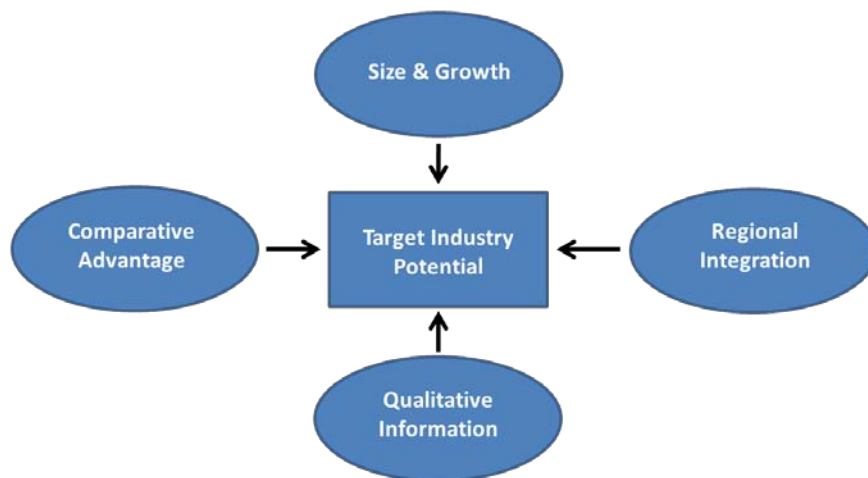


Mid-Iowa Growth Partnership: Summary of Focus Industry Groups Data

Introduction

The determination of the following focus industry groups for the Mid-Iowa Growth Partnership Region was based on a combination of factors, including information included within the asset map, focused analysis of economic measurements such as job multipliers and value-adding supply chains, and other qualitative and quantitative information uncovered at the MIGP leadership group meetings. The Multi-Factor Industry Selection Model diagram below summarizes this process.

Multi-Factor Industry Selection Model



Though the ultimate decision rests with the MIGP leadership group, the consultants from EMSI and the Iowa Innovation Gateway believe that these industry groups are deserving of consideration in the development of a comprehensive regional plan. The proposed focus industry groups are as follows:

- Agriculture & Food Processing;
- Transportation, Distribution & Logistics;
- Energy & Natural Resources;
- Business & Professional Services;
- Biotechnology; and
- Metals & Advanced Machinery Manufacturing.

Explanation of New Data Points

The table on the following page contains a summary of the data pertaining to these industry groups, including some concepts that are fairly self-explanatory, and a few that may be unfamiliar—Average Job Multiplier, Regional Integration (*i.e.*, Value-Added Supply Line Integration), and a catchall summary column entitled “Overall growth potential.”

The **Average Job Multiplier** is the number of additional jobs outside of the industry group that would result from an increase of one job in that specific group of industries. For example, Energy & Natural Resources has a fairly high job multiplier of 2.52, which means that with each new job in that industry group, the region would also gain an average of 1.52 *additional* jobs in related industries, such as heavy construction, transportation, machinery repair, local government, etc.

The **Regional Integration**(or Value-Added Supply Line Integration) figure measures how well integrated or “clustered” that group of industries is within the region. More specifically, this measures the amount of inputs and resources that are required for the business operations of these industries that are available within the 9-county region. For instance, Agriculture & Food Processing has a regional integration figure of 90%, indicating that almost all of the input components required by these industries—such as laborers, farm machinery, fertilizers, agricultural business consultants, *etc.*—are available within the region.¹ Like the job multiplier, this is a sign that growth in the industry group will result in positive side effects across the rest of the regional economy.

The **Overall Growth Potential** category is a consideration of all regional, national, and international economic factors, and other hard-to-quantify effects such as potential changes in federal policies, public support and interest, global economic conditions, and so on.

Sector	2010 Jobs	02-'10 Growth	02-'10 % Growth	'10-'15 Growth*	10-'15 % Growth*	Median Earnings Per Worker	2010 LQ	Avg. Job Multiplier	Regional Integration	Overall Growth Potential
Agriculture & Food Processing	15,377	1,400	10.0%	546	3.6%	\$49,234	6.89	2.29	90%	Strong
Transportation, Distribution & Logistics	4,395	409	10.3%	506	11.5%	\$45,919	1.61	1.72	77%	Strong
Energy & Natural Resources	2,274	327	16.8%	206	9.1%	\$55,950	1.31	2.52	49%	Strong
Business & Professional Services	7,914	757	10.6%	977	12.3%	\$33,572	0.58	1.60	31%	Uncertain
Biotechnology	981	(48)	(4.7%)	7	0.7%	\$74,095	2.15	2.62	63%	Uncertain

¹ For more information on how exports and local demand are determined see the About the Data section at the end of this report.

Metals & Advanced Machinery Manufacturing	4,432	(1,065)	(19.4%)	(490)	(11.1%)	\$48,664	3.04	1.76	60%	Uncertain
Regional Average	n/a	n/a	1.0%	4,428	5.2%	\$37,180	n/a	1.67	42%	n/a

Source: EMSI Complete Employment, 3rd Quarter 2010

* Indicates that this number is an estimate based on economic projections created by the Iowa Department of Workforce Development and altered by EMSI.

Explanation of the Data Findings

Agriculture & Food Processing has long been a staple industry for the state of Iowa. This cluster of industries is well entrenched within the MIGP region, which is evidenced in the unusually large figures for each of the key metrics. The location quotient score of 6.89 indicates that the region has almost 7 times as many jobs in agriculture and food processing on a per capita basis than the national average.² The regional integration score of 90% indicates that the products being produced by these industries are functioning as inputs for other industries within the group. For instance, the goods produced by crop and animal production naturally feed into the soybean manufacturing industry, which in turn feed into the farm product warehousing and storage industry. It is also noteworthy that as jobs in agriculture are diminishing across the country in general, this does not seem to be the case in the MIGP region. Between 2002 and 2010, the industry grew by 3.6% in employment. And at the same time, the productivity of workers within the agriculture industry has skyrocketed over the 20th century due to the advancement of technology, fertilizers, and pesticides.³ In the international market, demand for non-processed and processed food is likely to increase both in the US and abroad as more countries move toward industrialization and add to a growing demand for food products.

It would be very surprising if the trend toward job growth in crop and animal production continued to increase in the MIGP region, but even if this trend flips at some point in the near future, there are plenty of other industries within this group that have posted strong growth in the past eight years and will help maintain the prominence of this industry cluster in the region. The agriculture and food processing industry group also benefits from its supply-chain linkage to the ethanol industry, which is outlined below as a part of the energy & natural resources industry group. A less positive take on this industry is that the fate of farmers and other agricultural workers is predominantly reliant on political arrangements such as international trade, agricultural subsidies, and renewable energy tax credits which add an element of uncertainty.

²This number is high even for the state of Iowa, which has an LQ of 3.26 for this same group of industries.

³ For some data on the topic of productivity in agriculture see the agricultural productivity data from the United States Department of Agriculture: <http://www.ers.usda.gov/Data/AgProductivity/#datafiles>. And the chartbook data published by Dr. Lawrence of Iowa State University, <http://www2.econ.iastate.edu/outreach/agriculture/periodicals/chartbook>.

Transportation, Distribution & Logistics (TDL) has strong potential for growth because of the geographic advantage of the MIGP region, which offers quick access to the I-35 corridor, multiple east-west freeways, and a railway system that leads to major cities outside of the region. Investment in this industry would primarily come in the form of infrastructure development, which could help job development to some extent, but its primary benefit would be in maintaining a support system for the distribution of goods out of the region. This industry group is closely tied to the manufacturing and agricultural output of the MIGP region and other counties in Iowa, Illinois, and Wisconsin. Generally speaking, the more goods that are produced at a competitive cost in the area, the more that those goods will need to be exported, which will result in greater employment in TDL.

Energy & Natural Resources is composed of industries that extract a natural resource, add value to that resource through manufacturing or processing, and export the final product to a wider market outside of the region. This group is composed of several different industry types that are currently facing very different economic circumstances. Some industries such as ethyl alcohol manufacturing (*i.e.*, ethanol production) are in high demand; other industries such as gypsum product manufacturing are suffering because of a precipitous decline in demand. These industries are grouped together for the following three reasons: a) they are based on the natural resources or crops that are produced locally; b) expansion of these industries requires specialized and large-scale construction; and c) they must be developed in consideration of environmental factors.

In aggregate, the industry added more than 300 jobs between 2002 and 2010, but this hides the fact that some industries saw large-scale job loss while others saw unprecedented increases in employment. Overall, the industry group has a strong average job multiplier of 2.52, which means that each new job in the industry is associated with the addition of 1.52 jobs in other industries, and impressively high average earnings per worker, which, at \$55,000, is 1.5 times higher than the regional average.

There is a high degree of uncertainty regarding the future of this industry group for several reasons: a) the unpredictable future of home and commercial construction in the United States, which heavily influences the production of products such as drywall, cement, and iron; b) the specter of international competition in natural resource extraction; c) the heavy influence of government policies for the energy industry, which could work either for or against the industries in this region; and d) potential supply and demand changes in the international market for energy products such as crude oil, natural gas and coal.

Businesses & Professional Services is composed of service-based industries that predominantly serve either other businesses or individuals within the area. Examples of industries that serve other businesses include advertising services, administrative services, and logistics consulting services. Examples of industries that primarily serve individuals in the area are portfolio management, consumer

lending, and automotive services. Overall these industries have seen strong employment increases over the past eight years (757 jobs total or 10.6% growth).

It may seem counterintuitive that although the population of the MIGP region is gradually decreasing, the demand for Business & Professional Services is increasing. There are basically two factors behind this change. First, the growth in these industries is primarily driven by an increasing trend of consumers purchasing services locally rather than at nearby metropolitan areas. Second, improvements in technology have allowed for the development of more service-based jobs and fewer jobs in labor-intensive industries such as production and agriculture. A third factor that is accounting for at least a small amount of this growth is that some of these services are being exported to businesses outside of the region. This is certainly the case for some specific industries such as telemarketing bureaus and data processing and hosting services.

The overall growth potential for this industry is listed as “uncertain” because the future of these industries is dependent in the region’s ability to create more exporting service-based industries and maintain a population base that can support the existence of such businesses in the region.

Biotechnology is currently one of the nation’s hottest industries for both new job growth and public investment. The region currently supports roughly 980 jobs in this industry, which accounts for a very high location quotient score of 2.15. The average regional earnings for this industry group are also notable at roughly \$74,000—almost twice as high as the regional average. There are a relatively small number of firms involved in this industry, the largest of which are Fort Dodge Animal Health and Teva Animal Health. This means the industry group is, at this point, dependent on the actions of these specific firms. However, this could represent the beginnings of a strong cluster and an opportunity to build an even stronger industry group through the attraction of more businesses that specialize in biotechnology or other supply-chain related industries, and the development of spin-off companies related to the existing businesses.

Biotechnology is a promising field for development in the United States for multiple reasons. For one, these industries generally build upon scientific research that is being conducted in America thereby creating more jobs for the entire country. These industries also require a lower number of highly specialized workers along with high-tech equipment, rather than a high number of relatively unskilled workers working on an assembly line. These factors make it more difficult for foreign companies to replicate or counterfeit biotech products, and increase the nation-wide multiplier effects of biotech industries.

Metal and Machinery Manufacturing is a diverse mixture of industries that produce goods such as structural metal parts, construction machinery, and industrial equipment, among many other things. The MIGP region has a competitive advantage in these industries because workers such as welders and machinists possess a specific and relatively rare skill set that is often difficult for businesses to find. The

location quotient and regional integration figures for this group indicate that it supports a well-integrated supplychain that also relies on the specialized labor requirements that exist in the region. In aggregate, the industries in this group have declined by 1,065 jobs, or 11.1%, over the past eight years. The closing of the Electrolux plant will further exacerbate this decline.

With the large employment losses, a great opportunity exists to absorb these workers in some related form of manufacturing. Though some type of metals and machinery manufacturing industry would be the ideal candidate, these workers could be employed in another form of manufacturing with some retraining. Other regions who have experienced declines in similar industries have managed to retool the existing plants and retrain the existing workforce toward “advanced manufacturing” pursuits, which simply describes any type of manufacturing that heavily relies upon high-tech machinery and computerized processes rather than traditional labor intensive production methods. However the leadership group approaches these industries, it should be remembered that like all durable goods manufacturing, metal manufacturing does come with the inherent possibility of plant closure and the off-shoring of jobs.

Explanation of the Data

Past & Present Industry Employment—These figures represent the average number of jobs, full and part-time, within an industry for the year or portion of the year being represented. This figure includes both payroll workers and proprietors, as well as estimates in place of non-disclosed (or “suppressed”) data points in published data. Estimated 2010 job totals are based on the Quarterly Census of Employment and Wages (QCEW) data through the 2nd quarter of 2010, the Bureau of Economic Analysis’ Regional Economic Accounts, (REIS), and several data sets from the US Census Bureau including Non-Employer Statistics (NES), County Business Patterns, (CBP) and ZIP Code Business Patterns (ZBP). These data are moved forward to represent the most current economic situation using Current Employment Statistics (CES) data from August 2010.

Industry Employment Projections—Projections are based primarily on state and federal 10-year industry projections, which are produced by the Iowa Department of Workforce Development and the United States Bureau of Labor Statistics, respectively. EMSI makes certain adjustments to these projections to account for workers who are not covered by federal unemployment insurance. The adjustments are informed primarily by the employment changes in each industry in the region over the past 10 years. Note that estimated 2010 job numbers are seasonally adjusted averages of monthly figures from January through August 2010. Unlike growth numbers given for future years, they are neither a full annual average nor a projection.

Median Earnings per Worker—Industry earnings represent total income derived from labor. These data should *not* be interpreted as “average wages” or “average salary,” because they also include other forms of monetary contributions, including insurance, retirement funds, reimbursements, and so on.

Average Job Multipliers & Regional Integration—This model is based on EMSI’s complete employment dataset, with additional contributions from the Bureau of Economic Analysis’ Regional Economic Accounts, the Census LEHD Origin-Destination database, and academic research on regional purchase coefficients performed by Benjamin Stevens. The model calculates level of exports and imports for each industry in each region based on factors such as average regional purchase coefficients, the industrial mix of the region, and the effect of assets such as transportation infrastructure and geographic proximity to transportation hubs. The job multipliers are determined based on the endogenous demand for industry output within the region, which is then translated into an estimated job impact.