

Understanding the Greater Jasper County Labor Region, and its Workforce and Industrial Characteristics

Liesl Eathington
Dave Swenson

Regional Capacity Analysis Program
Research and Services Conducted In Cooperation with the
Center for Industrial Research and Service
At Iowa State University

July 2007

This analysis is intended to assist citizens, community leaders and planners in Newton and Jasper County to understand regional relationships that can and will affect their future growth prospects. The analysis also displays several important industrial and earnings characteristics of Jasper County and the surrounding area. The data are organized to

- delineate primary workforce inter-relationships and the primary trade centers within that larger labor-shed;
- identify and rate important characteristics of the region's workforce that lend themselves to economic development planning; and
- display a basic assessment of the region's industrial competitiveness taking into account the reduction in employment at the Maytag / Whirlpool facility and obvious expansions in the regional economy in recent years.

Defining the Workforce Region

There is variance in many parts of Iowa between where people reside and where people live. Major trade centers and metropolitan economies depend on an external, commuting workforce to staff area industry and services. Outlying areas rely on external jobs to sustain local incomes and maintain communities.

The strength of commuting relationships between Jasper County and surrounding counties served as a guide for selecting the workforce region of interest. The size of commuting flows into and out of a county helps us gauge the relative willingness of workers to travel to a particular destination for work. For this analysis, a cutoff level of 5 percent was selected. If commuters to or from a nearby county represented five percent or more of the total flow into or out of Jasper County, the county was included in the region.

Table 1 lists the 10 counties with the strongest commuting ties to Jasper County: Polk, Marion, Poweshiek, Marshall, and Story Counties all surpassed the cutoff level of 5 percent. It is also instructive to note that the number of outcommuters from Jasper County, 5,431, was 120 percent greater than the number incommuting at the time of the census, 2,474.

Table 1: Commuting Flows in 2000

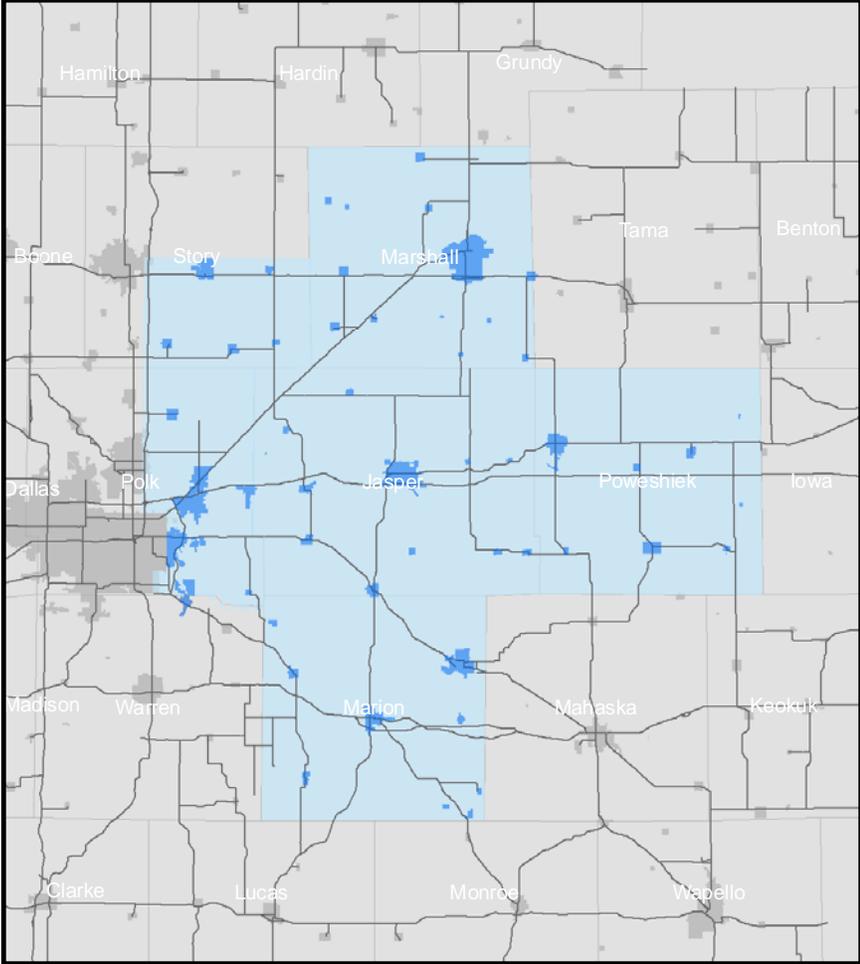
County Name	Outcommuters to:		Incommuters from:	
	Number	%	Number	%
Polk, IA	3,364	61.9%	955	38.6%
Marion, IA	884	16.3%	353	14.3%
Poweshiek, IA	728	13.4%	302	12.2%
Marshall, IA	162	3.0%	434	17.5%
Story, IA	76	1.4%	136	5.5%
Mahaska, IA	56	1.0%	59	2.4%
Warren, IA	16	0.3%	67	2.7%
Monroe, IA	12	0.2%	54	2.2%
Dallas, IA	48	0.9%	-	0.0%
Wapello, IA	8	0.1%	24	1.0%
⋮	⋮	⋮	⋮	⋮
Total	5,431	100.0%	2,474	100.0%

Due to the large size and metropolitan characteristics of Polk and Story Counties, only selected territories within those counties were included in workforce region for Jasper County so as not to distort the primary regional workforce profile. Major highways were used as

boundaries to partition the two metropolitan counties. The Story County region of interest for the Jasper County area includes six townships all lying east of Interstate 35 and on or south of Highway 30. The Polk County region of interest includes 10 townships that are east of Interstate 35 (north of Interstate 80) and east of Highway 65 (south of Interstate 80). The outcomes are mapped in Figure 1.

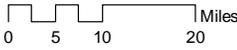
Figure 1

Jasper County Workforce Region



Legend

-  Cities
-  Major Highways
-  Workforce region

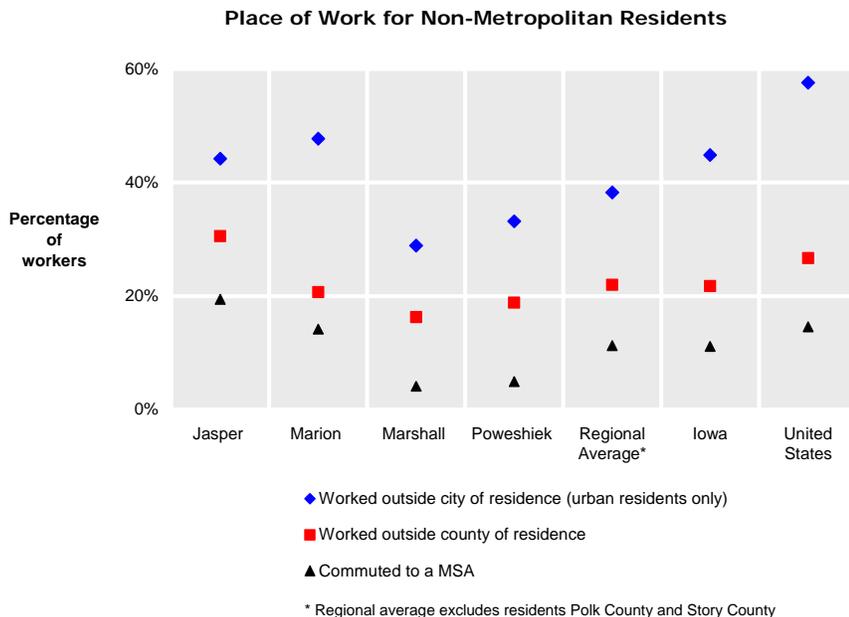


By this definition, the larger communities of Nevada, Marshalltown, Grinnell, Pella, Knoxville, Pleasant Hill, Altoona, and Bondurant all fit in the region of interest. Sufficiently strong relationships were not found for Tama to the northeast and for Oskaloosa to the southeast.

Commuting Characteristics in the Jasper County Workforce Region

Figure 2 helps us to measure the overall propensity for workers in our whole county groups to commute (the fractions of Story and Polk are not included here). Iowans as a whole are much less likely than the national experience to work outside of their county of residence or their city of residence. Of our county group, however, Jasper County workers had the highest propensity to work outside of their county of residence and the highest probability of working in a metropolitan statistical area. In contrast, Marshall County and Poweshiek County employed persons had comparatively lower propensities to work in an MSA, or to work outside of their respective counties owing to the distances that they would have to travel.

Figure 2

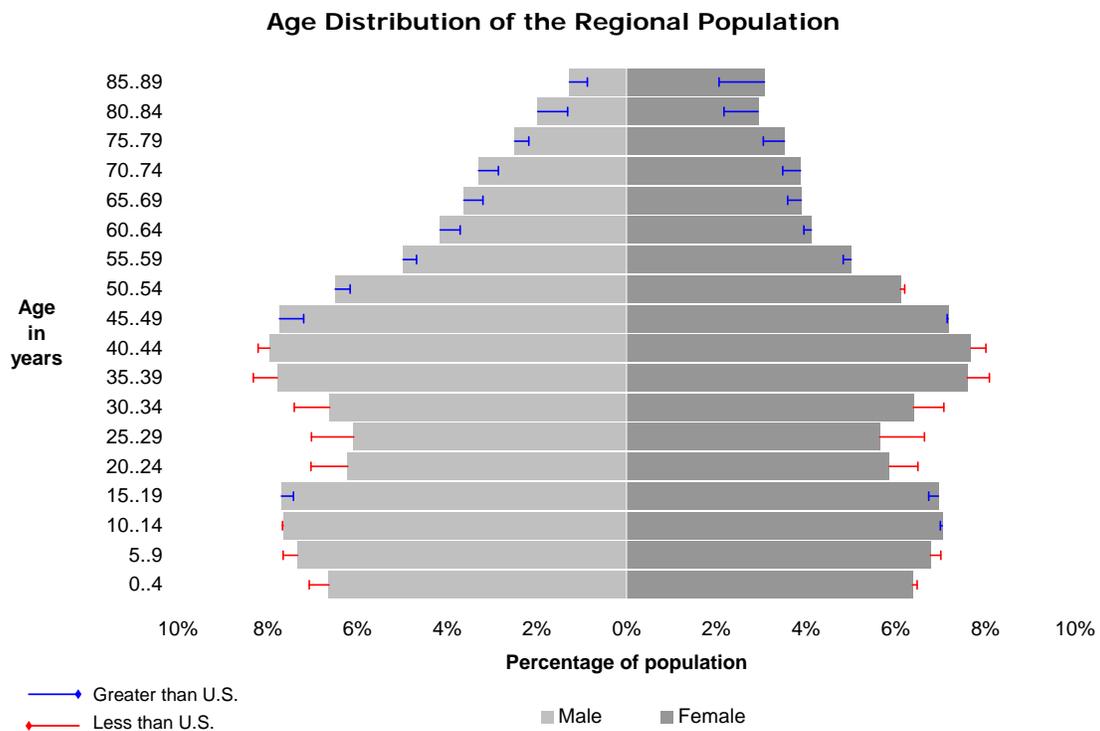


Traditional spatial analysis of labor market behaviors informs us that Jasper County is in a position to attract workers from portions of both Marshall and Poweshiek Counties as alternatives to workers in those counties seeking metropolitan job opportunities. This kind of analysis, much like in trade area analysis, relies on assumptions about the original size of the competing economies where larger economies are expected to exert more pull over smaller communities. This pull, however, diminishes sharply as distance increases.

The Workforce and Age Distributions

The structure of the region’s potential workforce is the subject of the next measure. The age cohorts of the primary four-county region for 2005 are displayed in Figure 3.

Figure 3



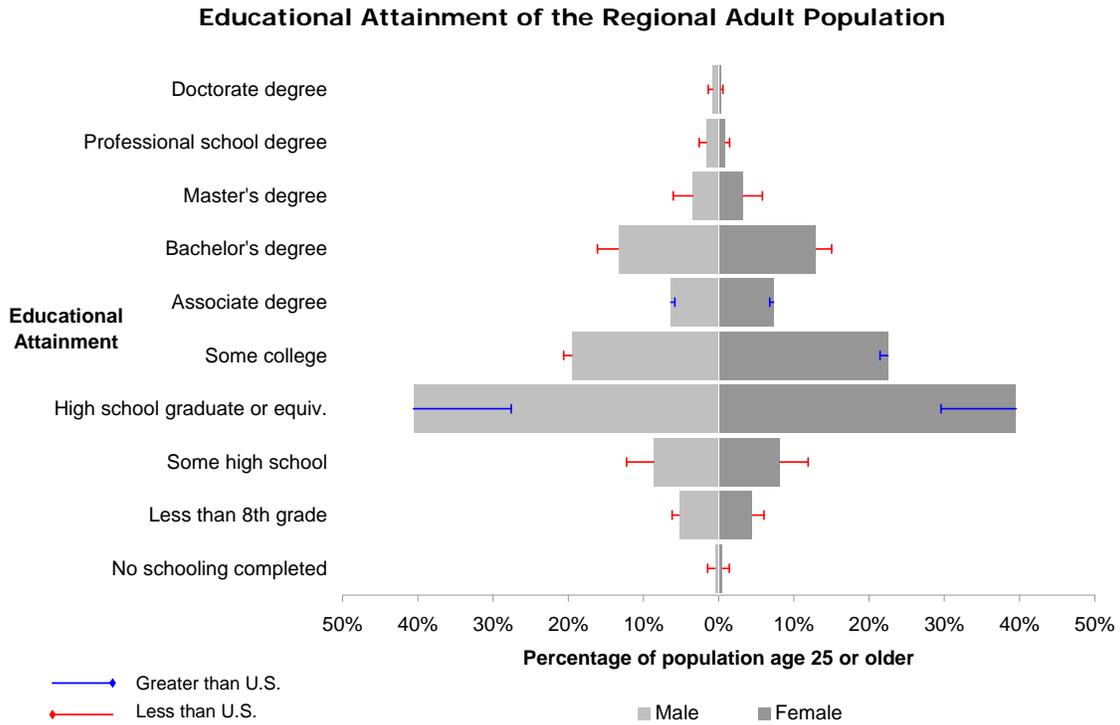
This display is called a population pyramid and it helps us to see where, on an age group basis, the region is competitive or not competitive by virtue of its composition.

In the first and most important instance, one focuses on the relative distribution of men and women ages 25 to 39. These people make up the primary workforce. They also advertise the supply of workers that are available in an area. The figure demonstrates that the region has a strong deficit in workers of these ages when compared to the national average – on an apparent distribution of potential workers, the region lags the nation strongly. The second instance of concern in this graph is related to the first. The region also has a comparative dearth of children under age 10. This is a residual outcome from the absence of young workers that would be normally beginning families and putting down roots in the region. The region has a surplus of older workforce members, those that would be less likely to be attracted to or attractive to emerging businesses, and the region like much of rural areas in Iowa has much higher proportions of elderly, especially elderly women.

The Workforce and Educational Attainment in the Region

The next figure is just one measure of the human capital potential of the region. It represents the distribution of educational attainment in the overall region among residents age 25 or greater as they compare to the nation. In the first instance, the fraction of the adult population with less than a high school diploma is much less than the national pattern. The fraction with only a high school education (40 percent), however, is much higher than the national average (28 percent). Accordingly, while the region compares favorably to the nation with persons with some college or an associate's degree, it lags the nation strongly in the incidences of college degrees at all other levels.

Figure 4



The Workforce and Occupational Characteristics

Figure 5 demonstrates occupational distributions for the region first as they compare to the overall statewide average and as they compare to the nation. Of particular importance are areas where the region has average to high occupational concentrations relative to the state and the nation. These occupations represent the area's overall competitive position: one must assume in the short run that an area has occupational specializations because it possesses a competitive advantage.

While manufacturing related occupations are in evidence for the region, like production and material moving workers, there are also demonstrated regional advantages in health care, personal services, education activities, and business operations. The region has average characteristics in several occupational categories when compared to the state that, on the other hand, are much lower than the national

pattern. Many of these jobs are contain special financial, management, technical, and mathematical skills and specializations.

Lastly, in areas that rank low for Iowa and for the nation we can identify areas where the region has a very low likelihood of attracting either workers or industries that require those workers. Those jobs include arts and media occupations, the sciences, legal services, and rail and air transportation jobs.

Figure 5
Regional Occupational Specialization

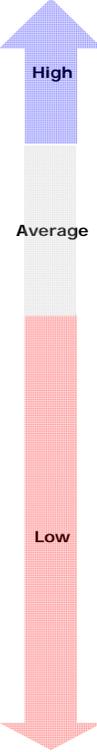
Concentration of Occupations Relative to Statewide Averages				
		Below Iowa Average	Average	Above Iowa Average
Concentration of Occupations Relative to the United States 	High	Farmers and farm managers	Material moving workers Motor vehicle operators Personal care and service Healthcare support	Production
	Average		Office and administrative support Food preparation and serving Education, training, and library Installation, maintenance, and repair Health practitioners Business operations specialists	Transportation supervisors
	Low	Community and social services Farming, fishing, and forestry workers	Building and grounds Construction workers Financial specialists Health technologists and technicians Sales and related Management Architecture and engineering Computer and mathematical science	Protective service
		Construction supervisors Arts, entertainment, and media Life, physical, and social science Rail and other transportation Legal Air transportation		Extraction workers

Figure 6 displays occupations in the region as they relate to the national average distribution and where they fit on a scale of projected national growth. There are two important dimensions to this chart for planning purposes. First, looking at the moderate to high U.S. growth sections and the categories where the region ranks, on an occupational

basis, comparatively lower than the U.S. averages, we identify areas of occupational specialization or industrial recruitment requiring those occupations where the region is at a distinct competitive disadvantage. These include computer and mathematical occupations, health technology, financial, the sciences, legal, and entertainment and the industries that depend on these occupations.

The region has average strengths in many categories, however, that are slated for moderate to high growth. These include general health practitioners and support jobs, education and training occupations, among others. The region has high concentrations in production and material moving jobs, occupations that rank very low in overall growth probability, as also are farm and farm manager jobs.

Figure 6
Projected Job Growth Rates by Regional Occupational Specialization Level

	Relative Concentration of Occupations in the Region		
	Lower than U.S. Average	Average	Higher than U.S. Average
 Projected National Employment Growth Rate High Growth Moderate Growth Decline	Computer and mathematical science		Healthcare support
	Health technologists and technicians	Health practitioners	Personal care and service
	Community and social services	Business operations specialists Education, training, and library	
	Financial specialists		
	Building and grounds		
	Air transportation		
	Life, physical, and social science		
	Legal	Food preparation and serving	Motor vehicle operators
	Arts, entertainment, and media		
	Protective service		
	Architecture and engineering	Transportation supervisors	
	Construction workers	Installation, maintenance, and repair	
	Management		Material moving workers
	Construction supervisors		
	Sales and related	Office and administrative support	
Extraction workers		Production	
Rail and other transportation		Farmers and farm managers	
Farming, fishing, and forestry workers			

Figure 7 displays the region’s skill base first as it compares to the nation’s distribution of skills and then as it relates to the nation’s demands for these skills.

Figure 7
Skill Requirements of Regional Occupations Compared to National Averages

		Regional Demand for Skills		
		Lower than U.S. Average	Similar to U.S. Average	Higher than U.S. Average
National Demand for Skills* 	High	Active Listening Reading Comprehension Speaking Critical Thinking	Active Learning Time Management	
	Moderate	Writing Social Perceptiveness	Coordination Instructing Learning Strategies Monitoring Judgment and Decision Making Service Orientation Mathematics Complex Problem Solving Persuasion Equipment Selection Negotiation Management of Personnel Resources Troubleshooting Operations Analysis	Quality Control Analysis Operation and Control Equipment Maintenance
	Low		Management of Financial Resources Systems Evaluation Management of Material Resources	Operation Monitoring
			Systems Analysis Science Technology Design Installation Programming	Repairing

* National ratings by detailed occupation for 35 skill areas were weighted by occupational employment to obtain an average score that describes the level and importance of each skill area in the national labor force as a whole. Regional values were similarly constructed based on the region's occupational employment profile. The regional average scores for each skill area were then compared to the national average scores.

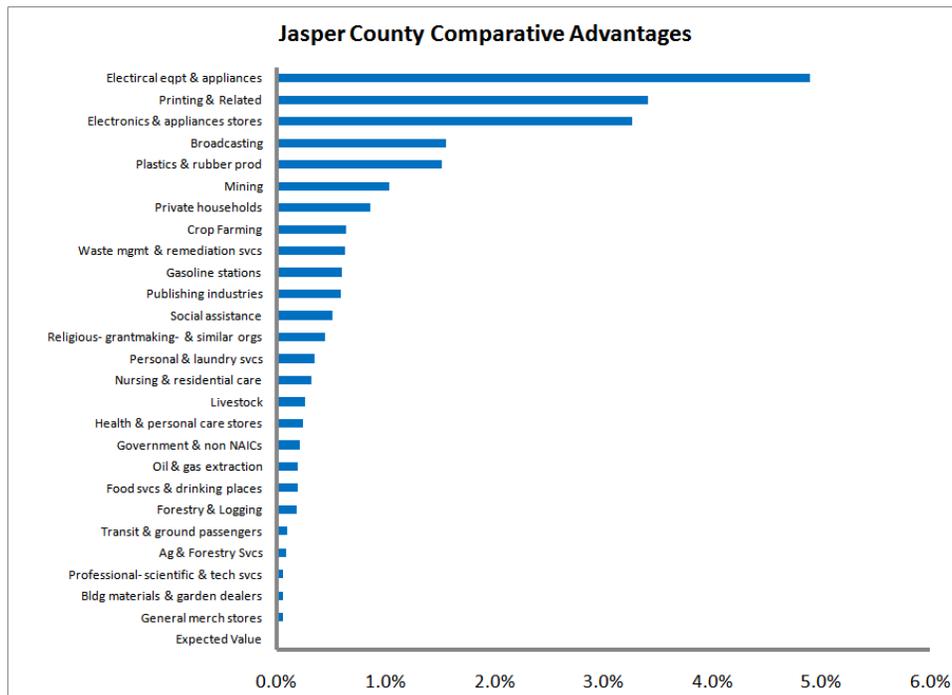
Again, in assessing the region’s weaknesses first, we need to focus on the regional skill deficits that align with high national demand. These include the basics of critical thinking, speaking, comprehension and listening, writing, and social perceptiveness. The area skill base compares favorably in a large range of areas that align well with national demand – indeed the vast majority of the region’s skills are similar to the national experience and are in moderate to high demand from the U.S. economy. Areas with high skills in the region, but which

rate somewhat lower in demand nationally, are all strongly aligned with the industrial sector.

Comparative Industrial Advantages and Disadvantages for Jasper County

Figures 7 and 8 display Jasper County’s comparative industrial advantages and disadvantages as compared to the state of Iowa. Adjustments were made to the model data to make them more in line with the region’s current situation: the number of jobs in the electrical appliance sector was reduced from 2,650 to 500 and the state of Iowa’s total was also adjusted down by a like amount. In addition, the spectator sports sector was added to the region to reflect race track employment.

Figure 7



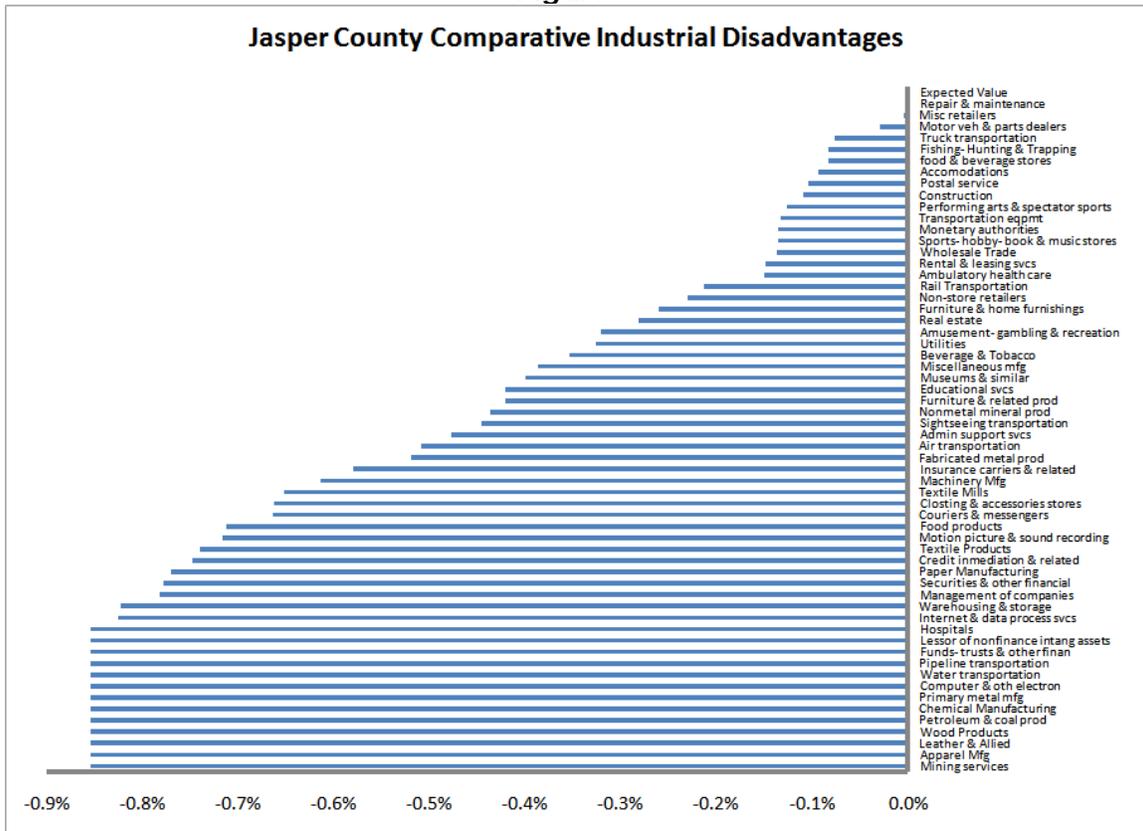
The comparisons are based on each industrial sector’s relationship to the overall share of Iowa jobs in the region, which is .85 percent. The

data represent the percentage point deviation, plus or minus, of the industries from that overall average of .85 percent of all Iowa jobs.

The region of course has strong advantages in appliance manufacture still, plus appliances and electronics sales. Broadcasting and publishing also show a comparative advantage, as do several aspects of health care delivery, and of course, agriculture.

The next figure demonstrates industries that lag the Jasper County overall average. Without going into detail, comparative disadvantage industrial groups outnumbered the advantages by a ratio of nearly 2.5 to 1. From the category of private hospitals on down the data indicate no employment in the county.

Figure 8



Jasper County Earnings Summary

The next two figures display the pattern of earnings in Jasper County and in Iowa as they compare with the U.S. average. Figure 9 shows the average earnings per worker. Earnings are made up of all wages, salaries, and importantly, the benefits that they receive. As is very evident, the state's and the county's comparative positions have trended downward over the years. The region, in 1973 had an average per worker of 105 percent of the U.S. value. By 2005 that value had declined to 75 percent. The state of Iowa also declined over the period to a value of 79 percent. Stated simply, the average Iowa worker makes \$.79 per every dollar that the average U.S. worker makes. For illustrative purposes we removed all of the Maytag earnings from Jasper County. Without Maytag (and disregarding all other multiplier effects), the region's earning average collapses from 75 percent to 64 percent of the U.S. norm.

Figure 9

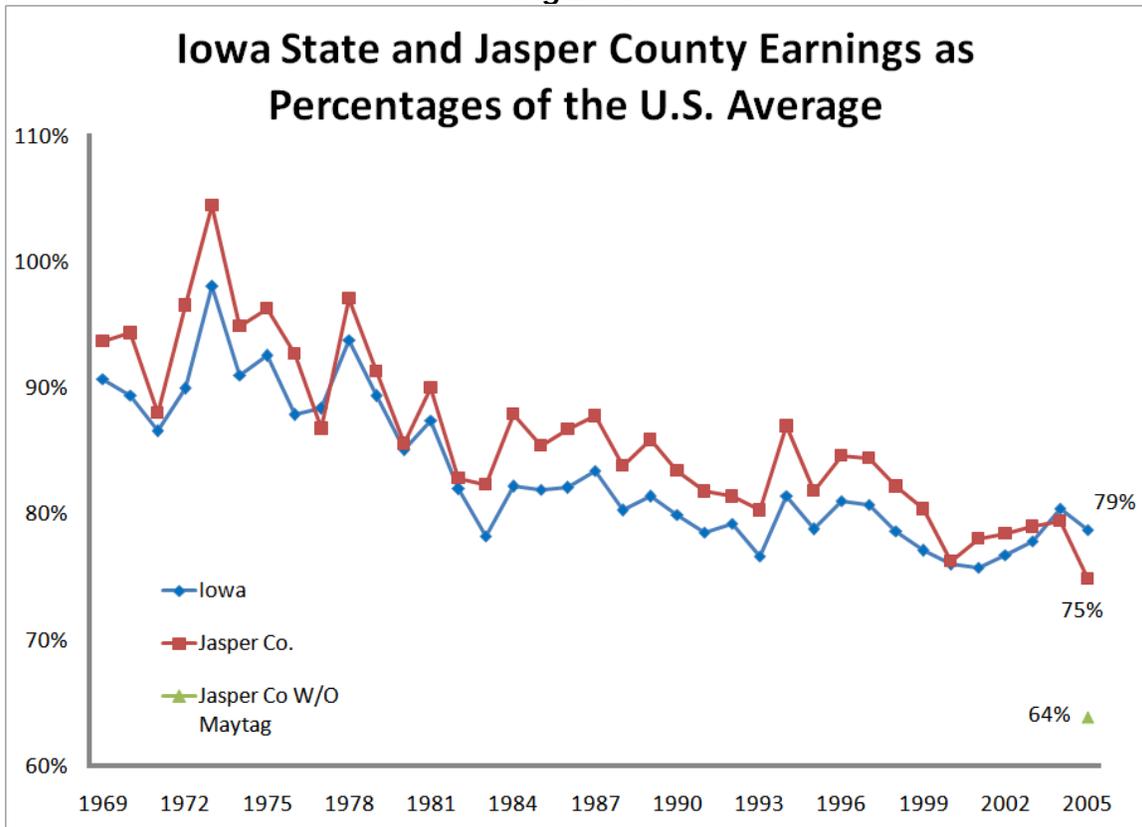
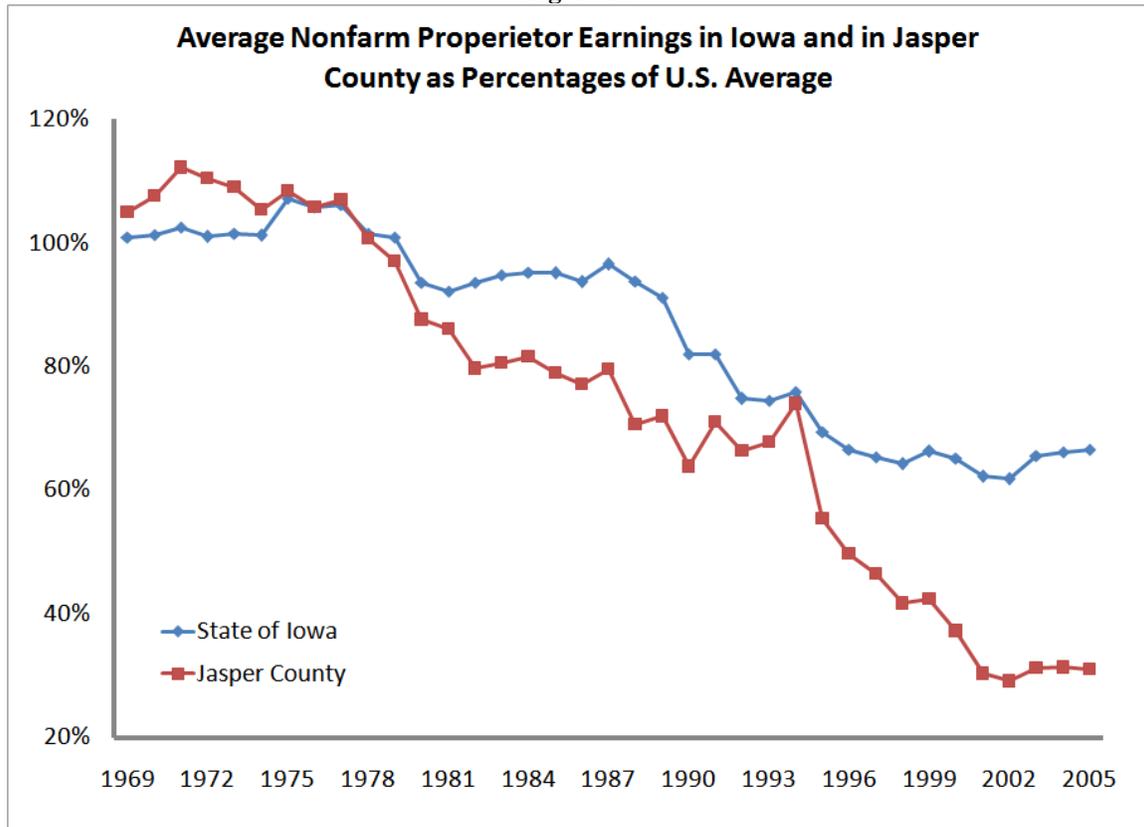


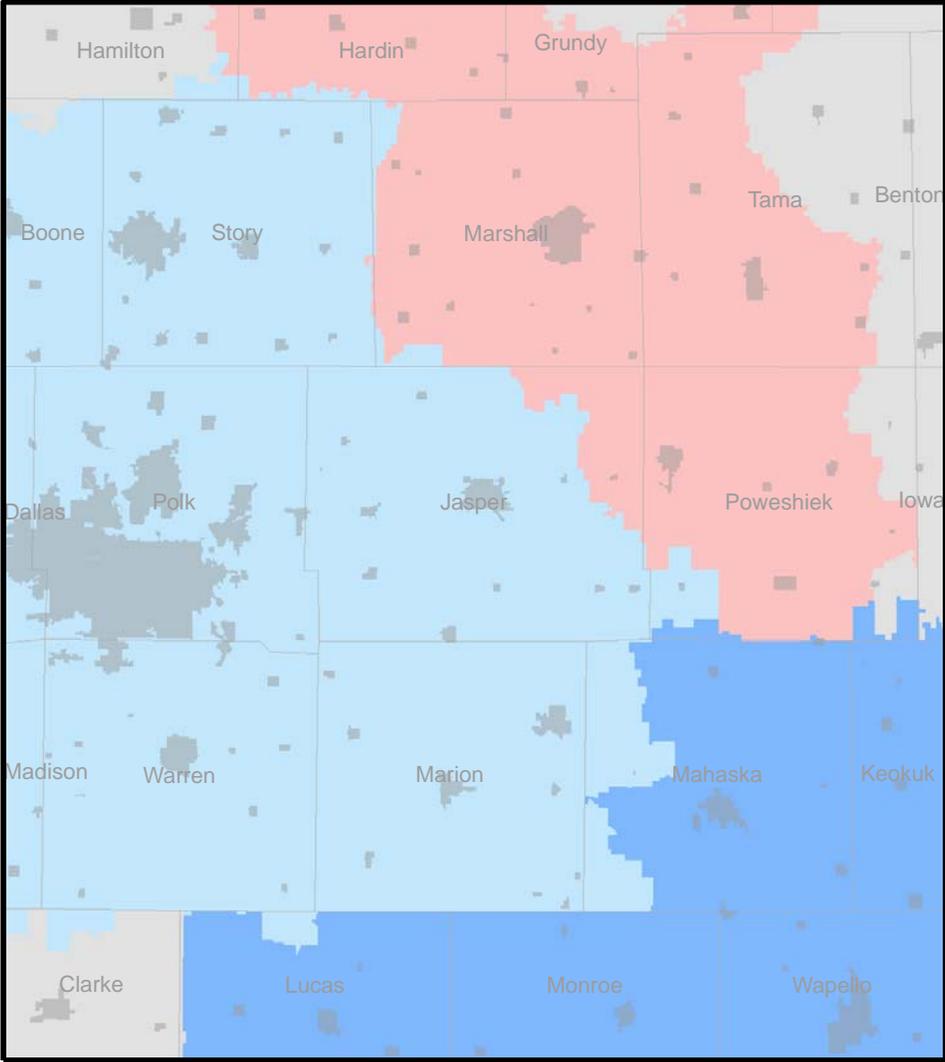
Figure 10 looks at a different dimension of earnings. Here we focus on the average annual returns to non-farm proprietors. A non-farm proprietor is a sole proprietorship or a simple partnership – essentially a self-employed person in some capacity or another. Here we see that returns to proprietors were at or above the national average in Iowa through the mid 1980s. Thereafter, however, they declined sharply to a value of that was just 67 percent of the U.S. value in 2005. Jasper County also declined, but much more sharply. Beginning in 1993, the returns to non-farm proprietors collapsed drastically to a level in the first part of this decade that was just 29 to 31 percent of the national norm.

Figure 10



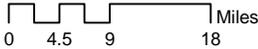
Appended Information

Community College Districts

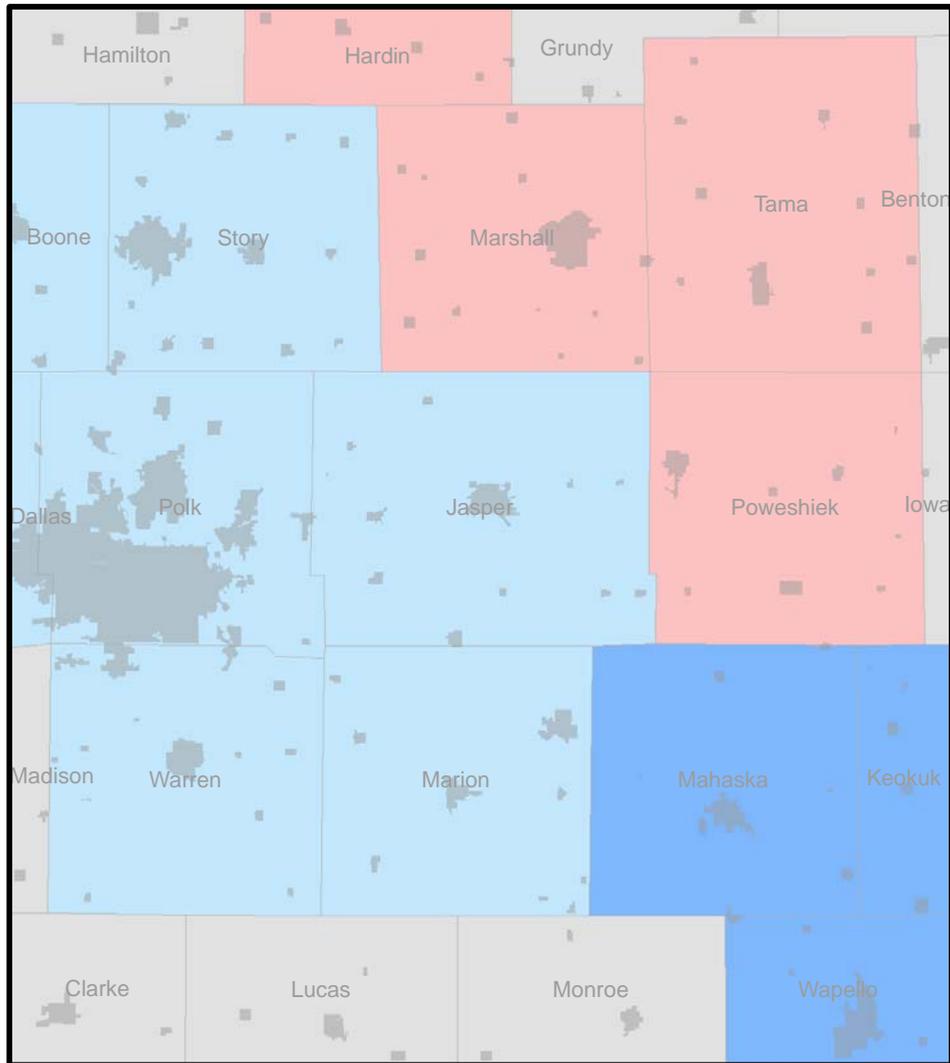


Legend

- DMACC
- Indian Hills
- Iowa Valley

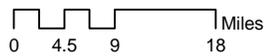


Council of Government Regions

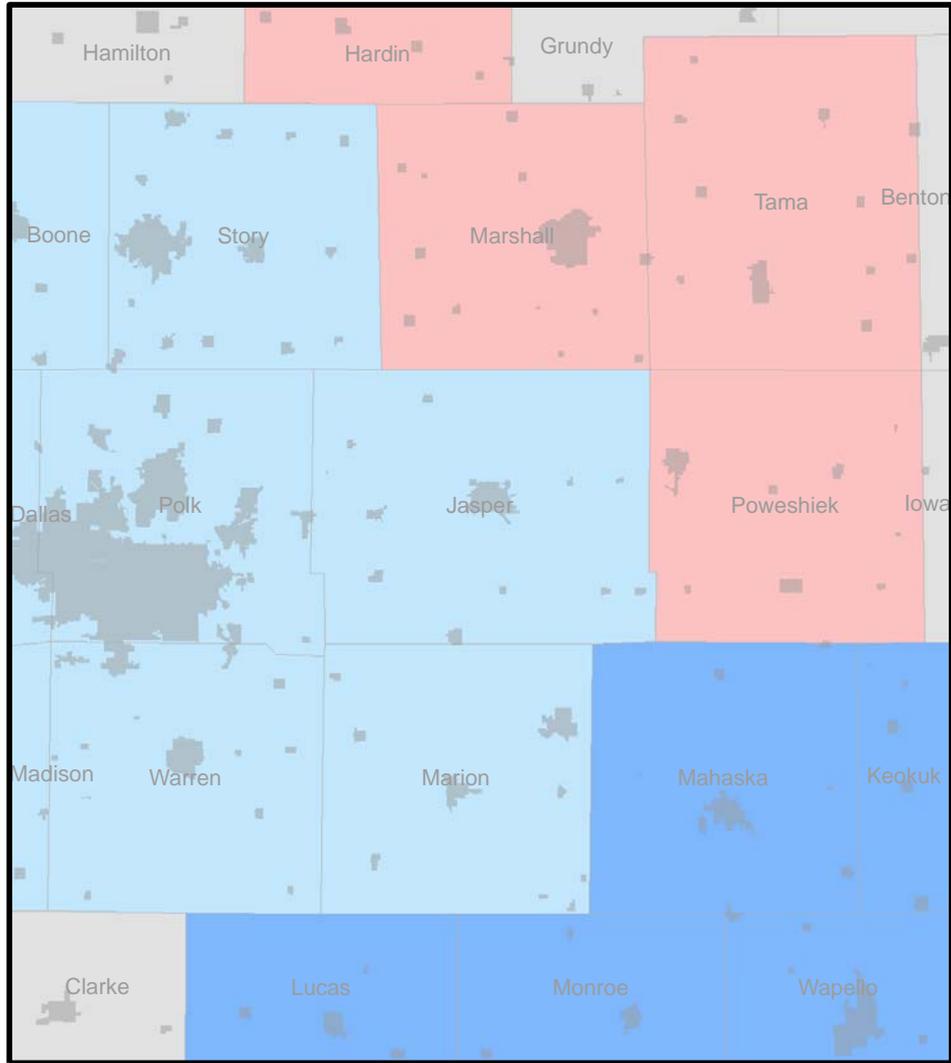


Legend

-  Area 15
-  Region 6
-  CIRTTPA



Iowa Workforce Development Regions



Legend

-  Region 15
-  Region 6
-  Region 11

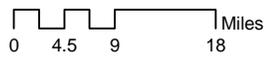


Figure 11

Primary Retail Trade Areas

