Massachusetts Competitiveness: Creating a State Economic Strategy

Professor Michael E. Porter
Harvard Business School

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For further material on regional competitiveness and clusters: www.isc.hbs.edu/econ-clusters.htm
For state economic profiles: www.isc.hbs.edu/econ-statesregions.htm
The Economic Challenge for Governors in 2012

Enhancing State Competitiveness

Achieving Fiscal Stability
What is Competitiveness?

- Competitiveness is the **productivity** with which a state utilizes its human, capital, and natural endowments to create value.

- Productivity determines **wages, jobs, and the standard of living**.

- It is not **what** fields a state competes in that determines its prosperity, but **how productively** it competes.
Where Does Productivity Come From?

Businesses and government play different but interrelated roles in creating a productive economy

- Only **businesses** can create **jobs** and **wealth**
- **States** compete to offer the **most productive environment** for business
Agenda

1. How is your state doing?  State Performance Scorecard

2. Why?  Explaining your state’s performance, strengths, and weaknesses

3. Where to go from here?  Action Steps
<table>
<thead>
<tr>
<th>Category</th>
<th>Start Position</th>
<th>Trend</th>
<th>Current Position</th>
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</thead>
<tbody>
<tr>
<td><strong>Prosperity</strong> (GDP per Capita)</td>
<td>4</td>
<td>16</td>
<td>6, -2</td>
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<tr>
<td><strong>Wages</strong> (Average Private Wage)</td>
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<td><strong>Job Creation</strong> (Employment)</td>
<td>19</td>
<td>17</td>
<td>12, +7</td>
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<td><strong>Labor Mobilization</strong> (Employment)</td>
<td>23</td>
<td>22</td>
<td>21, +2</td>
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<tr>
<td><strong>Labor Productivity</strong> (GDP per Worker)</td>
<td>6</td>
<td>23</td>
<td>6, +0</td>
</tr>
<tr>
<td><strong>New Business Formation</strong> (Establishment)</td>
<td>13</td>
<td>37</td>
<td>31, -18</td>
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<tr>
<td><strong>Innovation</strong> (Patents per Worker)</td>
<td>5</td>
<td>9</td>
<td>5, +0</td>
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<tr>
<td><strong>Cluster Strength</strong> (Employment)</td>
<td>20</td>
<td>11</td>
<td>11, +9</td>
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</tbody>
</table>

**Leading Clusters** (national rank)
- Education and Knowledge Creation (4)
- Financial Services (4)
- Analytical Instruments (3)
- Information Technology (4)
- Medical Devices (5)
Comparative State **Prosperity** Performance

**2000 - 2010**

- **High and rising prosperity versus U.S.**
- **High but declining versus U.S.**
- **Low and declining versus U.S.**
- **Low but rising versus U.S.**

**U.S. GDP per Capita:** $42,346

**Real Growth in Gross Domestic Product per Capita, 2000 to 2010**

Source: BEA. Notes: GDP in real 2005 dollars. Growth rate is calculated as compound annual growth rate.

- **Low and declining versus U.S.**
- **Low but rising versus U.S.**
- **High but declining versus U.S.**
- **High and rising prosperity versus U.S.**

**Gross Domestic Product per Capita, 2010**

- $25,000
- $30,000
- $35,000
- $40,000
- $45,000
- $50,000
- $55,000
- $60,000
- $65,000

-1.0% -0.5% 0.0% 0.5% 1.0% 1.5% 2.0% 2.5% 3.0% 3.5%

**U.S. GDP per Capita**

- **Real Growth Rate:** 0.63%
Comparative State Labor Mobilization Performance
1999-2010

High but declining versus U.S.

High Labor Force Participation and Participation rising versus U.S.

Low and declining versus U.S.

Low but rising versus U.S.

Notes: Source BLS.
Comparative State Labor Force Productivity Performance
2000-2010

Real Growth in Gross Domestic Product per Labor Force Participant, 2000-2010

Highly productive and productivity rising versus U.S.

Low but rising versus U.S.

Low and declining versus U.S.

High but declining versus U.S.

U.S. GDP per Labor Force Participant
Real Growth: 0.803%

$60,000
$70,000
$80,000
$90,000
$100,000
$110,000
$120,000
$130,000
$140,000

-0.5%
0.0%
0.5%
1.0%
1.5%
2.0%
2.5%
3.0%
3.5%

Sources: BEA, BLS. Notes: GDP in real 2005 dollars. Growth rate is calculated as compound annual growth rate.
Comparative State Employee Productivity Performance
2000-2010

Sources: BEA, BLS. Notes: GDP in real 2005 dollars. Growth rate is calculated as compound annual growth rate.
Comparative State **Innovation Performance**
**2000 - 2010**

**High and declining innovation**

**High and improving innovation rate versus U.S.**

**Low and declining innovation**

**U.S. average Growth Rate of Patenting:**
+2.25%

**U.S. average Patents per 10,000 Employees:** 7.77


Note: Growth rate calculated as compound annual growth rate (CAGR).

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Why?
What Drives State Productivity?

1. Quality of the Overall Business Environment
2. Cluster Development
3. Policy Coordination among Multiple Levels of Geography/Government
Why?
What Drives State Productivity?

1. Quality of the Overall Business Environment
2. Cluster Development
3. Policy Coordination among Multiple Levels of Geography/Government
Quality of the Overall Business Environment

Context for Firm Strategy and Rivalry

Rules and incentives that encourage local competition, investment and productivity
- e.g., tax policy that encourages investment and R&D
- Flexible labor policies
- Intellectual property protection
- Antitrust enforcement

Demand Conditions

Sophisticated and demanding local needs and customers
- e.g., Strict quality, safety, and environmental standards
- Consumer protection laws
- Government procurement of advanced technology
- Early demand for products and services

Factor (Input) Conditions

Access to high quality business inputs
- Human resources
- Capital access
- Physical infrastructure
- Administrative processes (e.g., permitting, regulatory efficiency)
- Scientific and technological infrastructure

Related and Supporting Industries

Local availability of suppliers and supporting industries

• Many things matter for competitiveness
• Economic development is the process of improving the business environment to enable companies to compete in increasingly sophisticated ways
Improving the Business Environment
Common Action Items

1. Simplify and speed up regulation and permitting

2. Reduce unnecessary costs of doing business

3. Establish training programs that are aligned with the needs of the state’s businesses

4. Focus infrastructure investments on the most leveraged areas for productivity and economic growth

5. Design all policies to support emerging growth companies

6. Protect and enhance the state’s higher education and research institutions

7. Relentlessly improve the public education system, the essential foundation for productivity in the long run
Why?
What Drives State Productivity?

1. Quality of the Overall Business Environment

2. Cluster Development

3. Policy Coordination among Multiple Levels of Geography/Government
What is a Cluster?

A geographically concentrated group of interconnected companies and associated institutions in a particular field

**Traded Clusters**
- Compete to serve national and international markets
- Can locate anywhere
- 30% of employment

**Local Clusters**
- Serve almost exclusively the local market
- Not directly exposed to cross-regional competition
- 70% of employment
Example: Massachusetts Life Sciences Cluster

- Health and Beauty Products
- Surgical Instruments and Suppliers
- Medical Equipment
- Dental Instruments and Suppliers
- Ophthalmic Goods
- Diagnostic Substances
- Containers

Teaching and Specialized Hospitals

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, MIT, Tufts, Boston University, UMass

Analytical Instruments Cluster
Example: Houston Oil and Gas Cluster

Upstream

1. Oil & Natural Gas Exploration & Development
   (e.g., Oil Field Chemicals, Drilling Rigs, Drill Tools)
2. Oil & Natural Gas Completion & Production

Downstream

1. Oil Transportation
2. Oil Trading
3. Oil Refining
4. Oil Distribution
5. Oil Wholesale Marketing
6. Oil Retail Marketing
7. Gas Gathering
8. Gas Processing
9. Gas Trading
10. Gas Transmission
11. Gas Distribution
12. Gas Marketing

Oilfield Services/Engineering & Contracting Firms

1. Equipment Suppliers
   (e.g., Oil Field Chemicals, Drilling Rigs, Drill Tools)
2. Specialized Technology Services
   (e.g., Drilling Consultants, Reservoir Services, Laboratory Analysis)
3. Subcontractors
   (e.g., Surveying, Mud Logging, Maintenance Services)
4. Business Services
   (e.g., MIS Services, Technology Licenses, Risk Management)

Specialized Institutions
(e.g., Academic Institutions, Training Centers, Industry Associations)
Strong Clusters Drive Regional Performance

- Specialization in **strong clusters**
- **Breadth** of industries within each cluster
- Strength in **related clusters**
- Presence of a region’s clusters in **neighboring regions**

- **Job** growth
- Higher **wages**
- Higher **patenting** rates
- Greater **new business** formation, growth and survival

*On average, cluster strength is much more important (78.1%) than cluster mix (21.9%) in driving regional performance in the U.S.*

Clusters and Economic Diversification

Note: Clusters with overlapping borders or identical shading have at least 20% overlap (by number of industries) in both directions.
The Evolution of Regional Economies
San Diego

Climate and Geography

U.S. Military


Hospitality and Tourism
Transportation and Logistics
Power Generation
Communications Equipment
Information Technology

Aerospace Vehicles and Defense
Analytical Instruments

Bioscience Research Centers

Education and Knowledge Creation
Medical Devices
Biotech / Pharmaceuticals
Traded Cluster Composition of the Massachusetts Economy

Overall change in the Massachusetts Share of US Traded Employment: -0.18%

Massachusetts Overall Share of US Traded Employment: 2.96%

Traded Cluster Composition of the Massachusetts Economy (continued)

Overall change in the Massachusetts Share of US Traded Employment: -0.18%

Massachusetts Overall Share of US Traded Employment: 2.96%

Added Jobs
Lost Jobs

Employment 1998-2009

Massachusetts national employment share, 2009

Change in Massachusetts share of National Employment, 1998 to 2009

Employees 43,000 = 0.3%

Massachusetts Job Creation in Traded Clusters
1998 to 2009

Job Creation, 1998 to 2009

Net traded job creation, 1998 to 2009: -88,163

* Percent change in national benchmark times starting regional employment. Overall traded job creation in the state, if it matched national benchmarks, would be 31,934.

Massachusetts Wages in Traded Clusters vs. National Benchmarks

Productivity Depends on How a State Competes, Not What Industries It Competes In

<table>
<thead>
<tr>
<th>State</th>
<th>State Traded Wage versus National Average</th>
<th>Cluster Mix Effect</th>
<th>Relative Cluster Wage Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connecticut</td>
<td>+27,171</td>
<td>7,028</td>
<td>20,142</td>
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<tr>
<td>New York</td>
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<tr>
<td>Oregon</td>
<td>-10,359</td>
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<td>South Dakota</td>
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<td>-21,257</td>
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</tbody>
</table>

On average, cluster strength is much more important (78.1%) than cluster mix (21.9%) in driving regional performance in the U.S.

LQ, or Location Quotient, measures the state's share in cluster employment relative to its overall share of U.S. employment. An LQ > 1 indicates an above average employment share in a cluster.
### Massachusetts Performance Scorecard

**Prosperity**  
*GDP per Capita, 2000-2010*  
- Start Position: 4  
- Trend: 16  
- Current Position: 6 (-2)

**Wages**  
*Average Private Wage, 1998-2009*  
- Start Position: 4  
- Trend: 11  
- Current Position: 3 (+1)

**Job Creation**  
- Start Position: 19  
- Trend: 17  
- Current Position: 12 (+7)

**Labor Mobilization**  
*Proportion of Working Age Population in the Workforce, 2000-2010*  
- Start Position: 23  
- Trend: 22  
- Current Position: 21 (+2)

**Labor Productivity**  
*GDP per Workforce Participant, 2000-2010*  
- Start Position: 6  
- Trend: 23  
- Current Position: 6 (+0)

**New Business Formation**  
- Start Position: 13  
- Trend: 37  
- Current Position: 31 (-18)

**Innovation**  
*Patents per Employee, 2000-2010*  
- Start Position: 5  
- Trend: 9  
- Current Position: 5 (+0)

**Cluster Strength**  
*Employment in Strong Clusters, 1998-2009*  
- Start Position: 20  
- Trend: 11  
- Current Position: 11 (+9)

#### Leading Clusters  
*by employment size, 2009  
(national rank)*  
- Education and Knowledge Creation (4)  
- Financial Services (4)  
- Analytical Instruments (3)  
- Information Technology (4)  
- Medical Devices (5)
Cluster Development
Common Action Items

1. Build on the state’s **existing and emerging clusters** rather than chase “hot” fields

2. Pursue economic diversification **within clusters** and **across related clusters**

3. Create a private sector-led **cluster upgrading program** with matching support for participating private sector cluster organizations
   - Government should **listen** and **remove obstacles** to cluster improvement

4. **Align** other state economic policies and programs with clusters

Clusters provide a framework for organizing the implementation of many public policies and public investments to achieve greater effectiveness.
Why?
What Drives State Productivity?

1. Quality of the Overall Business Environment
2. Cluster Development
3. Policy Coordination among Multiple Levels of Geography/Government
Geographic and Governmental Influences on Productivity

Nation

State

Metropolitan Areas

Rural Regions

Neighboring State

Neighboring State
The economies of states are often an aggregation of distinct economic areas with differing circumstances.

Wage Performance in Massachusetts Metropolitan Areas

Growth Rate of Private Wages, 1998-2009

- Massachusetts Growth Rate of Wages: 3.31%
- Massachusetts Average Private Wage: $51,813
- U.S. Average Private Wage: $42,403
- U.S. Growth Rate of Wages: 3.01%

- Boston MSA*
- Worcester MSA
- Pittsfield MSA
- Springfield MSA
- Providence MSA*
- Barnstable MSA
- Rest of State

*Massachusetts portion only
Source: Census CBP, authors' analysis. Note: “Bubble” size in chart is proportional to employment in 2009.
Employment Performance in Massachusetts Metropolitan Areas

**Growth Rate of Private Employment, 1998-2009**

- **Massachusetts Growth Rate of Employment:** 0.13%
- **U.S. Growth Rate of Employment:** 0.52%

**Average Private Wage, 2009**

- **Massachusetts Average Private Wage:** $51,813
- **U.S. Average Private Wage:** $42,403

*Massachusetts portion only

Source: Census CBP, authors’ analysis. Note: “Bubble” size in chart is proportional to employment in 2009.
Geographic and Governmental Influences on Productivity

1. Influence and access federal policies and programs

2. Work with each metro area to develop a prioritized strategic agenda

3. Connect rural regions with proximate urban areas

4. Integrate policies and infrastructure planning with neighbors
Agenda

1. How is your state doing? State Performance Scorecard

2. Why? Explaining your state’s performance, strengths, and weaknesses

3. Where to go from here? Action Steps
Agenda

1. How is your state doing?  
   State Performance Scorecard

2. Why?  
   Explaining your state’s performance, strengths, and weaknesses

3. Where to go from here?  
   Action Steps

Biggest Action Item of All
Create an Economic Strategy

- What is the distinctive competitive position of the state or region given its location, legacy, existing strengths, and potential strengths?
  - What unique value as a business location?
  - For what types of activities and clusters?

Define the Value Proposition

Develop Unique Strengths

- What elements of the business environment can be unique strengths relative to peers/neighbors?
- What existing and emerging clusters represent local strengths?

Achieve and Maintain Parity with Peers

- What weaknesses must be addressed to remove key constraints and achieve parity with peer locations?

- Economic strategy requires setting priorities and moving beyond long lists of separate recommendations.
How Should States Compete for Investment?

**Tactical (Zero Sum Competition)**

- Focus on attracting new investments
- Compete for every plant
- Offer generalized tax breaks
- Provide subsidies to lower / offset business costs
- Every city and sub-region for itself
- Government drives investment attraction

**Strategic (Positive Sum Competition)**

- Also support greater local investment by existing companies
- Reinforce areas of specialization and emerging cluster strength
- Provide state support for training, infrastructure, and institutions with enduring benefits
- Improve the efficiency of doing business
- Harness efficiencies and coordination across jurisdictions, especially with neighbors
- Government and the private sector collaborate to build cluster strength
Harnessing the New Process of Economic Development

Competitiveness is the result of both top-down and bottom-up processes in which many companies and institutions take responsibility.

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 private sector organizations
Effective economic policy also requires \textit{coordination within government}
Summary

• The goal of economic strategy is to enhance productivity. This is the only way to create jobs, high income, and wealth in the long run.

• Improving productivity and innovation must be the guiding principles for every state policy choice.

• Improving productivity does not require new public resources, but using existing resources better.

• Improving productivity demands that governors mobilize the private sector, not rely on government alone.

• Economic strategy is non-partisan and about getting results.
Next Steps

1. Reach out to your team

2. Reach out to the business community


The prosperity of the U.S. economy will depend more on the success of states in improving competitiveness than what happens in Washington.