

**State Economic Growth:
Applying the New Learnings to Virginia**

Prof. Christian Ketels
Institute for Strategy and Competitiveness
Harvard Business School

*Council on Virginia's Future
Richmond, Virginia
3 October 2011*

The Economic Challenge in 2011



What is Competitiveness?

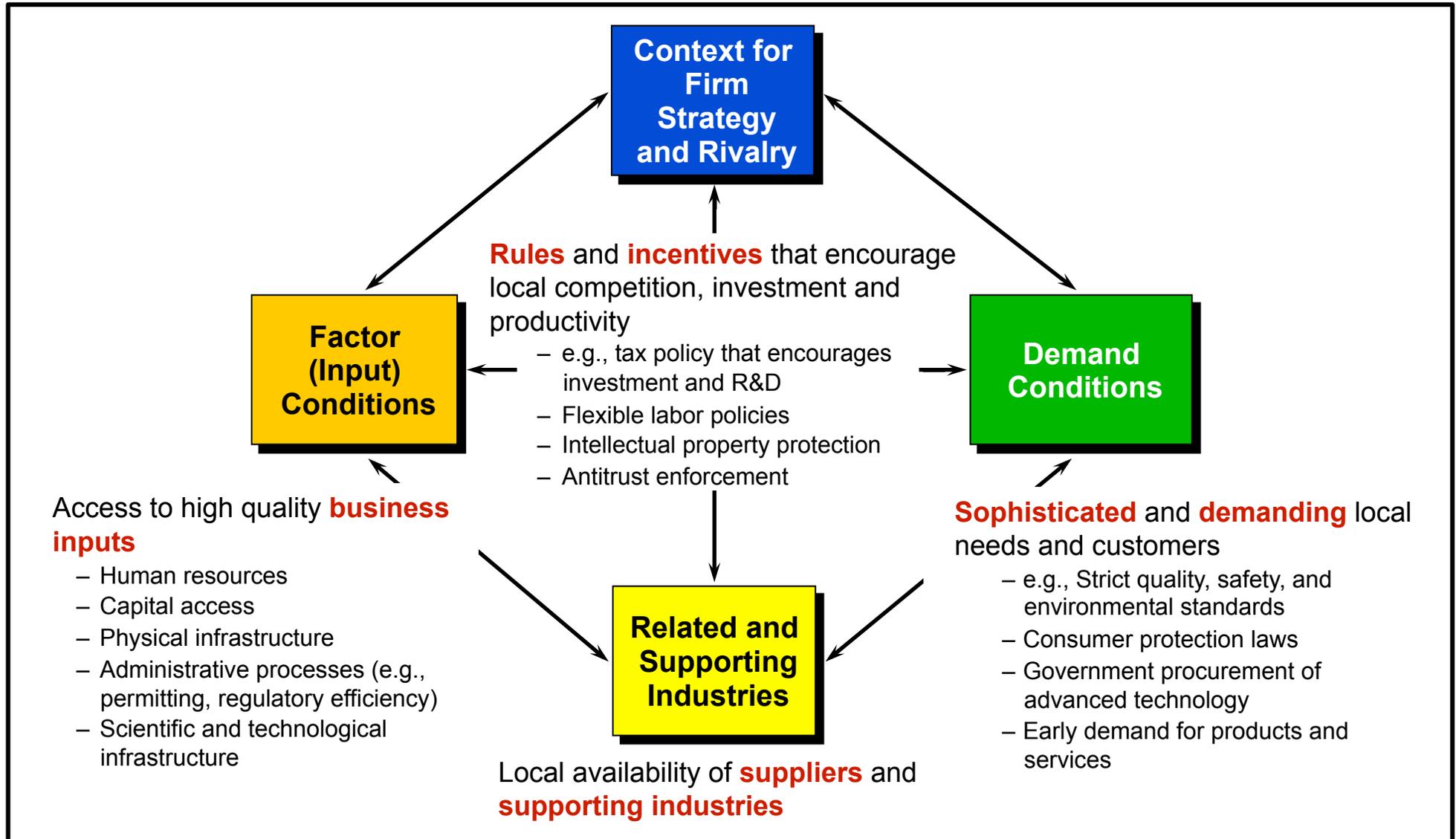
- Competitiveness is the **productivity** with which a state utilizes its human, capital, and natural endowments to create value
- Productivity determines **wages, jobs**, and the **standard of living**
- It is not **what** fields a state competes in that determines its prosperity, but **how productively** it competes
- Productivity is strongly driven by the **specific conditions** in a particular field, not just economy-wide factors

What Drives State Productivity?

**1. Quality of the
Overall Business
Environment**

**2. Cluster
Development**

Quality of the Overall Business Environment



- **Many things matter** for competitiveness
- Economic development is the process of improving the business environment to enable companies **to compete in increasingly sophisticated ways**

What is a Cluster?

A geographically concentrated group of interconnected companies and associated institutions in a field of several related industries



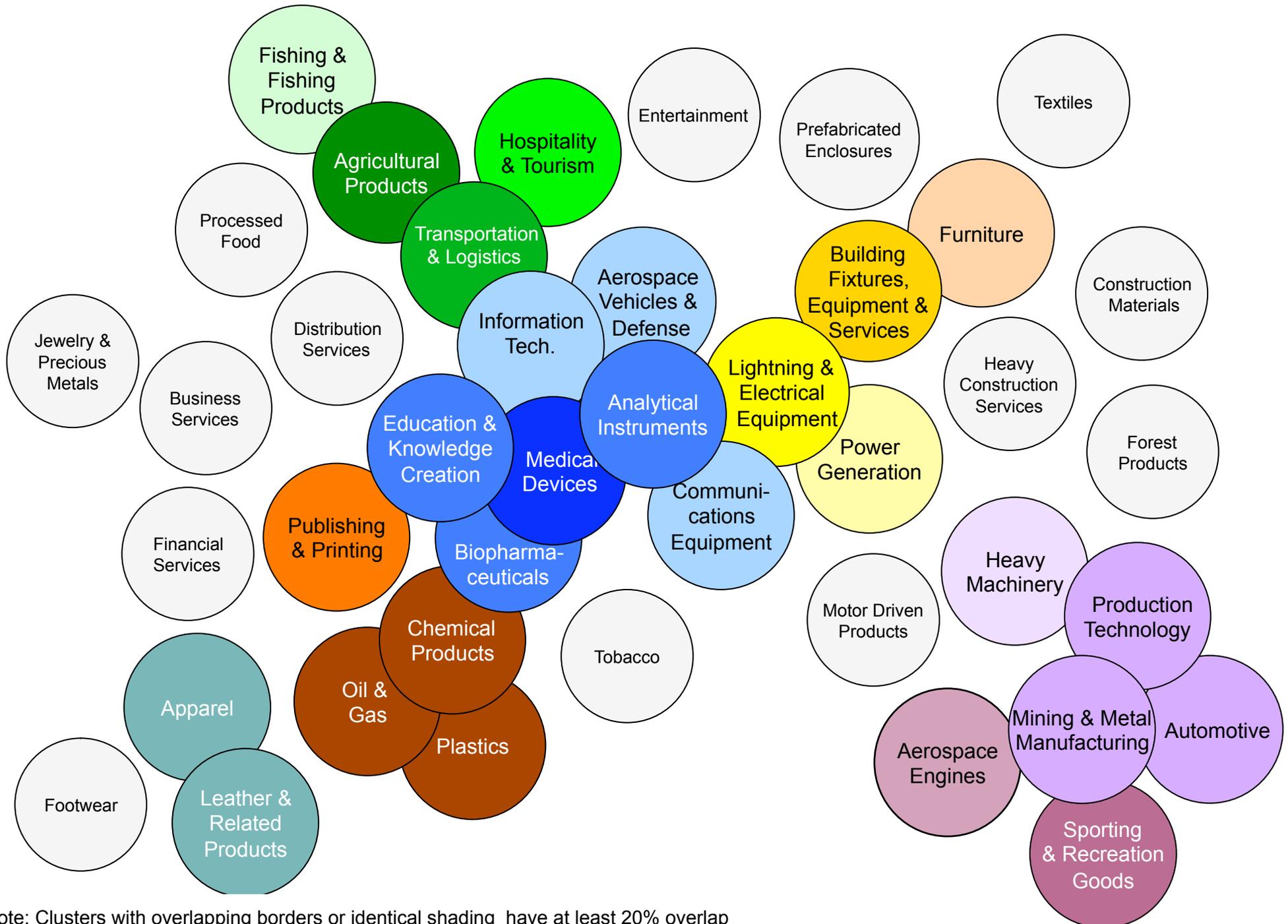
Traded Clusters

- 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

Related Clusters and Economic Diversification

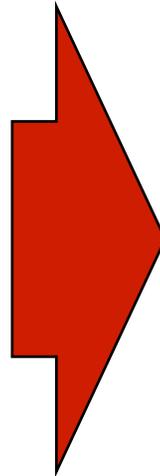


Note: Clusters with overlapping borders or identical shading have at least 20% overlap (by number of industries) in both directions.

Cluster Development

Cluster Presence and Economic 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.

Getting to Action

1. Analysis

2. Strategy

3. Leadership

4. Organization and Tools

Strategy

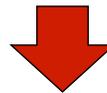
Dimensions of a Regional Strategy

Define the Value Proposition



Develop Unique Strengths

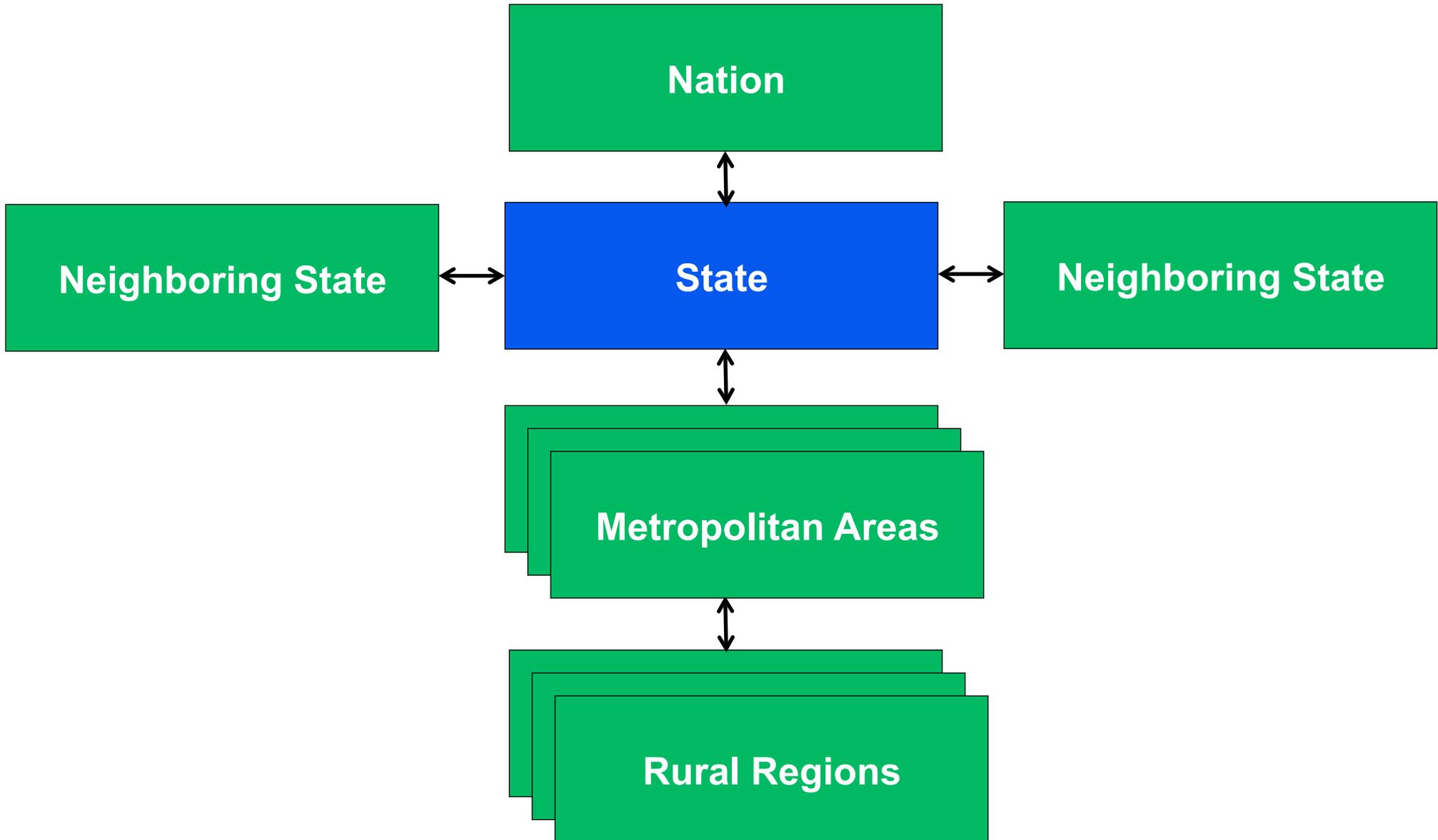
Achieve and Maintain
Parity with Peers



- A strategy requires and enables **setting priorities** and **moving beyond** long lists of separate recommendations
- A strategy drives the **integration of action agendas** across multiple policy areas and parts of government

Organization

Policy Coordination Among Multiple Levels of Government



Organization

Public Private Engagement

Old Model

- **Government** drives economic development through policy decisions and incentives



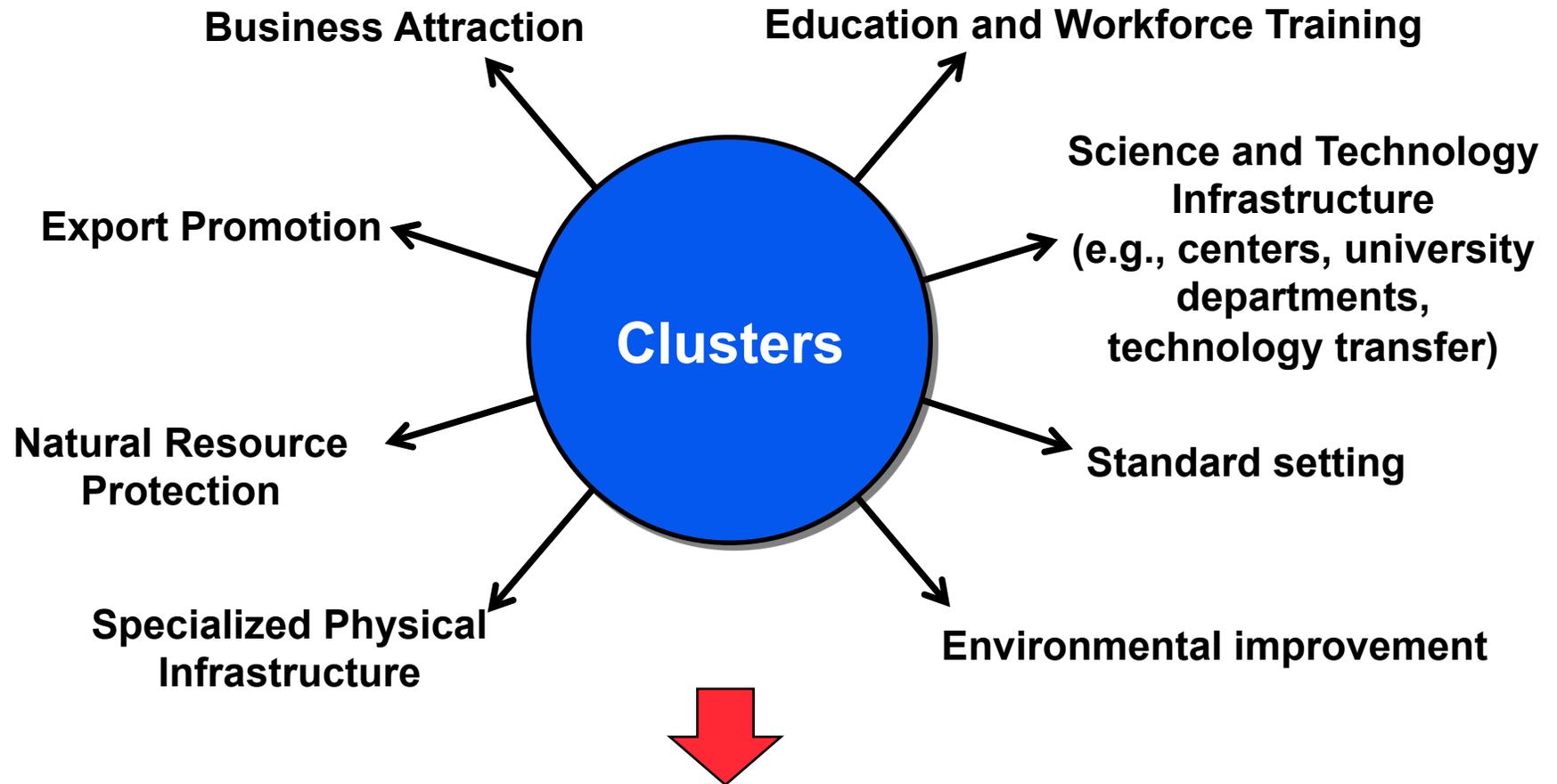
New Model

- Economic development is a **collaborative process** involving government at multiple levels, companies, teaching and research institutions, and private sector organizations

- Competitiveness is the result of both **top-down** and **bottom-up processes** in which many companies and institutions take responsibility
- A **dedicated institutional structure**, like a competitiveness council, can play an important role in enhancing impact and sustainability of collaboration

Tools

Organizing Public Policies Around Clusters

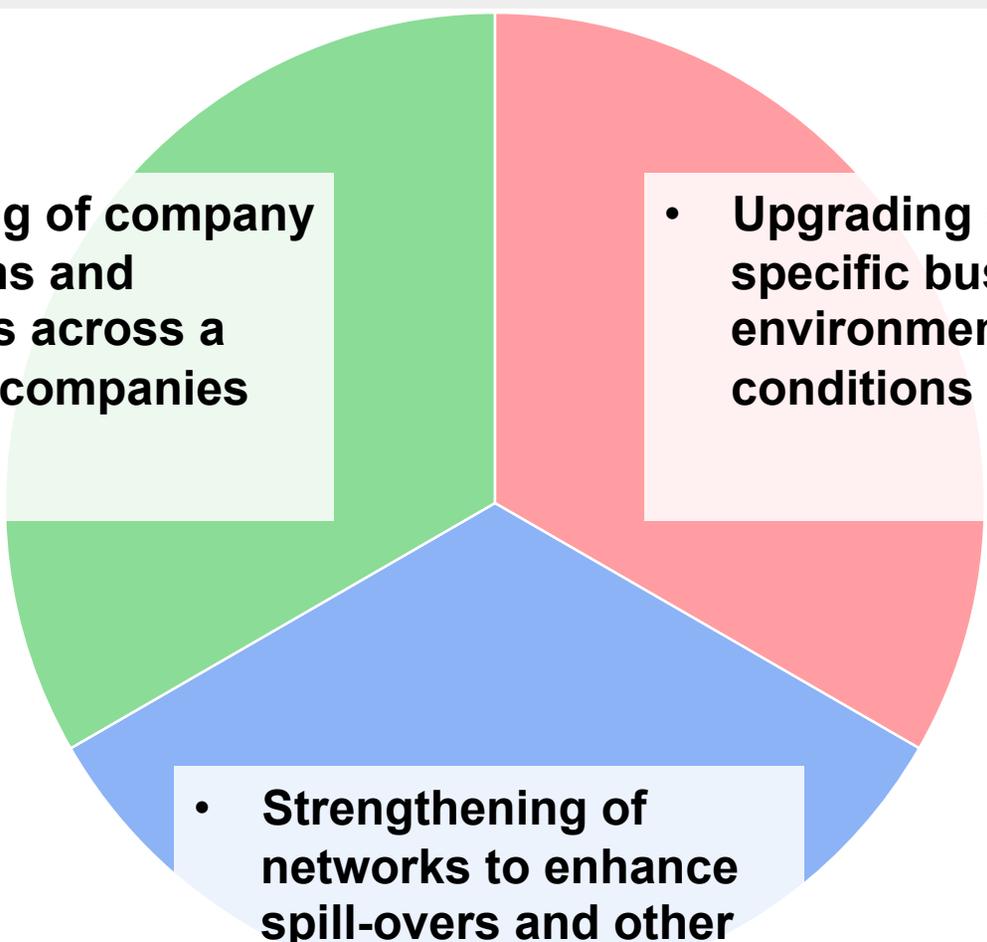


- Clusters provide a framework for **organizing the implementation** of many public policies and public investments directed at economic development to achieve greater effectiveness

Tools

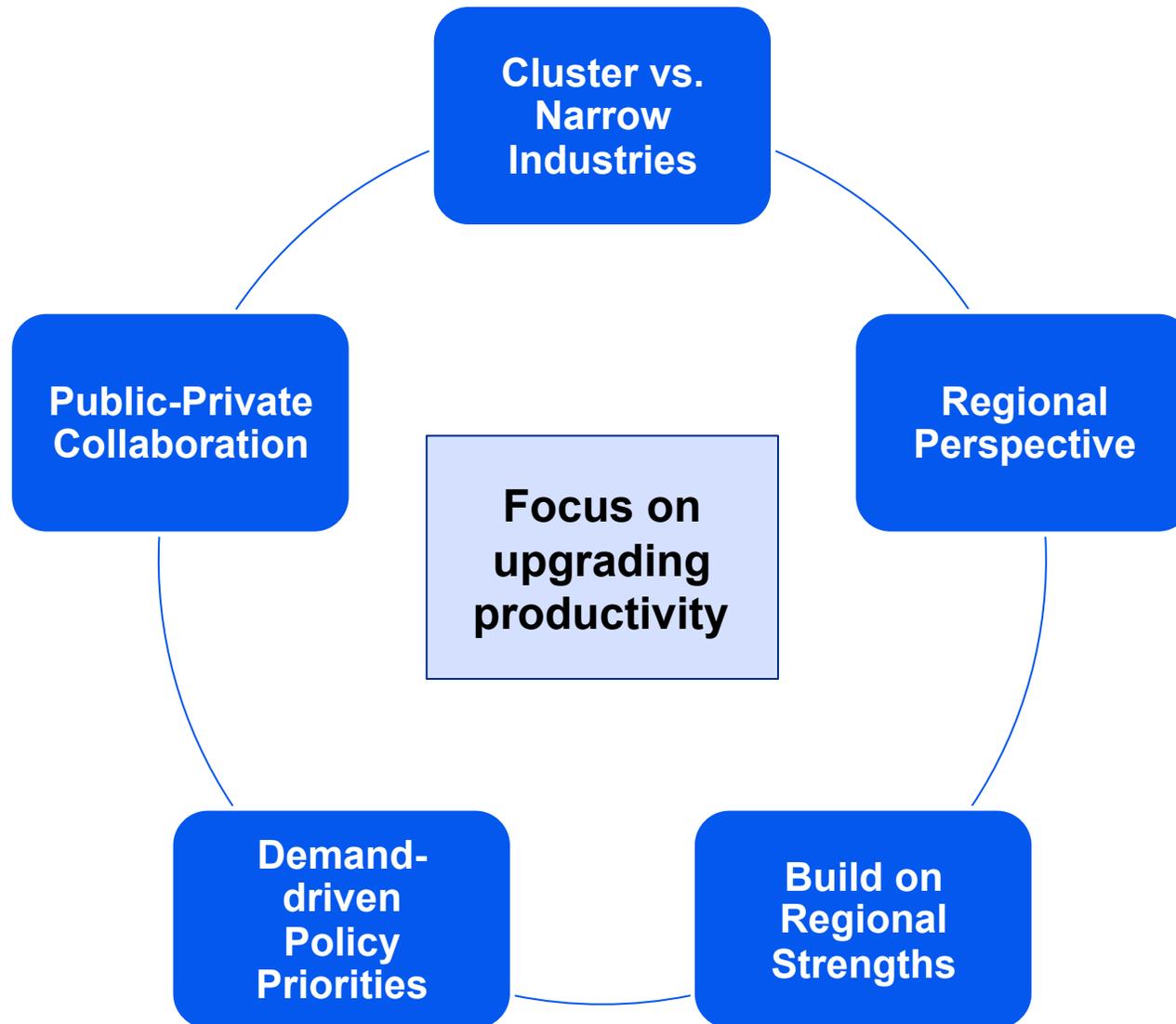
The Role of Cluster Initiatives

Cluster initiatives are **collaborative activities** by a **group** of companies, public sector entities, and other related institutions with the objective to improve the competitiveness of a group of **interlinked economic activities in a specific geographic region**

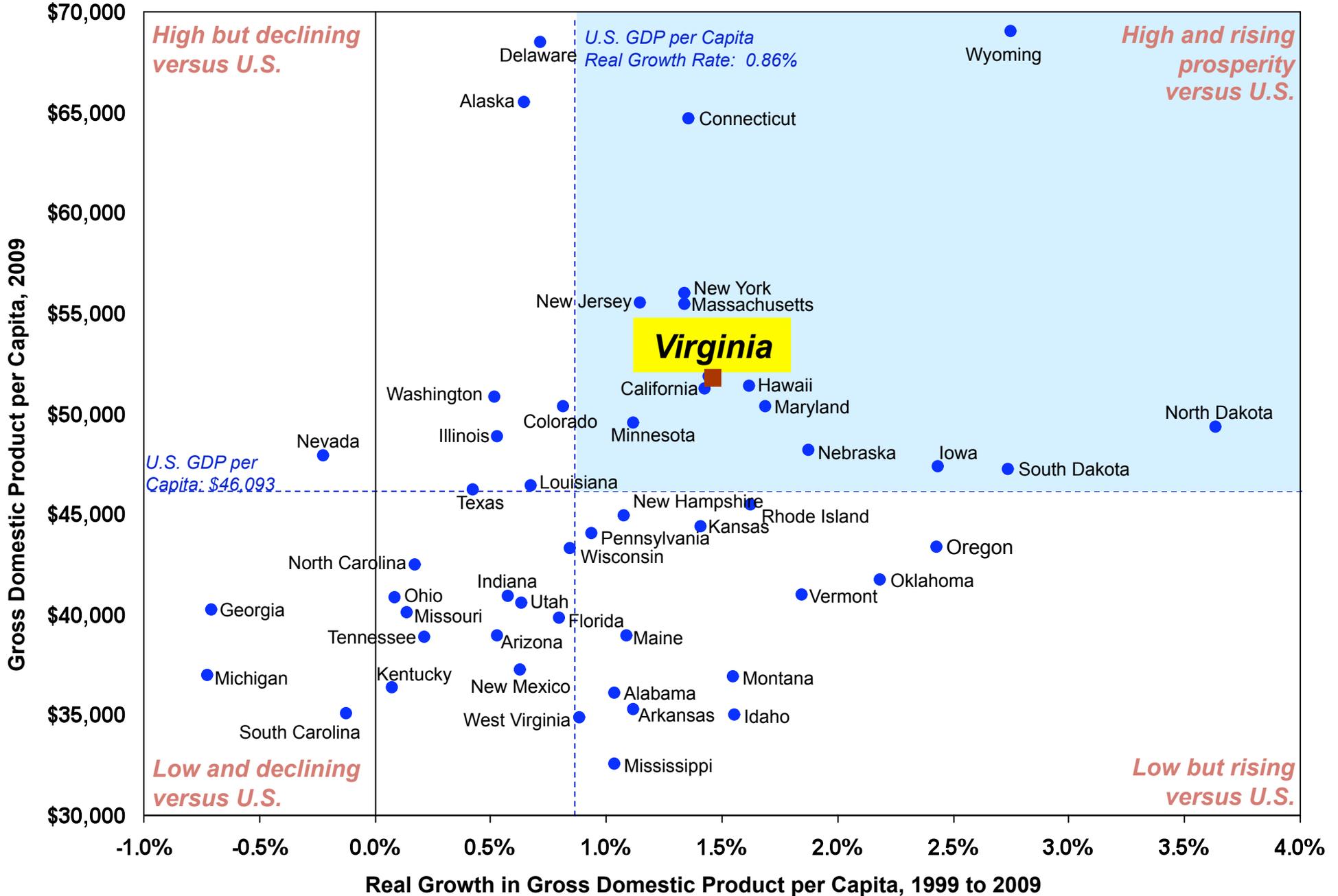
- 
- Upgrading of company operations and strategies across a group of companies
 - Upgrading of cluster-specific business environment conditions
 - Strengthening of networks to enhance spill-overs and other economic benefits of clusters

Tools

What is Different about Cluster-Based Economic Policy?



Comparative State Prosperity Performance 1999 - 2009



Source: Bureau of Economic Analysis. Note: Growth rate is calculated as compound annual growth rate.

Virginia Performance Scorecard

Current Position

Trend

Change in Rank

Prosperity

GDP per Capita, 1999-2009

9

15

+5

Wages

Average Private Wage, 1998-2009

11

3

+4

Job Creation

*Private Employment Growth,
1998-2000 and 2007-2009*

19

33

-11

Labor Mobilization

*Proportion of Working Age Population
in the Workforce, 1999-2010*

12

1

+17

Labor Productivity

GDP per Worker, 1999-2009

11

29

+2

New Business Formation

*Traded Cluster Establishment Growth,
1998-2000 and 2007-2009*

5

34

+1

Innovation

Patents per Employee, 1999-2009

30

18

+3

Cluster Strength

Employment in Strong Clusters, 1998-2009

18

6

+16

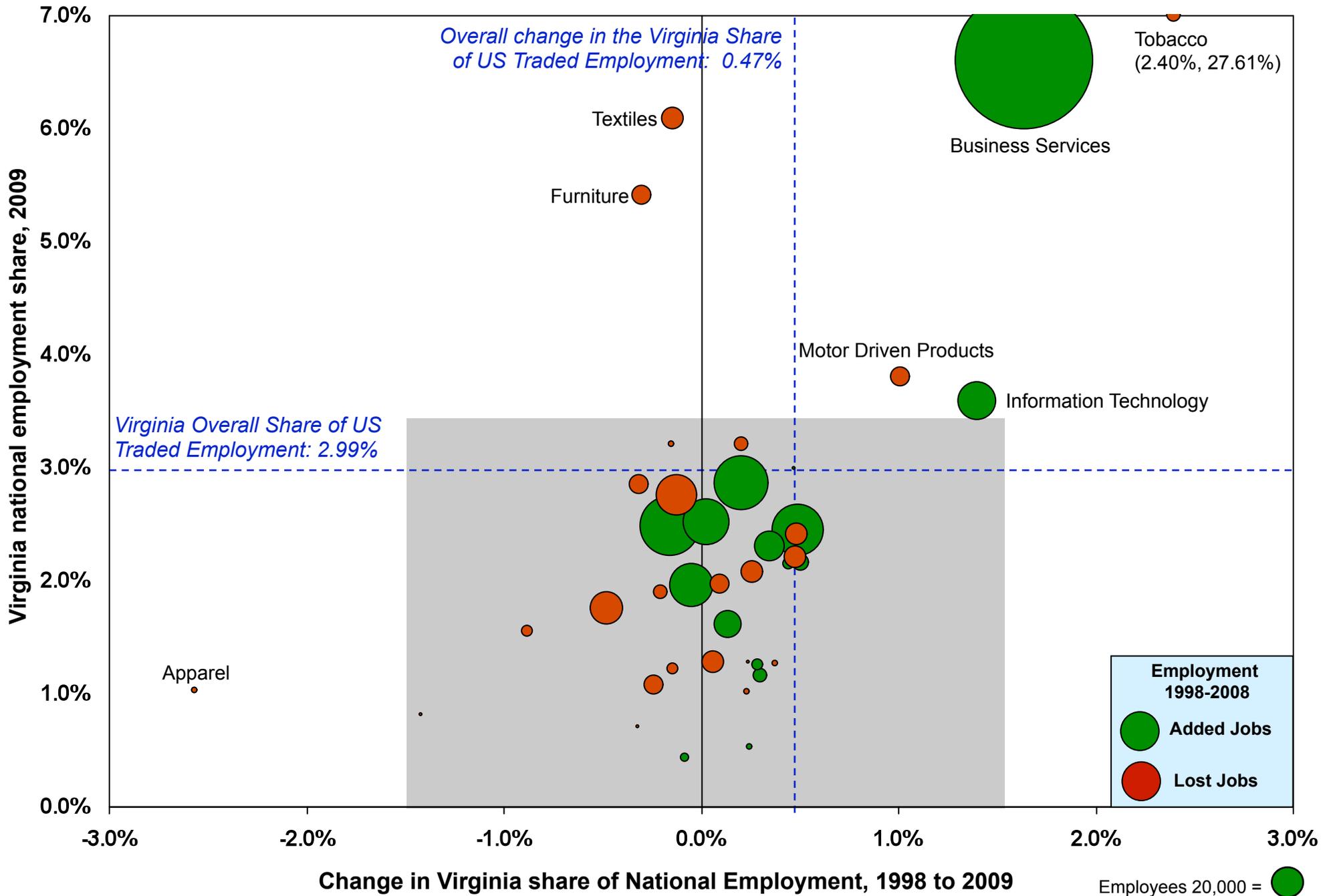
Leading Clusters

*by employment size, 2009
(national rank)*

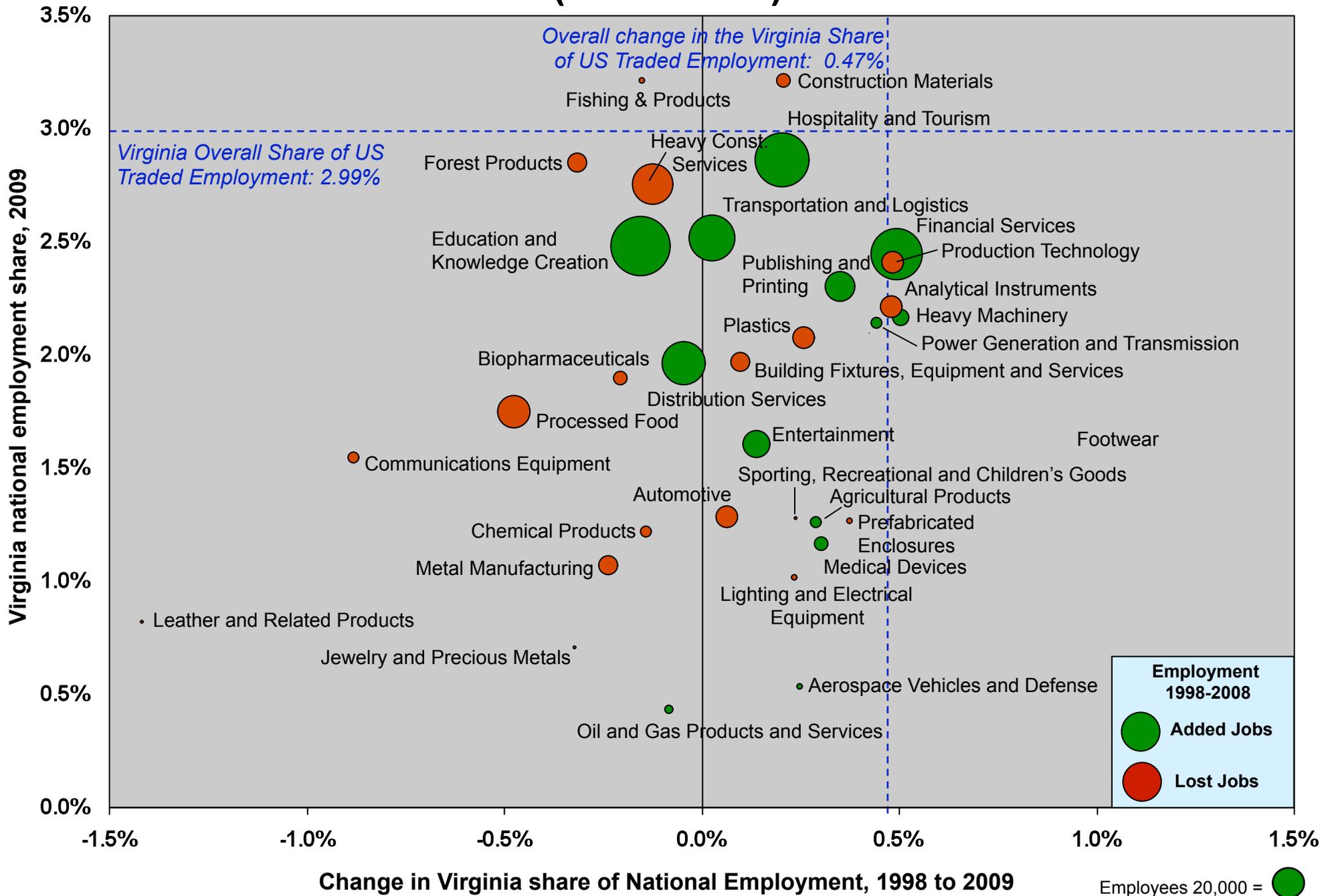
- Business Services (3)
- Textiles (5)
- Furniture (4)
- Tobacco (2)



Traded Cluster Composition of the Virginia Economy

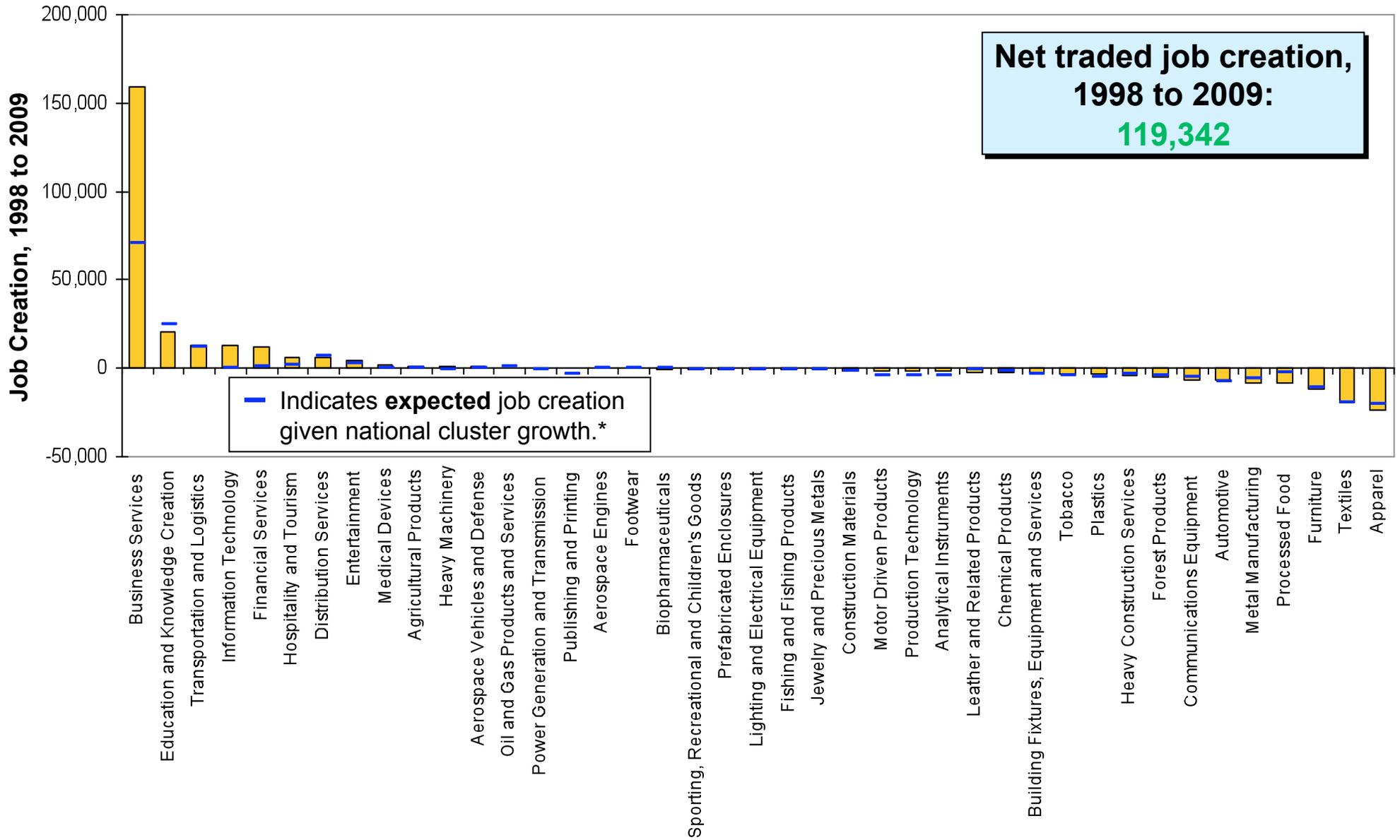


Traded Cluster Composition of the Virginia Economy (continued)



Virginia Job Creation in Traded Clusters

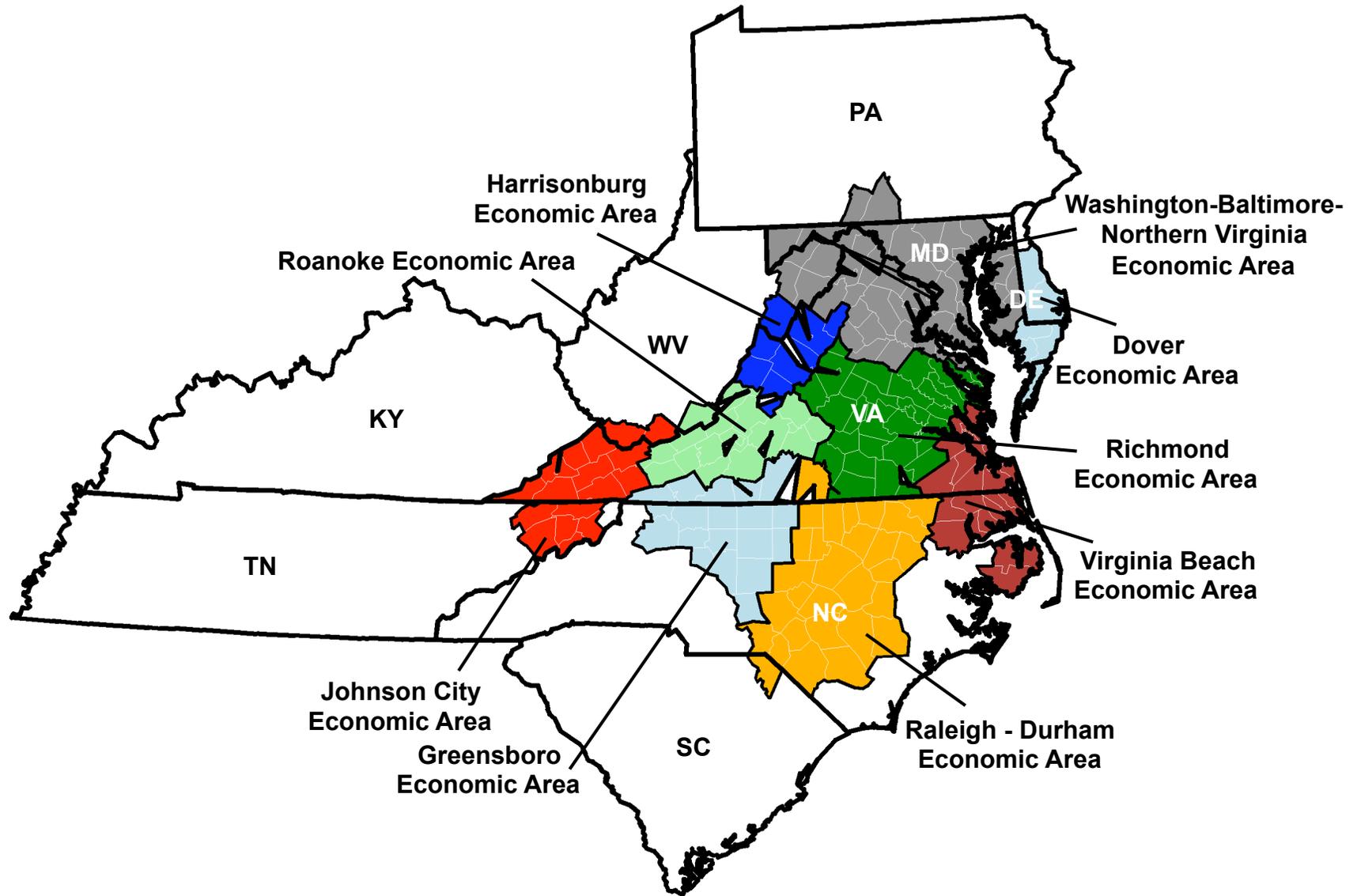
1998 to 2009



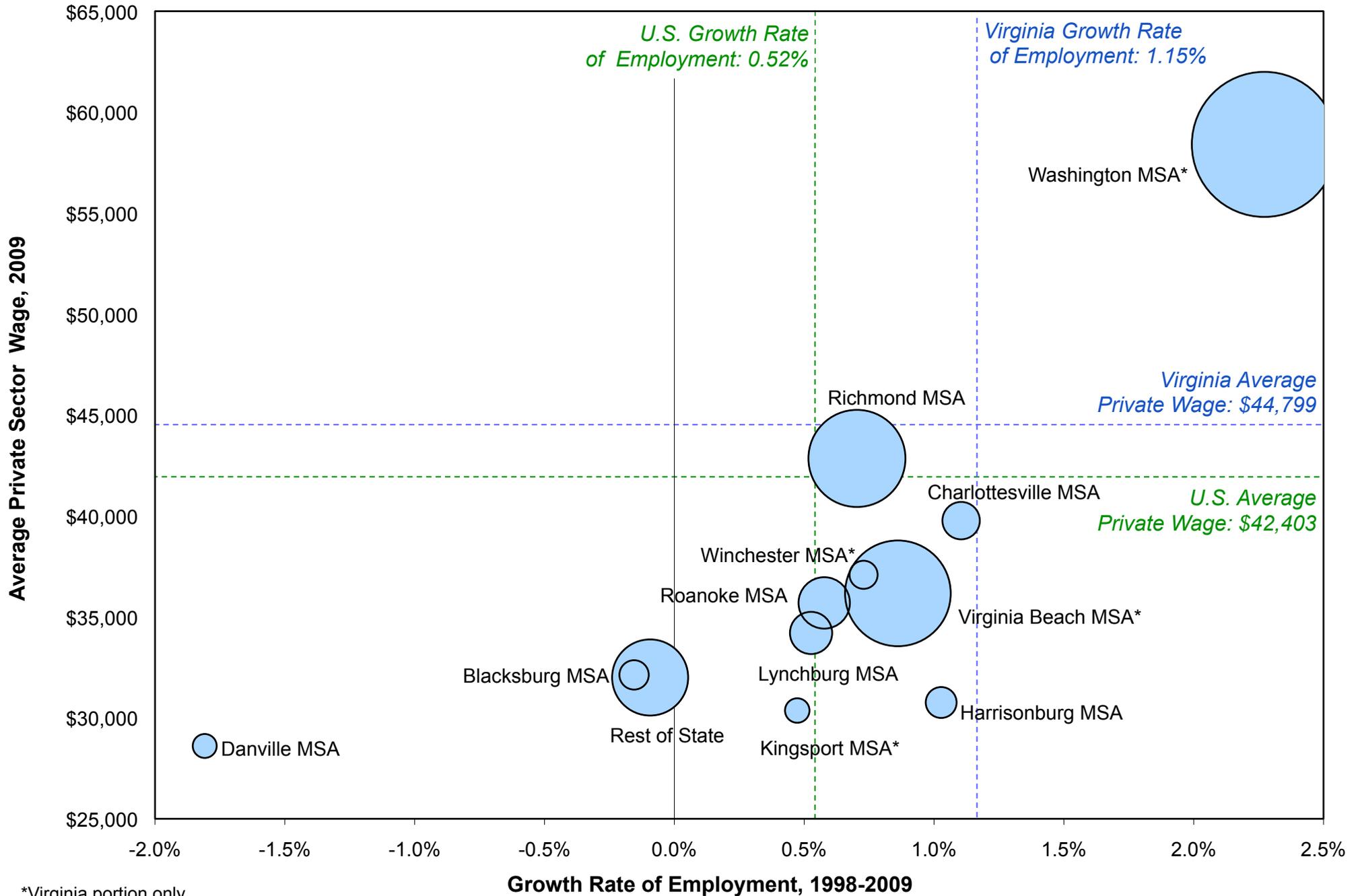
* Percent change in national benchmark times starting regional employment. Overall traded job creation in the state, if it matched national benchmarks, would be 5,457
 Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.

Defining the Appropriate Region

Virginia in BEA Economic Areas



Economic Performance in Virginia Metropolitan Areas



*Virginia portion only

Source: Census CBP, authors' analysis. Note: "Bubble" size in chart is proportional to employment in 2009.

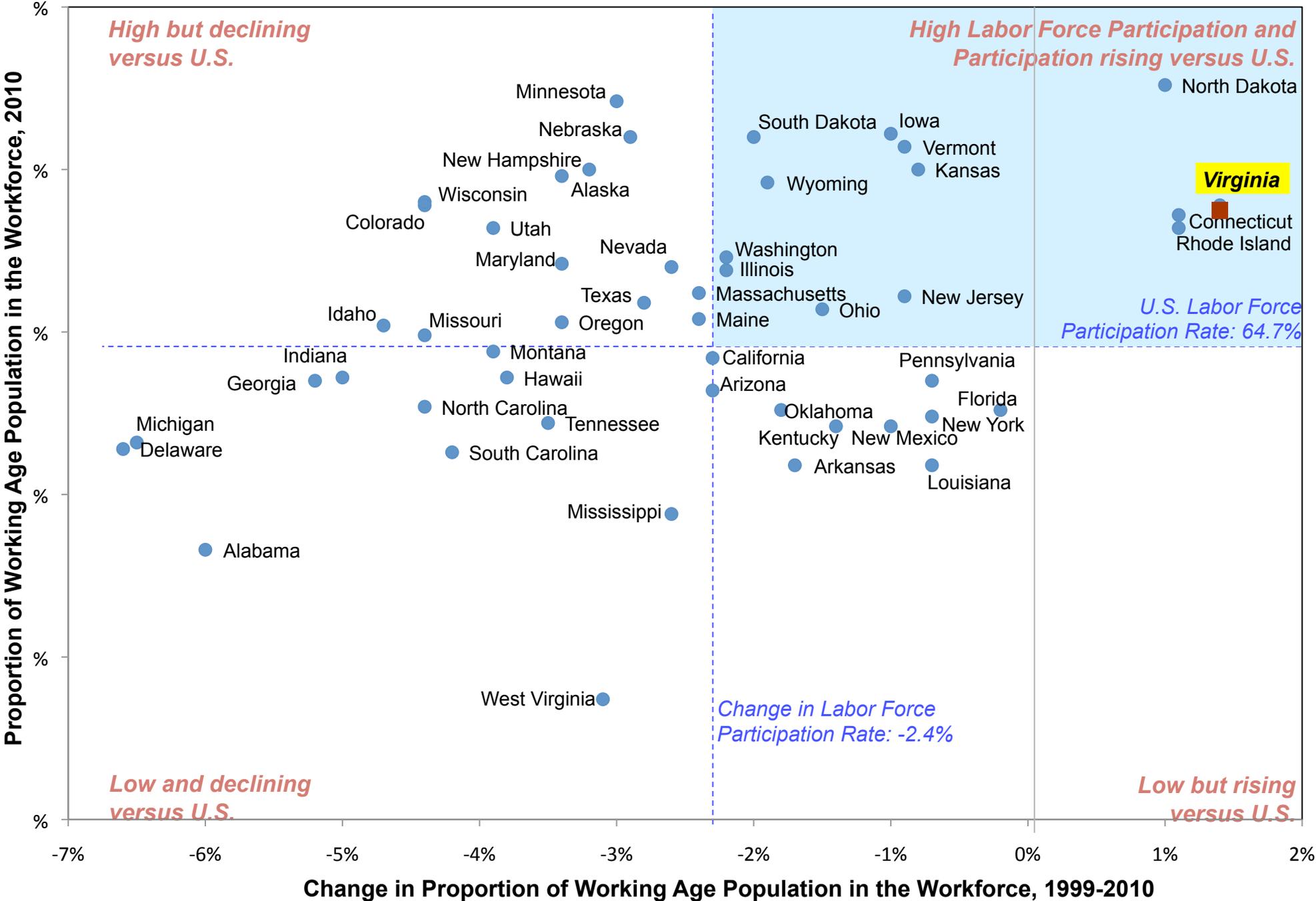
What's Next?

Topics for Discussion

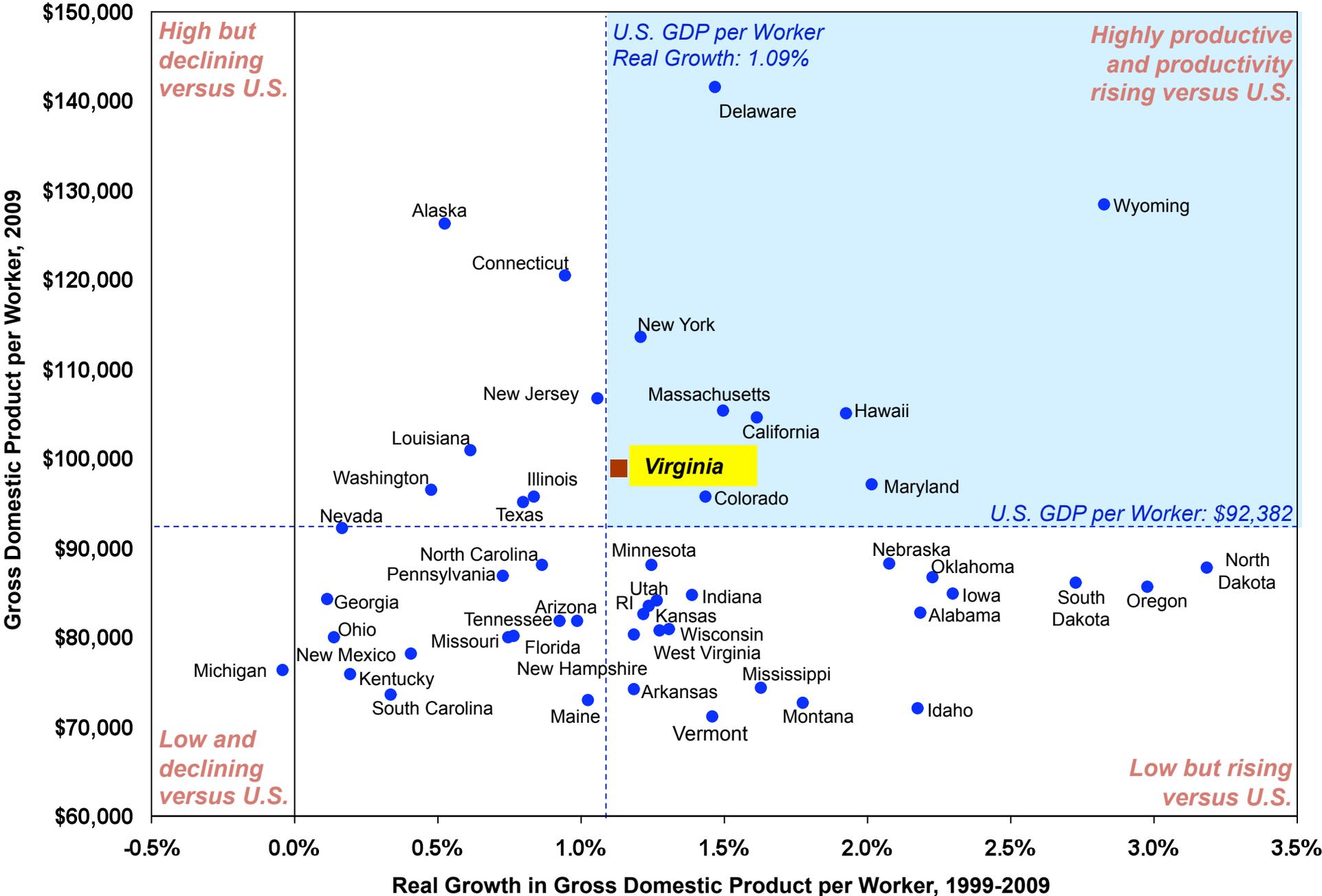
- Build on existing campaigns to move towards an **integrated strategy and action agenda**
 - Strengthen analysis of business environment conditions and cluster presence
- Mobilize action at **several geographic levels**
 - Within-state regions
 - Neighboring states
- Leverage the potential of **cluster-based policy**
 - Cluster portfolio and diversification
 - Cluster-based policy programs
- Further enhance **organization for action**

Appendix: Additional Data

Comparative State Labor Mobilization Performance 1999-2010



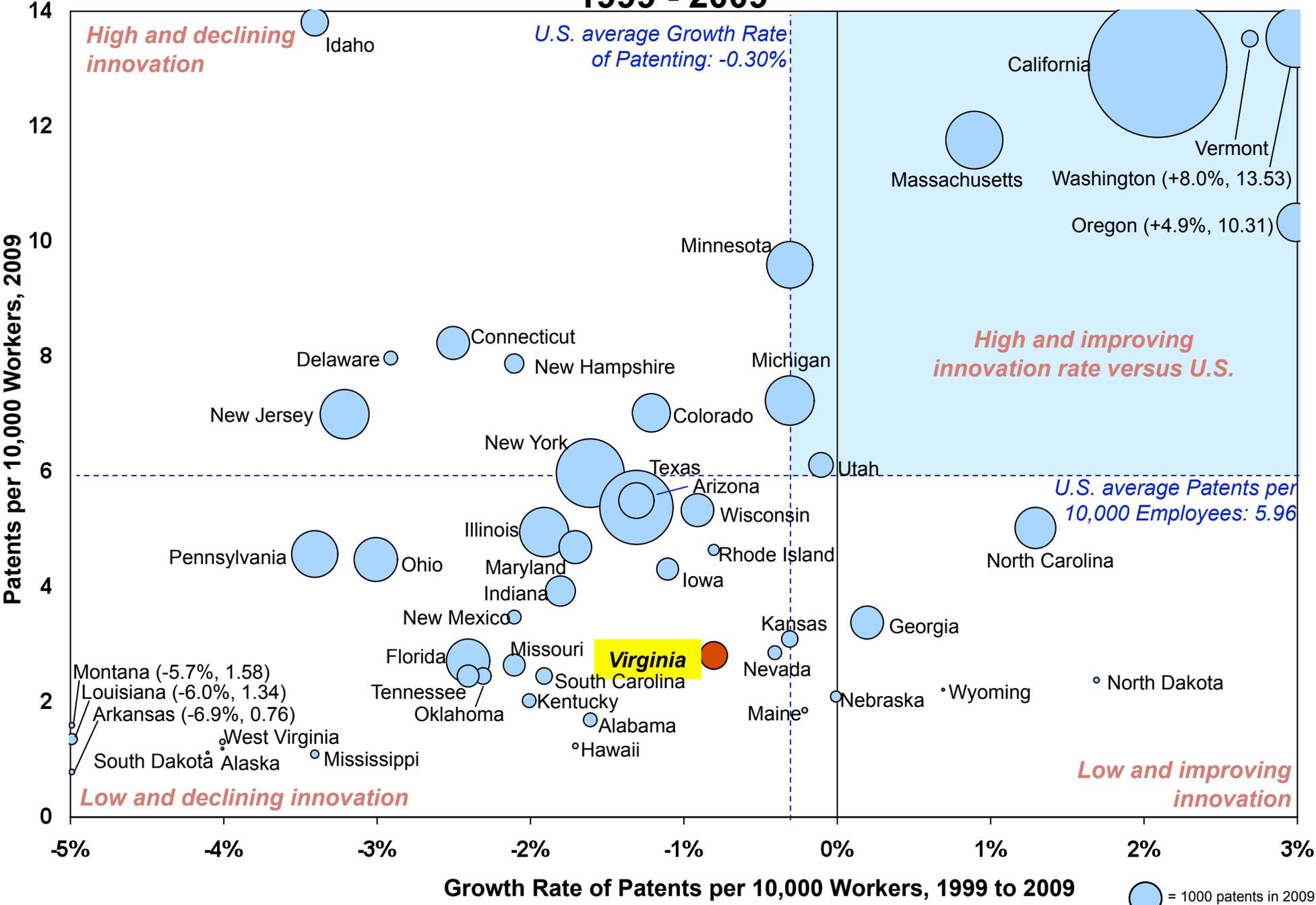
Comparative State Labor Productivity Performance 1999-2009



Source: Bureau of Economic Analysis. Notes: Growth rate is calculated as compound annual growth rate; worker = labor force participant.

Comparative State Innovation Performance

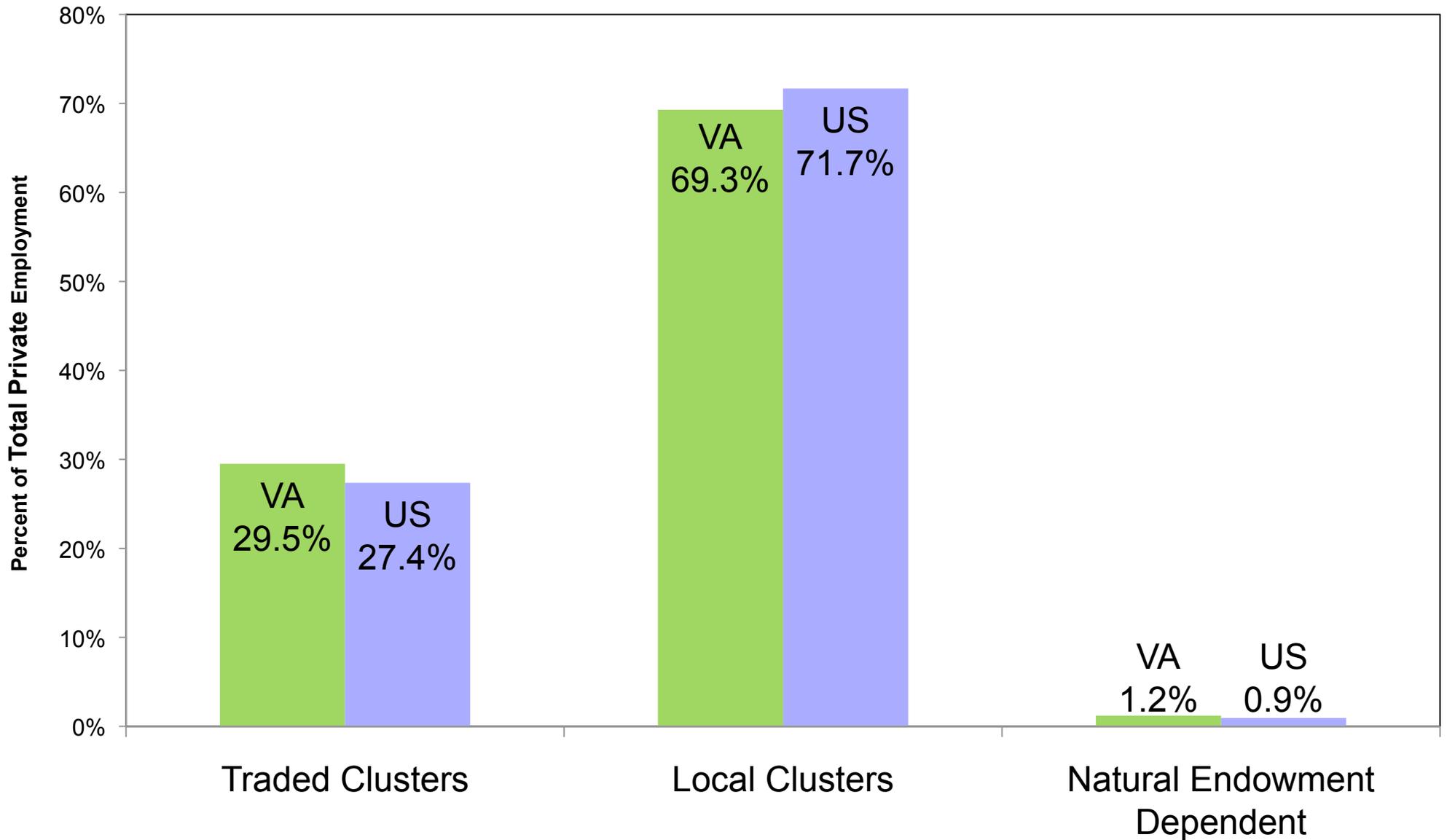
1999 - 2009



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

= 1000 patents in 2009
 = 500 patents in 2009
 Copyright © 2011 Professor Michael E. Porter

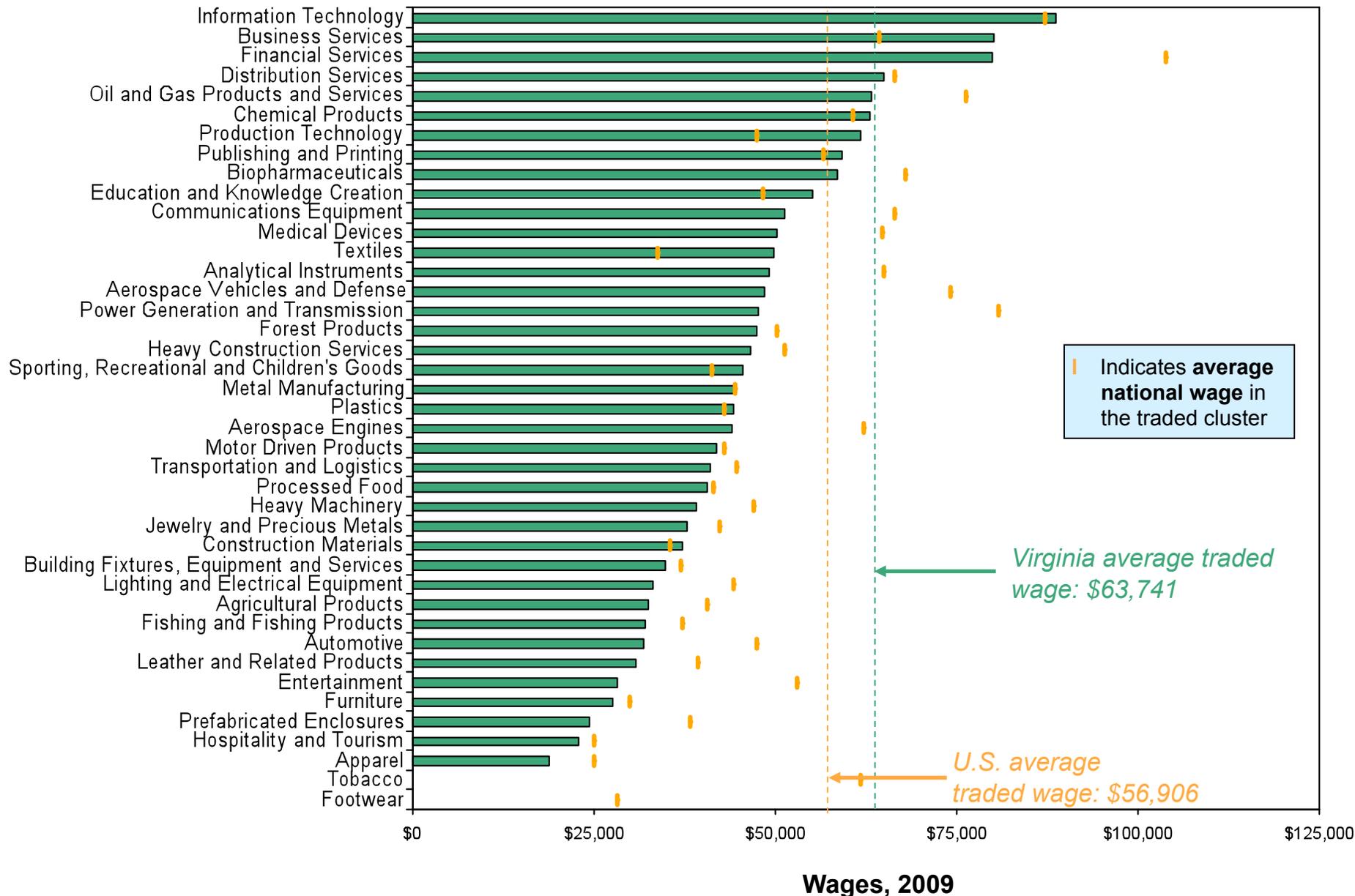
Overall Composition of the Virginia Economy, 2008



Note: Data throughout this section of the report are based on private, non-agricultural employment.

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

Virginia Wages in Traded Clusters vs. National Benchmarks



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

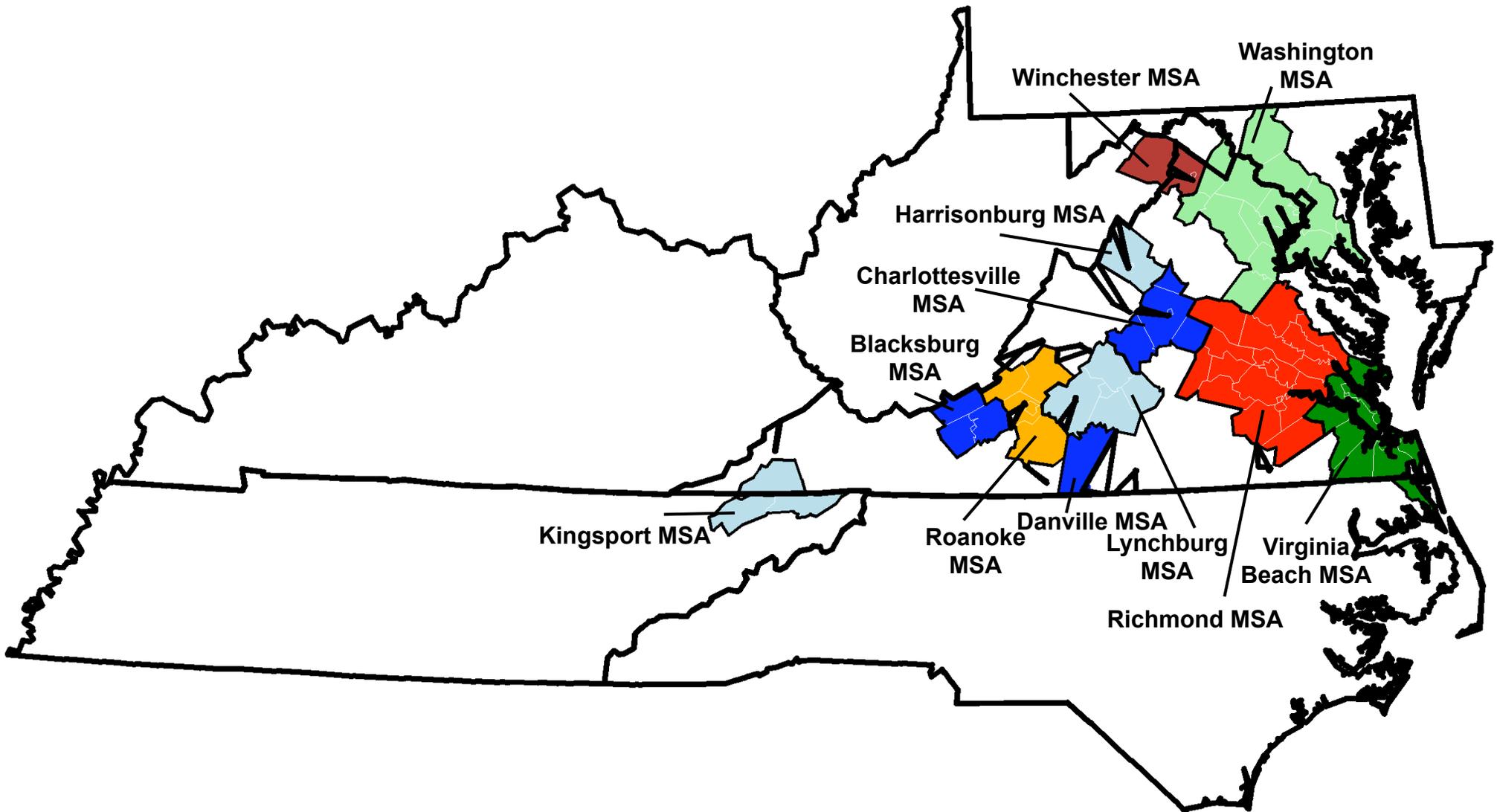
Productivity Depends on How a State Competes, Not What Industries It Competes In

State	State Traded Wage versus National Average	Cluster Mix Effect	Relative Cluster Wage Effect
Connecticut	+27,171	7,028	20,142
New York	+24,102	3,628	20,474
Massachusetts	+16,169	4,391	11,778
New Jersey	+13,535	3,761	9,774
California	+9,573	349	9,224
Maryland	+6,651	2,496	4,155
Washington	+5,652	2,692	2,960
Virginia	+5,319	1,617	3,702
Illinois	+2,658	16	2,642
Colorado	+1,662	2,416	-754
Texas	+352	2,494	-2,142
Delaware	+164	11,060	-10,896
Alaska	-930	-2,417	1,487
Pennsylvania	-3,970	-995	-2,975
Louisiana	-4,280	95	-4,375
Georgia	-5,322	-1,102	-4,220
Minnesota	-5,576	-425	-5,150
New Hampshire	-6,387	374	-6,761
Arizona	-7,021	1,149	-8,169
Kansas	-7,705	2,241	-9,946
Wyoming	-8,057	1,040	-9,097
Michigan	-8,176	-2,544	-5,633
North Carolina	-9,245	-4,330	-4,915
Ohio	-9,284	-2,495	-6,788
Rhode Island	-9,791	-2,290	-7,501

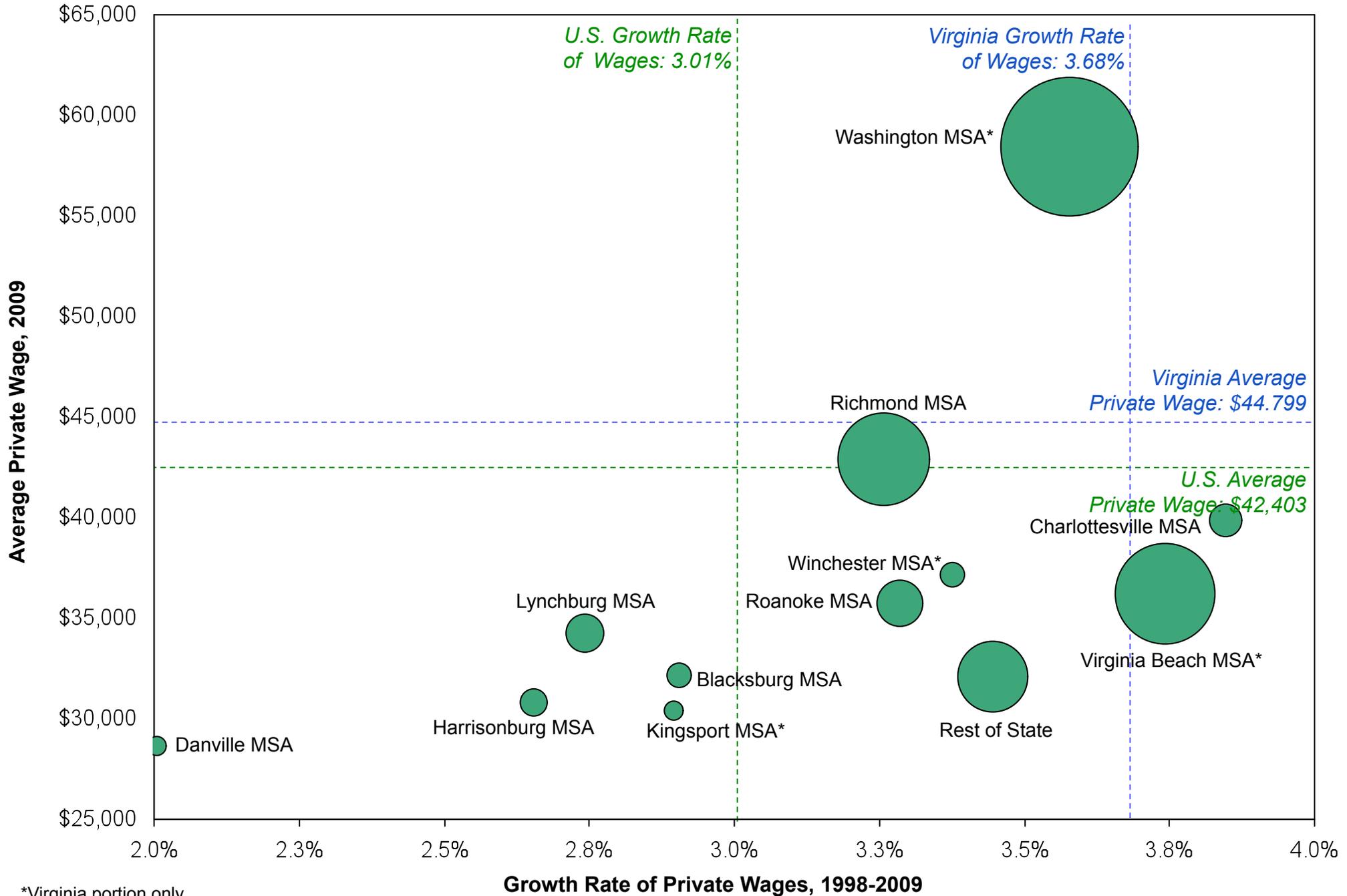
State	State Traded Wage versus National Average	Cluster Mix Effect	Relative Cluster Wage Effect
Oregon	-10,359	-1,304	-9,056
Missouri	-10,427	-1,425	-9,002
Alabama	-10,934	-3,563	-7,371
Florida	-11,007	-1,559	-9,448
Wisconsin	-11,722	-3,516	-8,206
Nebraska	-11,777	241	-12,018
Utah	-11,992	2,072	-14,064
Tennessee	-12,172	-3,156	-9,016
Indiana	-12,554	-4,840	-7,714
Vermont	-13,368	-1,572	-11,796
Oklahoma	-13,572	497	-14,069
Nevada	-14,277	-2,365	-11,911
North Dakota	-14,394	1,004	-15,397
South Carolina	-15,276	-5,067	-10,209
Arkansas	-15,378	-4,560	-10,818
Hawaii	-16,043	-12,555	-3,487
New Mexico	-16,123	-288	-15,835
Kentucky	-16,215	-5,024	-11,191
Maine	-16,379	-968	-15,412
Iowa	-16,606	-2,721	-13,885
West Virginia	-16,645	-3,894	-12,751
Idaho	-18,671	-787	-17,884
Mississippi	-19,942	-5,291	-14,651
Montana	-20,073	-2,259	-17,815
South Dakota	-20,968	289	-21,257

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

Virginia Metropolitan Areas



Wage Performance in Virginia Metropolitan Areas



*Virginia portion only

Source: Census CBP, authors' analysis. Note: "Bubble" size in chart is proportional to employment in 2009.

Effect of Urban and Rural Areas on Average State Wages

U.S. States, 2008

State	Average Overall Wage Difference to U.S.	Metro-Rural Mix	Relative Metro Wage	Relative Rural Wage
New York	+15,412	982	14,078	353
Connecticut	+10,919	1,013	9,592	315
Massachusetts	+10,197	1,674	8,333	190
New Jersey	+8,488	1,631	6,765	92
Alaska	+6,538	-1,438	5,158	2,818
California	+5,584	1,476	3,844	265
Illinois	+3,427	411	3,277	-261
Washington	+3,013	832	2,122	58
Delaware	+2,664	-191	2,895	-40
Maryland	+2,201	1,159	775	267
Virginia	+1,182	509	709	-36
Minnesota	+1,024	-903	2,130	-202
Colorado	+539	-110	-66	714
Texas	+325	350	-234	209
New Hampshire	-504	-2,856	924	1,428
Pennsylvania	-1,184	262	-1,480	34
Michigan	-1,785	-165	-1,576	-44
Rhode Island	-2,143	1,720	-3,846	-17
Wyoming	-2,478	-6,929	-2,304	6,755
Georgia	-3,136	-120	-2,542	-475
Ohio	-3,925	-224	-3,799	98
Arizona	-3,962	937	-4,897	-2
Oregon	-4,116	-359	-3,505	-251
Wisconsin	-4,336	-910	-3,419	-7
Missouri	-4,540	-573	-3,103	-865

State	Average Overall Wage Difference to U.S.	Metro-Rural Mix	Relative Metro Wage	Relative Rural Wage
Nevada	-4,560	815	-5,752	377
Louisiana	-4,739	-630	-4,764	655
Kansas	-5,371	-2,175	-2,535	-661
North Carolina	-5,505	-1,262	-3,796	-446
Tennessee	-5,992	-538	-4,973	-481
Florida	-6,132	-128	-6,074	70
Indiana	-6,225	-630	-5,665	70
Oklahoma	-6,501	-2,030	-4,496	25
Hawaii	-6,583	-1,892	-4,871	179
Utah	-7,054	169	-7,273	50
Vermont	-7,280	-6,080	-968	-232
Nebraska	-7,419	-2,652	-3,621	-1,146
Alabama	-7,544	-1,206	-5,701	-636
Maine	-7,697	-2,479	-5,243	24
Kentucky	-7,978	-2,179	-5,285	-515
Iowa	-8,096	-3,123	-4,509	-464
New Mexico	-8,531	-1,843	-6,548	-140
South Carolina	-9,137	-609	-8,203	-325
Arkansas	-9,482	-2,207	-6,283	-992
Idaho	-9,766	-1,928	-6,872	-966
North Dakota	-9,973	-2,963	-6,607	-403
West Virginia	-10,074	-3,104	-7,013	43
South Dakota	-10,976	-3,811	-5,475	-1,690
Mississippi	-11,446	-4,569	-5,493	-1,383
Montana	-11,792	-5,468	-5,495	-829

Metro-rural mix: average wage impact from a state's relative proportion of metro and rural regions

Relative metro wage: average wage impact from state relative performance in metro regions

Relative rural wage: average wage impact from state relative performance in rural regions

On average 66.3% of the average wage gap in a state is due to the metro wage effect.

Note: Data are based on private, non-agricultural employment.

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