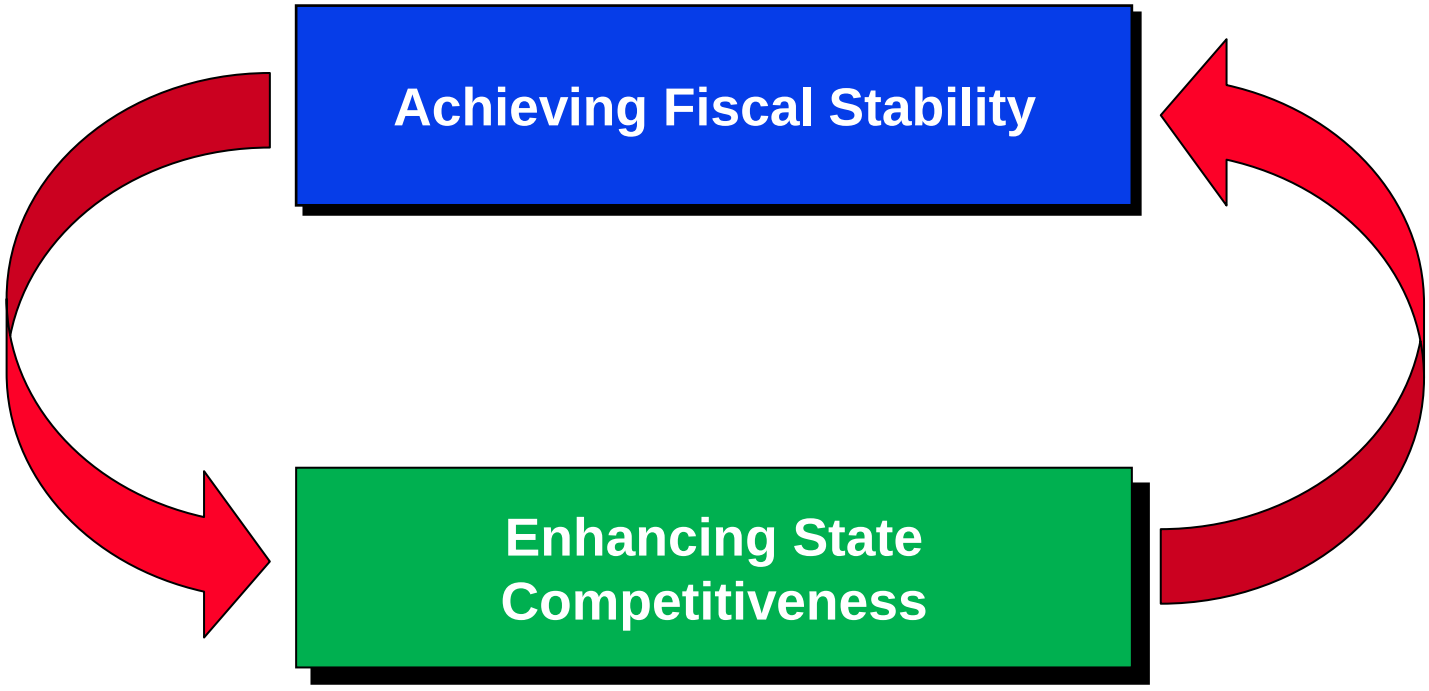
# Colorado Competitiveness:
# Creating a State Economic Strategy

**Professor Michael E. Porter**
**Harvard Business School**

*March 20, 2012*

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





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# 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



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# 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


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# 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


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# Colorado Performance Scorecard

| | Start Position | Trend | Current Position |
|---|---|---|---|
| **Prosperity**<br>*GDP per Capita, 2000-2010* | 8 | 42 | 9 -1 |
| **Wages**<br>*Average Private Wage, 1998-2009* | 13 | 15 | 12 +1 |
| **Job Creation**<br>*Private Employment Growth, 1998-2000 and 2007-2009* | 2 | 43 | 26 -24 |
| **Labor Mobilization**<br>*Proportion of Working Age Population in the Workforce, 2000-2010* | 7 | 36 | 12 -5 |
| **Labor Productivity**<br>*GDP per Workforce Participant, 2000-2010* | 15 | 37 | 14 +1 |
| **New Business Formation**<br>*Traded Cluster Establishment Growth, 1998-2000 and 2007-2009* | 8 | 40 | 15 -7 |
| **Innovation**<br>*Patents per Employee, 2000-2010* | 10 | 29 | 13 -3 |
| **Cluster Strength**<br>*Employment in Strong Clusters, 1998-2009* | 11 | 19 | 9 +2 |

**Leading Clusters**
*by employment size, 2009 (national rank)*

- Business Services (12)
- Distribution Services (13)
- Entertainment (6)
- Oil and Gas Products and Services (5)
- Information Technology (13)

***State Rank***
1-10
11-20
21-30
31-40
41-50


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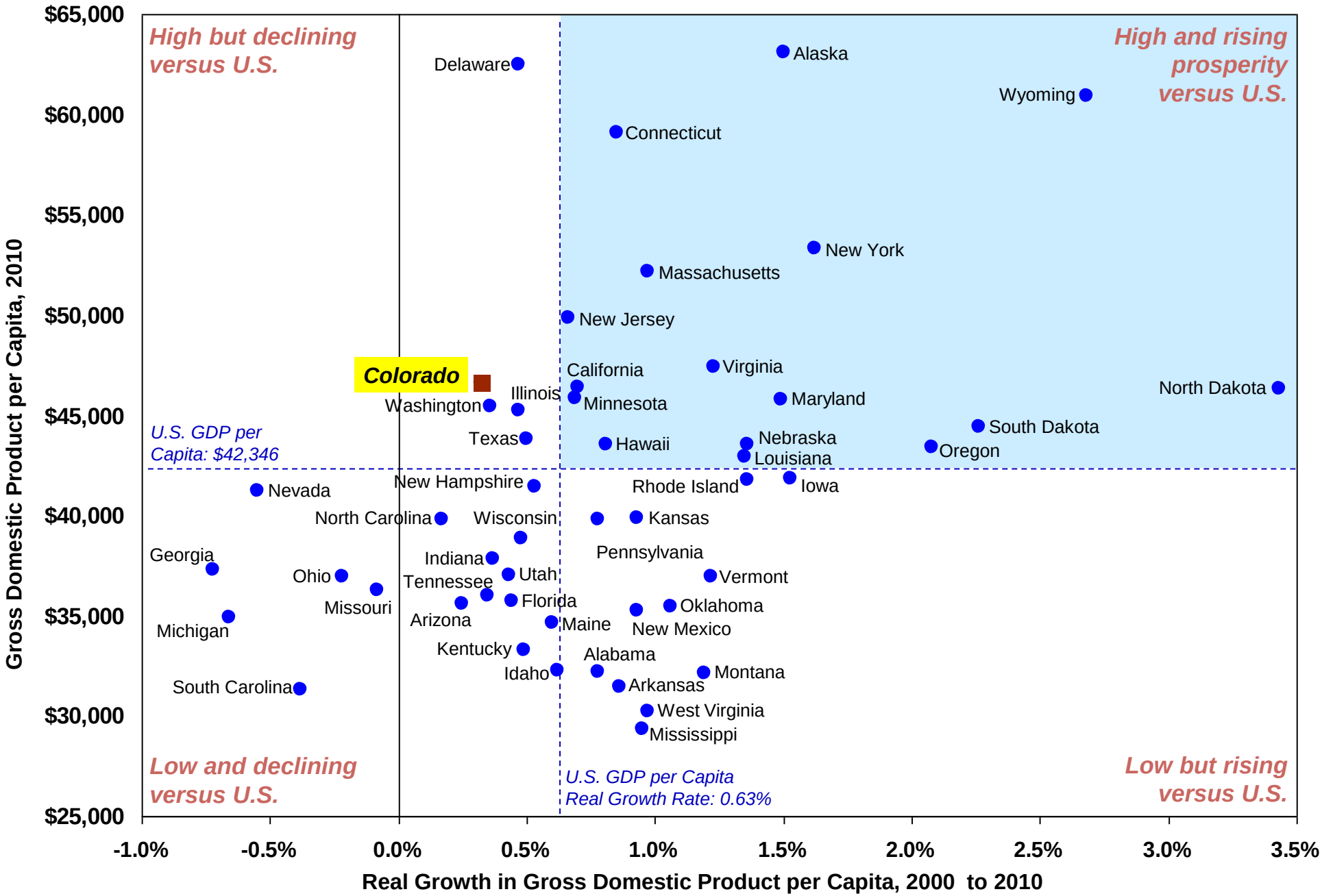
# Comparative State Prosperity Performance

## 2000 - 2010




Source: BEA. Notes: GDP in real 2005 dollars. Growth rate is calculated as compound annual growth rate.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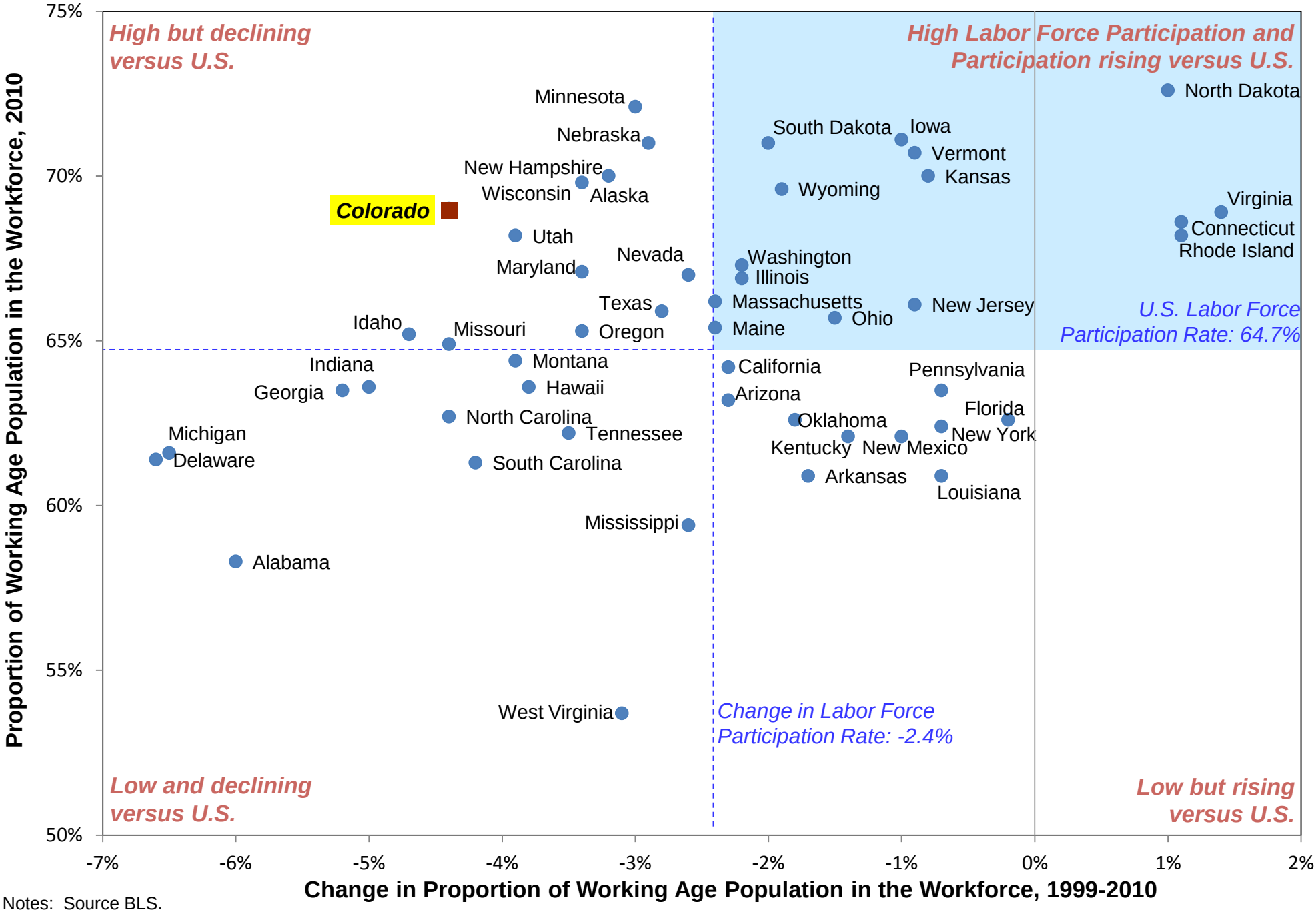
# Comparative State Labor Mobilization Performance

## 1999-2010




Notes: Source BLS.



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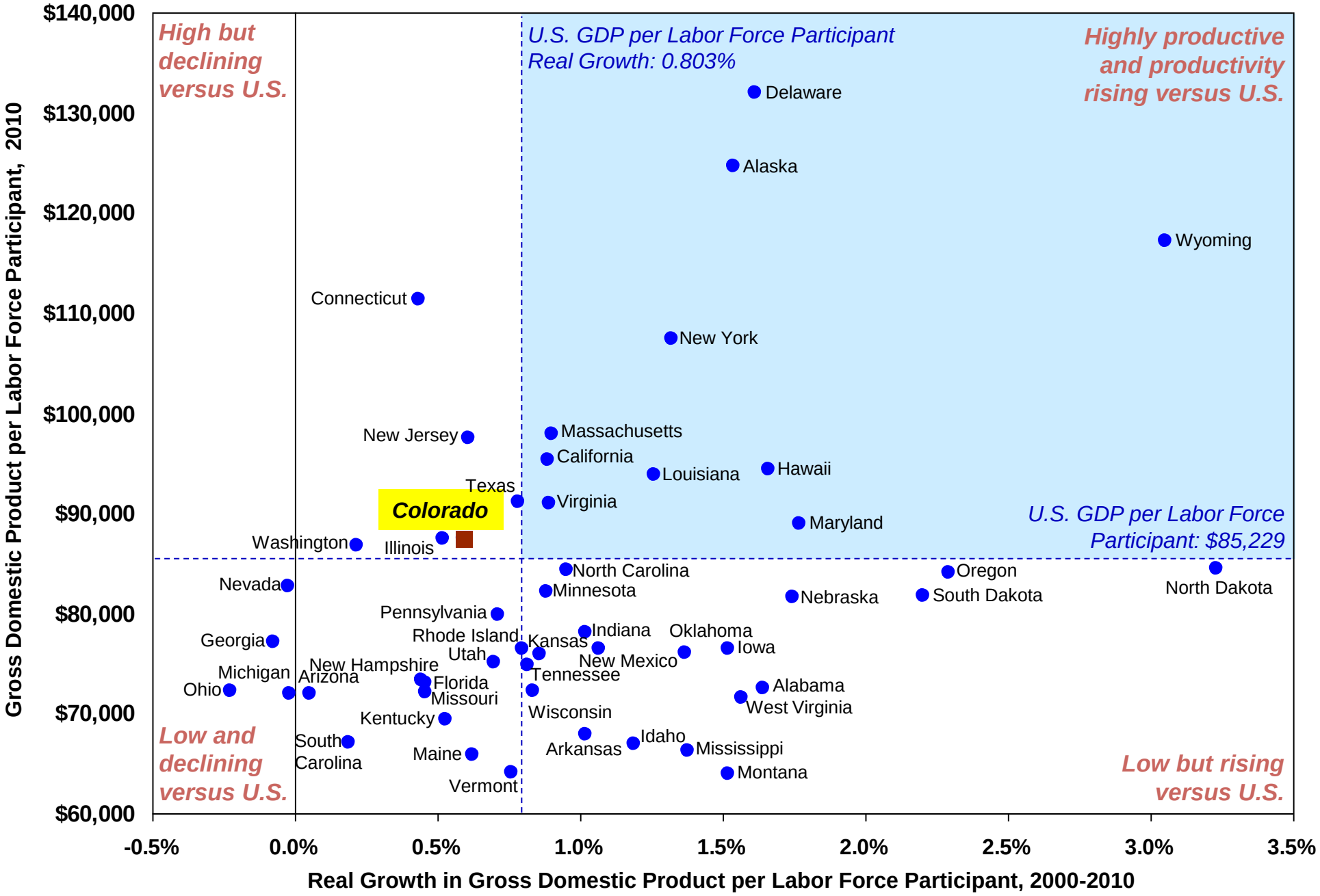
# Comparative State Labor Force Productivity Performance

## 2000-2010




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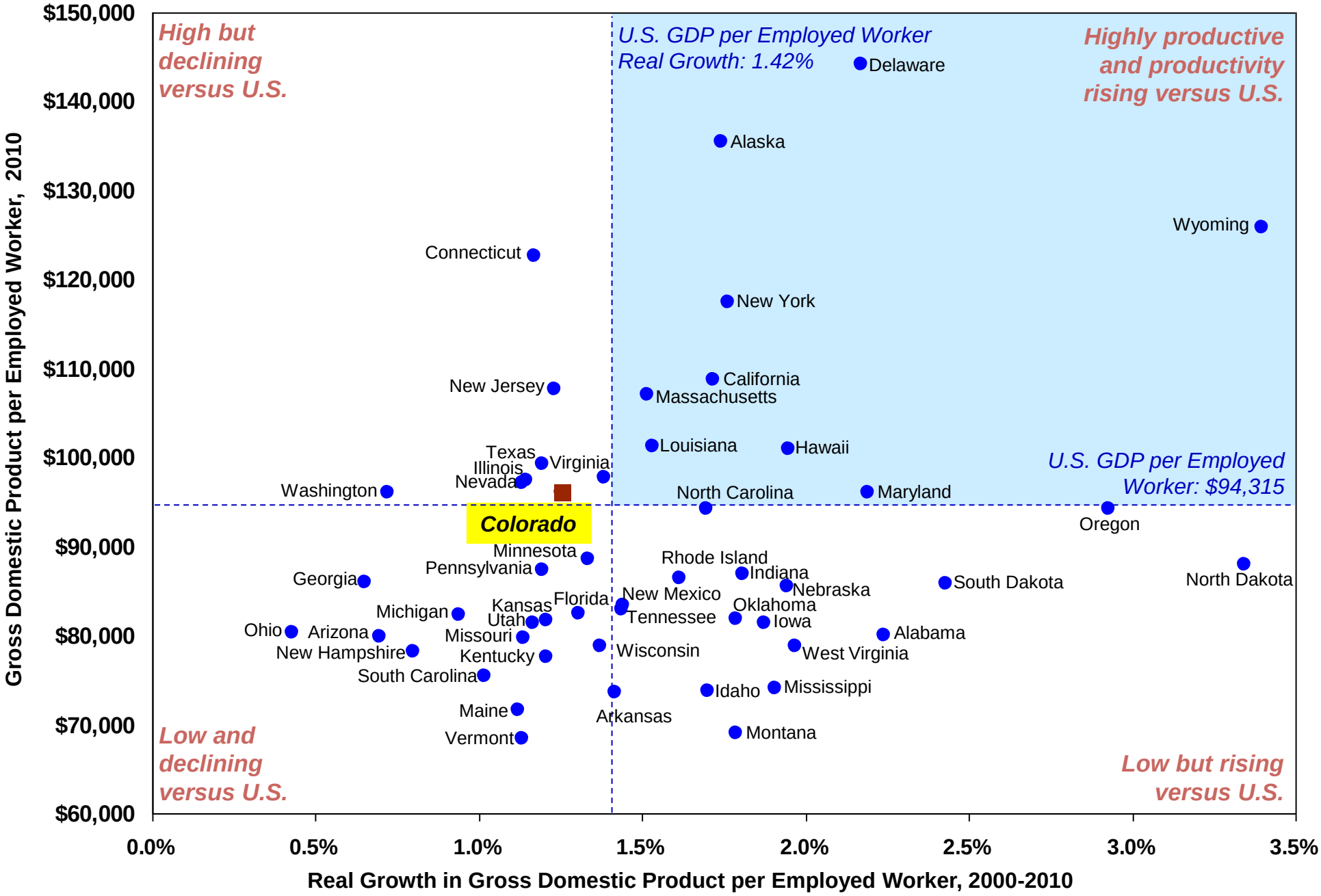
# Comparative State Employee Productivity Performance

## 2000-2010




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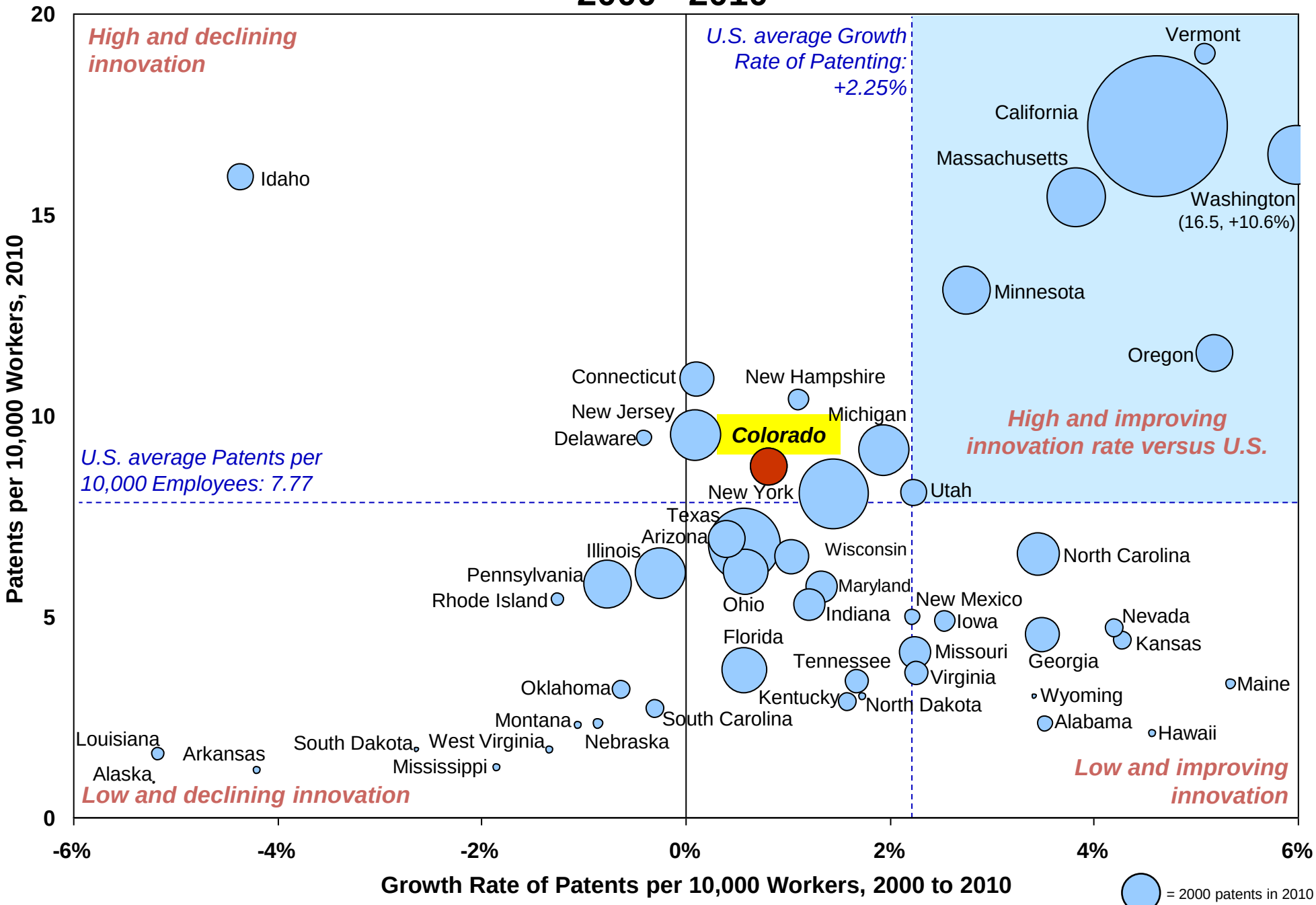
# Comparative State Innovation Performance

## 2000 - 2010




Source: USPTO utility patents, Bureau of Labor Statistics. Note: Growth rate calculated as compound annual growth rate (CAGR).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# Why?
# What Drives State Productivity?

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# Why?
# What Drives State Productivity?

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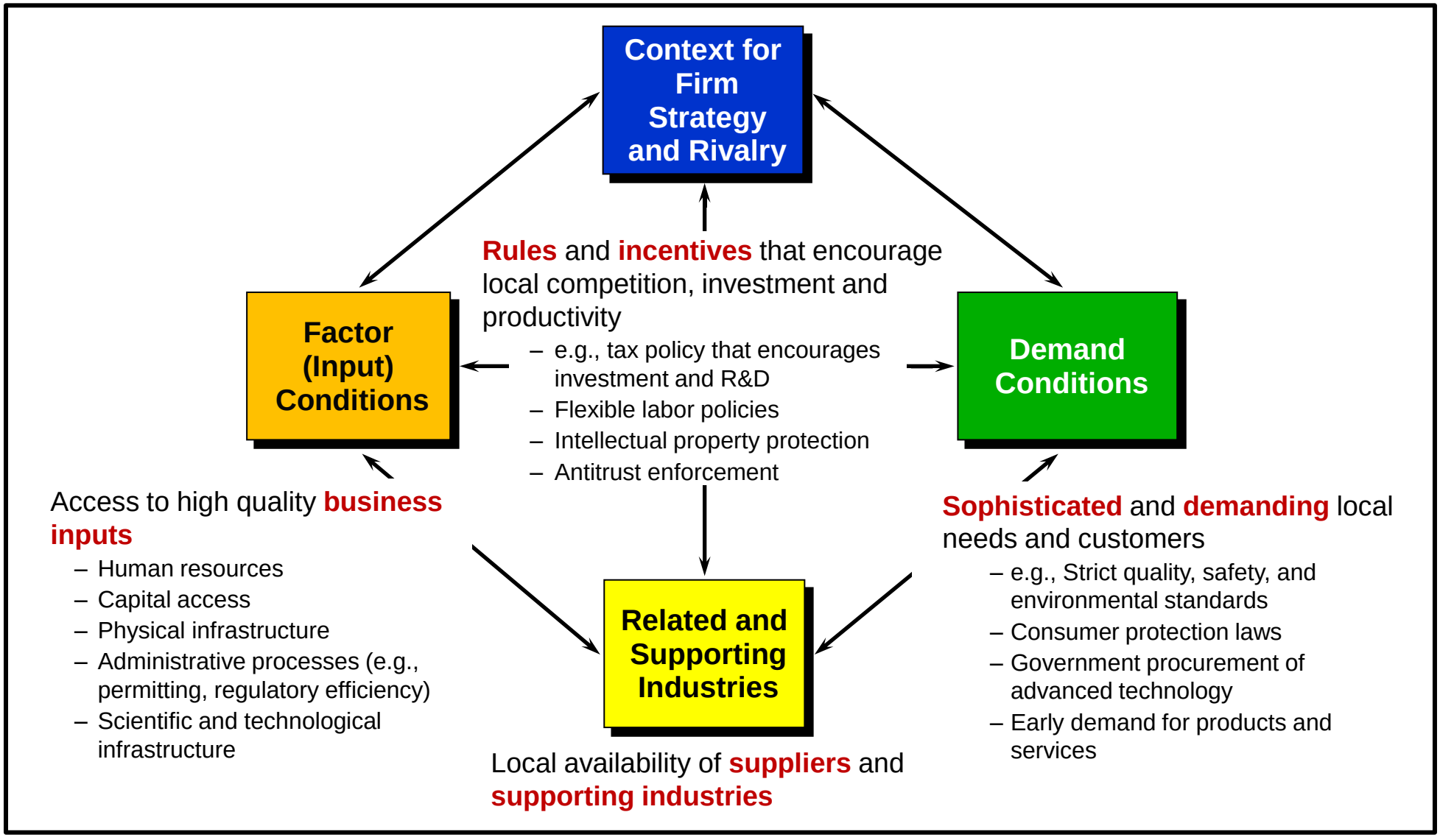
# Quality of the Overall Business Environment




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


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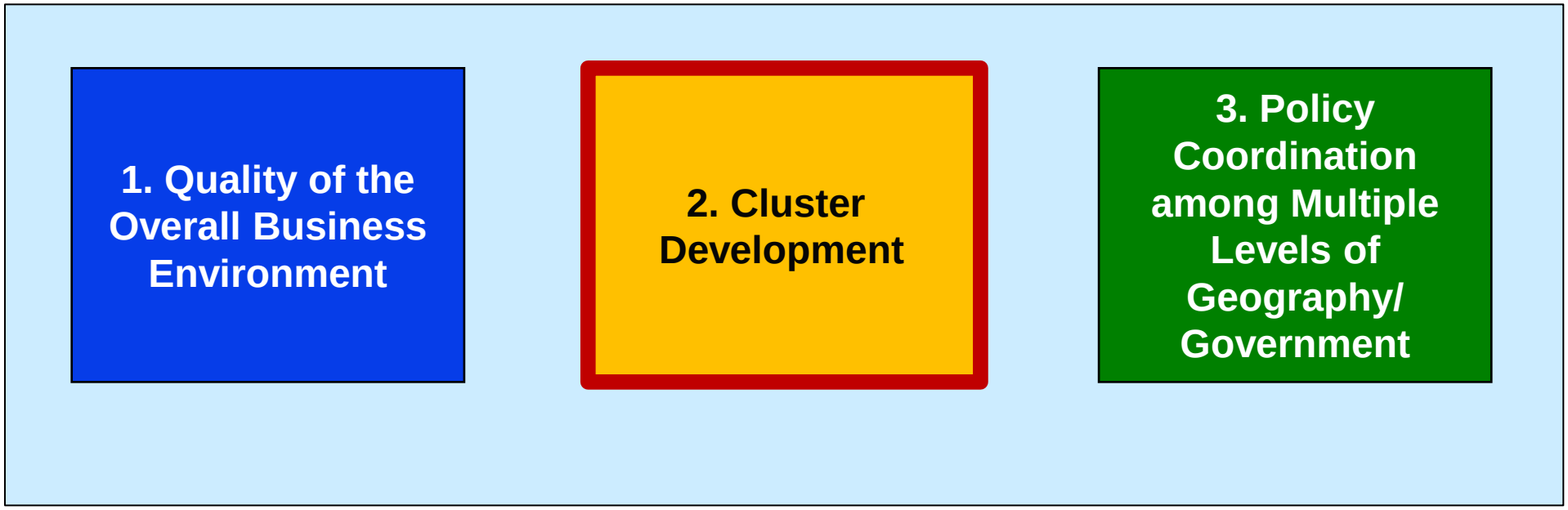
# Why?
## What Drives State Productivity?





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# 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



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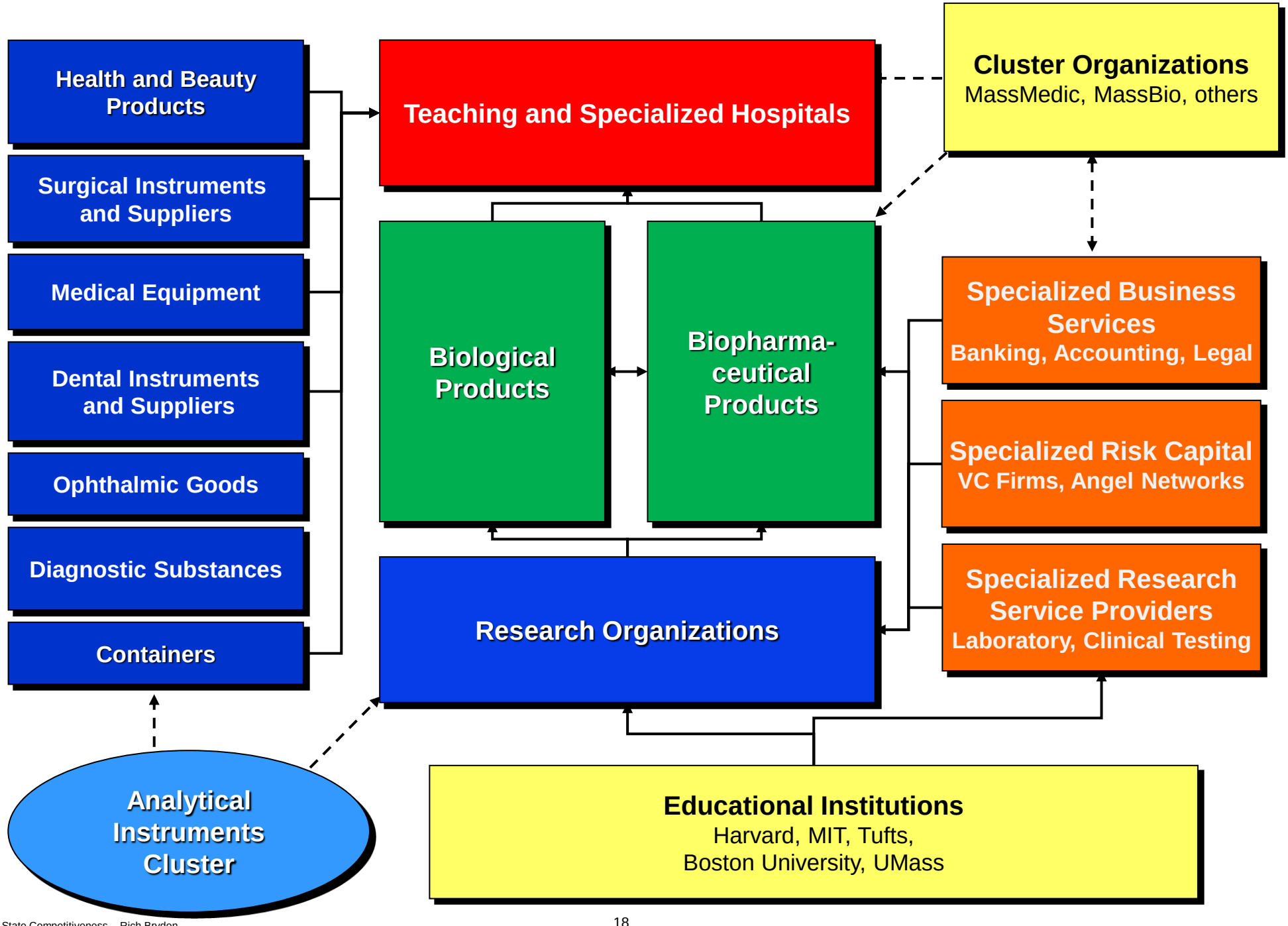
# Example: Massachusetts Life Sciences Cluster





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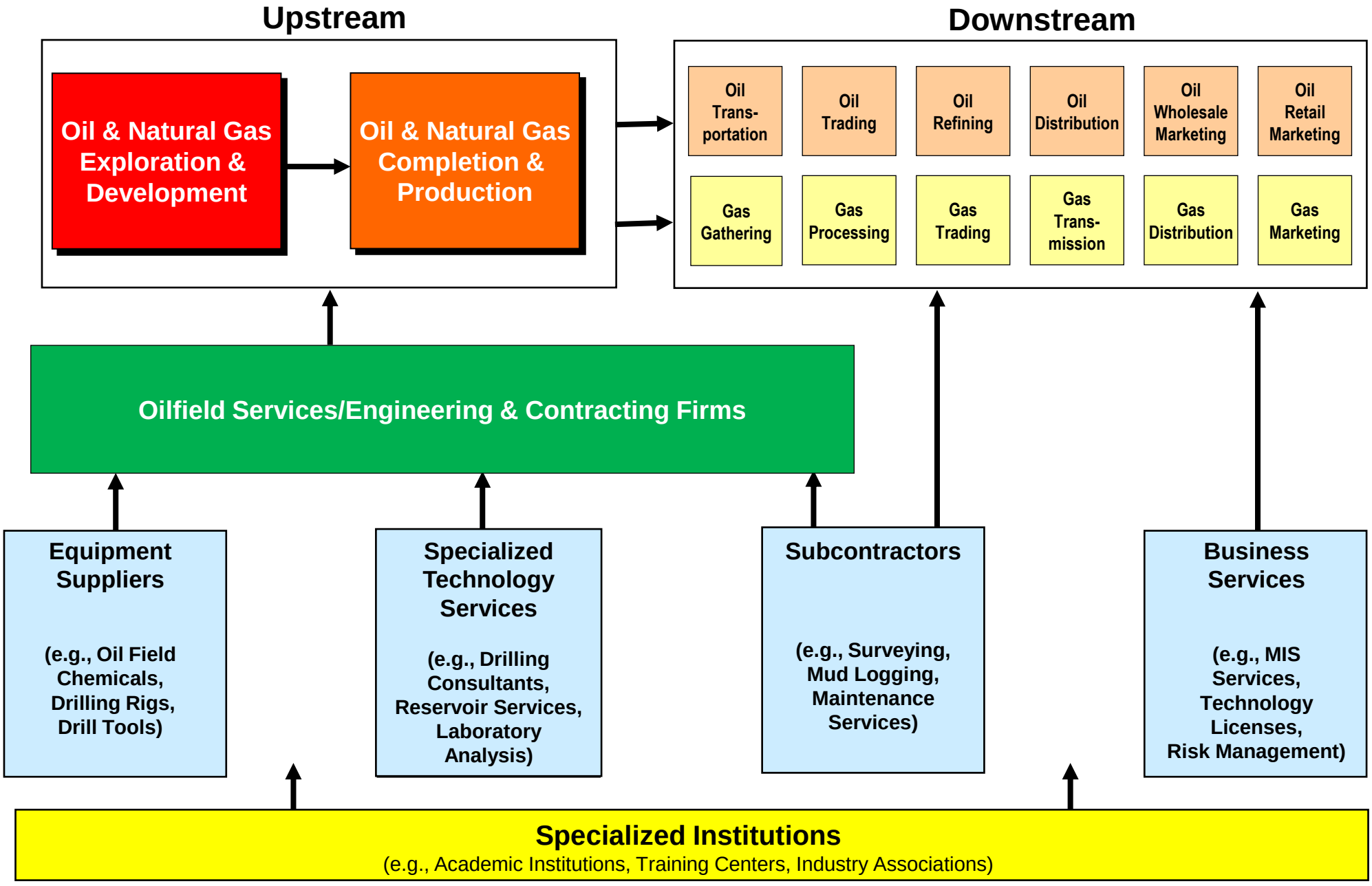
# Example: Houston Oil and Gas Cluster



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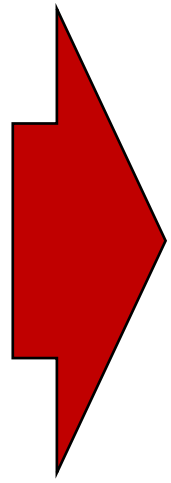
# Strong Clusters Drive Regional Performace

- 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.*

Source: Porter/Stern/Delgado (2010), Porter (2003)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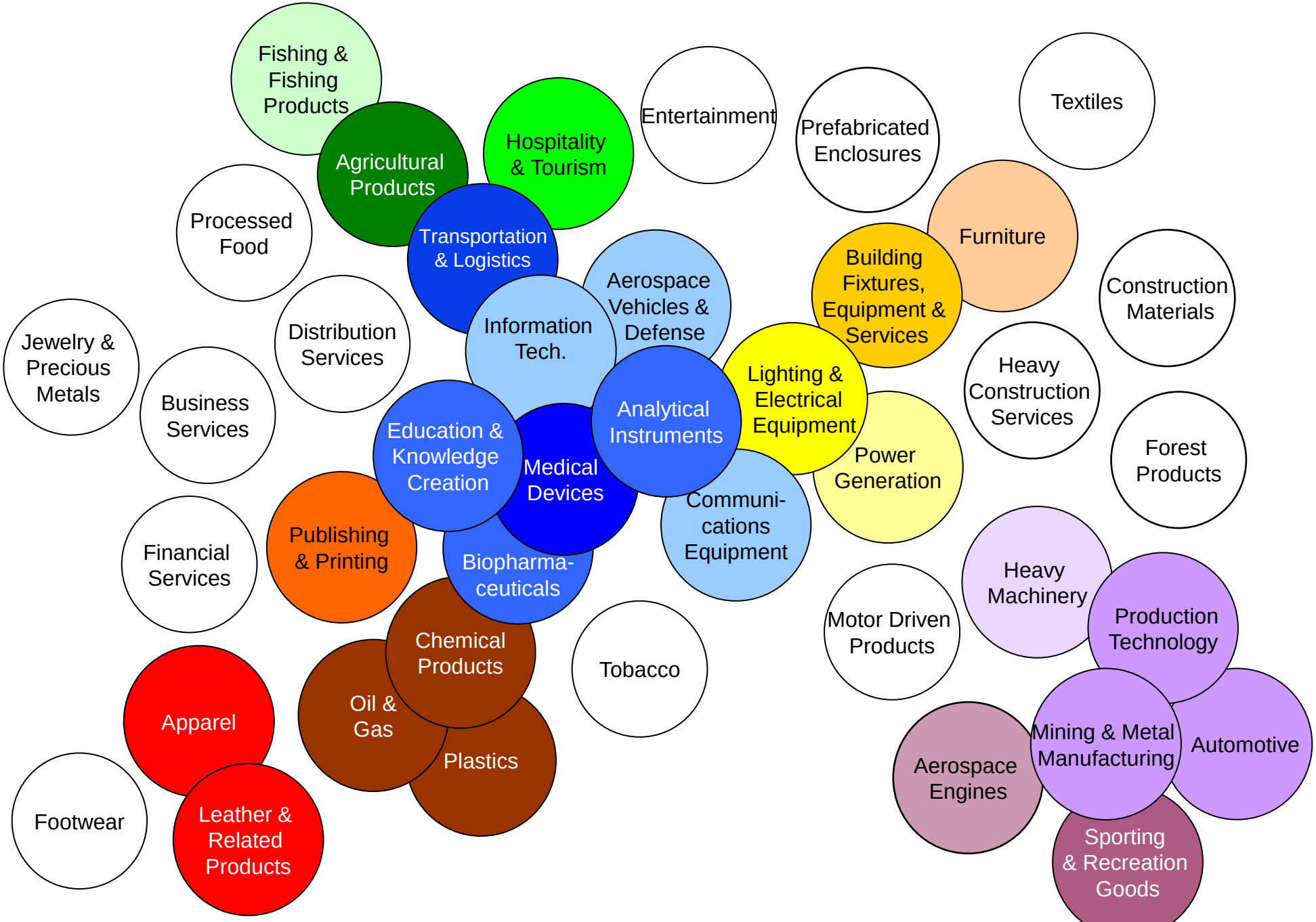
# Clusters and Economic Diversification




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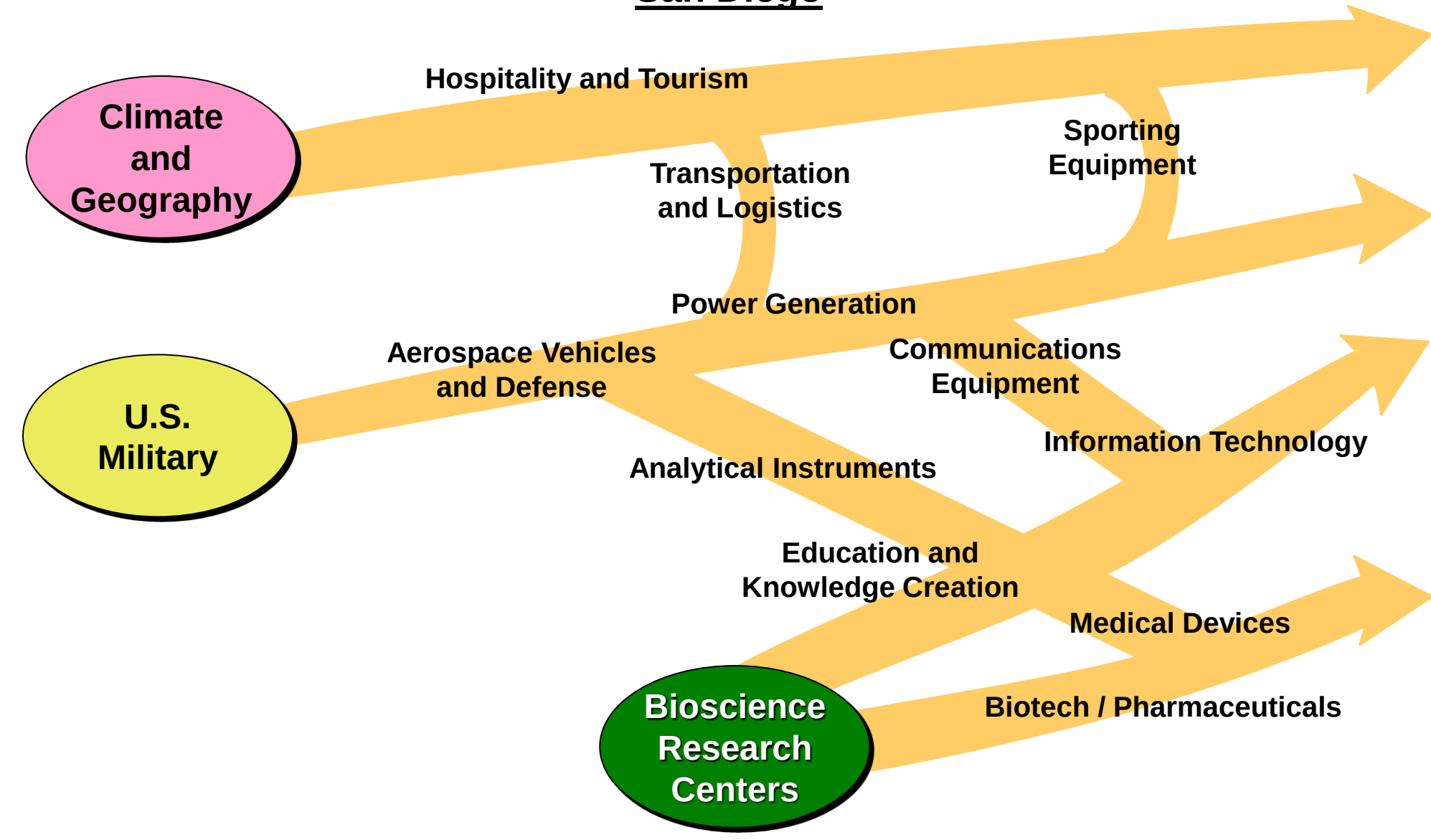
# The Evolution of Regional Economies

## San Diego



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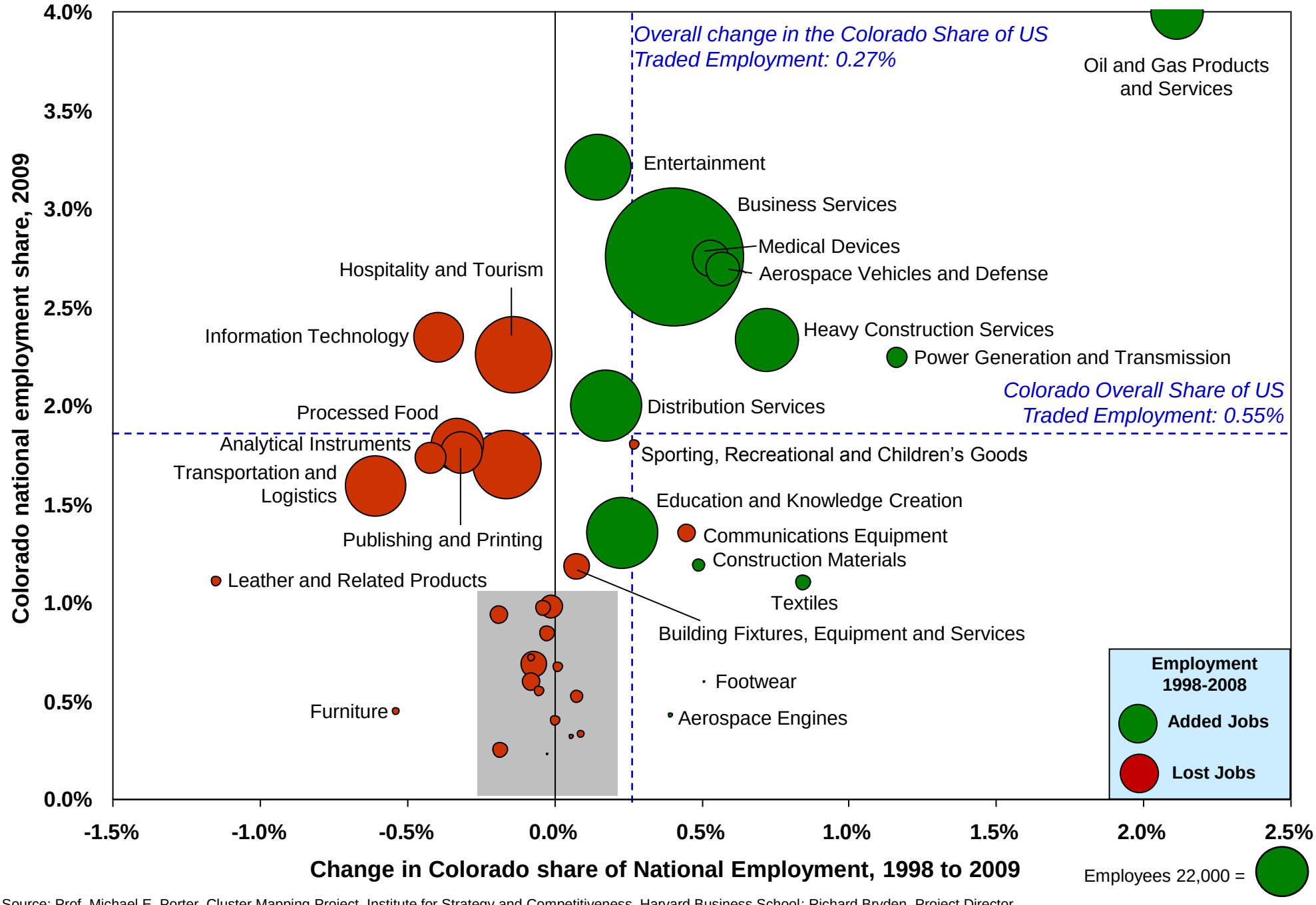
# Traded Cluster Composition of the Colorado Economy




Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.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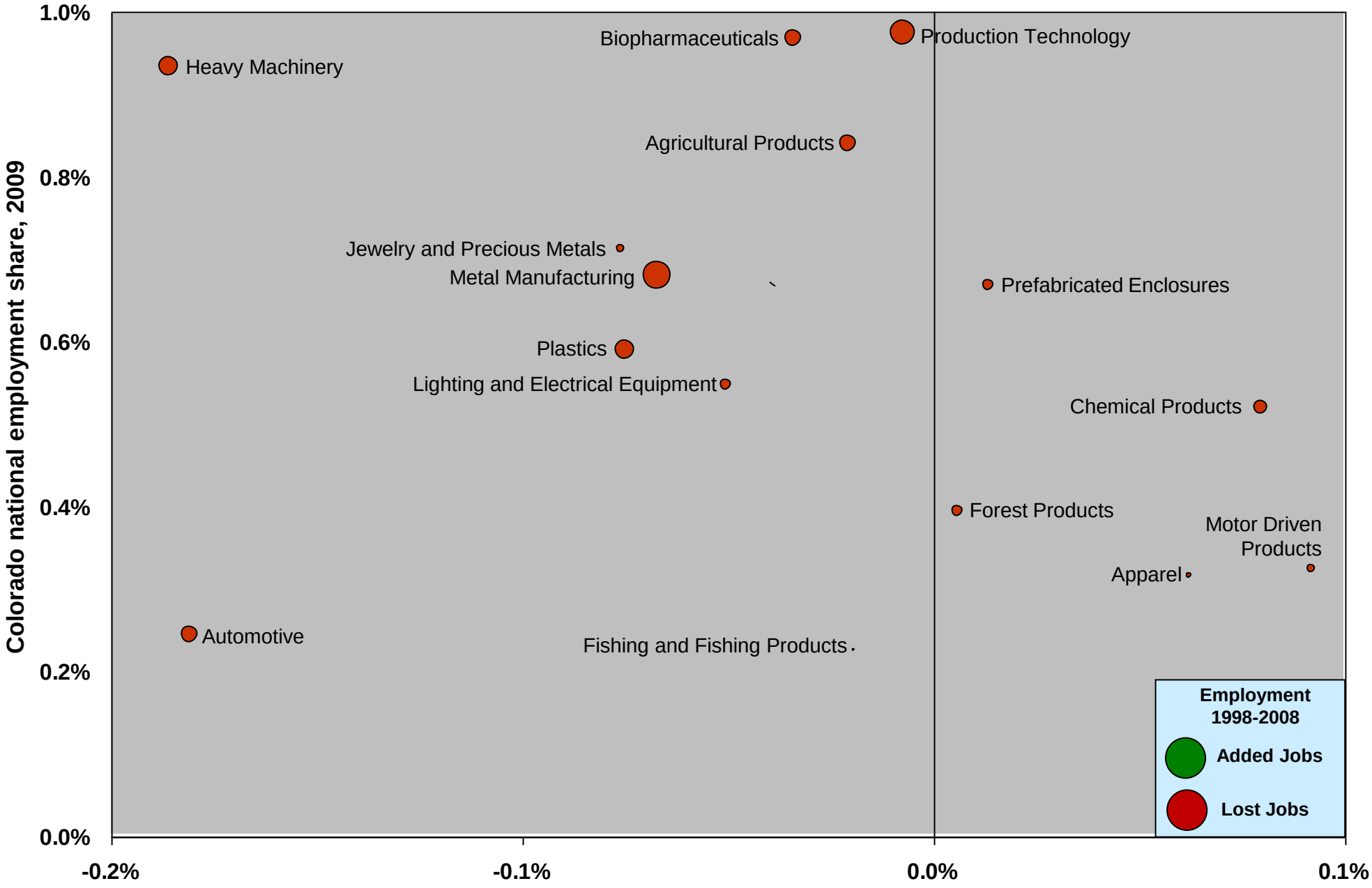
# Traded Cluster Composition of the Colorado Economy




Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.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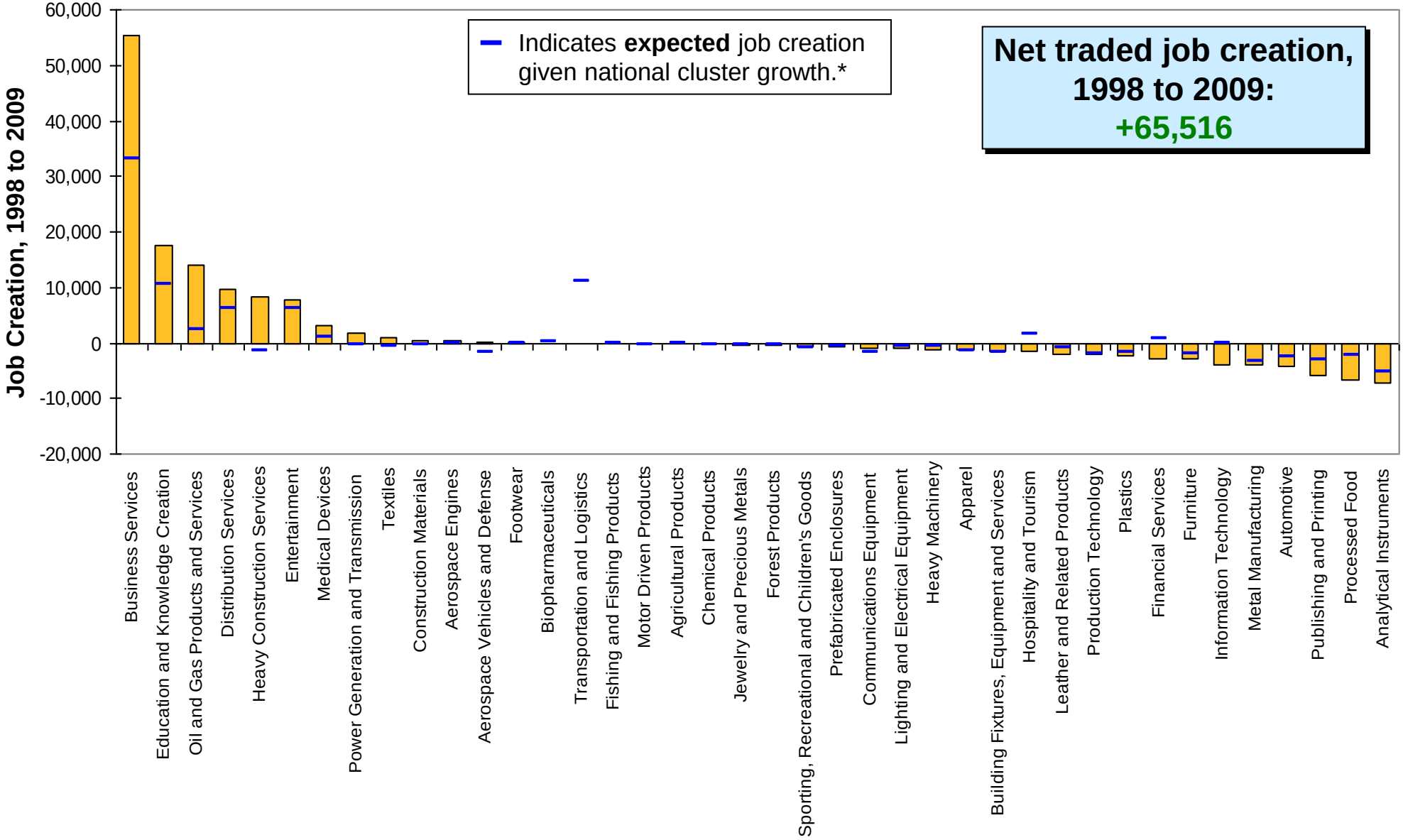
# Colorado Job Creation in Traded Clusters

## 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 +33,327

Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director.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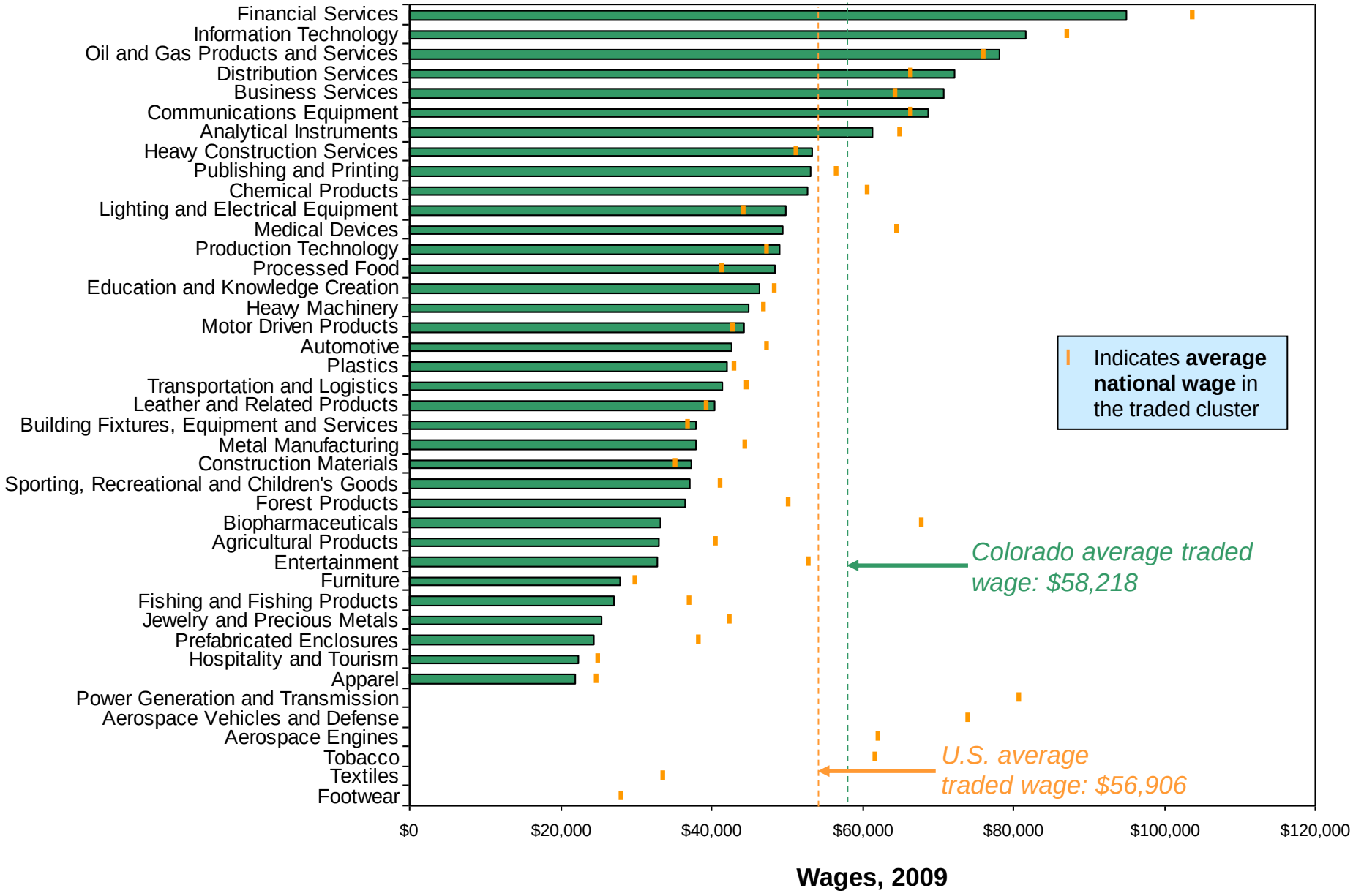
# Colorado Wages in Traded Clusters
## vs. National Benchmarks




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

Source: Prof. Michael E. Porter, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School; Richard Bryden, Project Director. 2009 data.


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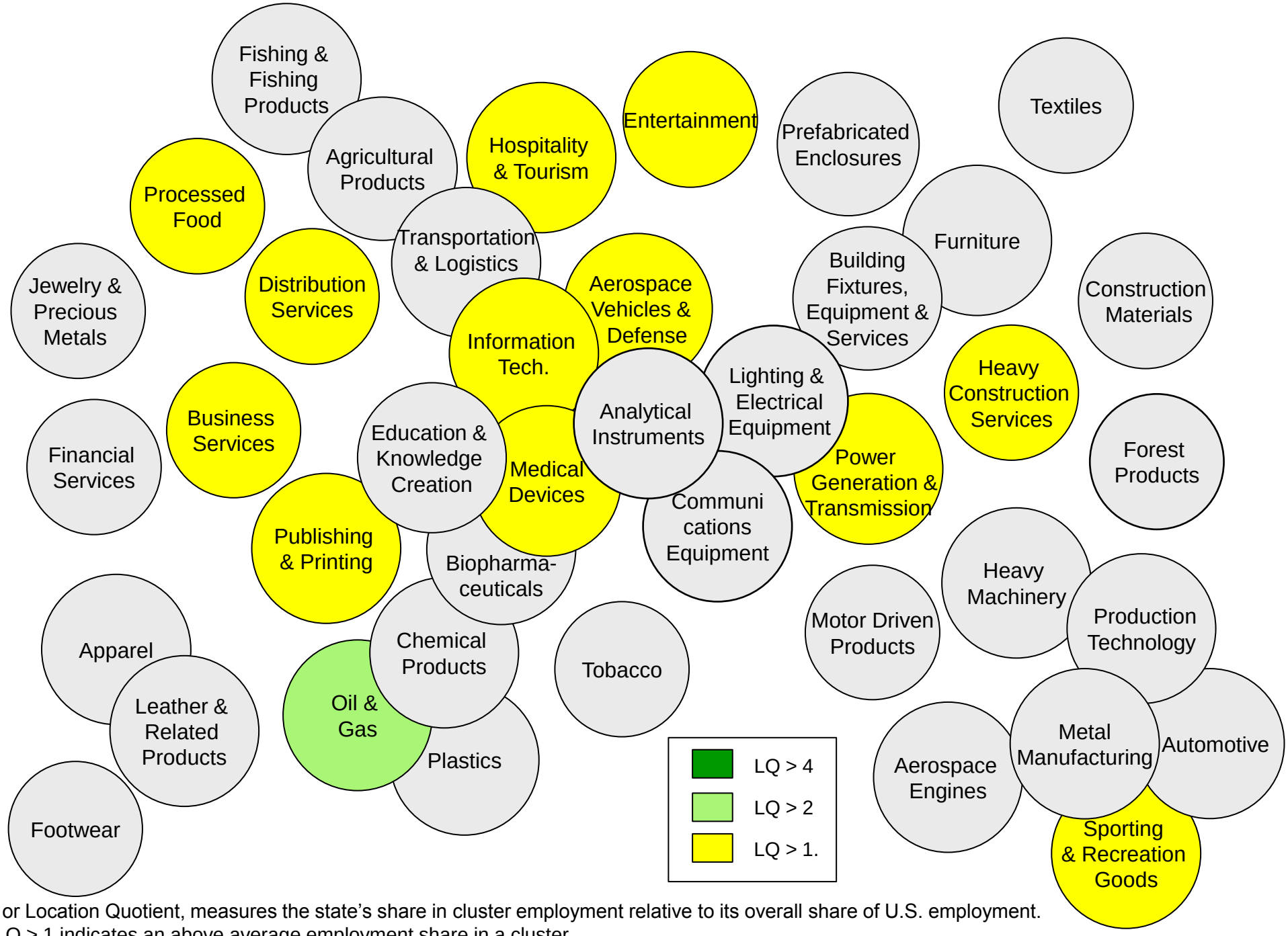
# Colorado Cluster Portfolio, 2009




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.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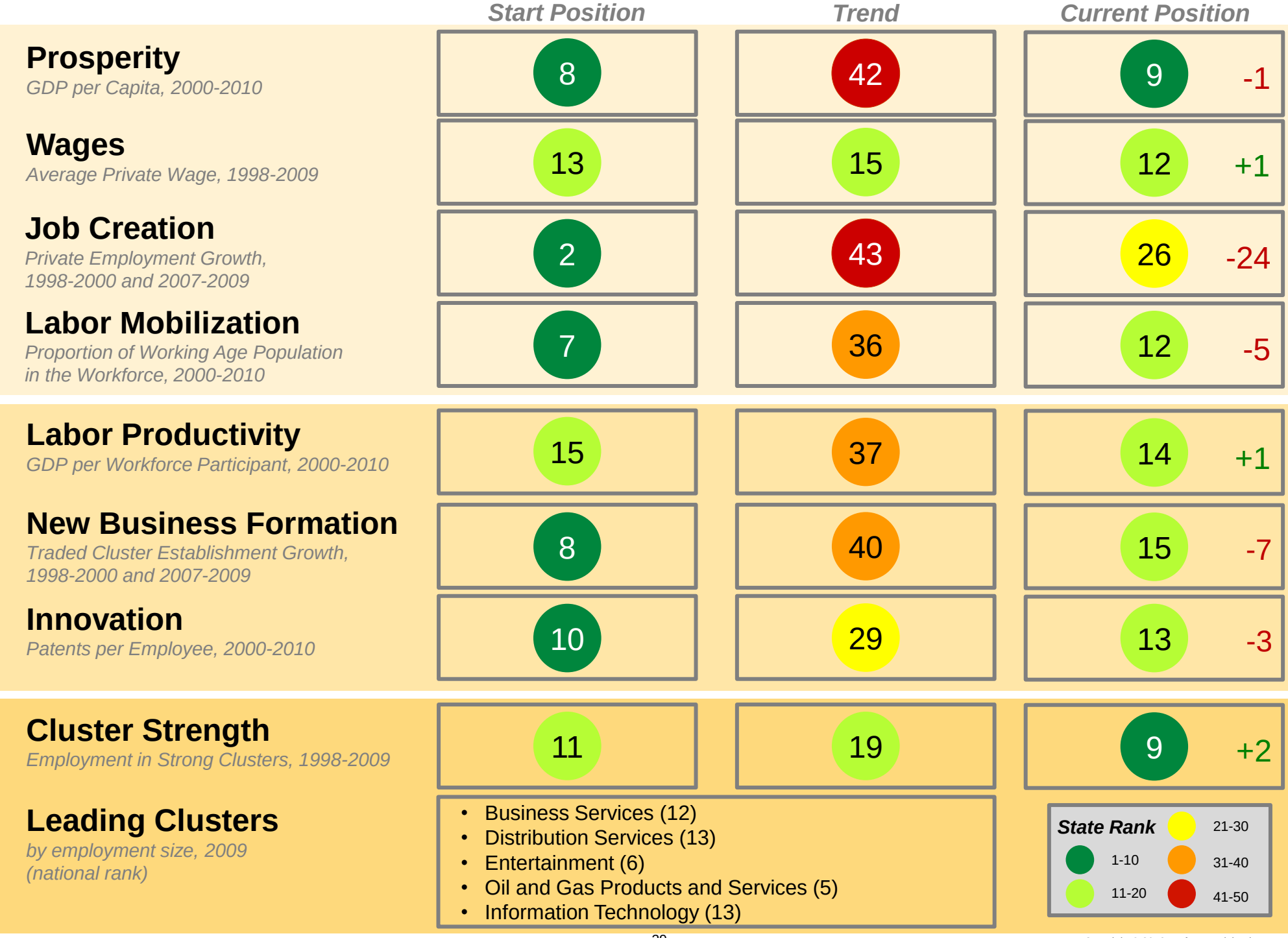
# Colorado Performance Scorecard





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# 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

Source: Porter/Stern/Delgado (2010), Porter (2003)


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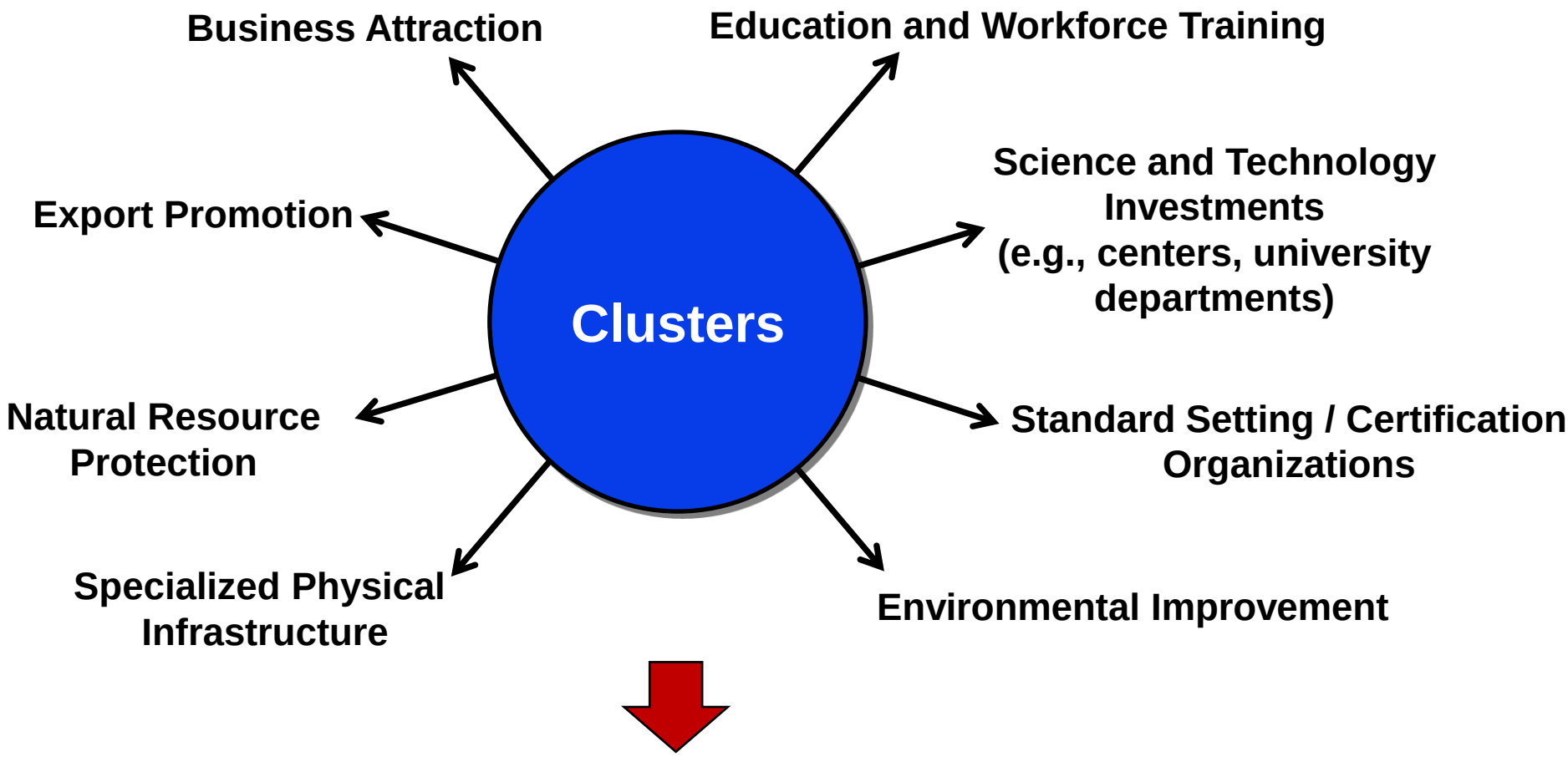
# Aligning Economic Policy and Clusters




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

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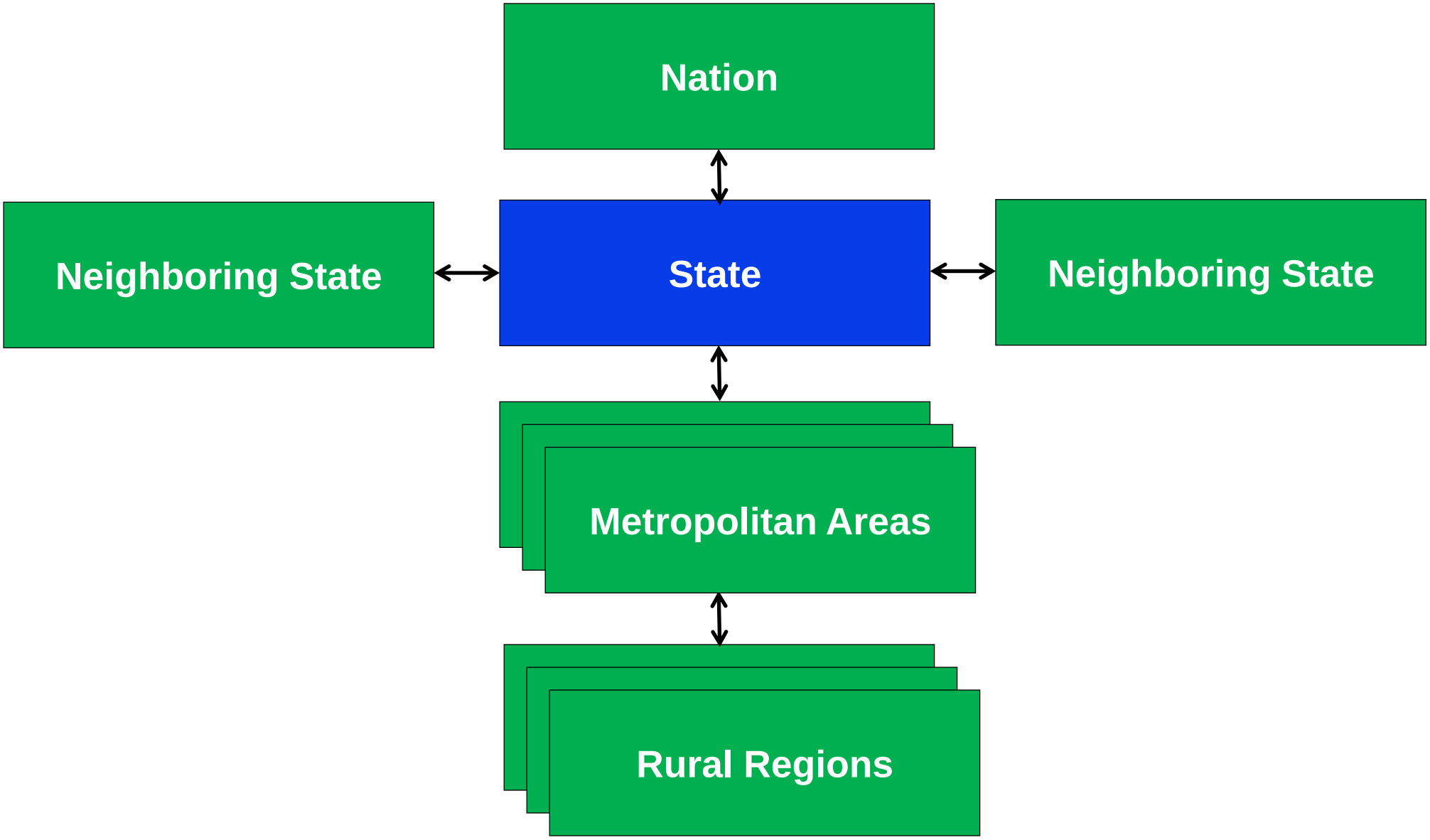
# Geographic and Governmental Influences on Productivity





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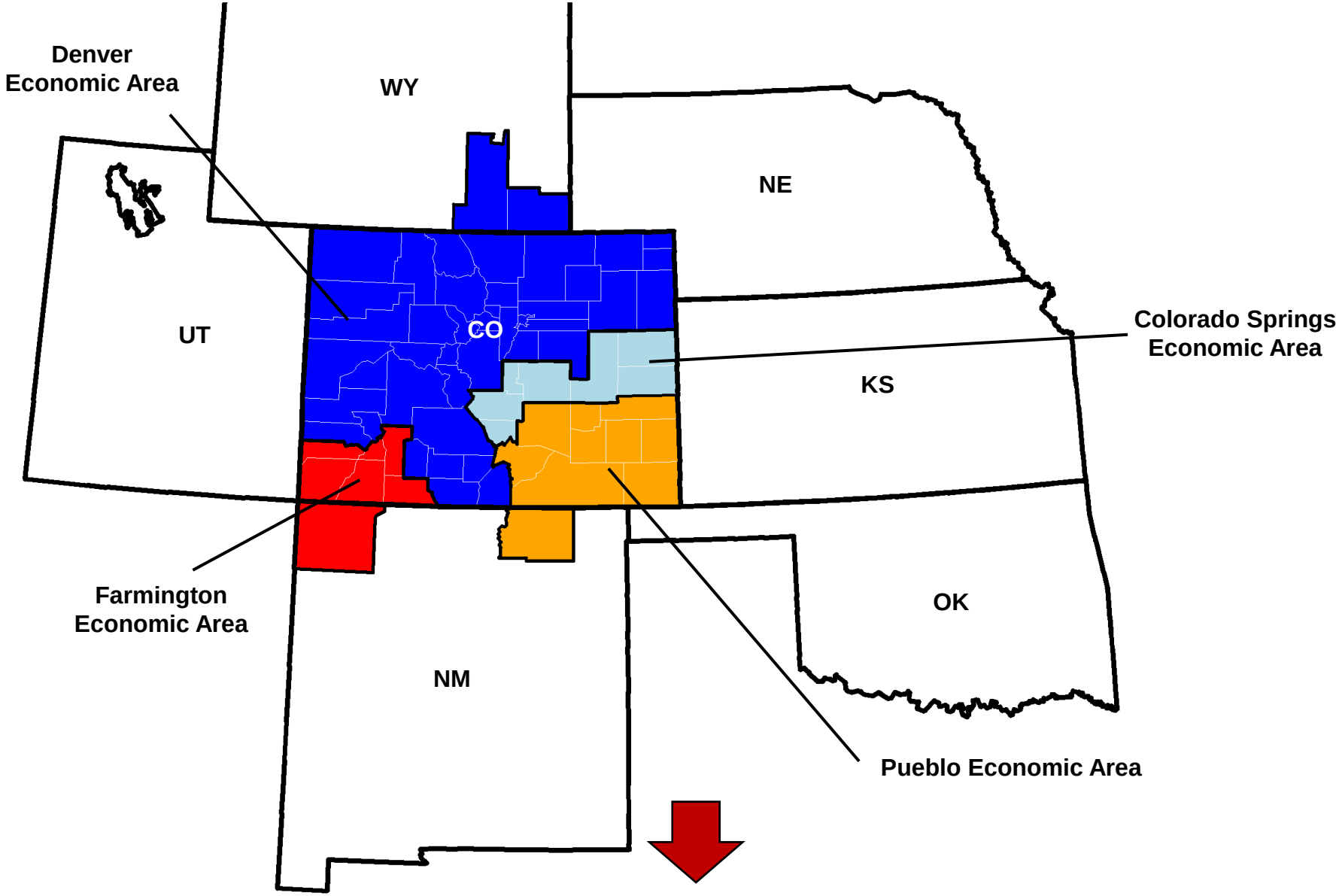
# Defining the Appropriate Economic Regions




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

Source: Data from Bureau of Economic Analysis 2010. Prof. Michael E. Porter, Cluster Mapping Project, Harvard Business School; Richard Bryden, Project Director.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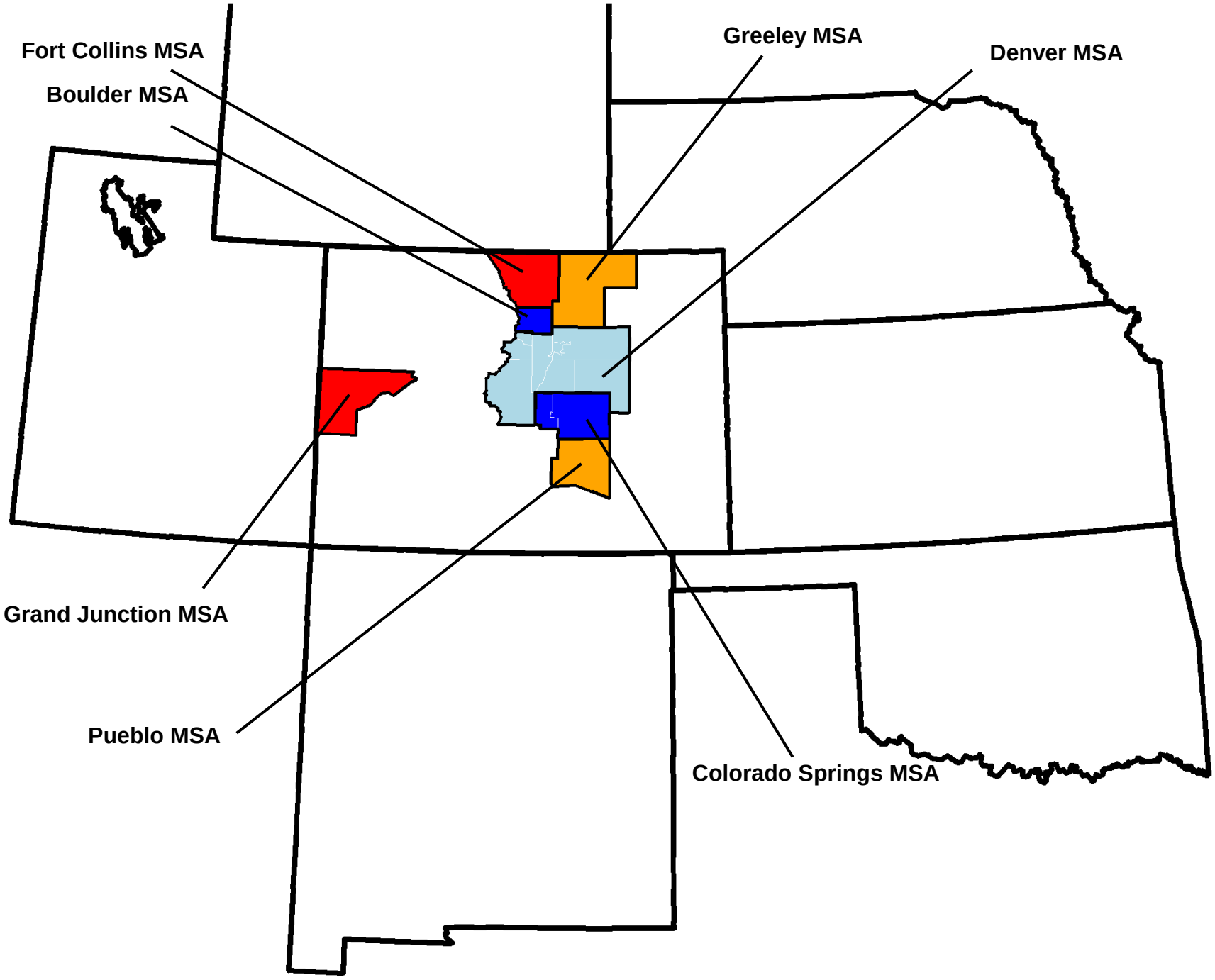
# Colorado Metropolitan Areas





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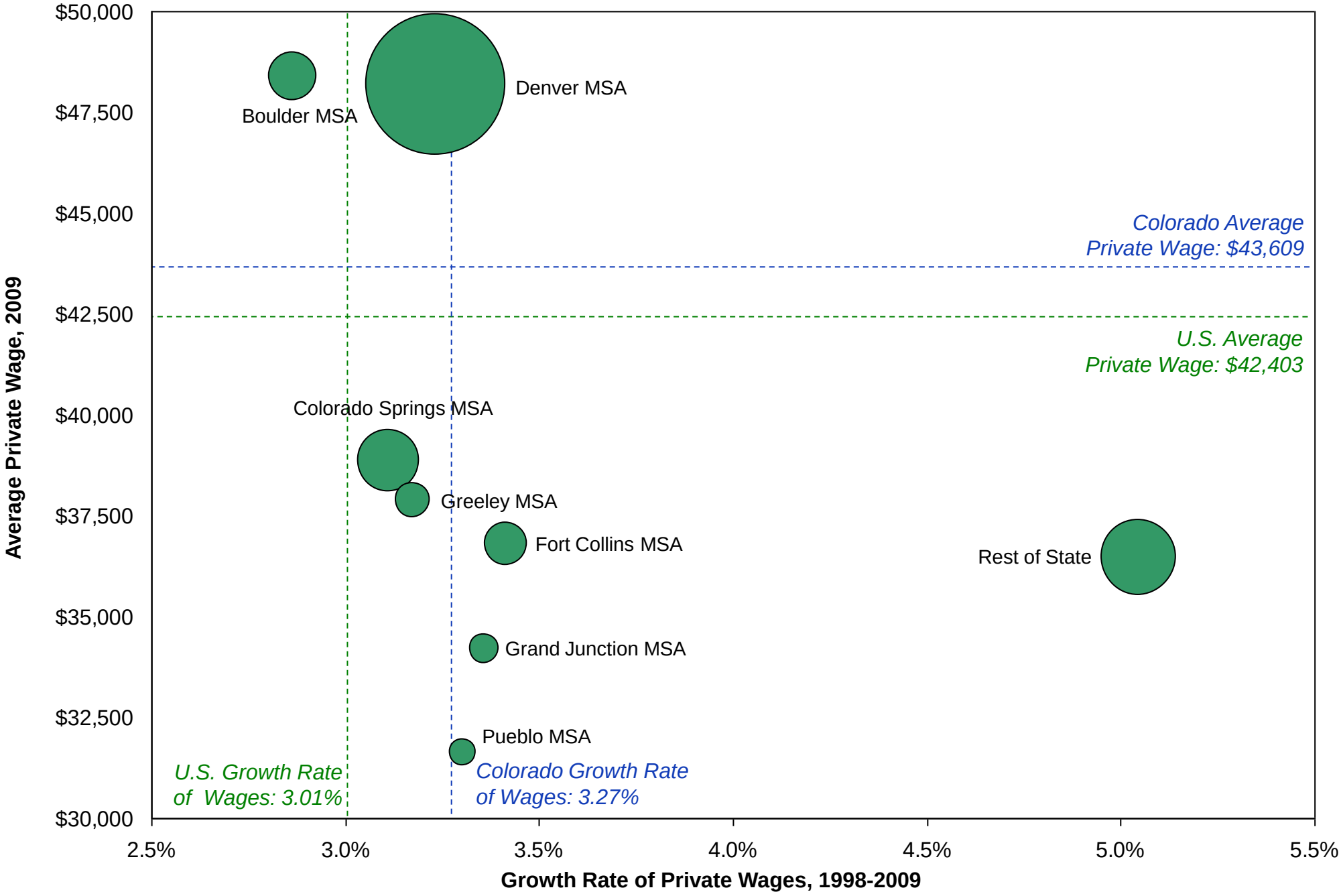
# Wage Performance in Colorado Metropolitan Areas




Source: Census CBP, authors' analysis. Note: "Bubble" size in chart is proportional to employment in 2009.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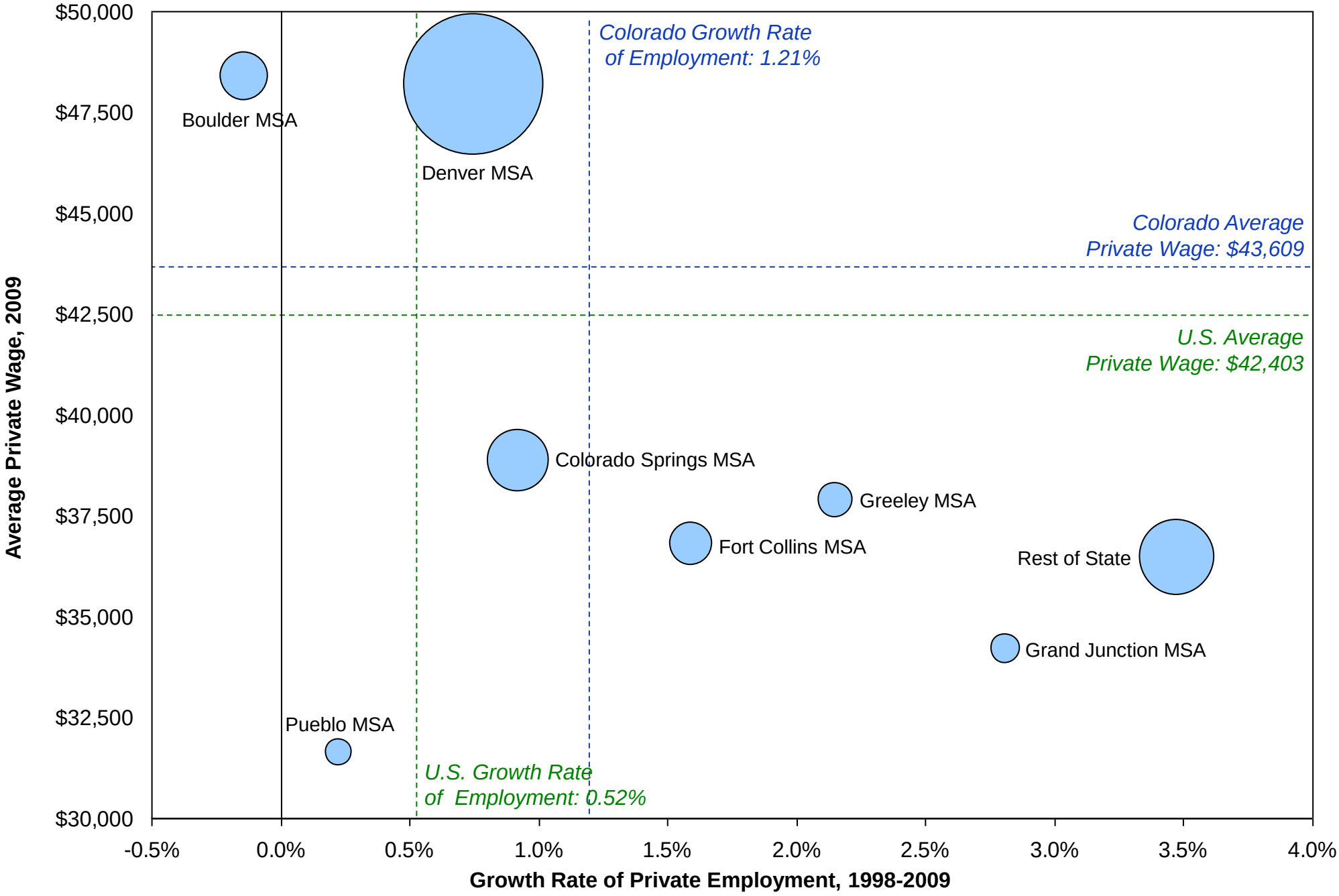
# Employment Performance in Colorado Metropolitan Areas




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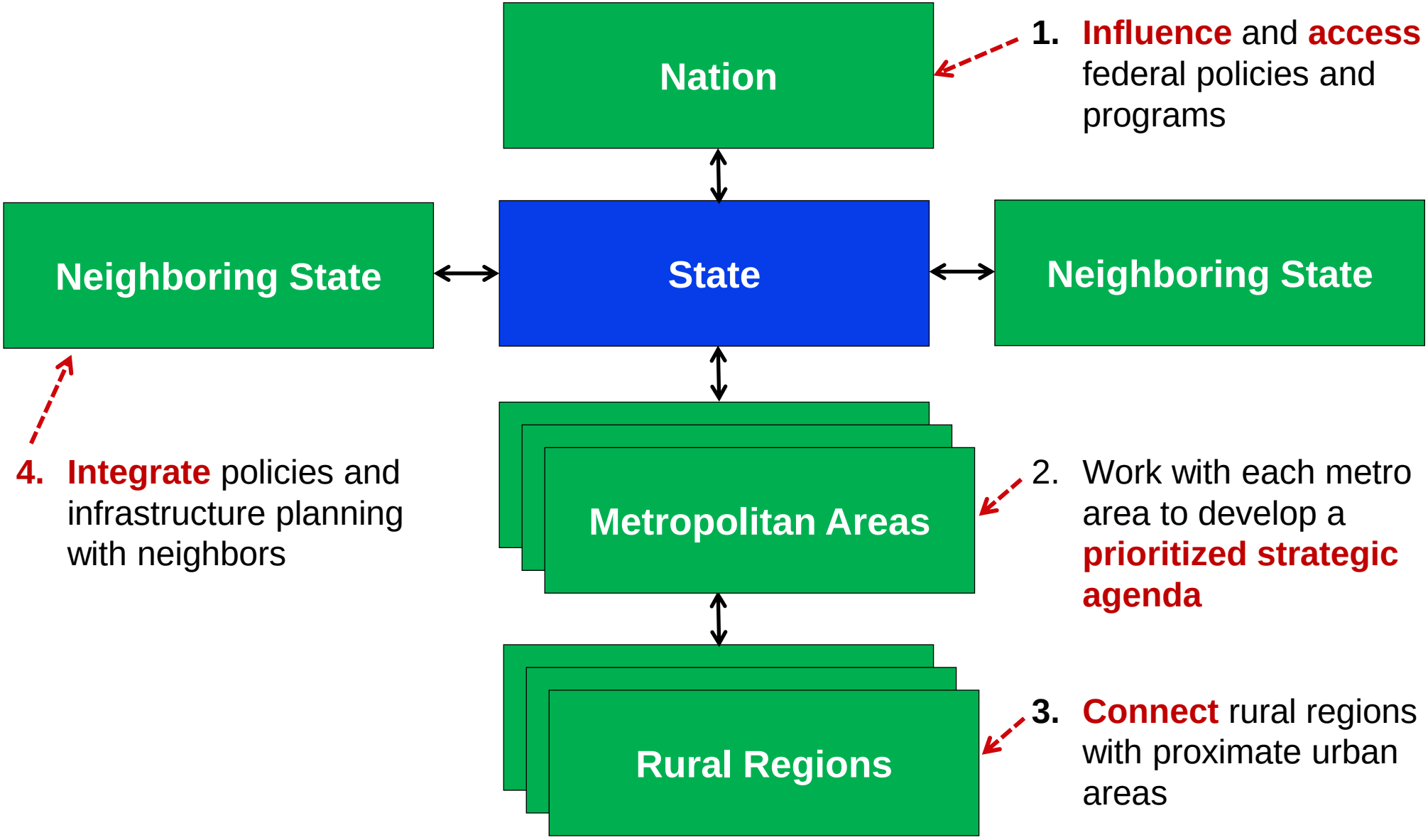
# Geographic and Governmental Influences on Productivity




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



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# 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



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1. How is your state doing? — State Performance Scorecard
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**Biggest Action Item of All**



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# 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.



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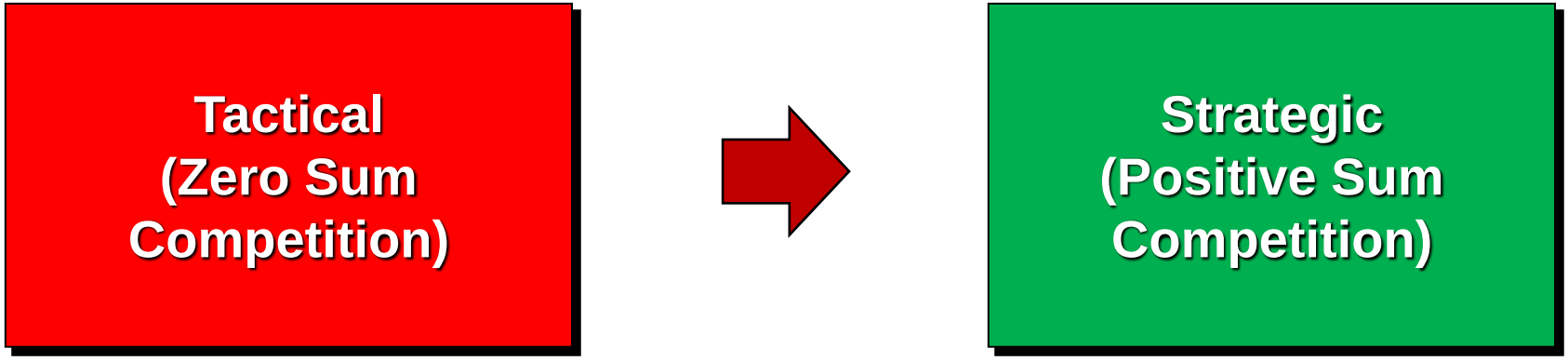
# How Should States Compete for Investment?




| | |
|---|---|
| • Focus on attracting **new** investments | • Also support greater local investment by **existing** companies |
| • Compete for **every** plant | • Reinforce areas of **specialization** and emerging cluster strength |
| • Offer **generalized** tax breaks | • Provide state support for training, infrastructure, and institutions with **enduring benefits** |
| • Provide **subsidies** to lower / offset business costs | • Improve the **efficiency of doing business** |
| • Every city and sub-region **for itself** | • Harness efficiencies and coordination **across jurisdictions**, especially with neighbors |
| • **Government** drives investment attraction | • Government and the private sector **collaborate** to build cluster strength |



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# 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



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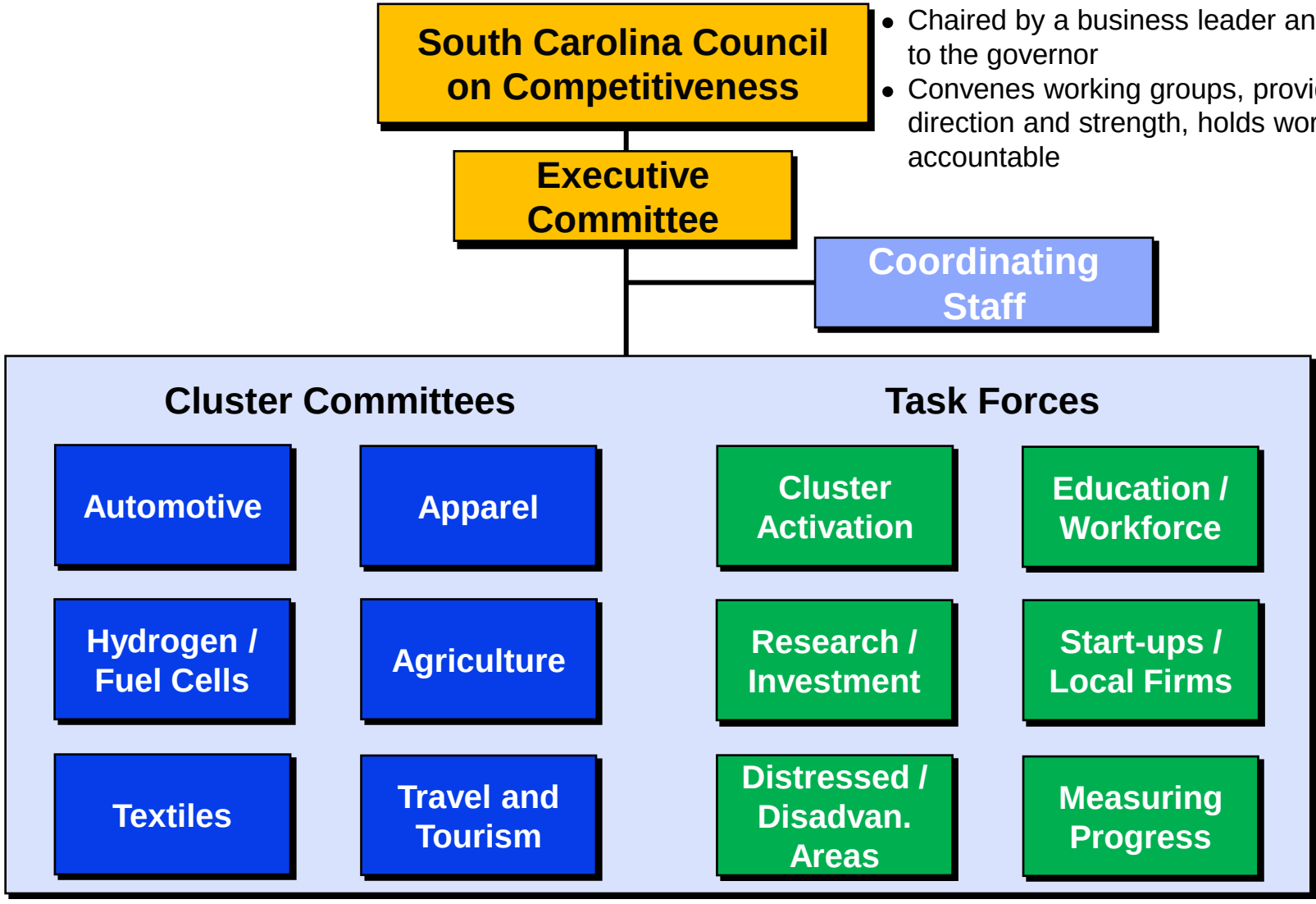
# Example: Organizing for Economic Development




- Chaired by a business leader and reporting to the governor
- Convenes working groups, provides direction and strength, holds working groups accountable

Effective economic policy also requires **coordination within government**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# 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**



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# Next Steps

1. Reach out to your team

2. Reach out to the business community

3. Take advantage of Harvard Business School data and tools to support this effort. Go to www.isc.hbs.edu.

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



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