Massachusetts Competitiveness State and Cluster Performance

Professor Michael E. Porter Institute for Strategy and Competitiveness Harvard Business School

Version: March 17, 2010

State Comparisons

Overall Economic Performance Indicators

Massachusetts

Economic Performance

Gross State Product per capita, 2008

in Massachusetts: \$56,169 (rank 7)

• in the US: \$46,588

Massachusetts % above US: 20.6%

Growth in Gross State Product per capita, annual rate, 1998-2008

in Massachusetts: 2.28% (rank 7)

■ in the US: 1.50%

Average wage, 2007

in Massachusetts: \$51,151 (rank 4)

in the US: \$41,680Massachusetts % above US: 22.7%

Wage growth, annual rate, 1998 to 2007

• in Massachusetts: 3.92% (rank 6)

• in the US: 3.49%

Employment, 2007

in Massachusetts: 3,073,941 (rank 13)

• % of US: 2.55%

Employment growth, annual rate, 1998 to 2007

■ in Massachusetts: 0.55% (rank 44)

■ in the US: 1.22%

Share of Employment in Traded Clusters, 2007

in Massachusetts: 31.3% (rank 6)

• in the US: 27.4%

Change in Share of Employment in Traded Clusters, 1998 to 2007

■ in Massachusetts: -3.16% (rank 40)

■ in the US: -2.14%

Innovation Output

Patents per 10,000 employees, 2008

■ in Massachusetts: 11.44 (rank 6)

• in the US: 6.43

Growth in total patents, annual rate, 1998 to 2008

in Massachusetts: 0.30% (rank 13)

■ in the US: -0.39%

Traded establishment formation, annual rate, 1998 to 2007

in Massachusetts: 0.63% (rank 49)

■ in the US: 2.11%

Total establishment formation, annual rate, 1998 to 2007

• in Massachusetts: 0.57% (rank 38)

■ in the US: 1.17%

Demographic Profile

Population, 2008

in Massachusetts: 6,498,004 (rank 15)

• % of US: 2.14%

Population growth, annual rate, 1998 to 2008

in Massachusetts: 0.35% (rank 42)

• in the US: 0.98%

Labor Force Participation, 2007

■ in Massachusetts: 66.9% (rank 27)

■ In the US: 66.0%

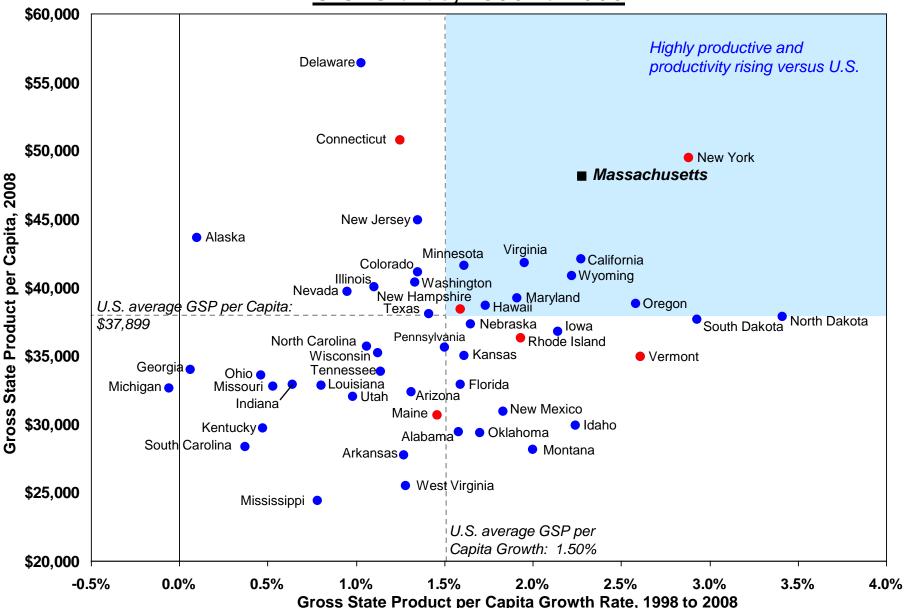
Note: Ranks are among the 50 US states plus the District of Columbia. Growth calculated using compound annual growth rates. Gross state product figures in 2000 chained US dollars

2000 chained US dollars.
Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

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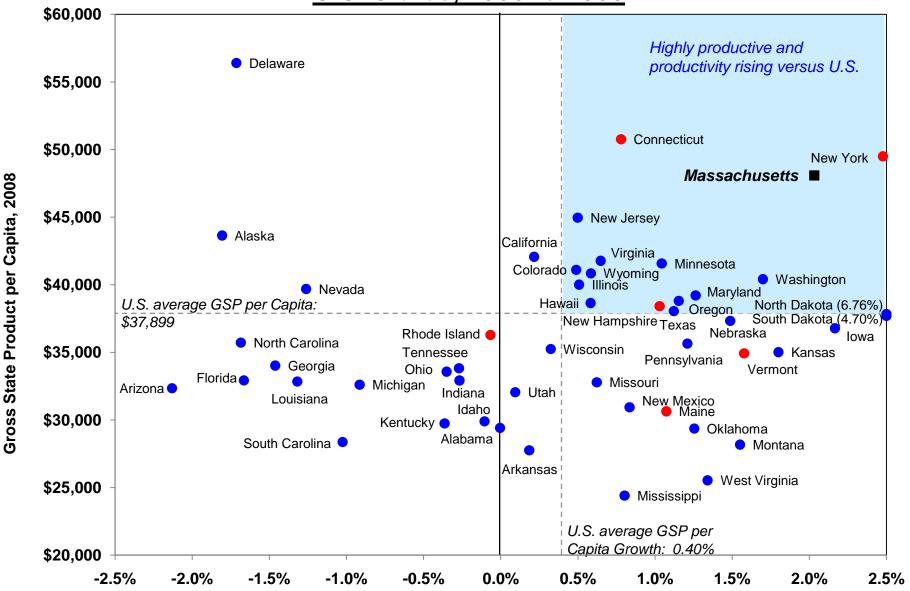
State Prosperity U.S. States, 1998 to 2008



Source: Bureau of Economic Analysis. Growth calculated using compound annual growth rates. Gross state product figures in 2000 chained US dollars.

Notes: District of Columbia: \$126,407, 2.63%. Growth rate calculated as compound annual growth rate (CAGR).

State Prosperity U.S. States, 2006 to 2008



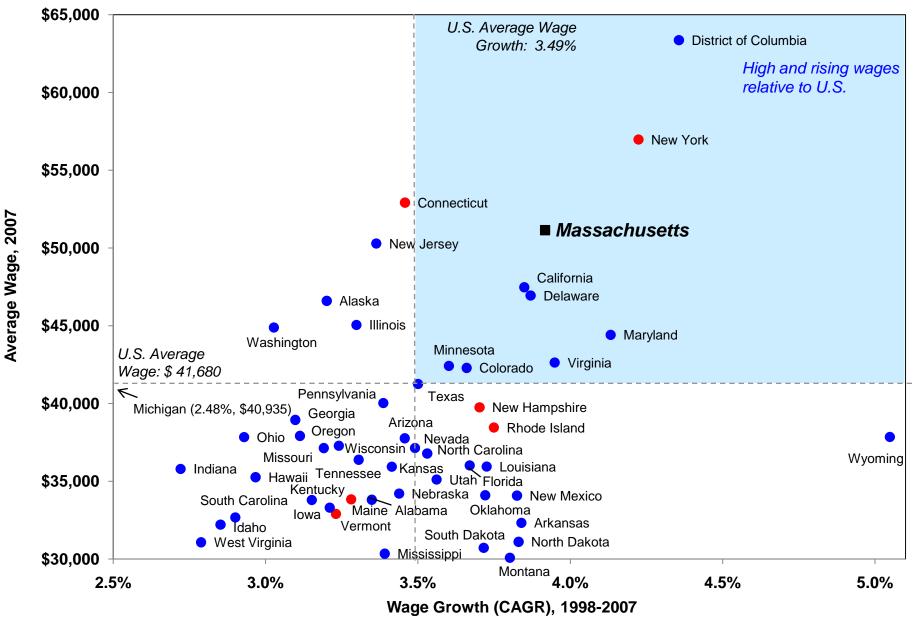
Gross State Product per Capita Growth Rate, 2006 to 2008

Source: Bureau of Economic Analysis. Growth calculated using compound annual growth rates. Gross state product figures in 2000 chained US dollars. Notes: District of Columbia: \$126,407, 1.79%. Growth rate calculated as compound annual growth rate (CAGR).

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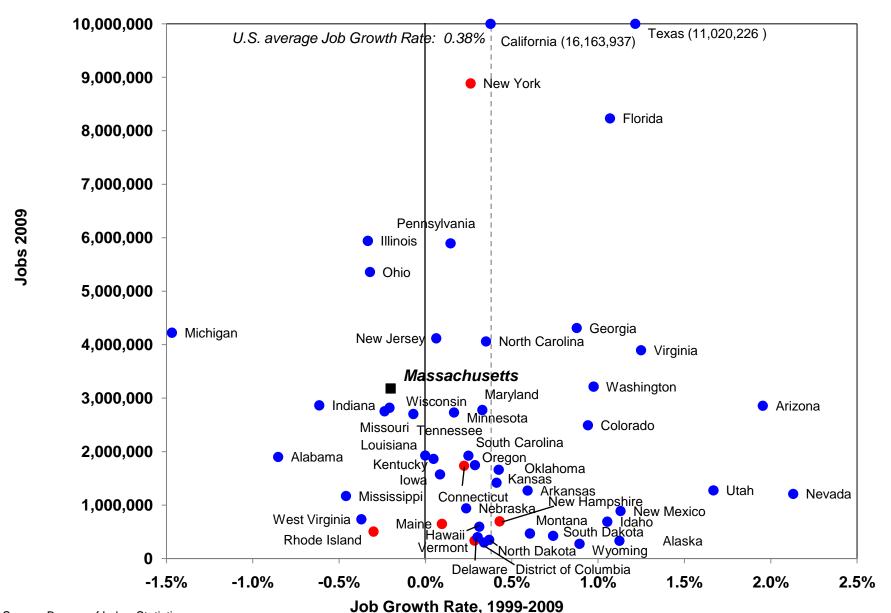
Average Private Sector Wage





Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

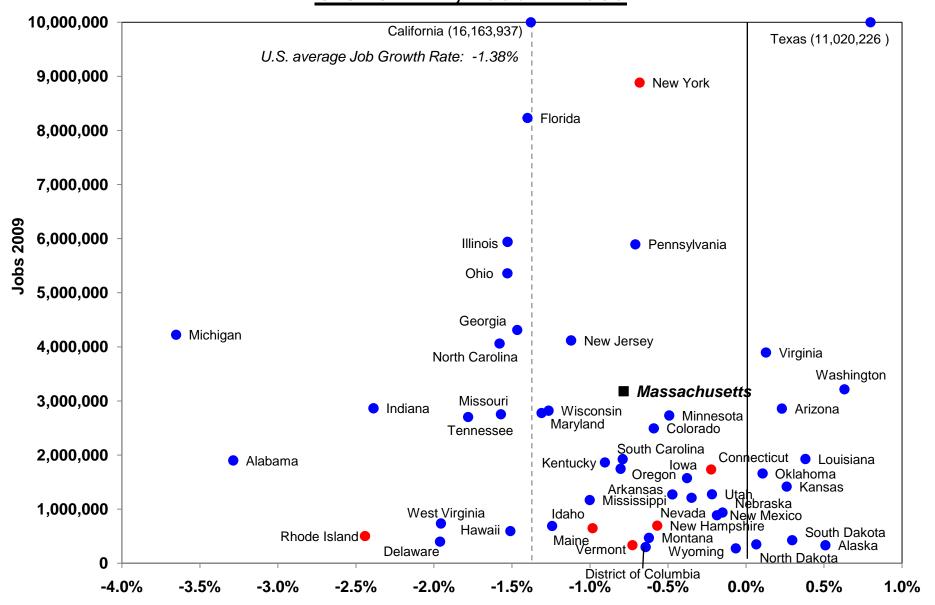
Job Growth U.S. States, 1999 to 2009



Source: Bureau of Labor Statistics

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Job Growth U.S. States, 2006 to 2009

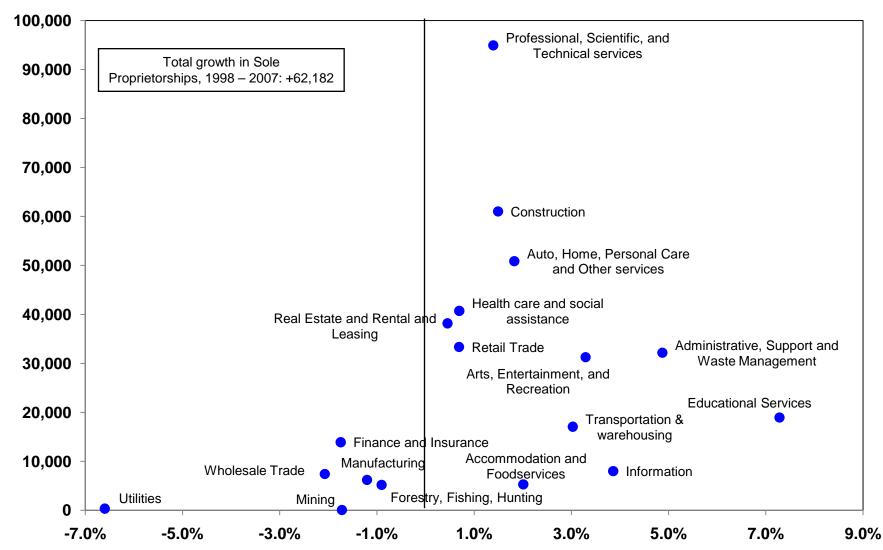


Source: Bureau of Labor Statistics

Job Growth Rate, 2006-2009

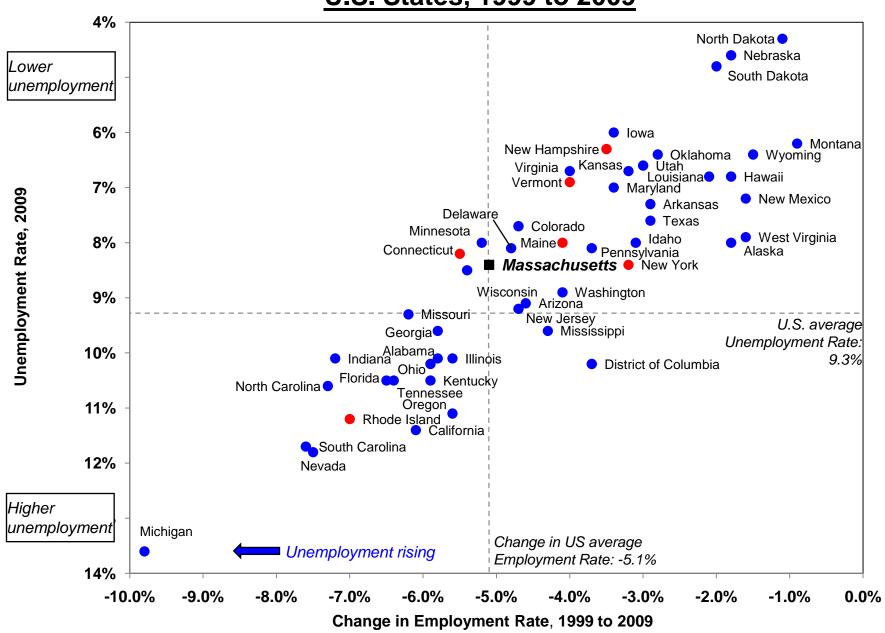
Employment in Sole Proprietorships Massachusetts, 1998-2007

Sole Proprietorship Establishments 2007

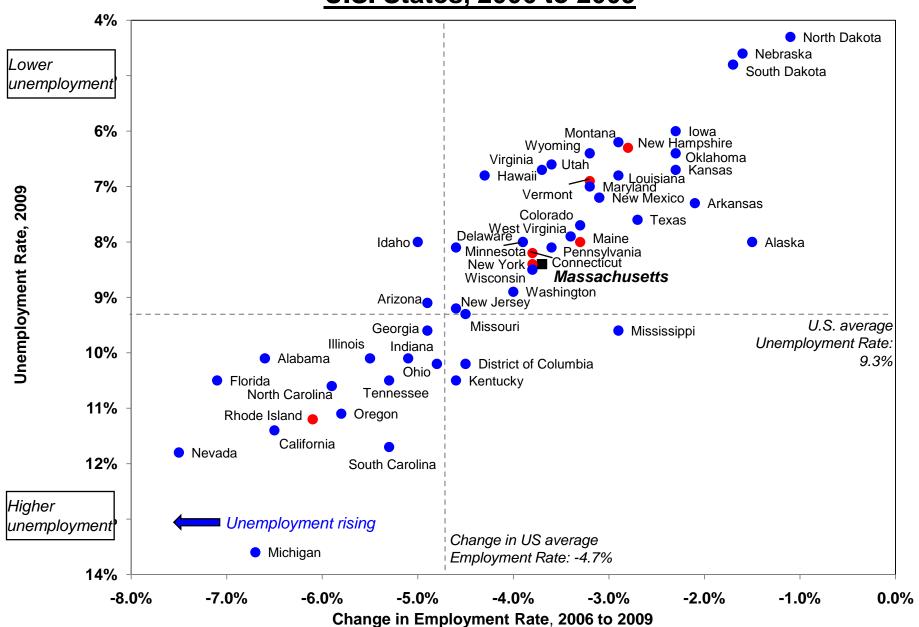


Compound Annual Growth Rate (CAGR) of Sole Proprietorship Employment, 1998–2007

Unemployment Rate U.S. States, 1999 to 2009

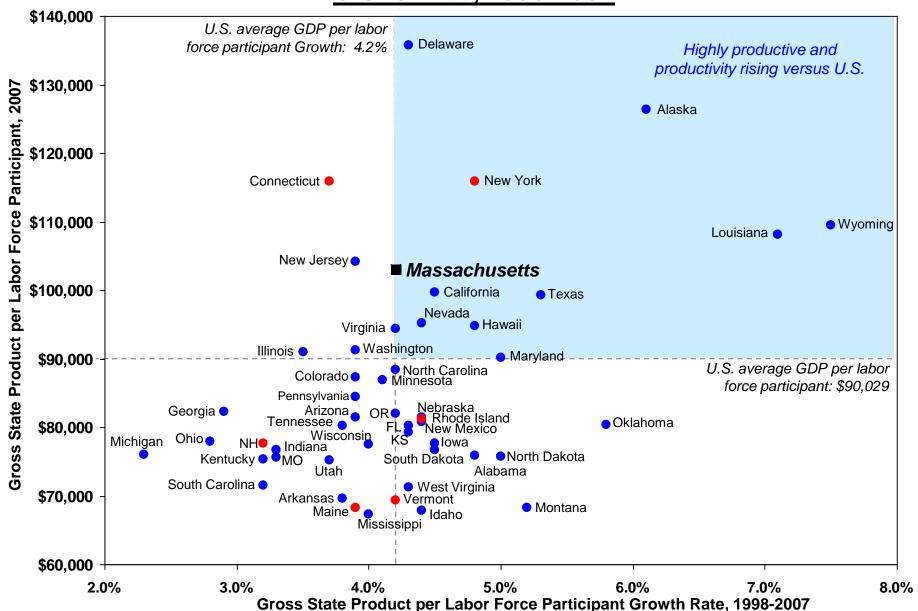


Unemployment Rate U.S. States, 2006 to 2009



Labor Productivity

U.S. States, 1998-2007

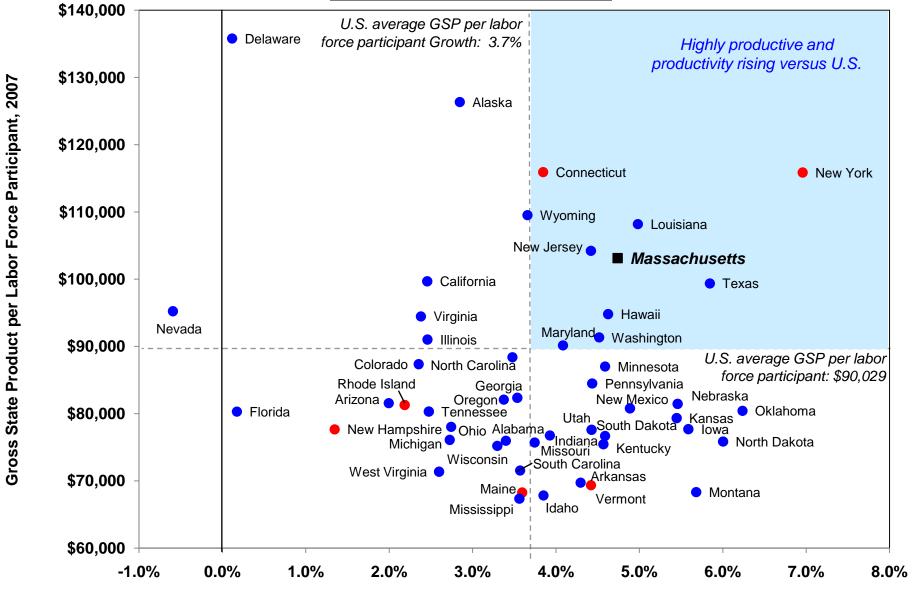


Source: Bureau of Economic Analysis. Growth calculated using compound annual growth rates. Gross state product figures in 2000 chained US dollars.

Notes: District of Columbia: \$288,176, %5.6. Growth rate calculated as compound annual growth rate (CAGR).

Labor Productivity

U.S. States, 2006-2007

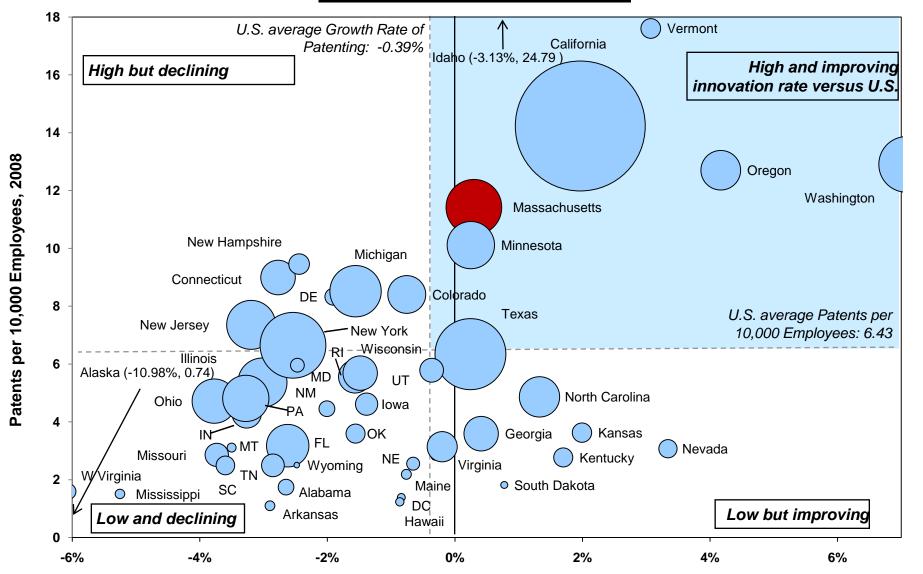


Gross State Product per Labor Force Participant Growth, 2006-2007

Source: Bureau of Economic Analysis. Growth calculated using compound annual growth rates. Gross state product figures in 2000 chained US dollars. Notes: District of Columbia: \$288,176, 4.5%.

Patenting Rate

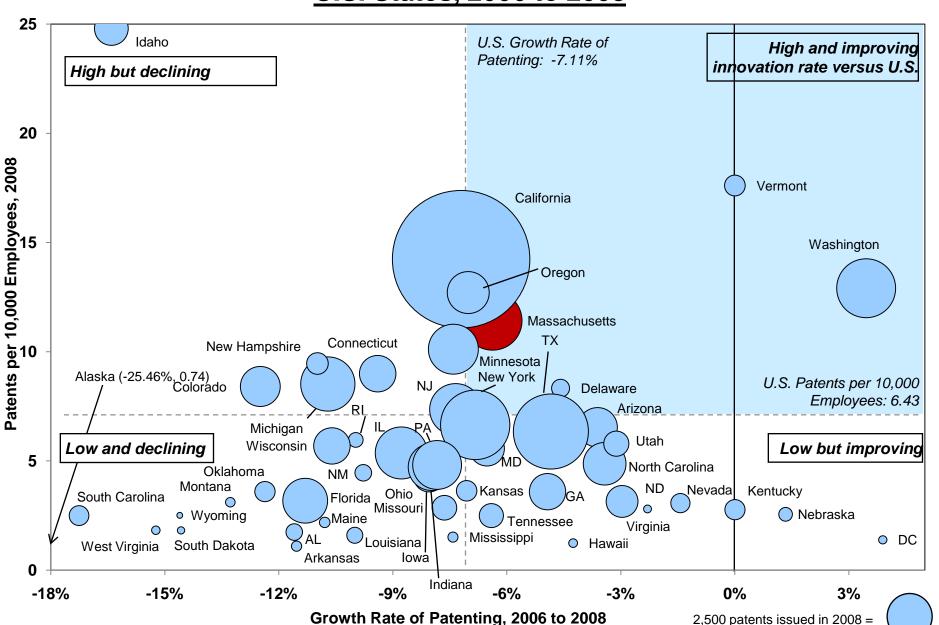
U.S. States, 1998 to 2008



Growth Rate of Patenting, 1998 to 2008

2,500 patents issued in 2008 =

Patenting Rate U.S. States, 2006 to 2008

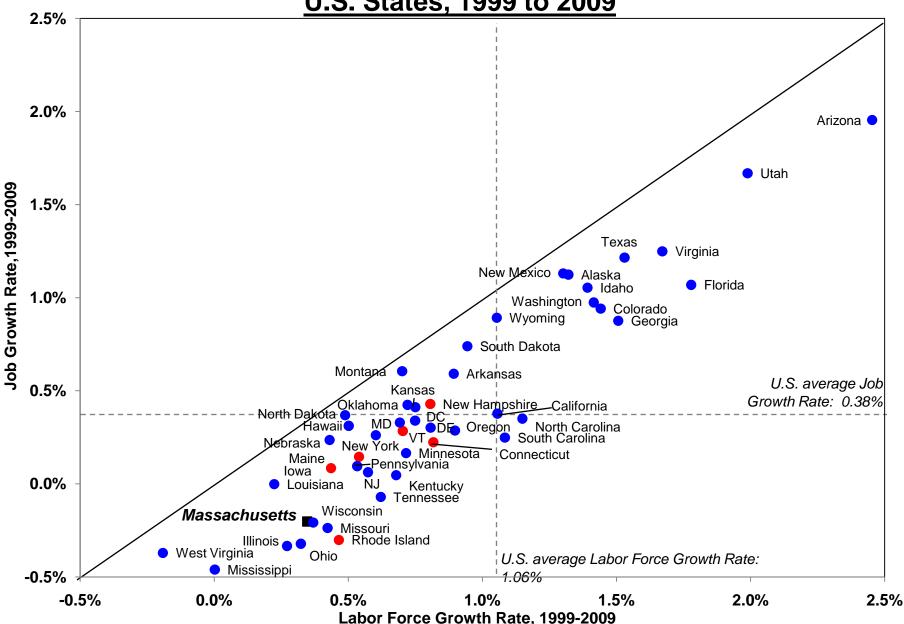


Source: USPTO, Bureau of Labor Statistics. Note: Growth rate calculated as compound annual growth rate (CAGR).

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Labor Force Growth and Job Growth

U.S. States, 1999 to 2009

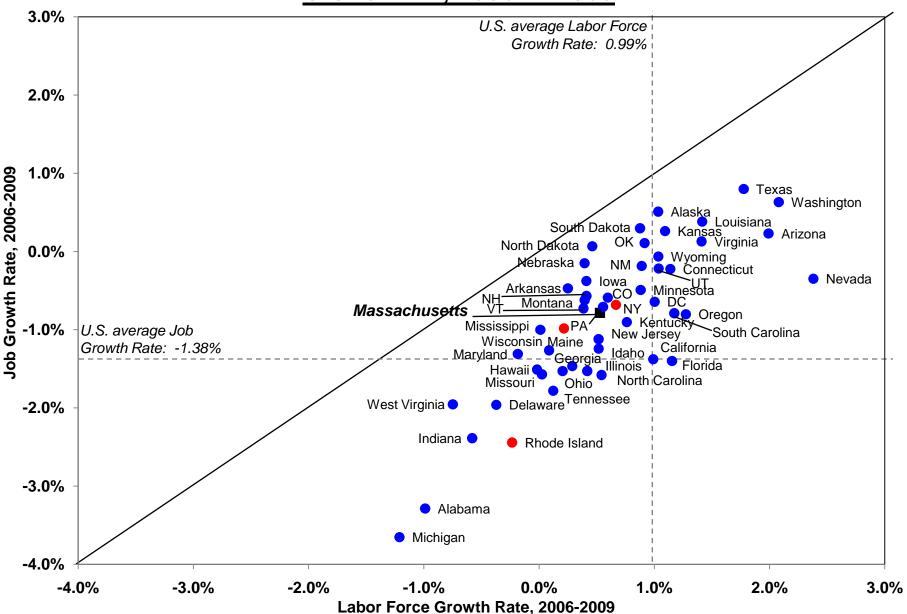


Note: Growth rates calculated as compound annual growth rate (CAGR).

Source: Census; Bureau of Labor Statistics. * Data available through November 2008 Fall 2010 - MA Governor

Labor Force Growth and Job Growth

U.S. States, 2006 to 2009

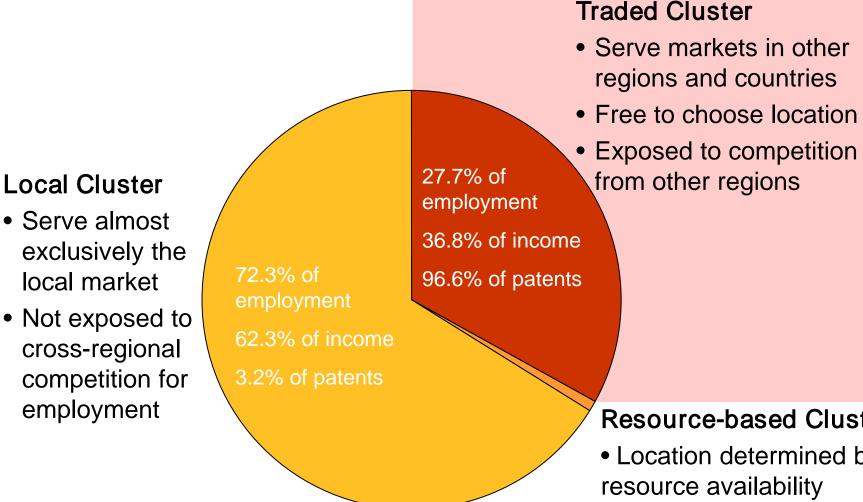


Note: Growth rates calculated as compound annual growth rate (CAGR).

Source: Bureau of Labor Statistics. Fall 2010 – MA Governor

Massachusetts Economic and Cluster Performance

Composition of Regional Economies, United States



Source: Michael E. Porter, Economic Performance of Regions, Regional Studies (2003); Updated via Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School (2007)

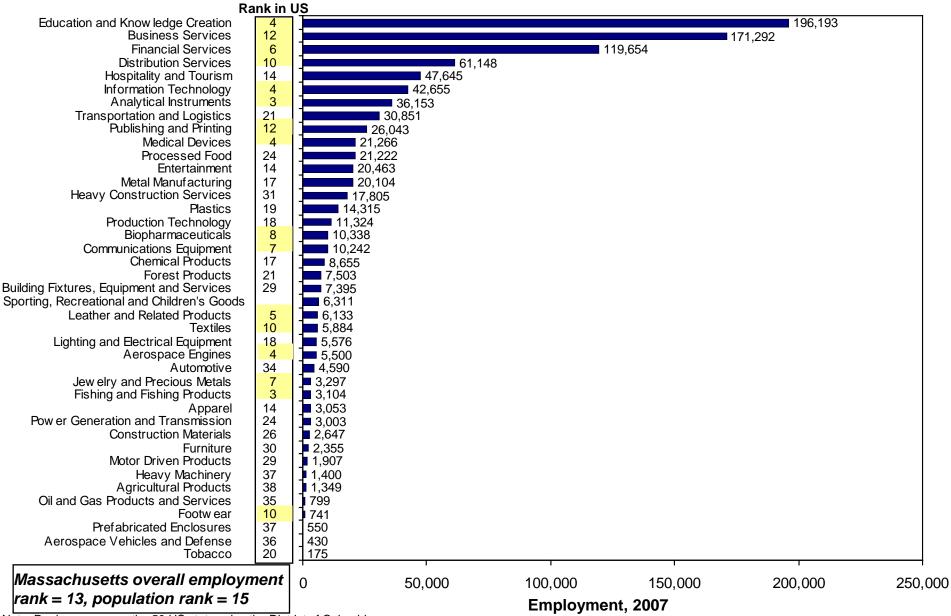
Resource-based Clusters

- Location determined by resource availability
- <1% of income,</p> employment, and patents in the U.S.

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Composition of the Massachusetts Economy

Employment by Traded Cluster, 2007

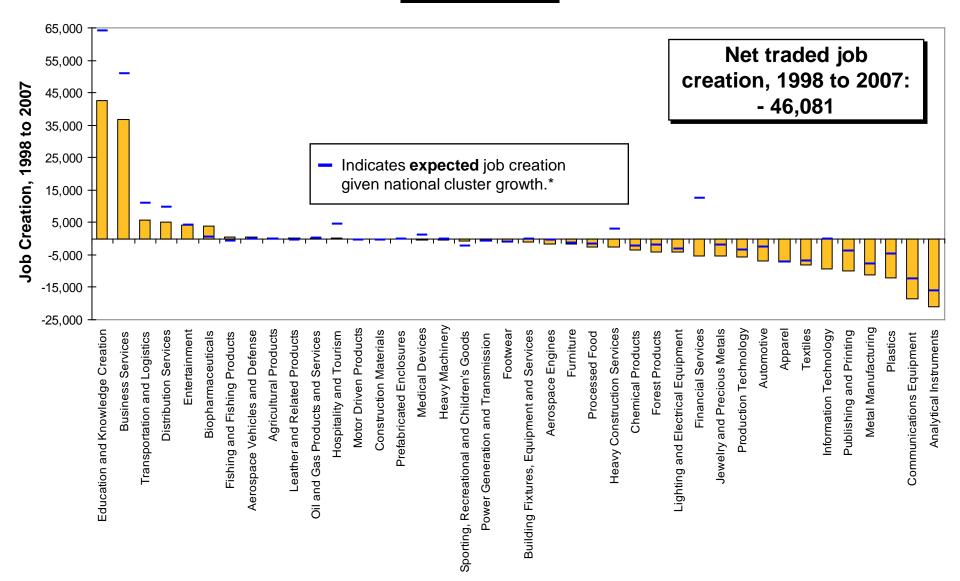


Note: Ranks are among the 50 US states plus the District of Columbia.

Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

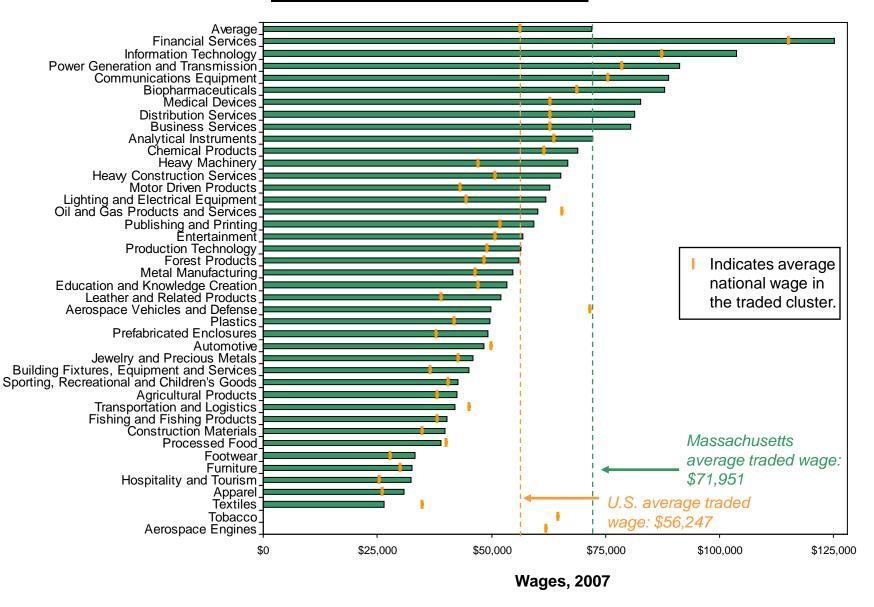
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Massachusetts Job Creation by Traded Cluster 1998 to 2007



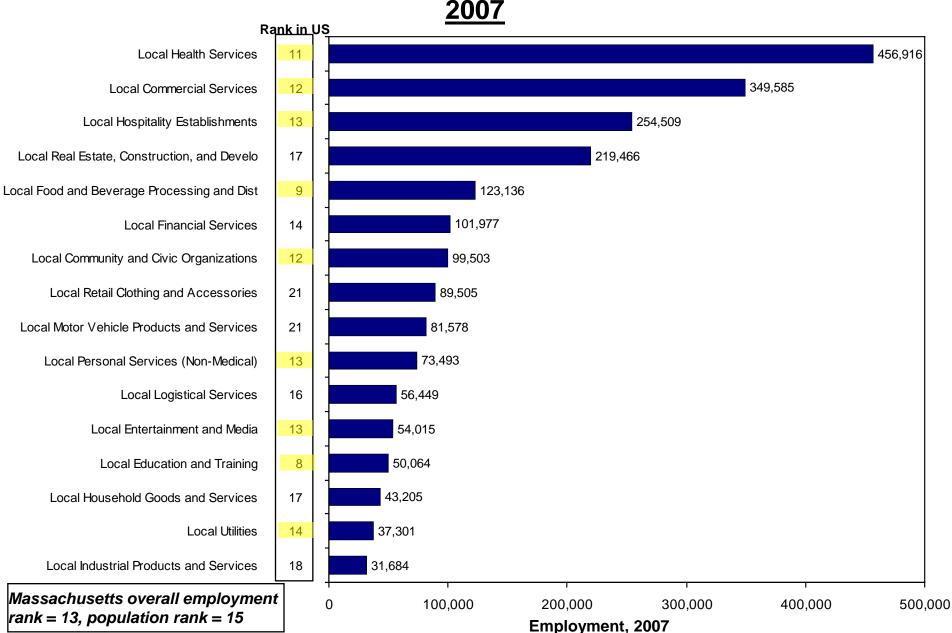
^{*} Percent change in national benchmark times starting regional employment. Overall traded job creation in Massachusetts, if it matched national benchmarks, would be +76,959 Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

Massachusetts Wages by Traded Cluster vs. National Benchmarks



Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

Massachusetts Employment by Local Cluster

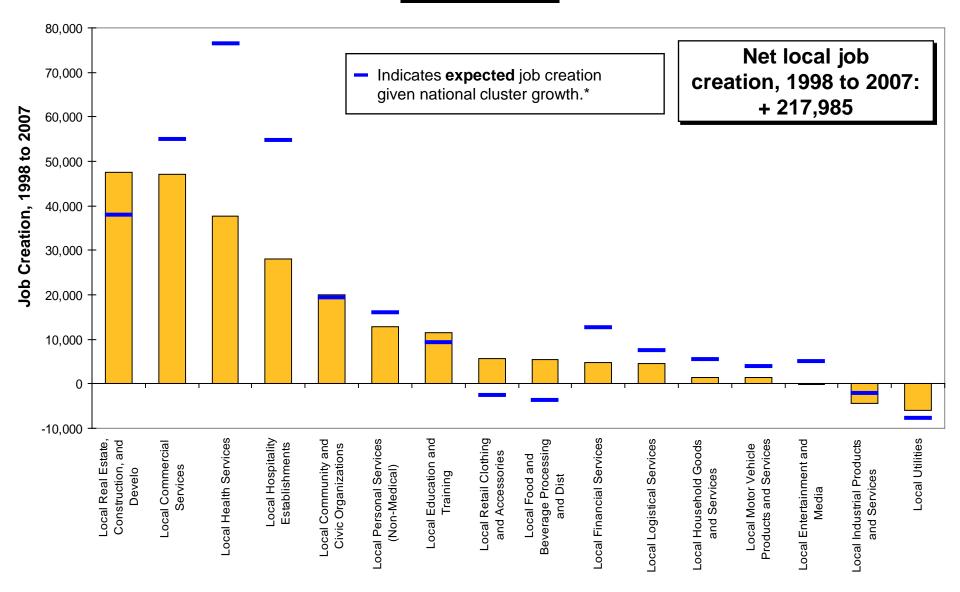


Note: Ranks are among the 50 US states plus the District of Columbia.

Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

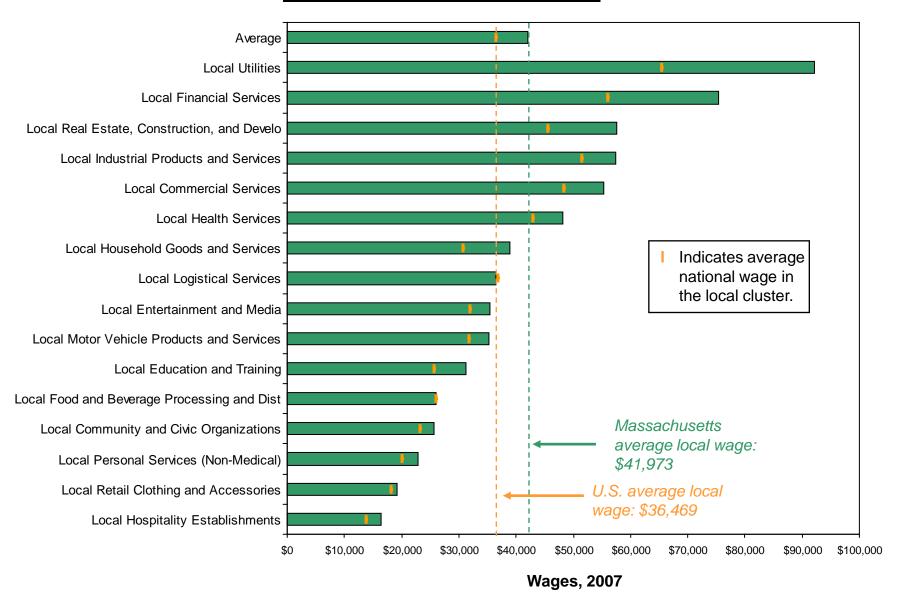
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Massachusetts Job Creation by Local Cluster 1998 to 2007

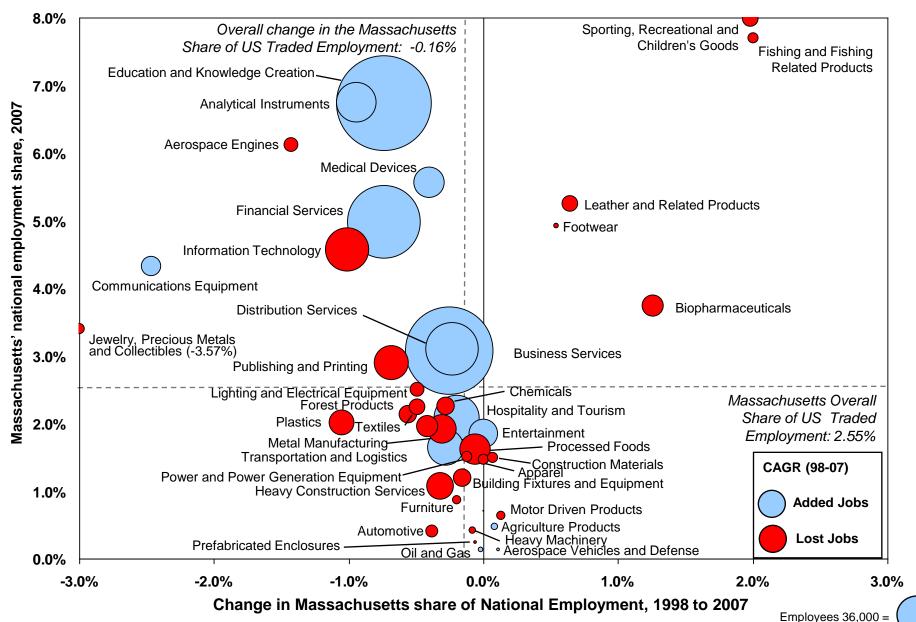


^{*} Percent change in national benchmark times starting regional employment. Overall local job creation in Massachusetts, if it matched national benchmarks, would be +286,462 Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

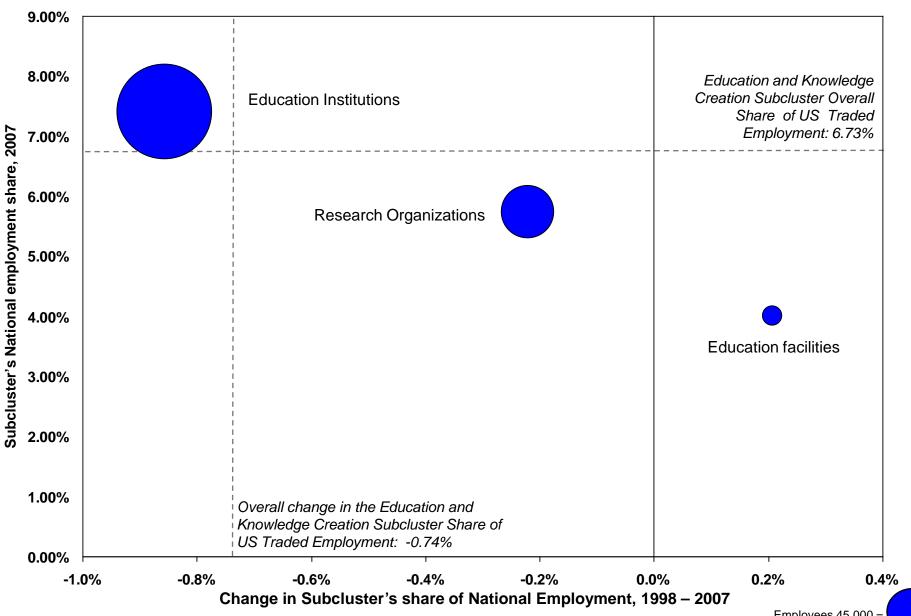
Massachusetts Wages by Local Cluster vs. National Benchmarks



Composition of the Massachusetts Economy Specialization by Traded Cluster, 1998 to 2007



Massachusetts Education and Knowledge Creation Cluster, 1998-2007 <u>Employment by Subcluster</u>

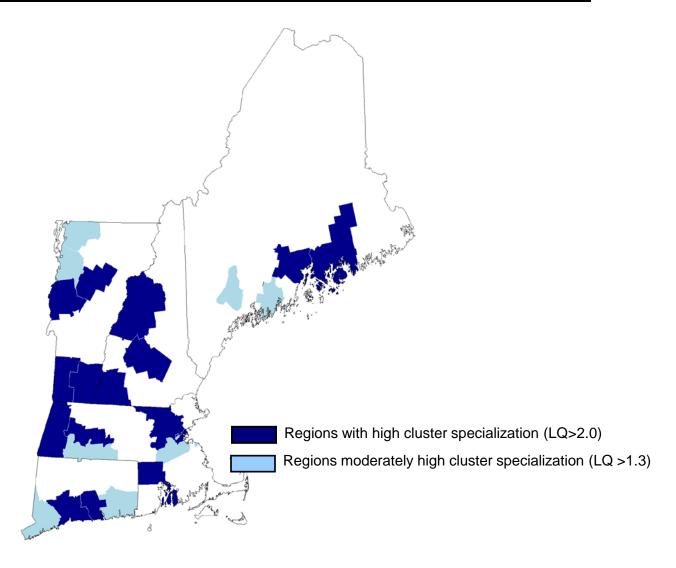


Note: Education facilities includes Libraries and Archives. Museums, Historical Sites, Zoos and Botanical Gardens. Nature Parks and Other Similar Institutions Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

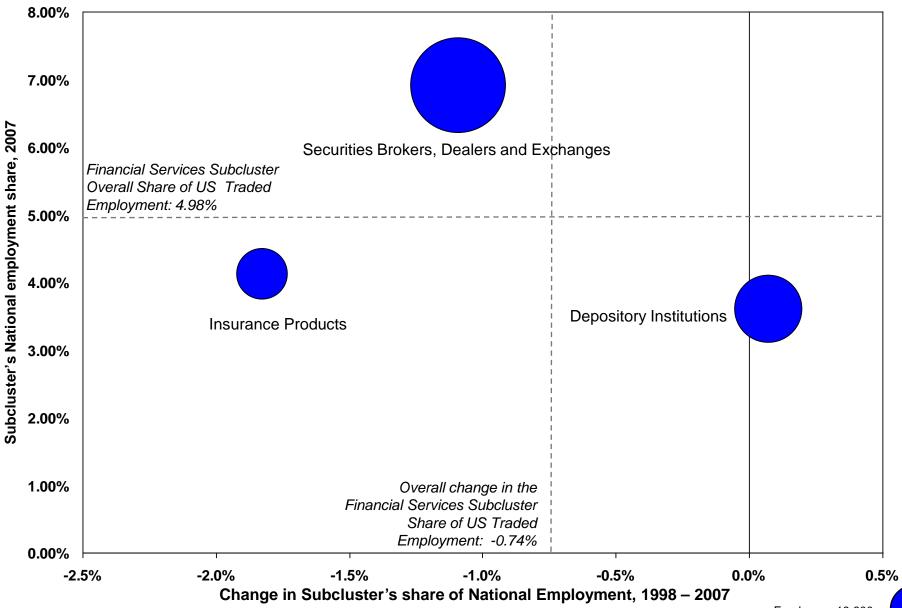
27

Employees 45,000 =

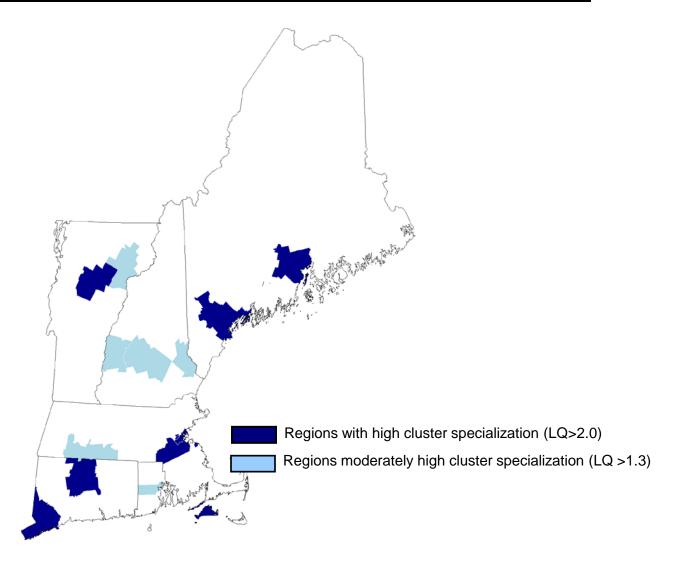
Education and Knowledge Creation Cluster Employment Specialization in New England Counties, 2007



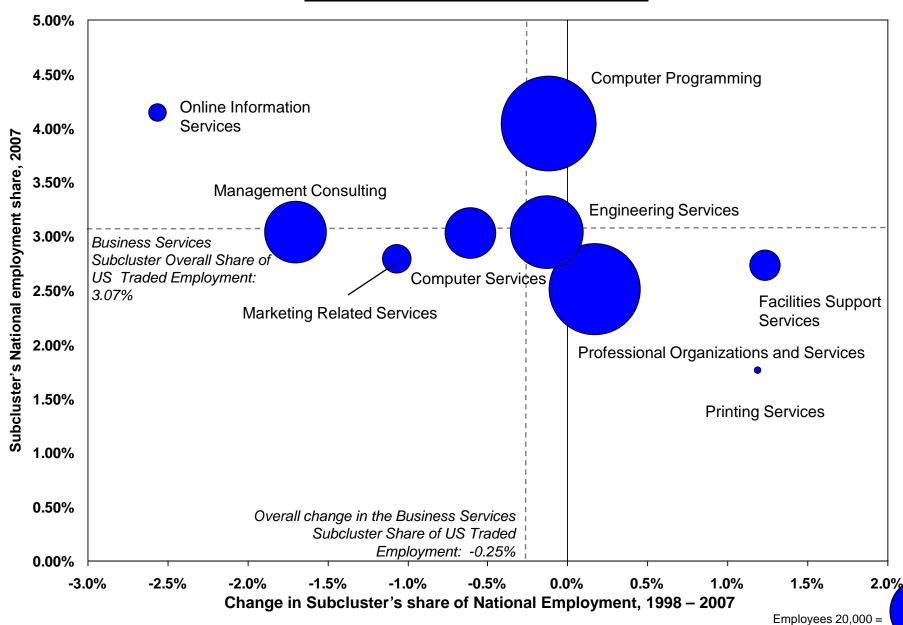
Massachusetts Financial Services Cluster, 1998-2007 Employment by Subcluster



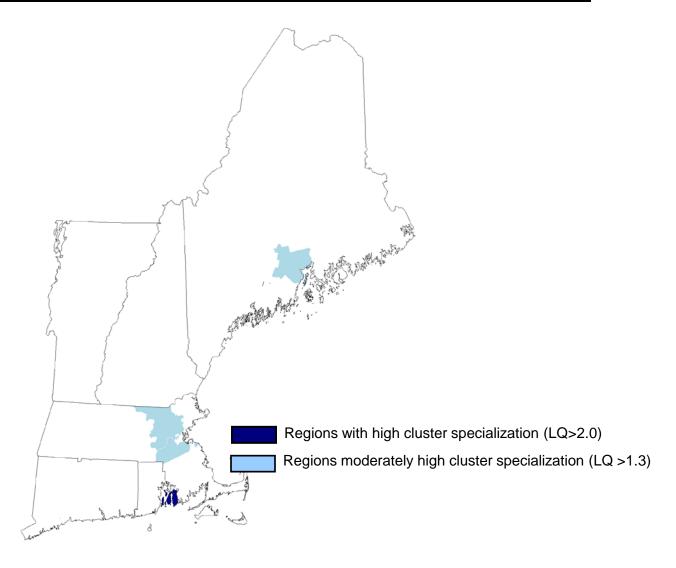
Financial Services Cluster <u>Employment Specialization in New England Counties, 2007</u>



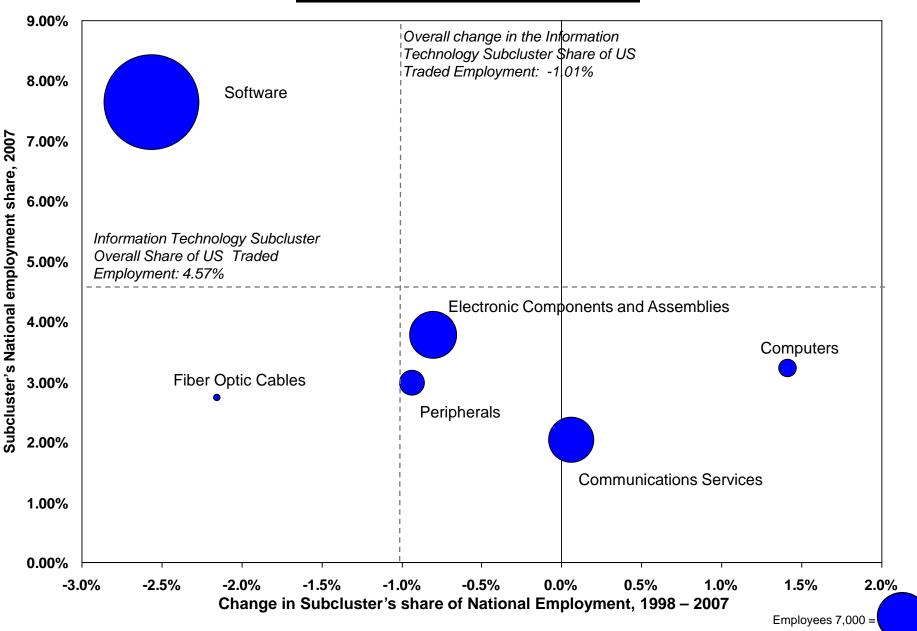
Massachusetts Business Services Cluster, 1998-2007 Employment-by-Subcluster



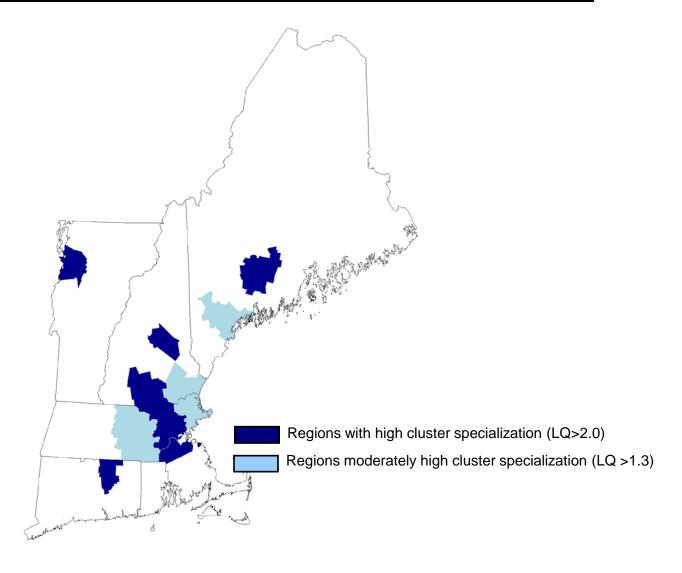
Business Services Cluster <u>Employment Specialization in New England Counties, 2007</u>



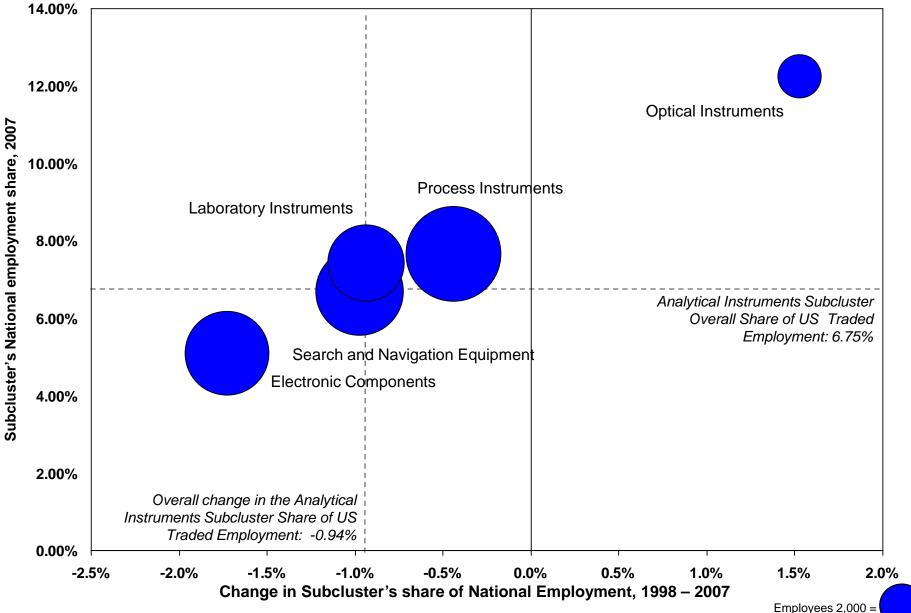
Massachusetts Information Technology Cluster, 1998-2007 Employment by Subcluster



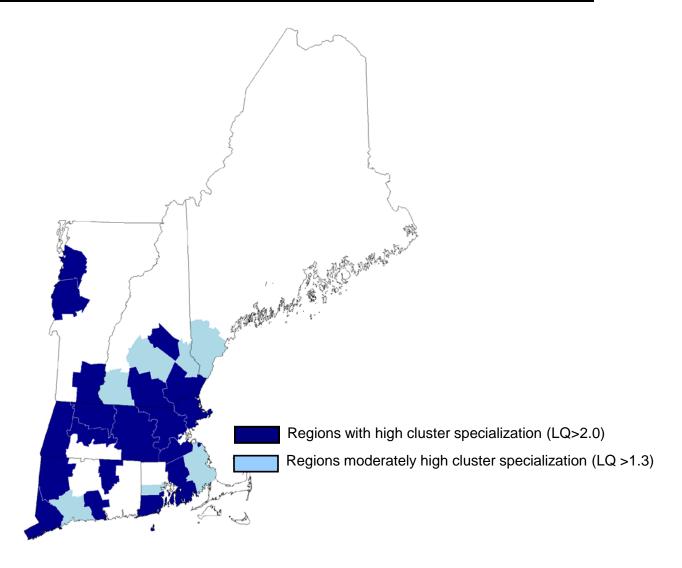
Information Technology Cluster Employment Specialization in New England Counties, 2007



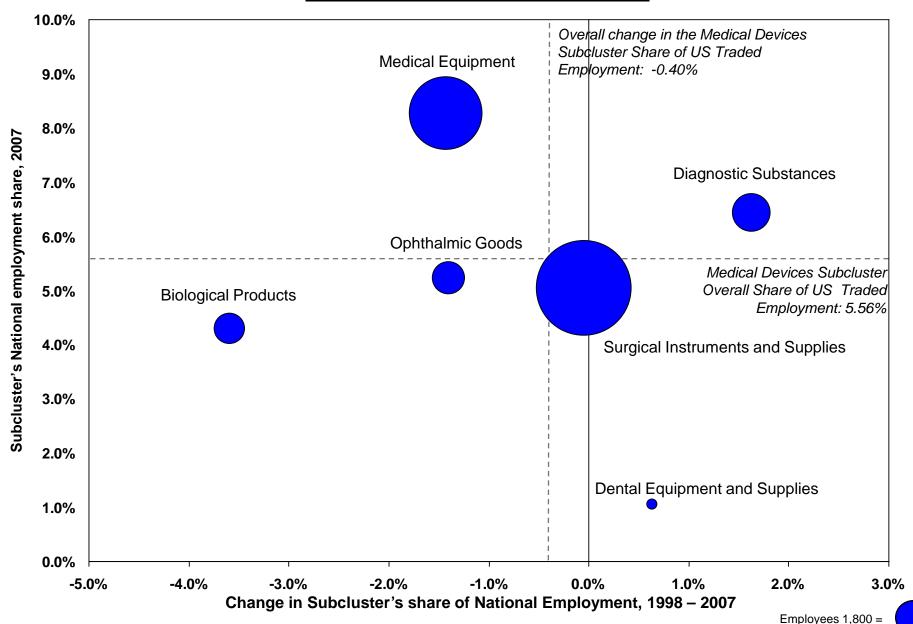
Massachusetts Analytical Instruments Cluster, 1998-2007 **Employment by Subcluster**



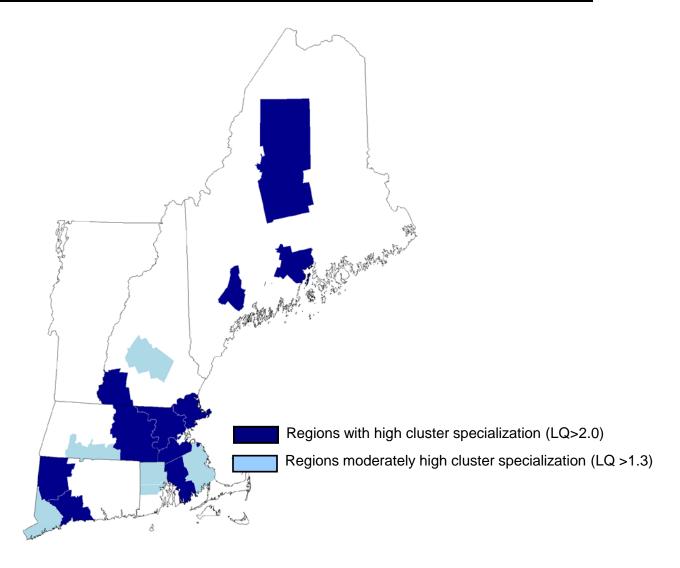
Analytical Instruments Cluster <u>Employment Specialization in New England Counties, 2007</u>



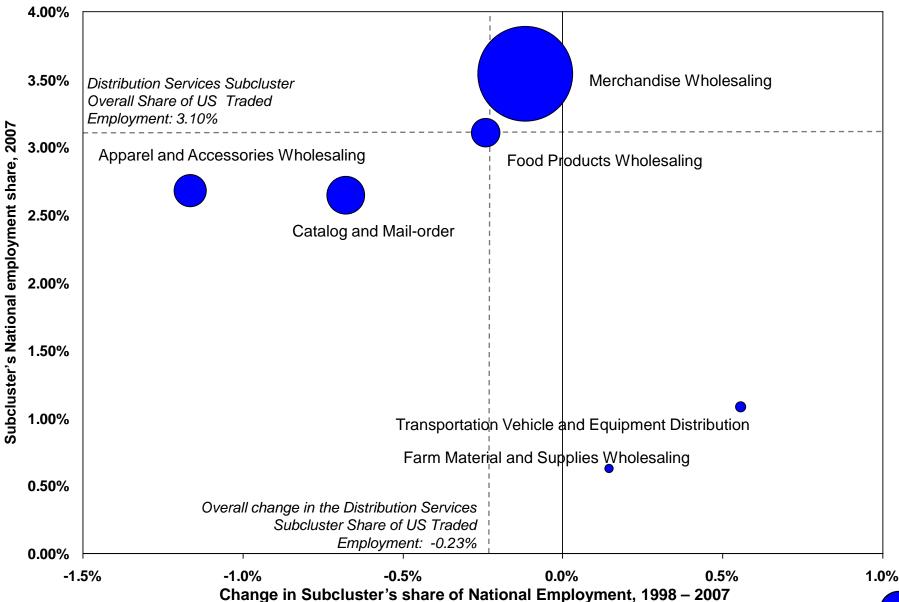
Massachusetts Medical Devices Cluster, 1998-2007 Employment by Subcluster



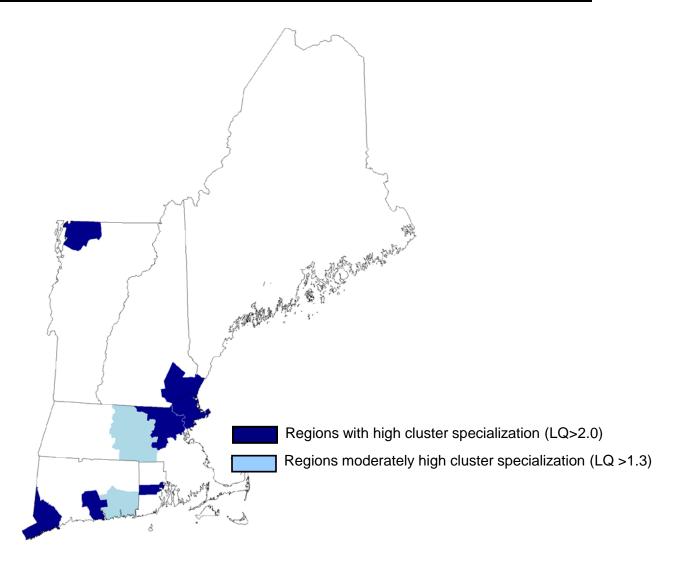
Medical Devices Cluster <u>Employment Specialization in New England Counties, 2007</u>



Massachusetts Distribution Services Cluster, 1998-2007 Employment by Subcluster

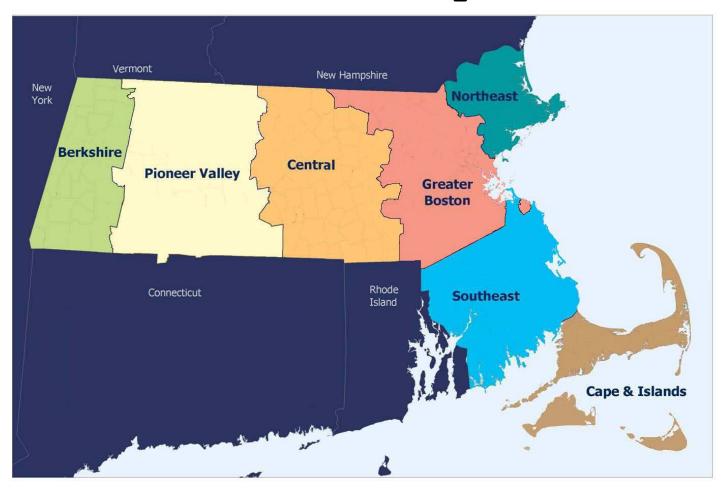


Biopharmaceuticals Cluster Employment Specialization in New England Counties, 2007



Massachusetts Regional Comparisons

Massachusetts Regions



Region Counties
Berkshire Berkshire

Pioneer Valley Franklin, Hampshire, Hampden

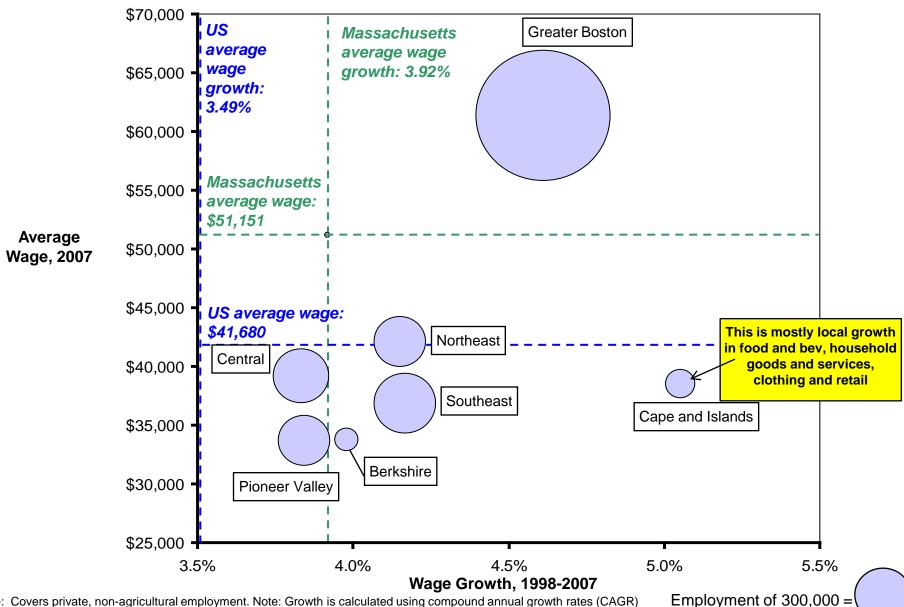
Central Worcester Northeast Essex

Greater Boston Middlesex, Suffolk, Norfolk

Southeast Plymouth, Suffolk

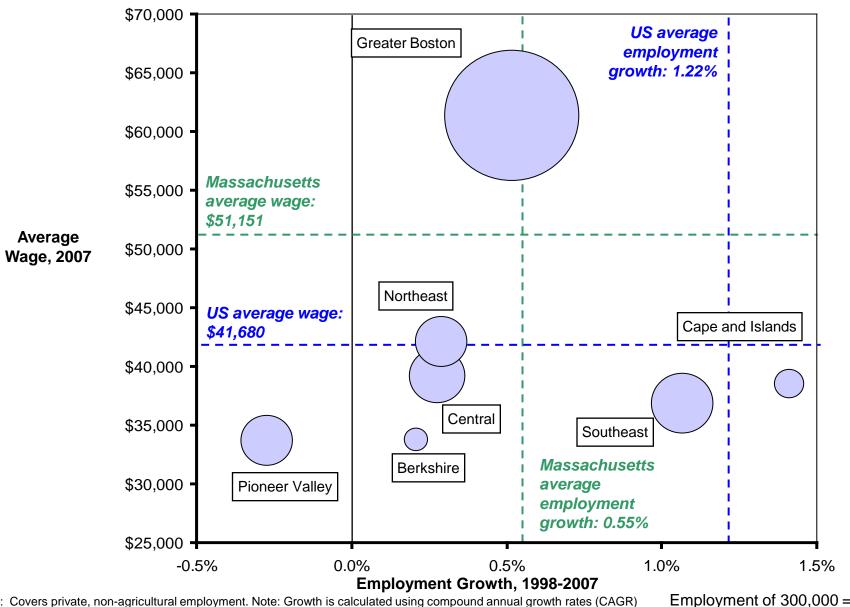
Cape and Islands Barnstable, Dukes, Nantucket

Comparative Performance of Regions Wages vs. Wage Growth



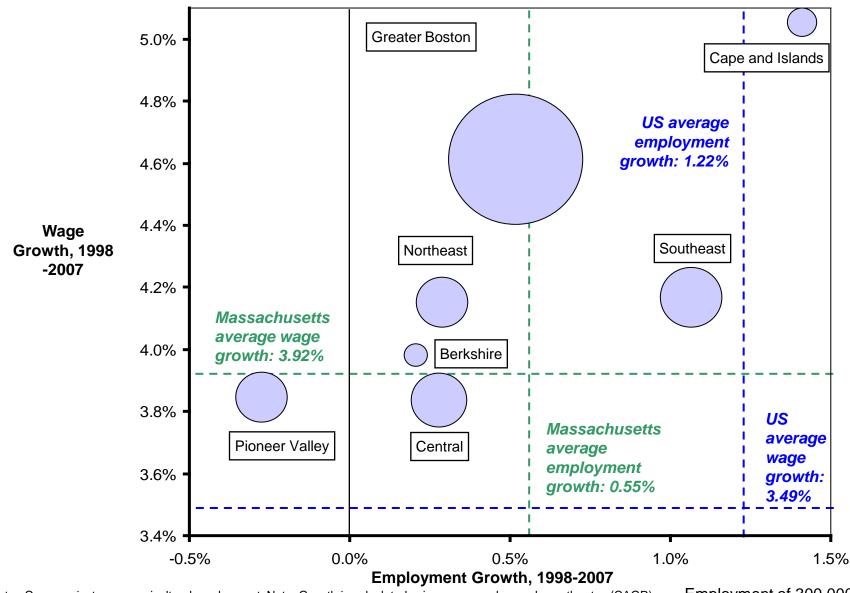
Note: Covers private, non-agricultural employment. Note: Growth is calculated using compound annual growth rates (CAGR) Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

Comparative Performance of Regions Average Wage vs. Employment Growth



Note: Covers private, non-agricultural employment. Note: Growth is calculated using compound annual growth rates (CAGR) Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

Comparative Performance of Regions Wage Growth vs. Employment Growth



Note: Covers private, non-agricultural employment. Note: Growth is calculated using compound annual growth rates (CAGR) Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

Percentage of Traded Employment in Strong Clusters, 2007

	Massachusetts	Berkshire Region	Pioneer Valley	Central	Northeast	Greater Boston	Southeast	Cape and Islands
Region's share of US traded cluster employment	3.0%	0.05%	0.22%	0.25%	0.25%	1.88%	0.28%	0.05%
Average wage in Traded Cluster	\$37,192	\$41,569	\$38,426	\$49,719	\$65,833	\$83,819	\$48,156	\$52,962
Number of strong traded clusters	11	6	13	9	11	7	12	2
Total number of traded clusters	41	39	39	40	40	40	35	35
Employment in strong traded clusters	447,952	9,733	38,437	21,918	33,835	451,598	29,409	3,817
Total Employment in traded clusters	961,070	18,193	72,094	84,101	81,530	623,617	92,914	16,505
Share of employment in strong cluster	46.6%	53.5%	53.3%	26.1%	41.5%	72.4%	31.7%	23.1%

Note: Clusters that are strong in any single region may not be strong statewide, hence MA totals may differ from the average of individual regions. "Strong" clusters have employment levels that are at least 1.5x above what is proportionate to the region's overall employment.

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

Top Cluster Overlap In Massachusetts Regions

Importance of Cluster

<u>Cluster</u>	Berkshire	Pioneer Valley	Central	Northeast	Greater Boston	Southeast	Cape and Islands
Business Services	High	High	High	High	High	High	High
Education and Knowledge Creation	High	High	High	High	High	High	High
Financial Services	High	High	High	Med	High	Med	High
Distribution Services	Med	Med	High	High	High	High	Med
Hospitality and Tourism	High	High	Med	Low	Med	Med	High
Publishing and Printing	Med	Med	Low	Med	Med	Low	Med
Analytical Instruments	Med	Low	Low	High	Med	High	Low
Information Technology	Low	Low	Med	Med	High	Low	Med
Transportation and Logistics	Low	Low	Med	Low	Med	High	High
Entertainment	Med	Low	Low	Low	Med	Low	Med
Metal Manufacturing	Low	High	High	Low	Low	Med	Low
Plastics	Med	Med	Med	Low	Low	Low	Low
Heavy Construction Services	Low	Low	Med	Low	Low	Low	Med
Processed Food	Low	Med	Low	Med	Low	Low	Low
Sporting, Recreational and Children's Goods	Low	Med	Low	Low	Low	Med	Low
Forest Products	High	Low	Low	Low	Low	Low	Low
Medical Devices	Low	Low	Low	High	Low	Low	Low
Aerospace Engines	Low	Low	Low	Med	Low	Low	Low
Textiles	Low	Low	Low	Low	Low	Med	Low

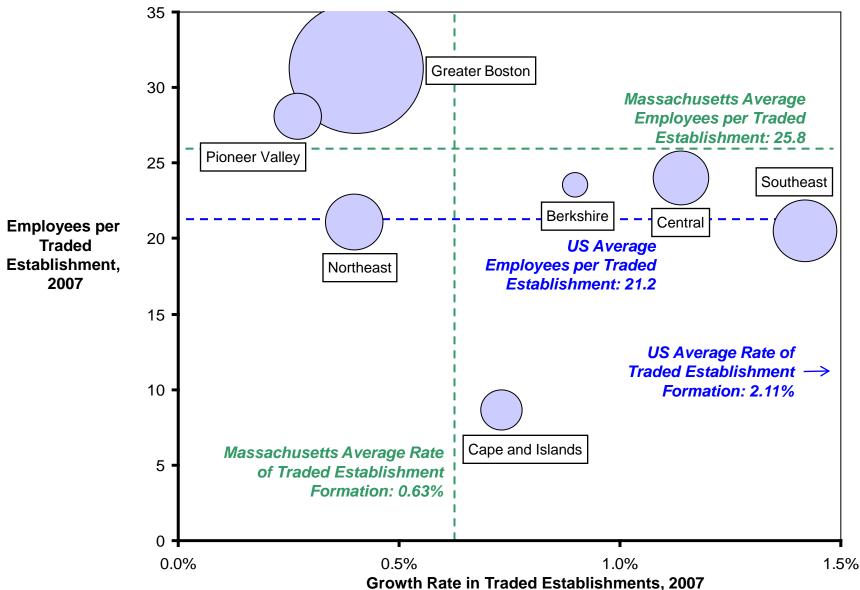
Note: "High" importance of cluster indicates top five in region; "Med" indicates numbers 6-10 in region, "Low" indicates not in top 10 in region. Cluster with only "Low" rankings excluded.

Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

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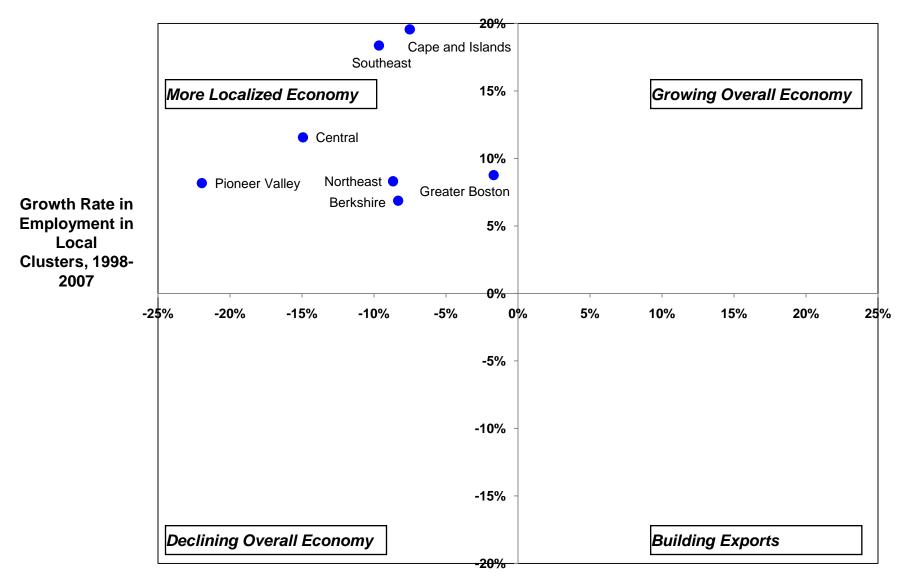
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Comparative Performance of Regions Establishment Formation in Traded Clusters



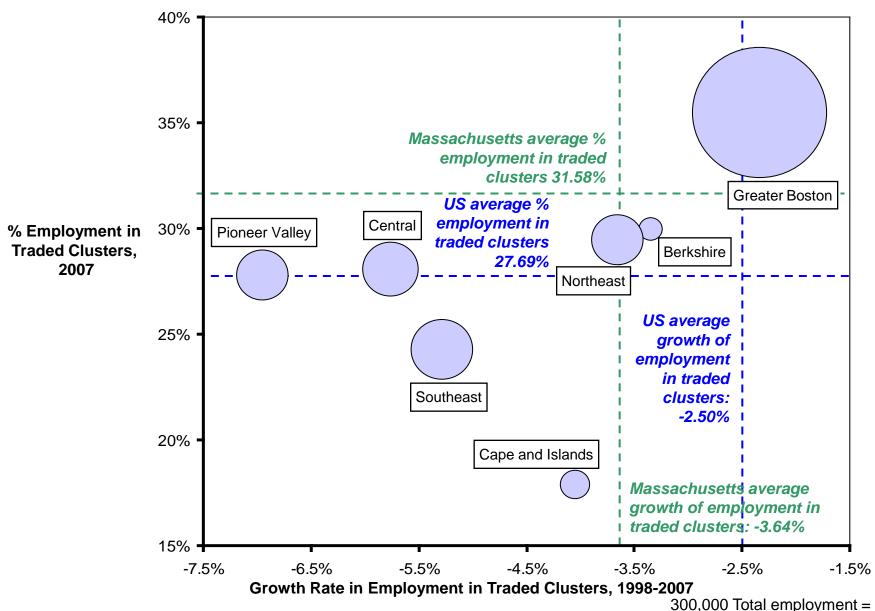
Data: private, non-agricultural employment; Growth is calculated using compound annual growth rates (CAGR) 3500 Traded Establishments = Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

Comparative Performance of Regions Growth of Local vs. Traded Clusters



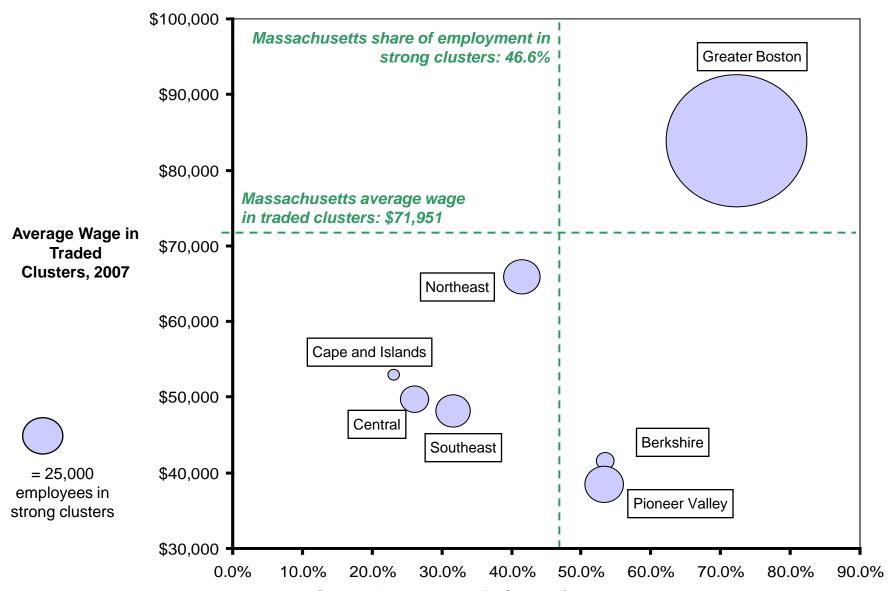
Growth Rate in Employment in Traded Clusters, 1998-2007

Comparative Performance of Regions Traded Clusters Concentration and Growth



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Percentage of Traded Employment in Strong Clusters

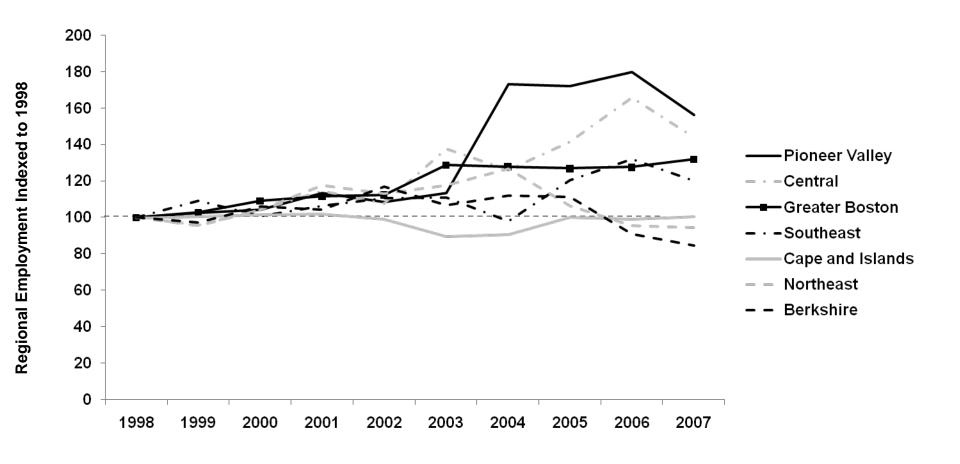


Share of Employment in Strong Clusters, 2007

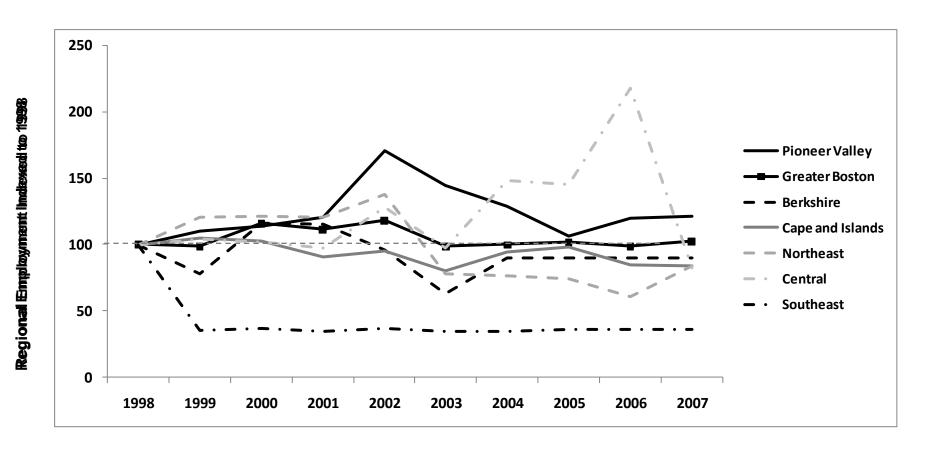
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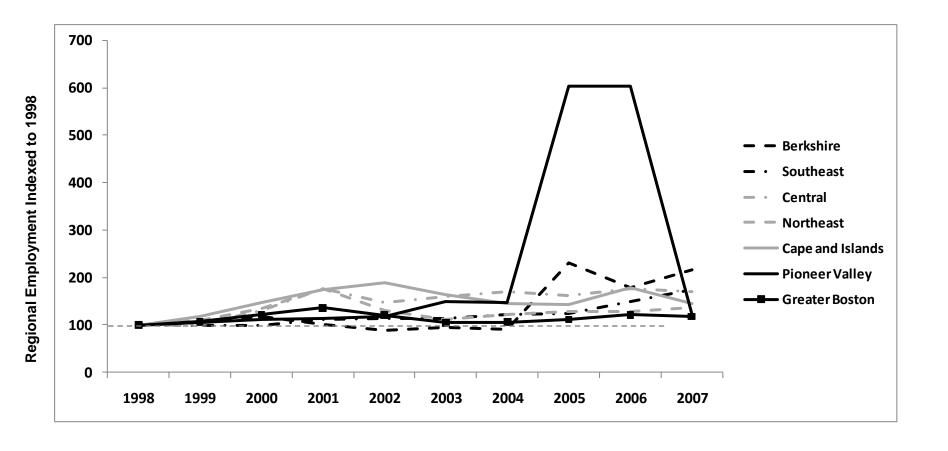
Massachusetts Education and Knowledge Creation Cluster, 1998-2007 <u>Regional Trends</u>



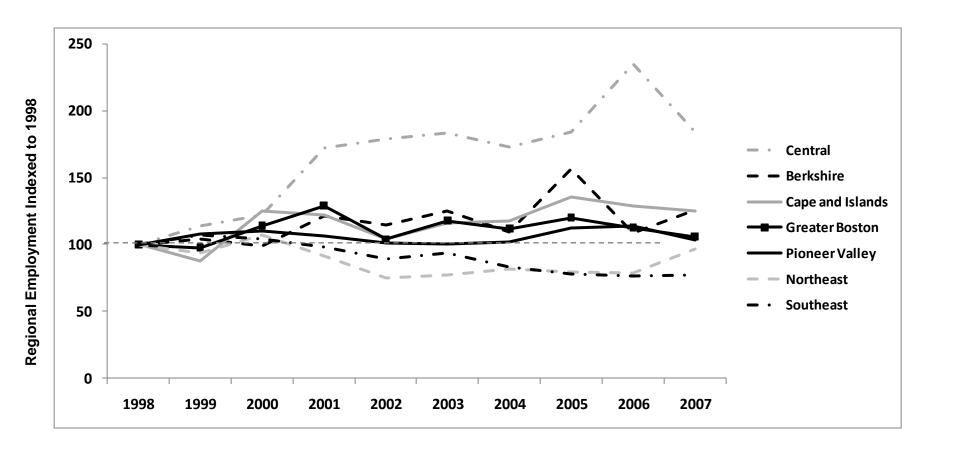
Massachusetts Financial Services Cluster, 1998-2007 <u>Regional Trends</u>



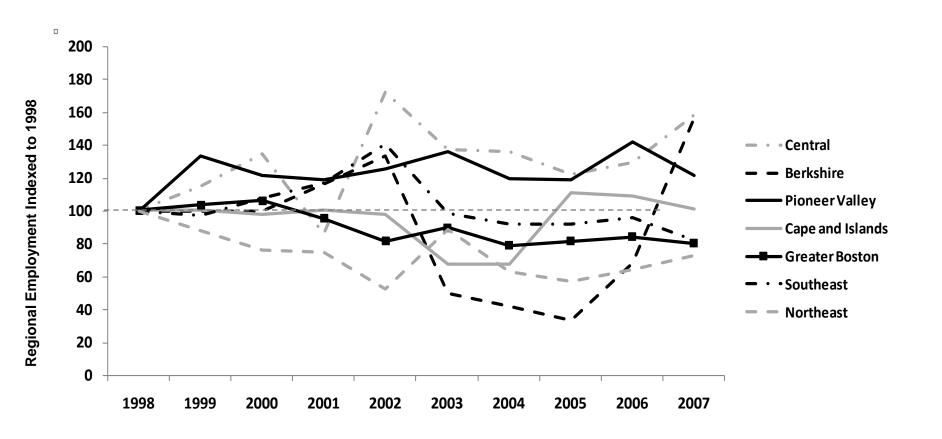
Massachusetts Business Services Cluster, 1998-2007 <u>Regional Trends</u>



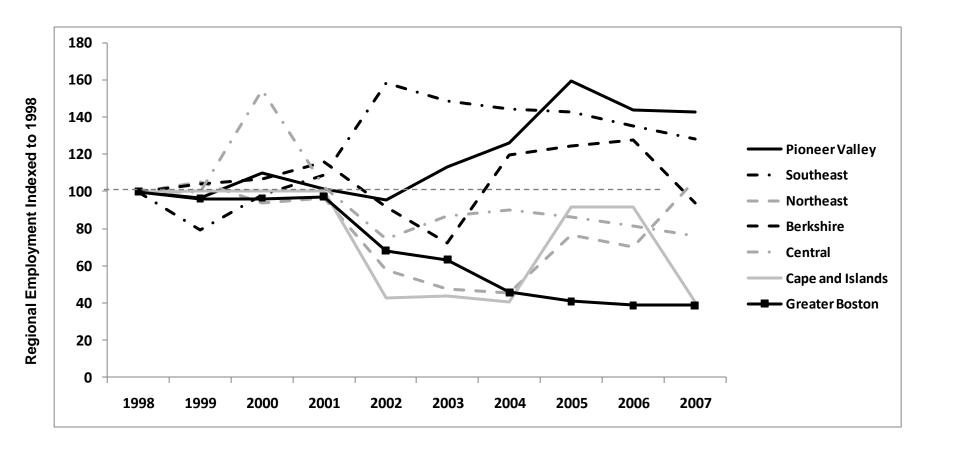
Massachusetts Distribution Services Cluster, 1998-2007 <u>Regional Trends</u>



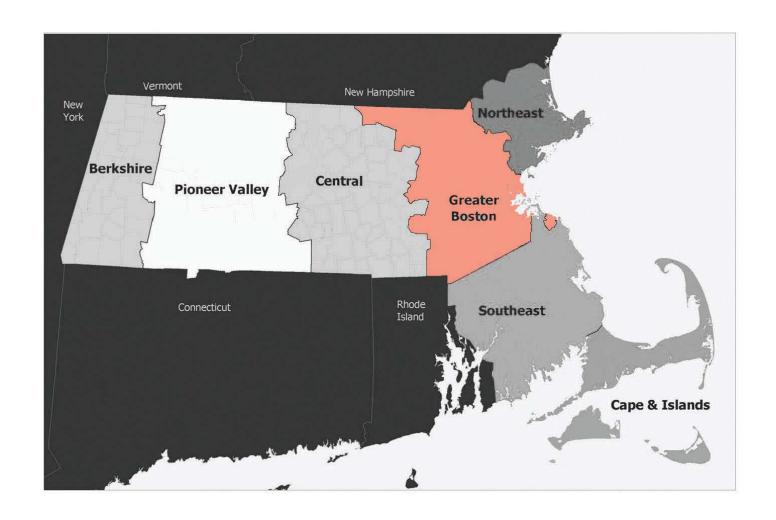
Massachusetts Information Technology Cluster, 1998-2007 Regional Trends



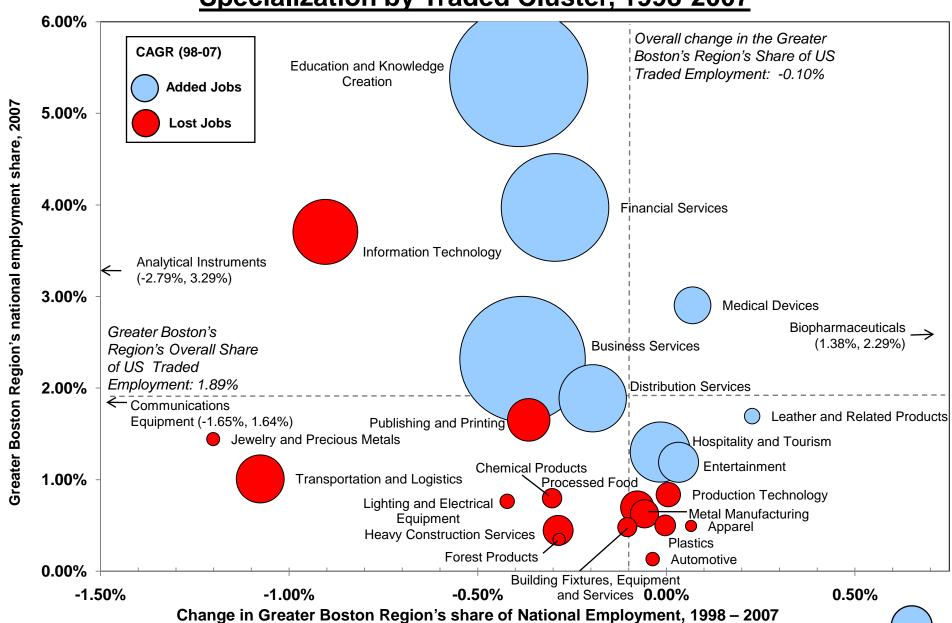
Massachusetts Analytical Instruments Cluster, 1998-2007 Regional Trends



Greater Boston Region

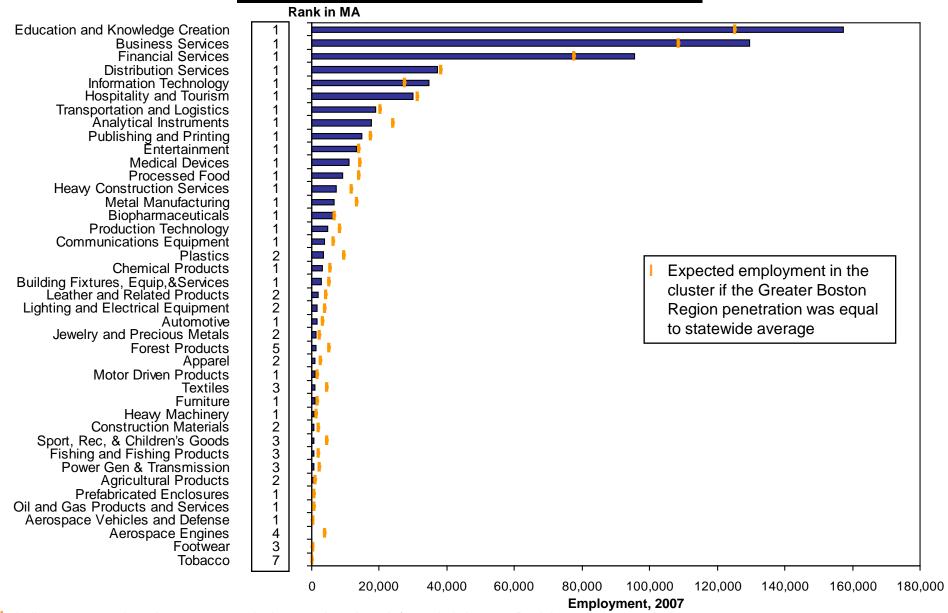


Composition of the Greater Boston Region Economy Specialization by Traded Cluster, 1998-2007



Employees 15,000 =

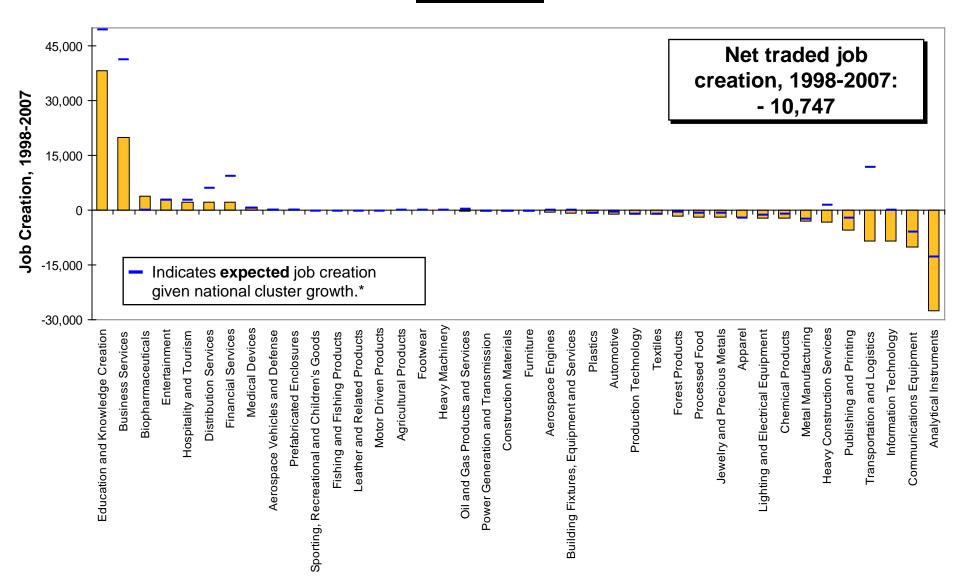
Composition of the Greater Boston Region Economy Employment by Traded Cluster, 2007



⁻ 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

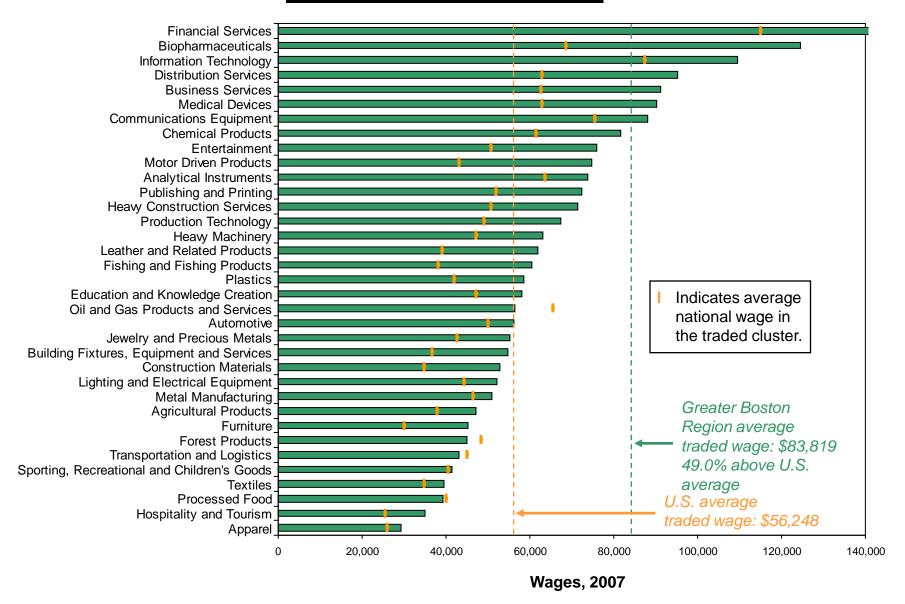
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Greater Boston Region Job Creation by Traded Cluster 1998-2007



^{*} Percent change in national benchmark times starting regional employment. Overall traded job creation in this region, if it matched national benchmarks, would be +90,718 Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

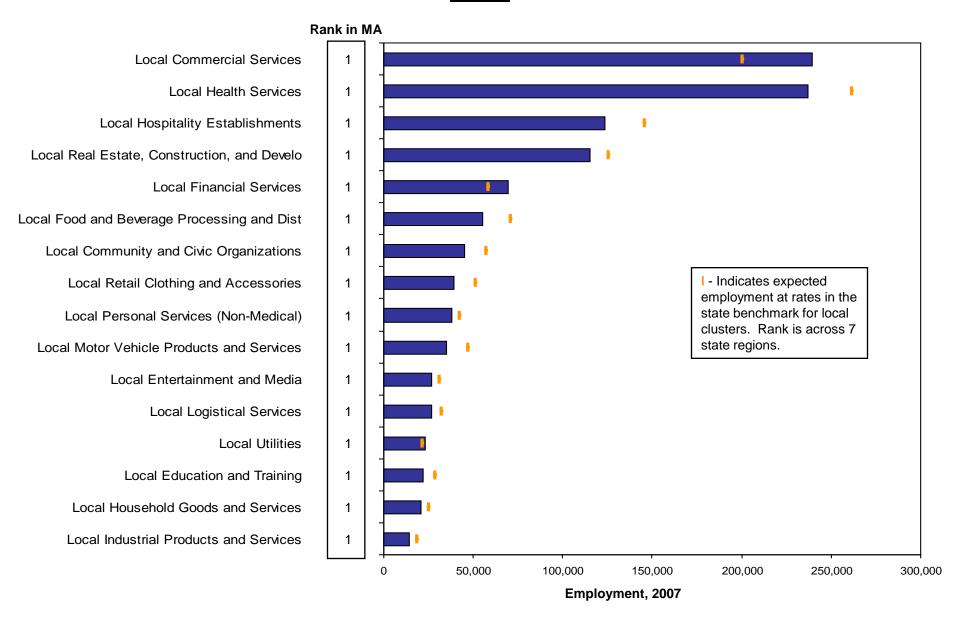
Greater Boston Region Wages by Traded Cluster vs. National Benchmarks



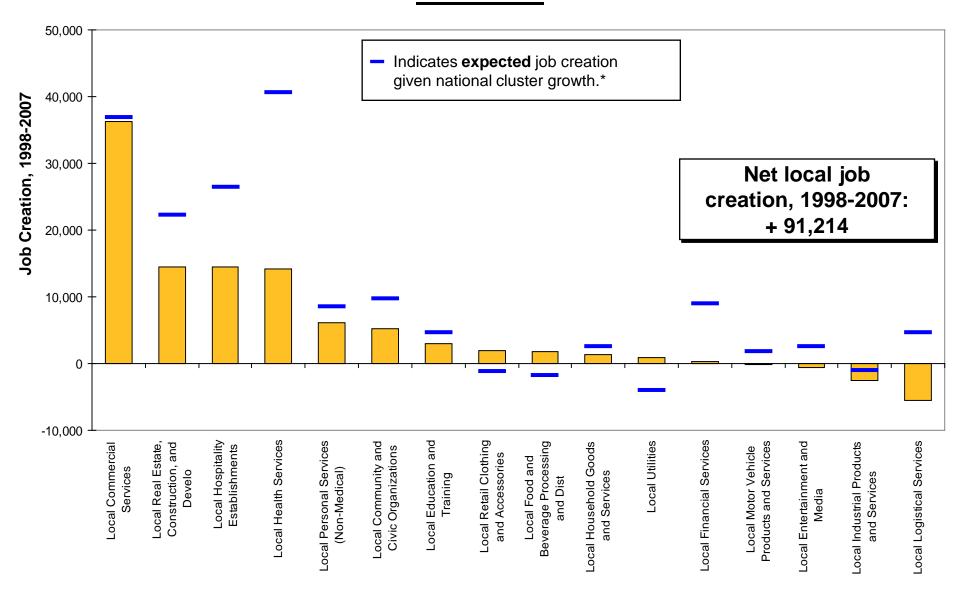
Note: Wages are not available in all clusters due to data suppression to protect confidentiality.

Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

Greater Boston Region Employment by Local Cluster 2007

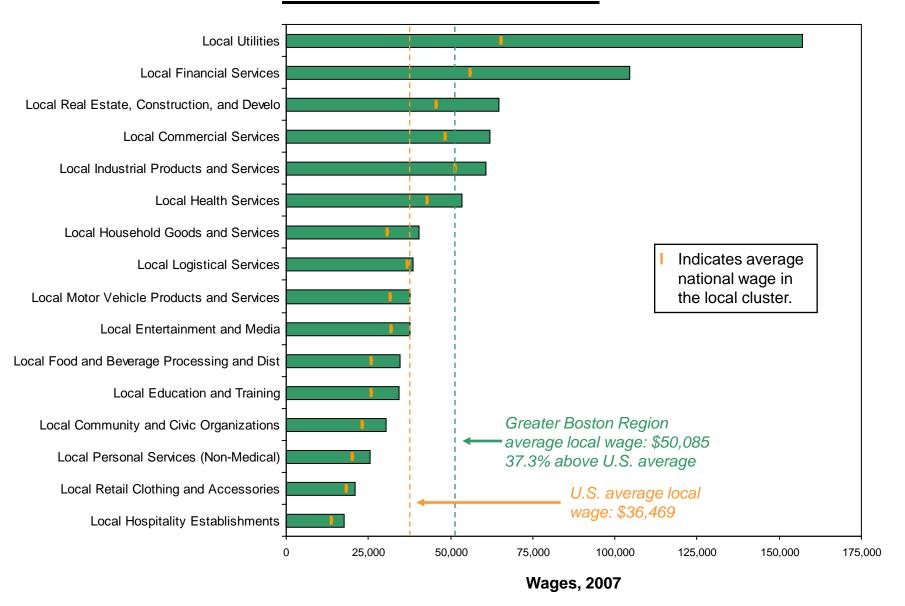


Greater Boston Region Job Creation by Local Cluster 1998-2007

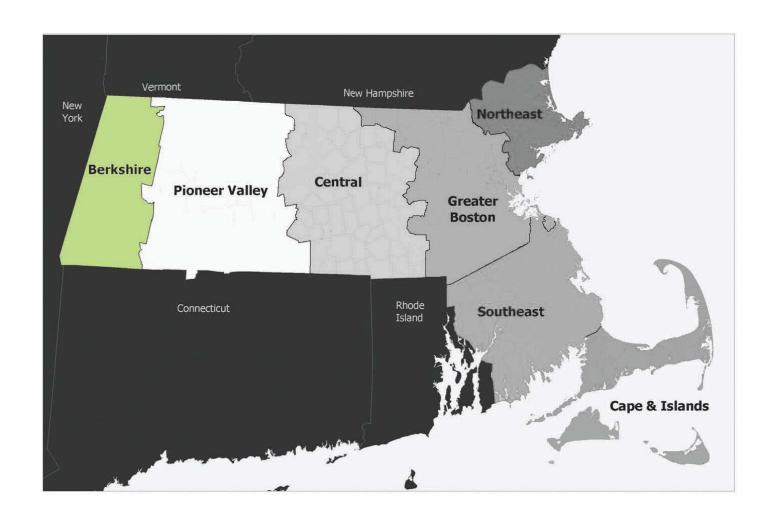


^{*} Percent change in national benchmark times starting regional employment. Overall traded job creation in this region, if it matched national benchmarks, would be +161,330. Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

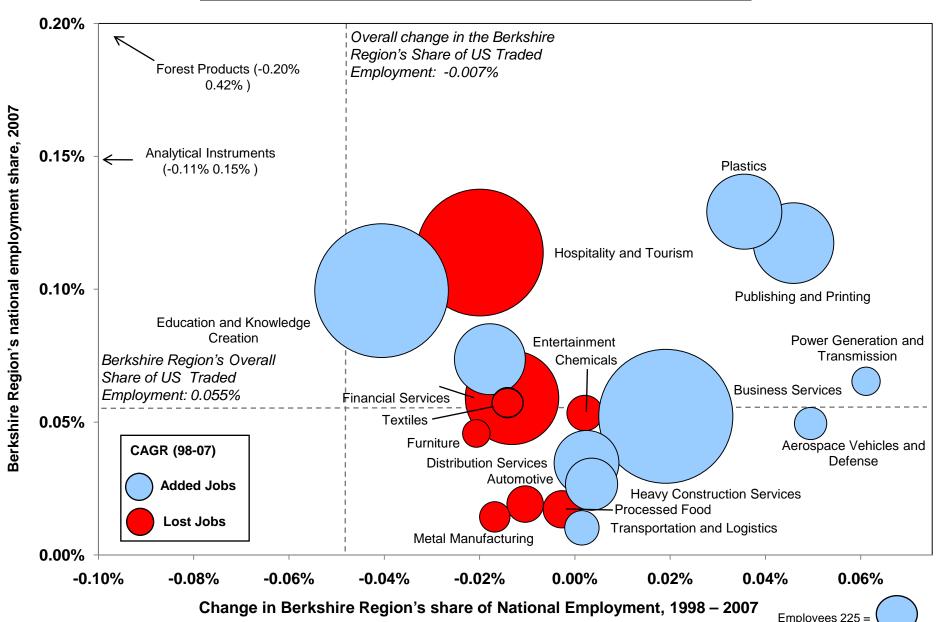
Greater Boston Region Wages by Local Cluster vs. National Benchmarks



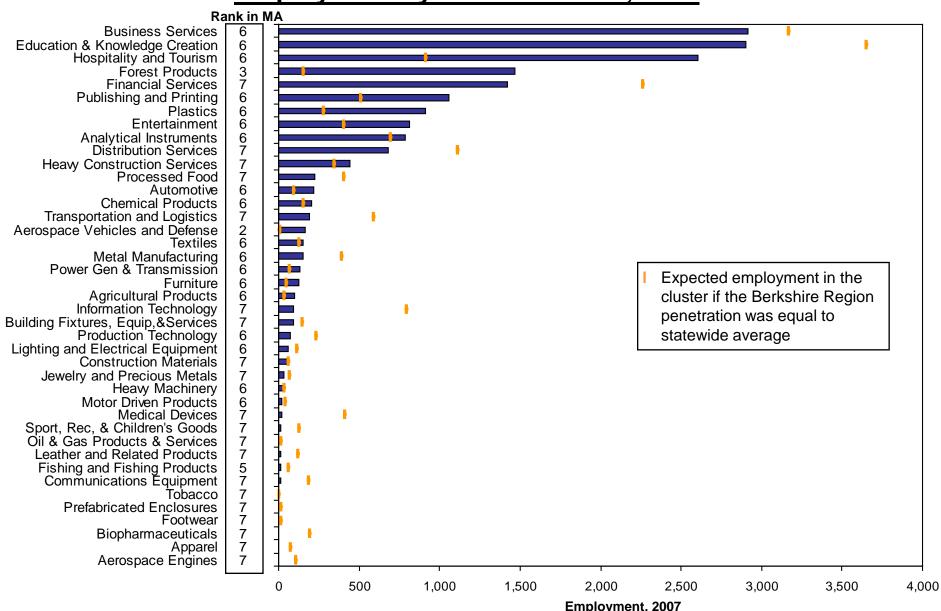
Berkshire Region



Composition of the Berkshire Region Economy Specialization by Traded Cluster, 1998-2007



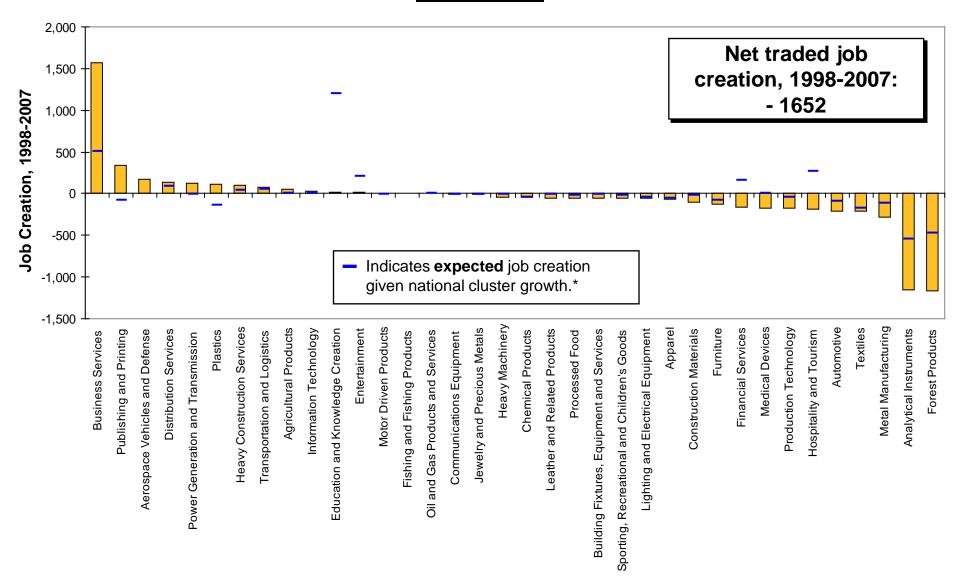
Composition of the Berkshire Region Economy Employment by Traded Cluster, 2007



⁻ 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

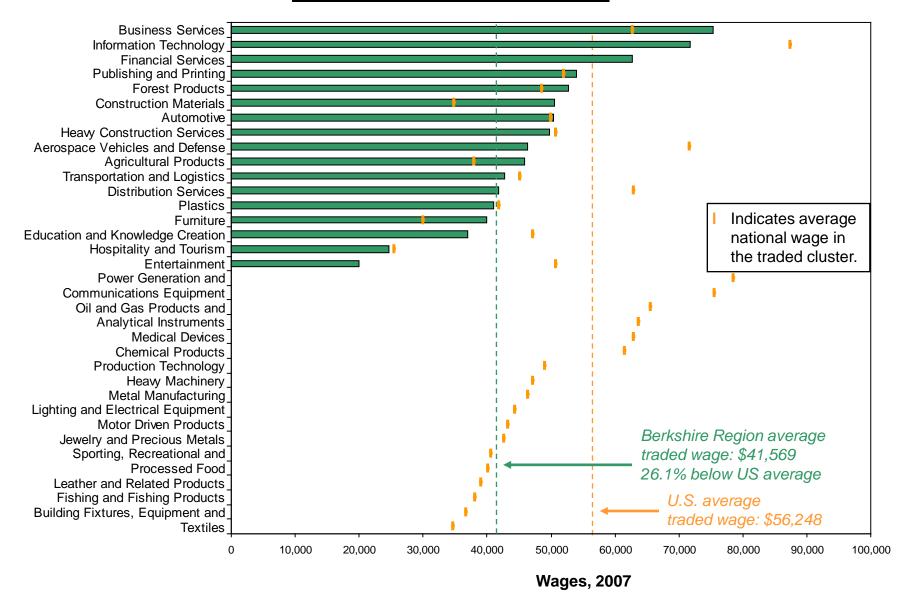
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Berkshire Region Job Creation by Traded Cluster 1998-2007



^{*} Percent change in national benchmark times starting regional employment. Overall traded job creation in this region, if it matched national benchmarks, would be +568. Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

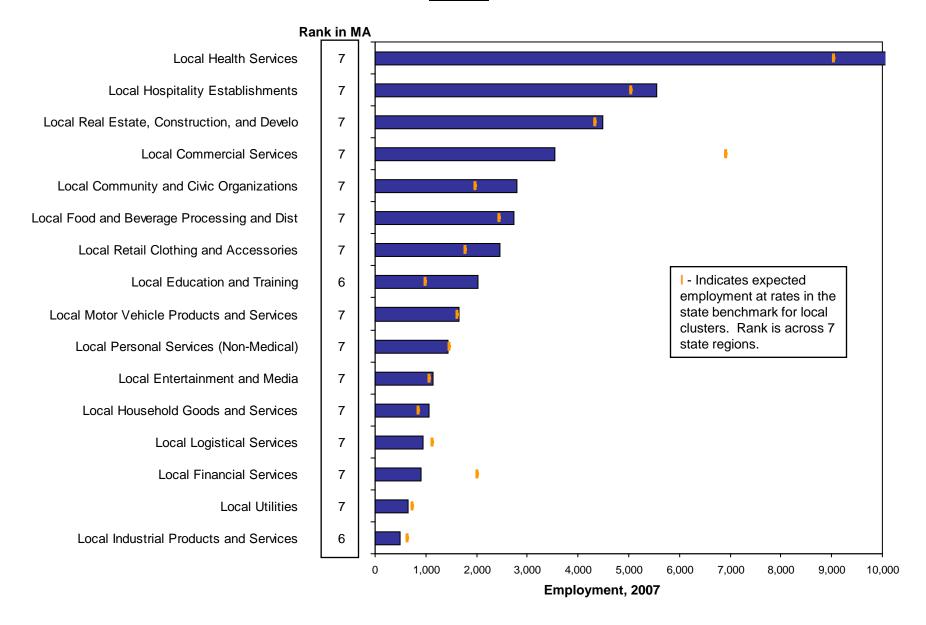
Berkshire Region Wages by Traded Cluster vs. National Benchmarks



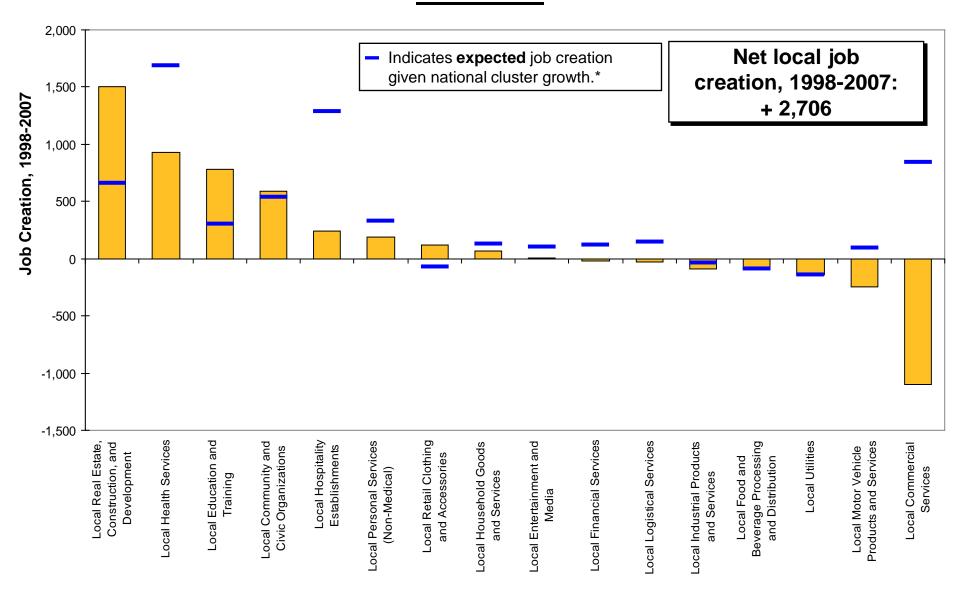
Note: Wages are not available in all clusters due to data suppression to protect confidentiality.

Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

Berkshire Region Employment by Local Cluster 2007

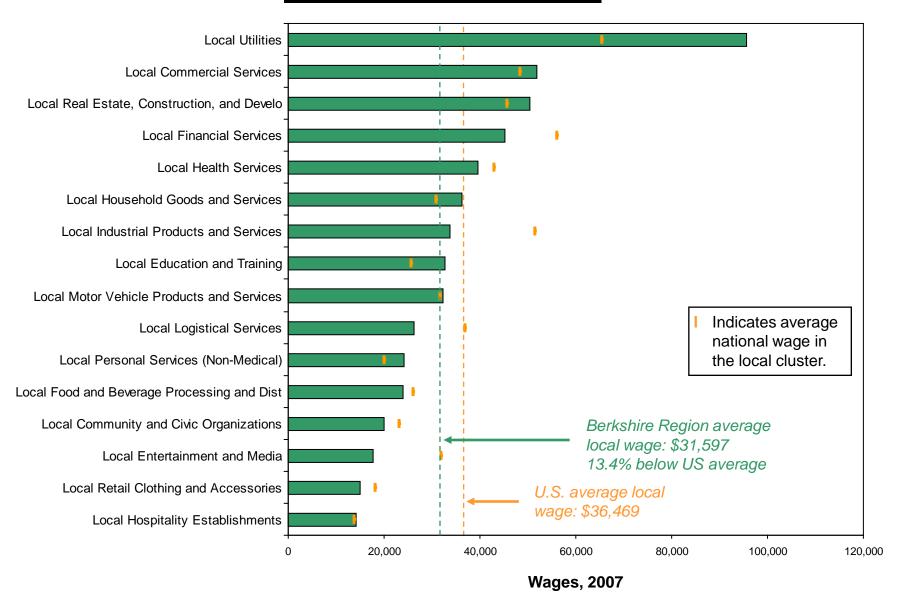


Berkshire Region Job Creation by Local Cluster 1998-2007

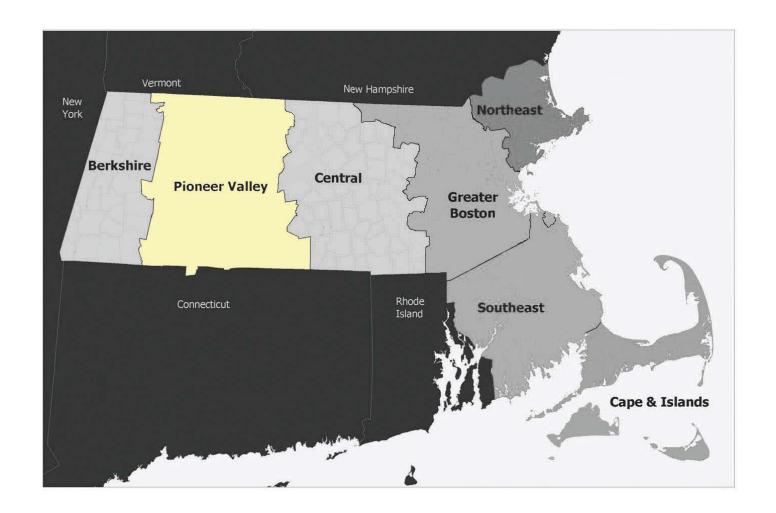


^{*} Percent change in national benchmark times starting regional employment. Overall traded job creation in this region, if it matched national benchmarks, would be +5,881. Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

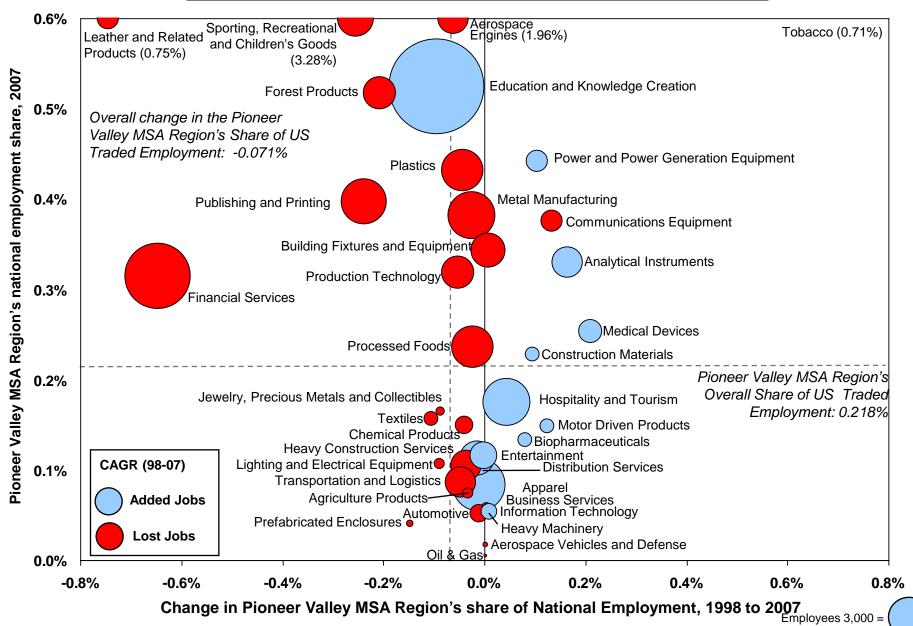
Berkshire Region Wages by Local Cluster vs. National Benchmarks



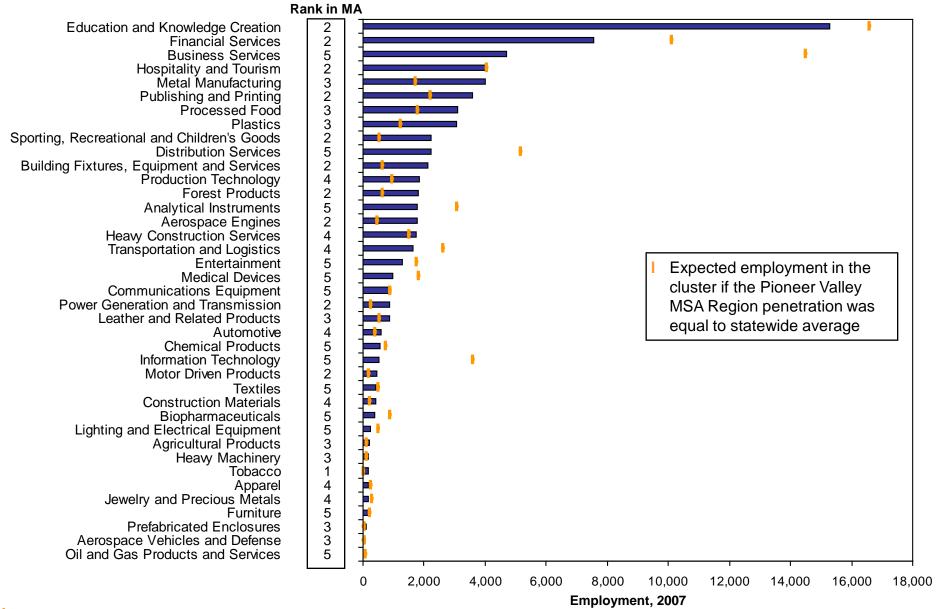
Pioneer Valley Region



Composition of the Pioneer Valley MSA Economy Specialization by Traded Cluster, 1998 to 2007



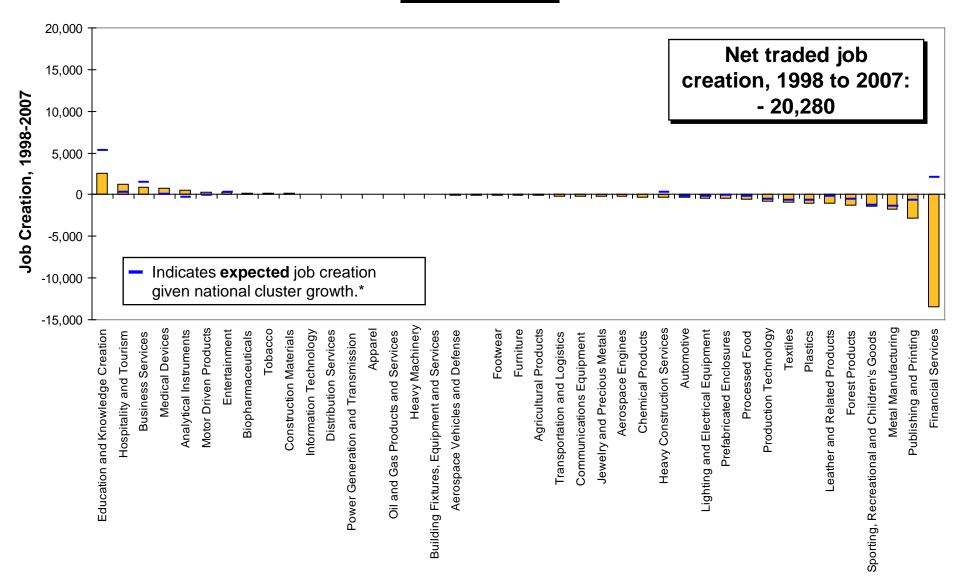
Composition of the Pioneer Valley MSA Region Economy Employment by Traded Cluster, 2007



⁻ 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

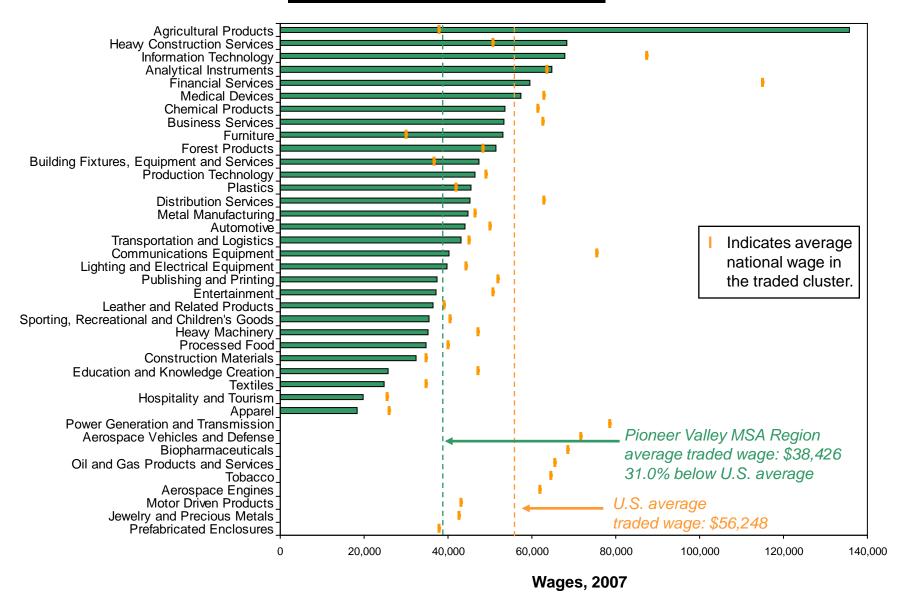
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Pioneer Valley MSA Region Job Creation by Traded Cluster 1998 to 2007



^{*} Percent change in national benchmark times starting regional employment. Overall traded job creation in this region, if it matched national benchmarks, would be +2,465 Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

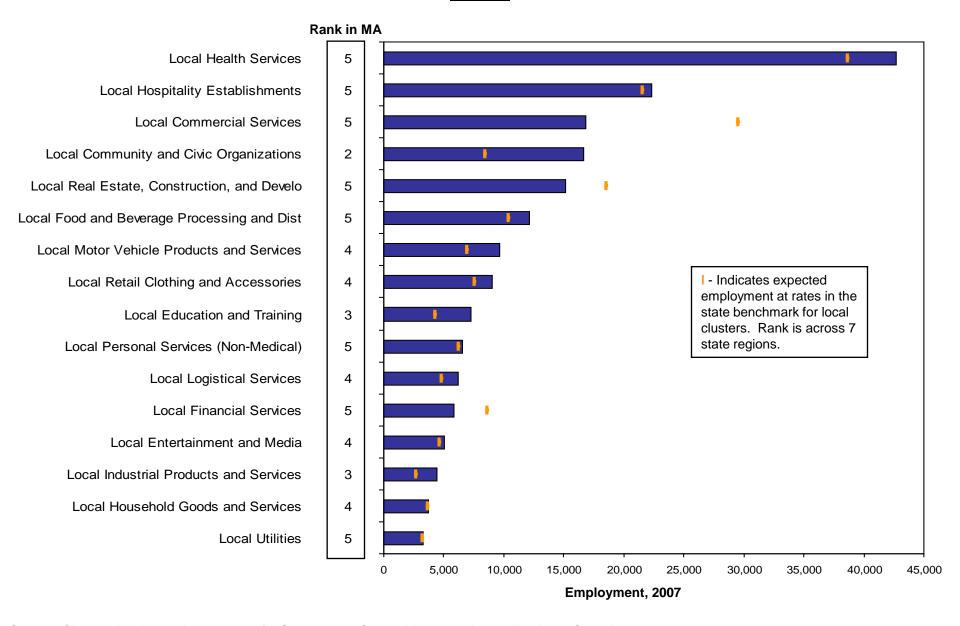
Pioneer Valley MSA Region Wages by Traded Cluster vs. National Benchmarks



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

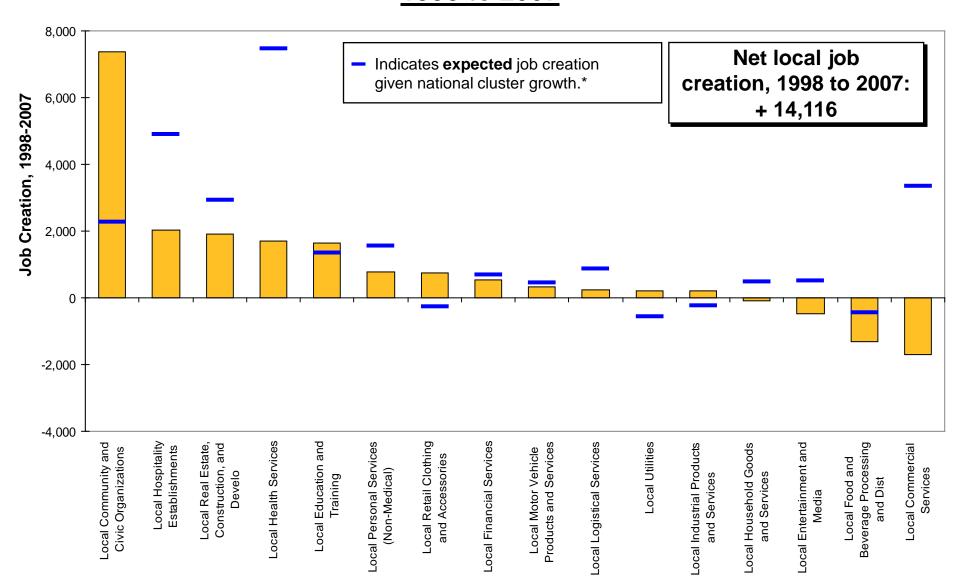
Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

Pioneer Valley MSA Region Employment by Local Cluster 2007



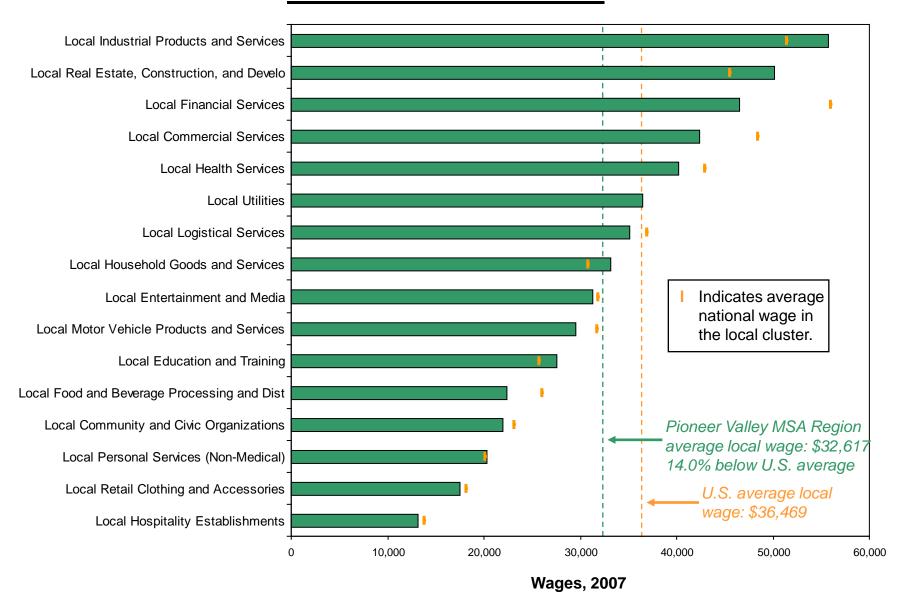
Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

Pioneer Valley MSA Region Job Creation by Local Cluster 1998 to 2007

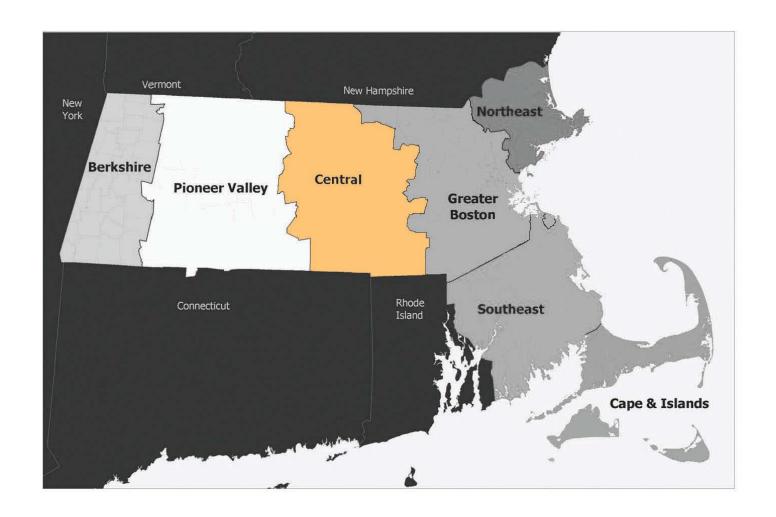


^{*} Percent change in national benchmark times starting regional employment. Overall traded job creation in this region, if it matched national benchmarks, would be +25,312. Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

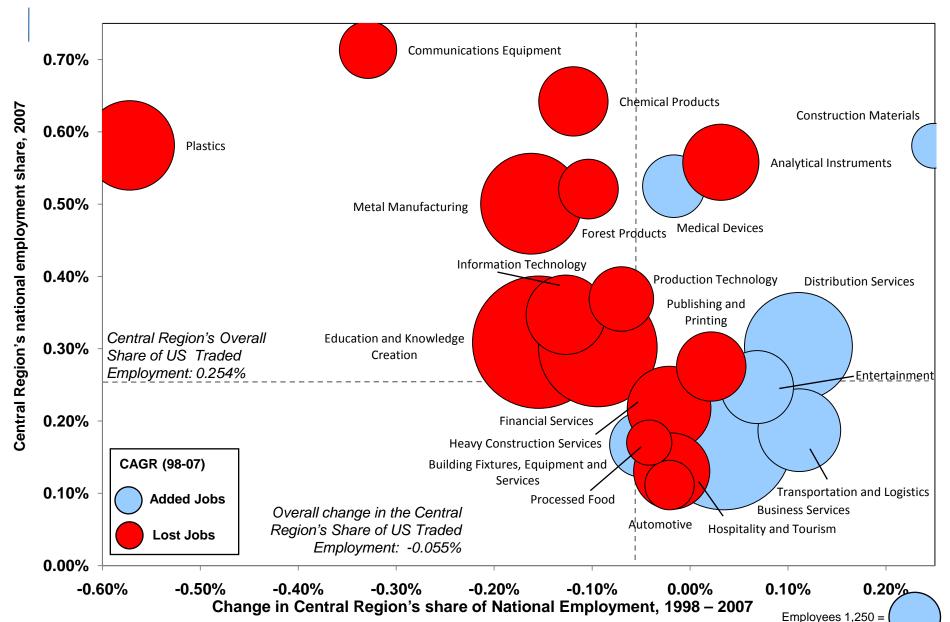
Pioneer Valley MSA Region Wages by Local Cluster vs. National Benchmarks



Central Region



Composition of the Central Region Economy Specialization by Traded Cluster, 1998-2007



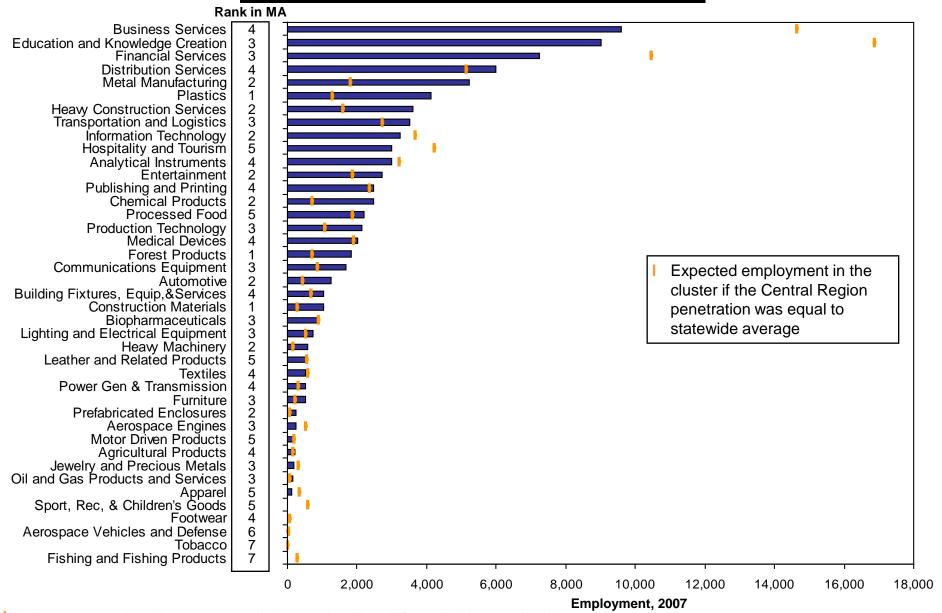
Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

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Composition of the Central Region Economy

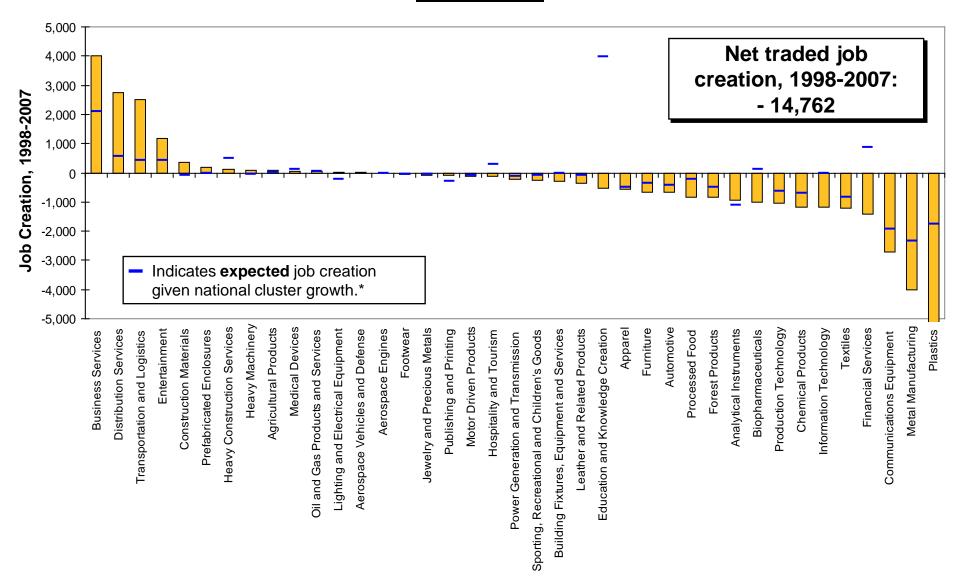
Employment by Traded Cluster, 2007



⁻ 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

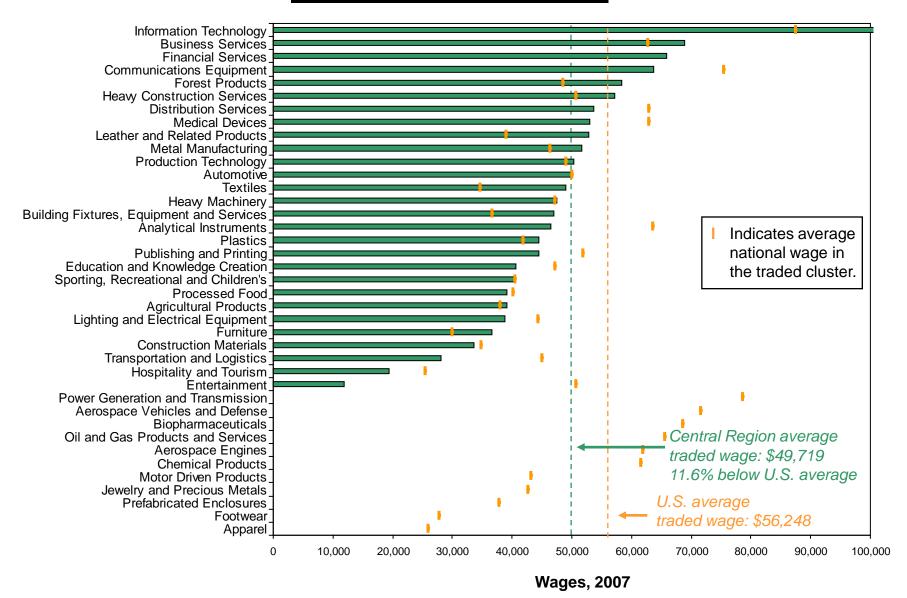
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Central Region Job Creation by Traded Cluster 1998-2007



^{*} Percent change in national benchmark times starting regional employment. Overall traded job creation in this region, if it matched national benchmarks, would be -3,021 Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

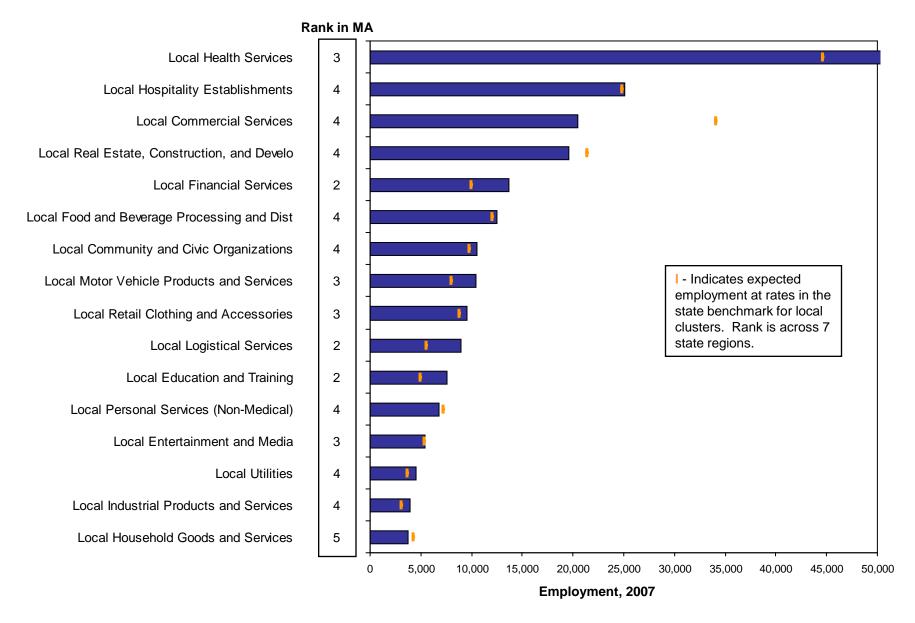
Central Region Wages by Traded Cluster vs. National Benchmarks



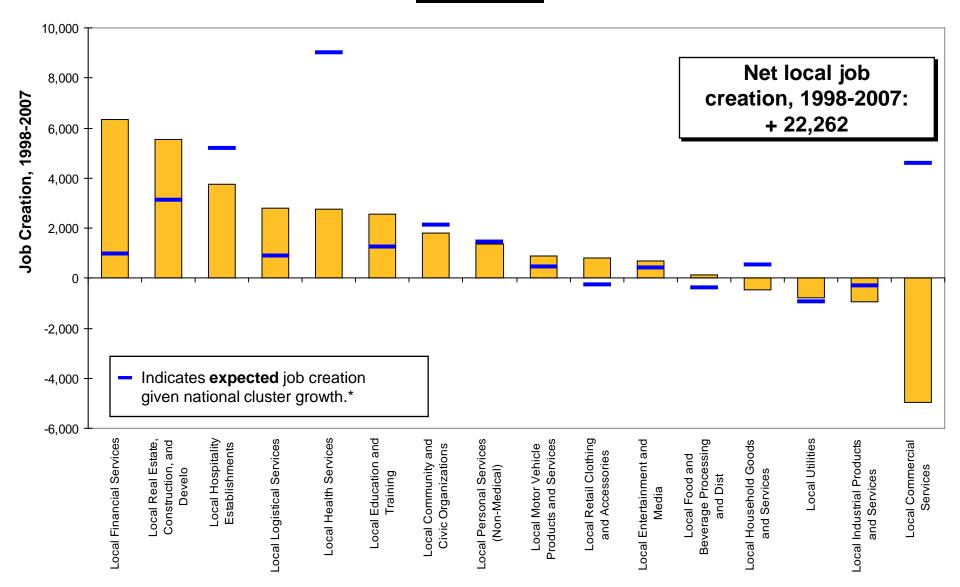
Note: Wages are not available in all clusters due to data suppression to protect confidentiality.

Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

Central Region Employment by Local Cluster 2007

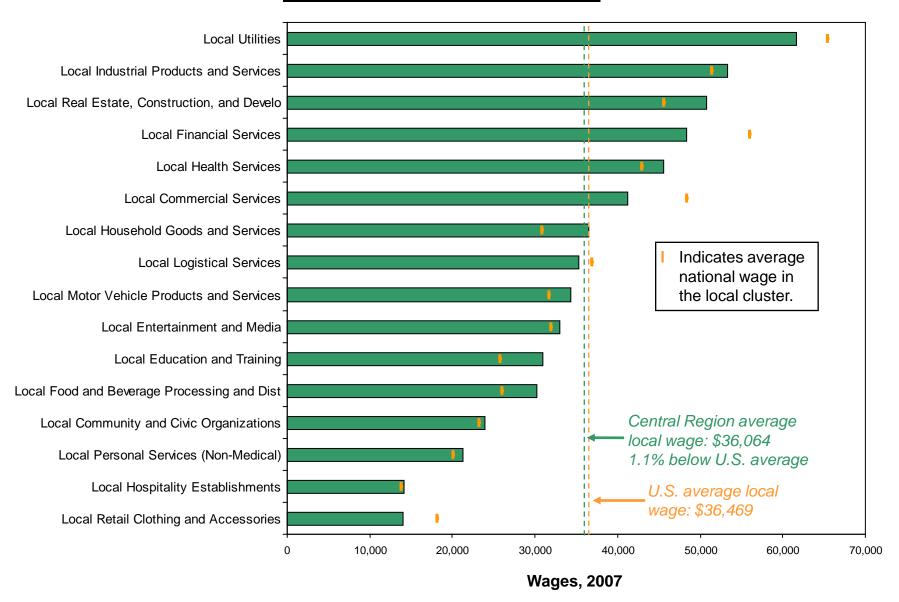


Central Region Job Creation by Local Cluster 1998-2007

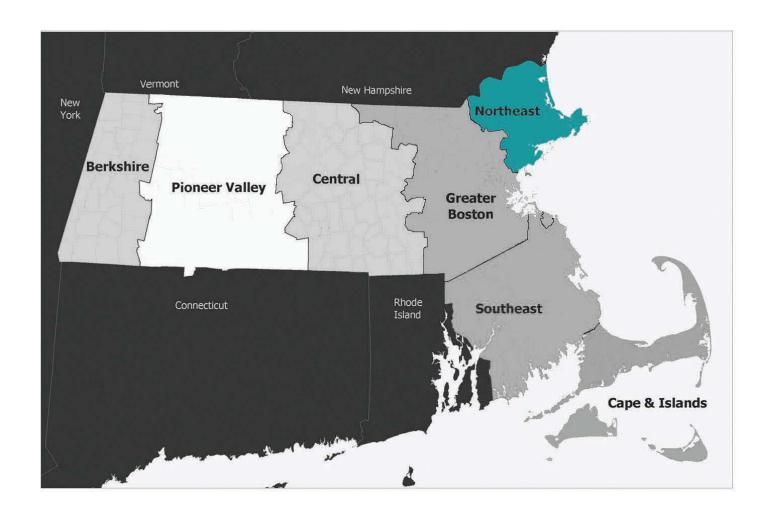


^{*} Percent change in national benchmark times starting regional employment. Overall traded job creation in this region, if it matched national benchmarks, would be +27,984 Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

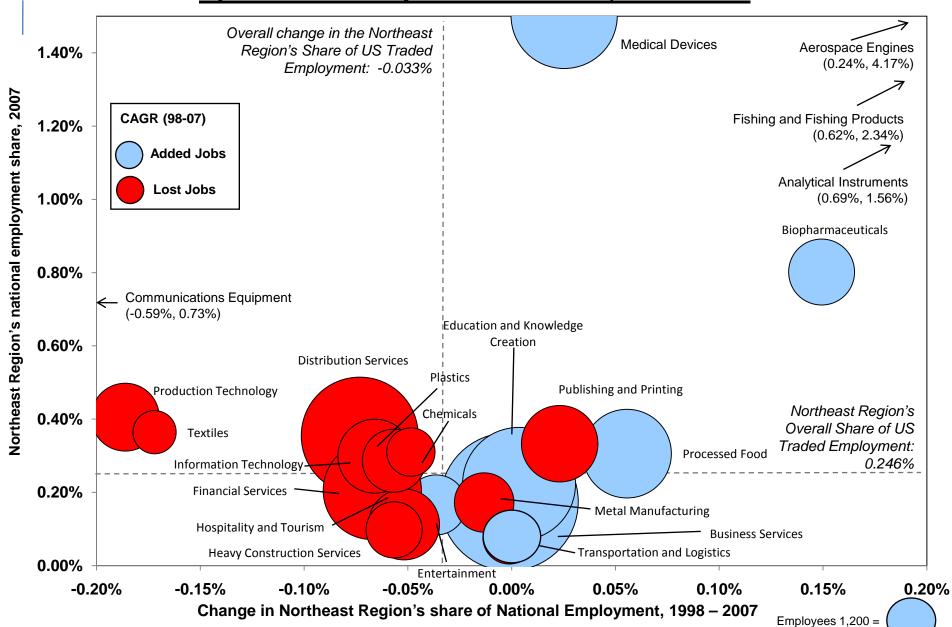
Central Region Wages by Local Cluster vs. National Benchmarks



Northeast Region

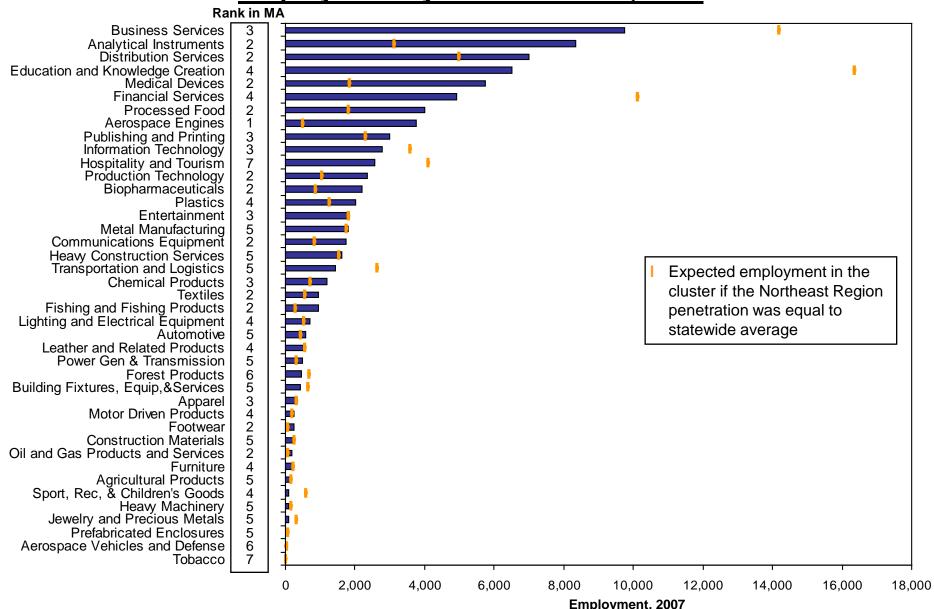


Composition of the Northeast Region Economy Specialization by Traded Cluster, 1998-2007



Composition of the Northeast Region Economy

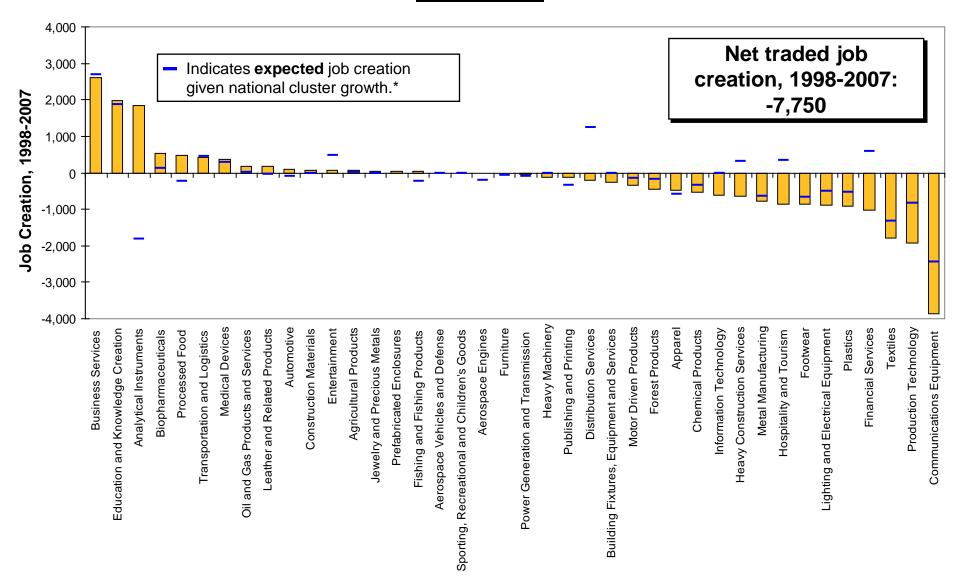
Employment by Traded Cluster, 2007



I - 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

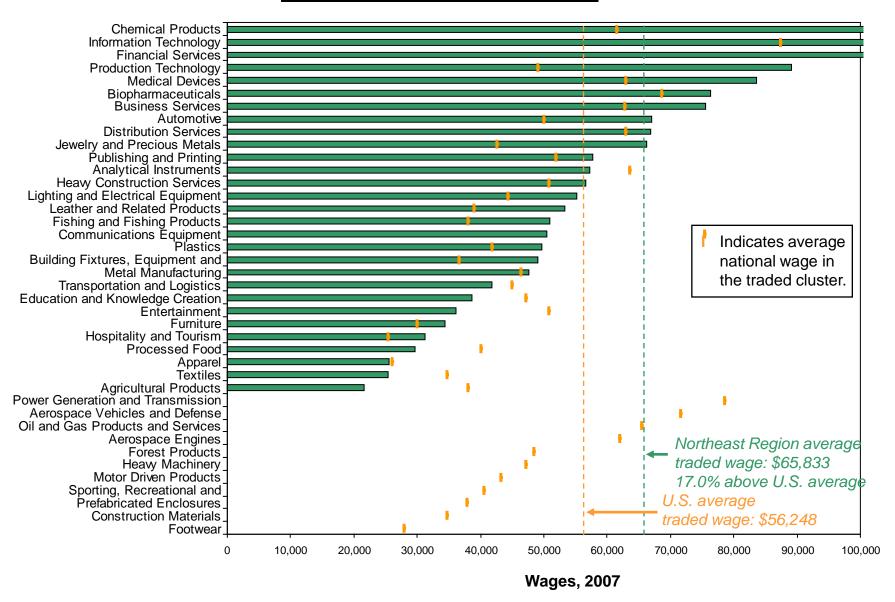
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Northeast Region Job Creation by Traded Cluster 1998-2007



^{*} Percent change in national benchmark times starting regional employment. Overall traded job creation in this region, if it matched national benchmarks, would be -3,090 Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

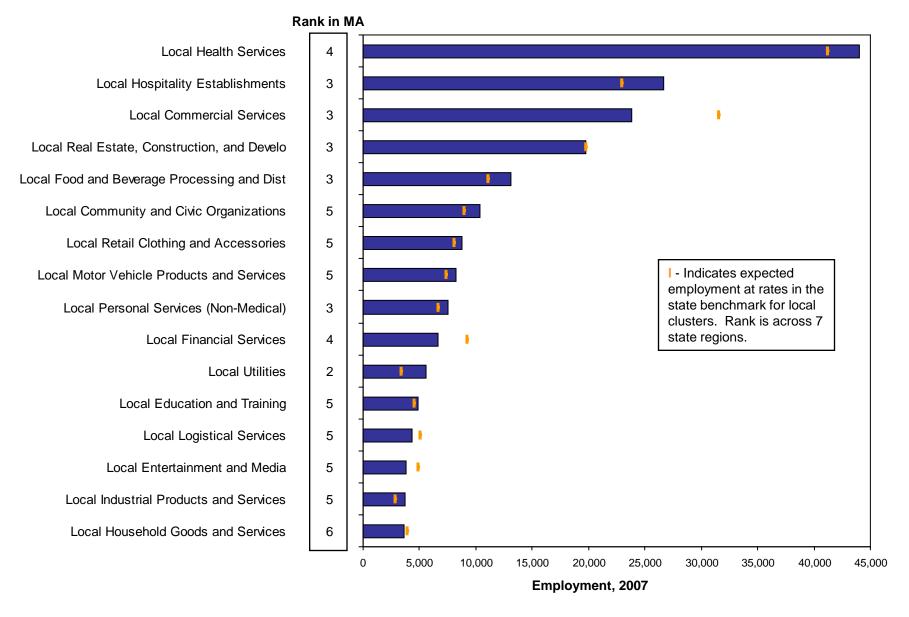
Northeast Region Wages by Traded Cluster vs. National Benchmarks



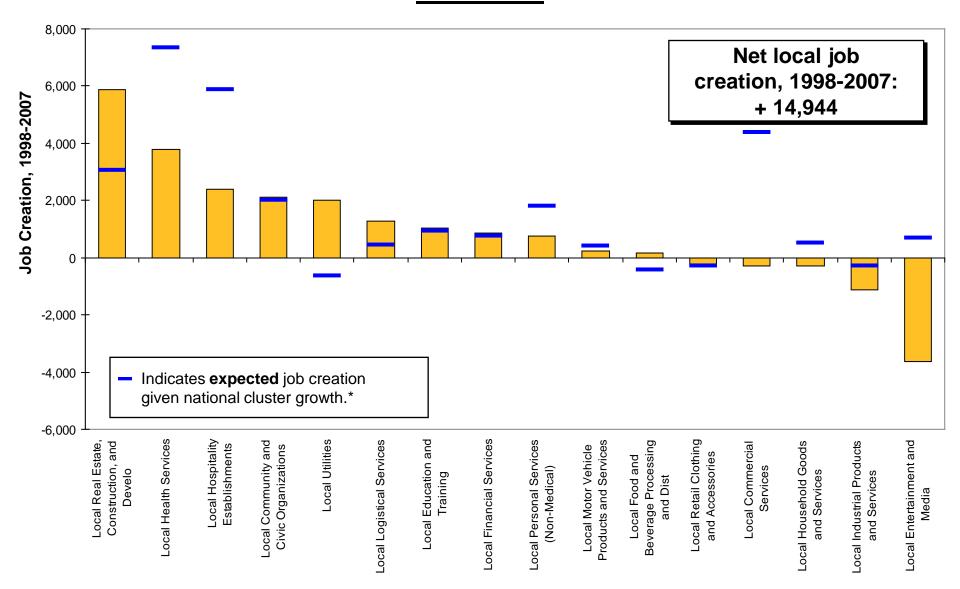
Note: Wages are not available in all clusters due to data suppression to protect confidentiality.

Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

Northeast Region Employment by Local Cluster 2007

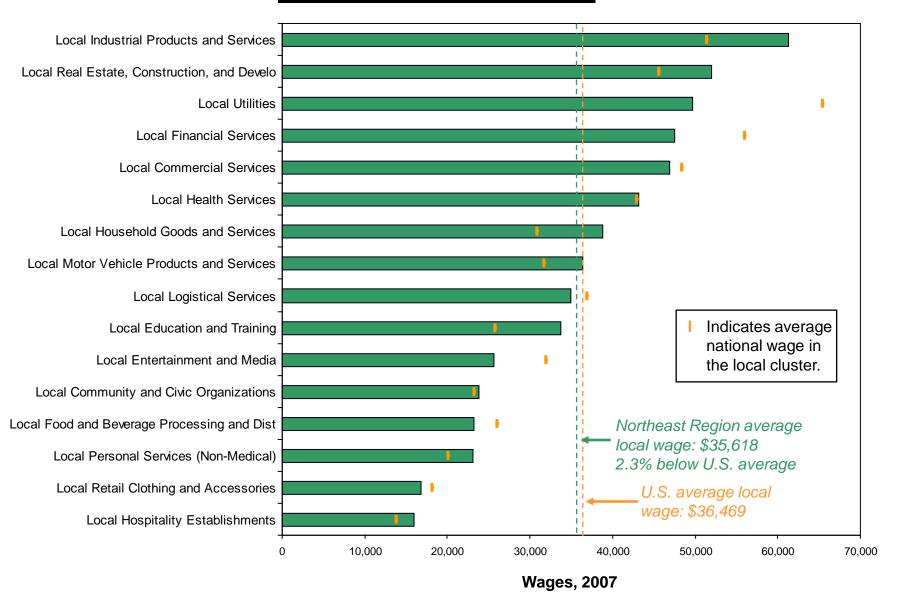


Northeast Region Job Creation by Local Cluster 1998-2007



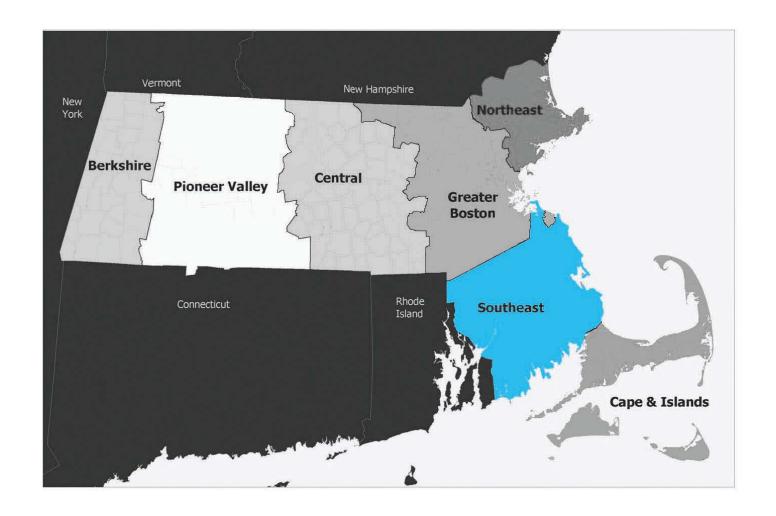
^{*} Percent change in national benchmark times starting regional employment. Overall traded job creation in this region, if it matched national benchmarks, would be +26,480 Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

Northeast Region Wages by Local Cluster vs. National Benchmarks

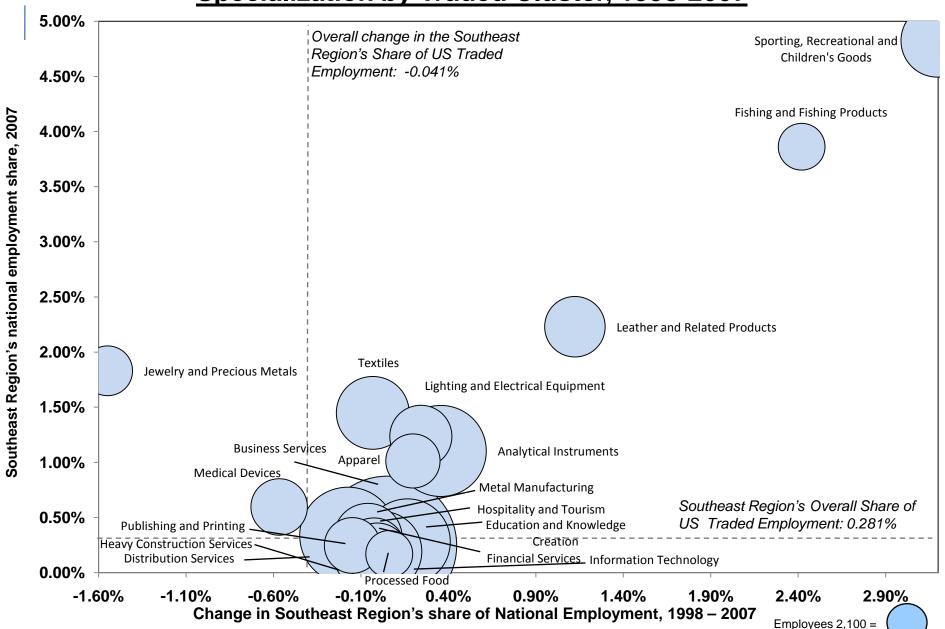


Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

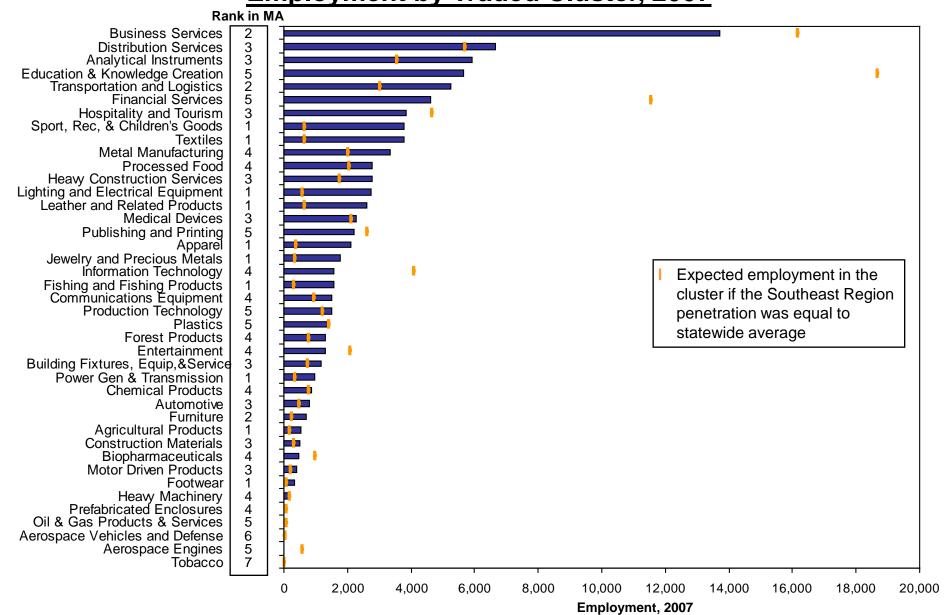
Southeast Region



Composition of the Southeast Region Economy Specialization by Traded Cluster, 1998-2007



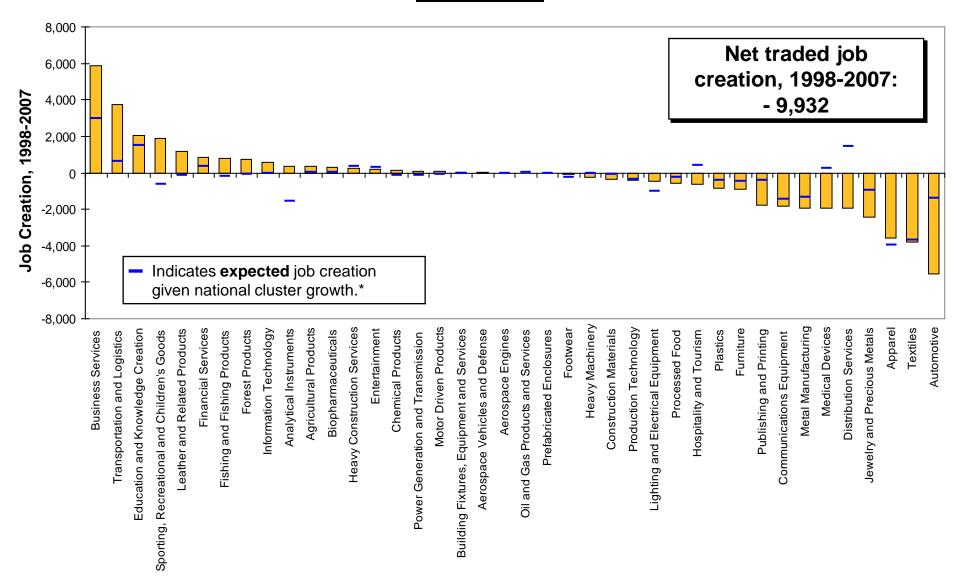
Composition of the Southeast Region Economy Employment by Traded Cluster, 2007



⁻ 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

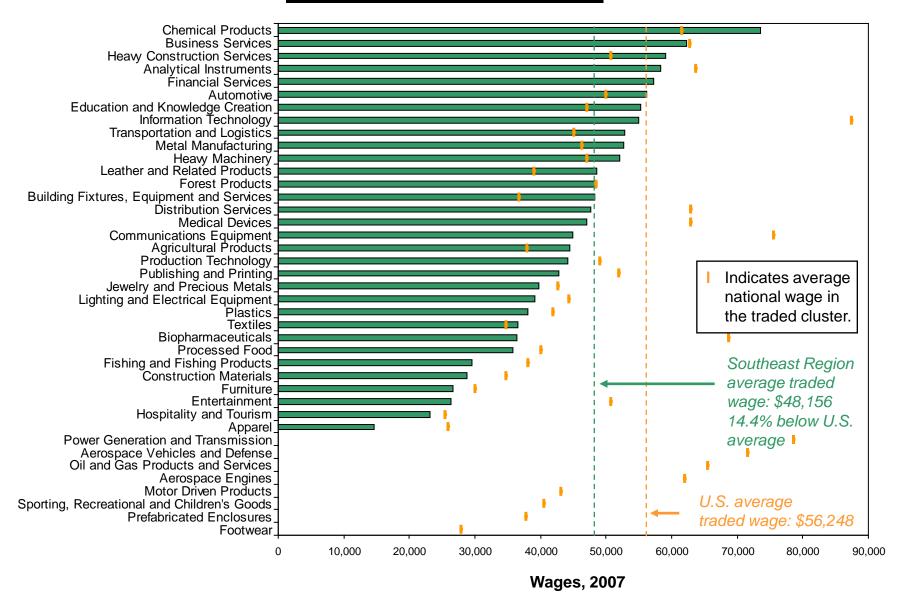
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Southeast Region Job Creation by Traded Cluster 1998-2007



^{*} Percent change in national benchmark times starting regional employment. Overall traded job creation in this region, if it matched national benchmarks, would be -10,819 Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

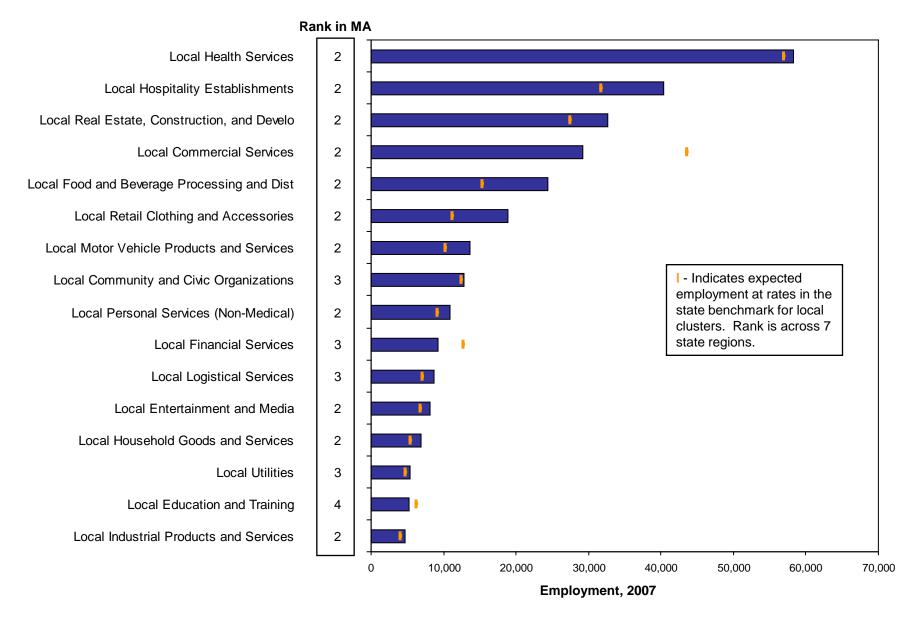
Southeast Region Wages by Traded Cluster vs. National Benchmarks



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

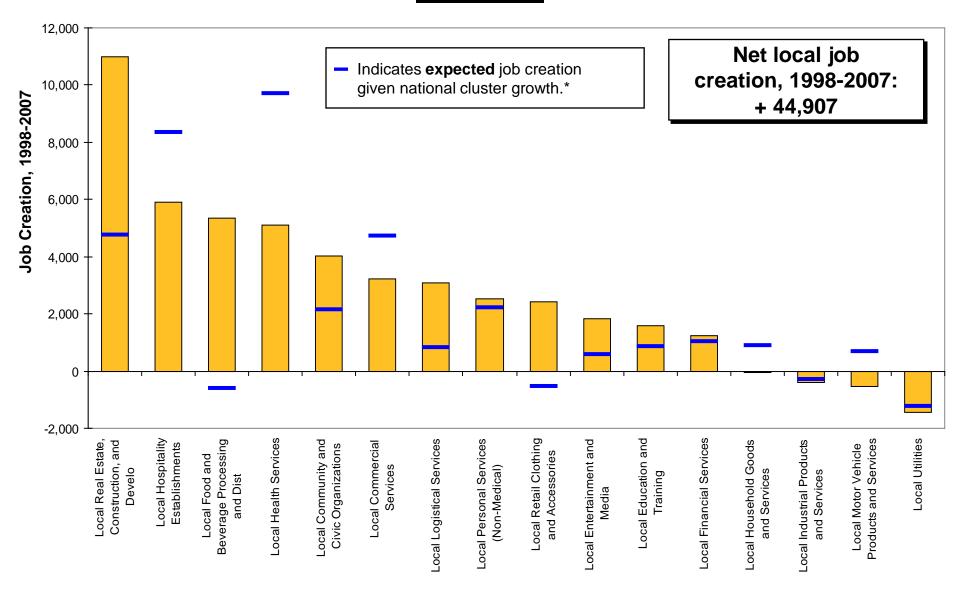
Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

Southeast Region Employment by Local Cluster 2007



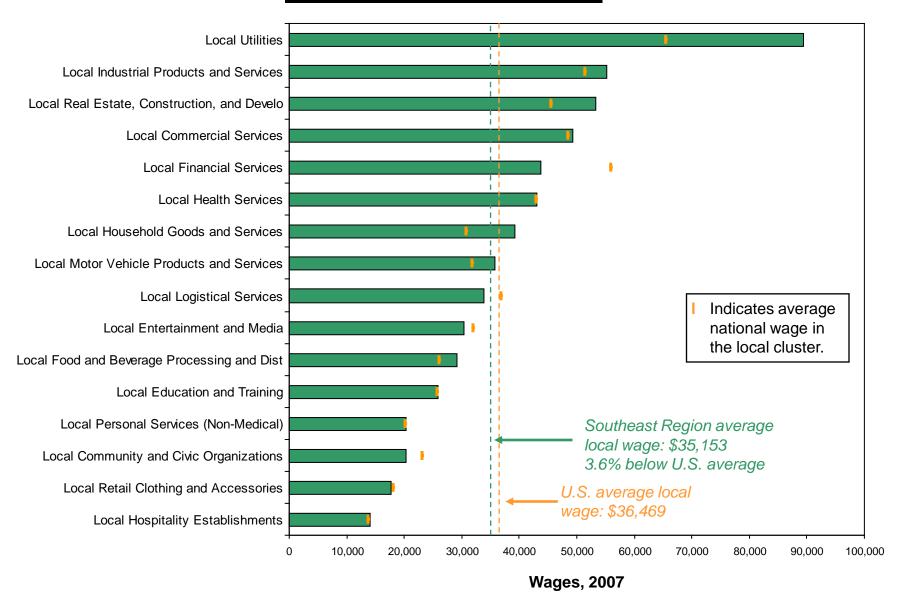
Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

Southeast Region Job Creation by Local Cluster 1998-2007

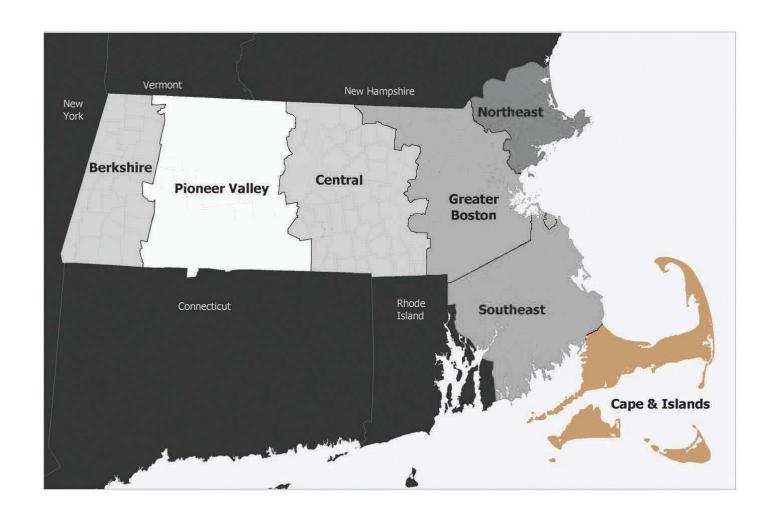


^{*} Percent change in national benchmark times starting regional employment. Overall traded job creation in this region, if it matched national benchmarks, would be +24.066 Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

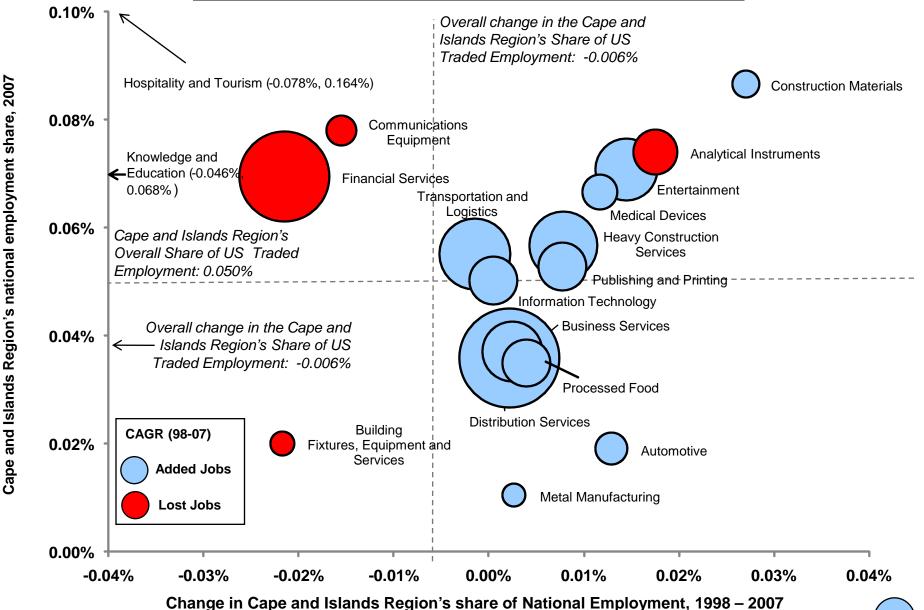
Southeast Region Wages by Local Clusters vs. National Benchmarks



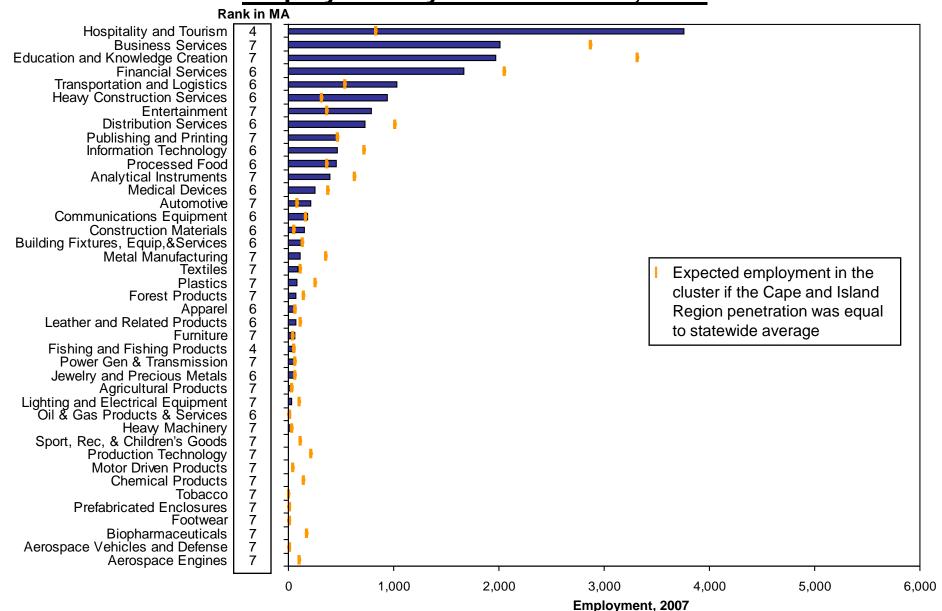
Cape and Islands Region



Composition of the Cape and Islands Region Economy Specialization by Traded Cluster, 1998-2007



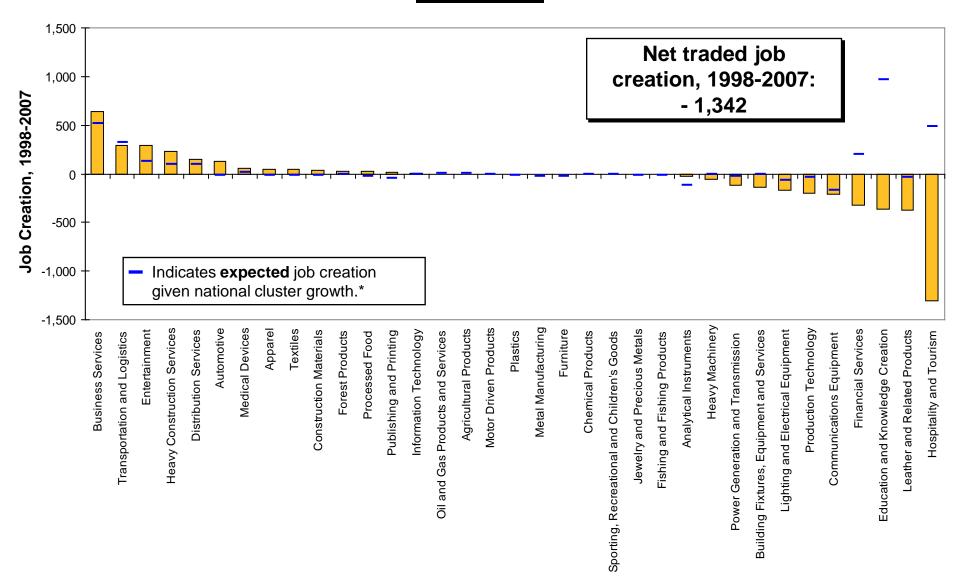
Composition of the Cape and Islands Region Economy Employment by Traded Cluster, 2007



⁻ 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

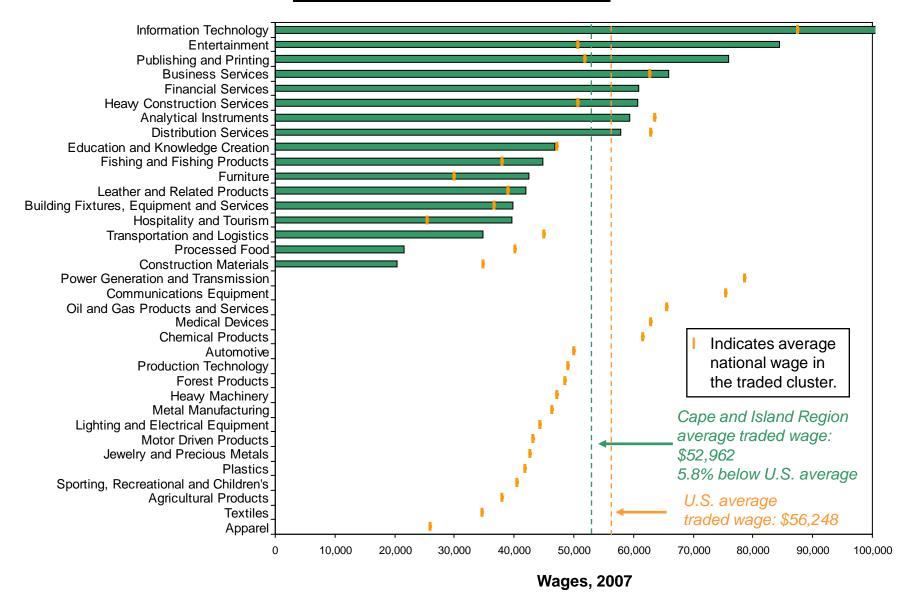
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Cape and Islands Region Job Creation by Traded Cluster 1998-2007



^{*} Percent change in national benchmark times starting regional employment. Overall traded job creation in this region, if it matched national benchmarks, would be +2,103 Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

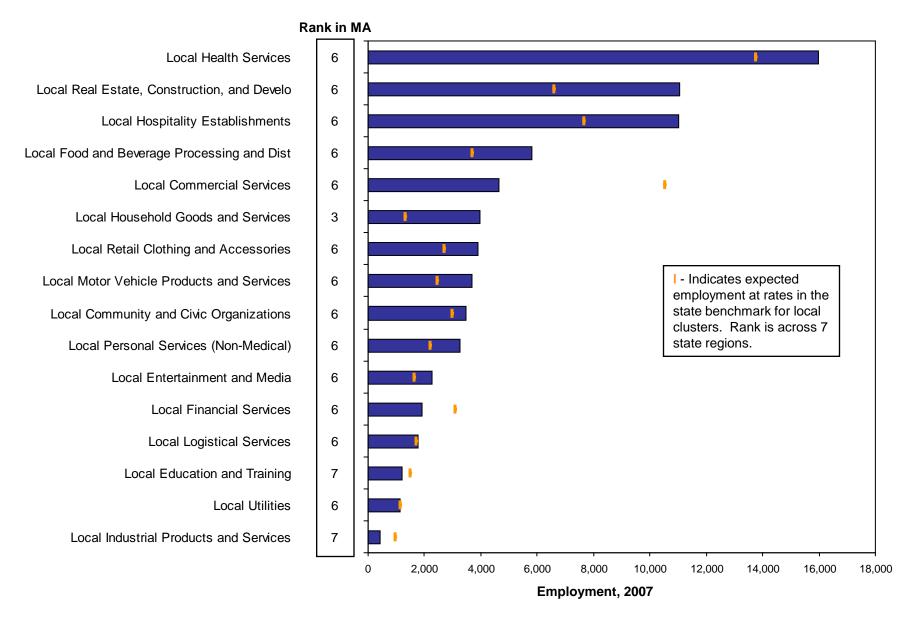
Cape and Island Region Wages by Traded Cluster vs. National Benchmarks



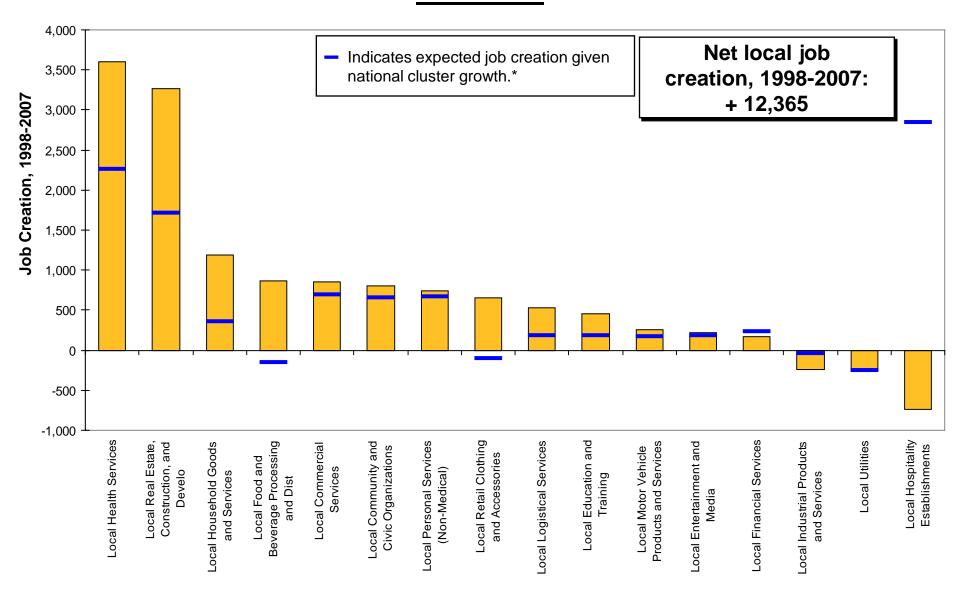
Note: Wages are not available in all clusters due to data suppression to protect confidentiality.

Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

Cape and Islands Region Employment by Local Cluster 2007

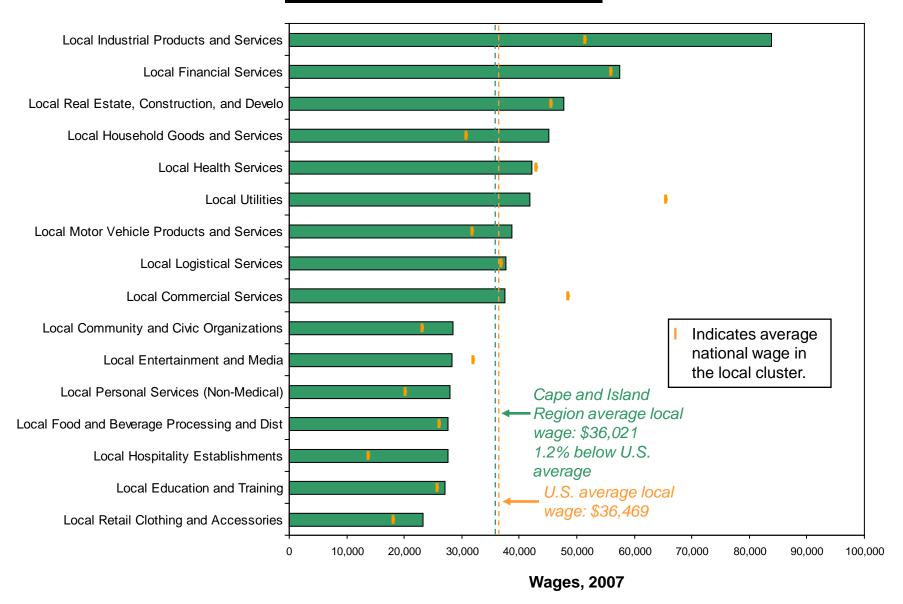


Cape and Islands Region Job Creation by Local Cluster 1998-2007



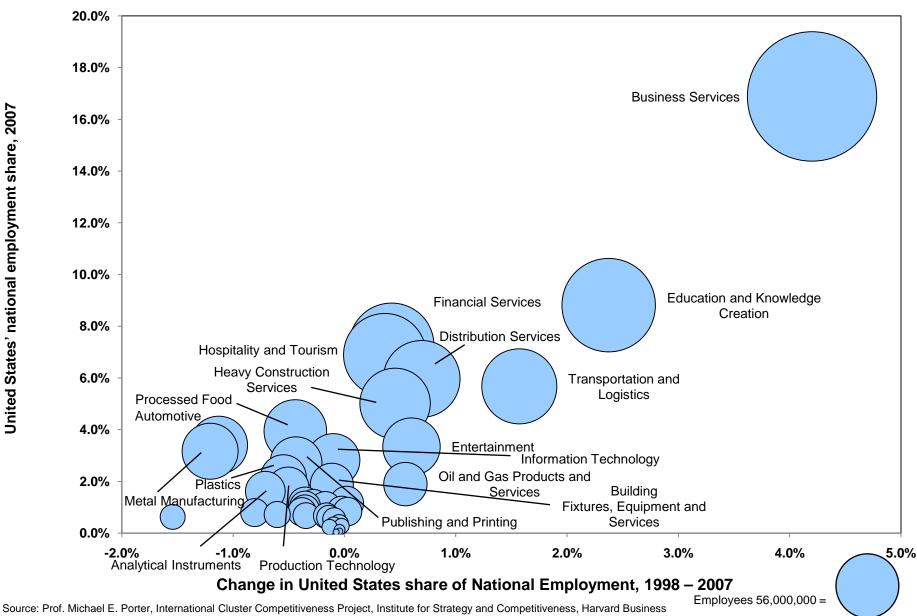
^{*} Percent change in national benchmark times starting regional employment. Overall traded job creation in this region, if it matched national benchmarks, would be +9,563 Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

Cape and Island Region Wages by Local Cluster vs. National Benchmarks



Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

United States Benchmark Specialization by Traded Cluster, 1998-2007



School; Richard Bryden, Project Director. Underlying data drawn from the UN Commodity Trade Statistics Database and the IMF BOP statistics. Fall 2010 - MA Governor

United States' national employment share, 2007