

Competitiveness and Company Strategy: Issues for Brazil

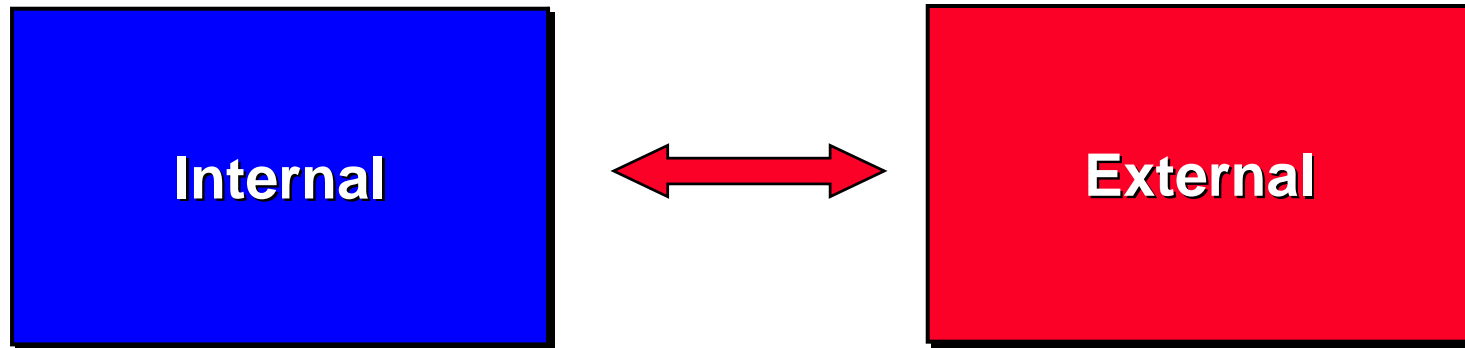
Professor Michael E. Porter
Institute for Strategy and Competitiveness
Harvard Business School

ExpoManagement
Sao Paulo, Brazil
November 4, 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 2002*, (World Economic Forum, 2003), "Clusters and the New Competitive Agenda for Companies and Governments" in *On Competition* (Harvard Business School Press, 1998), and the *Clusters of Innovation Initiative* (www.compete.org), 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

Perspectives on Firm Success

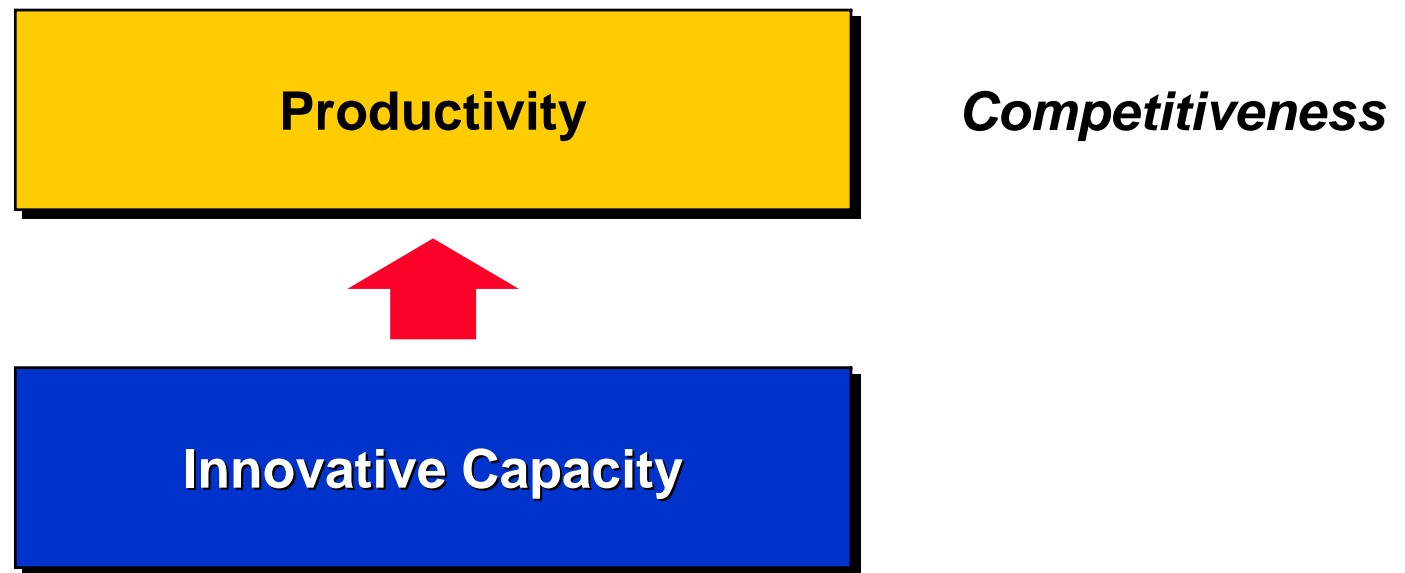


- Competitive advantage resides **inside** a company
- Competitive success depends primarily on **company choices**

- Competitive advantage (or disadvantage) resides partly in the **proximate environment** in which a company's business units operate
 - Cluster participation
- Company choices are strongly influenced by **location**

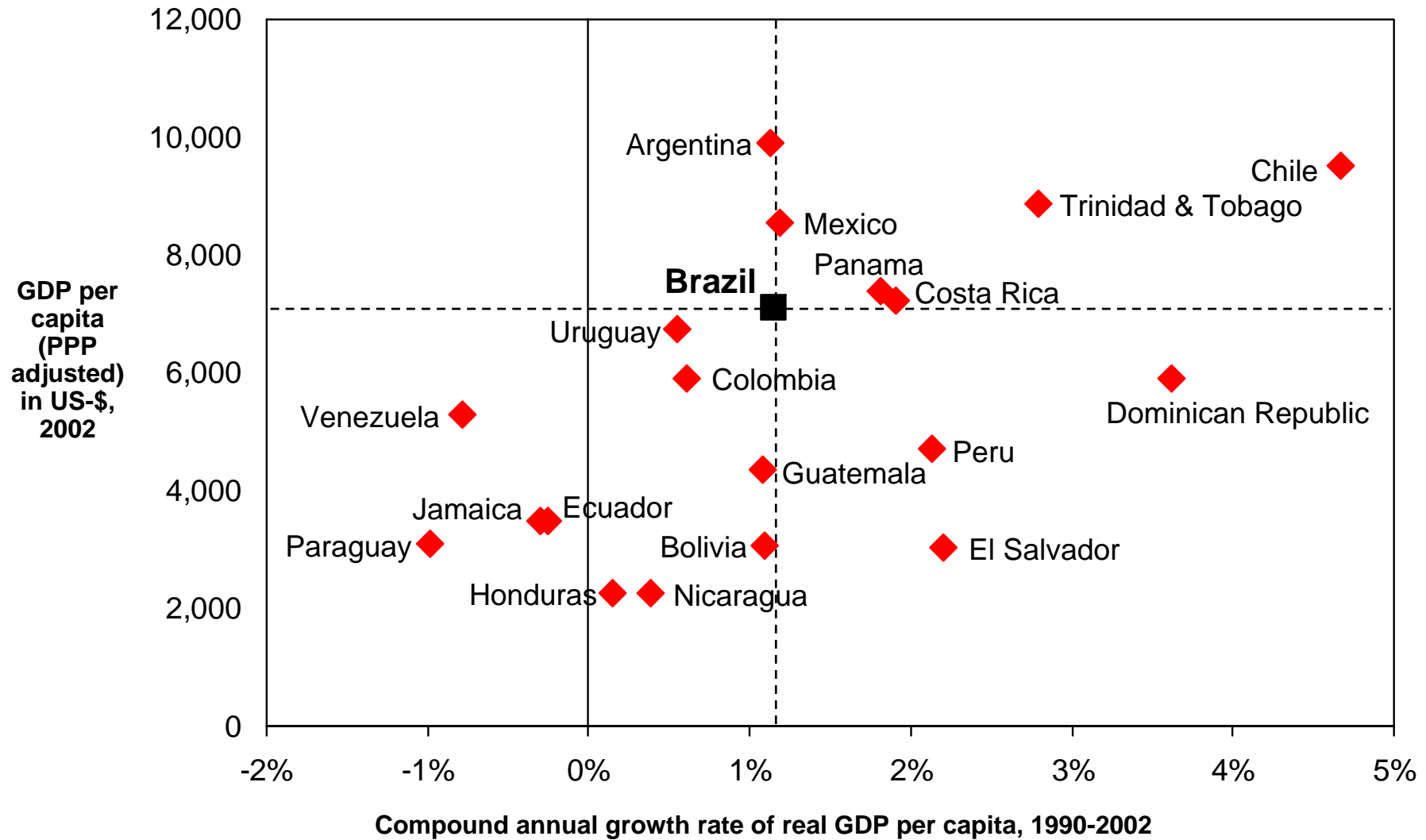
Competitiveness and Productivity

- Competitiveness is determined by the **productivity** with which a nation, region, or cluster uses its human, capital, and natural resources. Productivity sets a nation's or region's standard of living (wages, returns on capital, returns on natural resources)



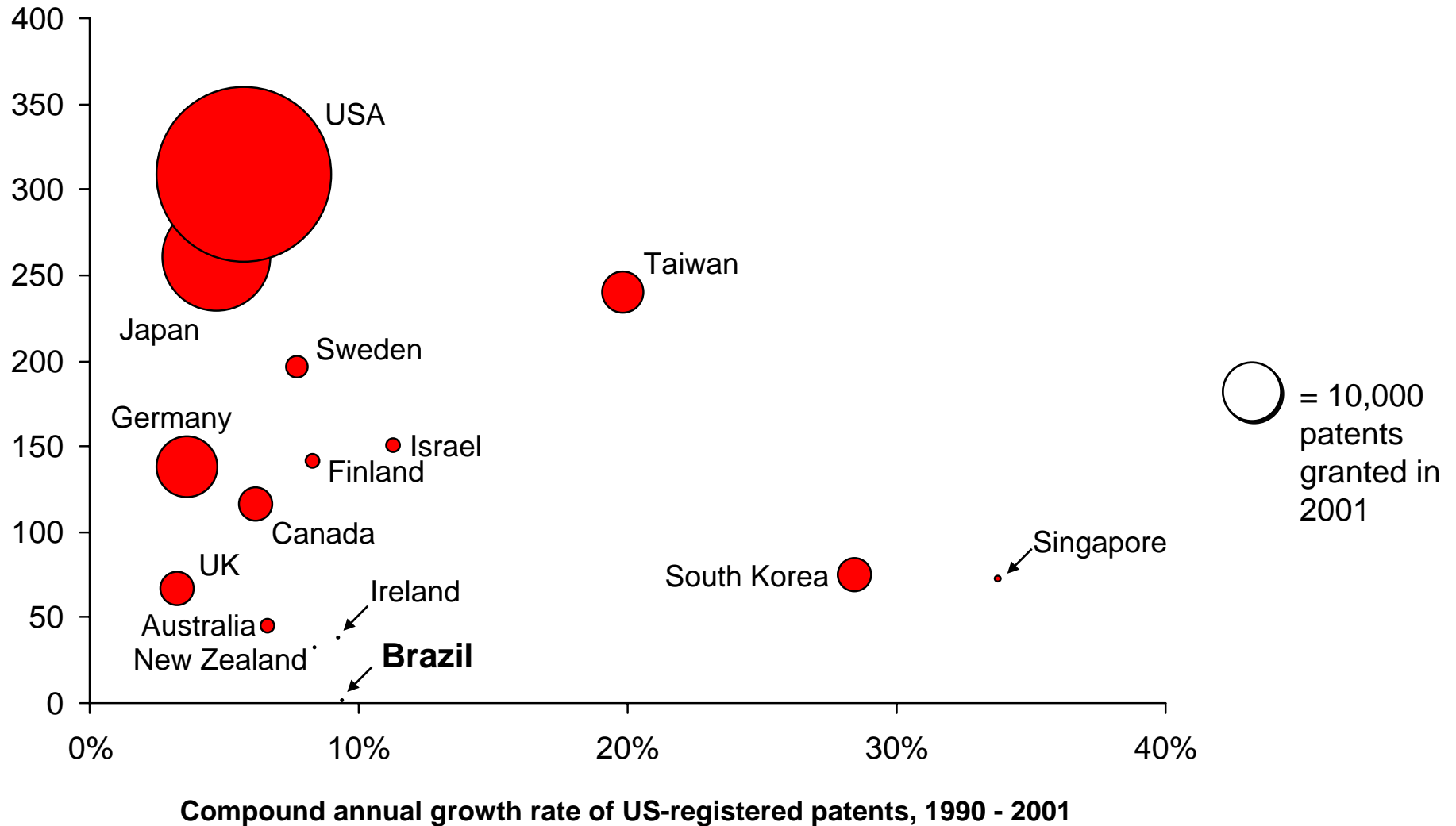
- The most important sources of prosperity are **created** not inherited
- Productivity does not depend on **what** industries a region competes in, but on **how** it competes
- The prosperity of a region depends on the productivity of **all** its industries
- There are no low-tech industries, only **low-tech firms**

Comparative Economic Performance



International Patenting Output

Annual U.S. patents
per 1 million
population, 2001

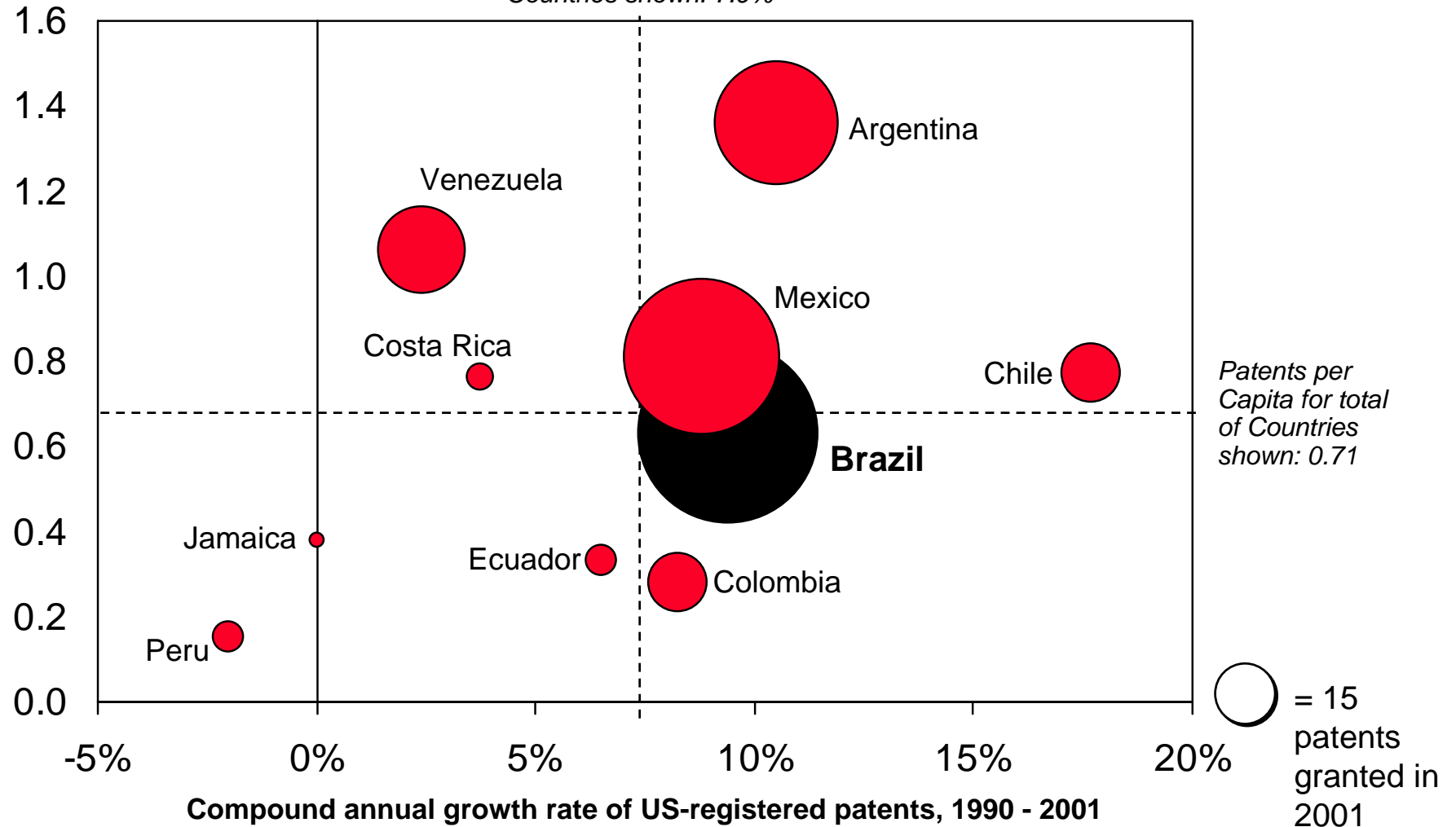


Source: US Patent and Trademark Office (www.uspto.gov). Author's analysis.

International Patenting Output Selected Latin American Countries

Annual U.S. patents per 1 million population, 2001

Average Growth Rate of Countries shown: 7.9%



Note: Other Latin American countries have negligible rates of US patenting
 Source: US Patent and Trademark Office (www.uspto.gov). Author's analysis.
 GCR Brazil 2003 10-09-03 CK.ppt

Comparison of U.S. Patenting 1997 - 2001

Rank	Brazilian Institution	Patents	Massachusetts Institution	Patents
1	PETROLEO BRASILEIRO	58	MIT	518
2	CARRIER CORPORATION	29	MASS GENERAL HOSPITAL	296
3	EMP. BR. DE COMPR.	17	EMC CORPORATION	269
4	METAGAL INDUSTRIA	10	DEC	261
5	CO. VALE DO RIO DOCE	10	POLAROID CORPORATION	213
6	PRAXAIR TECHNOLOGY	8	ANALOG DEVICES, INC.	167
7	SMAR RESEARCH CORP.	6	MILLENNIUM PHARMAC.	165
8	TELECOM. BRASILEIRAS	5	HARVARD UNIVERSITY	150
9	ELC PRODUTOS DE SEG.	4	COMPAQ COMPUTER	147
10	FORJAS TAURUS S/A	4	SUN MICROSYSTEMS, INC.	143
11	SABO INDUSTRIA E COM.	3	BOSTON SCIENTIFIC CORP.	135
12	TECUMSEH PRODUCTS	3	ACUSHNET COMPANY	130
13	EXOGEN, INC.	3	GENETICS INSTITUTE, INC.	127
14	HENKEL CORPORATION	3	GILLETTE COMPANY	112
15	AEROMOVEL	3	BRIGHAM & WOMEN'S HOSP.	107
16	INDUSTRIAS ROMI S.A.	3	RAYTHEON COMPANY	101
17	MAQUINAS AGRICOLAS	3	GENERAL ELECTRIC COMPANY	99
18	METAL LEVE S.A.	2	HEWLETT-PACKARD COMPANY	96
19	METALGRAFICA ROJEK	2	CHILDREN'S MEDICAL CENTER	93
20	WHITAKER CORP.	2	QUANTUM CORP. (CA)	93

What Causes Competitiveness?

Macroeconomic, Political, Legal, and Social
Context for Development

Microeconomic Foundations of Development

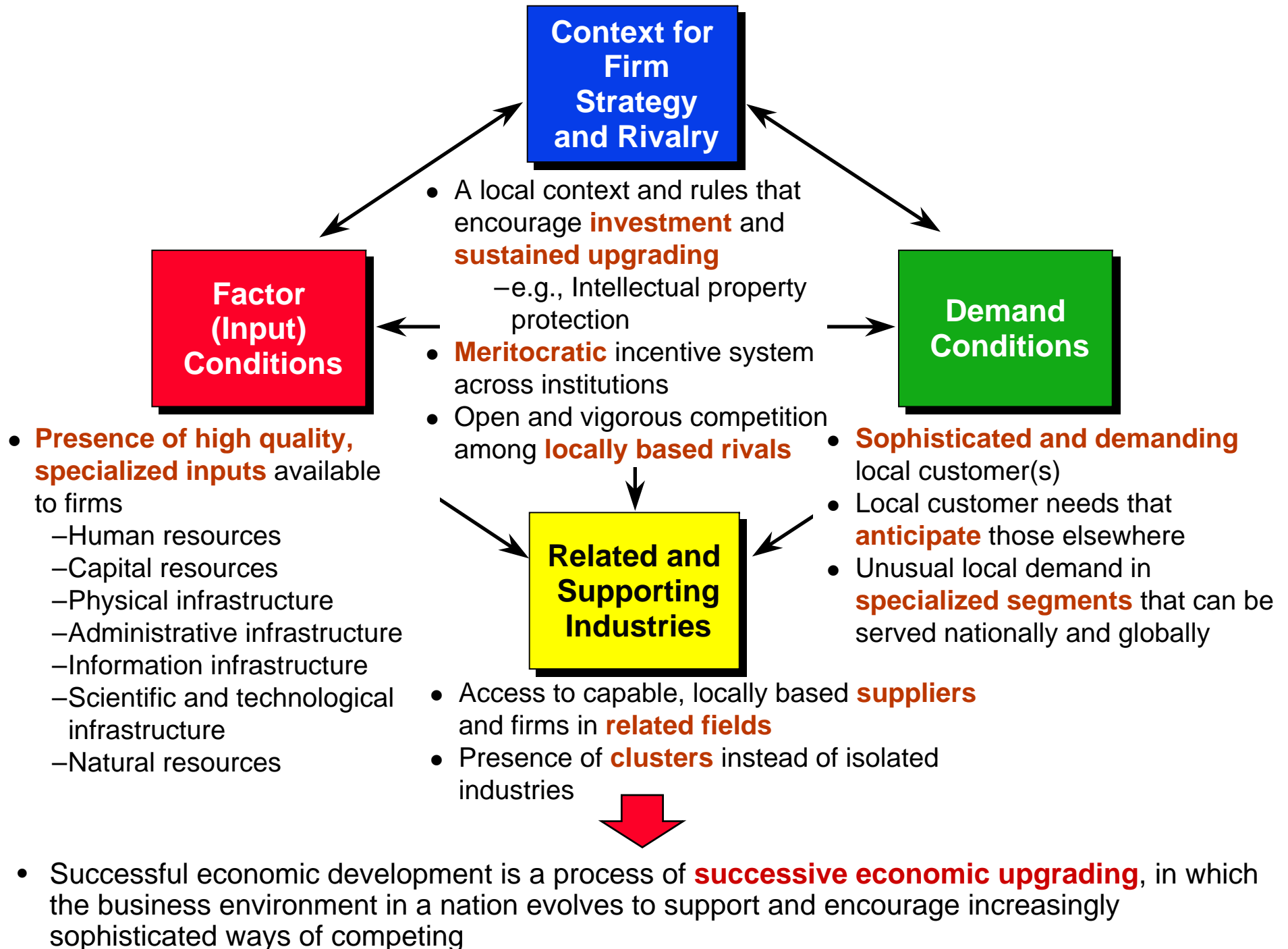
Sophistication
of Company
Operations and
Strategy



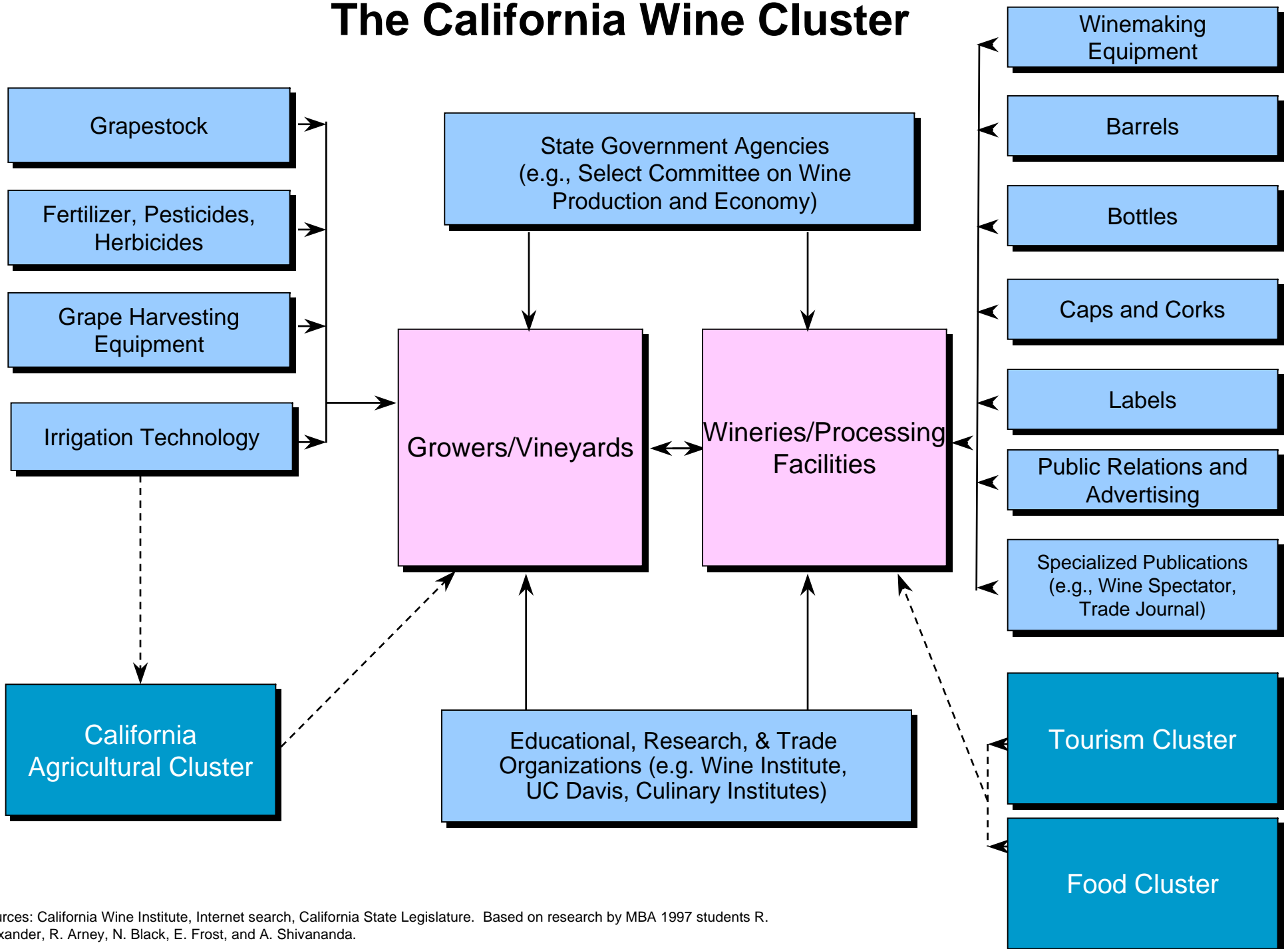
Quality of the
Microeconomic
Business
Environment

- A sound macroeconomic, political, legal, and social context creates the potential for competitiveness, **but is not sufficient**
- Competitiveness ultimately depends on improving the **microeconomic capability** of the economy and the **sophistication of local companies and local competition**

Productivity and the Business Environment



The California Wine Cluster



Sources: 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.

Leading Footwear Clusters

Portugal

- Production
- Focus on short-production runs in the medium price range

Romania

- Production subsidiaries of Italian companies
- Focus on lower to medium price range

Italy

- Design, marketing, and production of premium shoes
- Export widely to the world market

United States

- Design and marketing
- Focus on specific market segments like sport and recreational shoes and boots
- Manufacturing only in selected lines such as hand-sewn casual shoes and boots

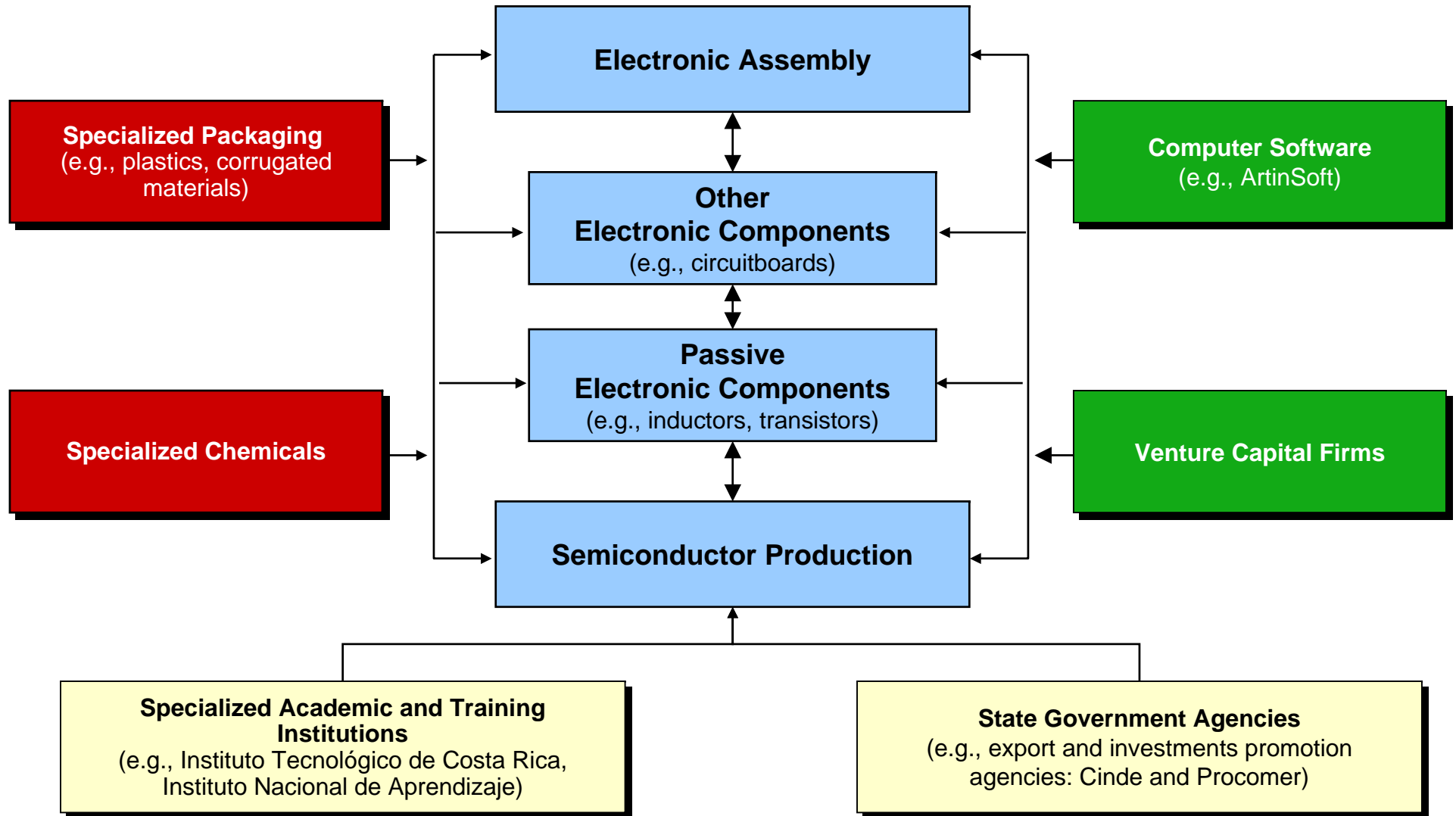
China

- OEM Production
- Focus on low cost segment mainly for the US market

Vietnam/Indonesia

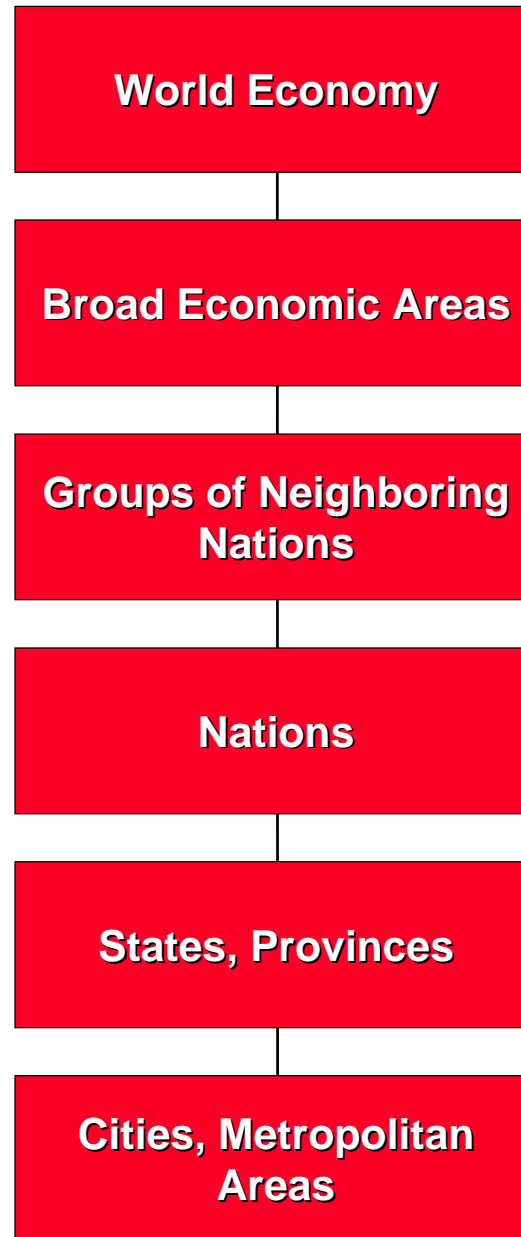
- OEM Production
- Focus on the low cost segment mainly for the European market

The Costa Rica Information Technology Cluster



Influences on Competitiveness

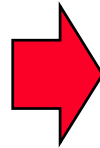
Multiple Geographic Levels



Shifting Responsibilities for Economic Development

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 institutions for collaboration

Brazil's Competitive Position

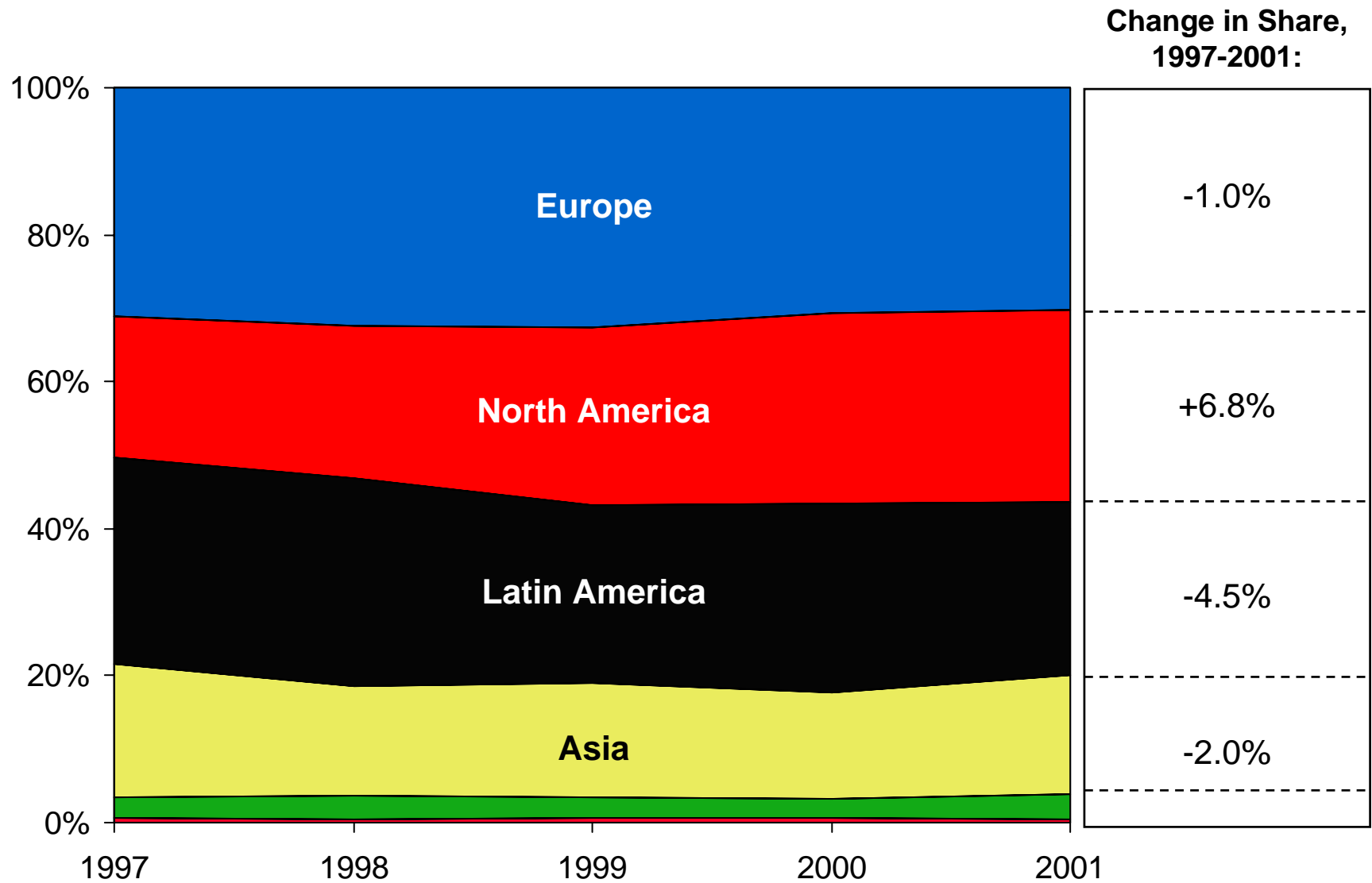
- Ranks 30 overall in the Business Competitiveness Index
 - Second highest Latin American country after Chile, but on a negative trend since 2001
 - Company operations and strategy (currently ranked 26) is consistently ranked higher than business environment (ranked 35)
- Key competitive advantages
 - Cluster presence; but largely a legacy of a closed economy
 - Local competition
 - Strong regional governments
- Key competitive disadvantages
 - Trade barriers
 - Human resource weaknesses
 - Cumbersome and inefficient administrative infrastructure
 - Weaknesses in the physical infrastructure
 - Inequality

Implications for Brazilian Companies

- Create a regional company strategy
- Build the cluster
- Take a leadership role in economic development
- Link corporate philanthropy to the competitive context

Brazil's Exports By Destination

1997-2001



Internationalization Strategy

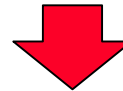
Hilasal

Value Proposition

- High quality, fashionable printed towels designed for global markets

Set of Activities

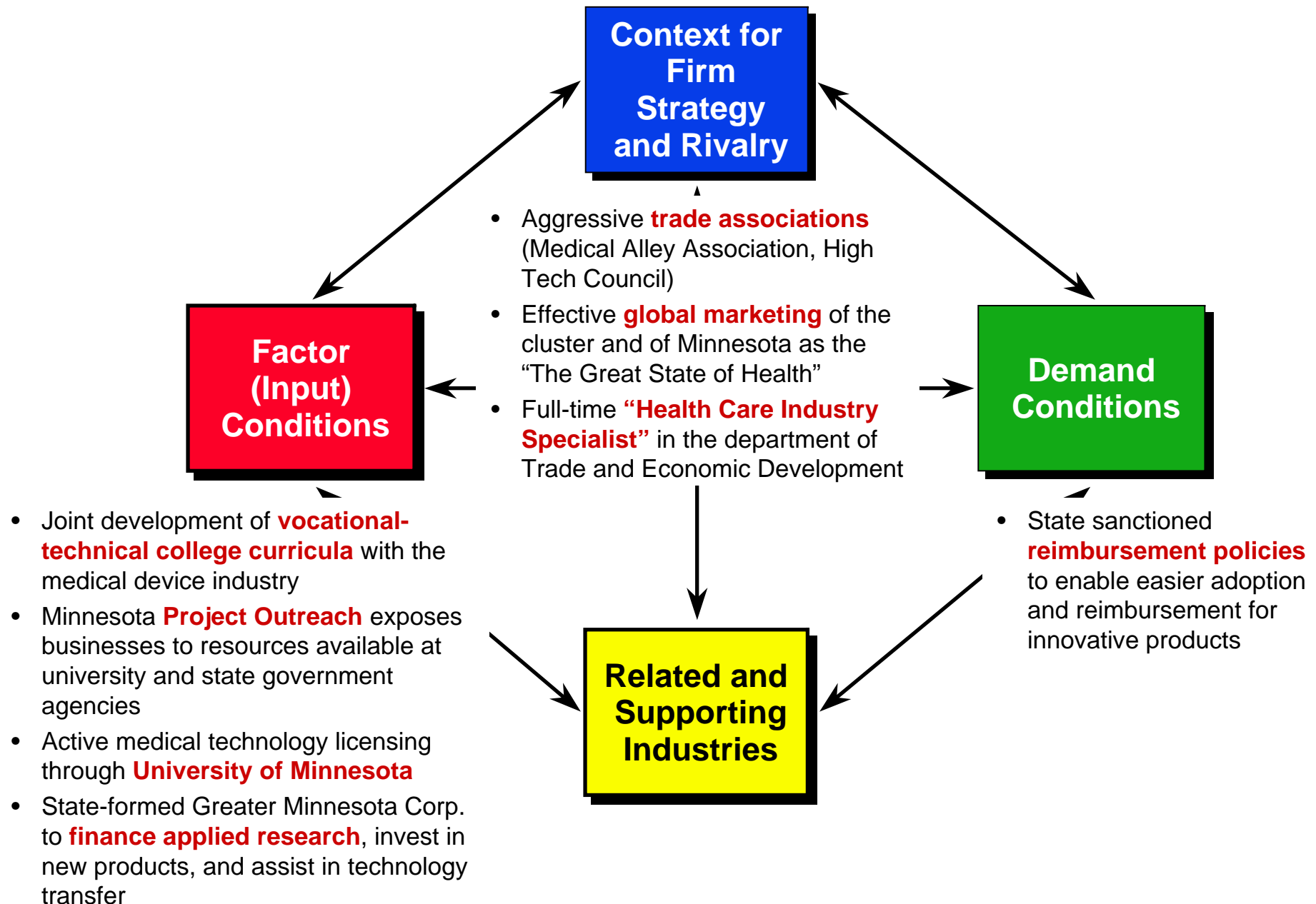
- Highly customized products with rapid delivery
- R&D located at production sites to enable rapid implementation of technology improvements
- Design groups organized to provide fast response to custom orders
- Bilingual sales office based in Miami
- Manufacturing located in El Salvador and Mexico to minimize costs while maintaining close access to the U.S. market
- State-of-the-art computer systems to track customer orders from design to shipping
- Highest quality machinery, equipment, cotton, and dyes sourced from Europe and the U.S.



- **Firm-based competitive advantage in a particular segment**
- Hilasal developed a successful differentiation-based positioning

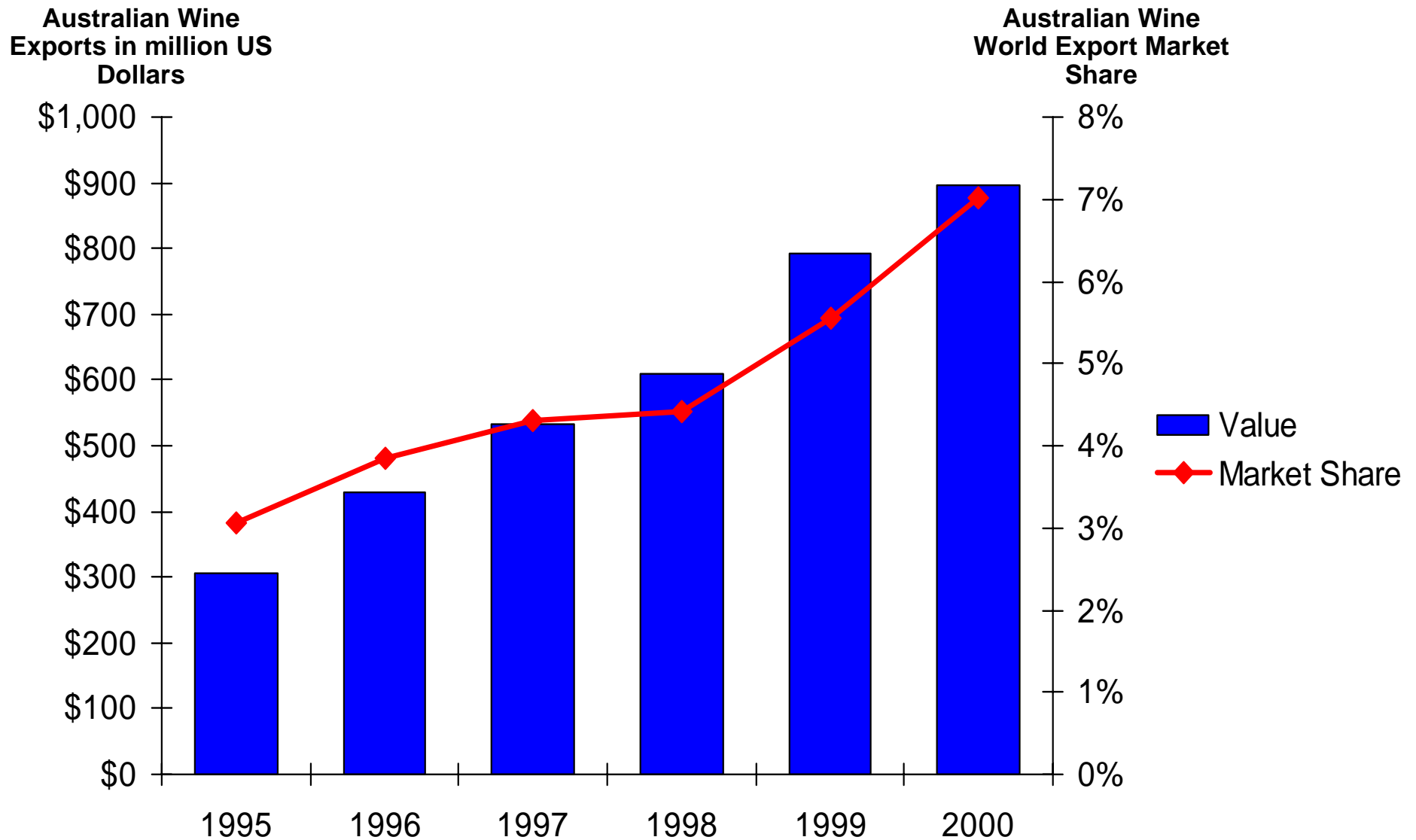
Public / Private Cooperation in Cluster Upgrading

Minnesota's Medical Device Cluster



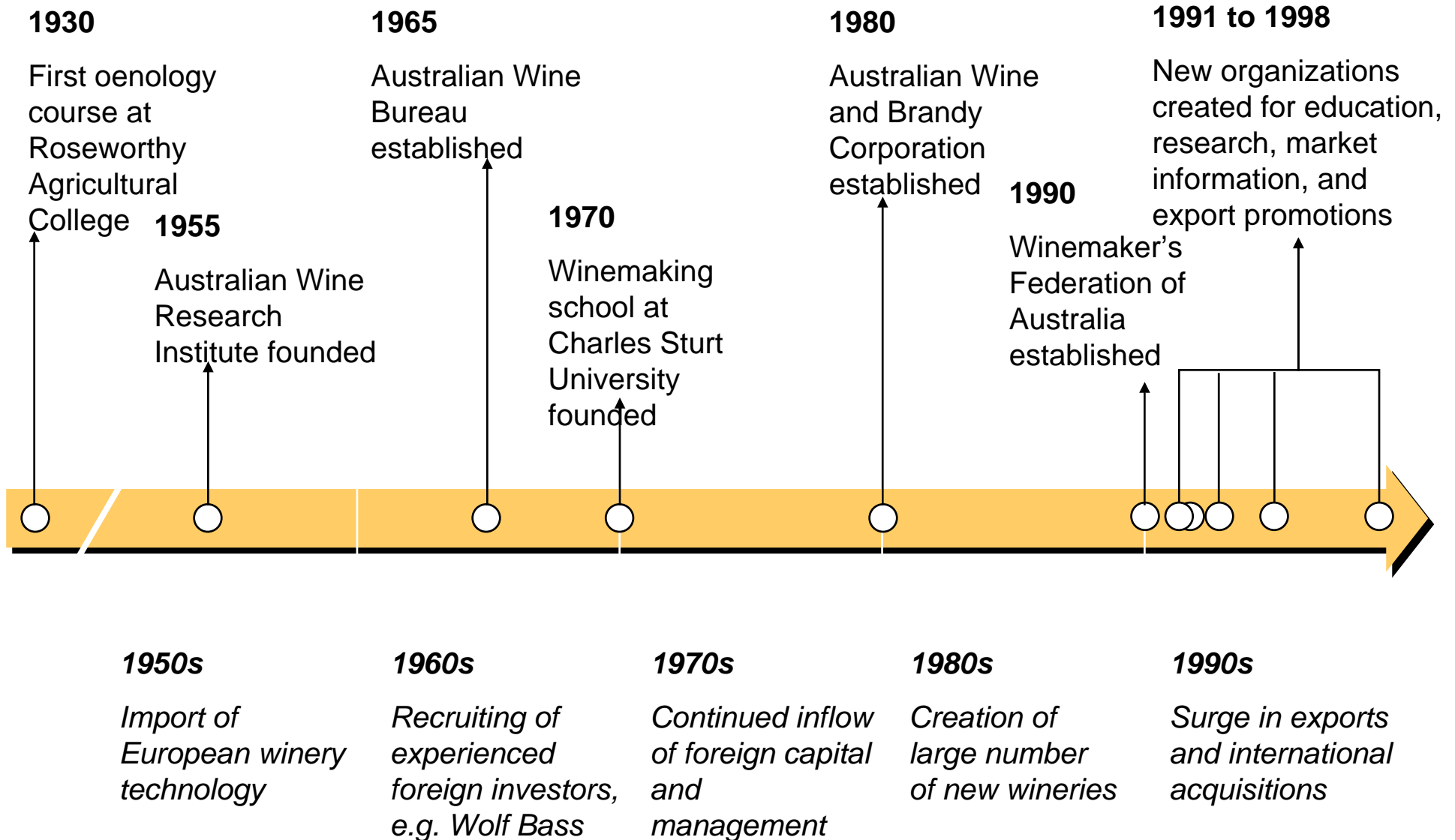
The Australian Wine Cluster

Trade Performance



Source: UN Trade Statistics

The Australian Wine Cluster History



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

Role of the Private Sector in Economic Development

- A company's competitive advantage is partly the result of the **local environment**
- Company membership in a cluster offers **collective benefits**
- Private investment in "**public goods**" is justified



- Take an **active role** in upgrading the local infrastructure
- Nurture **local suppliers** and attract new supplier investments
- Work closely with local **educational and research institutions** to upgrade **quality and create specialized programs addressing cluster needs**
- Provide government with **information** and **substantive input** on regulatory issues and constraints bearing on cluster development
- Focus **corporate philanthropy** on enhancing the local business environment

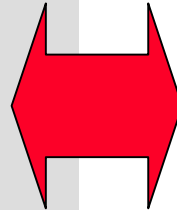


- An important role for **trade associations**
 - Greater influence
 - Cost sharing

The New Role of Corporate Philanthropy

Where to Focus Corporate Philanthropy

- Social and economic goals can be addressed simultaneously by **improving a company's competitive context**

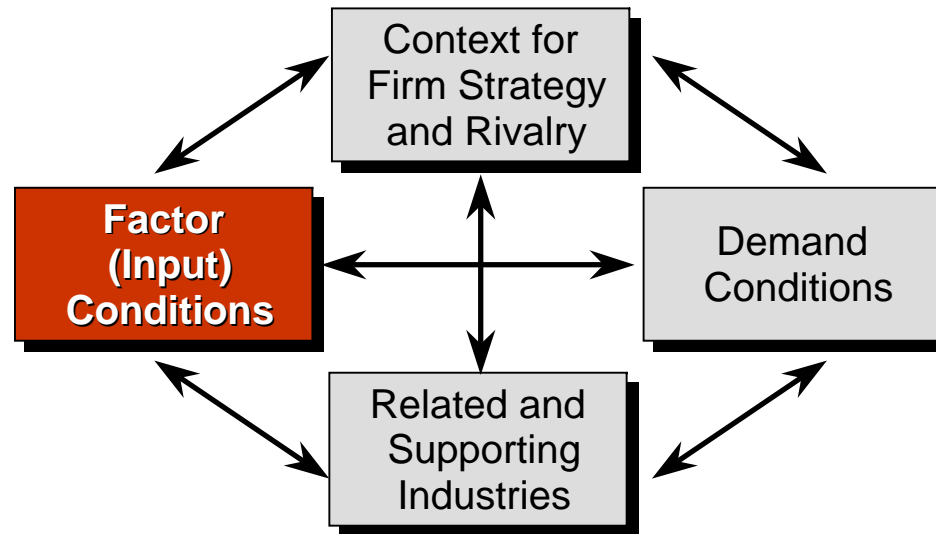


How Companies Should Invest in Philanthropy

- Companies should give not just money but leverage the company's unique capabilities in support of social causes, far exceeding the impact possible by individuals

Philanthropy's Impact on the Competitive Context

Advanced Micro Devices



- Advanced Micro Devices (AMD) is a leading semiconductor manufacturer
- Due to labor constraints, AMD has difficulty finding skilled workers for its semiconductor fabrication facility in Austin, TX. The cost of recruiting and filling these positions was up to \$12,000 per person
- AMD invested in the development of a regional training and apprenticeship program for minority students from low-income areas called **Accelerated Careers in Education**

Social Benefits: Nearly all of the program's graduates received jobs or continued on to higher education

Economic Benefits: 55% of the graduates came to work for AMD, saving recruitment and training costs that more than paid for the program. The program has also expanded the pool of qualified job candidates for the future.

Selected References

- The Competitive Advantage of Nations, New York: The Free Press, 1990
- “Clusters and the New Competitive Agenda for Companies and Governments” in On Competition, Boston: Harvard Business School Press, 1998
- “The Microeconomic Foundations of Economic Development,” in The Global Competitiveness Report 1998-99, (World Economic Forum, 1998)
- “The Current Competitiveness Index: Measuring the Microeconomic Foundations of Prosperity” in The Global Competitiveness Report 2000-01, New York: Oxford University Press, 2000
- “Enhancing the Microeconomic Foundations of Prosperity: The Current Competitiveness Index” in The Global Competitiveness Report 2001-02, New York: Oxford University Press, 2001
- “Building the Microeconomic Foundations of Prosperity: Findings from the Microeconomic Competitiveness Index” in The Global Competitiveness Report 2002-03, New York: Oxford University Press, New York: Oxford University Press, 2002
- “The Economic Performance of Regions”, Regional Studies, 37(6&7), 2003: 549–678.
- “Location, Competition, and Economic Development: Local Clusters in a Global Economy,” Economic Development Quarterly, February 2000, 15-34.
- “Locations, Clusters, and Company Strategy” in The Oxford Handbook of Economic Geography, (G. L. Clark, M.P. Feldman, and M.S. Gertler, eds.), New York: Oxford University Press, 2000

Selected References (continued)

- “Attitudes, Values, Beliefs and the Microeconomics of Prosperity,” in Culture Matters: How Values Shape Human Progress, (Harrison, Huntington, eds.), New York: Basic Books, 2000
- “U.S. Competitiveness 2001,” (with Debra van Opstal), Washington, DC: Council on Competitiveness, 2001
- “Innovation Lecture,” published by the Dutch Ministry of Economics, 2001
- “National Report: Clusters of Innovation Initiative,” (with the Council on Competitiveness, Monitor Group, and ontheFRONTIER), Washington, DC: Council on Competitiveness, 2001
- “Clusters of Innovation Initiative: San Diego Report,” (with the Council on Competitiveness, Monitor Group, and ontheFRONTIER), Washington, DC: Council on Competitiveness, 2001
- “Clusters of Innovation Initiative: Wichita Report,” (with the Council on Competitiveness, Monitor Group, and ontheFRONTIER), Washington, DC: Council on Competitiveness, 2002
- “Clusters of Innovation Initiative: Research Triangle Report,” (with the Council on Competitiveness, Monitor Group, and ontheFRONTIER), Washington, DC: Council on Competitiveness, 2002
- “Clusters of Innovation Initiative: Pittsburgh Report,” (with the Council on Competitiveness, Monitor Group, and ontheFRONTIER), Washington, DC: Council on Competitiveness, 2002
- “Clusters of Innovation Initiative: Atlanta Report,” (with the Council on Competitiveness, Monitor Group, and ontheFRONTIER), Washington, DC: Council on Competitiveness, 2002
- “The Competitive Advantage of Corporate Philanthropy,” (with Mark Kramer), Harvard Business Review, December 2002