Regional Competitiveness
in Southeastern Massachusetts

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Institute for Strategy and Competitiveness
Harvard Business School

Southeast Regional Competitiveness Council
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Further information on Professor Porter’s work and the Institute for Strategy and Competitiveness is available at www.isc.hbs.edu
The most important sources of prosperity are created not inherited.

Productivity does not depend on what industries a region competes in, but on how it competes.

The prosperity of a region depends on the productivity of all its industries.

Innovation is vital for long-term increases in productivity.
Economic Performance of U.S. States

GDP per Capita

Real Gross State Product per Capita, 2001

U.S. average: 3.72%

Change of Real Gross State Product per Capita, CAGR, 1991-2001

Source: BEA, 2003
Innovation Performance of Leading States
Patents per Employee and Growth in Patents per Employee

Leading states are the top 20 states by total patent output in 2000. Note: (patents, growth)
Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School
RCC Southeast – 09-30-03 CR_RB

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Productivity, Innovation, and the Business Environment

**Context for Firm Strategy and Rivalry**
- A local context and rules that encourage **investment** and **sustained upgrading**
  - e.g., Intellectual property protection
- **Meritocratic** incentive systems across all major institutions
- Open and vigorous competition among **locally based rivals**

**Factor (Input) Conditions**
- **Presence of high quality, specialized inputs** available to firms
  - Human resources
  - Capital resources
  - Physical infrastructure
  - Administrative infrastructure
  - Information infrastructure
  - Scientific and technological infrastructure
  - Natural resources

**Demand Conditions**
- **Sophisticated and demanding** local customer(s)
- Local customer needs that **anticipate** those elsewhere
- Unusual local demand in **specialized segments** that can be served nationally and globally

**Related and Supporting Industries**
- Access to capable, locally based **suppliers** and firms in **related fields**
- Presence of **clusters** instead of isolated industries

- Successful economic development is a process of **successive economic upgrading**, in which the business environment in a nation or region evolves to support and encourage increasingly sophisticated ways of competing
Sources of Innovation

Good vs. Poor Innovation Environments

Your Region Has an Ample Supply of High Quality . . .

<table>
<thead>
<tr>
<th>Source</th>
<th>Advanced Educational Programs</th>
<th>Specialized Research Centers</th>
<th>Specialized Suppliers</th>
<th>Cost of Business (e.g., real estate, wages, utilities)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of Respondents in Agreement</td>
<td>60%</td>
<td>80%</td>
<td>40%</td>
<td>40%</td>
</tr>
</tbody>
</table>

Your Region Has a Low Cost of Doing Business . . .

- Poor Innovation Environment
- Good Innovation Environment

Source: Clusters of Innovation Initiative, Regional Survey (all regions)
### Composition of Regional Economies
#### United States

<table>
<thead>
<tr>
<th></th>
<th>Traded Clusters</th>
<th>Local Clusters</th>
<th>Natural Resource-Driven Industries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Share of Employment</strong></td>
<td>31.6%</td>
<td>67.6%</td>
<td>0.8%</td>
</tr>
<tr>
<td><strong>Employment Growth, 1990 to 2001</strong></td>
<td>1.7%</td>
<td>2.8%</td>
<td>-1.0%</td>
</tr>
<tr>
<td><strong>Average Wage</strong></td>
<td>$46,596</td>
<td>$28,288</td>
<td>$33,245</td>
</tr>
<tr>
<td><strong>Relative Wage</strong></td>
<td>133.8</td>
<td>84.2</td>
<td>99.0</td>
</tr>
<tr>
<td><strong>Wage Growth</strong></td>
<td>5.0%</td>
<td>3.6%</td>
<td>1.9%</td>
</tr>
<tr>
<td><strong>Relative Productivity</strong></td>
<td>144.1</td>
<td>79.3</td>
<td>140.1</td>
</tr>
<tr>
<td><strong>Patents per 10,000 Employees</strong></td>
<td>21.3</td>
<td>1.3</td>
<td>7.0</td>
</tr>
<tr>
<td><strong>Number of SIC Industries</strong></td>
<td>590</td>
<td>241</td>
<td>48</td>
</tr>
</tbody>
</table>

**Note:** 2001 data, except relative productivity which is 1997 data.
**Source:** Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School
Specialization of Regional Economies

Select U.S. Geographic Areas

**Seattle-Bellevue-Everett, WA**
Aerospace Vehicles and Defense
Fishing and Fishing Products
Analytical Instruments

**San Francisco-Oakland-San Jose Bay Area**
Communications Equipment
Agricultural Products
Information Technology

**Los Angeles Area**
Apparel
Building Fixtures, Equipment and Services
Entertainment

**San Diego**
Leather and Sporting Goods
Power Generation
Education and Knowledge Creation

**Wichita, KS**
Aerospace Vehicles and Defense
Heavy Machinery
Oil and Gas

**Pittsburgh, PA**
Construction Materials
Metal Manufacturing
Education and Knowledge Creation

**Chicago**
Communications Equipment
Processed Food
Heavy Machinery

**Boston**
Analytical Instruments
Education and Knowledge Creation
Communications Equipment

**Houston**
Heavy Construction Services
Power Generation
Education and Knowledge Creation

**Denver, CO**
Leather and Sporting Goods
Oil and Gas
Aerospace Vehicles and Defense

**Pittsburgh, PA**
Construction Materials
Metal Manufacturing
Education and Knowledge Creation

**San Francisco-Oakland-San Jose Bay Area**
Communications Equipment
Agricultural Products
Information Technology

**Raleigh-Durham, NC**
Communications Equipment
Information Technology
Education and Knowledge Creation

**Atlanta, GA**
Construction Materials
Transportation and Logistics
Business Services

Note: Clusters listed are the three highest ranking clusters in terms of share of national employment.

Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

RCC Southeast – 09-30-03 CK_RB
Specialization By Traded Cluster
Massachusetts

Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

RCC Southeast – 09-30-03 CR_RB
Specialization By Traded Cluster
Massachusetts

Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School
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Employment By Traded Cluster

Massachusetts

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Rank in US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Services</td>
<td>9</td>
</tr>
<tr>
<td>Education and Knowledge Creation</td>
<td>4</td>
</tr>
<tr>
<td>Financial Services</td>
<td>7</td>
</tr>
<tr>
<td>Information Technology</td>
<td>3</td>
</tr>
<tr>
<td>Distribution Services</td>
<td>8</td>
</tr>
<tr>
<td>Hospitality and Tourism</td>
<td>16</td>
</tr>
<tr>
<td>Analytical Instruments</td>
<td>2</td>
</tr>
<tr>
<td>Publishing and Printing</td>
<td>9</td>
</tr>
<tr>
<td>Transportation and Logistics</td>
<td>19</td>
</tr>
<tr>
<td>Communications Equipment</td>
<td>4</td>
</tr>
<tr>
<td>Heavy Construction Services</td>
<td>25</td>
</tr>
<tr>
<td>Metal Manufacturing</td>
<td>16</td>
</tr>
<tr>
<td>Medical Devices</td>
<td>5</td>
</tr>
<tr>
<td>Processed Food</td>
<td>24</td>
</tr>
<tr>
<td>Plastics</td>
<td>12</td>
</tr>
<tr>
<td>Production Technology</td>
<td>16</td>
</tr>
<tr>
<td>Entertainment</td>
<td>18</td>
</tr>
<tr>
<td>Chemical Products</td>
<td>17</td>
</tr>
<tr>
<td>Forest Products</td>
<td>17</td>
</tr>
<tr>
<td>Building Fixtures, Equipment and Services</td>
<td>21</td>
</tr>
<tr>
<td>Lighting and Electrical Equipment</td>
<td>17</td>
</tr>
<tr>
<td>Automotive</td>
<td>23</td>
</tr>
<tr>
<td>Apparel</td>
<td>15</td>
</tr>
<tr>
<td>Aerospace Vehicles and Defense</td>
<td>45</td>
</tr>
<tr>
<td>Jewelry and Precious Metals</td>
<td>4</td>
</tr>
<tr>
<td>Textiles</td>
<td>9</td>
</tr>
<tr>
<td>Leather and Related Products</td>
<td>5</td>
</tr>
<tr>
<td>Aerospace Engines</td>
<td>3</td>
</tr>
<tr>
<td>Biopharmaceuticals</td>
<td>13</td>
</tr>
<tr>
<td>Sporting, Recreational and Children's Goods</td>
<td>5</td>
</tr>
<tr>
<td>Fishing and Fishing Products</td>
<td>5</td>
</tr>
<tr>
<td>Power Generation and Transmission</td>
<td>20</td>
</tr>
<tr>
<td>Construction Materials</td>
<td>24</td>
</tr>
<tr>
<td>Agricultural Products</td>
<td>34</td>
</tr>
<tr>
<td>Furniture</td>
<td>23</td>
</tr>
<tr>
<td>Motor Driven Products</td>
<td>30</td>
</tr>
<tr>
<td>Heavy Machinery</td>
<td>35</td>
</tr>
<tr>
<td>Footwear</td>
<td>8</td>
</tr>
<tr>
<td>Prefabricated Enclosures</td>
<td>36</td>
</tr>
<tr>
<td>Oil and Gas Products and Services</td>
<td>42</td>
</tr>
</tbody>
</table>

Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School
Job Creation By Traded Cluster
Massachusetts, 1997-2001

Net Job Creation from 1997-2001:
+65,421

Indicates expected job creation at rates achieved in national benchmark clusters, i.e. percent change in national benchmark times starting local employment.
Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School
Massachusetts Life Sciences Cluster

Health Services Provider

Biological Products

Biopharmaceutical Products

Research Organizations

Cluster Organizations
MassMedic, MassBio, others

Specialized Business Services
Banking, Accounting, Legal

Specialized Risk Capital
VC Firms, Angel Networks

Specialized Research Service Providers
Laboratory, Clinical Testing

Educational Institutions
Harvard University, MIT, Tufts University, Boston University, UMass, others

Health and Beauty Products
Surgical Instruments and Suppliers
Medical Equipment
Dental Instruments and Suppliers
Ophthalmic Goods
Diagnostic Substances
Containers
Analytical Instruments
The Evolution of Regional Economies
San Diego

- Climate and Geography
- U.S. Military
- Bioscience Research Centers


- Hospitality and Tourism
- Transportation and Logistics
- Power Generation
- Communications Equipment
- Information Technology
- Education and Knowledge Creation
- Medical Devices
- Biotech / Pharmaceuticals
- Aerospace Vehicles and Defense
- Analytical Instruments
- Sport and Leather Goods
- Medical Devices
- Information Technology
### Institutions for Collaboration

**Selected Massachusetts Organizations. Life Sciences**

#### Life Sciences Industry Associations
- Massachusetts Biotechnology Council
- Massachusetts Medical Device Industry Council
- Massachusetts Hospital Association

#### University Initiatives
- Harvard Biomedical Community
- MIT Enterprise Forum
- Biotech Club at Harvard Medical School
- Technology Transfer offices

#### General Industry Associations
- Associated Industries of Massachusetts
- Greater Boston Chamber of Commerce
- High Tech Council of Massachusetts

#### Informal networks
- Company alumni
- Venture Capital community
- University alumni

#### Economic Development Initiatives
- Massachusetts Technology Collaborative
- Mass Biomedical Initiatives
- Mass Development
- Massachusetts Alliance for Economic Development

#### Joint Research Initiatives
- New England Healthcare Institute
- Whitehead Institute For Biomedical Research
- Center for Integration of Medicine and Innovative Technology (CIMIT)
Influences on Competitiveness
Multiple Geographic Levels

- World Economy
- Groups of Neighboring Nations
- Nations
- States, Provinces
- Metropolitan Areas
- Smaller Cities and Counties
Massachusetts Regional Competitiveness Council Regions
Regional Competitiveness
Southeastern Massachusetts

- Foundations of Regional Competitiveness
- Assessing the Competitiveness of Southeastern Massachusetts
- Action Agenda
Economic Performance
Southeastern Massachusetts

- Wages and wage growth closely mirror the U.S. average but fall significantly behind the Massachusetts average.

- Employment growth at only 1.3% annually over the last five years has been slow, lagging both the US and the Massachusetts average.
  - 95% of the region’s job growth occurred in local clusters, especially in real estate development.

- The Southeast’s growth of establishments was among the lowest of all Massachusetts regions.

- Patenting rates of 7.7 patents per 10,000 employees in 2001 lag the U.S. average and the leading Massachusetts’ regions.
Comparative Performance of Regions

Wage Growth and Wages

CAGR of Average Wage, 1997–2001

Average Wage, 2001

US Average Wage: $34,669

Greater Boston

Southeast

Northeast

Pioneer Valley

Central

Cape and Islands

Berkshire

Represents employment of 250,000 in 2001

US Average Wage Growth: 4.56%

Data: private, non-agricultural employment
Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School
Comparative Performance of Regions
Wage Growth and Employment Growth

CAGR of Employment, 1997–2001

CAGR of Average Wage, 1997–2001

Represents employment of 250,000 in 2001

Data: private, non-agricultural employment
Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School
Net job creation in traded clusters, 1997-2001:
+734

Net job creation in local clusters, 1997-2001:
+15,148

Greater Boston
Northeast
Cape and Islands
Southeast
Pioneer Valley
Berkshire
Central

Job Creation
Massachusetts Regions

Data: private, non-agricultural employment. Note: Regional data does not total precisely to statewide data due to omissions for confidentiality in the regions.
Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School
Comparative Performance of Regions
Establishment Formation in Traded Clusters

US Average Rate of Traded Establishment Formation: 2.79%

US Average Employees per Traded Establishment: 23.8

CAGR of Traded Establishments, 1997–2001

Represents 4,000 traded establishments in 2001

Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

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Comparative Performance of Regions Patenting Rates

US Average Patenting Rate: 7.71 per 10,000 Workers

CAGR of Patenting, 1997-2001

US Average Growth Rate in Patenting: 9.3%

Represents 500 patents in 2001

Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

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Comparative Performance of Regions
Wages and Patenting Rates

US Average Patenting Rate:
7.71 per 10,000 Workers

Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

Represents 500 patents in 2001

Greater Boston
Northeast
Southeast
Central
Pioneer Valley
Berkshire
Cape and Islands

US Average Wage: 34,669

Average Wage, 2001

Patents per 10,000 Workers, 2001

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## Patents by Organization
### Southeast Region

<table>
<thead>
<tr>
<th></th>
<th>Organization</th>
<th>Patents Issued from 1997 to 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ACUSHNET COMPANY</td>
<td>115</td>
</tr>
<tr>
<td>2</td>
<td>JOHNSON &amp; JOHNSON PROFESSIONAL INC.</td>
<td>61</td>
</tr>
<tr>
<td>3</td>
<td>TEXAS INSTRUMENTS, INCORPORATED</td>
<td>49</td>
</tr>
<tr>
<td>4</td>
<td>FOXBORO COMPANY</td>
<td>37</td>
</tr>
<tr>
<td>5</td>
<td>GILLETTE COMPANY</td>
<td>27</td>
</tr>
<tr>
<td>6</td>
<td>UNITED STATES OF AMERICA, NAVY</td>
<td>26</td>
</tr>
<tr>
<td>7</td>
<td>DEPUY ORTHOPAEDICS, INC.</td>
<td>18</td>
</tr>
<tr>
<td>8</td>
<td>MOTOROLA, INC.</td>
<td>17</td>
</tr>
<tr>
<td>9</td>
<td>KOPIN CORPORATION</td>
<td>16</td>
</tr>
<tr>
<td>10</td>
<td>AVERY DENNISON CORPORATION</td>
<td>15</td>
</tr>
<tr>
<td>11</td>
<td>EMC CORPORATION</td>
<td>14</td>
</tr>
<tr>
<td>12</td>
<td>BOSTON SCIENTIFIC CORPORATION</td>
<td>11</td>
</tr>
<tr>
<td>13</td>
<td>ETHICON ENDO-SURGERY</td>
<td>11</td>
</tr>
<tr>
<td>14</td>
<td>POLAROID CORPORATION</td>
<td>11</td>
</tr>
<tr>
<td>15</td>
<td>HOLIDAY HOUSEWARES, INC.</td>
<td>10</td>
</tr>
<tr>
<td>16</td>
<td>REEBOK INTERNATIONAL, LTD.</td>
<td>9</td>
</tr>
<tr>
<td>17</td>
<td>PLC MEDICAL SYSTEMS, INC.</td>
<td>9</td>
</tr>
<tr>
<td>18</td>
<td>DRESSER INDUSTRIES, INC.</td>
<td>9</td>
</tr>
<tr>
<td>19</td>
<td>WATERS INVESTMENTS LIMITED</td>
<td>9</td>
</tr>
<tr>
<td>20</td>
<td>SCI-MED LIFE SYSTEMS, INC.</td>
<td>9</td>
</tr>
<tr>
<td>21</td>
<td>SUN MICROSYSTEMS, INC.</td>
<td>8</td>
</tr>
<tr>
<td>22</td>
<td>DURACELL INC.</td>
<td>7</td>
</tr>
<tr>
<td>23</td>
<td>MEDICAL &amp; SCIENTIFIC, INC.</td>
<td>7</td>
</tr>
<tr>
<td>24</td>
<td>CHIRON DIAGNOSTICS CORPORATION</td>
<td>7</td>
</tr>
<tr>
<td>25</td>
<td>THOMAS &amp; BETTS INTERNATIONAL, INC.</td>
<td>7</td>
</tr>
<tr>
<td>26</td>
<td>TNCO, INC.</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School
Composition
Southeastern Massachusetts

- The Southeast has with 27.4% a relatively low share of traded employment compared to other Massachusetts regions

- The Southeast has a strong position in different groups of traded clusters, many of them considered “traditional” but some technology-intensive
  - Distribution Services
  - Jewelry
  - Textiles, Apparel
  - Production Technology, Lightning and Electrical Equipment
  - Analytical Instruments, Medical Devices

- Wages in the Southeast are low even in the traded clusters in which the region has a strong position, e.g. Distribution Services

- The Southeast is strengthening its position in some traditionally strong clusters but is losing in others
  - Growing clusters include Production Technology and Medical Devices
    - Textiles has added employment in the Southeast while the cluster shrunk nationwide
  - Shrinking clusters include Apparel and Jewelry
    - Employment in Distribution Services has been flat in the Southeast while the cluster has grown significantly nationwide

- Within local clusters, real estate development has added the most significant amount of jobs between 1997 and 2001
Employment by Cluster Type
Massachusetts Regions

Data: private, non-agricultural employment. Note: Regional data does not total precisely to statewide data due to omissions for confidentiality in the regions.
Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

<table>
<thead>
<tr>
<th>Region</th>
<th>NED (%)</th>
<th>Traded (%)</th>
<th>Local (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeast</td>
<td>0.20%</td>
<td>39.40%</td>
<td>60.30%</td>
</tr>
<tr>
<td>Greater Boston</td>
<td>0.20%</td>
<td>38.80%</td>
<td>61.00%</td>
</tr>
<tr>
<td>Central</td>
<td>0.40%</td>
<td>30.60%</td>
<td>69.00%</td>
</tr>
<tr>
<td>Berkshire</td>
<td>1.10%</td>
<td>28.00%</td>
<td>70.90%</td>
</tr>
<tr>
<td>Southeast</td>
<td>0.20%</td>
<td>27.40%</td>
<td>72.40%</td>
</tr>
<tr>
<td>Pioneer Valley</td>
<td>0.40%</td>
<td>27.00%</td>
<td>72.70%</td>
</tr>
<tr>
<td>Cape and Islands</td>
<td>0.30%</td>
<td>18.30%</td>
<td>81.40%</td>
</tr>
</tbody>
</table>
Specialization By Traded Cluster
Southeast Region

Share of National Cluster Employment in 2001
0.0% 0.5% 1.0% 1.5% 2.0% 2.5% 3.0% 3.5% 4.0% 4.5%

Change in Share, 1997–2001
-1.0% -0.5% 0.0% 0.5% 1.0% 1.5%

Fishing and Fishing Products
Jewelry and Precious Metals
Sporting, Recreational and Children’s Goods
Medical Devices
Textiles
Leather and Related Products
Production Technology
Footwear

Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School
RCC Southeast – 09-30-03 CK_RB
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Specialization By Traded Cluster
Southeast Region

Share of National Cluster Employment in 2001

Change in Share, 1997–2001

Region’s Share of National Employment: 0.290%

Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

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Employment By Traded Cluster
Southeast Region

- Indicates expected employment at rates in the state benchmark for traded clusters. Rank is across 7 state regions.

Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

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Job Creation By Traded Cluster
Southeast Region

Net job creation in traded clusters from 1997-2001: +734

Indicates expected job creation at rates achieved in national benchmark clusters, i.e. % change in national benchmark times initial employment

Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School
Job Creation By Local Cluster
Southeast Region

Net job creation in local clusters, 1997-2001:
+15,148

Indicates expected job creation at rates achieved in national benchmark clusters, i.e. % change in national benchmark times initial employment

Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

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Wages By Traded Cluster
Southeast Region with State Benchmarks

- Indicates Massachusetts average wage in the cluster.

Note: Wages are not available in all clusters due to data suppression to protect confidentiality.

Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

Region’s average traded wage: $43,033
Relative Cluster Performance
Southeast Region

Note: Data points that fall outside the graph are placed on the borders with their values given in parentheses (Employment, Wage)
Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

Red = Gaining Share
Black = Losing Share

0.29% of U.S. Employment

33.9% of traded employment
22.6% in clusters gaining share
11.3% in clusters losing share

U.S. average cluster wage

Rel. Clus. Wage, 2001

5.0

10.0

15.0

20.0

0.5

1.0

1.5

2.0

2.5

Footwear
Agricultural Products

3.0

Leather and Related Products

Medical Devices
Textiles

Lighting and Electrical Equipment

Analytical Instruments
Distribution Services

Business Services
Financial Services

Heavy Construction Services

Entertainment

Apparel

Production Technology

Fishing and Fishing Products

(14.0, 1.59)

Jewelry and Precious Metals

Sporting, Recreational and Children’s Goods

Fish and Fishing Products

(14.0, 1.59)

3.5

3.0

2.5

2.0

1.5

1.0

0.5

0.0

U.S.

average

cluster wage

0.5

1.0

1.5

2.0

2.5

3.0

3.5

4.0

4.5

5.0

5.5

6.0

6.5

7.0

7.5

8.0

8.5

9.0

9.5

10.0

10.5

11.0

11.5

12.0

Relative Cluster Employment, 2001

Black = Losing Share
Red = Gaining Share
# Leading Sub-Clusters by Location Quotient
## Southeast Region, 2001

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Subcluster</th>
<th>Location Quotient</th>
<th>Share of National Employment</th>
<th>Rank among Massachusetts Regions</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution Services</td>
<td>Apparel and Accessories Wholesaling</td>
<td>4.94</td>
<td>1.43%</td>
<td>1</td>
<td>3,150</td>
</tr>
<tr>
<td></td>
<td>Catalog and Mail-order</td>
<td>3.86</td>
<td>1.12%</td>
<td>1</td>
<td>2,557</td>
</tr>
<tr>
<td></td>
<td>Food Products Wholesaling</td>
<td>2.69</td>
<td>0.78%</td>
<td>2</td>
<td>1,244</td>
</tr>
<tr>
<td>Analytical Instruments</td>
<td>Process Instruments</td>
<td>5.84</td>
<td>1.69%</td>
<td>3</td>
<td>3,201</td>
</tr>
<tr>
<td>Hospitality and Tourism</td>
<td>Ground Transportation</td>
<td>2.78</td>
<td>0.81%</td>
<td>2</td>
<td>779</td>
</tr>
<tr>
<td>Textiles</td>
<td>Specialty Apparel Components</td>
<td>12.08</td>
<td>3.50%</td>
<td>1</td>
<td>976</td>
</tr>
<tr>
<td></td>
<td>Finishing Plants</td>
<td>9.69</td>
<td>2.81%</td>
<td>1</td>
<td>528</td>
</tr>
<tr>
<td></td>
<td>Fabric Mills</td>
<td>8.82</td>
<td>2.56%</td>
<td>1</td>
<td>2,500</td>
</tr>
<tr>
<td></td>
<td>Specialty Fabric Processing</td>
<td>3.62</td>
<td>1.05%</td>
<td>1</td>
<td>129</td>
</tr>
<tr>
<td>Production Technology</td>
<td>Process Equipment Sub-systems and Components</td>
<td>3.61</td>
<td>1.05%</td>
<td>1</td>
<td>3,374</td>
</tr>
<tr>
<td>Jewelry and Precious Metals</td>
<td>Jewelry and Precious Metal Products</td>
<td>11.69</td>
<td>3.39%</td>
<td>1</td>
<td>3,398</td>
</tr>
<tr>
<td></td>
<td>Costume jewelry</td>
<td>8.85</td>
<td>2.57%</td>
<td>1</td>
<td>235</td>
</tr>
<tr>
<td>Medical Devices</td>
<td>Surgical Instruments and Supplies</td>
<td>5.77</td>
<td>1.67%</td>
<td>2</td>
<td>3,291</td>
</tr>
<tr>
<td></td>
<td>Ophthalmic Goods</td>
<td>2.60</td>
<td>0.76%</td>
<td>2</td>
<td>202</td>
</tr>
<tr>
<td>Apparel</td>
<td>Knitting and Finishing Mills</td>
<td>3.52</td>
<td>1.02%</td>
<td>1</td>
<td>888</td>
</tr>
<tr>
<td></td>
<td>Men's Clothing</td>
<td>3.44</td>
<td>1.00%</td>
<td>1</td>
<td>1,145</td>
</tr>
<tr>
<td></td>
<td>Women's and Children's Clothing</td>
<td>2.57</td>
<td>0.75%</td>
<td>1</td>
<td>1,354</td>
</tr>
<tr>
<td>Publishing and Printing</td>
<td>Photographic Equipment and Supplies</td>
<td>4.14</td>
<td>1.20%</td>
<td>2</td>
<td>591</td>
</tr>
<tr>
<td>Lighting and Electrical Equipment</td>
<td>Lighting Fixtures</td>
<td>10.06</td>
<td>2.92%</td>
<td>1</td>
<td>1,113</td>
</tr>
<tr>
<td>Sporting, Recreational</td>
<td>Sporting and Athletic Goods</td>
<td>11.59</td>
<td>3.36%</td>
<td>1</td>
<td>2,224</td>
</tr>
<tr>
<td>and Children's Goods</td>
<td>Games, Toys, and Children's Vehicles</td>
<td>2.55</td>
<td>0.74%</td>
<td>2</td>
<td>161</td>
</tr>
<tr>
<td>Communications Equipment</td>
<td>Electrical and Electronic Components</td>
<td>3.92</td>
<td>1.14%</td>
<td>2</td>
<td>1,830</td>
</tr>
<tr>
<td>Fishing and Fishing Products</td>
<td>Fishing and Hunting</td>
<td>37.02</td>
<td>10.74%</td>
<td>1</td>
<td>1,069</td>
</tr>
<tr>
<td></td>
<td>Fish Products</td>
<td>8.80</td>
<td>2.55%</td>
<td>2</td>
<td>896</td>
</tr>
<tr>
<td></td>
<td>Processed Seafoods</td>
<td>3.41</td>
<td>0.99%</td>
<td>2</td>
<td>42</td>
</tr>
<tr>
<td>Automotive</td>
<td>Automotive Components</td>
<td>3.59</td>
<td>1.04%</td>
<td>1</td>
<td>817</td>
</tr>
<tr>
<td>Furniture</td>
<td>Furnishings</td>
<td>5.08</td>
<td>1.47%</td>
<td>1</td>
<td>970</td>
</tr>
<tr>
<td>Leather Products</td>
<td>Coated Fabrics</td>
<td>10.11</td>
<td>2.93%</td>
<td>3</td>
<td>257</td>
</tr>
<tr>
<td></td>
<td>Accessories</td>
<td>8.55</td>
<td>2.48%</td>
<td>1</td>
<td>312</td>
</tr>
<tr>
<td>Agricultural Products</td>
<td>Agricultural Products</td>
<td>2.53</td>
<td>0.73%</td>
<td>1</td>
<td>771</td>
</tr>
<tr>
<td>Construction Materials</td>
<td>Rubber Products</td>
<td>4.06</td>
<td>1.18%</td>
<td>1</td>
<td>580</td>
</tr>
<tr>
<td>Chemical Products</td>
<td>Special Packaging</td>
<td>3.50</td>
<td>1.01%</td>
<td>2</td>
<td>109</td>
</tr>
<tr>
<td>Footwear</td>
<td>Footwear Parts</td>
<td>22.82</td>
<td>6.62%</td>
<td>1</td>
<td>124</td>
</tr>
</tbody>
</table>

Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School
**Business Environment**

**Southeastern Massachusetts**

- Overall, the Southeast region is seen as a relatively attractive location but as lagging the leading regions in Massachusetts
  - Specific advantages are the quality of life and, compared to the rest of the state, moderate cost of living
  - Critical disadvantages are the *access to risk capital, transfer of knowledge from local research institutions*, and the *availability of scientists and researchers*

- The loss of the currently advantageous cost position is seen as a critical threat to the region
  - Overall level of threats seen as lower than in other Massachusetts regions
Regional Comparisons

Regional Strategy & Summary of the Regional Business Environment

Does your local region have a well articulated economic strategy and are you an active participant in it?

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Mean Agreement</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

- My organization can contribute significant value to an economic development strategy
- My organization is an active participant in the execution of this strategy
- Local business and government leaders have articulated a clear strategy for promoting the economic development of the local region
- The state has articulated a clear strategy for the region

Summary of the Regional Business Environment

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Mean Agreement</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

- Overall, this region in Massachusetts is a good place for my company to do business
- Overall, my region has strengths in my industry compared to other regions in Massachusetts

Source: Professor Michael E. Porter and Monitor Company Group

Berkshire  ▼
Central  ▲
Northeast  ×
Southeast  ⊘
Greater Boston  ▲
Pioneer Valley  ×
Cape and Islands  ▼
Massachusetts  ■

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### Regional Comparisons

#### Availability of Inputs

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean Agreement</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The overall quality of life in your region makes recruitment and retention of employees easy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced educational programs provide your business with high quality employees</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The communications infrastructure in your local region fully satisfies your business needs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic education and English language instruction for immigrant workers meet the needs of my organization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialized facilities for research are readily available</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The available pool of skilled workers in your region is sufficient to meet your growth needs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The cost of living in your region makes recruitment and retention of employees easy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The overall quality of the K-12 education system is high</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The overall quality of transportation is very good relative to other regions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qualified scientists and engineers in your local region are in ample supply</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The cost of doing business is low relative to other regions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The institutions in your local region that perform basic research frequently transfer knowledge to your industry</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to risk capital (e.g. venture capital, angel capital) is easy</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Professor Michael E. Porter and Monitor Company Group

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## Regional Comparisons

### Rules and Incentives Governing Investment and Competition

<table>
<thead>
<tr>
<th>Statement</th>
<th>Berkshire</th>
<th>Cape and Islands</th>
<th>Central</th>
<th>Greater Boston</th>
<th>Northeast</th>
<th>Pioneer Valley</th>
<th>Southeast</th>
<th>Massachusetts</th>
</tr>
</thead>
<tbody>
<tr>
<td>State environmental standards and safety regulations are strict</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local environmental standards and safety regulations are strict</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local competition in your industry is intense</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The number of local competitors for your business in your local region is high</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local regulations affecting your business are appropriate and assist with your firm's ability to succeed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local government's overall responsiveness and ability to work with the needs of business is high</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State regulations affecting your business are appropriate and assist with your firm's ability to succeed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Investment in R&amp;D is encouraged by state and local taxes and incentives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State government's overall responsiveness and ability to work with the needs of business is high</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State and local government support for investment in R&amp;D (e.g. funding business incubators, creating consortia) is ample</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Professor Michael E. Porter and Monitor Company Group

RCC Southeast – 09-30-03 CK_RB

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## Regional Comparisons

### Local Demand Conditions & Related and Supporting Industries

**Local Demand Conditions**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Mean Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local customers for your business's products/services have special needs</td>
<td>4</td>
</tr>
<tr>
<td>that often impact your product offering</td>
<td></td>
</tr>
<tr>
<td>Feedback from local customers to improve your business's products/services</td>
<td>5</td>
</tr>
<tr>
<td>is frequent and reveals the need for new features or enhanced performance</td>
<td></td>
</tr>
<tr>
<td>Local customers for your business's products/services are sophisticated</td>
<td>3</td>
</tr>
<tr>
<td>and demanding</td>
<td></td>
</tr>
<tr>
<td>Consumer protection, product safety, environmental, and other regulations</td>
<td>2</td>
</tr>
<tr>
<td>in your region are strict and more problematic than in other regions</td>
<td></td>
</tr>
</tbody>
</table>

**Related and Supporting Industries**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Mean Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>The quality of local specialized suppliers of your businesses' materials,</td>
<td>2</td>
</tr>
<tr>
<td>machinery, and services is comparable with the best quality elsewhere</td>
<td></td>
</tr>
<tr>
<td>Specialized suppliers of your business's materials, machinery, and services</td>
<td>3</td>
</tr>
<tr>
<td>are mostly available inside your local region</td>
<td></td>
</tr>
<tr>
<td>Businesses in your industry, located in your region, share information</td>
<td>5</td>
</tr>
<tr>
<td>openly with other businesses</td>
<td></td>
</tr>
<tr>
<td>Local specialized suppliers assist your firm with new product and process</td>
<td>4</td>
</tr>
<tr>
<td>development frequently</td>
<td></td>
</tr>
<tr>
<td>Specialized training and research institutions for my industry are</td>
<td>2</td>
</tr>
<tr>
<td>available in my region</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Professor Michael E. Porter and Monitor Company Group

**Diagram Symbols:**
- Berkshire
- Cape and Islands
- Central
- Greater Boston
- Northeast
- Pioneer Valley
- Southeast
- Massachusetts
Regional Comparisons
Priorities for Government

Source: Professor Michael E. Porter and Monitor Company Group

改善州政府对交通和其他物理基础设施的支持

促进世界一流的初级和二级教育

简化政府法规的合规程序（如一站式申报、网站等）

促进专门教育和培训项目，以提升工人技能

改善本地政府对交通和其他物理基础设施的支持

改善信息和通信基础设施

支持初创公司的特定需求（如资本访问、孵化器、管理培训）

实施税制改革以鼓励创新投资（如研发税收抵免）

促进全民计算机素养

推动政府机构、行业和大学之间的合作伙伴关系

加速监管审批流程符合产品生命周期

协助吸引来自其他地点的供应商和服务提供商

提供服务以协助和促进当地出口

增加对特殊研究机构、实验室等的政府支持

增加对大学研究资金的支持

来源：Michael E. Porter教授和Monitor公司集团
Regional Comparisons
Institutions & Education

How satisfied are you with the impact of the following institutions, in your region, on your company?

- Strongly Disagree
- Mean Agreement
- Strongly Agree

Source: Professor Michael E. Porter and Monitor Company Group

How would you best describe the quality of new workers from these sources?

- Inadequate
- Mean Rating
- Superior

Source: Professor Michael E. Porter and Monitor Company Group
Regional Comparisons
Institutions & Education (Cont.)

Over the next five years, I expect the needs of my organization, with respect to the following levels of education and/or training, to:

<table>
<thead>
<tr>
<th>Level</th>
<th>Decrease</th>
<th>Mean Expectation</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialized skill training or industry-specific certification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor's Degree</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Associate's Degree</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Master's Degree or higher</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If your organization met or worked with any of these entities on workforce issues, to what extent did your contact meet your expectations?

<table>
<thead>
<tr>
<th>Entity</th>
<th>Did not Meet my Expectations</th>
<th>Mean Rating</th>
<th>Exceeded my Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community colleges</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Public universities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private universities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other private or non-profit training providers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocational schools</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Professor Michael E. Porter and Monitor Company Group

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Regional Comparisons
Positive Impact on the Local Business Environment

Percent of Respondents which Ranked Characteristic Among the Top Five Most Positive

Overall quality of life for employees
Available pool of skilled workforce
Cost of doing business (e.g. real estate, wages, utilities, etc)
Specialized needs of local customers
Quality of transportation (e.g. ease of access, traffic)
Relationships between firms and organizations in your cluster
Level of locally based competition in your industry
Demanding local customers that provide feedback
Availability of advanced educational programs
Quality of local K-12 schools
Quality and in-region location of your suppliers
Access to capital
Qualified scientists and engineers

Source: Professor Michael E. Porter and Monitor Company Group
Regional Comparisons
Future Threats in the Local Business Environment

Percent of Respondents which Ranked Characteristic Among the Top Five Greatest Threats

| Cost of doing business (e.g. real estate, wages, utilities, etc) |  |
| State government's responsiveness to the needs of business |  |
| Predictability of state government policies |  |
| Available pool of skilled workforce |  |
| Quality of local K-12 schools |  |
| Access to capital |  |
| State regulations for production processes and products/services |  |
| Quality of transportation (e.g. ease of access, traffic) |  |
| Level of locally-based competition in your industry |  |
| Overall quality of life for employees |  |
| State environmental/safety regulations |  |
| Local government's responsiveness to the needs of business |  |
| State and local tax and incentives for investment in R&D |  |

Source: Professor Michael E. Porter and Monitor Company Group

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Regional Comparisons
Future Threats in the Local Business Environment (Cont.)

Percent of Respondents which Ranked Characteristic Among the Top Five Greatest Threats

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Berkshire</th>
<th>Cape and Islands</th>
<th>Central</th>
<th>Greater Boston</th>
<th>Northeast</th>
<th>Pioneer Valley</th>
<th>Southeast</th>
<th>Massachusetts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of advanced educational programs</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Predictability of local government policies</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Demanding local customers that provide feedback</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Qualified scientists and engineers</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Local regulations for production processes and products/services</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Participation with local institutions in R&amp;D efforts</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Quality and in-region location of your suppliers</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
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</tr>
<tr>
<td>Transfer of knowledge from research institutions</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
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</tr>
<tr>
<td>Assistance from local suppliers for new product and process development</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Local environmental/safety regulations</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
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</tr>
<tr>
<td>Relationships between firms and organizations in your cluster</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Specialized needs of local customers</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
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</tr>
<tr>
<td>Specialized facilities for research</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
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</tr>
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</table>

Source: Professor Michael E. Porter and Monitor Company Group

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Regional Comparisons
Barriers to Expansion in the Next Five Years

Percent of Respondents which Ranked Characteristic Among the Top Three Greatest Barriers to Expansion

- Business-friendly political environment
- Access to skilled labor
- Housing affordability
- Tax incentives
- Low cost of labor
- Proximity to competing firms in your industry
- Quality of life for employees
- Proximity to local client base
- Proximity of local suppliers to your industry
- Proximity to local research and development centers
- Air / water quality
- Access to raw materials

Source: Professor Michael E. Porter and Monitor Company Group
Regional Competitiveness
Southeastern Massachusetts

- Foundations of Regional Competitiveness
- Assessing the Competitiveness of Southeastern Massachusetts
- Action Agenda
Shifting Responsibilities for Economic Development

Old Model

- Government drives economic development through policy decisions and incentives

New Model

- Economic development is a collaborative process involving government at multiple levels, companies, teaching and research institutions, and institutions for collaboration
Role of the Private Sector in Economic Development

• A company’s competitive advantage is partly the result of the local environment
• Company membership in a cluster offers collective benefits
• Private investment in “public goods” is justified

• Take an active role in upgrading the local infrastructure
• Nurture local suppliers and attract new supplier investments
• Work closely with local educational and research institutions to upgrade quality and create specialized programs addressing cluster needs
• Provide government with information and substantive input on regulatory issues and constraints bearing on cluster development
• Focus corporate philanthropy on enhancing the local business environment

• An important role for trade associations
  – Greater influence
  – Cost sharing
Public / Private Cooperation in Cluster Upgrading
Minnesota’s Medical Device Cluster

Context for Firm Strategy and Rivalry
- Aggressive trade associations (Medical Alley Association, High Tech Council)
- Effective global marketing of the cluster and of Minnesota as the “The Great State of Health”
- Full-time “Health Care Industry Specialist” in the department of Trade and Economic Development

Factor (Input) Conditions
- Joint development of vocational-technical college curricula with the medical device industry
- Minnesota Project Outreach exposes businesses to resources available at university and state government agencies
- Active medical technology licensing through University of Minnesota
- State-formed Greater Minnesota Corp. to finance applied research, invest in new products, and assist in technology transfer

Demand Conditions
- State sanctioned reimbursement policies to enable easier adoption and reimbursement for innovative products

Related and Supporting Industries

Towards an Action Agenda for the Southeast Region

- Strengthen business environment to move beyond competing as a relatively low cost region within Massachusetts
  - E.g., increase capacity for innovation and knowledge transfer

- Mount cluster development efforts for strong traded clusters, especially those that are under pressure such as Distribution Services

- Leverage linkages to clusters present in the Greater Boston region, such as Medical Devices and Analytical Instruments
Visit the home page of the Institute, [www.isc.hbs.edu](http://www.isc.hbs.edu), for copies of all materials presented today plus further supporting data on the regions.

See the section for “Competitiveness of States and Region” or to go directly to today’s material at: [www.isc.hbs.edu/MA_RCC.htm](http://www.isc.hbs.edu/MA_RCC.htm).