Texas Competitiveness:
Creating a State Economic Strategy

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

March 28, 2012
The Economic Challenge for Governors in 2011

Enhancing State Competitiveness

Achieving Fiscal Stability
What is Competitiveness?

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

• Productivity determines **wages**, **jobs**, and the **standard of living**

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

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

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

1. How is your state doing?  
   State Performance Scorecard

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

3. Where to go from here?  
   Action Steps
## Texas Performance Scorecard

### Prosperity
**GDP per Capita, 2000-2010**
- **Start Position:** 15
- **Trend:** 32
- **Current Position:** 17 (-2)

### Wages
**Average Private Wage, 1998-2009**
- **Start Position:** 14
- **Trend:** 23
- **Current Position:** 14 (+0)

### Job Creation
- **Start Position:** 11
- **Trend:** 11
- **Current Position:** 4 (+7)

### Labor Mobilization
**Proportion of Working Age Population in the Workforce, 2000-2010**
- **Start Position:** 27
- **Trend:** 23
- **Current Position:** 23 (+4)

### Labor Productivity
**GDP per Workforce Participant, 2000-2010**
- **Start Position:** 10
- **Trend:** 31
- **Current Position:** 11 (-1)

### New Business Formation
- **Start Position:** 24
- **Trend:** 4
- **Current Position:** 2 (+22)

### Innovation
**Patents per Employee, 2000-2010**
- **Start Position:** 16
- **Trend:** 32
- **Current Position:** 17 (-1)

### Cluster Strength
**Employment in Strong Clusters, 1998-2009**
- **Start Position:** 43
- **Trend:** 14
- **Current Position:** 38 (+5)

### Leading Clusters
**by employment size, 2009**
- Processed Food (5)
- Metal Manufacturing (8)
- Forest Products (1)
- Automotive (10)
- Production Technology (6)
Comparative State Prosperity Performance
2000 - 2010

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

1999-2010

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

High but declining versus U.S.

Low but rising versus U.S.

Low and declining versus U.S.

Notes: Source BLS.

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

Texas

U.S. Labor Force Participation Rate: 64.7%

Change in Labor Force Participation Rate: -2.4%
Comparative State Labor Force Productivity Performance
2000-2010

Highly productive and productivity rising versus U.S.

High but declining versus U.S.

Low and declining versus U.S.

Low but rising versus U.S.

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

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

High but declining versus U.S.

Highly productive and productivity rising versus U.S.

Low and declining versus U.S.

Low but rising versus U.S.

Real Growth in Gross Domestic Product per Employed Worker, 2000-2010

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

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

High and improving innovation rate versus U.S.

High and declining innovation

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

Low and declining innovation

Low and improving innovation


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Why?
What Drives State Productivity?

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

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

Factor (Input) Conditions

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

Context for Firm Strategy and Rivalry

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

Demand Conditions

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

Related and Supporting Industries

Local availability of **suppliers and supporting industries**

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

Common Action Items

1. Simplify and speed up regulation and permitting

2. Reduce unnecessary costs of doing business

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

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

5. Design all policies to support emerging growth companies

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

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

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

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

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

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

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

- Biological Products
- Biopharmaceutical Products

- Research Organizations
  - Analytical Instruments Cluster
  - Educational Institutions: Harvard, MIT, Tufts, Boston University, UMass

- Specialized Business Services: Banking, Accounting, Legal
- Specialized Risk Capital: VC Firms, Angel Networks
- Specialized Research Service Providers: Laboratory, Clinical Testing

Cluster Organizations: MassMedic, MassBio, others
Example: Houston Oil and Gas Cluster

Upstream

Oil & Natural Gas Exploration & Development

Oil & Natural Gas Completion & Production

Oilfield Services/Engineering & Contracting Firms

Specialized Institutions
(e.g., Academic Institutions, Training Centers, Industry Associations)

Equipment Suppliers
(e.g., Oil Field Chemicals, Drilling Rigs, Drill Tools)

Specialized Technology Services
(e.g., Drilling Consultants, Reservoir Services, Laboratory Analysis)

Subcontractors
(e.g., Surveying, Mud Logging, Maintenance Services)

Business Services
(e.g., MIS Services, Technology Licenses, Risk Management)

Downstream

Oil Transportation
Oil Trading
Oil Refining
Oil Distribution
Oil Wholesale Marketing
Oil Retail Marketing

Gas Gathering
Gas Processing
Gas Trading
Gas Transmission
Gas Distribution
Gas Marketing

Example: Houston Oil and Gas Cluster

Oil & Natural Gas Exploration & Development

Oil & Natural Gas Completion & Production

Oilfield Services/Engineering & Contracting Firms

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

- Specialization in strong clusters
- **Breadth** of industries within each cluster
- Strength in related clusters
- Presence of a region’s clusters in neighboring regions
- **Job** growth
- Higher **wages**
- Higher **patenting** rates
- Greater **new business** formation, growth and survival

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

Clusters and Economic Diversification

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

Climate and Geography

Hospitality and Tourism

Transportation and Logistics

Power Generation

Communications Equipment

Information Technology

Sporting Equipment

Aerospace Vehicles and Defense

Analytical Instruments

Education and Knowledge Creation

Medical Devices

Hospitality and Tourism

U.S. Military

Biotech / Pharmaceuticals

Bioscience Research Centers

Traded Cluster Composition of the Texas Economy (continued)

Texas Overall Share of US Traded Employment: 1.11%

Overall change in the Texas Share of US Traded Employment: 7.82%

Change in Texas share of National Employment, 1998 to 2009

Employees 38,000 =
Texas Job Creation in Traded Clusters
1998 to 2009

Net traded job creation, 1998 to 2009:
+272,373

* Indicating expected job creation given national cluster growth.*

* Percent change in national benchmark times starting regional employment. Overall traded job creation in the state, if it matched national benchmarks, would be 40,599


2011 State Competitiveness – Rich Bryden
Texas Wages in Traded Clusters vs. National Benchmarks

Power Generation and Transmission
Oil and Gas Products and Services
Financial Services
Information Technology
Aerospace Vehicles and Defense
Chemical Products
Business Services
Distribution Services
Medical Devices
Communications Equipment
Aerospace Engines
Plastics
Analytical Instruments
Biopharmaceuticals
Heavy Construction Services
Education and Knowledge Creation
Production Technology
Forest Products
Entertainment
Publishing and Printing
Heavy Machinery
Jewelry and Precious Metals
Metal Manufacturing
Motor Driven Products
Transportation and Logistics
Lighting and Electrical Equipment
Automotive
Processed Food
Textiles
Building Fixtures, Equipment and Services
Leather and Related Products
Agricultural Products
Sporting, Recreational and Children's Goods
Construction Materials
Prefabricated Enclosures
Furniture
Fishing and Fishing Products
Footwear
Apparel
Hospitality and Tourism
Tobacco

Wages, 2009

Texas average traded wage: $58,045
U.S. average traded wage: $56,906

### State Traded Wage versus National Average

<table>
<thead>
<tr>
<th>State</th>
<th>State Traded Wage versus National Average</th>
<th>Cluster Mix Effect</th>
<th>Relative Cluster Wage Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connecticut</td>
<td>+27,171</td>
<td>7,028</td>
<td>20,142</td>
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<tr>
<td>New York</td>
<td>+24,102</td>
<td>3,628</td>
<td>20,474</td>
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<tr>
<td>Massachusetts</td>
<td>+16,169</td>
<td>4,391</td>
<td>11,778</td>
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<tr>
<td>New Jersey</td>
<td>+13,535</td>
<td>3,761</td>
<td>9,774</td>
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<tr>
<td>California</td>
<td>+9,573</td>
<td>349</td>
<td>9,224</td>
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<tr>
<td>Maryland</td>
<td>+6,651</td>
<td>2,496</td>
<td>4,155</td>
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<td>Washington</td>
<td>+5,652</td>
<td>2,692</td>
<td>2,960</td>
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<tr>
<td>Virginia</td>
<td>+5,319</td>
<td>1,617</td>
<td>3,702</td>
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<tr>
<td>Illinois</td>
<td>+2,658</td>
<td>16</td>
<td>2,642</td>
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<td>Colorado</td>
<td>+1,662</td>
<td>2,416</td>
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<tr>
<td>Texas</td>
<td>+352</td>
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<td>Delaware</td>
<td>+164</td>
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<td>Alaska</td>
<td>-930</td>
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<td>Pennsylvania</td>
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<td>Louisiana</td>
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<td>Minnesota</td>
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<td>New Hampshire</td>
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<td>374</td>
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<td>Arizona</td>
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<td>Kansas</td>
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<td>Wyoming</td>
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<td>Michigan</td>
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<td>North Carolina</td>
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<td>Ohio</td>
<td>-9,284</td>
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<tr>
<td>Rhode Island</td>
<td>-9,791</td>
<td>-2,290</td>
<td>-7,501</td>
</tr>
</tbody>
</table>

### Relative Cluster Wage Effect

<table>
<thead>
<tr>
<th>State</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Oregon</td>
<td>-10,359</td>
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<tr>
<td>Missouri</td>
<td>-10,427</td>
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<tr>
<td>Alabama</td>
<td>-10,934</td>
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<tr>
<td>Florida</td>
<td>-11,007</td>
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<tr>
<td>Wisconsin</td>
<td>-11,722</td>
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<tr>
<td>Nebraska</td>
<td>-11,777</td>
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<tr>
<td>Utah</td>
<td>-11,992</td>
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<tr>
<td>Tennessee</td>
<td>-12,172</td>
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<tr>
<td>Indiana</td>
<td>-12,554</td>
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<tr>
<td>Vermont</td>
<td>-13,368</td>
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<tr>
<td>Oklahoma</td>
<td>-13,572</td>
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<tr>
<td>Nevada</td>
<td>-14,277</td>
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<tr>
<td>North Dakota</td>
<td>-14,394</td>
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<tr>
<td>South Carolina</td>
<td>-15,276</td>
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<td>Arkansas</td>
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<td>Hawaii</td>
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<td>New Mexico</td>
<td>-16,123</td>
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<tr>
<td>Kentucky</td>
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<tr>
<td>Maine</td>
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<tr>
<td>Iowa</td>
<td>-16,606</td>
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<tr>
<td>West Virginia</td>
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<td>Idaho</td>
<td>-18,671</td>
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<tr>
<td>Mississippi</td>
<td>-19,942</td>
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<tr>
<td>Montana</td>
<td>-20,073</td>
</tr>
<tr>
<td>South Dakota</td>
<td>-20,968</td>
</tr>
</tbody>
</table>

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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.
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.
# Texas Performance Scorecard

## Prosperity
**GDP per Capita, 2000-2010**
- **Start Position**: 15
- **Trend**: 32
- **Current Position**: 17

## Wages
**Average Private Wage, 1998-2009**
- **Start Position**: 14
- **Trend**: 23
- **Current Position**: 14

## Job Creation
- **Start Position**: 11
- **Trend**: 11
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## Labor Mobilization
**Proportion of Working Age Population in the Workforce, 2000-2010**
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## Labor Productivity
**GDP per Workforce Participant, 2000-2010**
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- **Current Position**: 11

## New Business Formation
- **Start Position**: 24
- **Trend**: 4
- **Current Position**: 2

## Innovation
**Patents per Employee, 2000-2010**
- **Start Position**: 16
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- **Current Position**: 17

## Cluster Strength
**Employment in Strong Clusters, 1998-2009**
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## Leading Clusters
**by employment size, 2009**
- Processed Food (5)
- Metal Manufacturing (8)
- Forest Products (1)
- Automotive (10)
- Production Technology (6)
Cluster Development
Common Action Items

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

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

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

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

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

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

- Nation
- State
- Metropolitan Areas
- Rural Regions
- Neighboring State
- Neighboring State
The economies of states are often an aggregation of distinct economic areas with differing circumstances.
Wage Performance in Texas Metropolitan Areas

U.S. Average Private Wage: $42,403

Texas Average Private Wage: $42,201

U.S. Growth Rate of Wages: 3.01%
Texas Growth Rate of Wages: 3.07%

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

U.S. Average
Private Wage: $42,403

Texas Average
Private Wage: $42,201

Growth Rate of Employment: 0.52%

Texas Growth Rate of Employment: 1.51%

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

1. **Influence and access** federal policies and programs

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

3. **Connect** rural regions with proximate urban areas

4. **Integrate** policies and infrastructure planning with neighbors
1. How is your state doing?  
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3. Where to go from here?  
   Action Steps
Agenda

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   Action Steps

Biggest Action Item of All
Create an Economic Strategy

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

Define the Value Proposition

Develop Unique Strengths

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

Achieve and Maintain Parity with Peers

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

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

<table>
<thead>
<tr>
<th>Tactical (Zero Sum Competition)</th>
<th>Strategic (Positive Sum Competition)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Focus on attracting <strong>new</strong> investments</td>
<td>• Also support greater local investment by <strong>existing</strong> companies</td>
</tr>
<tr>
<td>• Compete for <strong>every</strong> plant</td>
<td>• Reinforce areas of <strong>specialization</strong> and emerging cluster strength</td>
</tr>
<tr>
<td>• Offer <strong>generalized</strong> tax breaks</td>
<td>• Provide state support for training, infrastructure, and institutions with <strong>enduring benefits</strong></td>
</tr>
<tr>
<td>• Provide <strong>subsidies</strong> to lower / offset business costs</td>
<td>• Improve the <strong>efficiency of doing business</strong></td>
</tr>
<tr>
<td>• Every city and sub-region <strong>for itself</strong></td>
<td>• Harness efficiencies and coordination <strong>across jurisdictions</strong>, especially with neighbors</td>
</tr>
<tr>
<td>• <strong>Government</strong> drives investment attraction</td>
<td>• Government and the private sector <strong>collaborate</strong> to build cluster strength</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Old Model</th>
<th>New Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Government</strong> drives economic development through policy decisions and incentives</td>
<td>Economic development is a <strong>collaborative process</strong> involving government at multiple levels, companies, teaching and research institutions, and private sector organizations</td>
</tr>
</tbody>
</table>
Effective economic policy also requires *coordination within government*.
Summary

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

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

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

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

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

1. Reach out to your team

2. Reach out to the business community


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