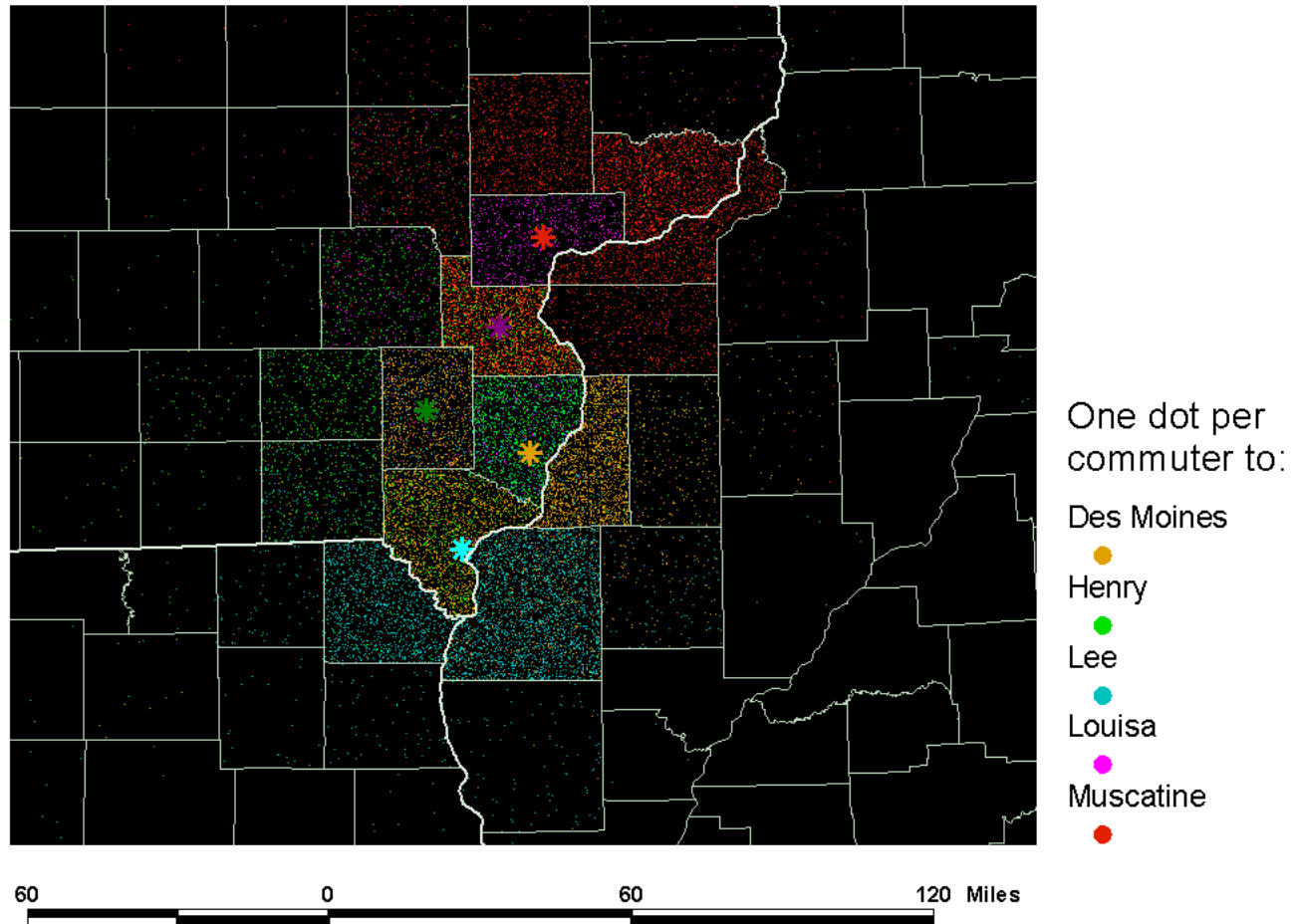


Figure 11

Outcommuting Flows for Southeast Iowa Counties

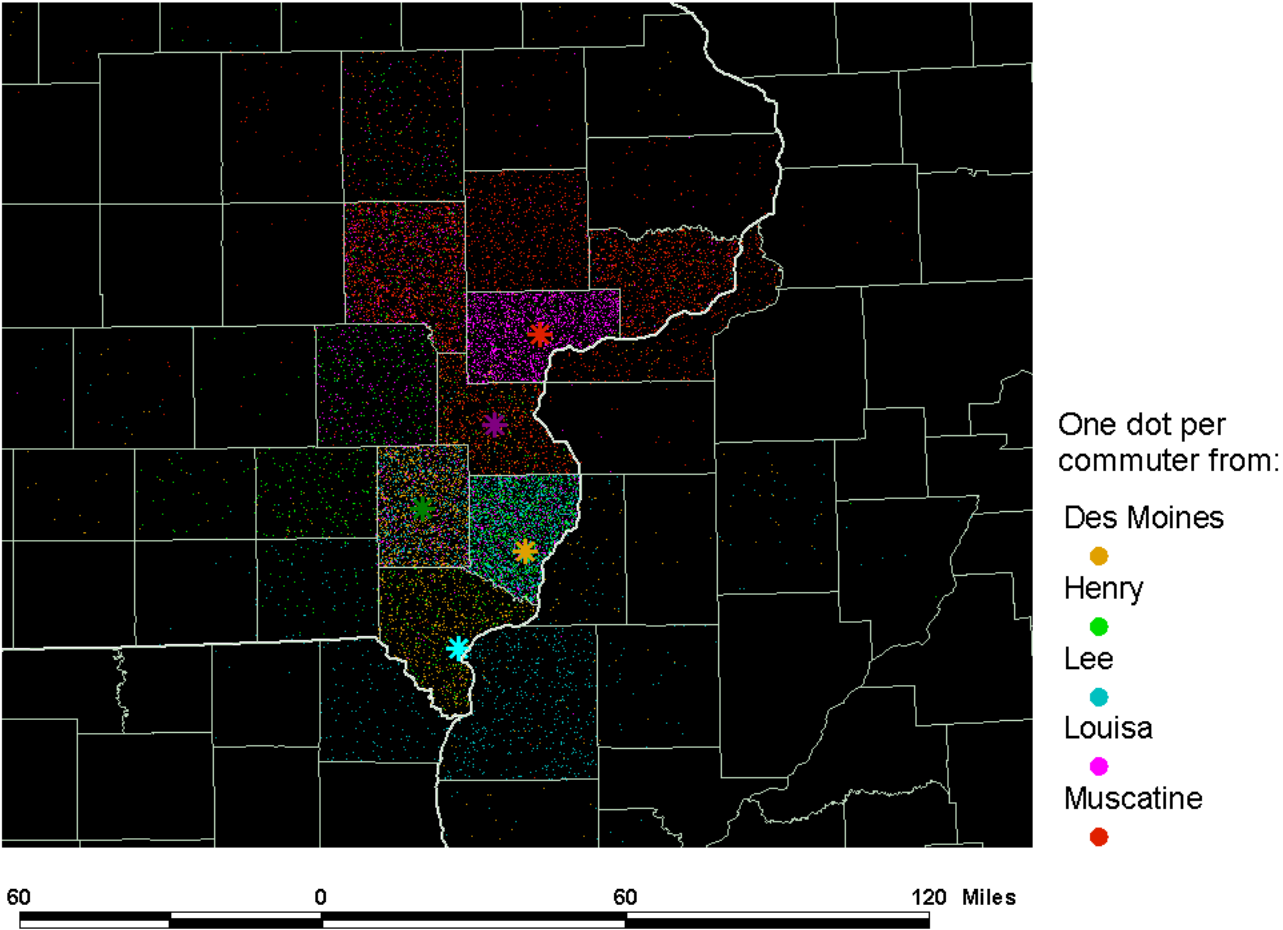


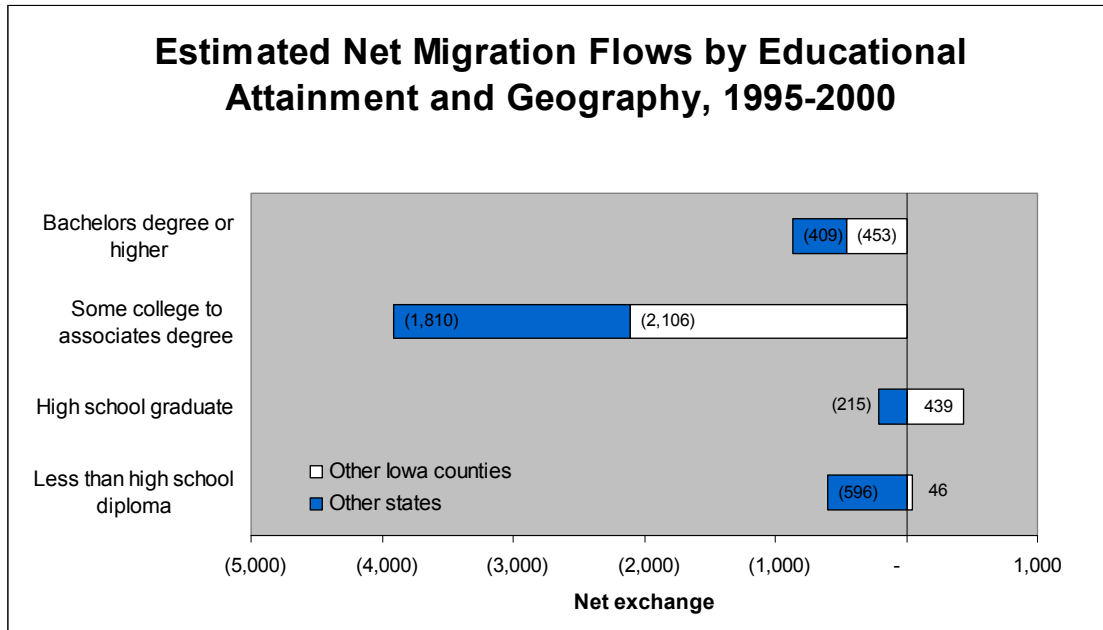
Figure 11 shows where outcommuting workers in our region went in 2000. Very dense flows are evident within the region into Des Moines and Muscatine counties, which both serve as dominant employment centers. Strong flows are also evident into the secondary region of primarily Muscatine County residents into Scott, and to lesser extents Cedar and Johnson counties, and Louisa County residents very noticeably flowing into Muscatine County. In all, however, regional worker flows into the remaining secondary territory is comparatively sparse.

Characteristics of Migrants

The 2000 census allows us to take a snapshot of persons that moved into or out of our region during the 1995 to 2000 period. Characteristics of incommuters and outcommuters are available by analyzing national public user micro-sample data sets (PUMS), a massive sample of the national, state, and local populations. Those data allow us to isolate important variables that allow us to gauge aspects those that moved in versus those that moved out. For our purposes, we calculated the net exchange of immigrants and outmigrants to see where the region was gaining or losing in terms of the educational attainment of migrants and their occupational choices.

Figure 12 details the educational characteristics of migrants in the region. Numerically, we can see the net exchange of the region with Iowa and with all other states. Positive values mean that the region immigrated more in a category than it outmigrated. Negative values, in parentheses, mean that the region outmigrated more than it immigrated. The sum of the two values, Iowa and the rest of the states, is the net in-flow or out-flow of migrants by group.

Figure 12

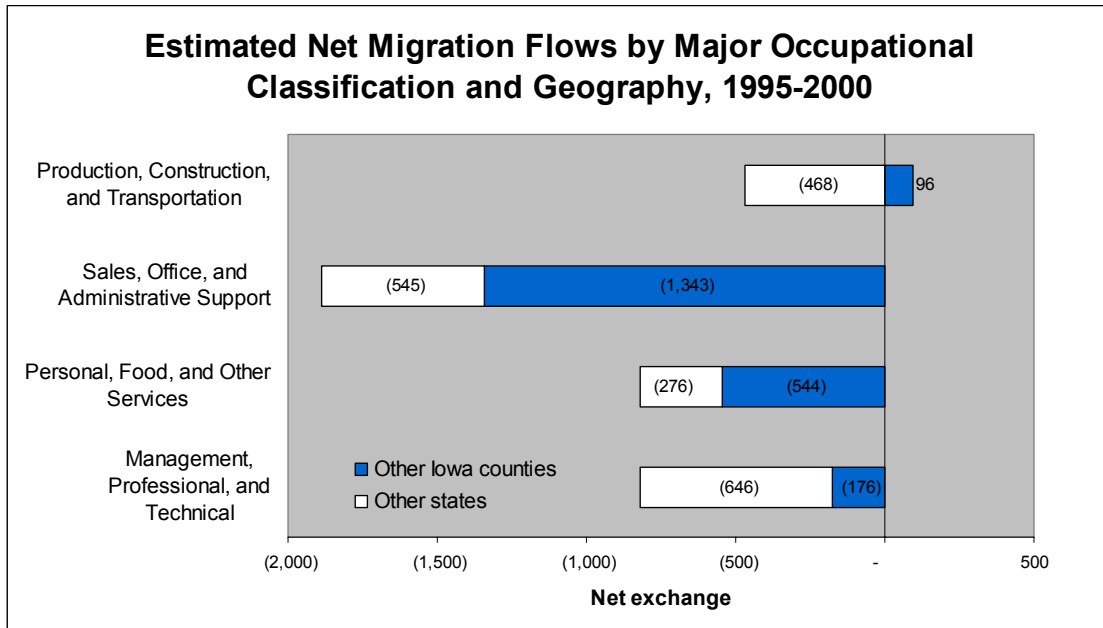


The region posted small net immigration from other Iowa counties for high school graduates. On a regionally comparative basis, the area was favorable for employment for persons with just a high school diploma. The outflow is much greater among those residents with some college education or an associates degree. There were 2,106 more workers in this group going to other Iowa counties than came in, and 1,810 more who went to other states than moved in. Notwithstanding the region’s proximity to Illinois and Missouri, those with some college educations and college degrees were more likely to relocate to another Iowa county. The region also posted a net loss of 960 persons who had a bachelors degree or higher. While it may seem trite, the cliché is pertinent: there is a significant “brain drain” in evidence in the region, and that drain is benefiting the state of Iowa as a whole at the comparative expense of the region.

Figure 13 allows a look at the kinds of jobs to which migrants were attracted and, broadly, where they went. The region had net outmigration between 1995 and 2000 of 1,888 persons whose occupations were in sales, office, and administrative support, just over 71 percent of whom went to another Iowa county out of the region. Among the net out-flow of 822 workers in management, professional, and technical groups, the vast majority were attracted to a state

other than Iowa. Of those 820 who, on net, flowed out to take personal, food, or other types of service jobs, two-thirds went to another Iowa county. And though there was a minor inflow of 96 workers from Iowa counties to take production, construction, and transportation jobs, almost 5 times as many workers in those trades flowed, on net, into other states.

Figure 13



IV. Regional Industrial Summary

Section Objectives:

- *Introduce readers to the industrial structure of the Southeast Iowa region.*
- *Demonstrate pertinent comparative statistics in several economic categories to all for a characterization of industrial activity.*
- *All readers to understand broad regional competitive strengths and weaknesses.*

Key Topics:

- *Industrial output*
- *Jobs*
- *Value added*

Findings Overview:

- *For the year measured, 2002, the region had 94,560 jobs and produced \$5.032 billion in total value added.*
- *Manufacturing accounted for 54 percent of industrial output, 23 percent of regional jobs, and 38 percent of all value added.*
- *While the region has just 5 percent of the state's jobs, it has 9.6 percent of its manufacturing positions.*
- *The region appears to have strong competitive positions in the state in manufacturing, transportation industries, and in the management of companies.*
- *The region appears to have weak competitive positions in information, finance and insurance, wholesale trade, education services, and real estate jobs.*

This section profiles the comparable size and broad industrial composition of the Southeast Iowa economy. Table 10 lists several measures of industrial activity. These data are derived from an input-output summary of the regional economy that was compiled by a non-governmental source.* The data are presented in

* The data for this region were compiled by the Minnesota Implan Group, Inc. This company provides estimates of industrial data summarized down to the county level. These data are based largely on existing U.S. Bureau of Labor Statistics, Bureau of Economic Analysis, and Census Bureau data sets that are compiled annually or quinquennially by federal agencies. Gaps in data

concordance with the North American Industrial Classification schema at the “2-digit” level, which allows us to identify the major sectors of the regional economy.

In 2002, according to this summary, there were 94,559 jobs in the region producing \$11.2 billion in industrial output. Industrial output is, roughly, the sales value of all production by industries. Payroll to workers in the region was \$2.856 billion, returns to sole proprietors were \$320 million, payments made to investors were \$1.59 billion, indirect tax payments to governments was \$270 million, and total value added, the sum of the preceding four categories, was \$5.032 billion.* Manufacturing accounted for \$6.04 billion of the region’s \$11.2 billion in industrial output. All governments came in a very distant second in this category with \$928 million in output value. Manufacturing also was the greatest categorical employer at 21,702 jobs, followed by retail trade at 10,362, all governments at 10,142, and health and social services employment at 8,978.

Table 10

Summary Industrial Accounts for the Southeast Iowa Region, 2002

All financial amounts in millions

Southeast Iowa	Total Industrial Output	Jobs	Employee Compensation	Proprietor Income	Other Property Income	Indirect Business Taxes	Value Added
Ag, Forestry, Fish & Hunting	371.56	4,962.29	16.329	60.90	47.73	9.867	134.82
Mining	8.065	54.05	2.351	0.439	2.066	0.232	5.088
Utilities	150.86	368.31	27.77	4.275	53.15	16.741	101.94
Construction	433.61	4,592.05	125.92	27.952	11.006	1.98	166.86
Manufacturing	6,041.19	21,702.72	1,095.69	74.798	692.36	48.687	1,911.53
Wholesale Trade	189.29	1,998.44	71.20	4.635	29.72	31.50	137.05
Transportation & Warehousing	586.73	5,842.69	234.95	12.996	70.127	8.078	326.16
Retail trade	446.22	10,362.56	188.80	14.803	67.84	65.15	336.60
Information	104.41	953.73	27.02	2.101	13.949	3.455	46.53
Finance & insurance	247.40	2,050.65	61.29	5.839	73.44	3.191	143.76
Real estate & rental	156.12	1,612.74	18.886	10.766	48.78	10.802	89.23
Professional- scientific & tech svcs	214.37	3,496.00	98.27	36.535	15.878	2.243	152.92
Management of companies	112.841	728.35	53.873	0.091	23.725	1.257	78.946
Administrative & waste services	186.48	4,502.84	73.45	11.626	14.438	3.116	102.63
Educational svcs	24.06	844.75	12.074	0.365	0.111	0.096	12.645
Health & social services	517.69	8,978.23	232.80	29.635	24.587	3.776	290.80
Arts- entertainment & recreation	73.52	1,355.62	21.291	4.696	10.48	5.098	41.565
Accommodation & food services	184.15	5,589.95	54.01	1.277	7.025	5.557	67.87
Other services	209.54	4,420.87	64.94	16.25	2.847	2.106	86.14
Government & non NAICs	928.31	10,142.43	375.61	0.000001	376.92	46.771	799.30
Totals	11,186.43	94,559.25	2,856.51	319.98	1,586.17	269.70	5,032.36

are filled using “clean and structure” techniques to estimate missing data by apportioning broad categorical remainders into categories where data were either missing or suppressed. As a consequence, some of the industrial detail in more highly disaggregated tables are estimates.

* It is much preferred to compare value added because it is highly analogous to gross regional industrial product, which is the standard way in which we gauge state and national economic performance over time.

Table 11 shows just how dominant manufacturing was in the Southeast Iowa economy in 2002. Manufacturing was 54 percent of industrial output; at a distant second, all governments produced just 8.3 percent of regional output. Output, however, is a crude measure of industrial activity in a region. It is more appropriate to use either jobs or value added to gauge the overall value of industrial activity to a region and its communities.

Using these more standard measures, manufacturing produced 23 percent of the region's jobs and yielded 38 percent of the region's value added. Because the value added percentage is above the jobs percentage, the returns of these jobs to workers and to investors was comparatively higher than most of the remaining sectors of the regional economy (wages to workers and payments to investors are the bulk of value added). Retail trade produced 11 percent of the jobs, but only 6.7 percent of value added, governments produced 10.7 percent of jobs and 16 percent of value added, nearly all of which were payments to workers, and the health and human services sector produced 9.5 percent of the jobs, but just 5.8 percent of value added. The lower fraction of value added indicates that the retail trade and the health and social services industries, as examples, are comparatively lower paying sectors.

Table 11

Summary Industrial Accounts for the Southeast Iowa Region, 2002, as Percentages of Totals

Southeast Iowa	Total Industrial Output	Jobs	Value Added
Ag, Forestry, Fish & Hunting	3.3%	5.2%	2.7%
Mining	0.1%	0.1%	0.1%
Utilities	1.3%	0.4%	2.0%
Construction	3.9%	4.9%	3.3%
Manufacturing	54.0%	23.0%	38.0%
Wholesale Trade	1.7%	2.1%	2.7%
Transportation & Warehousing	5.2%	6.2%	6.5%
Retail trade	4.0%	11.0%	6.7%
Information	0.9%	1.0%	0.9%
Finance & insurance	2.2%	2.2%	2.9%
Real estate & rental	1.4%	1.7%	1.8%
Professional- scientific & tech svcs	1.9%	3.7%	3.0%
Management of companies	1.0%	0.8%	1.6%
Administrative & waste services	1.7%	4.8%	2.0%
Educational svcs	0.2%	0.9%	0.3%
Health & social services	4.6%	9.5%	5.8%
Arts- entertainment & recreation	0.7%	1.4%	0.8%
Accommodation & food services	1.6%	5.9%	1.3%
Other services	1.9%	4.7%	1.7%
Government & non NAICs	8.3%	10.7%	15.9%
Totals	100.0%	100.0%	100.0%

The preceding table allows us to gauge sectoral strength in the regional economy, Table 12 shows which counties accounted for which components of industrial activity in the region. Muscatine County produced 34.2 percent of output, 34.5 percent of value added in the region, and 28 percent of the jobs. Des Moines County, in contrast, actually accounted for more jobs at 29.5 percent than Muscatine County, but a significantly lower fraction of the region’s value added or industrial output, comparatively. Louisa County yielded just 7.2 percent of industrial output, 5.1 percent of the jobs, and 4.1 percent of value added.

Table 12

Industrial Summaries by County

Summary all Counties	Total Industrial Output	Jobs	Value Added
Des Moines	25.0%	29.5%	27.4%
Henry	11.0%	14.3%	12.1%
Lee	22.6%	23.2%	21.8%
Louisa	7.2%	5.1%	4.1%
Muscatine	34.2%	27.9%	34.5%
Region	100.0%	100.0%	100.0%

Table 13 compares the major industrial values found in Southeast Iowa to those of the state of Iowa. This table is quite instructive and gives a good idea of the region’s comparative strengths and weaknesses vis à vis the state of Iowa. The first set of values to understand are the column totals. These are “expected” values. They represent the region’s total shares of state activity in the categories measured. The region had 6 percent of the state’s industrial output, 5 percent of jobs, and paid out 5.4 percent of the state’s value added.

Table 13**Summary Industrial Accounts for the Southeast Iowa Region, 2002,
as Percentages of State Totals**

Southeast Iowa	Total Industrial Output	Jobs	Value Added
Ag, Forestry, Fish & Hunting	3.2%	3.9%	3.4%
Mining	2.4%	2.5%	2.4%
Utilities	4.4%	4.5%	4.4%
Construction	4.4%	4.5%	4.2%
Manufacturing	10.4%	9.6%	11.3%
Wholesale Trade	2.4%	2.9%	2.4%
Transportation & Warehousing	8.3%	8.2%	9.2%
Retail trade	4.3%	4.6%	4.4%
Information	1.9%	2.6%	1.8%
Finance & insurance	1.6%	2.1%	1.8%
Real estate & rental	2.6%	3.6%	2.1%
Professional- scientific & tech svcs	4.9%	5.4%	4.8%
Management of companies	11.7%	9.3%	12.1%
Administrative & waste services	5.4%	5.7%	5.4%
Educational svcs	1.7%	2.4%	1.8%
Health & social services	4.6%	4.8%	4.4%
Arts- entertainment & recreation	4.8%	4.0%	4.9%
Accommodation & food services	4.3%	4.7%	3.8%
Other services	4.2%	4.3%	4.3%
Government & non NAICs	5.2%	4.2%	5.0%
Totals	6.0%	5.0%	5.4%

Now that we know the expected values, we can look to where the region has categorical strengths and weaknesses. Values in bold typeface are areas at least two percentage points higher than the expected values. Those shaded are at least two percentage points below the expected values.

In terms of the aggregated value of output, the region holds very strong statewide competitive positions in the management of companies (corporate headquarters, primarily) at 11.7 percent, manufacturing at 10.4 percent, and in transportation and warehousing at 8.3 percent. The region is comparatively weak in output in information industries, finance and insurance, and in educational services. The same categories of industrial strength and regional industrial weakness carry across to the jobs and to the value added measures. In each of the stronger groups, the share of value added exceeds the share of jobs, indicating that returns to workers and investors are, on average, higher in these industries than the overall state experience. Among the three competitively weak industries, the share of value added is less than the share of jobs, which indicates that these sectors return lower values to workers and to investors than is the state experience.

V. Major Industrial Changes in the U.S. – An Overview

Section Objectives:

- *Introduce readers to national industrial changes.*
- *Differentiate between recent periods of growth and decline.*
- *Encourage local officials to make sure that economic development planning is conducted in light of U.S. economic conditions.*

Key Topics:

- *Percentage or rate of growth or decline in U.S. industrial employment*
- *Numerical change in industrial employment*
- *Job shifting to demonstrate changes U.S. industrial composition*

Findings Overview:

- *During the early to latter 1990s, there were very strong gains made in technology, information processing, electronics manufacturing, and scientific and technical consulting firms.*
- *During the 2000 to 2003 period, most of these gains had turned into losses.*
- *Nationally, industries associated with textile manufacturing and clothing manufacturing declined massively, both during the 1990s and continuing on into the early 2000s.*
- *For the 1993 to 2003 period, the top 24 of 25 percentage losses in jobs were in manufacturing.*

This section isolates major industrial changes occurring in the U.S. in recent years. An awareness of national changes is fundamental to regional economic development efforts: regardless of regional industrial configurations, the dominant patterns of economic change occurring nationally are the most dominant predictors of local change and local economic development potential. Southeast Iowa officials, via the sets of tables that we will present, can easily discern how specific industries rank in terms of percentage changes or actual changes in the number of jobs during two distinct time periods. We profile the 1993 to 2003 period for a decade's worth of change. We also selected out the 2000 to 2003 period to isolate the major industrial changes most recently in evidence in the U.S.

National Percentage Gains

In the 1993 through the 2003 period, the fastest growing industries were related to information services, skilled technical services, and to computer-related firms. Table 14 lists the fastest growing industries for the period. Information services grew by 144 percent; management, scientific, and technical consulting services grew by 94.5 percent; software publishing firm jobs increased by 90 percent; and computer systems design and related services increased by 85 percent.

Among this list of fastest growing industries in the U.S., there were also a few manufacturing firms. Flavoring syrup industry jobs increased by 82 percent, wineries by 75.5 percent, plastics and rubber machinery manufacturing by 36 percent, wood kitchen and countertop manufacturing by 35.6 percent, and other concrete product manufacturing increased by 32.6 percent.

For the 2000 to 2003 period, we see strong increases in wineries at 24 percent, office administrative services at 23 percent, tortilla manufacturing at 14.5 percent, and personal care services at 12 percent. Among this top 25, there were two other manufacturing categories posting strong growth: coffee and tea manufacturing at 8.2 percent, and pharmaceutical and medicines at 6.6 percent. It is noticeable, too, that science, technology, information, and computer-related firms are not prominent in the nearer term (2000 to 2003) as they were in the longer term view (1993 to 2003).

Table 14

Top 25 U.S. Growth Industries, 1993-2003, by Rate			Top 25 U.S. Growth Industries, 2000-2003, by Rate		
NAICS97	Description	Percentage Change	NAICS97	Description	Percentage Change
5141	Information Services	144.2%	31213	Wineries	24.0%
5416	Management, Scientific, and Technical Consulting Services	94.5%	5611	Office Administrative Services	23.2%
5112	Software Publishers	89.6%	31183	Tortilla Manufacturing	14.5%
54151	Computer Systems Design and Related Services	84.9%	8121	Personal Care Services	11.9%
31193	Flavoring Syrup and Concentrate Manufacturing	82.0%	611	Educational Services	11.6%
5611	Office Administrative Services	81.5%	624	Social Assistance	11.4%
5613	Employment Services	76.6%	621	Ambulatory Health Care Services	10.9%
31213	Wineries	75.5%	31192	Coffee and Tea Manufacturing	8.2%
5614	Business Support Services	71.9%	5612	Facilities Support Services	8.1%
5132	Cable Networks and Program Distribution	60.1%	213	Support Activities for Mining	8.1%
624	Social Assistance	53.2%	5411	Legal Services	7.7%
611	Educational Services	45.5%	623	Nursing and Residential Care Facilities	7.7%
23	Construction	43.3%	622	Hospitals	7.3%
712	Museums, Historical Sites, and Similar Institutions	43.0%	32541	Pharmaceutical and Medicine Manufacturing	6.6%
5612	Facilities Support Services	41.0%	5419	Other Professional, Scientific, and Technical Services	6.1%
713	Amusement, Gambling, and Recreation Industries	40.1%	722	Food Services and Drinking Places	5.1%
621	Ambulatory Health Care Services	36.4%	5416	Management, Scientific, and Technical Consulting Services	5.0%
33322	Plastics and Rubber Industry Machinery Manufacturing	36.2%	531	Real Estate	4.7%
5419	Other Professional, Scientific, and Technical Services	35.7%	444	Building Material and Garden Equipment and Supplies Dealers	4.4%
33711	Wood Kitchen Cabinet and Countertop Manufacturing	35.6%	112	Animal Production	4.4%
5617	Services to Buildings and Dwellings	33.6%	813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	4.3%
1142	Hunting and Trapping	33.3%	52	Finance and Insurance	4.2%
32739	Other Concrete Product Manufacturing	32.6%	5619	Other Support Services	3.9%
444	Building Material and Garden Equipment and Supplies Dealers	31.9%	712	Museums, Historical Sites, and Similar Institutions	3.9%
443	Electronics and Appliance Stores	31.6%	5132	Cable Networks and Program Distribution	3.7%

National Numerical Gains

Community developers are also interested in knowing the industries that are hiring the most workers. Table 15 shows which industries added the most jobs over the two measurement periods irrespective of percentage changes. The numbers listed represent *shifted jobs*.^{*} Shifts are calculated as net accumulations of jobs from one industry to another taking into account the average or expected growth that was occurring during the period measured. Firms that grew faster than the average for all jobs would be gaining more jobs than the norm; hence, a positive shift in their direction. Firms growing slower than the average for all jobs would be, proportionately, losing ground; hence, a negative shift in jobs away from those industries. The numbers in Table 15 represent the 25 greatest numerical positive shifts for the two periods measured. These positive shifts represent the number of jobs that these industries added in excess of the average amount of growth enjoyed by all firms in the U.S. combined.

From 1993 to 2003, construction industry jobs increased by 1.2 million, followed by employment services at 1.08 million, ambulatory health care at 644,200, and social assistance jobs at 458,000. There are large job gains in many technical areas such as computer system design and related areas, management and technical consulting services, business support services, and other information and technical industries. There are, however, no manufacturing industries in this top 25 list of job gains.

In the nearer period, 2000 to 2003, 632,000 jobs were added to food services and drinking places, 586,400 to ambulatory health care, 391,500 to hospitals, 381,000 to finance and insurance, and 268,600 to nursing care industries. Three of the top five are health related. There are lesser gains in management, technical, and scientific services, and the only manufacturing firms in the top 25 are pharmaceuticals and medicines manufacturers, which realized 25,325 shifted jobs.

^{*} Here's an easy way to understand shifts. Suppose all industries in my economy grew by 5 percent over a measurement period. One industry (industry *a*) that originally had a million jobs grew by 3 percent, and another industry (industry *b*) that at the beginning of my measurement period had a million jobs grew by 7 percent. Had industry *a* grown by the overall average it would have added 50,000 jobs, but instead it only added 30,000; hence, a negative shift of 20,000 jobs. Had industry *b* grown by the overall average it would have also added 50,000, but instead it added 70,000 jobs; hence, a positive shift of 20,000 jobs.

Table 15

Top 25 U.S. Growth Industries, 1993-2003, by Shifted Jobs			Top 25 U.S. Growth Industries, 2000-2003, by Shifted Jobs		
NAICS97	Description	Shift	NAICS97	Description	Shift
23	Construction	1,204,174	722	Food Services and Drinking Places	632,089
5613	Employment Services	1,081,251	621	Ambulatory Health Care Services	586,356
621	Ambulatory Health Care Services	665,175	622	Hospitals	391,564
722	Food Services and Drinking Places	644,193	52	Finance and Insurance	380,979
624	Social Assistance	457,920	623	Nursing and Residential Care Facilities	268,590
54151	Computer Systems Design and Related Services	404,112	611	Educational Services	258,176
611	Educational Services	389,479	624	Social Assistance	248,168
5416	Management, Scientific, and Technical Consulting Services	298,681	23	Construction	197,896
623	Nursing and Residential Care Facilities	240,204	5411	Legal Services	110,938
5614	Business Support Services	234,318	531	Real Estate	97,562
713	Amusement, Gambling, and Recreation Industries	213,592	813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	86,895
5617	Services to Buildings and Dwellings	197,167	5617	Services to Buildings and Dwellings	81,857
444	Building Material and Garden Equipment and Supplies Dealers	130,462	444	Building Material and Garden Equipment and Supplies Dealers	81,264
5413	Architectural, Engineering, and Related Services	114,749	441	Motor Vehicle and Parts Dealers	77,156
5611	Office Administrative Services	107,079	452	General Merchandise Stores	72,742
441	Motor Vehicle and Parts Dealers	95,836	8121	Personal Care Services	70,872
5112	Software Publishers	90,335	5611	Office Administrative Services	63,852
5141	Information Services	87,871	5416	Management, Scientific, and Technical Consulting Services	55,476
5419	Other Professional, Scientific, and Technical Services	66,313	446	Health and Personal Care Stores	44,456
5616	Investigation and Security Services	58,722	5419	Other Professional, Scientific, and Technical Services	40,728
5132	Cable Networks and Program Distribution	58,121	5616	Investigation and Security Services	34,690
443	Electronics and Appliance Stores	55,659	5417	Scientific Research and Development Services	32,085
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	54,839	32541	Pharmaceutical and Medicine Manufacturing	25,325
442	Furniture and Home Furnishings Stores	53,680	8111	Automotive Repair and Maintenance	20,500
453	Miscellaneous Store Retailers	44,473	711	Performing Arts, Spectator Sports, and Related Industries	19,625

National Percentage Losses

Table 16 identifies the top 25 industries with the largest percentage losses in jobs over the two measurement periods. Ten of the top 15 industrial losses between 1993 and 2003 occur in textile or apparel industries. The losses ranged from 46.2 percent in hosiery and sock mills to 75.5 percent in other apparel knitting mills. Of the top 25 greater-percentage losers, 24 were manufacturing industries.

In the 2000 to 2003 period, losses in textiles and apparel continue. Six of the top 10 largest percentage losers are in textiles or related firms. This time, 23 of the 25 greatest percentage losers were in manufacturing.

Table 16

Bottom 25 U.S. Growth Industries, 1993-2003, by Rate			Bottom 25 U.S. Growth Industries, 2000-2003, by Rate		
NAICS97	Description	Percentage Change	NAICS97	Description	Percentage Change
31519	Other Apparel Knitting Mills	-75.5%	31519	Other Apparel Knitting Mills	-52.6%
3162	Footwear Manufacturing	-69.3%	33421	Telephone Apparatus Manufacturing	-52.2%
3152	Cut and Sew Apparel Manufacturing	-67.1%	33612	Heavy Duty Truck Manufacturing	-43.0%
31324	Knit Fabric Mills	-58.2%	31324	Knit Fabric Mills	-41.9%
3159	Apparel Accessories and Other Apparel Manufacturing	-52.5%	3152	Cut and Sew Apparel Manufacturing	-39.4%
31331	Textile and Fabric Finishing Mills	-50.4%	33592	Communication and Energy Wire and Cable Manufacturing	-34.5%
31321	Broadwoven Fabric Mills	-49.1%	3162	Footwear Manufacturing	-34.4%
3169	Other Leather and Allied Product Manufacturing	-48.2%	31321	Broadwoven Fabric Mills	-34.2%
3161	Leather and Hide Tanning and Finishing	-47.8%	3169	Other Leather and Allied Product Manufacturing	-34.0%
31511	Hosiery and Sock Mills	-46.2%	33321	Sawmill and Woodworking Machinery Manufacturing	-33.9%
2122	Metal Ore Mining	-42.9%	31331	Textile and Fabric Finishing Mills	-31.8%
31322	Narrow Fabric Mills and Schiffli Machine Embroidery	-39.5%	33441	Semiconductor and Other Electronic Component Manufacturing	-31.7%
33993	Doll, Toy, and Game Manufacturing	-39.4%	3161	Leather and Hide Tanning and Finishing	-31.4%
3131	Fiber, Yarn, and Thread Mills	-39.3%	33993	Doll, Toy, and Game Manufacturing	-30.5%
32522	Artificial and Synthetic Fibers and Filaments Manufacturing	-38.2%	3365	Railroad Rolling Stock Manufacturing	-30.0%
33421	Telephone Apparatus Manufacturing	-37.2%	3159	Apparel Accessories and Other Apparel Manufacturing	-29.5%
33521	Small Electrical Appliance Manufacturing	-36.7%	33422	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	-29.3%
32592	Explosives Manufacturing	-36.6%	31322	Narrow Fabric Mills and Schiffli Machine Embroidery	-28.7%
33141	Nonferrous Metal (except Aluminum) Smelting and Refining	-35.5%	33142	Copper Rolling, Drawing, Extruding, and Alloying	-28.1%
32312	Support Activities for Printing	-35.2%	2122	Metal Ore Mining	-28.1%
31221	Tobacco Stemming and Redrying	-34.9%	3131	Fiber, Yarn, and Thread Mills	-28.0%
33422	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	-34.7%	33312	Construction Machinery Manufacturing	-27.7%
32511	Petrochemical Manufacturing	-34.3%	3343	Audio and Video Equipment Manufacturing	-27.6%
33111	Iron and Steel Mills and Ferroalloy Manufacturing	-33.6%	5141	Information Services	-27.2%
33991	Jewelry and Silverware Manufacturing	-32.7%	31511	Hosiery and Sock Mills	-27.1%

National Numerical Losses

Table 17 lists negative shifts. Negative job shifts occur when an industry grows more slowly over the period measured than the national average for all jobs. For the 1993 to 2003 period, there was an erosion of 618,600 jobs in cut and sew apparel, 334,800 in food and beverage stores, 286,100 in aerospace products and parts were lost, and 223,800 in printing. During this period, 17 of the top 25 job shifts were in manufacturing industries.

Table 17

Bottom 25 U.S. Growth Industries, 1993-2003, by Shifted Jobs			Bottom 25 U.S. Growth Industries, 2000-2003, by Shifted Jobs		
NAICS97	Description	Shift	NAICS97	Description	Shift
3152	Cut and Sew Apparel Manufacturing	(618,641)	5613	Employment Services	(442,877)
445	Food and Beverage Stores	(334,831)	33441	Semiconductor and Other Electronic Component Manufacturing	(195,711)
33641	Aerospace Product and Parts Manufacturing	(286,102)	54151	Computer Systems Design and Related Services	(167,586)
32311	Printing	(223,791)	5133	Telecommunications	(166,734)
2211	Electric Power Generation, Transmission and Distribution	(213,062)	3152	Cut and Sew Apparel Manufacturing	(145,814)
33451	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	(203,838)	48	Transportation and Warehousing	(130,060)
42	Wholesale Trade	(198,048)	3363	Motor Vehicle Parts Manufacturing	(112,872)
448	Clothing and Clothing Accessories Stores	(193,876)	32311	Printing	(97,750)
5111	Newspaper, Periodical, Book, and Database Publishers	(176,004)	3261	Plastics Product Manufacturing	(85,258)
3363	Motor Vehicle Parts Manufacturing	(155,079)	55	Management of Companies and Enterprises	(75,705)
447	Gasoline Stations	(133,716)	33351	Metalworking Machinery Manufacturing	(63,608)
33441	Semiconductor and Other Electronic Component Manufacturing	(131,046)	33641	Aerospace Product and Parts Manufacturing	(62,343)
3221	Pulp, Paper, and Paperboard Mills	(108,243)	33411	Computer and Peripheral Equipment Manufacturing	(59,752)
31321	Broadwoven Fabric Mills	(104,043)	33712	Household and Institutional Furniture Manufacturing	(58,780)
33712	Household and Institutional Furniture Manufacturing	(101,693)	5141	Information Services	(56,963)
33411	Computer and Peripheral Equipment Manufacturing	(99,999)	454	Nonstore Retailers	(55,372)
33531	Electrical Equipment Manufacturing	(90,538)	5418	Advertising and Related Services	(55,162)
31331	Textile and Fabric Finishing Mills	(87,344)	453	Miscellaneous Store Retailers	(53,129)
711	Performing Arts, Spectator Sports, and Related Industries	(86,548)	33421	Telephone Apparatus Manufacturing	(51,566)
454	Nonstore Retailers	(85,853)	5111	Newspaper, Periodical, Book, and Database Publishers	(50,386)
8123	Drycleaning and Laundry Services	(83,720)	5615	Travel Arrangement and Reservation Services	(49,986)
33351	Metalworking Machinery Manufacturing	(83,490)	721	Accommodation	(49,427)
3261	Plastics Product Manufacturing	(80,488)	445	Food and Beverage Stores	(48,393)
33111	Iron and Steel Mills and Ferroalloy Manufacturing	(77,894)	33531	Electrical Equipment Manufacturing	(46,296)
211	Oil and Gas Extraction	(75,783)	33721	Office Furniture (including Fixtures) Manufacturing	(40,165)

In the 2000 to 2003 period, there was a strong shift of 442,900 jobs from employment services, 195,700 away from semiconductor and electronic

components firms, 167,600 fewer computer systems design jobs, and 166,700 fewer telecommunications jobs. At least six of the major losers in this group were associated with computer manufacturing, related components, or telecommunication and information services. The losses in apparel and related industries are not as noticeable and pervasive in this list, and only 11 of the top 25 losing industries were manufacturing.

VI. Identifying Industrial Targets

Section Objectives:

- *Introduce industrial targeting methodology.*
- *Identify major regional competitive industries.*
- *Identify industries that historically prefer this region.*
- *Ascertain whether regional industries are currently competitive, stable, or declining.*
- *Identify regional emerging industries.*
- *Establish and demonstrate evaluation criteria to help planners understand characteristics of regional targeted industries.*
- *Identify industries that might be considered beneficial industrial clusters.*

Key Topics:

- *Measures of regional industrial competitiveness – location quotients*
- *Targeted industries*
- *Emerging industries*
- *Industrial Clusters*

Findings Overview:

- *SE Iowa has a diverse set of key industries, a very large fraction of which are manufacturing firms.*
- *The region has eleven key and competitive manufacturing industries where locational advantages are very evident.*
- *The region has 21 additional key manufacturing industries that could be classified as stable, many of which are both major employers and scored relatively high on measures of productivity, returns to workers, and linkages to the regional economy.*
- *The region has eight key industries that are in decline, two of which are not manufacturing groups.*
- *The region has five industries that are growing substantially faster than the national average.*
- *Of the region's 47 key or emerging industries, 19 can be classified as potential industrial clusters.*

An important objective of industrial targeting research is to help economic development planners to zero-in on an area's production, trade, and service

strengths and to assist in identifying emerging industries. Like a personal investment strategy, investors attempt, via research and experience, to place their resources into investments that will balance their expectations for growth against their respective tolerances for risk. An investor would not seriously think about putting funds into a category that research indicated might not grow in the near future. Smart investors would be careful about fads and bandwagons. Finally, investors would move resources away from categories that were likely to decline.

This analogy to economic development is apt, but only to a point. Regional economic development planners are not in charge, nor do they have the power to influence, the whole regional economy. To pretend so would be silly, if not arrogant. Instead, economic development practitioners have an opportunity to steer both public and private investment dollars and activities into areas that may accomplish one of several important economic development goals. For example, developers may wish to

- Encourage the diversification of industrial production in an area to offset historic patterns in order to try to move the regional industrial mix into the direction of the state or national economy,
- Capitalize on existing industrial strengths and use those strengths to leverage similar industries or industries that link well with that historical base,
- Nurture nascent industrial activity appearing to hold promise or further the development of regional or sectoral niche industries, or
- Search for new firms that allow for more efficient utilization of existing private and public infrastructure such as private and public transportation, storage, energy production capacity, and municipal utilities. Regional education capacity could also be considered in this instance.
- Enhance the average earnings potential of regional labor force members and the total incomes of the average regional household.

In all of these examples, the economic development planners ideally are using sound industrial, labor force, and other economic research to inform their decisions. They are not transforming the economy regionally, they are working to use scarce public resources in manners that are efficient and offer the potential for desirable economic and social outcomes.

The primary objectives of this portion of the analysis are three-fold:

- Clarify the region's overall industrial strengths
- Identify industries that have a higher potential for locating in the region.
- In so doing, we hope to help identify industries that have comparatively attractive economic development impacts to include,
 - Potential future growth
 - Wage values
 - Efficient utilization of existing private and public capacities
 - Ability to contribute to the regional tax base

The targeting methodology employed in this analysis looks at three main industry selection criteria

- Existing regional competitive advantages
- Growth potential
- Evidence of emerging industries

We will also screen to determine whether there is an indication of industrial clustering in the region. We pay attention to industrial clusters because

- The existence of industrial clusters indicates, at least historically, that the region is attractive to certain kinds of firms.
- The multiplier effects* of those clustered industries are generally higher than un-clustered industries.
- All other things equal, clustered industries, provided the firms are regionally and nationally competitive, have the capacity to produce stronger employment growth than those not in clusters.
- Areas with identifiable industrial clusters generate more spin-off industries than unrelated firm groupings.

* There are two major multiplier effects that we care about. First, we determine whether firms make significant purchases from regional suppliers or producers. Next, we are interested in the overall pay levels of industries. All other things equal, the higher the earnings in an industry, the higher the amount of household purchases in the region.

Organizing the Primary Data Sets

There are two primary sources of data for our analysis. We are employing Minnesota Implan data for our analysis of regional industrial structure and competitiveness. We buy this data set annually. Implan data have a high degree of detail and allow us to gain insights into regional industrial composition that is not available from governmental sources. The other major source for regional data is the Quarterly Census of Employment and Wages (QCEW) administered by the Iowa Department of Workforce Development. These data were known historically as ES 202 files. They are highly detailed at the county level, and they provide valuable insights into industrial compositions. The data, however, must be managed carefully so as not to unintentionally reveal proprietary information about firms in an area.

Several analysis parameters had to be set before beginning the targeted industry assessments for the region. First, the time period of analysis was determined. Second, an appropriate level of industrial detail was identified. There is a major structural problem limiting our ability to assess detailed industry data over time. The U.S. transformed its industrial classification system from the older Standard Industrial Classification system (SIC) to a newer system, the North American Industrial Classification System (NAICS). Most data sources prior to 2000 are coded with SIC, but newer data are NAICS. On top of this, we are relying on Minnesota Implan data as the foundation for our regional industrial social accounts. Those data were compiled using an SIC basis up until 2000 and were converted to an NAICS basis in 2001. Furthermore, the Implan data are organized at several different levels of industrial specification. Some industries are aggregated to the two-digit NAICS level. In other instances the data set contains four, five, and even six-digit industrial classifications. Importantly and beneficial for our purposes, Implan data are highly specific in the manufacturing sector.

Our first necessary approach to this analysis was to limit our period of analysis. We are primarily, regionally, only looking at the 2000 to 2003 period as our era of change. Reconciling data set organizational structures required us to align IMPLAN data and the QCEW data sets. A complete set of Implan industrial accounts in the region was collapsed so that they were aggregated at no greater than the NAICS five-digit level, although several industries were aggregated at a lower level. Next, the regional QCEW data sets for our measurement years, 2000

and 2003, were aligned so that they matched the final aggregations of the IMPLAN data set. These data reduction steps transformed Implan data detail from a 509 sector data set to a 255 sector data set. The trade off for a reduction in industrial detail is enhanced alignment with the QCEW data set, which allows us to compile counts of firms and the amount of employment change in the industries, an elimination of the likelihood that we are violating disclosure rules, and a workable and manageable list of industries in the region with which to work.

Targeted Industry Selection Process

With our resulting data sets, we looked at all industries in the region using the following potential targeted industry selection criteria:

1. There were 100 or more jobs in the industry region-wide.
2. The industries' location quotients, a measure of local industrial specialization, were greater than 1.50 in 2002.
3. There was evidence of a positive "shift" in employment in an industry in excess of 50 jobs, regardless of location quotient.*

Selection criteria 1 and 2 identify industries that have a significant presence in the region (both in size and in specialization). Job shifts calculated in Item 3 allow us to differentiate industries that are competitive, stable, declining, and emerging.

Location quotients are a standard measure of an area's industrial composition and degree of industrial specialization. Using the U.S. as a basis for comparison, an area's location quotient (LQ) for an industry is simply the percentage of jobs in that industry locally divided by the percentage of jobs in that industry nationally:

* As the entire region actually lost jobs over the period assessed, we are employing "shift" calculations instead of actual employment change to denote industrial categories within which the region may be increasing in competitiveness vis a vis the nation even though employment may not be growing regionally or nationally. A positive shift of 50 jobs means that considering the national experience in that industry, there were 50 or more jobs than would have been expected had the regional industry behaved like the industry did nationally. A negative shift of 50 jobs (or more) means that the regional industry performed less well than the same industries nationally.

$$LQ = \frac{\frac{\text{Regional jobs in industry } i}{\text{Regional total jobs } t}}{\frac{\text{U.S. jobs in industry } I}{\text{U.S. total jobs } T}}$$

A LQ of 1.0 means that an area has the same percentage of jobs in an industry as the national average. A LQ < 1.0 means that there is a regional deficit of jobs in an industrial category, the region does not demonstrate production specialization in that instance. A LQ > 1.0 means that there is evidence of industrial specialization. Our cut-off is 1.50. That means, considering the national experience, industries in the region meeting this criterion have 50 percent or more jobs than the national average would have suggested. The higher the LQ in an industry in a region, the higher the assumed level of specialization.

We also use job shifts as a proxy indicator of LQ change. The LQs in our analysis were calculated from the transformed Implan data set for the region and for the U.S. economies. We also, however, calculated industrial job shifts for the 2000 to 2003 period using QCEW data. We do not have a NAICS-compatible Implan data set for those two years for the region and the U.S. By definition, however, industries with positive job shifts over this period of time will have realized an increase in their LQs. Industries with a negative job shift will have realized a decrease in their LQs. For the short period assessed, the job shifts indicate changes in industrial competitiveness.

Initial Selection Results

There are four subsequent tables of industrial ratings resulting from our initial, targeted industry selection criteria:

- **Key industries – competitive.** Industries with 100 or more jobs, with an LQ > 1.50, and with a positive job shift between 2000 and 2003 of 50 or more.
- **Key industries – stable.** Industries with 100 or more jobs, with an LQ > 1.50, but that had shifts of \pm 49 jobs.

- **Key industries – declining.** Industries with 100 or more jobs, with an LQ > 1.50, but that had job shift declines of 50 or more.
- **Emerging industries.** These are industries that do not meet the above criteria, but simply had a positive job shift in the region of 50 or more and are, therefore, worthy of our scrutiny.

Table 18 lists the region’s list of 11 competitive key industries. All had at least 100 jobs in 2002*, LQs > 1.5, and a recent net shift of 50+ jobs**. While we did not limit our initial analysis to just manufacturing firms, all of the industries in this list are manufacturers. The data are ordered by number of jobs. Animal slaughtering and processing jobs were almost 2,500, followed by 2,400 office furniture jobs, other rubber products manufacture at 1,600, and fabricated metal products at just over 1,000 jobs. Very high LQs were evident in pesticides, etc., at 71 (or 71 times the national average jobs in that sector), 35.3 for rubber products, and 28 for office furniture.

Table 18

Regionally Competitive Industries

Description	Jobs	LQ
Animal Slaughtering and Processing	2,477	8.0
Office Furniture (including Fixtures) Manufacturing	2,412	27.9
Other Rubber Product Manufacturing	1,591	35.3
All Other Fabricated Metal Product Manufacturing	1,013	9.3
Pesticide and Other Agricultural Chemical Manufacturing	744	71.0
Iron and Steel Mills and Ferroalloy Manufacturing	716	12.0
Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	559	5.9
Other Industrial Machinery Manufacturing	218	3.6
Plate Work and Fabricated Structural Product Manufacturing	191	1.9
Fertilizer Manufacturing	138	9.7

* Job totals are from the 2002 Implan data set for this region.

** Shift values represent industrial category changes between 2000 and 2003 using the QCEW data. The researchers are aware that several of the industries in these tables have lost jobs since 2003 and that a few have expanded. A list of recent industrial changes, both additions and deletions, in the region will be appended to the final report.

The method employed here is an abbreviated shift-share assessment. A shift-share assessment analyzes a region’s industrial change in high detail and determines how much of that changes was due to (a) overall national economic changes, (b) whether the region has a beneficial or non-beneficial industrial mix, and (c) whether industries in a region grew faster or slower than their national counterparts. Our shift assessment relies solely on category (c) calculations.

Table 19 lists the region’s 21 competitive, but stable industries. All but one of these industries, i.e., waste management and remediation services, is a manufacturing firm. These industries meet the same competitiveness criteria as the previous group but had job shifts that ranged from –49 to +49. The largest industry in this group is motor vehicle parts at 666, followed by electrical equipment, and lighting equipment. The highest LQs are lighting equipment, rubber hoses, etc., and cookie, cracker, and pasta making. Among this group, average industry size and average location quotient are lower than the previous group.

Table 19

Regionally Stable Industries

Description	Jobs	LQ
Motor Vehicle Parts Manufacturing	666	1.7
Electrical Equipment Manufacturing	612	6.2
Lighting Fixture Manufacturing	611	19.5
Fruit and Vegetable Canning, Pickling, and Drying	535	9.8
Waste Management and Remediation Services	525	2.7
Cookie, Cracker, and Pasta Manufacturing	466	13.9
Ferrous Metal Foundries	358	6.5
Rubber and Plastics Hoses and Belting Manufacturing	282	18.4
Material Handling Equipment Manufacturing	277	6.2
Metal Can, Box, and Other Metal Container (Light Gauge) Manufacturing	230	7.9
Animal Food Manufacturing	228	7.3
Paint and Coating Manufacturing	228	8.7
Engine, Turbine, and Power Transmission Equipment Manufacturing	225	4.0
Mattress Manufacturing	174	9.8
Stationery Product Manufacturing	164	7.6
All Other Miscellaneous Manufacturing	158	1.8
Pulp, Paper, and Paperboard Mills	142	1.6
Paper Bag and Coated and Treated Paper Manufacturing	126	2.8
Gypsum Product Manufacturing	112	13.2
Other Basic Inorganic Chemical Manufacturing	111	4.2
Hardware Manufacturing	104	4.3

Table 20 lists the nine industries that meet two of the selection criteria, jobs > 100 and LQ > 1.50, but which realized net declining shifts of 50 jobs or more between 2000 and 2003. Two of these industries, transportation and warehousing along with nursing and residential care facilities are not manufacturing.* The largest in this group is the relatively broad category of transportation and warehousing services, which employed over 5,800 workers,

* Owing to Iowa’s larger proportion of elderly than the national average, there is a concentration of services consumed by the elderly, including, as would be expected, nursing and residential care firms. Generally speaking, this kind of activity does not fit into a “targeted” industry designation unless your location were a destination-retirement economy that was, literally, importing elderly residents.

followed by nursing and residential care at 2,400 jobs, and starch and vegetable fats and oils at 1,121 jobs. Several of these industries demonstrated high LQs, including starch and vegetable fats and oils at 70.4, office supplies manufacturing at 21.2, construction machinery at 17, and radio and television broadcasting and wireless communications equipment at 16.4.

Table 20

Regionally Declining Industries

Description	Jobs	LQ
Transportation and Warehousing	5,843	1.7
Nursing and Residential Care Facilities	2,391	1.5
Starch and Vegetable Fats and Oils Manufacturing	1,121	70.4
Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	780	16.4
Construction Machinery Manufacturing	609	17.0
Motor Vehicle Body and Trailer Manufacturing	508	6.0
Office Supplies (except Paper) Manufacturing	394	21.2
Other Concrete Product Manufacturing	360	10.2

It is instructive to compare tables 18 and 20. Both sets have relatively large numbers of employees and both have comparatively high LQs. Mere industrial size and sheer specialization are not necessarily indicators of future industrial strength. It is, however, important to note the content of this declining group. Transportation and warehousing correlates directly with the existing levels of agricultural and total manufacturing activity in an area. As manufacturing output in the region has declined, so too would the demand for transportation services. Nationally, the broad categories of food manufacturing tend to be stable industries – in America, most foodstuffs are produced and processed locally. Given the prominence of oil and feed grain production in Iowa, one wouldn't expect erosions in food related industries. Electronics and machinery production, broadly, have not fared well in Iowa in recent years and are among two of the categories of decline in the region, as also is the motor vehicle body and trailer manufacturing industry in the region.*

Finally, Table 21 lists industries in the region that are emerging. Emerging industries gained a net shift of at least 50 jobs. By definition, then, these industries' location quotients are increasing. The largest group is the management of companies and enterprises with 728 jobs, followed, surprisingly given national trends, computer systems design services at 546 jobs. Most of

* These are primarily due to the Bluebird bus body plant closing in Mt. Pleasant.

these industries had LQs < 1.0. The highest were electric power generation at 1.4 and in plastics products at 1.2.

Table 21

Regionally Emerging Industries		
Description	Jobs	LQ
Management of Companies and Enterprises	728	0.7
Computer Systems Design and Related Services	546	0.4
Plastics Product Manufacturing	436	1.2
Electric Power Generation, Transmission and Distribution	315	1.4
Printing	251	0.7
All Other Chemical Product and Preparation Manufacturing	10	0.2

Scoring Industrial Targets

The accompanying table provides a detailed listing of the four categories of firms identified in Tables 18 through 21 along with an assessment of their relative rankings in several important categories. These relative rankings are color-coded to reflect generally positive, neutral, or negative considerations relative to the industry of scrutiny. We will list actual values in an appendix to the final report for readers who are statistically needy.

The categories chosen for evaluation are

- Job Shifts – this was one of the initial screening criterion employed to choose our targeted industries. It tells us, regardless of national industrial performance, whether the region is gaining or losing competitive job shares. Green (Hi) industries realized a shift of 50 jobs or greater, yellow (Med) ± 49 jobs, and red (Lo) declined by 50.
- National employment growth, 1993 to 2000 – this indicator tells us whether this industry was, nationally, growing slower than the national average, at about the same pace, or faster than the national average during the last decade. Greens grew by at least percentage point more annually than the overall national average for all jobs, yellows by ± 1 percentage point from the overall national average, and red by at least a percentage point less.
- National employment growth, 2000 to 2003 – this indicator tells us whether this industry is, nationally, growing slower than the national average, at about the same pace, or faster than the national average during

the current decade. Greens grew by at least a percentage point more annually than the overall national average for all jobs, yellows by ± 1 percentage point from the overall national average, and red by at least a percentage point less.

- Average firm size – all things equal, when it comes to firm recruiting and firm linkages with a regional economy, larger firms are more desirable. These data are ordered by thirds: the larger third = green, the next third = yellow, and the bottom third = red.
- Productivity: Output per job – firms with very high industrial output per job are normally capital or technology intensive firms. These data are ordered by thirds: the greater third = green, the next third = yellow, and the lesser third = red.
- Region to U.S. output per jobs – this indicator compares regional output per job to the U.S. average for that industry. These data are not ordered by thirds; instead, those scoring a green value (Hi) were more than 10 percent greater than the U.S. average (1.0), those within ± 10 percent of the U.S. average are yellow, and those 10 percent lower were scored red.
- Earnings index – earnings are assessed relative to the regional average labor earnings per job. Economic development planners normally pay close attention to the average wage value of new and retained jobs. The raw data are indexed to the regional average. These data, however, are ordered by thirds: the higher third = green, the next third = yellow, and the lower third = red.
- Fringe percentage – this measure uses national averages to determine the value of all fringe benefit spending as a percentage of all personnel expenditures by industries. The supposition is that jobs with higher fractions of fringe benefits are more desirable to a community. These data are ordered by thirds: the larger third = green, the next third = yellow, and the lesser third = red. Data in this group were only available for manufacturing industries.

- Regional linkages: multiplier – this is what is called a Type I multiplier, and it was obtained from the Implan data set. Higher Type I multipliers indicate strong linkages to supplying firms in the region. Firms with higher Type I multipliers are generally more valuable to a regional economy. These data are ordered by thirds: the larger third = green, the next third = yellow, and the bottom third = red.
- Regional linkages: regional input purchases per firm – this measure allows us to determine whether the firms that we are scrutinizing make large amounts of purchases from regional suppliers (irrespective of their Type I multiplier). These data are ordered by thirds: the greater third = green, the next third = yellow, and the lower third = red.
- Labor income multiplier – another measure of the value of labor in an industry is the assumed relationship of labor spending in that industry to other incomes in the region. If industry incomes are high, they create more household spending in the region and further stimulate jobs. These data are ordered by thirds: the higher third = green, the next third = yellow, and the bottom third = red.
- Education – using national industrial averages from the 2000 census Public Use Micro Sample, the average years of schooling of all workers in the selected industries were scored to determine whether the industries have, comparatively, higher or lower educational demands. These data are ordered by thirds: the highest third = green, the next third = yellow, and the lowest third = red.

Table 22 displays the color-coded assessments for the region’s competitive industries, those that had at least 100 jobs, LQs > 1.5, and a positive shift of 50 jobs.* All of these industries have high values for job shifts. Animal slaughtering had high values for 9 of the 12 categories. The next most were iron and steel mills with 8, and pesticides and other agri-chemicals with 7. Office furniture had just 3 high values followed by all other fabricated metal

* In all of the subsequent tables, green denotes the more desirable characteristics, yellow represents the middle area, and red indicates comparatively worse characteristics. Instances with no color or text mean no data were available or were not obtained for this report.

products. By category, the region's competitive industries scored the most highs in average firm size column with 6, followed by regional linkages – gross inputs per firm with five. By far the most low values were in national employment change, 2000 to 2003, with 9, followed by employment change, 1993-2000.

Table 22

Regionally Competitive Industries	Job Shift	U.S. Employment Change: 1993 to 2000	National Employment Change: 2000 to 2003	Average Firm Size	Productivity: Output per job	Region to U.S. Output per job	Earnings Index	Fringe Percentage (national)	Regional Multiplier	Regional Linkages: Type I	Regional Linkages: Gross Inputs per Firm	Income Multiplier	Education
Animal Slaughtering & Processing	HI	MD	HI	HI	HI	LO	HI	HI	HI	HI	HI	LO	LO
Iron & Steel Mills & Ferroalloy Mfg.	HI	LO	LO	HI	HI	MD	HI	HI	HI	HI	HI	MD	MD
Pesticide & Other Agricultural Chemical Mfg.	HI	LO	LO	HI	HI	MD	HI	MD	HI	HI	MD	HI	HI
Other Industrial Machinery Mfg.	HI	LO	LO	LO	MD	MD	HI	MD	HI	MD	HI	HI	HI
Ventilation, Heating, Air-Conditioning, & Commercial Refrigeration Equipment Mfg.	HI	MD	LO	LO	MD	MD	MD	HI	LO	HI	LO	HI	HI
Fertilizer Mfg.	HI	LO	LO	HI	HI	LO	HI	MD	LO	LO	LO	HI	HI
Other Rubber Product Mfg.	HI	LO	LO	HI	MD	MD	MD	LO	MD	HI	MD	MD	MD
Plate Work & Fabricated Structural Product Mfg.	HI	HI	LO	MD	MD	MD	MD	HI	LO	LO	LO	LO	LO
Office Furniture (including Fixtures) Mfg.	HI	LO	LO	HI	MD	HI	MD	LO	MD	MD	MD	LO	LO
All Other Fabricated Metal Product Mfg.	HI	LO	LO	MD	LO	LO	MD	HI	MD	MD	MD	MD	MD

Table 23 lists the region's key stable industries, those that fit the same criteria as the preceding group, but whose job shifts ranged from ± 49 jobs. By definition, then, these industries all have intermediate job shift values. The industry with the most high scorings is pulp, paper, and paperboard mills with 6; followed by fruit and vegetable canning, etc., along with paint and coating each with 5. There were six industries with one or fewer high values. This group of industries scored more high values in categories related to regional linkages (Type I multiplier, inputs per firm, income multiplier, and output per job all with 7 or more), and comparatively more low values in education, average earnings, and fringe benefits. The U.S. employment change in the two measurement periods had by far the most low values among the 12 categories.

Table 23

Regionally Stable Industries	Job Shift		U.S. Employment Change: 1993 to 2000		National Employment Change: 2000 to 2003		Average Firm Size		Productivity: Output per Job		Region to U.S. Output per Job		Earnings Index		Fringe Percentage (national)		Regional Linkages: Type I Multiplier		Regional Linkages: Gross Inputs per Firm		Income Multiplier		Education		
	MD	LO	LO	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI
Pulp, Paper, & Paperboard Mills	MD	LO	LO	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI
Fruit & Vegetable Canning, Pickling, & Drying	MD	LO	LO	HI	HI	MD	LO	LO	HI	LO	HI	LO	HI	HI	HI	HI	HI	HI	HI	HI	HI	LO	HI	LO	HI
Paint & Coating Mfg.	MD	LO	LO	MD	HI	MD	HI	MD	HI	LO	HI	LO	HI	LO	HI	MD	HI	HI	HI	HI	HI	HI	HI	HI	HI
Cookie, Cracker, & Pasta Mfg.	MD	LO	LO	HI	MD	MD	LO	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	LO
Other Basic Inorganic Chemical Mfg.	MD	LO	LO	LO	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI
Engine, Turbine, & Power Transmission Equipment Mfg.	MD	LO	LO	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI	MD	HI
Material Handling Equipment Mfg.	MD	MD	LO	HI	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	HI
Electrical Equipment Mfg.	MD	LO	LO	HI	MD	HI	MD	HI	HI	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	HI
Animal Food Mfg.	MD	LO	LO	MD	HI	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD
Lighting Fixture Mfg.	MD	LO	LO	HI	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	HI
Motor Vehicle Parts Mfg.	MD	MD	LO	MD	MD	MD	HI	LO	HI	LO	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI	MD	MD	MD	MD	MD
Waste Management & Remediation Services	MD	LO	HI	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO
Rubber & Plastics Hoses & Belting Mfg.	MD	MD	LO	HI	LO	MD	MD	HI	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	MD
Gypsum Product Mfg.	MD	LO	LO	HI	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	LO
Metal Can, Box, & Other Metal Container (Light Gauge) Mfg.	MD	LO	LO	MD	HI	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	LO
Paper Bag & Coated & Treated Paper Mfg.	MD	LO	LO	MD	MD	MD	LO	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	LO
Stationery Product Mfg.	MD	LO	LO	MD	MD	MD	HI	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO
Ferrous Metal Foundries	MD	LO	LO	MD	LO	LO	MD	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO
Hardware Mfg.	MD	MD	LO	MD	MD	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	MD
Mattress Mfg.	MD	MD	LO	MD	LO	MD	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO
All Other Miscellaneous Mfg.	MD	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	MD

Table 24 displays the declining key industries in the region. By definition, all had negative job shifts of 50 or more. Starch and vegetable fats and oils had the most high values among the decliners with 7, followed by construction machinery, by radio and television broadcasting, etc., and by motor vehicle body and trailers, all with 5. Both office supplies and transportation and warehousing had no high values. Besides the job shift category, the most low values are found in region-to-U.S. output per job, overall output per job, and recent national employment change. There were 4 high values for gross inputs purchased per firm, and only one in education.

Table 24

Regionally Declining Industries	Job Shift		U.S. Employment Change: 1993 to 2000		National Employment Change: 2000 to 2003		Average Firm Size		Productivity: Output per Job		Region to U.S. Output per Job		Earnings Index		Fringe Percentage (national)		Regional Linkages: Type I Multiplier		Regional Linkages: Gross Inputs per Firm		Income Multiplier		Education		
	LO	LO	MD	HI	HI	LO	HI	LO	HI	LO	HI	LO	HI	LO	HI	LO	HI	LO	HI	LO	HI	LO	HI	LO	HI
Starch & Vegetable Fats & Oils Mfg.	LO	LO	MD	HI	HI	LO	HI	LO	HI	HI	LO	HI	HI	LO	MD	HI	HI	HI	HI	HI	MD	MD	MD	MD	MD
Construction Machinery Mfg.	LO	MD	LO	HI	HI	HI	HI	HI	HI	LO	MD	LO	MD	LO	MD	HI	HI	HI	HI	HI	HI	HI	HI	HI	MD
Radio & Television Broadcasting & Wireless Communications Equipment Mfg.	LO	LO	LO	HI	HI	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	HI
Motor Vehicle Body & Trailer Mfg.	LO	HI	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	MD
Other Concrete Product Mfg.	LO	HI	LO	MD	LO	LO	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	LO	LO
Nursing & Residential Care Facilities	LO	MD	HI	MD	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO
Office Supplies (except Paper) Mfg.	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	MD
Transportation & Warehousing	LO	MD	MD	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO	MD	LO	LO	LO	LO	LO	LO	LO	LO	LO	LO

Among the emerging regional industries, Table 25, all, by definition, had high job shift values. Including the job shift category, all other chemical products along with office administrative services had the most high values with 5 each. The bottom 4 industries, printing, computer systems design, management of companies enterprises, and employment services scored greater numbers of low values. Excepting the job shift category, only 1993 to 2000 U.S. job growth, education, and the earnings index yielded three high values. The most numerous low values were in regional linkages – gross inputs per firm, average firm size, and in income multipliers with 6 or more.

Table 25

Regionally Emerging Industries	Job Shift	U.S. Employment Change: 1993 to 2000	National Employment Change: 2000 to 2003	Average Firm Size	Productivity: Output per Job	Region to U.S. Output per Job	Earnings Index	Fringe Percentage (National)	Regional Linkages: Type Multiplier	Regional Linkages: Gross Inputs per Firm	Income Multiplier	Education
All Other Chemical Product & Preparation Mfg.	HI	LO	LO	LO	HI	HI	HI	LO	MD	LO	LO	HI
Office Administrative Services	HI	HI	HI	LO	MD	MD	MD	HI	LO	HI	HI	HI
Electric Power Generation, Transmission & Distribution	HI	LO	MD	LO	HI	LO	HI	MD	LO	LO	LO	LO
Plastics Product Mfg.	HI	MD	LO	LO	MD	LO	LO	HI	MD	LO	HI	LO
Printing	HI	LO	LO	LO	LO	LO	LO	HI	LO	LO	LO	MD
Computer Systems Design & Related Services	HI	HI	LO	LO	LO	LO	MD	LO	LO	LO	LO	HI
Management of Companies & Enterprises	HI	MD	LO	LO	LO	MD	HI	LO	LO	LO	LO	HI
Employment Services	HI	HI	LO	MD	LO	LO	LO	LO	LO	LO	LO	LO

Isolating Cluster Industry Candidates

We are interested in identifying industries that meet a cluster criteria because there is evidence that these kinds of industrial configurations are generally more beneficial for economic growth provided that (a) beneficial external scale economies are in evidence in the region to which the industries can avail, (b) there is the potential for these industries to coordinate product development and other common industrial activities, and (c) the firms either have or have the potential for supply linkages in the current region. Items (a) and (b) are the characteristics of horizontal cluster relationships, and (c) represents the important vertical linkages that are important in economic development and regional income support.

For our first pass through the data to determine potential regional industrial clusters, our existing key or emerging industries must have at least 5 firms. The 5 firm minimum simply assumes that these industries are of sufficient numbers to

indicate the potential for inter-firm communication and, potential, economic planning. By so doing, we pare our original list of key regional or emerging industries (Tables 22 through 25) down from 47 to 19 industrial categories. Those listings are contained in Table 26. We also limited the number of items that are displayed as we zero-in on the firms that may represent desirable firms for economic development attraction and retention. Average firm size is generally important because larger firms generally produce higher regionalized economic gains. Earnings are important because an important component of regional industrial and income growth is the household spending of workers. We are interested, also, in two measures of regional linkages. The first measure, the Type I multiplier, is a statistical measure of how well linked our firms are to supplying firms in the local economy. The second measure, gross input purchases per firm, represents the dollar amount of regional purchases that the firms make. In Table 26 we have listed all of the firms that meet the 5 firm screening by category of potential industrial targets or concern: competitive industries, stable industries, declining industries, and emerging industries. We have also retained their overall color-coded scorings.

For the competitive group, the group demonstrating at least a 50 job shift and a high specialization index ($LQ > 1.0$), the highest scoring on the several measures was in animal slaughtering and processing, although among all of the industries in this group it was the only one with a comparatively low value for earnings. Other industrial machinery scored high values in earnings and in the Type I multiplier, and other rubber products had a high value for average firm size and regional purchases. These three categories appear to be desirable clusters. Fertilizer manufacturers had the most low scores with three, followed by plate work and fabricated structural products with two low values. Both of these latter industries have low value vertical relationships by virtue of the Type I multiplier and the average amount of regional purchases per firm. Whether these firms have growth potential will have to be investigated further, especially regarding their potential relationships with regional suppliers. The remaining firms, office furniture and other fabricated metal products, scored in the middle on the listed categories.

Among the stable industries that met the 5 firm minimum, paint and coating had two high values in earnings and in the Type I linkage and no low values. The other two firms had three low values each.

Among the declining industries that met the 5 firm minimum, transportation and warehousing had 3 low values and nursing homes had two low values. No high values were in evidence.

Table 26

Potential Industrial Clusters in Southeast Iowa

	Average Firm Size	Earnings Index	Regional Linkages: Type I Multiplier	Regional Linkages: Gross Inputs per Firm
Regionally Competitive Industries				
Animal Slaughtering & Processing	HI	LO	HI	HI
Other Industrial Machinery Mfg.	LO	HI	HI	MD
Fertilizer Mfg.	LO	HI	LO	LO
Other Rubber Product Mfg.	HI	MD	MD	HI
Plate Work & Fabricated Structural Product Mfg.	MD	MD	LO	LO
Office Furniture (including Fixtures) Mfg.	HI	MD	MD	MD
All Other Fabricated Metal Product Mfg.	MD	MD	MD	MD
Regionally Stable Industries				
Paint & Coating Mfg.	MD	HI	HI	MD
Waste Management & Remediation Services	LO	LO	HI	LO
All Other Miscellaneous Mfg.	LO	LO	MD	LO
Regionally Declining Industries				
Nursing & Residential Care Facilities	MD	LO	MD	LO
Transportation & Warehousing	LO	LO	MD	LO
Emerging Industries				
Office Administrative Services	LO	MD	HI	LO
Electric Power Generation, Transmission & Distribution	LO	HI	LO	LO
Plastics Product Mfg.	LO	LO	MD	LO
Printing	LO	LO	LO	LO
Computer Systems Design & Related Services	LO	MD	LO	LO
Management of Companies & Enterprises	LO	HI	LO	LO
Employment Services	MD	LO	LO	LO

Finally, for the emerging industries, those that met the 5 firm minimum, demonstrated at least a positive 50 job shift, but did not have a LQ > 1.5, we find very few high values. Office and administrative services scores a high value for regional multiplier, electrical utilities scores a high value for earnings, as does management of companies and enterprises. Printing scores low values across the board, and electrical power, management of companies, employment services, and computer system design and related firms all score 3 low values. Of this grouping, office and administrative services had only two low values.

Readers wishing to grade this grouping more thoroughly are encouraged to cross-check these values with the more complete listings in the previous tables. It is evident, however, that this scoring procedure significantly pares down the list of industries in which the region is stable or competitive and which indicate industrial clustering of sufficient numbers (horizontal) and linked values (vertical) to be of serious interest to economic development planners.

There are additional points that need to be made here. First, the identification of a cluster or set of industrial clusters in a region, *a priori*, means very little. As is evident, there are competitive, stable, and declining industrial groupings in the region. Planners must assess the characteristics of each industry in each group more thoroughly to determine if, for example, the competitive industries have the potential for growth, the stable industries are, in fact stable, and the declining industries are, either regionally or nationally, in danger of eroding further.

Second, we can statistically allocate different industries into different groupings. We cannot, however, for the approaches used here determine whether there exists among the industries significant communications, coordination, or planning activities indicative of horizontal clusters. Those kinds of determinations need to be ascertained in follow-up interviews and by tapping into the intrinsic expertise of area economic development experts.

Last, our measures of regional industrial linkages represent expected values, not actual values. Our industrial modeling process assumes that if a commodity is demanded by an industry in our model and that commodity is produced in the region, then efficiency will dictate that the transaction will be made in the region. That is often not the case, and it could very well be that we have either over- or under-stated some of the regional linkages.

VII. Import Substitution

Section Objectives:

- *Identify enhanced industrial growth opportunities*
- *Analyze and describe major regional imports*
- *Determine which commodity categories present possibilities for economic development*

Key Topics:

- *Commodity imports*
- *Import substitutes*

Findings Overview:

- *The top 5 imported commodities were semiconductors and other electronic components at \$110.7 million, iron and steel mills at \$107.5 million, resins and synthetic rubber at \$67.53 million, plastics products at \$61.4 million, and paperboard containers at \$56.6 million. Several of these industries, however, are not good candidates for regional industrial recruitment.*
- *The industries with the highest new firm equivalent scores were machine shops at 16; other fabricated metal products, ornamental and architectural metal products, and printing at six firms equivalents; and semiconductors, etc., paperboard containers, and forging and stamping at five firm equivalents.*

When we analyze industrial growth opportunities for a region, it is important to assess all components of the regional economy. Thus far, we've looked primarily at regional industrial specialization – areas where the economy is producing goods for exports. There are two other important components to normal market activity in a region: overall regional consumption of goods and services (by households, institutions, and private industry), and the amount of imports that flow into a region.

It is instructive to think of an economy as a set of pluses and minuses. One of the ways that we can configure our thinking about regional dynamics is to describe how money accrues to the regional economy. In a very simplified vein,

Regional Income	=	All regional consumption (households, industries, and institutions)
	+	All export sales
	-	All import purchase
	±	Other factors (investments, taxation, government transfers in, etc)

Regional economic development planners primarily work at stimulating (or replacing lost) export sales. They generally can do very little about overall regional household consumption patterns, but there are opportunities for an economy to increase regional industrial consumption.

The mechanism for that possible enhancement is through the investigation of potential import substitution by new local industrial production. Imports, according to the simple table above, take income out of an area. By decreasing imports in (a minus) and enhancing production of that commodity locally, you increase regional consumption (a plus).*

There are a variety of reasons that commodities are imported. For one, Iowa farmers' claim to feed the world notwithstanding, the vast majority of our household foodstuffs are imported – other parts of the U.S. are much more efficient and specialized in producing many of the necessary fruits, vegetables, and meat products upon which we rely. A second reason is that there simply is not enough demand density, either by industry or by households, to warrant the location of a production facility in the region. As a third consideration, the region may not possess requisite natural resources or other raw materials necessary to produce the commodity. A good example of this would be petroleum products.

* There have been regional efforts to jump start local incomes by encouraging a “buy local” preference among industries and households. The cities of Omaha and Des Moines both launched buy local campaigns designed primarily to encourage local industries to seek local suppliers before shopping outside of their metropolitan areas for commodity inputs. The idea is that by enhancing local intermediate commodity demand, spending is retained locally and the area gets the added benefit of enhanced multiplier activity as a consequence. The success of these initiatives is, however, very difficult to measure as there truly is no baseline value to compare one period (before the initiative) with some future values. Most of the successes are anecdotal. For additional information about some of these efforts in Iowa see David Swenson, *Buying Local in Union County and Creston: An Economic Impact Assessment*, available electronically at www.econ.iastate.edu/research/webpapers/paper_12298.pdf .

Lastly, there may be labor, infrastructure, or other market factors that rule out an area from producing a commodity.

Still, it may be possible to expand industrial targeting in an area by investigating industries that might have the potential to locate in a region. If import substitutes can be identified, they have the potential to decrease sales leakages, add jobs, and enhance regional income and job multipliers.

Criteria for Selecting Potential Substitutes

We are estimating the region's imports of manufactured goods using the data produced by our Implan model of the region. That aggregated data set identifies all the commodities expected to be used by all industries in Southeast Iowa. It also estimates how much of that commodity demand is expected to be met by local producers. The difference between total commodity demand and the regional commodity supply is the commodity import value. Beyond the fact that we are only focusing on manufactured inputs, the following criteria were used to screen our data:

- Estimated imports exceeded \$10 million in the most recent year for which data are available.
- The import values must be able to support at least one firm of average national size. We determine this value by dividing the total national sales for a sector by the number of firms nationally. If the average firm has sales of \$20 million, then it would take \$20 million of local commodity imports to even consider attracting a new firm. In the accompanying table they are labeled "new firm equivalents."
- There is an indication of production potential in the region. There are two configurations to consider for import substitution: expanding local sales by existing firms or attracting new firms to supply local industrial demand. In the first instance, production potential is indicated by evidence of firms already present in the region. In the accompanying table, we identify whether there are firms in the region producing that commodity with the idea that if there are, it is easier to work to stimulate a possible expansion in sales of existing firms rather than recruit new firms to the area. Absent local firms, the industries would require further assessment to ascertain whether they, in fact, can reasonably exist in the area.

- We also indicate whether the import substitute candidates have already been identified as regional targeted firms.
- The industrial category demonstrates comparatively favorable employment characteristics over either the 1993 to 2000 period or the 2000 to 2003 period. These data were each ranked from lowest to highest among the group. Industries that declined by more than 2 percentage points below the overall manufacturing average during the period of scrutiny were graded “LO”; those ranging from two percentage points above and below the national average were graded “MD”; and those whose rate of change was at least two percentage points better than the national average were graded “HI”.
- The industrial category has occupational requirements compatible with the region’s labor force. Occupational suitability score were calculated for each industry as follows. First, we compared the Southeast Iowa region’s occupational structure with average for Midwestern states. Occupations with a lower than expected share of total employment in Southeast Iowa (a comparison akin to location quotients) were flagged. Next, we prepared an industry by occupation employment matrix for the Midwest. For each Midwestern industry, total employment in the set of flagged occupations was calculated. The percentage of industry employment in the flagged occupations was used as the industry’s “occupational suitability” score. A “Lo” score means that the existing occupational mix in the region is unfavorable to the import substitute candidate firm. A “Md” value indicates an average presence of occupational suitability in the region. A “Hi” value means the existing labor force is better suited to work in the candidate industry. This scoring simply assigned low, medium, or high values to each third of the data.

Import Substitution Candidates

The top 5 import substitute commodities were semiconductors and other electronic components at \$110.7 million, iron and steel mills at \$107.5 million, resins and synthetic rubber at \$67.53 million, plastics products at \$61.4 million, and paperboard containers at \$56.6 million. It would be a stretch, however, to assume that these major commodities might automatically be candidates for industrial recruitment in light of existing national and international production locations and shifts in production locations in recent years.

The industries with the highest new firm equivalent scores were machine shops at 16; other fabricated metal products, ornamental and architectural metal products, and printing at six firms equivalents; and semiconductors, etc., paperboard containers, and forging and stamping at five firm equivalents. There were just seven of the 41 industries listed for which there were not already firms present in the regional economy, and the input values of 15 of the 41 firms were not sufficient to justify the existence of at least one additional firm.

Six of the “key competitive” firms (listed in Table 23) intersected with the import substitute list, four of which indicated room for new firm equivalents. Eleven of the region’s “key stable” firms produce identified import substitute commodities, and seven of those firms indicate room for new firm equivalents. Only two “key declining” industries intersected with the list and both did not have import levels sufficient to justify a new firm. Last, two “emerging” firms were candidates to address import substitutes in plastics and in printing.

Table 27

Import Substitute Candidate Industries in Southeast Iowa

Description	Imports in \$Millions	U.S. Average Sales Per Firm	New Firm Equivalents	Presence of Local Firms	Targeted Industry Type	National Job Change, 2000-2003	National Job Change, 1993-2003	Occupational Suitability Rating
Semiconductor and Other Electronic Component Mfg.....	110.76	19.9	5	Y	No	LO	HI	LO
Iron and Steel Mills and Ferroalloy Mfg.....	107.53	38.2	2	Y	Key Competitive	LO	LO	HI
Resin and Synthetic Rubber Mfg.....	67.53	62.9	1	N	No	MD	LO	MD
Plastics Product Mfg.....	61.42	10.6	5	Y	Emerging	HI	HI	HI
Paperboard Container Mfg.....	56.60	15.9	3	Y	No	HI	HI	MD
Petroleum Refineries.....	55.59	561.0	0	N	No	HI	LO	LO
Starch and Vegetable Fats and Oils Mfg.....	45.54	90.1	0	Y	Key Declining	HI	HI	MD
Alumina and Aluminum Production and Processing.....	40.60	48.5	0	Y	No	LO	LO	HI
Pulp, Paper, and Paperboard Mills.....	40.16	112.8	0	Y	Key Stable	LO	LO	HI
Other Basic Organic Chemical Mfg.....	39.63	68.5	0	Y	No	HI	LO	LO
Motor Vehicle Parts Mfg.....	37.68	36.8	1	Y	Key Stable	MD	HI	HI
All Other Fabricated Metal Product Mfg.....	37.23	6.2	6	Y	Key Competitive	MD	MD	HI
Forging and Stamping.....	36.80	7.1	5	Y	No	LO	HI	MD
Animal Food Mfg.....	36.33	16.7	2	Y	Key Stable	HI	HI	MD
Other Rubber Product Mfg.....	31.68	9.5	3	Y	Key Competitive	LO	HI	HI
Electrical Equipment Mfg.....	30.87	11.8	2	Y	Key Stable	LO	LO	MD
Plate Work and Fabricated Structural Product Mfg.....	26.01	5.3	4	Y	Key Competitive	HI	HI	HI
Ornamental and Architectural Metal Products Mfg.....	23.33	3.8	6	Y	No	MD	HI	HI
Ferrous Metal Foundries.....	23.19	13.7	1	Y	Key Stable	LO	LO	HI
Metal Valve Mfg.....	19.83	16.0	1	Y	No	MD	HI	HI
Paper Bag and Coated and Treated Paper Mfg.....	19.08	18.8	1	Y	Key Stable	MD	LO	MD
Machine Shops.....	18.75	1.1	16	Y	No	HI	HI	LO
Veneer, Plywood, and Engineered Wood Product Mfg.....	18.43	10.9	1	Y	No	HI	HI	MD
Paint and Coating Mfg.....	18.03	13.7	1	Y	Key Stable	HI	MD	MD
Printing.....	17.65	2.7	6	Y	Emerging	MD	MD	LO
Engine, Turbine, and Power Transmission Equipment Mfg.....	17.26	40.7	0	Y	Key Stable	MD	MD	MD
All Other General Purpose Machinery Mfg.....	16.84	7.8	2	Y	No	LO	LO	LO
Turned Product and Screw, Nut, and Bolt Mfg.....	16.40	5.0	3	N	No	LO	MD	LO
Radio and Television Broadcasting and Wireless Communications Equipment Mfg.....	15.88	29.3	0	Y	Key Declining	LO	LO	LO
Metal Can, Box, and Other Metal Container (Light Gauge) Mfg.....	14.56	23.5	0	Y	Key Stable	MD	LO	HI
Pharmaceutical and Medicine Mfg.....	14.06	93.3	0	N	No	HI	HI	LO
Coating, Engraving, Heat Treating, and Allied Activities.....	13.75	3.1	4	Y	No	LO	HI	LO
Textile and Fabric Finishing Mills.....	13.69	7.0	1	Y	No	LO	LO	LO
Nonferrous Metal (except Aluminum) Smelting and Refining.....	12.45	29.2	0	N	No	LO	LO	MD
Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Mfg.....	12.13	18.0	0	Y	Key Competitive	LO	HI	LO
Millwork.....	11.83	4.6	2	N	No	HI	HI	MD
Nonferrous Metal Foundries.....	11.22	8.6	1	Y	No	LO	HI	HI
Navigational, Measuring, Electromedical, and Control Instruments Mfg.....	10.58	17.8	0	Y	No	HI	LO	LO
Other Basic Inorganic Chemical Mfg.....	10.52	27.4	0	Y	Key Stable	HI	LO	LO
All Other Miscellaneous Mfg.....	10.39	5.1	2	Y	Key Stable	MD	HI	MD
Broadwoven Fabric Mills.....	10.35	14.2	0	N	No	LO	LO	MD
Fertilizer Mfg.....	10.23	14.0	0	Y	Key Competitive	HI	MD	LO

VIII. Regional Export Potential

Section Objectives:

- *Identify nearby market commodity demand*
- *Assess commodity demand to determine its intersection with SE Iowa industries*

Key Topics:

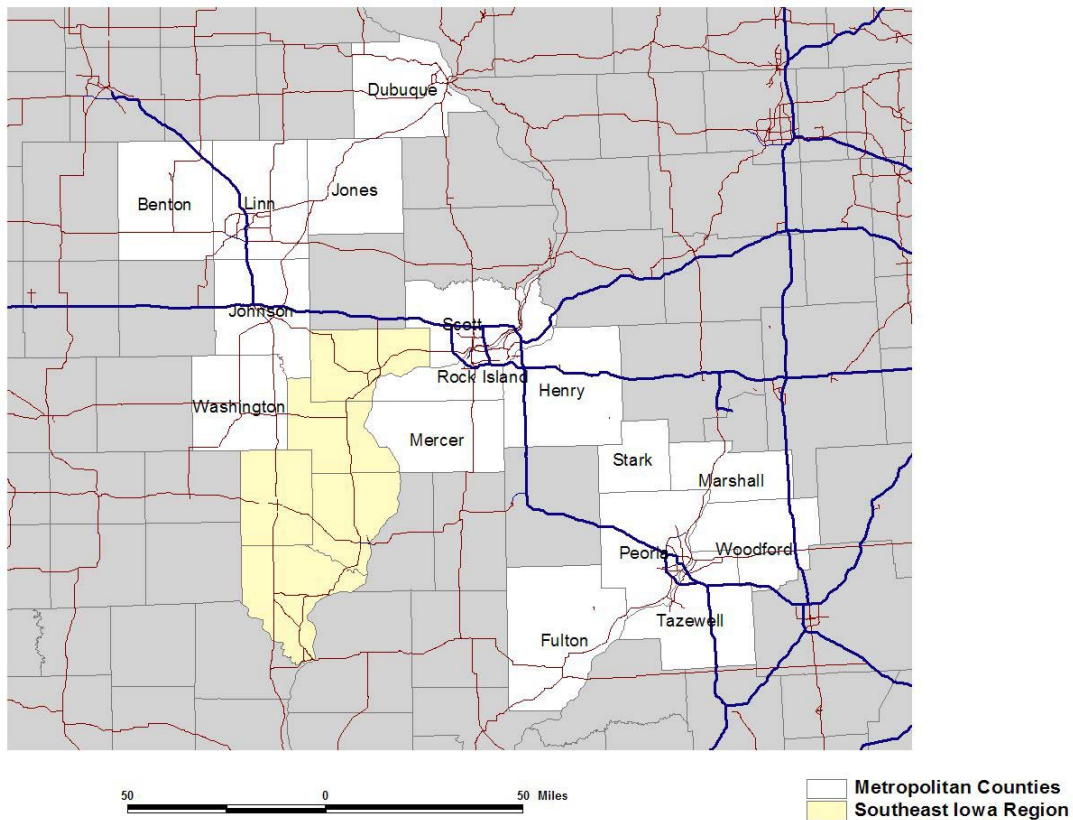
- *Regional commodity demand*
- *Regional metropolitan areas*

Findings Overview:

- *There were 49 commodity groups that fit the screening criteria and were candidates for regional export sales development.*
- *Of these commodities, 22 were produced by SE Iowa industries.*

While southeast Iowa must be attentive to a national and a global market, this section focuses on potential trade opportunities within a 75 mile radius of the region. A map of the region is illustrated below. We constructed models that contained all of the constituent counties for the Cedar Rapids, Iowa City, Dubuque, Quad Cities, and Peoria metropolitan statistical areas. Those model aggregates were then assessed with regard to their respective collective demands for commodity imports. Those commodity types were matched with the list of all firms in southeast Iowa to identify whether those firms were candidates for additional regional export sales.

Figure 14



A caution: the data we analyze cannot identify the source of commodity imports, only that the commodity imports must come from outside of the designated study area. As a result, it is possible that meaningful fractions of the commodity inputs we might identify are already addressed by existing linkages with southeast Iowa firms. That noted however, the accompanying table allows us to identify reasonably proximate candidates for export activity. We have used the same scoring criteria as in the previous table. Only our threshold is different: we used aggregate regional external imports of at least \$50 million as our cut-off.

The top four categories of regional imports (or export sales potential) were alumina and aluminum products, semiconductor and other electrical components, iron and steel mills, and motor vehicle parts. Combined, these four commodities accounted for nearly \$2.6 billion in imports.

There were other industries with relatively large firm threshold size compared to metropolitan imports, but these at least indicated a new firm potential of one

firm. They included pulp, paper, and paperboard mills; pharmaceutical and medicine manufacturing; starch and vegetable fats and oils manufacturing; computer and peripheral equipment manufacturing; and resin and synthetic rubber manufacturing.

At the outset we exclude firms that had a minimum firm threshold size exceeding the combined imports of the selected metropolitan market areas. These industries were petroleum refineries and petrochemical manufacturing firms. There were several industries with low firm threshold size and high metropolitan import values. These included machine shops; printing; plate work and fabricated structural products; semiconductor and other electronic components; and coating, engraving, heat treating, and allied activities. The import activity in the selected metropolitan markets would support 30 or more average-sized firms producing these commodities.

Among the 49 candidates for regional export industry development, 22 also appear on the southeast Iowa region's targeted, or key, industry list. Eleven of those are classified as stable key industries. Seven are classified as competitive key industries. Two are declining key industries, and two are emerging industries in the Southeast Iowa region.

Industries not appearing on the southeast Iowa region's targeted industry list, but that have a local presence and a high occupational suitability rating include ready-mix concrete manufacturing; metal valve manufacturing; sawmills and wood preservation; ornamental and architectural metal products; nonferrous metal foundries; glass and glass product manufacturing; and alumina and aluminum production and processing.

Industries present in the region, but with low occupational suitability and not appearing on the targeted industry list include medical equipment and supplies; machine shops; other basic organic chemical manufacturing; navigational, measuring, electro-medical, and control instruments manufacturing; coating, engraving, heat treating, and allied activities; semiconductor and other electronic component manufacturing; and metalworking machinery manufacturing.

Industries not present in the region and with a relatively low occupational suitability rating include pharmaceutical and medicine manufacturing; turned

product and screw, nut, and bolt manufacturing; and computer and peripheral equipment manufacturing.

From a growth standpoint, the worst-performing industries over the 1993-2003 and 2000-2003 time periods include computer and peripheral equipment manufacturing; iron and steel mills and other types of metal production and processing; and pulp, paper, and paperboard mills.

Table 28

Regional Export Sales Candidates for Southwest Iowa

Description	Imports in \$Millions	U.S. Average Sales Per Firm	New Firm Equivalents	Presence of Local Firms	Targeted Industry Type	National Job Change, 2000-2003	National Job Change, 1993-2003	Occupational Suitability Rating
Alumina and Aluminum Production and Processing.....	761.48	48.5	15	Y	No	LO	LO	HI
Semiconductor and Other Electronic Component Mfg.....	660.99	19.9	33	Y	No	LO	HI	LO
Iron and Steel Mills and Ferroalloy Mfg.....	629.40	38.2	16	Y	Key Competitive	LO	LO	MD
Motor Vehicle Parts Mfg.....	526.81	36.8	14	Y	Key Stable	MD	HI	HI
Petroleum Refineries.....	506.02	561.0	0	N	No	HI	LO	LO
Plate Work and Fabricated Structural Product Mfg.....	361.52	5.3	68	Y	Key Competitive	HI	HI	HI
Pulp, Paper, and Paperboard Mills.....	282.60	112.8	2	Y	Key Stable	LO	LO	MD
Engine, Turbine, and Power Transmission Equipment Mfg.....	261.04	40.7	6	Y	Key Stable	MD	MD	MD
Paperboard Container Mfg.....	254.90	15.9	16	Y	No	HI	HI	MD
Ferrous Metal Foundries.....	253.25	13.7	18	Y	Key Stable	LO	LO	HI
Metal Valve Mfg.....	251.27	16.0	15	Y	No	MD	HI	HI
All Other General Purpose Machinery Mfg.....	250.27	7.8	32	Y	No	LO	LO	LO
Petrochemical Mfg.....	250.16	344.8	0	N	No	MD	LO	LO
Printing.....	191.16	2.7	71	Y	Emerging	MD	MD	LO
Forging and Stamping.....	187.95	7.1	26	Y	No	LO	HI	MD
Other Basic Organic Chemical Mfg.....	182.07	68.5	2	Y	No	HI	LO	LO
All Other Fabricated Metal Product Mfg.....	180.25	6.2	29	Y	Key Competitive	MD	MD	HI
Resin and Synthetic Rubber Mfg.....	174.47	62.9	2	N	No	MD	LO	MD
Electrical Equipment Mfg.....	173.18	11.8	14	Y	Key Stable	LO	LO	MD
Starch and Vegetable Fats and Oils Mfg.....	164.31	90.1	1	Y	Key Declining	HI	HI	MD
Ornamental and Architectural Metal Products Mfg.....	164.03	3.8	43	Y	No	MD	HI	HI
Plastics Product Mfg.....	163.85	10.6	15	Y	Emerging	HI	HI	HI
Other Rubber Product Mfg.....	134.46	9.5	14	Y	Key Competitive	LO	HI	HI
Animal Food Mfg.....	133.64	16.7	7	Y	Key Stable	HI	HI	MD
Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Mfg.....	112.74	18.0	6	Y	Key Competitive	LO	HI	LO
Pharmaceutical and Medicine Mfg.....	107.78	93.3	1	N	No	HI	HI	LO
Sawmills and Wood Preservation.....	106.32	5.9	18	Y	No	MD	HI	HI
Nonferrous Metal Foundries.....	101.83	8.6	11	Y	No	LO	HI	HI
Coating, Engraving, Heat Treating, and Allied Activities.....	98.66	3.1	31	Y	No	LO	HI	LO
Tire Mfg.....	98.65	20.6	4	N	No	MD	LO	HI
Ready-Mix Concrete Mfg.....	94.71	3.9	24	Y	No	HI	HI	HI
Paint and Coating Mfg.....	94.55	13.7	6	Y	Key Stable	HI	MD	MD
All Other Miscellaneous Mfg.....	91.86	5.1	17	Y	Key Stable	MD	HI	MD
Computer and Peripheral Equipment Mfg.....	91.56	57.0	1	N	No	LO	LO	LO
Turned Product and Screw, Nut, and Bolt Mfg.....	89.84	5.0	17	N	No	LO	MD	LO
Medical Equipment and Supplies Mfg.....	88.97	5.1	17	Y	No	HI	HI	LO
Machine Shops.....	87.72	1.1	79	Y	No	HI	HI	LO
Nonferrous Metal (except Aluminum) Smelting and Refining.....	79.84	29.2	2	N	No	LO	LO	MD
Other Basic Inorganic Chemical Mfg.....	78.33	27.4	2	Y	Key Stable	HI	LO	LO
Paper Bag and Coated and Treated Paper Mfg.....	78.01	18.8	4	Y	Key Stable	MD	LO	MD
Animal Slaughtering and Processing.....	78.00	33.1	2	Y	Key Competitive	HI	HI	HI
Communication and Energy Wire and Cable Mfg.....	72.01	30.3	2	N	No	LO	MD	MD
Metalworking Machinery Mfg.....	70.39	3.0	23	Y	No	LO	LO	LO
Fertilizer Mfg.....	66.73	14.0	4	Y	Key Competitive	HI	MD	LO
Construction Machinery Mfg.....	63.02	30.2	2	Y	Key Declining	LO	HI	MD
Rubber and Plastics Hoses and Belting Mfg.....	62.64	15.6	4	Y	Key Stable	HI	HI	HI
Glass and Glass Product Mfg.....	56.63	10.2	5	Y	No	MD	LO	HI
Flour Milling and Malt Mfg.....	52.77	20.7	2	N	No	HI	HI	MD
Navigational, Measuring, Electromedical, and Control Instruments Mfg.....	50.75	17.8	2	Y	No	HI	LO	LO

Appendices

Appendix A. Summary Industrial Accounts for the Southeast Iowa Region, 2002

All financial amounts in millions

Southeast Iowa	Total Industrial Output	Jobs	+				=
			Employee Compensation	Proprietor Income	Other Property Income	Indirect Business Taxes	Value Added
Ag, Forestry, Fish & Hunting	371.56	4,962.29	16.329	60.90	47.73	9.867	134.82
Mining	8.065	54.05	2.351	0.439	2.066	0.232	5.088
Utilities	150.86	368.31	27.77	4.275	53.15	16.741	101.94
Construction	433.61	4,592.05	125.92	27.952	11.006	1.98	166.86
Manufacturing	6,041.19	21,702.72	1,095.69	74.798	692.36	48.687	1,911.53
Wholesale Trade	189.29	1,998.44	71.20	4.635	29.72	31.50	137.05
Transportation & Warehousing	586.73	5,842.69	234.95	12.996	70.127	8.078	326.16
Retail trade	446.22	10,362.56	188.80	14.803	67.84	65.15	336.60
Information	104.41	953.73	27.02	2.101	13.949	3.455	46.53
Finance & insurance	247.40	2,050.65	61.29	5.839	73.44	3.191	143.76
Real estate & rental	156.12	1,612.74	18.886	10.766	48.78	10.802	89.23
Professional- scientific & tech svcs	214.37	3,496.00	98.27	36.535	15.878	2.243	152.92
Management of companies	112.841	728.35	53.873	0.091	23.725	1.257	78.946
Administrative & waste services	186.48	4,502.84	73.45	11.626	14.438	3.116	102.63
Educational svcs	24.06	844.75	12.074	0.365	0.111	0.096	12.645
Health & social services	517.69	8,978.23	232.80	29.635	24.587	3.776	290.80
Arts- entertainment & recreation	73.52	1,355.62	21.291	4.696	10.48	5.098	41.565
Accommodation & food services	184.15	5,589.95	54.01	1.277	7.025	5.557	67.87
Other services	209.54	4,420.87	64.94	16.25	2.847	2.106	86.14
Government & non NAICs	928.31	10,142.43	375.61	0.000001	376.92	46.771	799.30
Totals	11,186.43	94,559.25	2,856.51	319.98	1,586.17	269.70	5,032.36

All financial amounts in millions

Des Moines County	Total Industrial Output	Jobs	+				=
			Employee Compensation	Proprietor Income	Other Property Income	Indirect Business Taxes	Value Added
11 Ag, Forestry, Fish & Hunting	54.29	998.20	3.117	11.53	6.13	1.489	22.26
21 Mining	2.443	15.55	0.721	0.121	0.623	0.07	1.535
22 Utilities	18.50	44.38	2.894	0.701	6.41	2.005	12.01
23 Construction	168.32	1,802.31	52.76	6.101	4.204	0.756	63.82
31-33 Manufacturing	1,251.44	5,150.47	266.82	28.012	149.42	10.813	455.07
42 Wholesale Trade	82.41	768.22	30.71	2.3	12.94	13.71	59.66
48-49 Transportation & Warehousing	200.75	1,721.09	75.87	4.344	28.154	3.207	111.58
44-45 Retail trade	165.31	3,940.32	72.57	2.918	25.88	24.01	125.38
51 Information	29.91	242.04	7.34	0.695	3.831	0.949	12.82
52 Finance & insurance	80.08	655.14	21.68	2.473	24.05	1.054	49.26
53 Real estate & rental	44.83	512.35	4.629	2.992	14.40	3.5	25.52
54 Professional- scientific & tech svcs	50.04	659.20	22.03	12.02	2.927	0.538	37.51
55 Management of companies	4.801	43.89	2.155	0.006	0.976	0.052	3.189
56 Administrative & waste services	42.42	1,301.76	18.43	4.214	2.779	0.574	25.99
61 Educational svcs	6.30	227.66	3.317	0.042	0.125	0.044	3.527
62 Health & social services	227.22	3,349.51	99.84	13.317	11.305	1.598	126.06
71 Arts- entertainment & recreation	14.67	453.11	5.041	0.28	1.741	1.004	8.067
72 Accommodation & food services	67.91	1,975.16	20.97	0.74	2.738	2.187	26.64
81 Other services	78.54	1,500.71	23.66	6.057	1.194	0.85	31.76
92 Government & non NAICs	205.64	2,521.03	89.81	0	76.35	13.299	179.46
Totals	2,795.84	27,882.09	824.36	98.86	376.17	81.72	1,381.10

Appendix A. Summary Industrial Accounts for the Southeast Iowa Region, 2002

<i>All financial amounts in millions</i>			+	+	+	=	
Henry County	Total Industrial Output	Jobs	Employee Compensation	Proprietor Income	Other Property Income	Indirect Business Taxes	Value Added
11 Ag, Forestry, Fish & Hunting	85.68	973.51	2.223	11.81	12.40	2.25	28.69
21 Mining	1.818	12.06	0.481	0.13	0.474	0.053	1.138
22 Utilities	3.18	8.70	0.561	0.132	1.20	0.356	2.25
23 Construction	58.27	637.89	15.16	4.592	1.415	0.254	21.42
31-33 Manufacturing	482.69	2,375.91	108.43	8.995	40.42	2.954	160.80
42 Wholesale Trade	5.34	50.01	1.99	0.149	0.84	0.89	3.87
48-49 Transportation & Warehousing	164.32	2,142.88	85.44	1.815	17.846	1.09	106.19
44-45 Retail trade	49.03	1,050.88	19.80	2.341	7.46	7.34	36.94
51 Information	8.88	73.80	2.05	0.171	1.694	0.505	4.42
52 Finance & insurance	40.09	287.44	7.18	0.809	6.74	0.36	15.09
53 Real estate & rental	15.48	184.31	0.93	0.787	8.77	1.172	11.66
54 Professional- scientific & tech svcs	41.48	1,138.91	24.66	3.802	-0.275	0.322	28.51
55 Management of companies	0.93	8.21	0.424	0.001	0.187	0.01	0.621
56 Administrative & waste services	46.85	615.32	11.89	1.422	5.339	1.304	19.95
61 Educational svcs	5.74	126.50	2.615	0.13	-0.071	0.003	2.677
62 Health & social services	45.84	930.39	23.58	3.143	3.912	0.369	31.00
71 Arts- entertainment & recreation	1.98	45.49	0.499	0.033	0.24	0.11	0.882
72 Accomodation & food services	19.83	626.85	5.58	0.047	0.792	0.61	7.03
81 Other services	19.74	385.55	4.49	3.136	0.182	0.281	8.09
92 Government & non NAICs	134.61	1,881.32	70.38	0	42.83	5.889	119.10
Totals	1,231.76	13,555.92	388.36	43.45	152.39	26.12	610.31

<i>All financial amounts in millions</i>			+	+	+	=	
Lee County	Total Industrial Output	Jobs	Employee Compensation	Proprietor Income	Other Property Income	Indirect Business Taxes	Value Added
11 Ag, Forestry, Fish & Hunting	86.29	1,152.06	3.507	12.40	10.90	2.152	28.96
21 Mining	2.36	18.37	0.652	0.112	0.583	0.066	1.412
22 Utilities	49.23	106.26	9.075	1.447	15.34	5.335	31.20
23 Construction	107.97	1,178.74	33.18	3.578	2.625	0.472	39.86
31-33 Manufacturing	1,382.91	5,055.71	248.47	9.399	161.23	11.197	430.30
42 Wholesale Trade	34.84	378.42	12.29	1.652	5.48	5.81	25.22
48-49 Transportation & Warehousing	118.80	882.60	39.96	4.826	15.819	2.68	63.29
44-45 Retail trade	101.58	2,614.68	42.86	3.272	15.16	14.87	76.17
51 Information	15.45	143.33	3.36	0.464	1.397	0.331	5.55
52 Finance & insurance	54.01	512.70	14.00	0.93	17.41	0.787	33.12
53 Real estate & rental	23.31	260.12	1.973	1.984	8.31	2.099	14.37
54 Professional- scientific & tech svcs	25.51	403.23	10.09	3.819	3.407	0.33	17.64
55 Management of companies	4.972	55.79	2.161	0.004	0.951	0.05	3.166
56 Administrative & waste services	22.87	780.82	9.52	1.021	1.997	0.407	12.94
61 Educational svcs	10.43	421.50	5.418	0.165	0.036	0.041	5.66
62 Health & social services	144.57	2,441.54	59.43	6.738	5.551	1.011	72.73
71 Arts- entertainment & recreation	48.01	628.58	13.352	3.869	7.475	3.439	28.135
72 Accomodation & food services	46.38	1,470.07	12.77	0.262	1.784	1.33	16.15
81 Other services	50.70	1,019.88	15.11	4.054	0.882	0.519	20.56
92 Government & non NAICs	195.53	2,432.81	91.26	0	68.39	10.511	170.17
Totals	2,525.72	21,957.18	628.44	59.99	344.73	63.43	1,096.59

Appendix A. Summary Industrial Accounts for the Southeast Iowa Region, 2002

All financial amounts in millions

Louisa County	Total Industrial Output	Jobs	+				=
			Employee Compensation	Proprietor Income	Other Property Income	Indirect Business Taxes	Value Added
11 Ag, Forestry, Fish & Hunting	69.61	781.948	3.246	10.834	9.327	1.878	25.285
21 Mining	0.934	5.687	0.322	0.049	0.25	0.028	0.649
22 Utilities	6.056	12.937	1.008	0.248	2.306	0.701	4.263
23 Construction	12.238	122.074	2.58	2.117	0.337	0.061	5.095
31-33 Manufacturing	579.318	1,706.28	60.456	2.645	7.353	5.251	75.704
42 Wholesale Trade	18.231	189.209	7.08	0.228	2.86	3.031	13.199
48-49 Transportation & Warehousing	11.09	109.251	2.967	1.094	0.67	0.201	4.932
44-45 Retail trade	10.218	282.576	4.327	0.415	1.377	1.516	7.634
51 Information	3.733	36.805	1.046	0.096	0.747	0.201	2.09
52 Finance & insurance	12.592	92.494	2.783	0.487	4.256	0.21	7.735
53 Real estate & rental	2.033	32.766	0.212	0.114	0.647	0.16	1.133
54 Professional- scientific & tech svcs	3.186	66.866	0.957	0.946	0.344	0.057	2.304
55 Management of companies	0.314	2.395	0.147	0	0.065	0.003	0.215
56 Administrative & waste services	1.199	15.203	0.119	0.266	0.098	0.017	0.5
61 Educational svcs	0	0	0	0	0	0	0
62 Health & social services	14.272	373.023	5.476	0.464	0.81	0.118	6.868
71 Arts- entertainment & recreation	0.707	36.942	0.229	0.068	0.045	0.047	0.388
72 Accomodation & food services	6.487	208.237	1.664	0.079	0.14	0.136	2.019
81 Other services	4.597	101.55	1.278	0.224	0.054	0.046	1.602
92 Government & non NAICs	53.421	638.513	25.095	0	18.713	3.178	46.986
Totals	810.237	4,814.76	120.989	20.375	50.399	16.839	208.602

All financial amounts in millions

Muscatine County	Total Industrial Output	Jobs	+				=
			Employee Compensation	Proprietor Income	Other Property Income	Indirect Business Taxes	Value Added
11 Ag, Forestry, Fish & Hunting	75.686	1,056.58	4.237	14.329	8.968	2.097	29.631
21 Mining	0.509	2.376	0.175	0.027	0.136	0.015	0.353
22 Utilities	73.904	196.038	14.232	1.747	27.895	8.344	52.217
23 Construction	86.818	851.045	22.236	11.564	2.426	0.436	36.662
31-33 Manufacturing	2,344.85	7,414.35	411.507	25.747	333.939	18.473	789.666
42 Wholesale Trade	48.474	612.578	19.131	0.307	7.602	8.056	35.095
48-49 Transportation & Warehousing	91.775	986.868	30.712	0.916	7.638	0.901	40.167
44-45 Retail trade	120.094	2,474.10	49.248	5.858	17.965	17.417	90.489
51 Information	46.433	457.757	13.226	0.674	6.281	1.469	21.65
52 Finance & insurance	60.627	502.883	15.644	1.139	20.991	0.781	38.555
53 Real estate & rental	70.466	623.201	11.142	4.889	16.649	3.87	36.549
54 Professional- scientific & tech svcs	94.164	1,227.79	40.53	15.948	9.474	0.995	66.947
55 Management of companies	101.826	618.072	48.986	0.08	21.547	1.142	71.756
56 Administrative & waste services	73.137	1,789.73	33.499	4.703	4.226	0.814	43.243
61 Educational svcs	1.587	69.092	0.724	0.027	0.021	0.009	0.781
62 Health & social services	85.788	1,883.77	44.478	5.973	3.01	0.68	54.141
71 Arts- entertainment & recreation	8.145	191.496	2.169	0.445	0.979	0.499	4.093
72 Accomodation & food services	43.533	1,309.64	13.026	0.149	1.572	1.294	16.041
81 Other services	55.959	1,413.18	20.406	2.78	0.535	0.41	24.131
92 Government & non NAICs	339.107	2,668.75	99.064	0	170.634	13.893	283.59
Totals	3,822.88	26,349.30	894.372	97.302	662.489	81.596	1,735.76

Appendix B: Summary Industrial Accounts for the Southeast Iowa Region, 2002, as Percentages of State Totals

Southeast Iowa	Total Industrial Output	Jobs	Employee Compensation	Proprietor Income	Other Property Income	Indirect Business Taxes	Value Added
Ag, Forestry, Fish & Hunting	6.3%	6.7%	0.9%	25.2%	5.6%	4.7%	4.3%
Mining	0.2%	0.1%	0.2%	0.3%	0.3%	0.1%	0.2%
Utilities	1.9%	0.4%	1.1%	1.6%	4.5%	5.7%	2.5%
Construction	5.3%	5.4%	5.4%	11.4%	1.0%	0.7%	4.3%
Manufacturing	31.4%	12.0%	20.7%	5.6%	19.2%	6.8%	18.1%
Wholesale Trade	4.3%	3.7%	5.7%	2.9%	4.7%	19.6%	6.2%
Transportation & Warehousing	3.8%	3.8%	4.9%	3.7%	2.4%	1.6%	3.8%
Retail trade	5.5%	12.0%	8.0%	6.3%	5.9%	22.2%	8.3%
Information	3.0%	1.9%	2.7%	1.7%	3.3%	3.1%	2.8%
Finance & insurance	8.2%	5.3%	7.7%	5.4%	12.3%	6.7%	8.8%
Real estate & rental	3.2%	2.4%	1.0%	5.5%	10.6%	7.0%	4.5%
Professional- scientific & tech svcs	2.4%	3.5%	3.7%	12.1%	1.3%	0.9%	3.4%
Management of companies	0.5%	0.4%	0.8%	0.0%	0.7%	0.2%	0.7%
Administrative & waste services	1.9%	4.2%	2.6%	2.5%	1.2%	0.9%	2.1%
Educational svcs	0.7%	1.8%	1.2%	0.2%	0.0%	0.1%	0.7%
Health & social services	6.1%	9.9%	10.0%	8.2%	2.5%	1.3%	7.1%
Arts- entertainment & recreation	0.8%	1.8%	0.8%	1.7%	0.7%	1.4%	0.9%
Accomodation & food services	2.3%	6.3%	2.5%	0.9%	0.9%	2.5%	1.9%
Other services	2.7%	5.4%	2.9%	4.7%	0.4%	0.8%	2.2%
Government & non NAICs	9.7%	12.9%	17.1%	0.0%	22.3%	13.9%	17.1%
Totals	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Summary Industrial Accounts for the Southeast Iowa Region, 2002, as Percentages of Regional Totals

Southeast Iowa	Total Industrial Output	Jobs	Employee Compensation	Proprietor Income	Other Property Income	Indirect Business Taxes	Value Added
Ag, Forestry, Fish & Hunting	3.3%	5.2%	0.6%	19.0%	3.0%	3.7%	2.7%
Mining	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Utilities	1.3%	0.4%	1.0%	1.3%	3.4%	6.2%	2.0%
Construction	3.9%	4.9%	4.4%	8.7%	0.7%	0.7%	3.3%
Manufacturing	54.0%	23.0%	38.4%	23.4%	43.6%	18.1%	38.0%
Wholesale Trade	1.7%	2.1%	2.5%	1.4%	1.9%	11.7%	2.7%
Transportation & Warehousing	5.2%	6.2%	8.2%	4.1%	4.4%	3.0%	6.5%
Retail trade	4.0%	11.0%	6.6%	4.6%	4.3%	24.2%	6.7%
Information	0.9%	1.0%	0.9%	0.7%	0.9%	1.3%	0.9%
Finance & insurance	2.2%	2.2%	2.1%	1.8%	4.6%	1.2%	2.9%
Real estate & rental	1.4%	1.7%	0.7%	3.4%	3.1%	4.0%	1.8%
Professional- scientific & tech svcs	1.9%	3.7%	3.4%	11.4%	1.0%	0.8%	3.0%
Management of companies	1.0%	0.8%	1.9%	0.0%	1.5%	0.5%	1.6%
Administrative & waste services	1.7%	4.8%	2.6%	3.6%	0.9%	1.2%	2.0%
Educational svcs	0.2%	0.9%	0.4%	0.1%	0.0%	0.0%	0.3%
Health & social services	4.6%	9.5%	8.1%	9.3%	1.6%	1.4%	5.8%
Arts- entertainment & recreation	0.7%	1.4%	0.7%	1.5%	0.7%	1.9%	0.8%
Accomodation & food services	1.6%	5.9%	1.9%	0.4%	0.4%	2.1%	1.3%
Other services	1.9%	4.7%	2.3%	5.1%	0.2%	0.8%	1.7%
Government & non NAICs	8.3%	10.7%	13.1%	0.0%	23.8%	17.3%	15.9%
Totals	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Appendix C: Regional Industrial Shares by Economic Category

Output Percentages	Des Moines	Henry	Lee	Louisa	Muscatine SE Region	
11 Ag, Forestry, Fish & Hunting	14.6%	23.1%	23.2%	18.7%	20.4%	100.0%
21 Mining	30.3%	22.5%	29.3%	11.6%	6.3%	100.0%
22 Utilities	12.3%	2.1%	32.6%	4.0%	49.0%	100.0%
23 Construction	38.8%	13.4%	24.9%	2.8%	20.0%	100.0%
31-33 Manufacturing	20.7%	8.0%	22.9%	9.6%	38.8%	100.0%
42 Wholesale Trade	43.5%	2.8%	18.4%	9.6%	25.6%	100.0%
48-49 Transportation & Warehousing	34.2%	28.0%	20.2%	1.9%	15.6%	100.0%
44-45 Retail trade	37.0%	11.0%	22.8%	2.3%	26.9%	100.0%
51 Information	28.6%	8.5%	14.8%	3.6%	44.5%	100.0%
52 Finance & insurance	32.4%	16.2%	21.8%	5.1%	24.5%	100.0%
53 Real estate & rental	28.7%	9.9%	14.9%	1.3%	45.1%	100.0%
54 Professional- scientific & tech svcs	23.3%	19.3%	11.9%	1.5%	43.9%	100.0%
55 Management of companies	4.3%	0.8%	4.4%	0.3%	90.2%	100.0%
56 Administrative & waste services	22.7%	25.1%	12.3%	0.6%	39.2%	100.0%
61 Educational svcs	26.2%	23.9%	43.4%	0.0%	6.6%	100.0%
62 Health & social services	43.9%	8.9%	27.9%	2.8%	16.6%	100.0%
71 Arts- entertainment & recreation	20.0%	2.7%	65.3%	1.0%	11.1%	100.0%
72 Accomodation & food services	36.9%	10.8%	25.2%	3.5%	23.6%	100.0%
81 Other services	37.5%	9.4%	24.2%	2.2%	26.7%	100.0%
92 Government & non NAICs	22.2%	14.5%	21.1%	5.8%	36.5%	100.0%
Totals	25.0%	11.0%	22.6%	7.2%	34.2%	100.0%

Employee Compensation	Des Moines	Henry	Lee	Louisa	Muscatine SE Region	
11 Ag, Forestry, Fish & Hunting	19.1%	13.6%	21.5%	19.9%	25.9%	100.0%
21 Mining	30.7%	20.5%	27.7%	13.7%	7.4%	100.0%
22 Utilities	10.4%	2.0%	32.7%	3.6%	51.2%	100.0%
23 Construction	41.9%	12.0%	26.4%	2.0%	17.7%	100.0%
31-33 Manufacturing	24.4%	9.9%	22.7%	5.5%	37.6%	100.0%
42 Wholesale Trade	43.1%	2.8%	17.3%	9.9%	26.9%	100.0%
48-49 Transportation & Warehousing	32.3%	36.4%	17.0%	1.3%	13.1%	100.0%
44-45 Retail trade	38.4%	10.5%	22.7%	2.3%	26.1%	100.0%
51 Information	27.2%	7.6%	12.4%	3.9%	48.9%	100.0%
52 Finance & insurance	35.4%	11.7%	22.8%	4.5%	25.5%	100.0%
53 Real estate & rental	24.5%	4.9%	10.4%	1.1%	59.0%	100.0%
54 Professional- scientific & tech svcs	22.4%	25.1%	10.3%	1.0%	41.2%	100.0%
55 Management of companies	4.0%	0.8%	4.0%	0.3%	90.9%	100.0%
56 Administrative & waste services	25.1%	16.2%	13.0%	0.2%	45.6%	100.0%
61 Educational svcs	27.5%	21.7%	44.9%	0.0%	6.0%	100.0%
62 Health & social services	42.9%	10.1%	25.5%	2.4%	19.1%	100.0%
71 Arts- entertainment & recreation	23.7%	2.3%	62.7%	1.1%	10.2%	100.0%
72 Accomodation & food services	38.8%	10.3%	23.6%	3.1%	24.1%	100.0%
81 Other services	36.4%	6.9%	23.3%	2.0%	31.4%	100.0%
92 Government & non NAICs	23.9%	18.7%	24.3%	6.7%	26.4%	100.0%
Totals	28.9%	13.6%	22.0%	4.2%	31.3%	100.0%

Appendix C: Regional Industrial Shares by Economic Category

All Value Added	Des Moines	Henry	Lee	Louisa	Muscatine SE Region	
11 Ag, Forestry, Fish & Hunting	16.5%	21.3%	21.5%	18.8%	22.0%	100.0%
21 Mining	30.2%	22.4%	27.8%	12.8%	6.9%	100.0%
22 Utilities	11.8%	2.2%	30.6%	4.2%	51.2%	100.0%
23 Construction	38.2%	12.8%	23.9%	3.1%	22.0%	100.0%
31-33 Manufacturing	23.8%	8.4%	22.5%	4.0%	41.3%	100.0%
42 Wholesale Trade	43.5%	2.8%	18.4%	9.6%	25.6%	100.0%
48-49 Transportation & Warehousing	34.2%	32.6%	19.4%	1.5%	12.3%	100.0%
44-45 Retail trade	37.2%	11.0%	22.6%	2.3%	26.9%	100.0%
51 Information	27.5%	9.5%	11.9%	4.5%	46.5%	100.0%
52 Finance & insurance	34.3%	10.5%	23.0%	5.4%	26.8%	100.0%
53 Real estate & rental	28.6%	13.1%	16.1%	1.3%	41.0%	100.0%
54 Professional- scientific & tech svcs	24.5%	18.6%	11.5%	1.5%	43.8%	100.0%
55 Management of companies	4.0%	0.8%	4.0%	0.3%	90.9%	100.0%
56 Administrative & waste services	25.3%	19.4%	12.6%	0.5%	42.1%	100.0%
61 Educational svcs	27.9%	21.2%	44.8%	0.0%	6.2%	100.0%
62 Health & social services	43.3%	10.7%	25.0%	2.4%	18.6%	100.0%
71 Arts- entertainment & recreation	19.4%	2.1%	67.7%	0.9%	9.8%	100.0%
72 Accomodation & food services	39.2%	10.4%	23.8%	3.0%	23.6%	100.0%
81 Other services	36.9%	9.4%	23.9%	1.9%	28.0%	100.0%
92 Government & non NAICs	22.5%	14.9%	21.3%	5.9%	35.5%	100.0%
Totals	27.4%	12.1%	21.8%	4.1%	34.5%	100.0%

Jobs	Des Moines	Henry	Lee	Louisa	Muscatine SE Region	
11 Ag, Forestry, Fish & Hunting	20.1%	19.6%	23.2%	15.8%	21.3%	100.0%
21 Mining	28.8%	22.3%	34.0%	10.5%	4.4%	100.0%
22 Utilities	12.1%	2.4%	28.8%	3.5%	53.2%	100.0%
23 Construction	39.2%	13.9%	25.7%	2.7%	18.5%	100.0%
31-33 Manufacturing	23.7%	10.9%	23.3%	7.9%	34.2%	100.0%
42 Wholesale Trade	38.4%	2.5%	18.9%	9.5%	30.7%	100.0%
48-49 Transportation & Warehousing	29.5%	36.7%	15.1%	1.9%	16.9%	100.0%
44-45 Retail trade	38.0%	10.1%	25.2%	2.7%	23.9%	100.0%
51 Information	25.4%	7.7%	15.0%	3.9%	48.0%	100.0%
52 Finance & insurance	31.9%	14.0%	25.0%	4.5%	24.5%	100.0%
53 Real estate & rental	31.8%	11.4%	16.1%	2.0%	38.6%	100.0%
54 Professional- scientific & tech svcs	18.9%	32.6%	11.5%	1.9%	35.1%	100.0%
55 Management of companies	6.0%	1.1%	7.7%	0.3%	84.9%	100.0%
56 Administrative & waste services	28.9%	13.7%	17.3%	0.3%	39.7%	100.0%
61 Educational svcs	26.9%	15.0%	49.9%	0.0%	8.2%	100.0%
62 Health & social services	37.3%	10.4%	27.2%	4.2%	21.0%	100.0%
71 Arts- entertainment & recreation	33.4%	3.4%	46.4%	2.7%	14.1%	100.0%
72 Accomodation & food services	35.3%	11.2%	26.3%	3.7%	23.4%	100.0%
81 Other services	33.9%	8.7%	23.1%	2.3%	32.0%	100.0%
92 Government & non NAICs	24.9%	18.5%	24.0%	6.3%	26.3%	100.0%
Totals	29.5%	14.3%	23.2%	5.1%	27.9%	100.0%

Appendix D: Targeted and Cluster Industry Primary Evaluation Variables

NAICS	Description	National Employment Change:1993 to 2000	National Employment Change: 2000 to 2003	Average Firm Size	Productivity: Output per job (\$mil)	Region to U.S. Output per Job	Earnings Index	Fringe Percentage (national)	Regional Linkages: Type I Multiplier	Regional Linkages: Gross Inputs per Firm (\$mil)	Income Multiplier	Education
2211	Electric Power Generation, Transmission and Distribution	-5.7%	-0.4%	41	0.424	0.712	263.1	0.209	1.08	0.58	1.14	
31111	Animal Food Manufacturing	-3.4%	-1.8%	52	0.541	0.999	172.8	0.218	1.25	7.71	1.65	12.5
31122	Starch and Vegetable Fats and Oils Manufacturing	-2.8%	-1.0%	379	0.870	0.835	209.7	0.231	1.33	106.28	2.22	12.5
31142	Fruit and Vegetable Canning, Pickling, and Drying	-5.1%	-2.7%	517	0.312	0.944	115.6	0.185	1.25	40.85	1.62	11.0
31161	Animal Slaughtering and Processing	-0.6%	1.2%	403	0.292	1.267	108.4	0.230	1.42	46.81	1.58	10.7
31182	Cookie, Cracker, and Pasta Manufacturing	-3.2%	-1.8%	522	0.259	0.973	112.2	0.241	1.18	21.99	1.44	11.6
3221	Pulp, Paper, and Paperboard Mills	-5.0%	-6.0%	125	0.401	0.910	198.1	0.210	1.35	19.79	1.54	12.7
32222	Paper Bag and Coated and Treated Paper Manufacturing	-3.2%	-4.0%	79	0.203	0.903	110.3	0.200	1.22	2.76	1.39	12.1
32223	Stationery Product Manufacturing	-3.3%	-4.4%	96	0.207	1.019	268.9	0.155	1.17	1.90	1.13	12.1
32311	Printing	-2.6%	-4.4%	26	0.115	0.874	107.9	0.222	1.16	0.37	1.18	12.6
32518	Other Basic Inorganic Chemical Manufacturing	-4.9%	-3.2%	36	0.391	0.988	278.8	0.209	1.25	3.64	1.32	13.6
32531	Fertilizer Manufacturing	-3.5%	-3.0%	32	0.339	0.832	236.0	0.215	1.18	1.65	1.22	13.2
32532	Pesticide and Other Agricultural Chemical Manufacturing	-4.2%	-3.8%	640	0.493	1.064	326.9	0.199	1.23	85.74	1.28	13.2
32551	Paint and Coating Manufacturing	-3.1%	-3.2%	54	0.395	0.971	203.8	0.191	1.22	3.97	1.39	12.7
32599	All Other Chemical Product and Preparation Manufacturing	-3.6%	-3.0%	34	0.447	1.310	543.9	0.194	1.21	0.31	1.17	13.6
3261	Plastics Product Manufacturing	0.1%	-3.8%	41	0.187	0.885	112.4	0.265	1.22	1.38	1.33	12.0
32622	Rubber and Plastics Hoses and Belting Manufacturing	-0.5%	-2.0%	210	0.151	1.012	142.8	0.228	1.15	6.48	1.15	12.5
32629	Other Rubber Product Manufacturing	-1.2%	-5.7%	172	0.179	1.000	130.2	0.177	1.19	10.10	1.24	12.5
32739	Other Concrete Product Manufacturing	3.5%	-2.0%	45	0.136	0.978	128.3	0.201	1.18	2.16	1.19	12.1
32742	Gypsum Product Manufacturing	-2.0%	-2.0%	225	0.258	0.955	154.2	0.300	1.20	5.75	1.31	12.1
33111	Iron and Steel Mills and Ferroalloy Manufacturing	-4.7%	-7.3%	160	0.426	0.929	215.9	0.241	1.26	17.30	1.44	12.3
33151	Ferrous Metal Foundries	-2.4%	-7.4%	124	0.134	0.883	135.8	0.173	1.22	2.67	1.20	11.8
33231	Plate Work and Fabricated Structural Product Manufacturing Metal Can, Box, and Other Metal Container (Light Gauge) Manufacturing	1.3%	-3.4%	52	0.171	1.006	137.0	0.239	1.16	0.76	1.18	12.1
33243	Hardware Manufacturing	-3.2%	-4.8%	65	0.275	0.968	148.7	0.226	1.18	3.71	1.27	12.1
3325	Hardware Manufacturing	-0.5%	-6.4%	73	0.210	0.876	103.9	0.211	1.19	4.21	1.36	12.2
33299	All Other Fabricated Metal Product Manufacturing	-2.4%	-4.2%	147	0.144	0.876	154.1	0.244	1.20	4.00	1.26	12.2
33312	Construction Machinery Manufacturing	0.5%	-8.3%	455	0.416	1.106	300.0	0.164	1.19	49.36	1.26	12.6
33329	Other Industrial Machinery Manufacturing	-2.5%	-7.7%	33	0.249	0.987	174.4	0.220	1.22	2.03	1.34	12.6
33341	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	-0.2%	-5.3%	594	0.188	0.960	150.6	0.254	1.14	15.02	1.18	12.6
33361	Engine, Turbine, and Power Transmission Equipment Manufacturing	-2.3%	-5.2%	83	0.404	1.078	231.9	0.198	1.21	9.76	1.32	12.9
33392	Material Handling Equipment Manufacturing	-0.9%	-7.9%	196	0.194	1.026	143.1	0.207	1.24	13.10	1.32	12.6
33422	Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing	-4.0%	-8.9%	214	0.337	0.897	146.1	0.177	1.21	15.64	1.47	13.9
33512	Lighting Fixture Manufacturing	-1.1%	-6.3%	216	0.187	1.064	155.6	0.213	1.16	18.16	1.20	12.6
33531	Electrical Equipment Manufacturing	-3.1%	-7.3%	328	0.200	1.109	179.5	0.172	1.11	6.88	1.14	12.6
33621	Motor Vehicle Body and Trailer Manufacturing	2.7%	-5.3%	15	0.132	0.739	114.6	0.260	1.35	11.68	1.36	12.6
3363	Motor Vehicle Parts Manufacturing	-0.9%	-4.5%	139	0.266	0.943	180.0	0.187	1.23	10.37	1.31	12.6
33721	Office Furniture (including Fixtures) Manufacturing	-1.6%	-7.3%	193	0.215	1.433	173.4	0.187	1.19	7.30	1.21	11.7
33791	Mattress Manufacturing	0.5%	-1.1%	68	0.150	0.996	117.9	0.188	1.18	4.64	1.22	11.7
33994	Office Supplies (except Paper) Manufacturing	-3.9%	-6.1%	44	0.089	0.760	109.4	0.171	1.15	1.70	1.11	12.3
33999	All Other Miscellaneous Manufacturing	-1.1%	-4.0%	15	0.153	0.985	98.3	0.211	1.21	0.74	1.31	12.3
48	Transportation and Warehousing	0.8%	-1.0%	11	0.100	0.899	126.3	0.222	1.22	0.71	1.18	
54151	Computer Systems Design and Related Services	14.0%	-4.3%	10	0.054	0.565	136.4	0.109	1.09	0.14	1.05	
55	Management of Companies and Enterprises	0.3%	-1.4%	38	0.155	0.938	220.7	0.114	1.14	0.92	1.10	
5611	Office Administrative Services	3.8%	8.6%	11	0.163	0.947	156.6	0.126	1.26	0.71	1.37	
5613	Employment Services	12.2%	-3.9%	67	0.023	0.781	49.8	0.113	1.13	0.24	1.07	
562	Waste Management and Remediation Services	-1.5%	1.4%	8	0.089	0.600	62.5	0.132	1.32	0.93	1.40	
623	Nursing and Residential Care Facilities	-0.2%	3.5%	53	0.039	0.845	62.3	0.120	1.20	0.43	1.12	

Appendix E

Region 16 Company Closures and Permanent Lay-offs

Closure/Lay-off	Company	County	Number affected
after 1/29/01	<i>Motorola</i>	Henry	150
February-01	Montgomery Wards	Des Moines	80
March-01	OSF Healthcare Facilities	Des Moines	86
April-01	ShopKo Keokuk	Lee	85
May-01	Exide	Des Moines	250
August-01	Ferro-Sil	Lee	140
August-01	<i>Case/New Holland</i>	Des Moines	200
September-01	Wabash	Lee	252
October-01	<i>General Electric</i>	Des Moines	81
	Experian	Henry	50
	Heilig Meyer	Des Moines	23
October-01	Radiologist Inc	Des Moines	10
TOTAL 2001			1407
on-going - 2002	<i>Shaeffer Pen</i>	Lee	27
March-02	<i>Burrows</i>	Lee	23
April-02	<i>BNSF Railroad</i>	Des Moines	50
May-02	Mycogen Seed	Henry	18
July-02	APAC Keokuk	Lee	120
August-02	<i>Iowa Army Ammunitions</i>	Des Moines	29
August-02	ResCare	Lee	40
August-02	Old World Restaurant	Lee	7
September-02	Transair	Henry	6
September-02	<i>Celestica</i>	Henry	70
October-02	Chuck Wagon Restaurant	Lee	18
October-02	Fox Appliance	Des Moines	10
October-02	Blue Bird	Henry	350
December-02	Andrews	Des Moines	65
TOTAL 2002			833
January-03	<i>BNSF</i>	Des Moines	258
January-03	<i>General Electric</i>	Des Moines	90
January-03	<i>Case NewHolland</i>	Des Moines	10
April-03	<i>Raider Precast</i>	Des Moines	100
May-03	Eastman House	Des Moines	50
June-03	<i>Celistica</i>	Henry	100
July-03	<i>General Electric</i>	Des Moines	45
November-03	<i>American Ordinance</i>	Des Moines	24
December-03	<i>BNSF</i>	Des Moines	93
TOTAL 2003			770
January-04	<i>American Ordinance</i>	Des Moines	50
April-04	Collins Cleaners	Lee	4
April-04	<i>General Electric</i>	Des Moines	55
April-04	<i>Celestica</i>	Henry	100
August-04	Metso	Lee	100
TOTAL 2004			309
January-05	<i>General Electric</i>	Des Moines	85
February-05	<i>Celestica</i>	Henry	424

Appendix E: Additional Job Change Information from Lee and Henry Counties

Lee County Openings as of 3-4-05

Openings

<u>Facility:</u>	<u>Employees Gained</u>	<u>Type</u>	<u>Time Span</u>	<u>Location</u>
Chem Craft	7	opening	2002	Keokuk

Total: 7

Expansion

Dial Manufacturing	25	expansion	2004	Fort Madison
Industrial Tooling	145	expansion	2004	Fort Madison
Roquette, Inc.	175	expansion	2004-2006	Keokuk
Dupont	4	expansion	2004	Fort Madison
Mississippi Blending	5	expansion		Keokuk
Cryotech	30	expansion		Fort Madison
Scott's	38	expansion		Fort Madison

Mount Pleasant Iowa

Recent Job Gains

- Hearth and Home Technologies added 80 news employees to their current operations in 2002 and 2003.
- Mount Pleasant Foods opened a new slicing, packaging, and distribution plant in Mount Pleasant in the spring of 2003. 250 employees were hired to work at the new plant.
- Riverside Paper Corporation moved their paper conversion operation to Mount Pleasant in the winter of 2003. They have created 150 new jobs in the community.
- Millard Refrigerated Services announced they would be locating a new facility in Mount Pleasant in 2004. Approximately 30 employees will be hired this year.
- Mount Pleasant Foods announced an expansion of their facility in Mount Pleasant in 2004. Approximately 200 additional employees were hired.