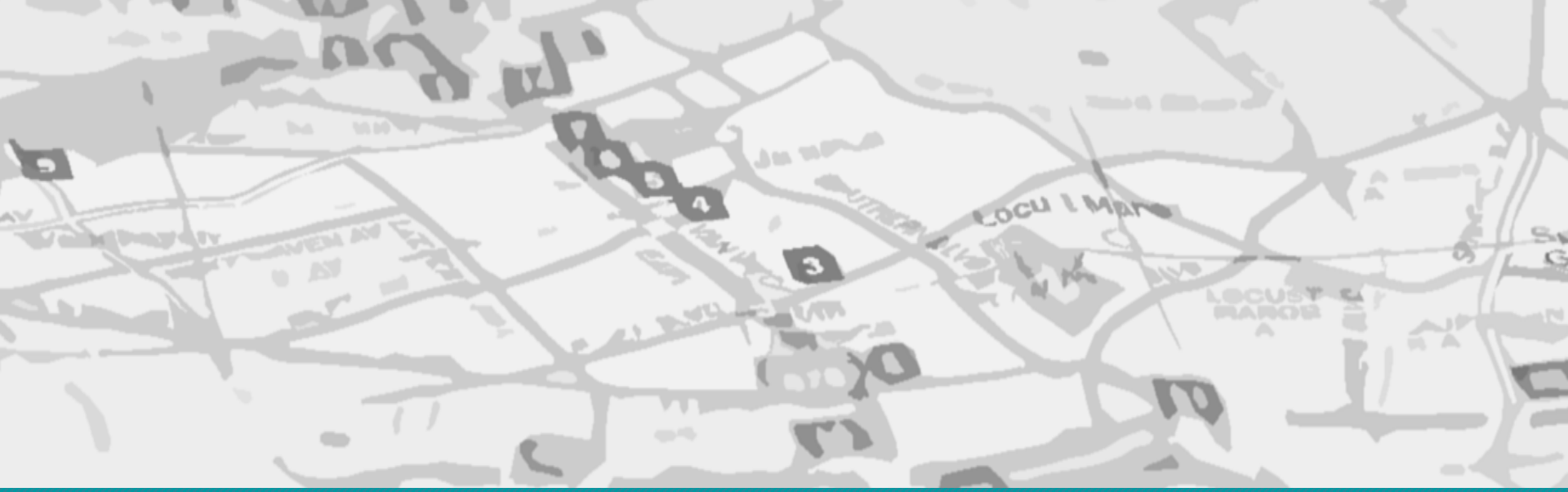

Regional Data Snapshot

Industry Cluster Analysis
SET Session 1

Glacial Lakes Region, South Dakota

PURDUE UNIVERSITY

Center for Regional Development
Advancing Collaboration : Energizing Regions

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01 overview

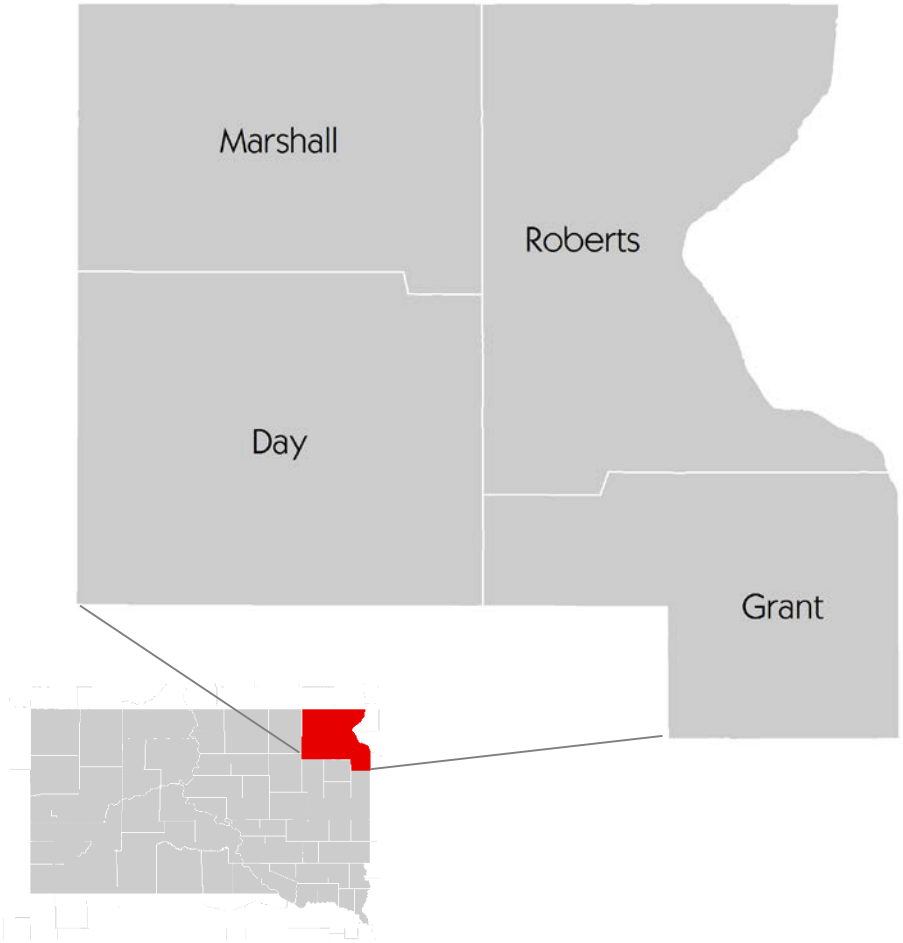
Glacial Lakes, SD

Overview

Glacial Lakes, SD

The Glacial Lakes Region is comprised of 4 South Dakota counties. Interstate 29 connects the region to I-94 and Fargo in the north, and to I-90 and Sioux Falls in the south.

- Day
- Grant
- Marshall
- Roberts



02 industry and occupation

Establishments

Employment by industry

Components of changes in Jobs

Changes in Jobs (2009-2015)

Gained by	New Startups	4,231
	Spinoffs	425
	Expansion	2,096
	In-migration	113
Lost by	Closings	-3,789
	Contractions	-1,820
	Out-migration	-114
Net change		1,142

Note: The table has some residual due to the lack of information on the Roberts county between 2009 and 2010.

An establishment is a physical business location.

Branches, standalones and headquarters are all considered types of establishments.

Definition of Company Stages

0 Self-employed

1 2-9 employees

2 10-99 employees

3 100-499 employees

4 500+ employees

Source: YourEconomy.org

Establishments

	Number of Establishments by Company Stages			
	2009		2015	
Stage	Establishments	Proportion	Establishments	Proportion
Stage 0	276	18%	313	16%
Stage 1	1,015	65%	1,333	70%
Stage 2	260	17%	247	13%
Stage 3	12	1%	17	1%
Stage 4	0	0.0%	0	0.0%
Total	1,563	100%	1,910	100%

Questions:

- What stage businesses have shaped the region's economic growth in the last 6 years?
- Which ones are growing or declining the most?
- Which stage of establishments are likely to shape the region's future economic growth?

Source: Youreconomy.org database

Establishments

Number of Jobs by Company Stages

Year	2009	2015	% Change
Stage 0	276	358	30%
Stage 1	3,897	4,954	27%
Stage 2	6,933	6,326	-9%
Stage 3	1,647	2,403	46%
Stage 4	0	0	-
Total	12,753	14,041	10%

Sales ($Billion, 2015) by Company Stages

Year	2009	2015	% Change
Stage 0	0.05	0.3	419%
Stage 1	0.99	1.5	53%
Stage 2	1.61	1.6	2%
Stage 3	0.44	0.5	21%
Stage 4	0.00	0.0	-
Total	3.09	3.94	28%

Questions

What establishments are the most numerous based on company stages?

What stages have experienced the largest growth? The greatest decline?

What company stage employs the largest number of people?

What stage captures the most sales?
Which ones have experienced the greatest percentage loss over the 2009-15 period?

Note: The jobs change cannot match to components of change because of residuals.

Source: Youreconomy.org database

Top ten industry sector employment growth

NAICS	Description	2009 Jobs	2014 Jobs	Change	Change (%)	State Change (%)
51	Information	100	130	30	30%	-7%
23	Construction	876	1,089	213	24%	0%
31	Manufacturing	1,338	1,494	156	12%	12%
22	Utilities	168	184	16	10%	-16%
61	Educational Services	248	269	21	8%	1%
42	Wholesale Trade	814	880	66	8%	13%
21	Mining, Quarrying, and Oil and Gas Extraction	152	162	10	7%	62%
71	Arts, Entertainment, and Recreation	135	141	6	4%	5%
44	Retail Trade	1,703	1,766	63	4%	4%
53	Real Estate and Rental and Leasing	258	267	9	3%	12%

Questions:

- What regional industry sectors have seen the greatest growth?
- Did they grow at the same rate as the state?
- What factors are causing the growth?

Source: EMSI Class of Worker 2015.4 (QCEW, non -QCEW, self-employed and extended proprietors)

Top Six industry sector employment decline

NAICS	Description	2009 Jobs	2014 Jobs	Change	Change (%)	State Change (%)
56	Administrative and Support and Waste Management and Remediation Services	462	382	-80	-17%	5%
48	Transportation and Warehousing	451	373	-78	-17%	10%
54	Professional, Scientific, and Technical Services	346	301	-45	-13%	9%
62	Health Care and Social Assistance	1,469	1,351	-118	-8%	6%
90	Government	2,924	2,881	-43	-1%	1%
72	Accommodation and Food Services	864	862	-2	0%	7%

Questions:

- How does the industry sector make-up of the region compare to the rest of the state?
- Which industry sectors are growing and declining the most in employment?

Source: EMSI Class of Worker 2015.4 (QCEW, non -QCEW, self-employed and extended proprietors)

03 Industry cluster analysis

Glacial Lakes, SD

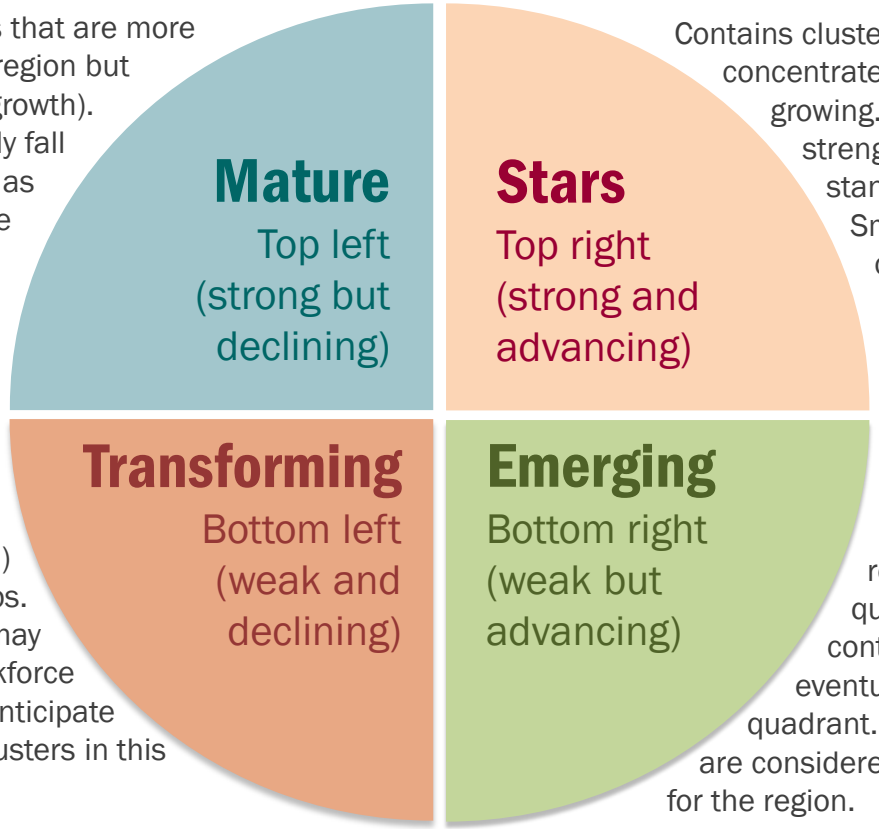
List of Clusters

- Advanced Materials
- Agribusiness, Food Processing & Technology
- Apparel & Textiles
- Arts, Entertainment, Recreation & Visitor Industries
- Biomedical/Biotechnical (Life Sciences)
- Business & Financial Services
- Chemicals
- Computer & Electronic Product Manufacturing
- Defense & Security
- Education & Knowledge Creation
- Electrical Equip, Appliance & Component Manufacturing
- Fabricated Metal Product Manufacturing
- Energy (Fossil & Renewable)
- Forest & Wood Products
- Glass & Ceramics
- Information Technology & Telecommunications
- Machinery Manufacturing
- Manufacturing Super-cluster
- Mining
- Primary Metal Manufacturing
- Printing & Publishing
- Transportation & Logistics
- Transportation Equipment Manufacturing

How to interpret cluster data results

The graph's four quadrants tell a different story for each cluster.

Contains clusters that are more concentrated in the region but are declining (negative growth). These clusters typically fall into the lower quadrant as job losses cause a decline in concentration.



Contains clusters that are more concentrated in the region and are growing. These clusters are strengths that help a region stand out from the competition. Small, high-growth clusters can be expected to become more dominant over time.

Contains clusters that are under-represented in the region (low concentration) and are also losing jobs. Clusters in this region may indicate a gap in the workforce pipeline if local industries anticipate a future need. In general, clusters in this quadrant show a lack of competitiveness.

Contains clusters that are under-represented in the region but are growing, often quickly. If growth trends continue, these clusters will eventually move into the top right quadrant. Clusters in this quadrant are considered emerging strengths for the region.

Modified from: http://www.charlestonregionaldata.com/bubble-chart-explanation/

Industry cluster analysis

Level of Specialization

Percent Growth in Specialization

Mature Clusters

- Mining (2.23; 117)
- Chemicals & Chemical Based Products (1.39; 287)
- Primary Metal Manufacturing (1.25; 48)

Star Clusters

- Agribusiness, Food Proc. & Tech. (8.18; 4,203)
- Forest & Wood Products (2.41; 602)
- Machinery Manufacturing (2.19; 243)
- Energy (Fossil & Renewable) (1.06; 991)

Transforming Clusters

- Biomedical/Biotechnical (Life Sciences) (0.79; 1,058)
- Transportation & Logistics (0.62; 336)
- Manufacturing Supercluster (0.55; 320)
- Arts, Ent. , Rec. & Visitor Industries (0.47; 330)
- Business & Financial Services (0.46; 1,000)
- Printing & Publishing (0.41; 120)
- Defense & Security (0.35; 254)
- Advanced Materials (0.34; 173)
- Glass & Ceramics (0.32; 9)
- Fabricated Metal Product Manufacturing (0.2; 28)
- IT & Telecommunications (0.17; 117)
- Apparel & Textiles (0.08; 10)

Emerging Clusters

- Education & Knowledge Creation (0.25; 99)

* note: There is no regional jobs in Transportation Equipment Mfg.; Computer & Electronic Product Mfg.; and Electrical Equip., Appliance & Component Mfg.

NOTE: The first number after each cluster represents the number of total jobs (full and part time jobs by place of work) in that cluster in the region in 2014. The clusters are sorted in decreasing order by location quotient as shown in the bubble chart.

Bubble Chart: What to Look at First

Quadrant Location

Start with clusters located in the STARS quadrant

See if the MATURING clusters might have a good chance of growing again

Determine if EMERGING clusters are likely to grow in strength

Avoid clusters that are "TRANSFORMING"

Size of Location Quotient

Focus on clusters with an LQ of 1.2 or higher

Clusters with high LQs represent economic activities in which the region is competitive relative to the U.S.

REMEMBER: Clusters only capture industries that have the likelihood of exporting goods and services.

Percentage Change in Last 5 Years

The horizontal line (the x-axis) shows the percentage growth or decline of a cluster over a five-year period.

Make sure to examine the SIZE and DIRECTION of that change.

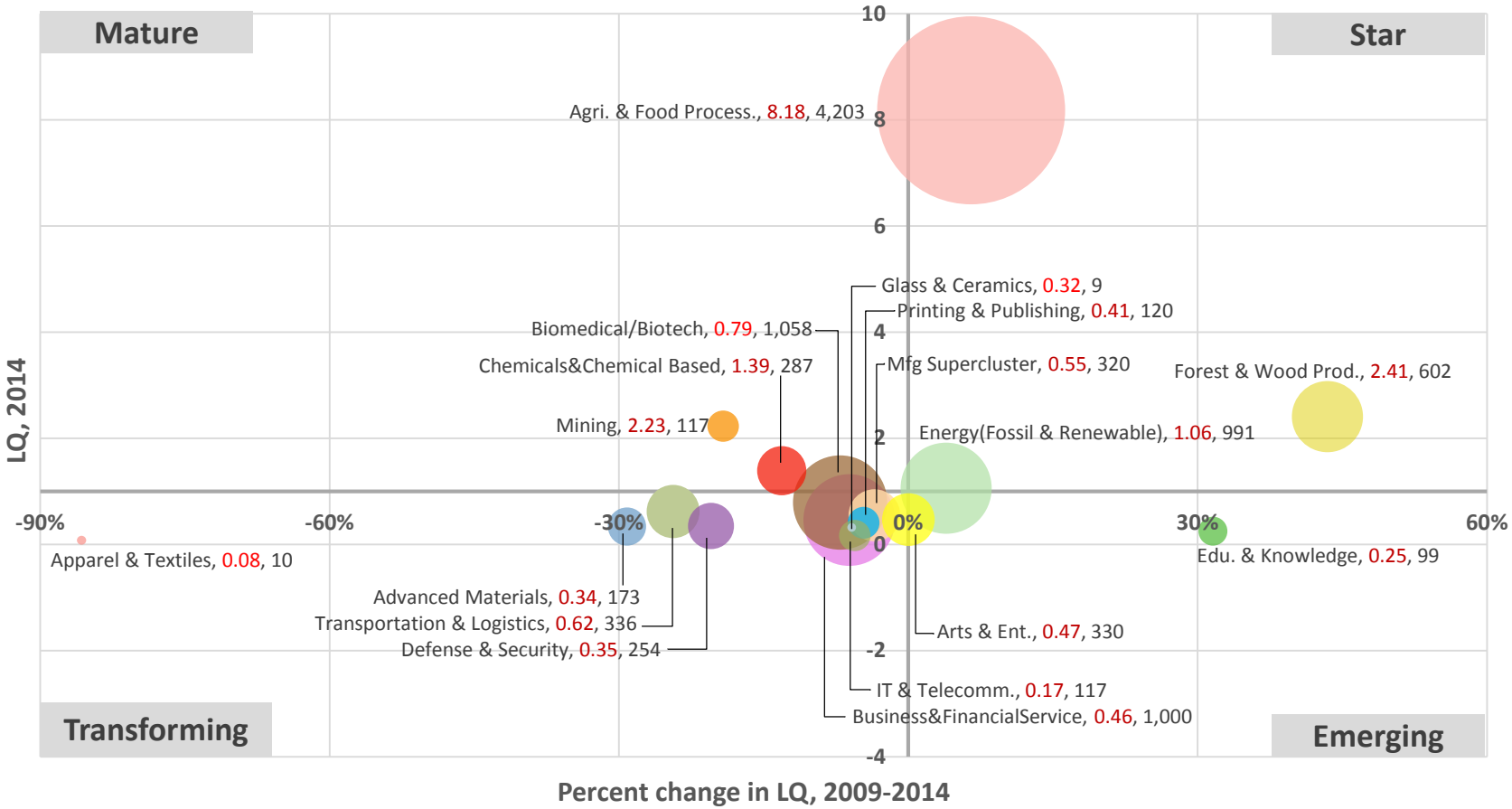
Dramatic declines in a cluster with a an LQ of 1.2 or higher could be a difficult one to resurrect.

Number of Employees

The size of the bubble refers to the number of people employed in that cluster.

It may be worthwhile to focus on clusters that are both competitive and that employ a good number of people.

Industry cluster bubble chart

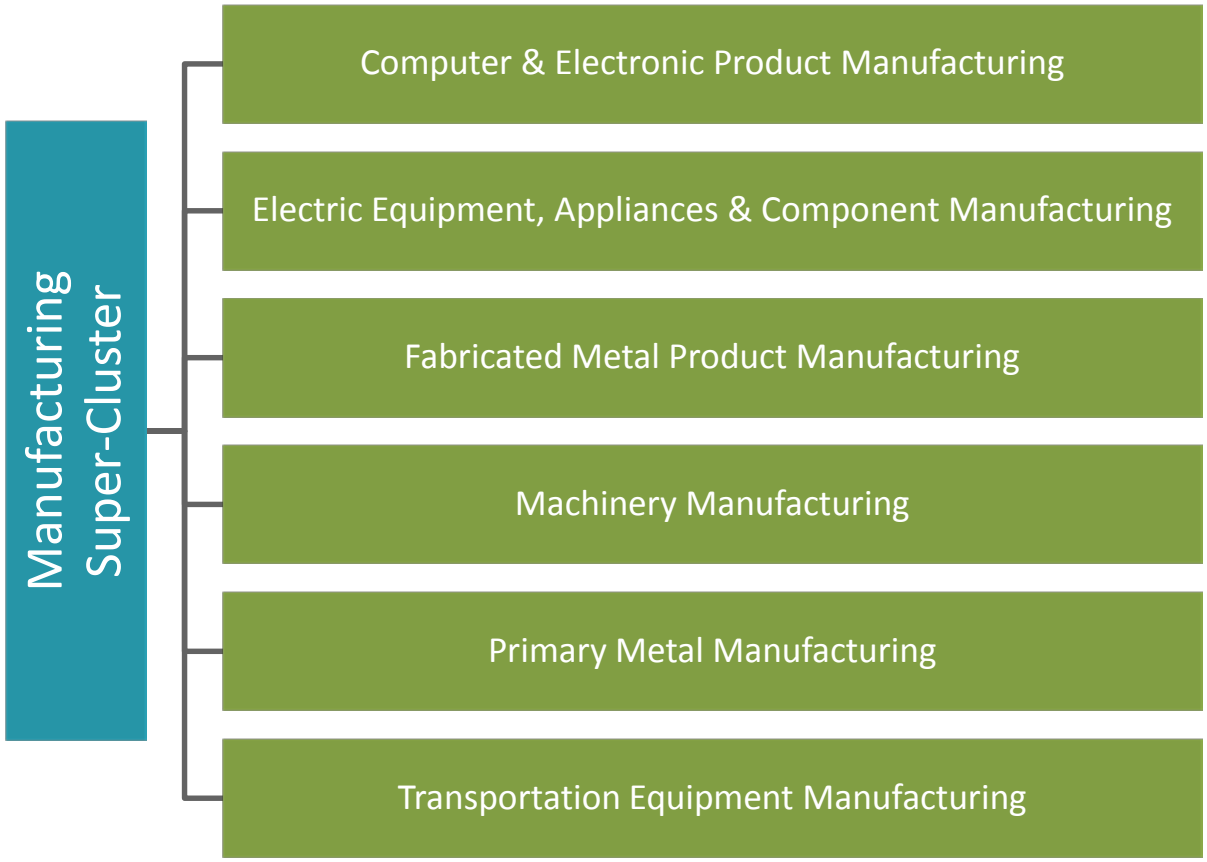


Note: Label includes cluster name, LQ in 2014, and Employment in 2014

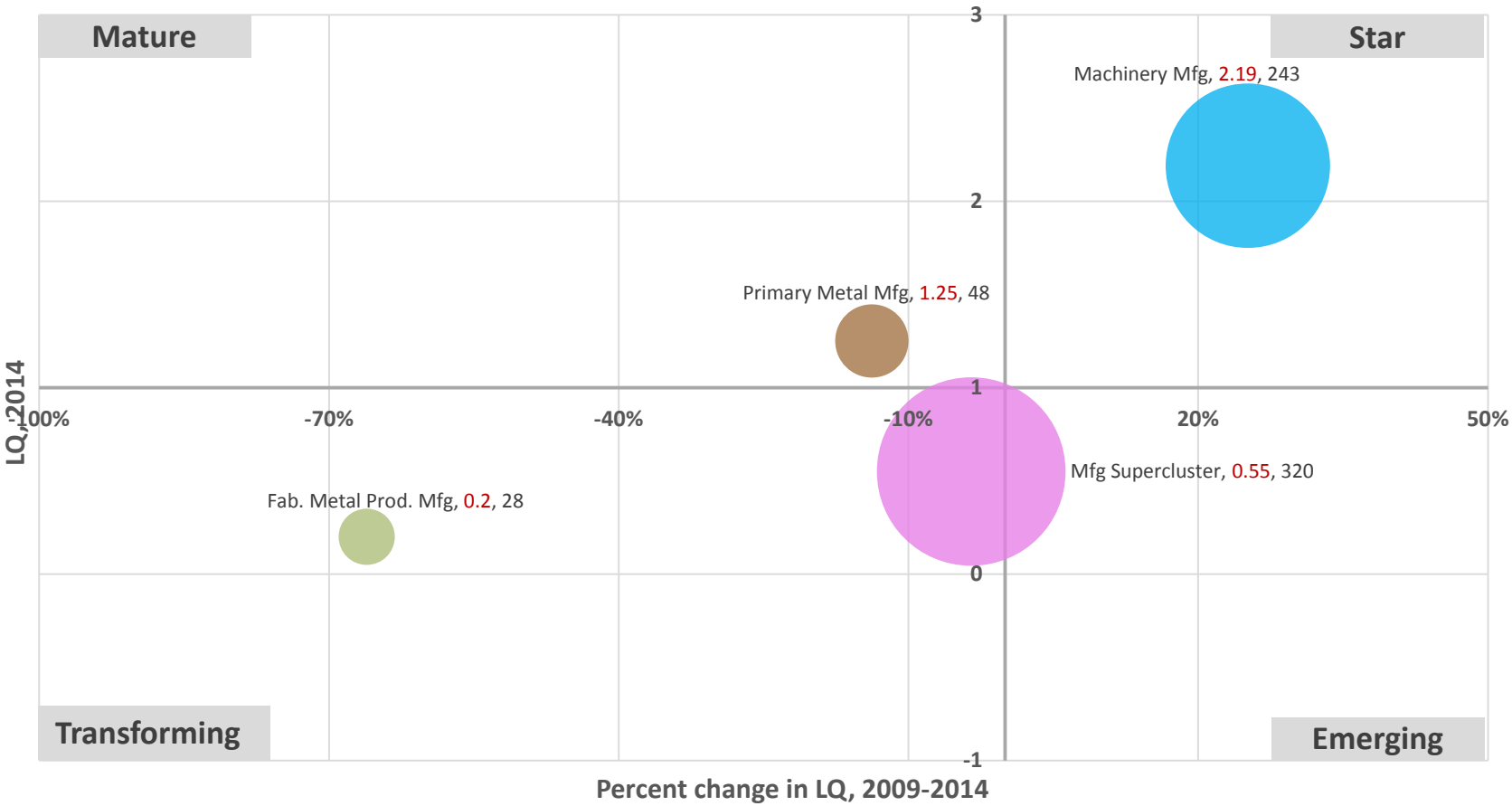
Source: EMSI Class of Worker 2015.4 (QCEW, non -QCEW, self-employed and extended proprietors).

The Manufacturing Super-Cluster

Please note that this is not a cluster that a SET region should select. Rather, focus on the manufacturing sub-clusters that are important to that super-cluster.



Manufacturing sub-cluster bubble chart



Note: Label includes cluster name, LQ in 2014, and Employment in 2014

There is no regional jobs in Transportation Equipment Mfg.; Computer & Electronic Product Mfg.; and Electrical Equip., Appliance & Component Mfg. clusters.

Source: EMSI Class of Worker 2015.4 (QCEW, non -QCEW, self-employed and extended proprietors).

Industry and occupation

For your region

Mature Industries

Three industry clusters in the Glacial Lakes Region are in the Matured stage: Mining; Chemicals; and Primary Metal Mfg. These industries are relatively concentrated, but their growth is trending downward. It is worth noting, however, that the Glacial Lakes Region may find it worthwhile to invest in efforts to shore up the concentration of these industries.

Transforming Industries

Transforming clusters capture the mix of industries that are experiencing relative decline and limited export capability. In the Glacial Lakes Region these are Biomedical/Biotechnical (Life Sciences); Transportation & Logistics; Arts, Ent., Rec. & Visitor Industries; Business & Financial Services; Printing & Publishing; Defense & Security; Advanced Materials; Glass & Ceramics; Fabricated Metal Product Mfg.; IT & Telecom.; Apparel & Textiles cluster. Any amount of growth in these industries would require relatively large investments.

Star Industries

Star industry clusters are highly concentrated, exporting and still experiencing growth in the region. Four Star industry clusters in the Glacial Lakes Region are Agribusiness, Food Processing & Tech.; Forest & Wood Products; Machinery Mfg.; and Energy. These clusters have higher job concentrations in the region compared to the U.S.

Emerging Industries

Industry clusters that may be poised for future growth are classified as “Emerging.” There is only one Emerging cluster in total in the Glacial Lakes Region: Education & Knowledge Creation.

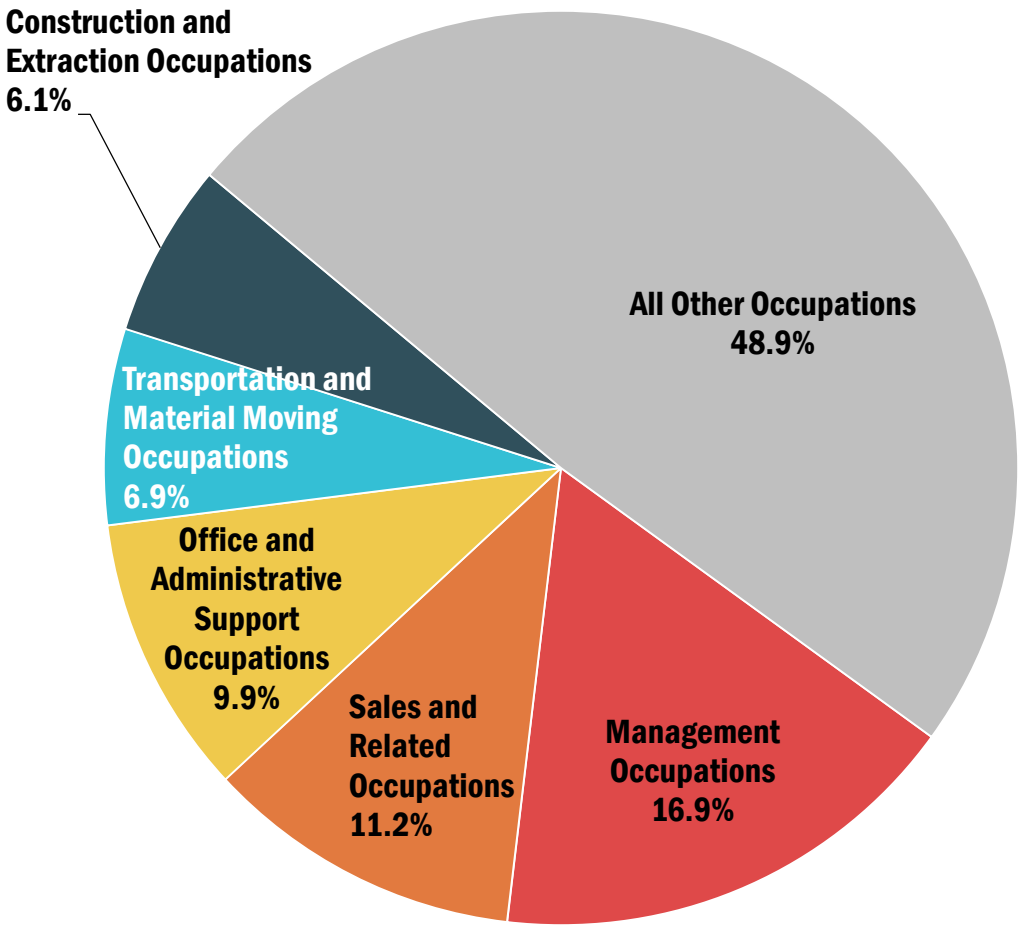
Source: EMSI Class of Worker 2015.4 (QCEW, non -QCEW, self-employed and extended proprietors).

04 occupations

Top occupations

STEM occupations

Top five occupations in 2014

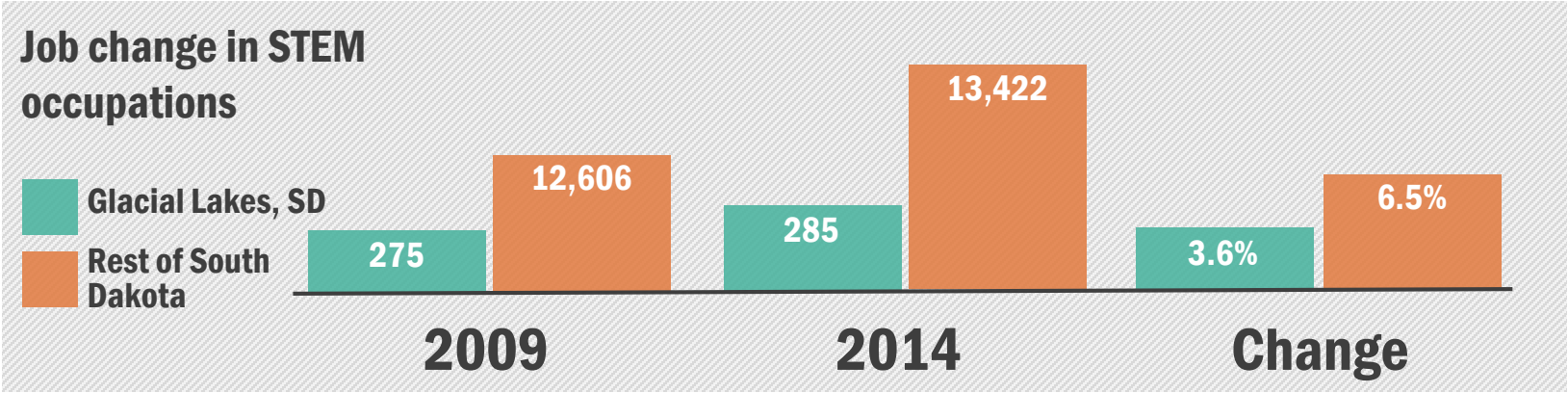


Questions:

- What are the education and skill requirements for these occupations?
- Do the emerging and star clusters align with the top occupations?
- What type salaries do these occupations typically provide?

Source: EMSI Class of Worker 2015.4 (QCEW, non -QCEW, self-employed and extended proprietors)

Science, Technology, Engineering & Math



Questions:

- How do STEM jobs compare to the state?
- What has been the trend of STEM jobs over time?
- How important are STEM jobs to the region's Star and Emerging clusters?

*Note: STEM and STEM-related occupation definitions from BLS (2010)

Source: EMSI Class of Worker 2015.4 (QCEW, non -QCEW, self-employed and extended proprietors)

Report Contributors

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Center for Regional Development
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The Purdue Center for Regional Development (PCRD) seeks to pioneer new ideas and strategies that contribute to regional collaboration, innovation and prosperity.

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