The Competitive Advantage of Regions

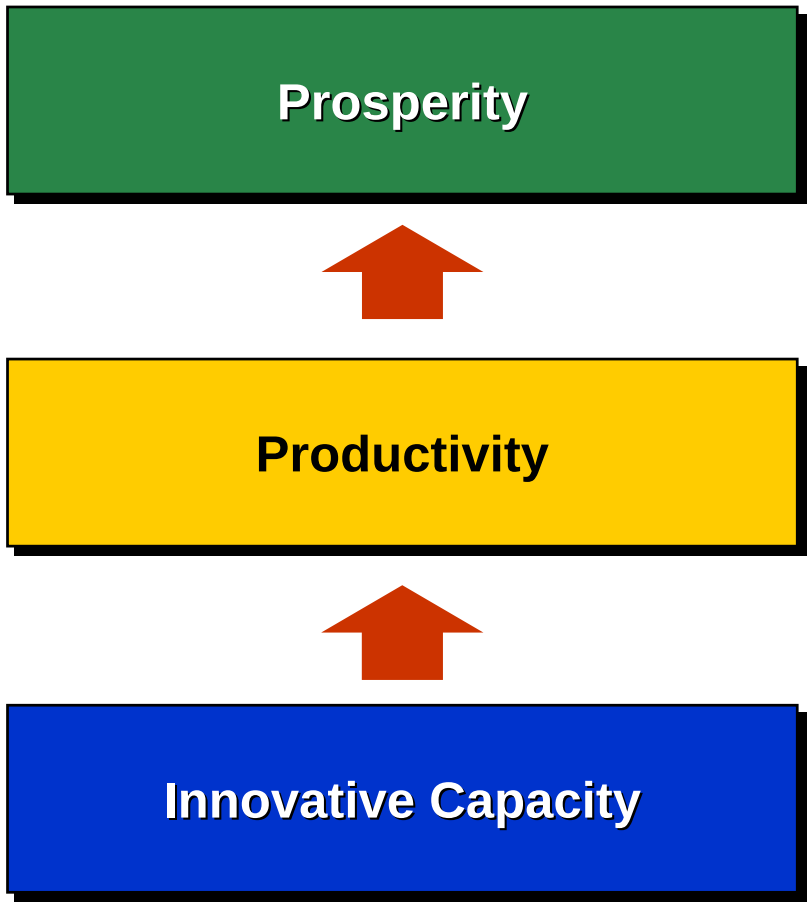
Professor Michael E. Porter
Institute for Strategy and Competitiveness
Harvard Business School

Presentation at
The Indiana Leadership Summit
Indianapolis, Indiana
May 13th, 2003

This presentation draws on ideas from Professor Porter's articles and books, in particular, The Competitive Advantage of Nations (The Free Press, 1990), "The Microeconomic Foundations of Economic Development," in The Global Competitiveness Report 2001, (World Economic Forum, 2001), "Clusters and the New Competitive Agenda for Companies and Governments" in On Competition (Harvard Business School Press, 1998), and the *Clusters of Innovation Initiative*, a joint effort of the Council on Competitiveness, Monitor Group, and Professor Porter. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means - electronic, mechanical, photocopying, recording, or otherwise - without the permission of Michael E. Porter.

Additional information may be found at the website of the Institute for Strategy and Competitiveness, www.isc.hbs.edu

Innovation and Prosperity

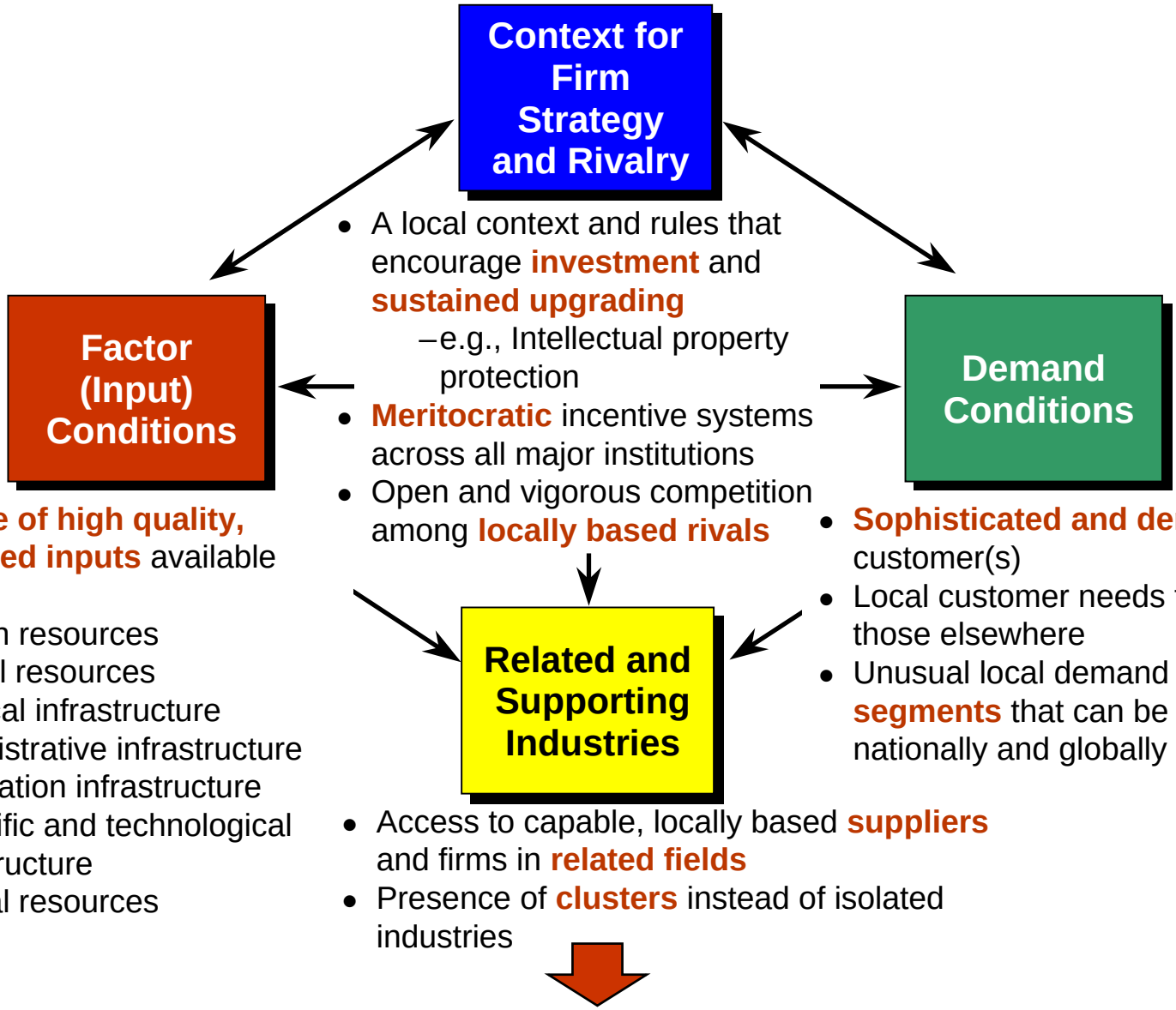


"Competitiveness"

- **Innovation is more than just scientific discovery**
- **There are no low-tech industries, only low-tech firms**

Copyright © 2003 Professor Michael E. Porter

Productivity, Innovation, and the Business Environment

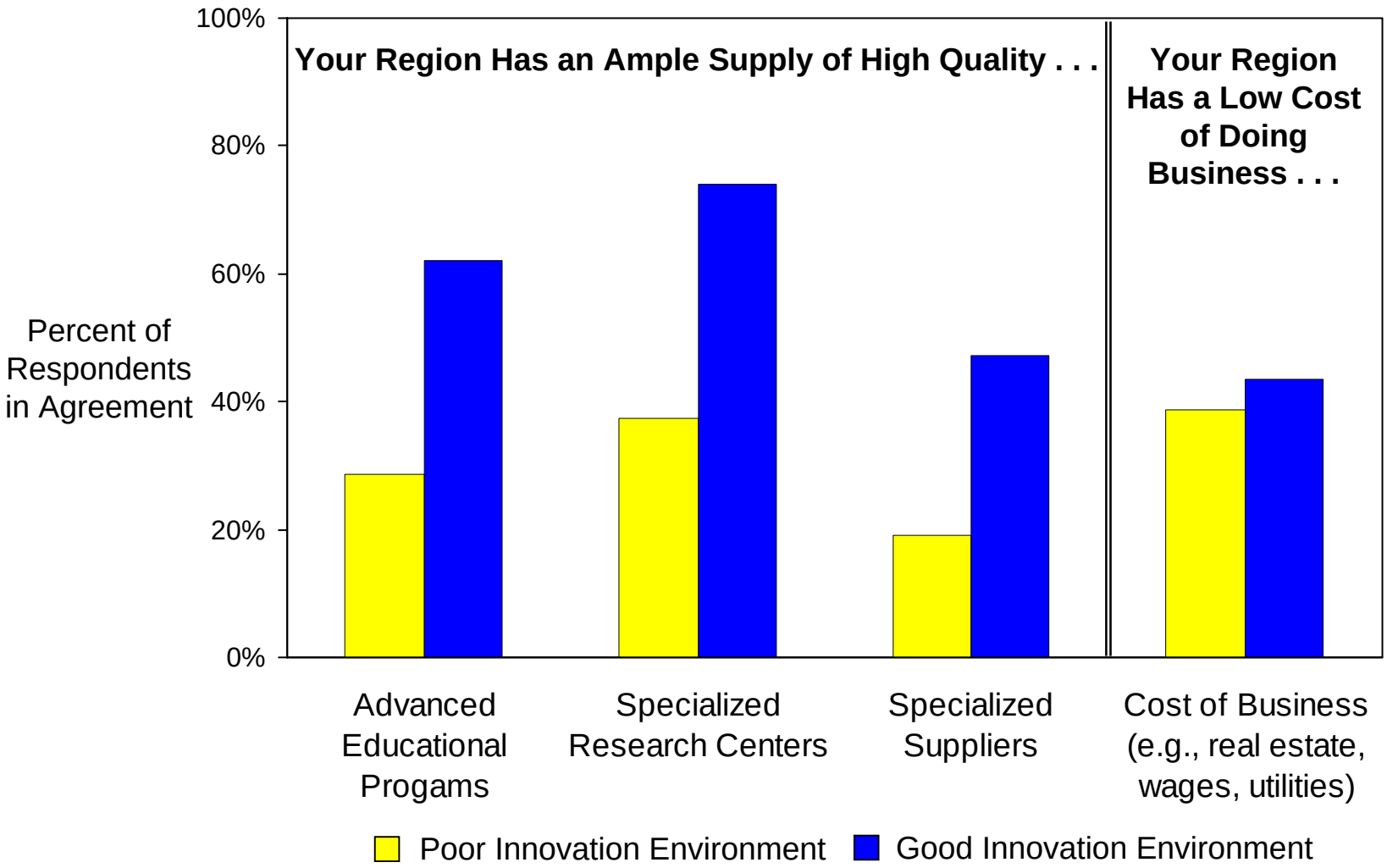


- Successful economic development is a process of **successive economic upgrading**, in which the business environment in a nation or region evolves to support and encourage increasingly sophisticated ways of competing

Copyright © 2003 Professor Michael E. Porter

Sources of Innovation

Good vs. Poor Innovation Environments

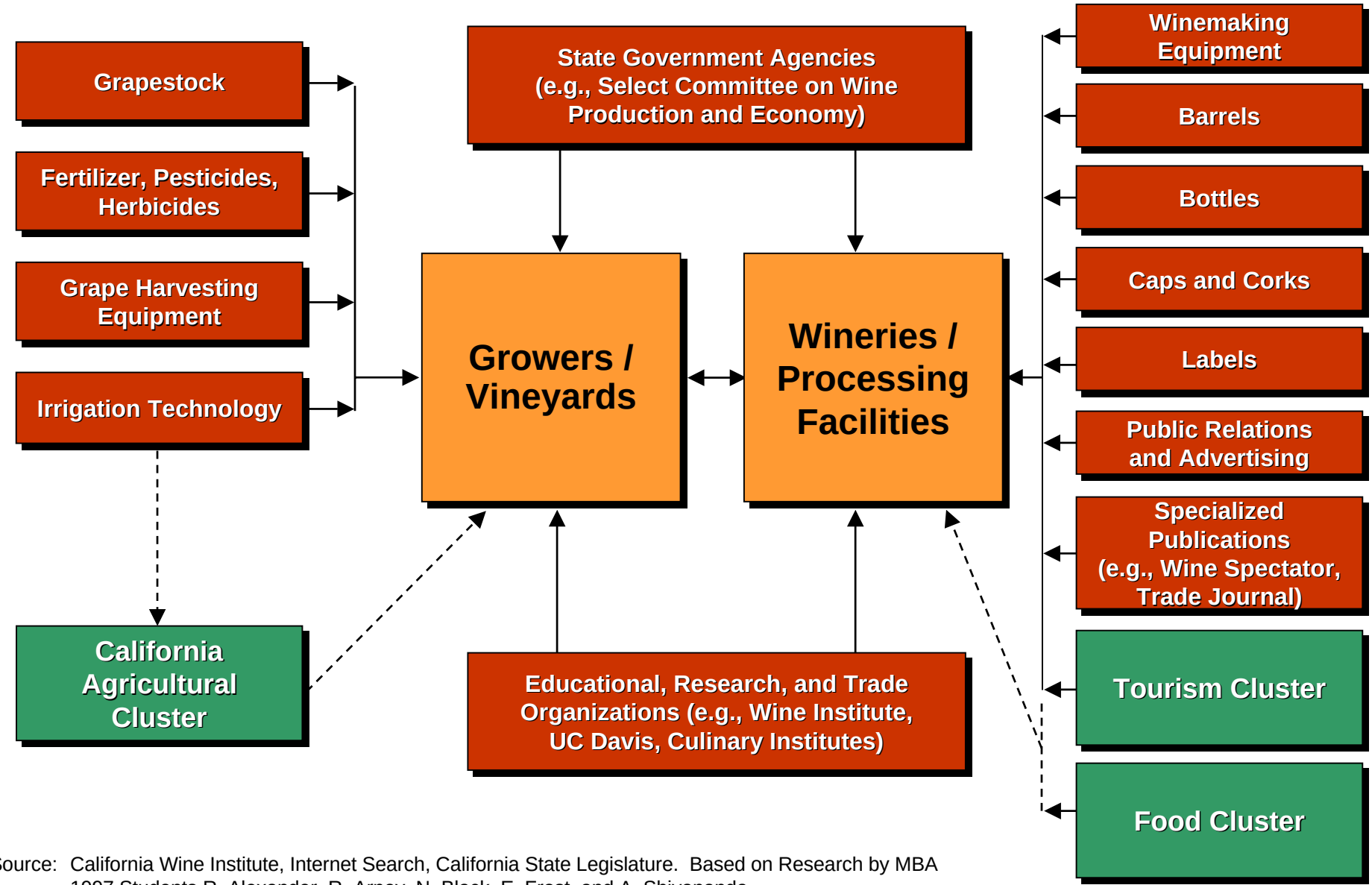


Source: Clusters of Innovation Initiative, Regional Survey (all regions)

Copyright © 2003 Professor Michael E. Porter

Clusters and Competitiveness

California Wine



Source: California Wine Institute, Internet Search, California State Legislature. Based on Research by MBA 1997 Students R. Alexander, R. Arney, N. Black, E. Frost, and A. Shivananda

Copyright © 2003 Professor Michael E. Porter

Institutions for Collaboration

General

- Chambers of Commerce
- Professional associations
- School networks
- University partner groups
- Religious networks
- Joint private/public advisory councils
- Competitiveness councils

Cluster-specific

- Industry associations
- Specialized professional associations and societies
- Alumni groups of core cluster companies
- Incubators

- Institutions for collaboration (IFC) are **formal and informal organizations** that
  - facilitate the exchange of information and technology
  - conduct joint activities
  - foster coordination among firms

- IFCs can improve the business environment by
  - creating **relationships** and levels of trust that make them more effective
  - defining of **common standards**
  - conducting or facilitating the organization of **collective action** in areas such as procurement, information gathering, or international marketing
  - defining and communicating common **beliefs and attitudes**
  - providing mechanisms to develop a common economic or **cluster agenda**

Copyright © 2003 Professor Michael E. Porter

Institutions for Collaboration

Selected Institutions for Collaboration, San Diego

General

- San Diego Chamber of Commerce
- San Diego MIT Enterprise Forum
- Corporate Director's Forum
- San Diego Dialogue
- Service Corps of Retired Executives, San Diego
- San Diego Regional Economic Development Corporation
- Center for Applied Competitive Technologies
- San Diego World Trade Center
- UCSD Alumni
- San Diego Regional Technology Alliance
- San Diego Science and Technology Council
- Office of Trade and Business Development

Cluster-Specific

Telecommunication

- Linkabit Alumni

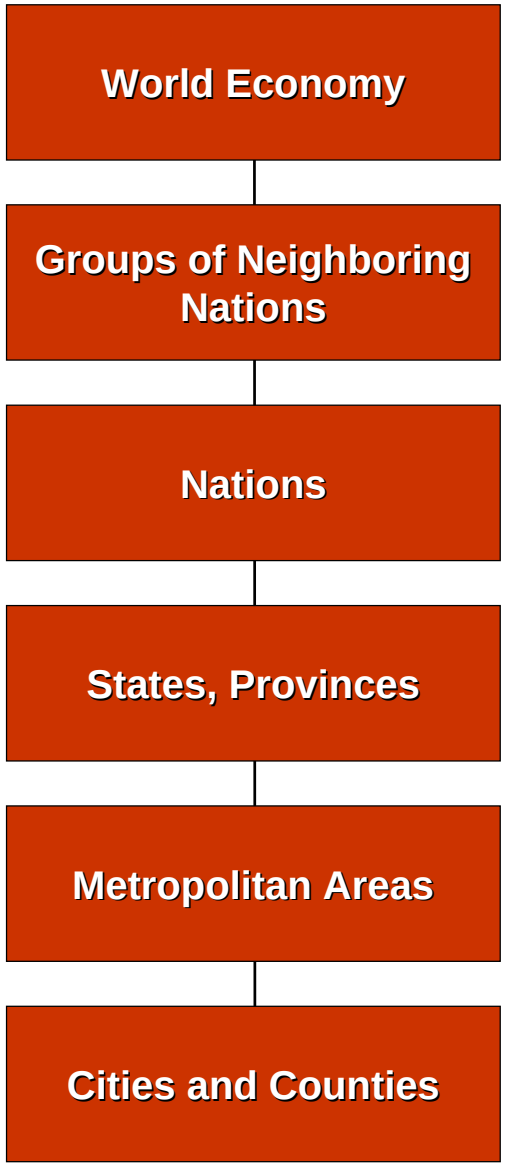
Biotech

- Hybritech Alumni
- Scripps Research Institute Alumni
- BIOCOMM
- UCSD Connect

Source: Clusters of Innovation project (www.compete.org)

Influences on Competitiveness

Multiple Geographic Levels



e.g. NAFTA

e.g. U.S.

e.g. Indiana

e.g. Indianapolis Metro Area

e.g. Knox, Daviess, Martin, Greene, Lawrence counties

Copyright © 2003 Professor Michael E. Porter

Composition of Regional Economies

United States

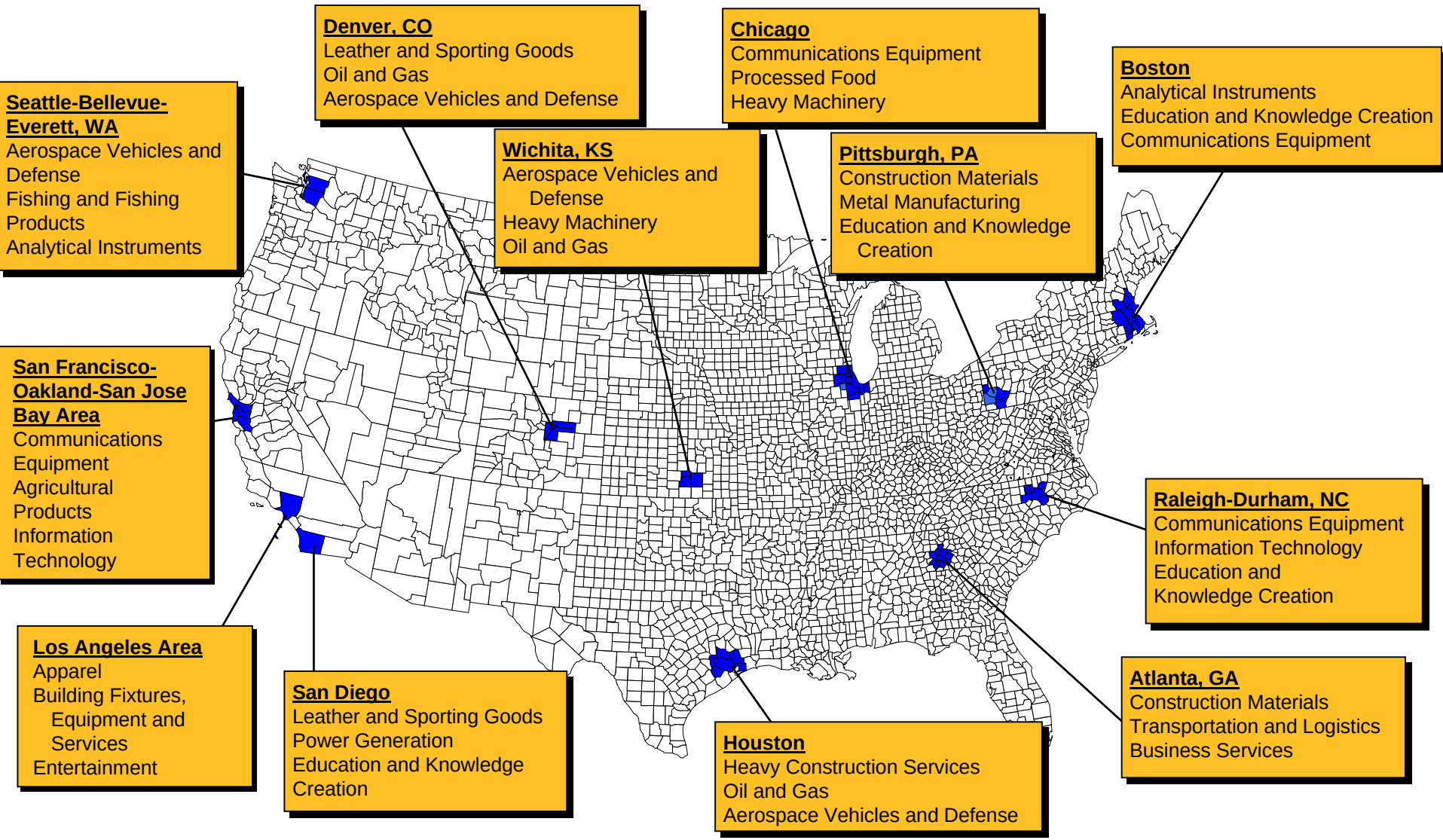
	Traded Clusters	Local Clusters	Natural Endowment-Dependent Industries
Share of Employment	31.8%	67.4%	0.8%
Employment Growth Rate, 1990 to 2000	1.7%	2.8%	-1.0%
Average Wage	$45,040	$27,169	$32,129
Relative Wage	137.0%	82.6%	97.7%
Wage Growth	5.0%	3.6%	1.9%
Relative Productivity	144.1	79.3	140.1
Patents per 10,000 Employees	21.1	1.3	7.0
Number of SIC Industries	590	241	48

Note: 2000 data, except relative productivity which is 1997 data.
Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

Copyright © 2003 Professor Michael E. Porter

Specialization of Regional Economies

Select U.S. Geographic Areas



Note: Clusters listed are the three highest ranking clusters in terms of share of national employment
Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

Copyright © 2003 Professor Michael E. Porter

State Economic Innovation and Performance

Indiana

Economic Performance

Employment growth per year[1], 1990 to 2000
- in Indiana: 2.12% (rank 32)
- in the US: 2.01%

Unemployment rate, March 2003
- in Indiana: 4.7% (rank 16)
- in the US: 5.8%

Average wages in 2000[1]
- in Indiana: $29,800 (rank 26)
- in the US: $34,011
- Indiana indexed to US: 12.4% below

Wage growth per year, 1990 to 2000[1]
- in Indiana: 3.58% (rank 39)
- in the US: 4.21%

Cost of living indexed to median state, 2000
- Indiana: 101.02 (29th from lowest)

Gross state product per employee in 1999
- in Indiana: $49,947 (rank 31)
- in the US: $56,882

Annual growth in exports, 1995-1999
- in Indiana: 7.18% (rank 13)
- in the US: 4.41%

Innovation Output

Patents per 10,000 employees, 2000
- in Indiana: 5.51 (rank 26)
- in the US: 7.53

Patents growth per year, 1990 to 2000
- in Indiana: 4.39% (rank 34)
- in the US: 6.17%

New establishment formation,[2] 1990 to 2000
- in Indiana: 1.32% (rank 26)
- in the US: 1.36%

Fast growth firms (Inc 500), 1991 to 2000
- in Indiana: 75 (rank 21)

Venture capital investments, $ per worker, 1999
- in Indiana: $5 (rank 42)

Initial public offering proceeds per 1,000 firms, 1999
- in Indiana: $386 (rank 36)

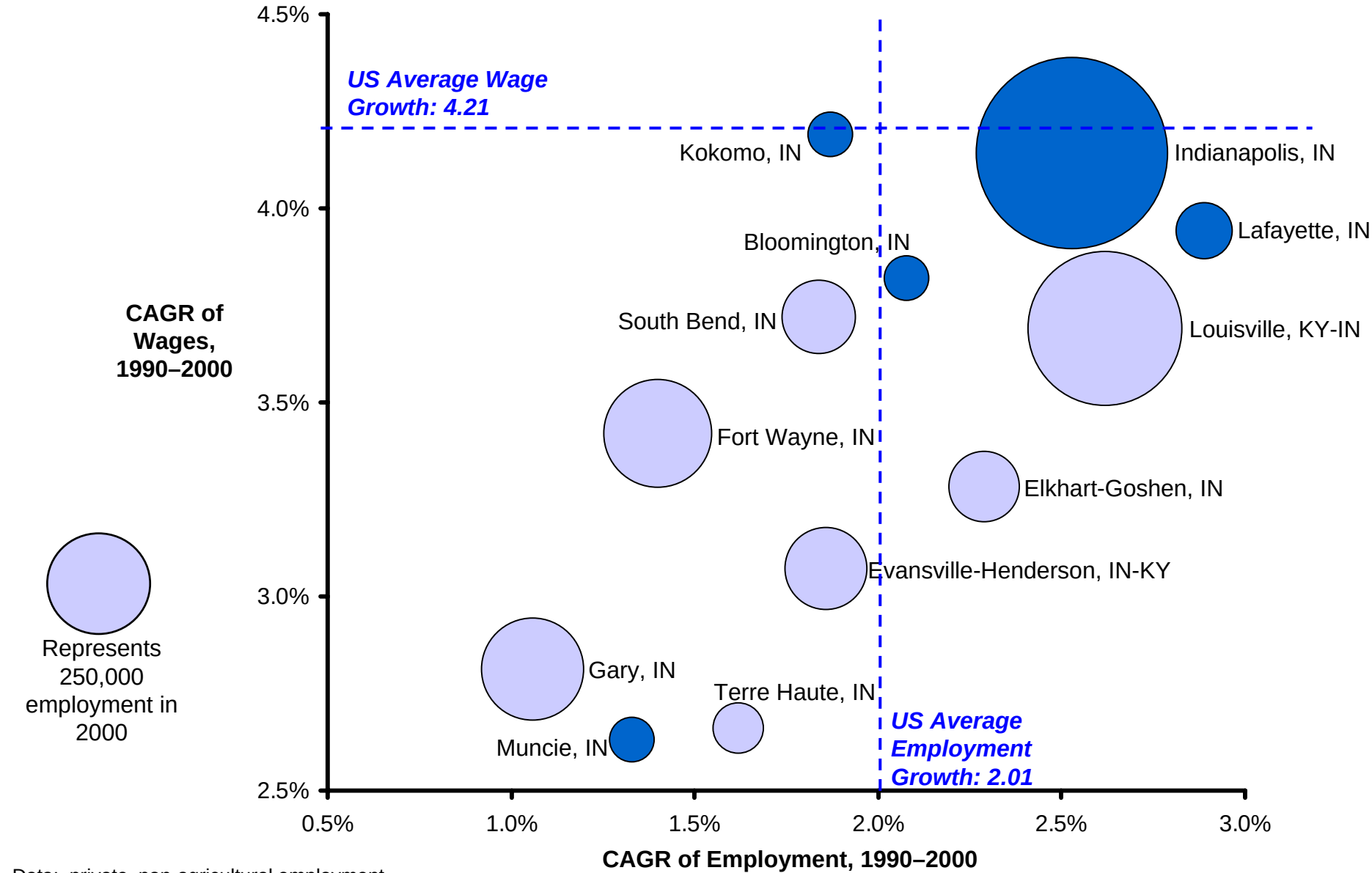
1) Excludes government and agricultural employment. 2) This refers to the formation of establishments in traded industries, which trade with other regions and internationally. 3) Rank 1 corresponds to lowest unemployment, lowest cost of living, highest wage growth, etc.

Data Sources: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School (www.isc.hbs.edu); COL index: Inter-university Consortium for Political and Social Research. Bureau of Labor Statistics; International Trade Administration; U.S. Patent and Trademark Office; IPO.com; PwC MoneyTree; Inc.500 Magazine.

Copyright © 2003 Professor Michael E. Porter

Comparative Performance of Metro Areas

Indiana

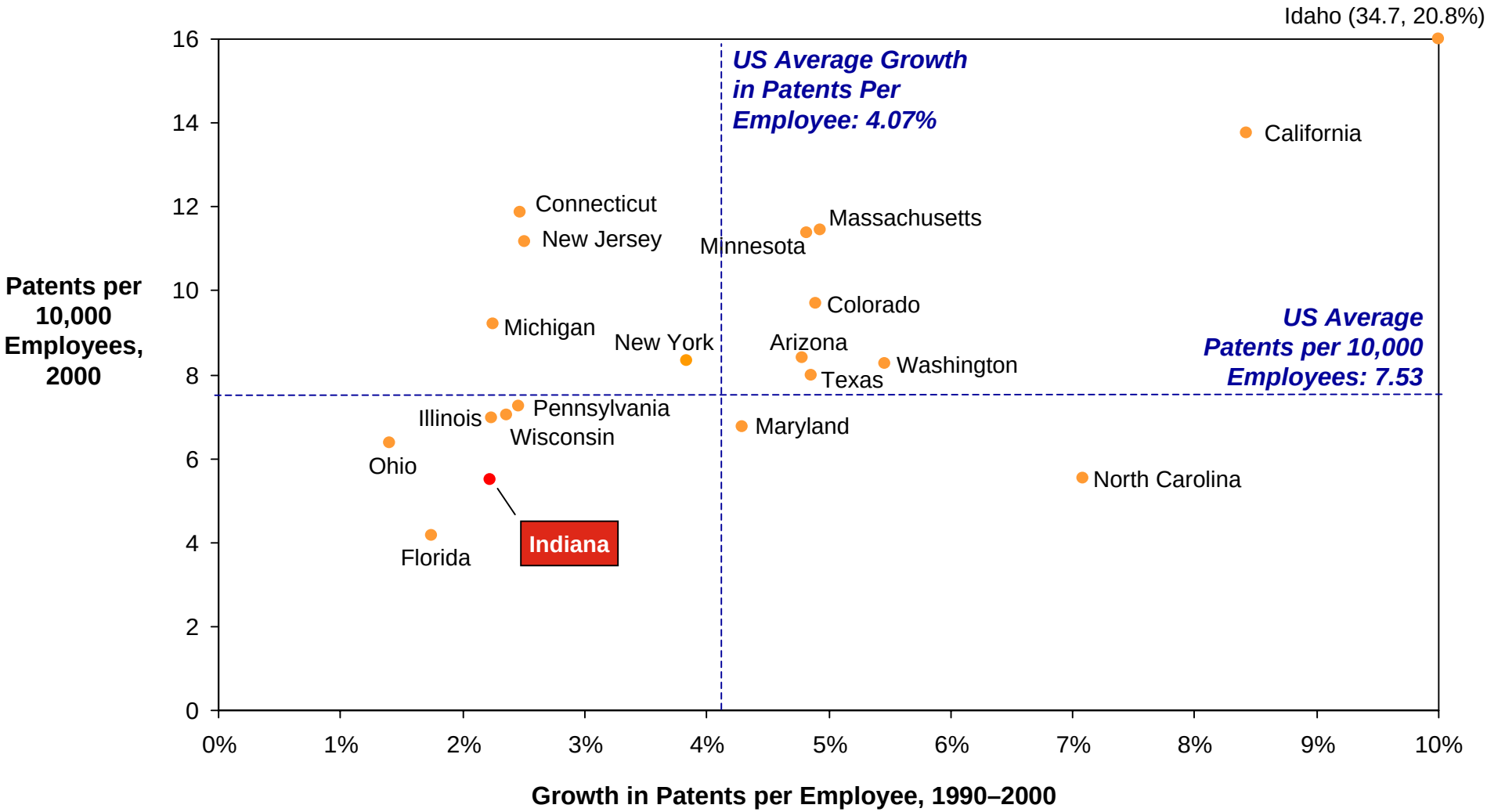


Data: private, non-agricultural employment
Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

Copyright © 2003 Professor Michael E. Porter

Innovation Performance of Leading States

Patents per Employee and Growth in Patents per Employee



Leading states are the top 20 states by total patent output in 2000. Note: (patents, growth)
Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

Copyright © 2003 Professor Michael E. Porter

Patents by Organization

Indiana

	Organization	Patents Issued from 1997 to 2001
1	ELI LILLY AND COMPANY	821
2	DELCO ELECTRONICS CORPORATION	263
3	CUMMINS ENGINE CO., INC.	231
4	GENERAL ELECTRIC COMPANY	178
5	THOMSON CONSUMER ELECTRONICS, INC.	161
6	DANA CORPORATION	117
7	GENERAL MOTORS CORPORATION	112
8	LUCENT TECHNOLOGIES INC.	97
9	DELPHI TECHNOLOGIES, INC.	85
10	CTS CORPORATION	79
11	PURDUE RESEARCH FOUNDATION	76
12	THOMSON LICENSING S.A.	72
13	BAYER CORPORATION	68
14	CATERPILLAR INC.	61
15	NAVISTAR INTERNATIONAL TRANSPORTATION CORP.	52
16	CARRIER CORPORATION	50
17	BRISTOL-MYERS SQUIBB COMPANY	42
18	HILL-ROM COMPANY, INC.	42
19	ADVANCED RESEARCH AND TECHNOLOGY INSTITUTE, INC.	36
20	ALLISON ENGINE COMPANY, INC	35
21	DOW AGROSCIENCES LLC	35
22	STANT MANUFACTURING COMPANY, INC.	35
23	INDIANA UNIVERSITY FOUNDATION	33
24	ALLIED-SIGNAL INC.	31
25	MSX, INC.	31

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

Copyright © 2003 Professor Michael E. Porter

Patents by Organization

Massachusetts

	Organization	Patents Issued from 1997 to 2001
1	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	518
2	MASSACHUSETTS GENERAL HOSPITAL CORPORATION	296
3	EMC CORPORATION	269
4	DIGITAL EQUIPMENT CORPORATION	261
5	POLAROID CORPORATION	213
6	ANALOG DEVICES, INC.	167
7	MILLENNIUM PHARMACEUTICALS, INC.	165
8	HARVARD COLLEGE, PRESIDENT AND FELLOWS	150
9	COMPAQ COMPUTER CORPORATION, INC.	147
10	SUN MICROSYSTEMS, INC.	143
11	BOSTON SCIENTIFIC CORPORATION	135
12	ACUSHNET COMPANY	130
13	GENETICS INSTITUTE, INC.	127
14	GILLETTE COMPANY	112
15	BRIGHAM AND WOMEN'S HOSPITAL	107
16	RAYTHEON COMPANY	101
17	GENERAL ELECTRIC COMPANY	99
18	HEWLETT-PACKARD COMPANY	96
19	CHILDREN'S MEDICAL CENTER CORPORATION	93
20	QUANTUM CORP. (CA)	93
21	COGNEX CORPORATION	90
22	DANA-FARBER CANCER INSTITUTE, INC.	90
23	JOHNSON & JOHNSON PROFESSIONAL INC.	90
24	BOSTON UNIVERSITY	84
25	SEPRACOR INC.	84

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

Copyright © 2003 Professor Michael E. Porter

University Innovation Indicators

Top Patenting Universities

University	US Patents Issued, 1997-2000	Rank	$MM Research Expenditure, 2000	Rank	Total U.S. Patents per $MM Research Expenditure, 1996–2000	Rank
Harvard & Affiliated Hospitals	889	1	1,284	1	0.19	40
Massachusetts Institute of Technology	566	2	728	3	0.19	42
Stanford University	338	3	444	10	0.19	37
Johns Hopkins University	330	4	1,034	2	0.07	148
Univ. of Wisconsin-Madison	318	5	554	6	0.17	47
California Institute of Technology	288	6	376	19	0.3	12
Cornell University	247	7	397	16	0.17	53
Univ. of Michigan	246	8	500	8	0.11	98
Univ. of Pennsylvania	243	9	530	7	0.14	69
Univ. of California, San Francisco	242	10	324	24	0.23	49
Columbia University	233	11	311	26	0.19	38
Univ. of Minnesota	224	12	411	14	0.14	65
State Univ. of New York, All Campuses	213	13	449	9	0.13	79
Univ. of Florida	212	14	295	28	0.2	36
Michigan State University	211	15	228	41	0.27	17
Harvard University	209	16	431	12	0.12	87
Iowa State University	182	17	199	54	0.24	20
Univ. of Washington	177	18	652	4	0.08	140
Univ. of California, Berkeley	161	19	319	25	0.13	78
Purdue University	**93**	**47**	**263**	**36**	**0.10**	**115**
Indiana University	**73**	**59**	**224**	**44**	**0.08**	**132**

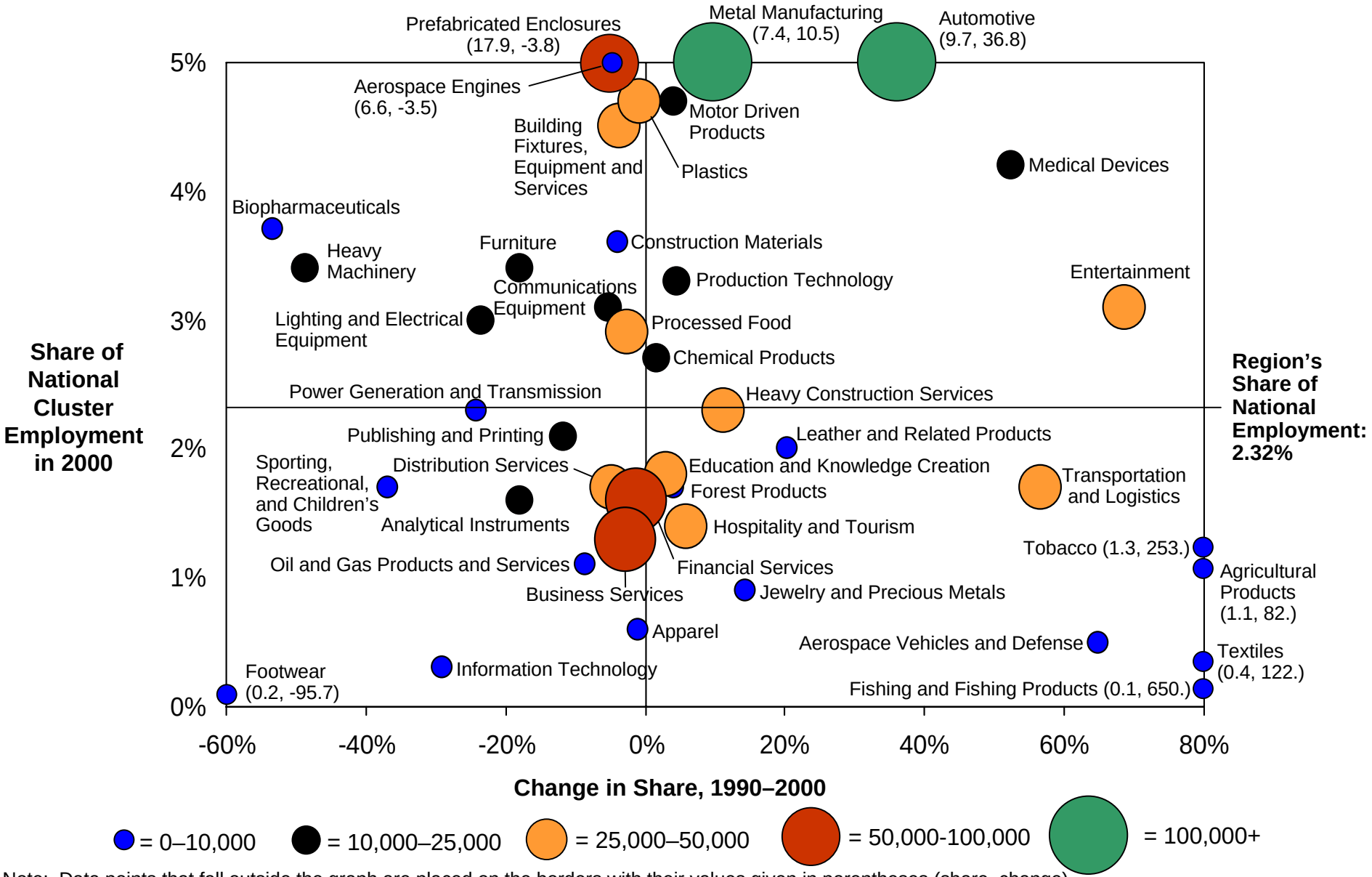
* Data not available separately from affiliated hospitals.

Source: AUTM Licensing Survey, Univ. of California Tech. Transfer Annual Reports, the Harvard University Fact Book, ISI Web of Knowledge - Science Citation Index Expanded.

Copyright © 2003 Professor Michael E. Porter

Specialization By Traded Cluster

Indiana



Note: Data points that fall outside the graph are placed on the borders with their values given in parentheses (share, change)

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

Copyright © 2003 Professor Michael E. Porter

Information Technology Cluster

State Ranking by Employment

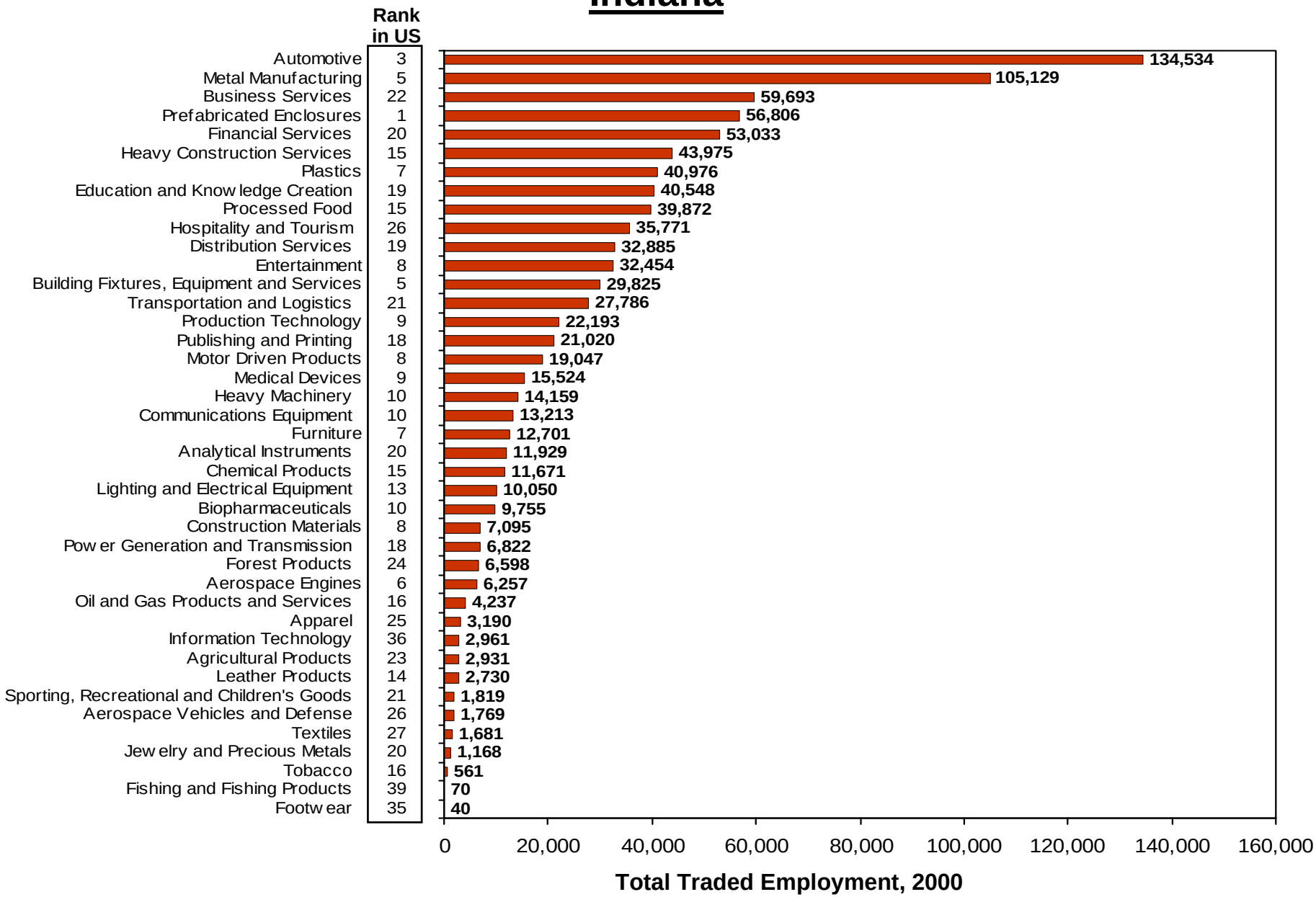
#	State	2000 Total Employment	2000 Share of National Employment	2000 Employment Location Quotient	CAGR of Employment 1990-2000	Rank	2000 Average Wages	Rank	CAGR of Average Wages 1990-2000	Rank
1	California	210,093	24.4	2.16	1.28	37	$120,021	3	11.41	4
2	Texas	91,992	10.7	1.52	5.27	20	$79,747	12	7.88	22
3	Massachusetts	50,323	5.8	2.16	1.83	34	$88,735	4	9.10	16
4	Washington	38,535	4.5	2.25	14.07	4	$295,243	1	24.98	1
5	New York	37,416	4.3	0.67	-2.49	48	$74,421	16	6.83	27
6	Arizona	34,954	4.1	2.41	2.89	28	$59,811	23	6.33	29
7	Colorado	32,907	3.8	2.28	2.69	29	$83,880	8	9.23	15
8	North Carolina	27,438	3.2	1.07	1.89	33	$77,179	14	9.52	13
9	Minnesota	27,286	3.2	1.51	-1.19	44	$60,521	21	6.22	31
10	Oregon	26,200	3.0	2.56	11.69	6	$75,448	15	8.54	19
11	Pennsylvania	24,064	2.8	0.63	4.32	24	$82,232	9	8.57	18
12	Florida	22,887	2.7	0.49	4.27	25	$78,001	13	10.84	6
13	Virginia	22,347	2.6	1.02	2.51	30	$87,209	6	8.41	20
14	Illinois	21,563	2.5	0.52	7.58	13	$67,470	19	7.74	23
15	Idaho	21,203	2.5	6.24	10.80	8	$27,131	46	-2.47	44
16	New Jersey	17,887	2.1	0.67	6.77	14	$85,723	7	10.07	11
17	Georgia	16,158	1.9	0.62	8.96	9	$80,342	11	5.52	33
18	Ohio	14,741	1.7	0.39	5.83	17	$58,561	24	5.62	32
19	Utah	10,641	1.2	1.54	1.02	38	$56,786	28	3.16	39
20	Maryland	10,085	1.2	0.65	5.28	19	$87,313	5	10.76	7
36	**Indiana**	**2,961**	**0.3**	**0.15**	**-0.36**	**40**	**$48,432**	**34**	**8.90**	**17**

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

Copyright © 2003 Professor Michael E. Porter

Employment by Traded Clusters

Indiana

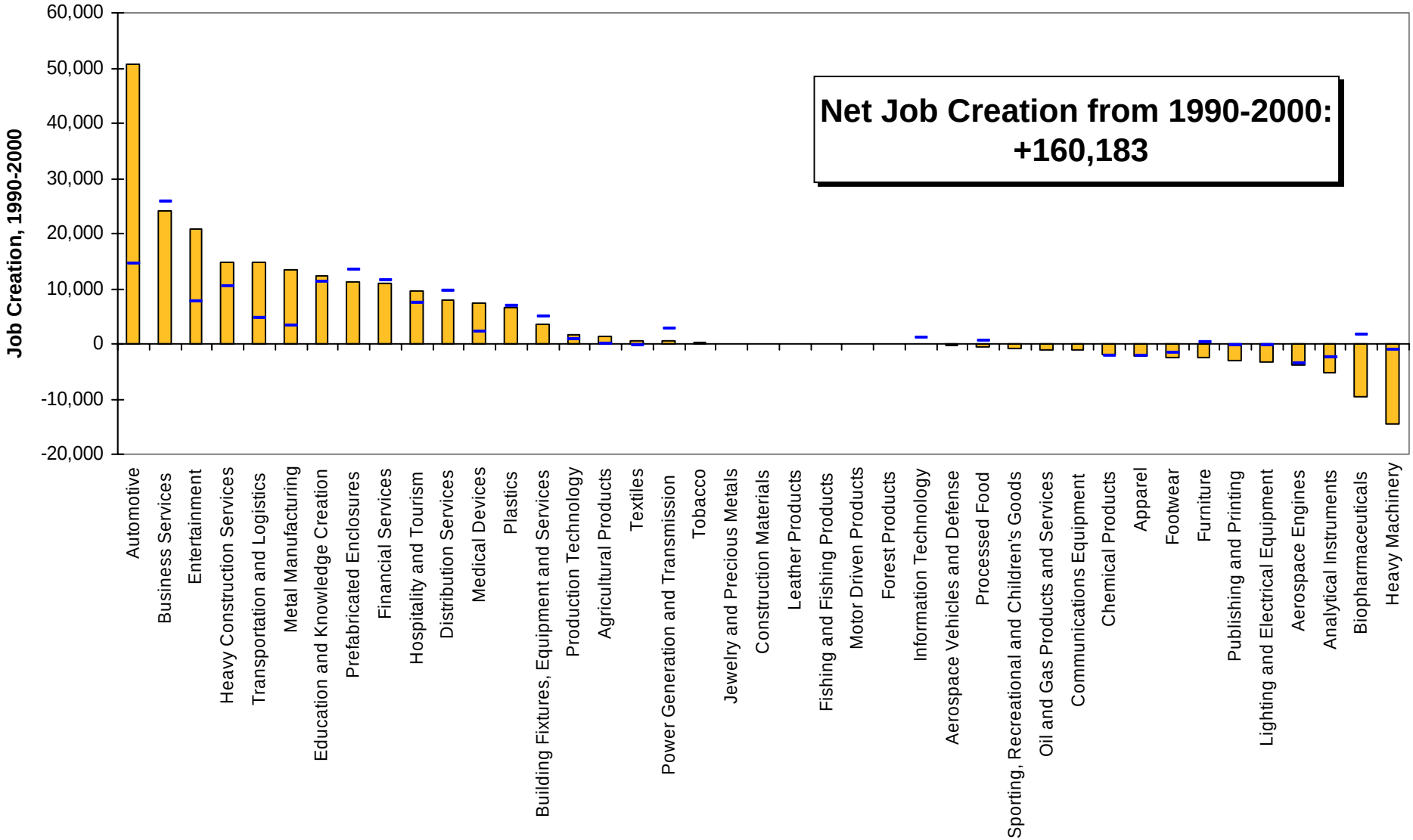


Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School

Copyright © 2003 Professor Michael E. Porter

Job Creation By Traded Cluster

Indiana, 1990-2000

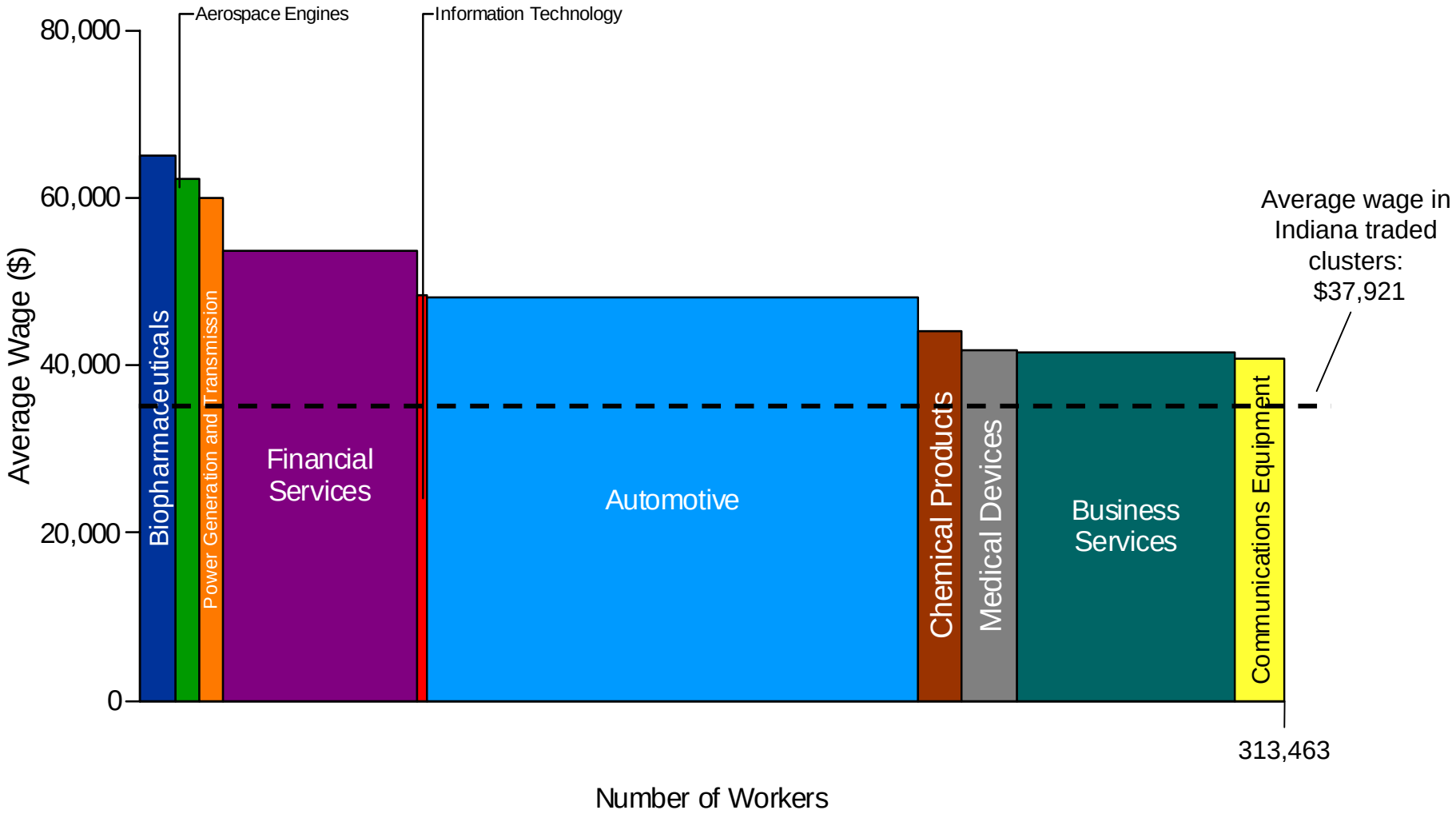


— Indicates expected job creation at rates achieved in national benchmark clusters, i.e. percent change in national benchmark times starting local employment.

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

Copyright © 2003 Professor Michael E. Porter

Top 10 High Wage Traded Clusters
Indiana, 2000



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

Copyright © 2003 Professor Michael E. Porter

Competitiveness and the Business Environment

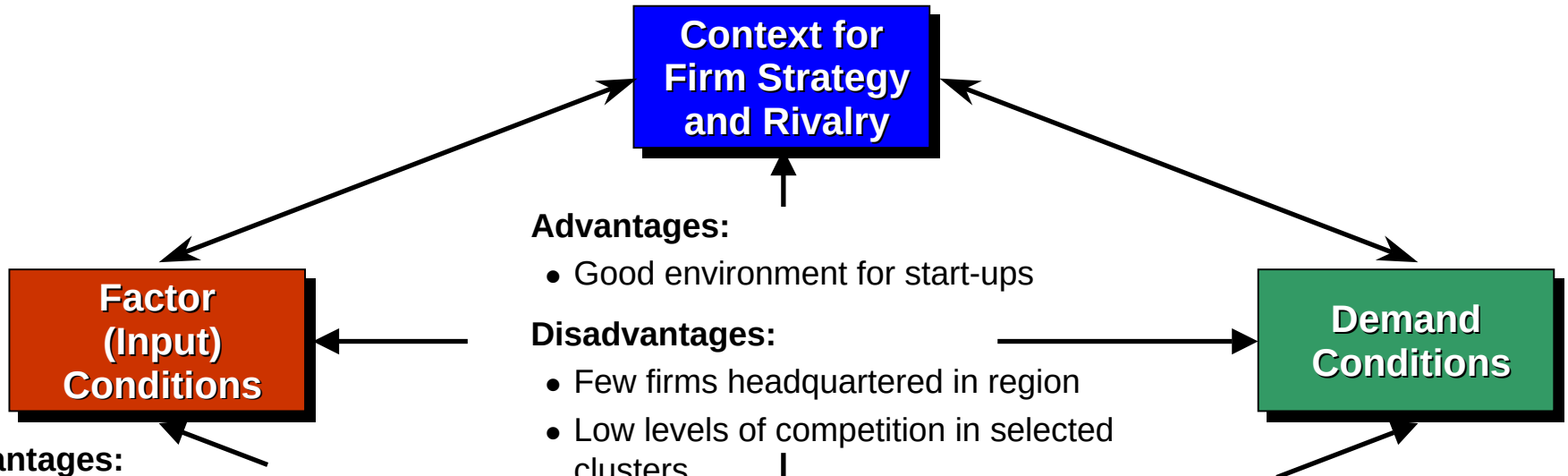
Key Findings

- A strong physical and information infrastructure is a baseline requirement to establish and sustain a prosperous regional economy
- A strong K–12 educational system is important for developing local talent and attracting outside talent
- Universities and specialized research centers are the driving force behind innovation in nearly every region
- Mechanisms for commercialization are essential if innovation is to translate to economic success
- Specialized talent and training are more important than abundant labor
- Government can have a significant influence on the business environment, both positively and negatively
- Poor coordination among local jurisdictions impedes efforts to improve the business environment
- Regions face the need for strategic transitions, when the limits of the past strategy create the need for a new one

Copyright © 2003 Professor Michael E. Porter

Determinants of Regional Competitiveness

Research Triangle



Advantages:

- Good environment for start-ups

Disadvantages:

- Few firms headquartered in region
- Low levels of competition in selected clusters

Advantages:

- Central geographic location to serve the Southeast and Mid-Atlantic region
- Large numbers of scientists, engineers, and skilled technicians
- Nationally recognized universities
- High levels of R&D
- Diversity of research institutions
- High quality of life

Disadvantages:

- Inadequate air and road transportation networks
- Relatively weak K–12 educational system
- Risk capital and VC expertise not abundant

Advantages:

- Strength across a wide range of information technology subclusters

Disadvantages:

- Limited breadth in key clusters (e.g., communications)
- Weaknesses in specialized suppliers

Advantages:

- Sophisticated and demanding buyers in an array of fields
- Buyers often have special needs that impact final products

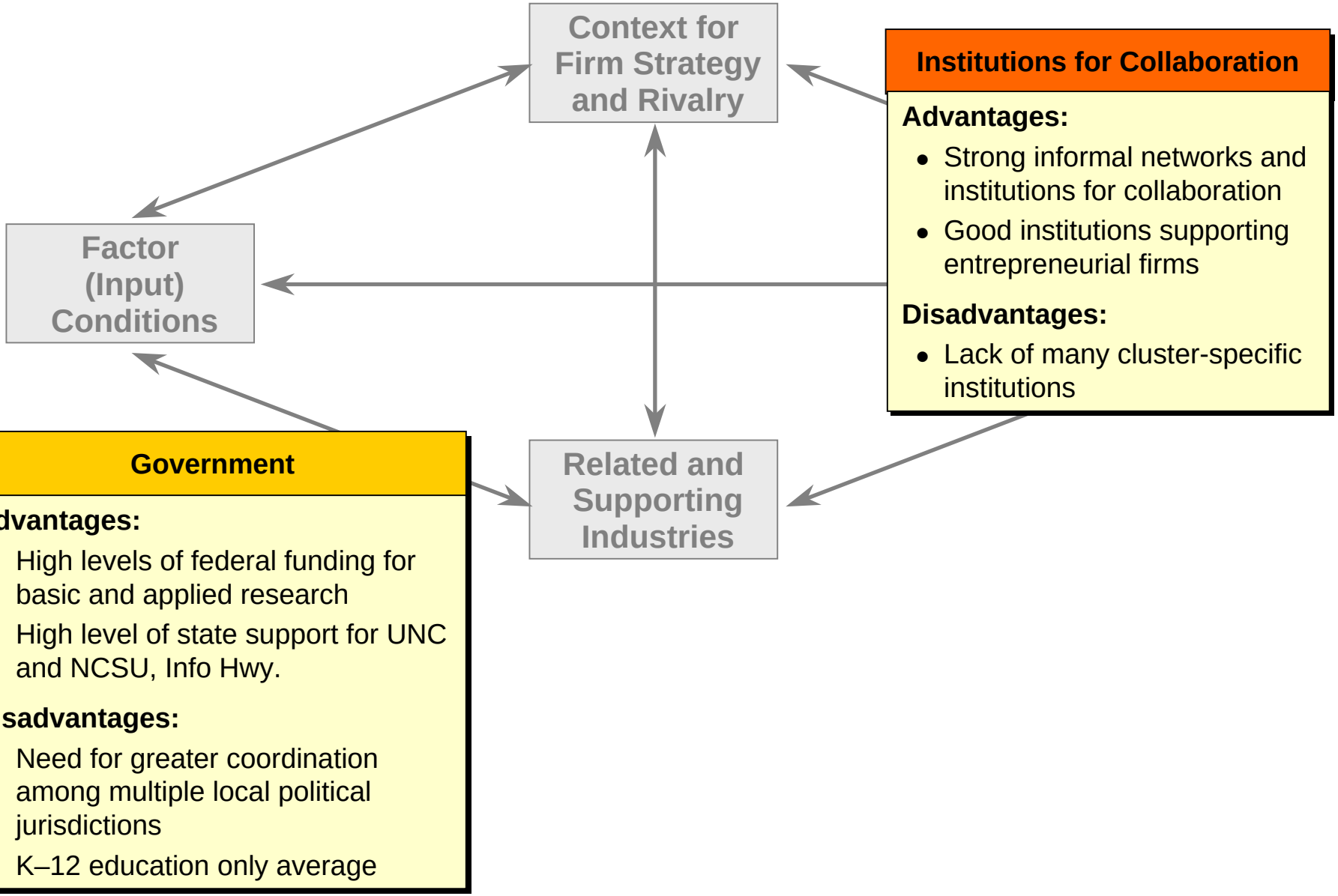
Disadvantages

- Infrequent feedback from customers

Copyright © 2003 Professor Michael E. Porter

Determinants of Regional Competitiveness

Research Triangle



Copyright © 2003 Professor Michael E. Porter

Government's Impact on the Determinants of Regional Productivity

San Diego

Element of the Diamond	Federal Government	State Government	Local Government
Factor Inputs	(+) High levels of R&D funding (SPAWAR, NIH), both past and present (+) Defense cuts released talent for high-tech start-ups	(+) Founded UCSD (+) Funds San Diego State University, and Community Colleges (+) Increasing funds for engineering school (–) Energy policies deter building of new capacity (–) Average K-12 education (–) CA Coastal Commission regulations discourage facilities expansion	(+) Zoned Torrey Pines Mesa for research (+) Provided land on favorable terms (e.g., Salk, General Atomics) (–) Lack of coordination and leadership prevents maintenance and improvements of infrastructure (e.g., roads, schools, airport)
Demand Conditions	(+) U.S. Navy is a sophisticated customer of wireless technology	(–) State FDA regulations different from Federal FDA regulations	
Related and Supporting Industries			
Context for Firm Strategy and Rivalry	(+) Defense cuts refocused firms on civilian markets	(–) Inadequate state and local tax incentives to encourage R&D investment	

Copyright © 2003 Professor Michael E. Porter

Leading Sub-Clusters By National Rank

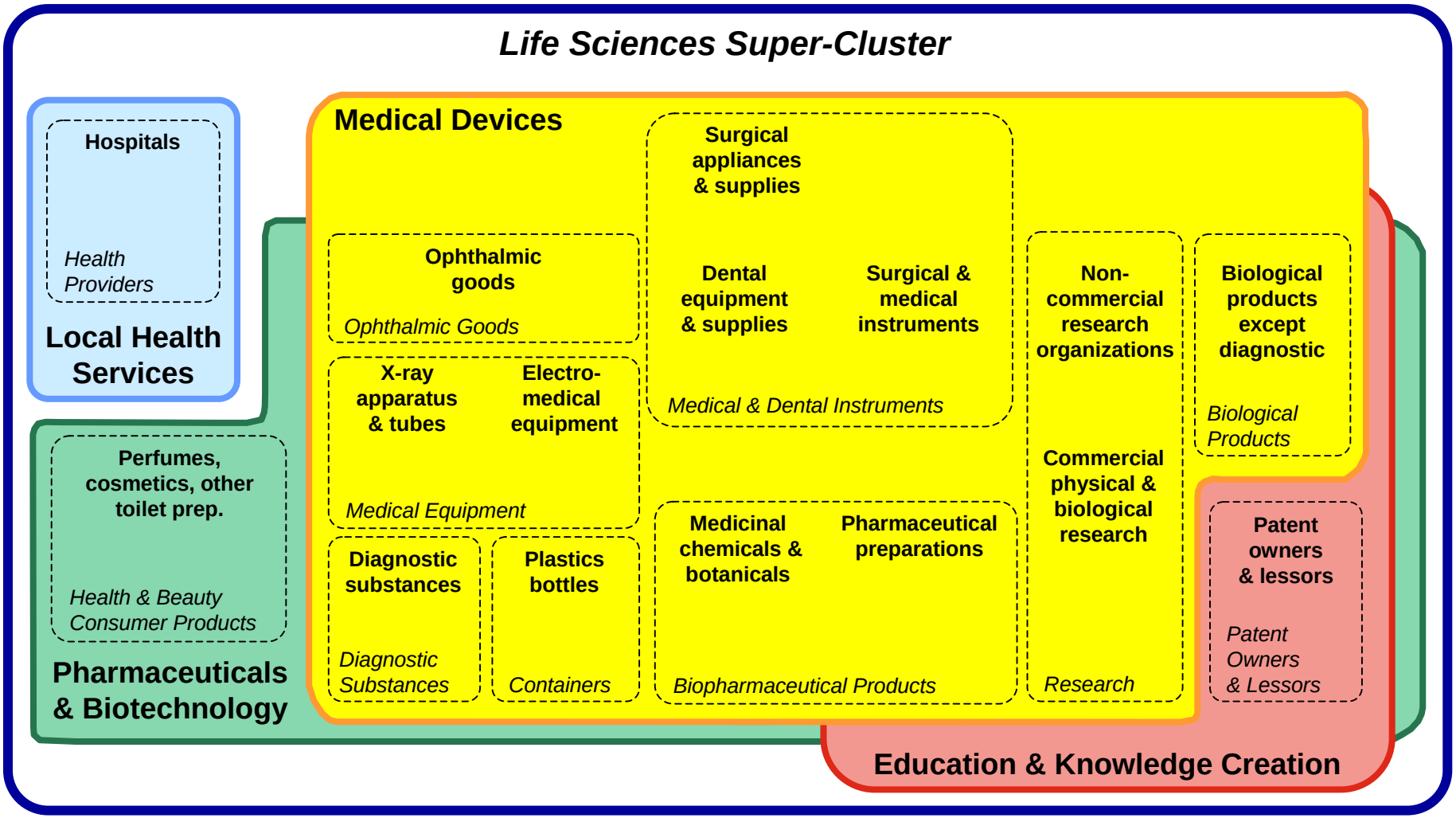
Indiana, 2000

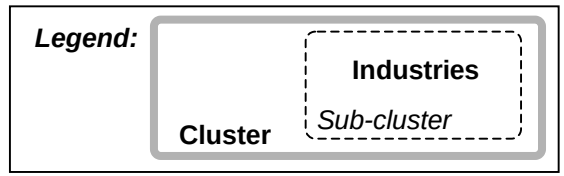
Cluster	Subcluster	National Rank	National Share (%)	Employment
Automotive	Automotive Parts	2	11.8	80,577
	Forgings and Stampings	3	9.7	12,741
	Automotive Components	2	10.4	8,891
	Production Equipment	5	5.8	8,452
	Marine, Tank and Stationary Engines	4	11.0	6,636
	Small Vehicles and Trailers	1	14.9	5,130
Metal Manufacturing	Iron and Steel Mills and Foundries	1	18.1	48,622
	Metal Processing	5	6.3	17,360
	Precision Metal Products	5	5.9	7,216
	Environmental Controls	4	8.7	1,750
	Primary Metal Products	3	8.7	749
Prefabricated Enclosures	Recreational Vehicles and Parts	1	29.0	18,621
	Trucks and Trailers	1	14.0	12,327
	Household Refrigerators and Freezers	1	27.7	7,500
	Mobile Homes	4	10.0	6,433
	Office Furniture	1	18.4	5,526
	Caskets	1	37.0	2,559
	Aluminum Processing	4	7.7	2,090
	Elevators and Moving Stairways	1	18.7	1,750
Processed Food	Metal and Glass Containers	5	5.5	2,678
Hospitality and Tourism	Boat Related Services	3	4.9	4,280
Entertainment	Entertainment Venues	3	5.1	21,099
	Entertainment Equipment	4	8.1	3,652
Building Fixtures, Equipment and Services	Wood Cabinets, Fixtures and Other Products	5	4.3	8,930
	Fabricated Materials	3	7.2	4,335
	Plumbing Products	4	5.7	4,034
	Concrete, Gypsum and Other Building Products	4	5.2	2,296
Production Technology	Ball and Roller Bearings	3	6.8	2,380
	Industrial Trucks and Tractors	4	7.4	2,072
Motor Driven Products	Refrigeration and Heating Equipment	5	6.1	8,979
	Specialized Pumps	2	28.4	1,750
	Specialized Machinery	3	9.1	801
Medical Devices	Diagnostic Substances	3	9.1	3,855
Heavy Machinery	Machinery Components	5	6.7	5,559
Furniture	Wood Materials and Products	3	6.8	5,417
Construction Materials	Rubber Products	4	5.2	2,747
Aerospace Engines	Aircraft Engines	4	7.4	6,197
Oil and Gas Products and Services	Water Freight Transportation Services	4	10.8	1,458

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

Copyright © 2003 Professor Michael E. Porter

Definition of the Life Sciences Super-Cluster





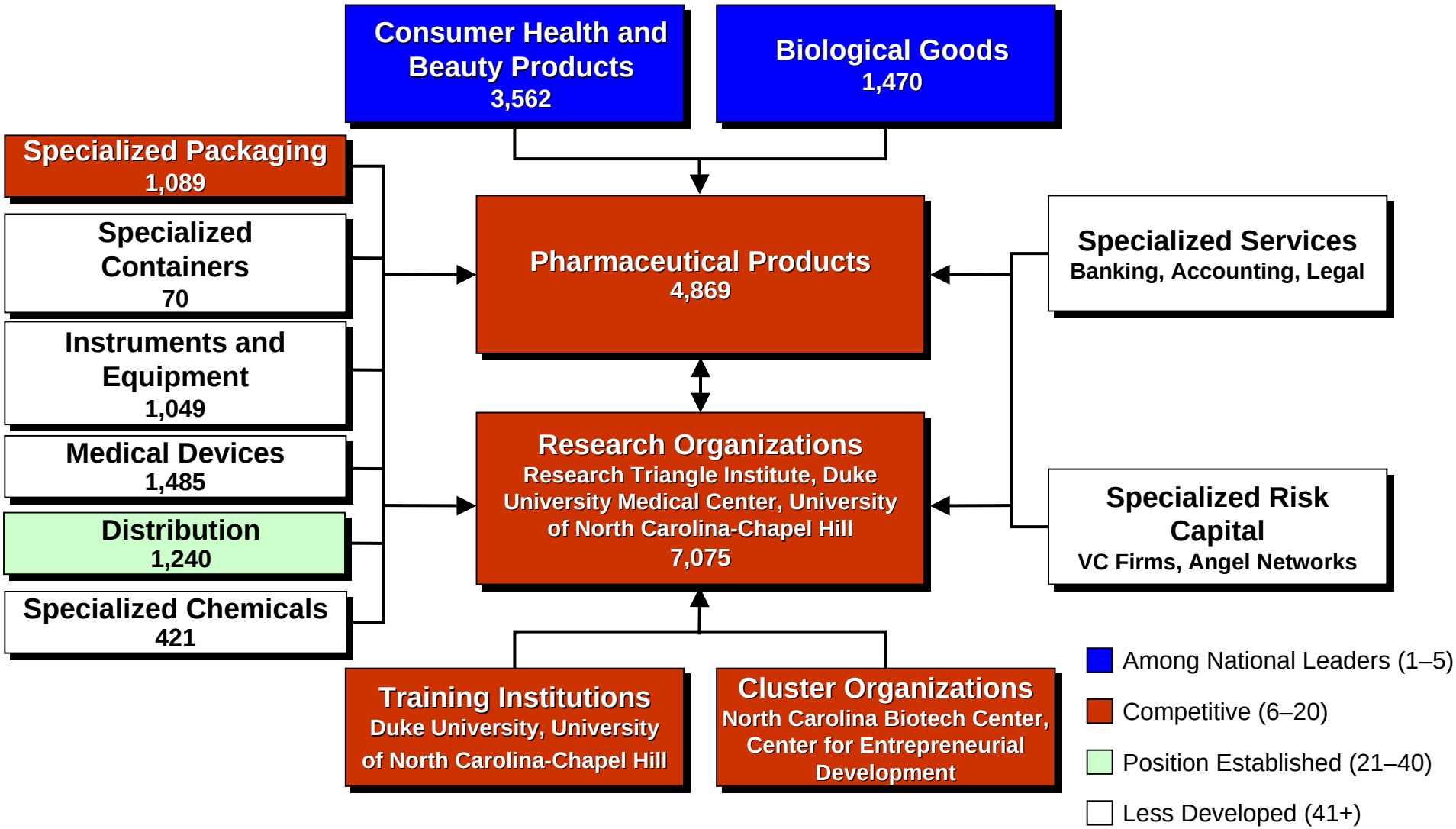
Note: Colored backgrounds represent clusters in life sciences; dotted rectangles represent sub-clusters in life sciences; circles represent industries in life sciences

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

Copyright © 2003 Professor Michael E. Porter

Competitive Position in Life Sciences

Research Triangle Economic Area

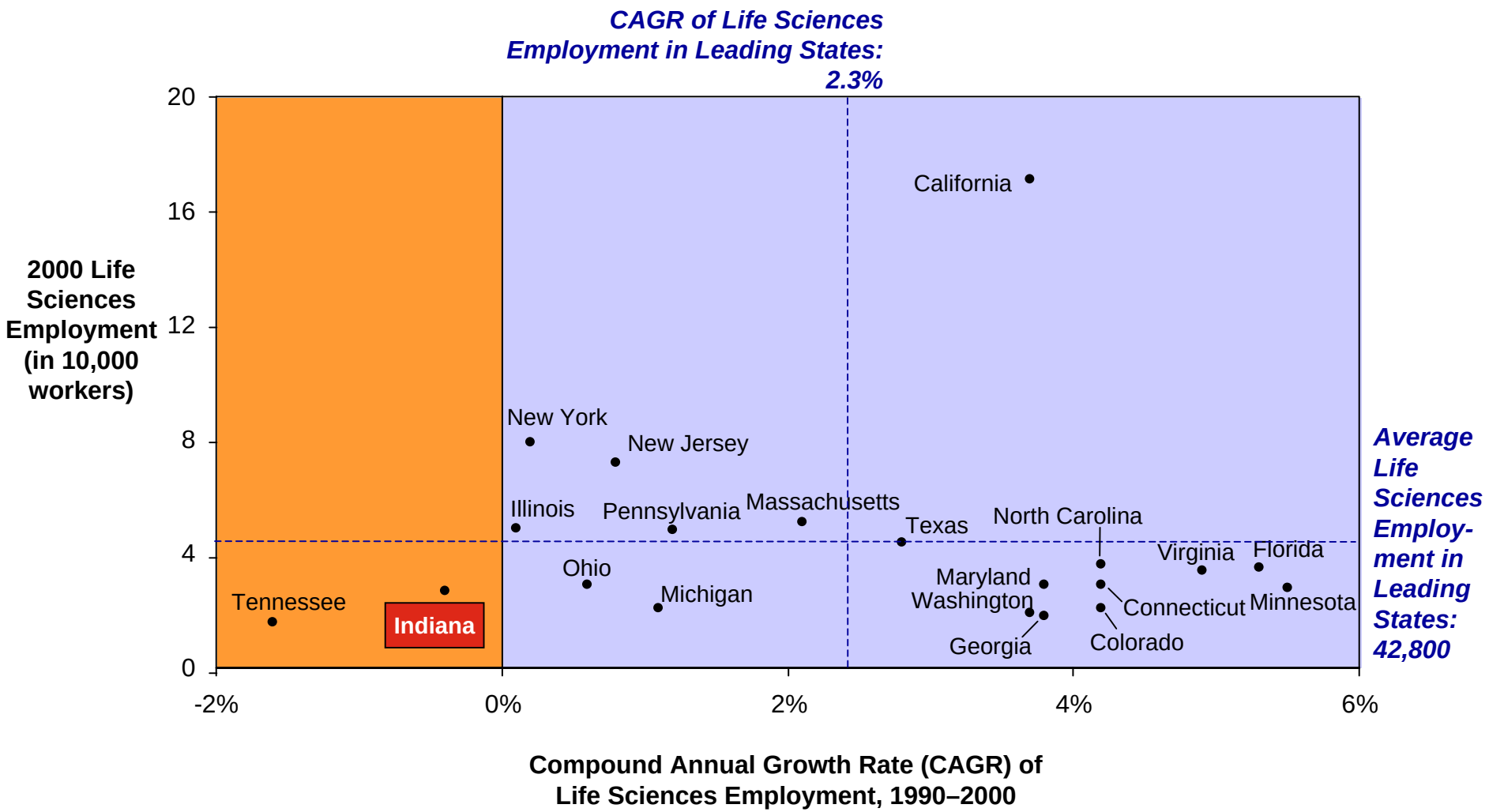


Note: Employment numbers are given inside boxes where available

Source: Regional Survey Data, Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School and In-person Interviews

Copyright © 2003 Professor Michael E. Porter

Performance of Leading Life Sciences Clusters



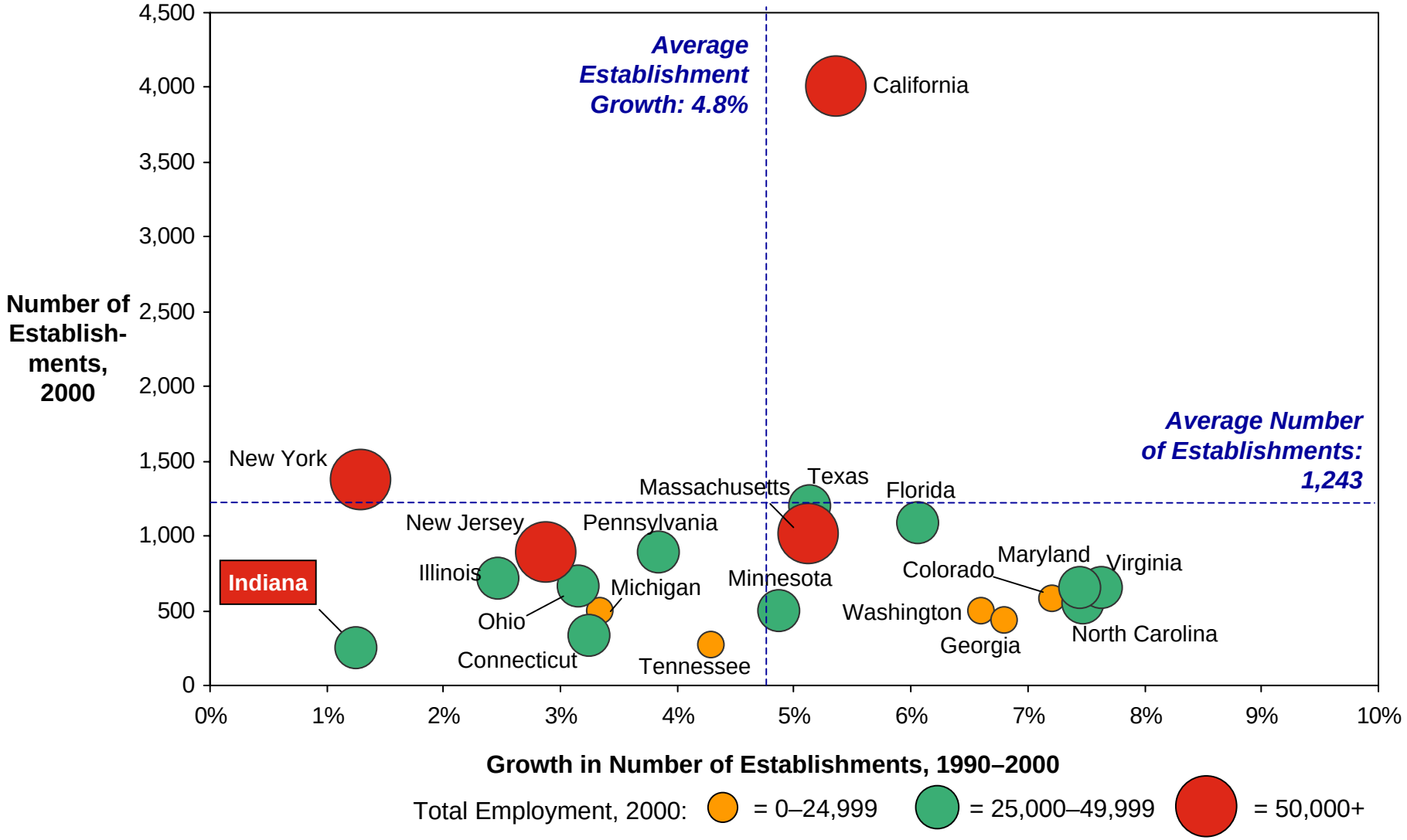
*Note: Leading life science states defined as those among the top twenty in life sciences employment; averages shown are weighted averages based on total life sciences employment

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

Copyright © 2003 Professor Michael E. Porter

Structure of Leading Life Sciences Clusters

Number and Growth of Establishments, 2000



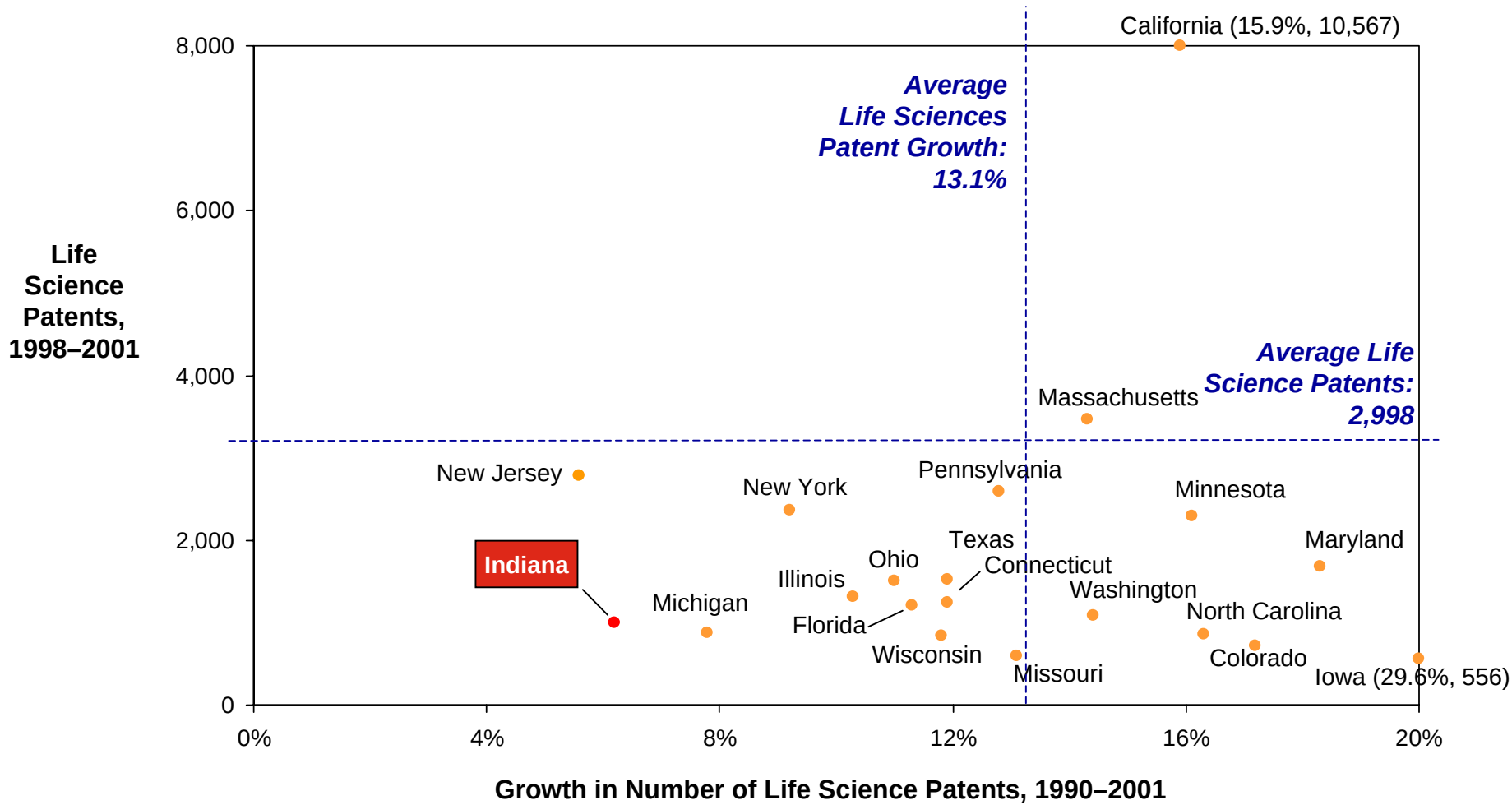
Note: Average of number of establishments and establishment growth are computed as a weighted average based on employment in life sciences; leading life science clusters defined as being among the top twenty in life sciences employment

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

Copyright © 2003 Professor Michael E. Porter

Innovation Output of Leading Life Sciences Clusters

Life Science Patents and Patent Growth, 1990–2001



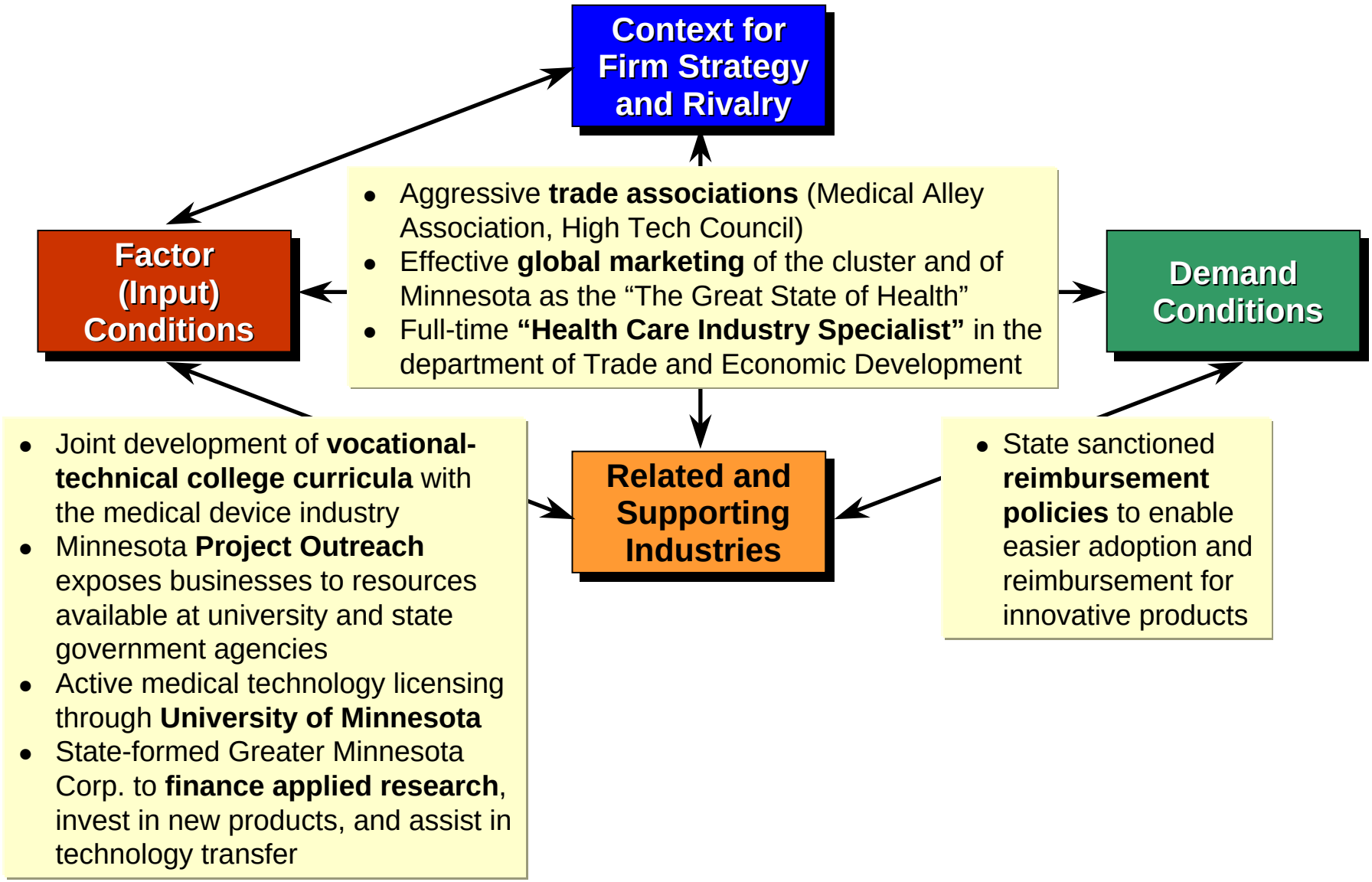
Note: (x-axis, y-axis); Cluster national average life science patents and patent growth are computed as a weighted average based on employment in life sciences; Leading life science clusters defined as being among the top twenty in life science employment

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

Copyright © 2003 Professor Michael E. Porter

Public / Private Cooperation in Cluster Upgrading

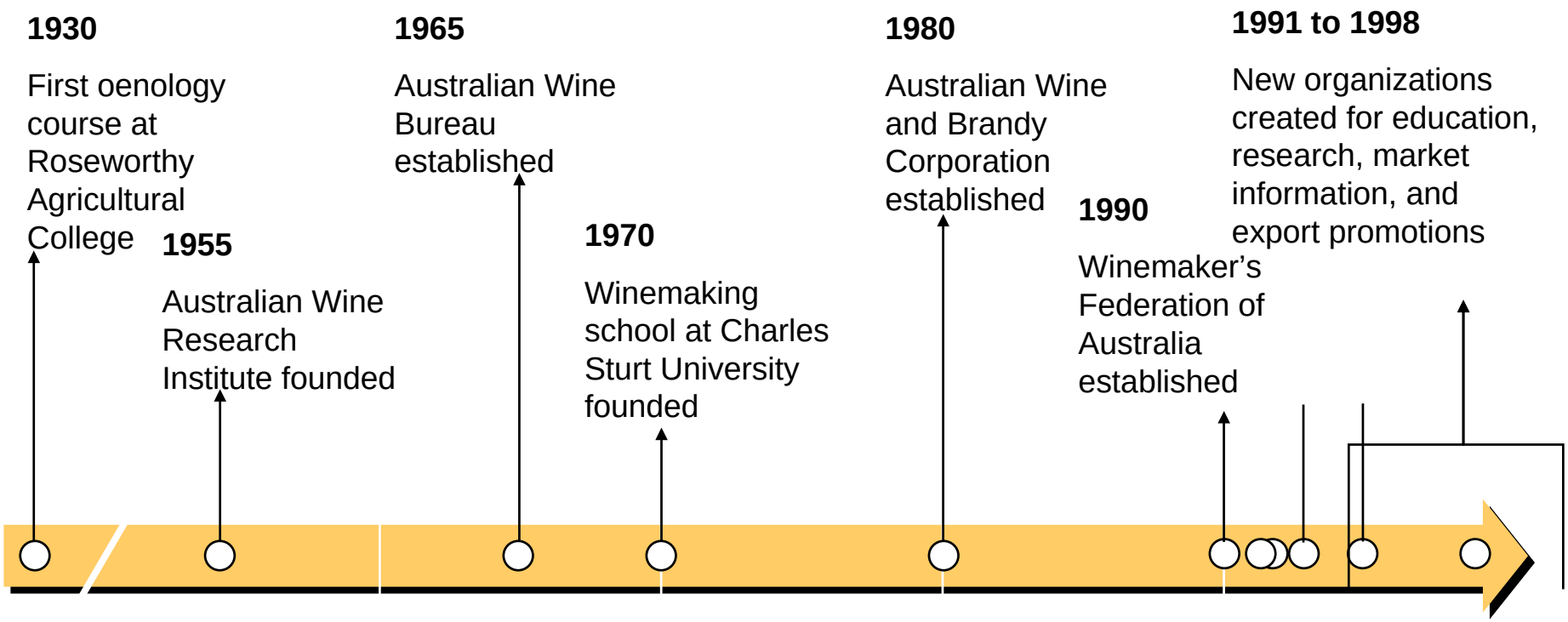
Minnesota's Medical Device Cluster



Copyright © 2003 Professor Michael E. Porter

The Australian Wine Cluster

History



1950s

Import of European winery technology

1960s

Recruiting of experienced foreign investors, e.g. Wolf Bass

1970s

Continued inflow of foreign capital and management

1980s

Creation of large number of new wineries

1990s

Surge in exports and international acquisitions

Source: Michael E. Porter and Örjan Sölvell, The Australian Wine Cluster – Supplement, Harvard Business School Case Study, 2002

Copyright © 2003 Professor Michael E. Porter

The Australian Wine Cluster

Recently Founded Institutions for Collaboration

Winemakers' Federation of Australia

- Established in 1990
- Focus: Public policy representation of companies in the wine cluster
- Funding: Member companies

Cooperative Centre for Viticulture

- Established in 1991
- Focus: Coordination of research and education policy in viticulture
- Funding: other cluster organizations

Australian Wine Export Council

- Established in 1992
- Focus: Wine export promotion through international offices in London and San Francisco
- Funding: Government; cluster organizations

Grape and Wine R&D Corporation

- Established in 1991 as statutory body
- Focus: Funding of research and development activities
- Funding: Government; statutory levy

Wine Industry Information Service

- Established in 1998
- Focus: Information collection, organization, and dissemination
- Funding: Cluster organizations

Wine Industry National Education and Training Council

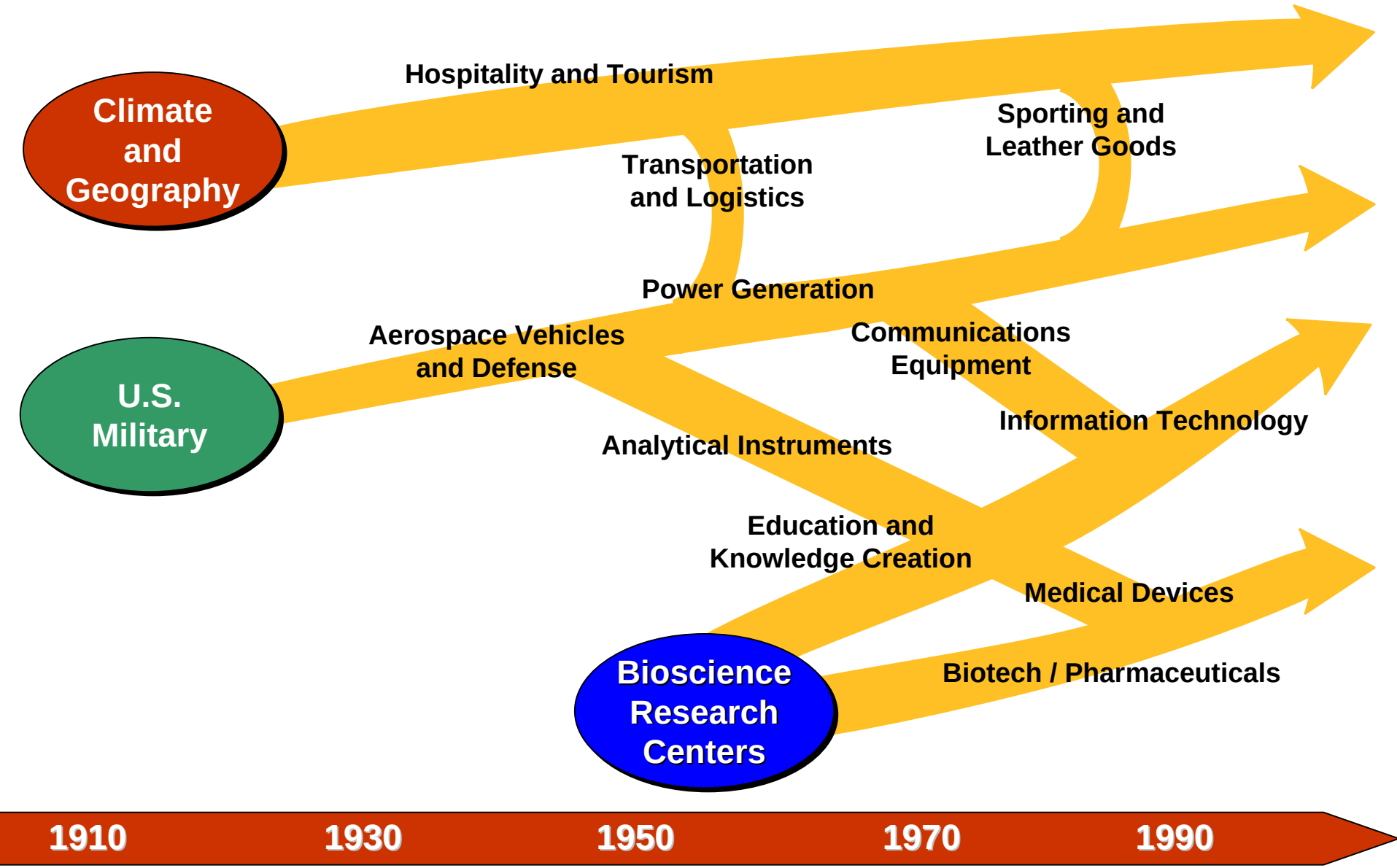
- Established in 1995
- Focus: Coordination, integration, and standard maintenance for vocational training and education
- Funding: Government; other cluster organizations

Source: Michael E. Porter and Örjan Sölvell, The Australian Wine Cluster – Supplement, Harvard Business School Case Study, 2002

Copyright © 2003 Professor Michael E. Porter

The Evolution of Regional Economies

San Diego



Copyright © 2003 Professor Michael E. Porter

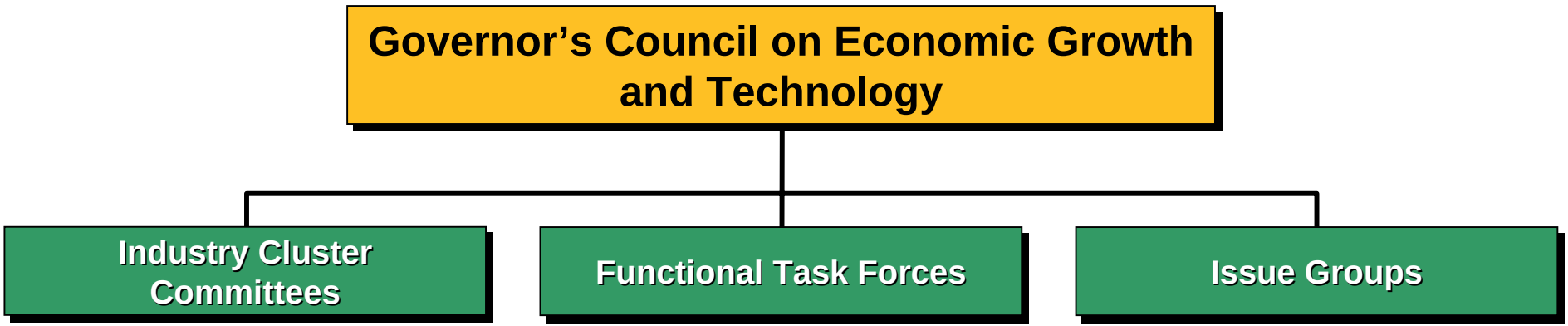
Creating and Implementing a Regional Economic Strategy

- A **shared economic vision** helps elicit broad support and coordinate activities
- An economic development strategy requires **statewide** plans as well as **strategies for each subregion**
- Economic strategy must explicitly address **inequality and economically distressed areas**
- Strong public and private **leadership** is a necessary part of any successful economic development strategy
- Broad-based **collaboration across institutions** is needed for economic development initiatives to succeed
- An overarching **organization** for economic development helps coordinate and routinize the process
- Regions need to overcome **transition points** in the development of their economies

Copyright © 2003 Professor Michael E. Porter

Organizing to Compete

Massachusetts Governor's Council on Economic Growth and Technology



- Advanced Materials
- Biotechnology and Pharmaceuticals
- Defense
- Marine Science and Technology
- Medical Devices
- Software
- Telecommunications
- Textiles
- Information Technology

- International Trade
- Marketing Massachusetts
- Tax Policy and Capital Formation
- Technology Policy and Defense Conversion

- Cost of Doing Business
- Financing Emerging Companies
- Health Care
- Western Massachusetts
- Business Climate
- Competitive Benchmarking

Copyright © 2003 Professor Michael E. Porter

INSTITUTE FOR STRATEGY AND COMPETITIVENESS

Cluster Mapping Project

data website is available from the home page of the Institute, www.isc.hbs.edu .

Copyright © 2003 Professor Michael E. Porter