Regional Data Snapshot

Industry Cluster Analysis
SET Session 1

Forest Country Region, Texas
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01 overview

Forest Country Region, TX
The Forest Country Region is comprised of 12 Texas counties. State Highway 59 connects the region to I-69 and Houston to the south, while State Highway 190 connects the region to I-45 to the west.

- Angelina
- Houston
- Jasper
- Nacogdoches
- Newton
- Polk
- Sabine
- San Augustine
- San Jacinto
- Shelby
- Trinity
- Tyler
02 industry and occupation

Establishments

Employment by industry


Industry and occupation

Establishments

<table>
<thead>
<tr>
<th>Components of Change for Establishments 2000-2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Change</td>
</tr>
<tr>
<td>Percent Change</td>
</tr>
<tr>
<td>Net Change (Establishments launched minus Establishments closed)</td>
</tr>
<tr>
<td>Net Migration (Establishments moving into minus Establishments moving out of the region)</td>
</tr>
</tbody>
</table>

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

Note: The difference between total change in establishments estimated via components of change versus two points of time seems related to the estimation of Startups and Relocation in the database.
## Industry and occupation

### Establishments

<table>
<thead>
<tr>
<th>Stage</th>
<th>Establishments</th>
<th>Proportion</th>
<th>Establishments</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 0</td>
<td>4,756</td>
<td>29.3%</td>
<td>5,945</td>
<td>26.9%</td>
</tr>
<tr>
<td>Stage 1</td>
<td>9,189</td>
<td>56.6%</td>
<td>13,591</td>
<td>61.5%</td>
</tr>
<tr>
<td>Stage 2</td>
<td>2,123</td>
<td>13.1%</td>
<td>2,400</td>
<td>10.9%</td>
</tr>
<tr>
<td>Stage 3</td>
<td>149</td>
<td>0.9%</td>
<td>137</td>
<td>0.6%</td>
</tr>
<tr>
<td>Stage 4</td>
<td>25</td>
<td>0.2%</td>
<td>20</td>
<td>0.1%</td>
</tr>
<tr>
<td>Total</td>
<td>16,242</td>
<td>100.0%</td>
<td>22,093</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

### Questions:

- What stage businesses have shaped the region’s economic growth in the last 10 years?
- Which ones are growing or declining the most?
- Which stage of establishments are likely to shape the region’s future economic growth?
Industry and occupation

Establishments

<table>
<thead>
<tr>
<th>Number of Jobs by Company Stages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
</tr>
<tr>
<td>Stage 0</td>
</tr>
<tr>
<td>Stage 1</td>
</tr>
<tr>
<td>Stage 2</td>
</tr>
<tr>
<td>Stage 3</td>
</tr>
<tr>
<td>Stage 4</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sales ($ 2013) by Company Stages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
</tr>
<tr>
<td>Stage 0</td>
</tr>
<tr>
<td>Stage 1</td>
</tr>
<tr>
<td>Stage 2</td>
</tr>
<tr>
<td>Stage 3</td>
</tr>
<tr>
<td>Stage 4</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

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 2000-13 period?
## Industry and occupation

### Top ten industry sector employment growth

<table>
<thead>
<tr>
<th>NAICS</th>
<th>Description</th>
<th>2009 Jobs</th>
<th>2014 Jobs</th>
<th>Change</th>
<th>Change (%)</th>
<th>Change (%)</th>
<th>State Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Mining, Quarrying, and Oil and Gas Extraction</td>
<td>2,467</td>
<td>4,901</td>
<td>2434</td>
<td>99%</td>
<td>56%</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>Transportation and Warehousing</td>
<td>3,916</td>
<td>4,531</td>
<td>615</td>
<td>16%</td>
<td>16%</td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>Real Estate and Rental and Leasing</td>
<td>4,700</td>
<td>5,229</td>
<td>529</td>
<td>11%</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>Finance and Insurance</td>
<td>6,335</td>
<td>6,957</td>
<td>622</td>
<td>10%</td>
<td>13%</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Wholesale Trade</td>
<td>3,409</td>
<td>3,726</td>
<td>317</td>
<td>9%</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>71</td>
<td>Arts, Entertainment, and Recreation</td>
<td>1,508</td>
<td>1,625</td>
<td>117</td>
<td>8%</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>Administrative and Support and Waste Management and Remediation Services</td>
<td>7,881</td>
<td>8,434</td>
<td>553</td>
<td>7%</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>Health Care and Social Assistance</td>
<td>17,729</td>
<td>18,734</td>
<td>1005</td>
<td>6%</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>Accommodation and Food Services</td>
<td>9,858</td>
<td>10,354</td>
<td>496</td>
<td>5%</td>
<td>18%</td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>Educational Services</td>
<td>914</td>
<td>940</td>
<td>26</td>
<td>3%</td>
<td>16%</td>
<td></td>
</tr>
</tbody>
</table>

### 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)
## Industry and occupation

### Top eight industry sector employment decline

<table>
<thead>
<tr>
<th>NAICS</th>
<th>Description</th>
<th>2009 Jobs</th>
<th>2014 Jobs</th>
<th>Change</th>
<th>Change (%)</th>
<th>State Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>Management of Companies and Enterprises</td>
<td>1,068</td>
<td>874</td>
<td>-194</td>
<td>-18%</td>
<td>36%</td>
</tr>
<tr>
<td>51</td>
<td>Information</td>
<td>1,391</td>
<td>1,256</td>
<td>-135</td>
<td>-10%</td>
<td>1%</td>
</tr>
<tr>
<td>31</td>
<td>Manufacturing</td>
<td>15,094</td>
<td>14,131</td>
<td>-963</td>
<td>-6%</td>
<td>7%</td>
</tr>
<tr>
<td>11</td>
<td>Crop and Animal Production</td>
<td>12,892</td>
<td>12,197</td>
<td>-695</td>
<td>-5%</td>
<td>0%</td>
</tr>
<tr>
<td>90</td>
<td>Government</td>
<td>27,820</td>
<td>26,699</td>
<td>-1121</td>
<td>-4%</td>
<td>0%</td>
</tr>
<tr>
<td>23</td>
<td>Construction</td>
<td>10,508</td>
<td>10,313</td>
<td>-195</td>
<td>-2%</td>
<td>7%</td>
</tr>
<tr>
<td>44</td>
<td>Retail Trade</td>
<td>17,471</td>
<td>17,338</td>
<td>-133</td>
<td>-1%</td>
<td>9%</td>
</tr>
<tr>
<td>22</td>
<td>Utilities</td>
<td>819</td>
<td>813</td>
<td>-6</td>
<td>-1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

**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?
03 Industry cluster analysis
Industry cluster analysis

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
Industry cluster analysis

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 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 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 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

### Mature Clusters
- **Forest & Wood Products** *(3.00; 7,001)*
- **Agribusiness, Food Processing & Tech.** *(2.92; 13,992)*
- **Fabricated Metal Product Mfg.** *(1.51; 1,959)*
- **Mining** *(1.05; 511)*

### Star Clusters
- **Machinery Manufacturing** *(1.78; 1,844)*
- **Primary Metal Manufacturing** *(1.48; 531)*
- **Energy (Fossil & Renewable)** *(1.39; 12,127)*
- **Biomedical/Biotechnical (Life Sciences)** *(1.11; 13,847)*

### Transforming Clusters
- **Chemicals & Chemical Based Products** *(0.56; 1,082)*
- **Arts, Ent., Recreation & Visitor Industries** *(0.48; 3,140)*
- **Apparel & Textiles** *(0.32; 377)*
- **Information Technology & Telecom.** *(0.30; 1,908)*
- **Education & Knowledge Creation** *(0.22; 7,92)*
- **Transportation Equipment Manufacturing** *(0.14; 197)*
- **Computer & Electronic Product Manufacturing** *(0.01; 9)*

### Emerging Clusters
- **Transportation & Logistics** *(0.90; 4,521)*
- **Manufacturing Supercluster** *(0.88; 4,720)*
- **Glass & Ceramics** *(0.71; 186)*
- **Business & Financial Services** *(0.59; 11,925)*
- **Electrical Equip., Appl. & Component Mfg.** *(0.51; 180)*
- **Printing & Publishing** *(0.49; 1,328)*
- **Advanced Materials** *(0.46; 2,189)*
- **Defense & Security** *(0.41; 2,757)*

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**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

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”.

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.

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 an LQ of 1.2 or higher could be a difficult one to resurrect.

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 and occupation

Industry cluster bubble chart

Mature
- Forest & Wood Prod., 3.00, 7,001
- Chemicals, 0.56, 1,082
- Apparel & Textiles, 0.32, 377
- Mining, 1.05, 511
- IT & Telecomm., 0.30, 1,908
- Edu. & Knowledge, 0.22, 792
- Arts & Entertainment, 0.48, 3,140

Star
- Agribus. & Food Process. Tech., 2.92, 13,992
- Biomedical/Biotech., 1.11, 13,847
- Mfg. Supercluster, 0.88, 4,720
- Energy, 1.39, 12,127
- Transportation & Logistics, 0.90, 4,521
- Glass & Ceramics, 0.71, 186

Transforming
- Advanced Materials, 0.46, 2,189
- Defense & Security, 0.41, 2,757
- Printing & Publishing, 0.49, 1,328

Emerging
- Business & Financial Service, 0.59, 11,925
- Forest & Wood Prod., 3.00, 7,001
- Apparel & Textiles, 0.32, 377
- Mining, 1.05, 511
- IT & Telecomm., 0.30, 1,908
- Edu. & Knowledge, 0.22, 792
- Arts & Entertainment, 0.48, 3,140

Percent change in LQ, 2009-2014

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

Industry and occupation

- Machinery Mfg., 1.78, 1,844
- Primary Metal Mfg., 1.48, 531
- Mfg. Supercluster, 0.88, 4,720
- Elec. Equip., App. & Comp. Mfg., 0.51, 180
- Fab. Metal Prod. Mfg., 1.51, 1,959
- Transportation Equip. Mfg., 0.14, 197
- Comp. & Electrn. Prod. Mfg., 0.01, 9

Percent change in LQ, 2009-2014

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).
Industry and occupation

For your region

Mature Industries

Four industry clusters in the Forest Country Region are in the Matured stage: Forest & Wood Products; Agribusiness, Food Processing & Tech.; Fabricated Metal Product Mfg.; and Mining. These industries are relatively concentrated, but its growth is trending downward. It is worth noting, however, that the Forest County 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 Forest Country Region, Chemicals; Arts, Ent., Rec. & Visitor Industries; Apparel & Textiles; IT & Telecom.; Education & Knowledge Creation; Transportation Equipment Mfg.; and Computer & Electronic Product Mfg. are all Transforming clusters. 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 Forest Country Region are Machinery Mfg.; Primary Metal Mfg.; Energy; and Biomedical/Biotechnical (Life Sciences). These clusters indicate that they have a little more jobs concentration in the region compared to the U.S.

Emerging Industries

Industry clusters that may be poised for future growth are classified as “Emerging.” There are eight Emerging clusters in total in the Forest County Region. These are Transportation & Logistics; Manufacturing Supercluster; Glass & Ceramics; Business & Financial Services; Electrical Equipment, Appliance & Component Mfg.; Printing & Publishing; Advanced Materials; and Defense & Security.

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

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)
Industry and occupation
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

This report was prepared by the Purdue Center for Regional Development, in partnership with the Southern Rural Development Center and USDA Rural Development, in support of the Stronger Economies Together program.

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This report was supported, in part, by grant from the USDA Rural Development through the auspices of the Southern Rural Development Center. It was produced in support of the Stronger Economies Together (SET) program.
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