

Colombian Competitiveness: Moving to the Next Level

Professor Michael E. Porter
Harvard Business School

Expogestion 2007
September 14, 2007
Bogotá, Colombia

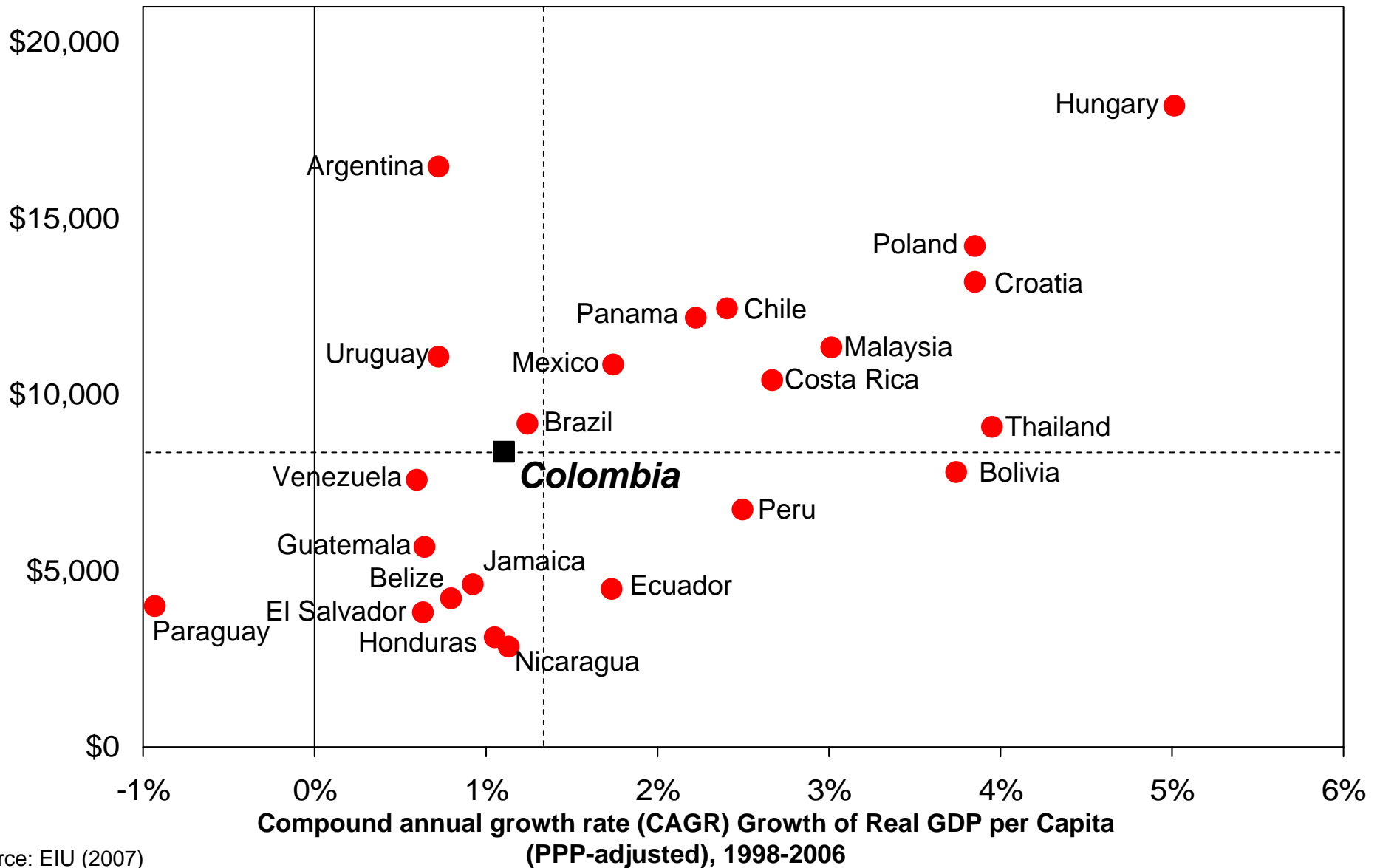
This presentation draws on ideas from Professor Porter's books and articles, in particular, "Building the Microeconomic Foundations of Prosperity," in *The Global Competitiveness Report 2005-06* (World Economic Forum, 2005); "Clusters and the New Competitive Agenda for Companies and Governments," in *On Competition* (Harvard Business School Press, 1998); *Clusters of Innovation Initiative* (www.compete.org), a joint effort of the Council on Competitiveness, Monitor Group, and ongoing research. 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 the author

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Prosperity Performance

Selected Countries

GDP per Capita
(PPP adjusted), 2006



Source: EIU (2007)

What is Competitiveness?

- Competitiveness is determined by the **productivity** with which a nation uses its human, capital, and natural resources.
 - Productivity sets a the standard of living (wages, returns on capital, returns on natural resources) that a nation can sustain
 - Devaluation does **not** make a country more competitive
 - Productivity depends on the **prices** that a nation's products and services command (e.g. uniqueness, quality), not just **efficiency**
 - It is not **what** industries a nation competes in that matters for prosperity, but **how** it competes in those industries
 - Productivity requires a **combination of domestic and foreign firms** operating in the nation
 - Globalization and the productivity imperative create **growing challenges for the uneducated and less skilled**

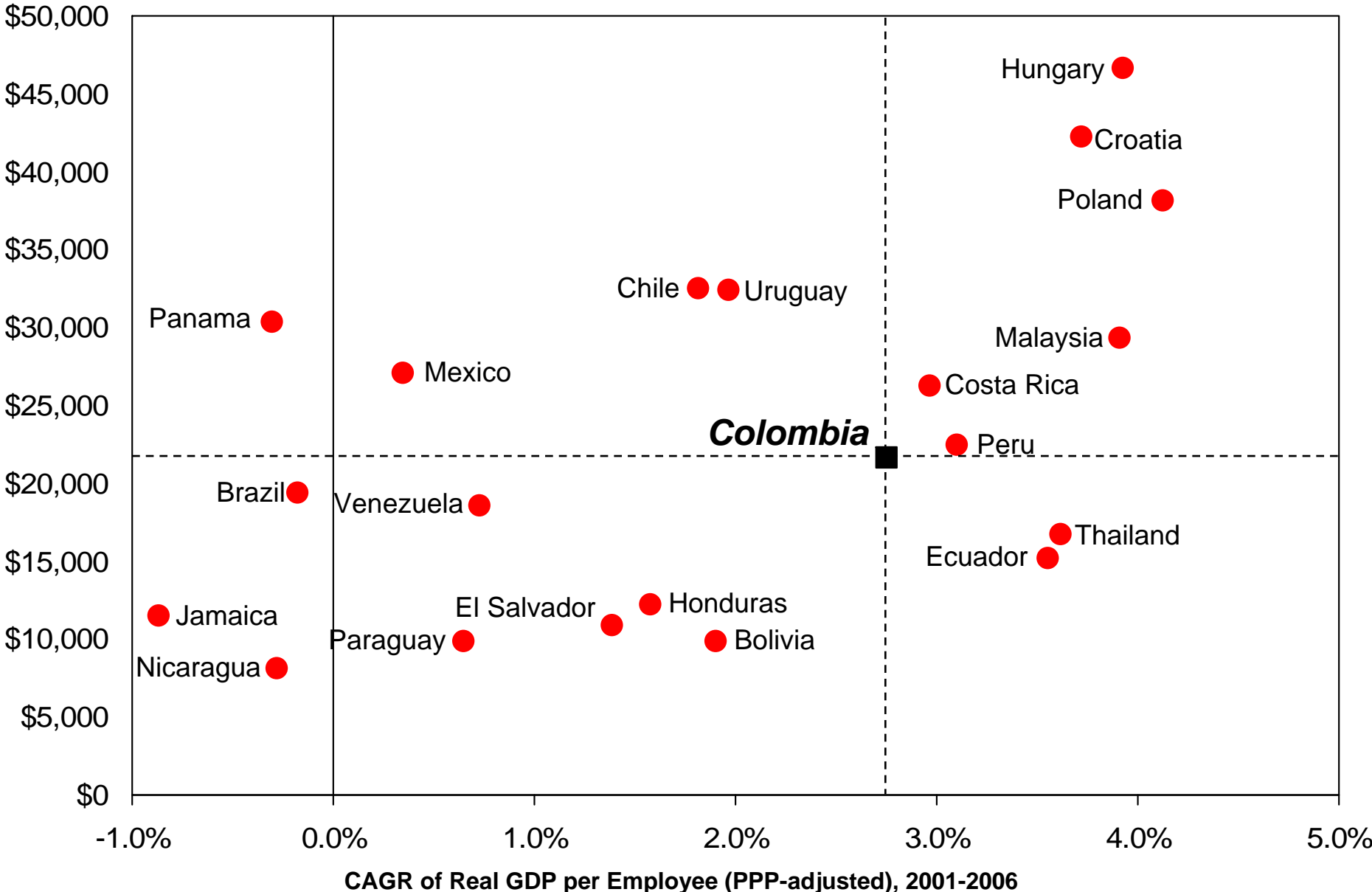


- Only **business** can create wealth
- Nations compete in offering the **most productive environment** for business
- The public and private sectors play **different but interrelated roles** in creating a productive economy

Comparative Labor Productivity Performance

Selected Countries

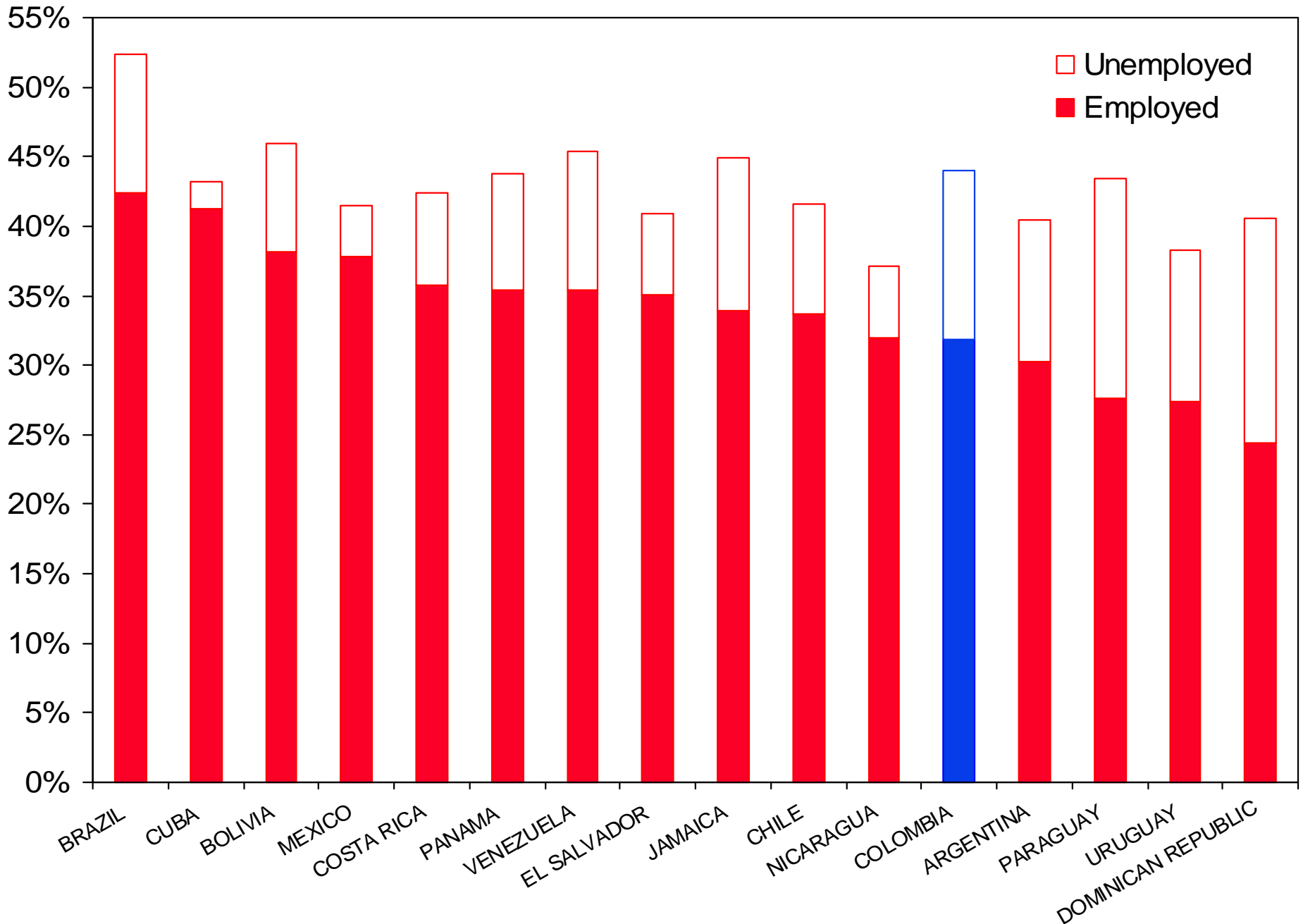
GDP per Employee
(PPP adjusted), 2006



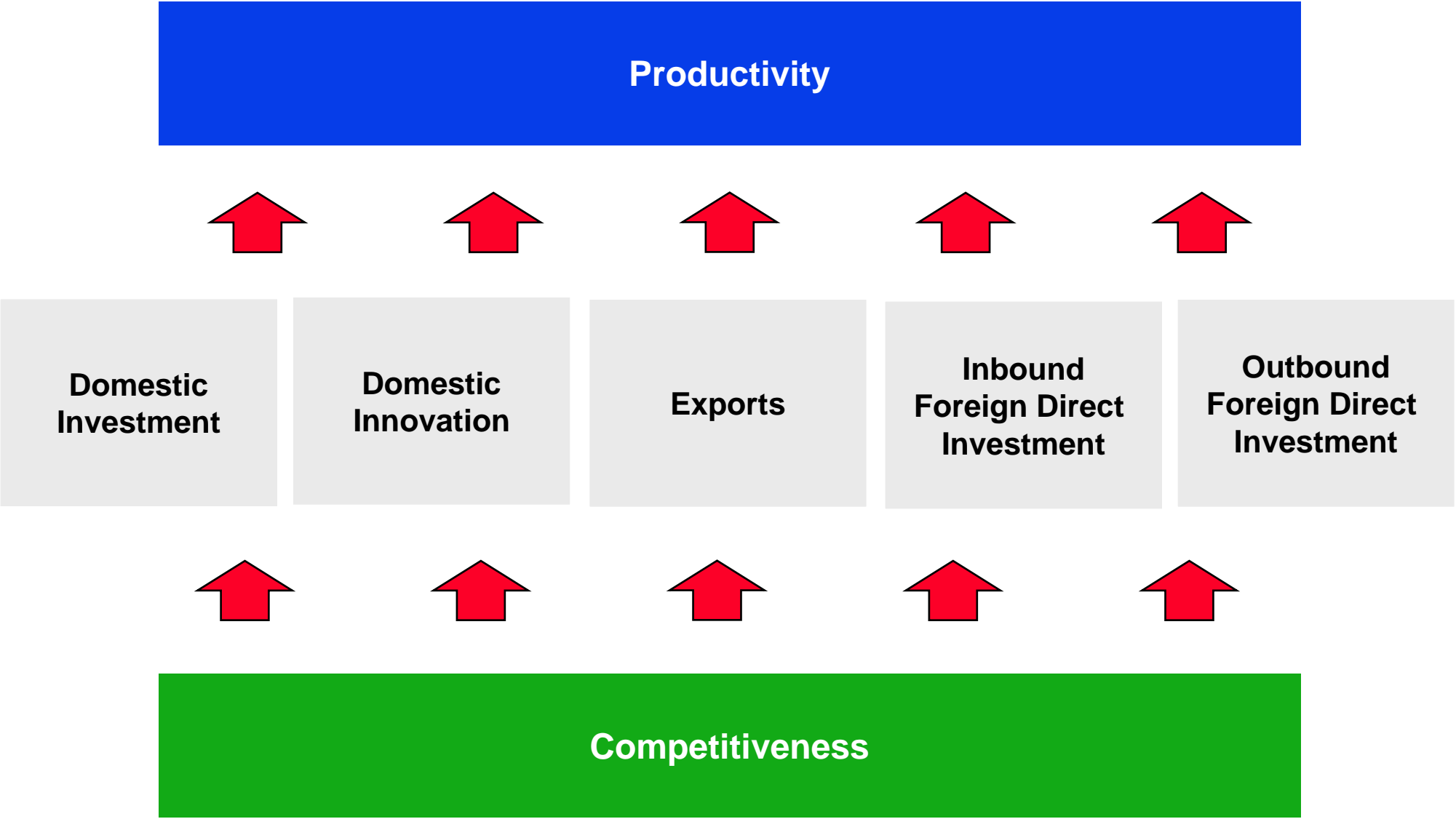
Source: EIU (2007)
CAON Colombia 091407.ppt

% of Population in
the Workforce,
2006

Labor Force Participation Selected Countries



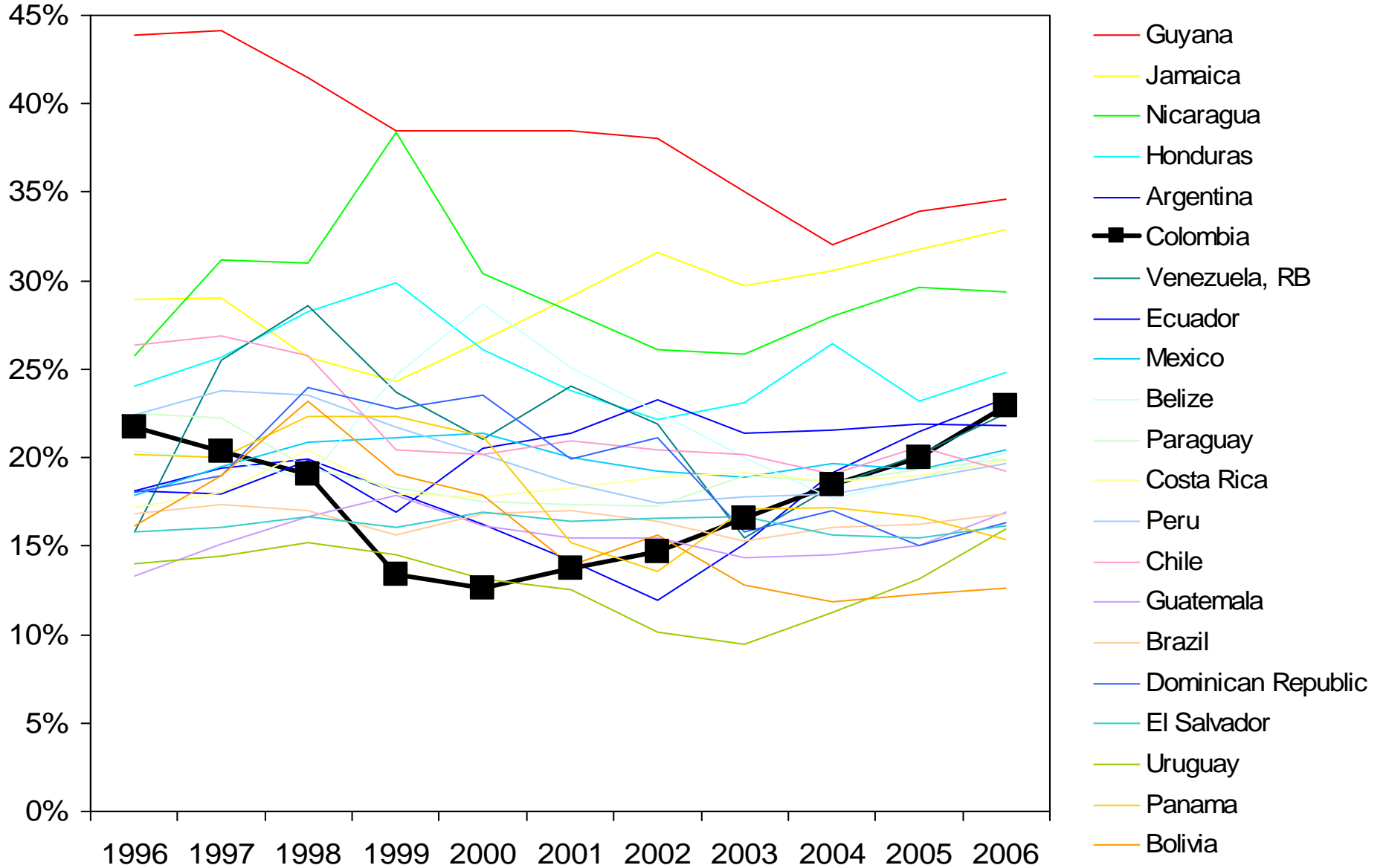
Enablers and Indicators of Competitiveness



Investment Rates

Selected Latin American Countries

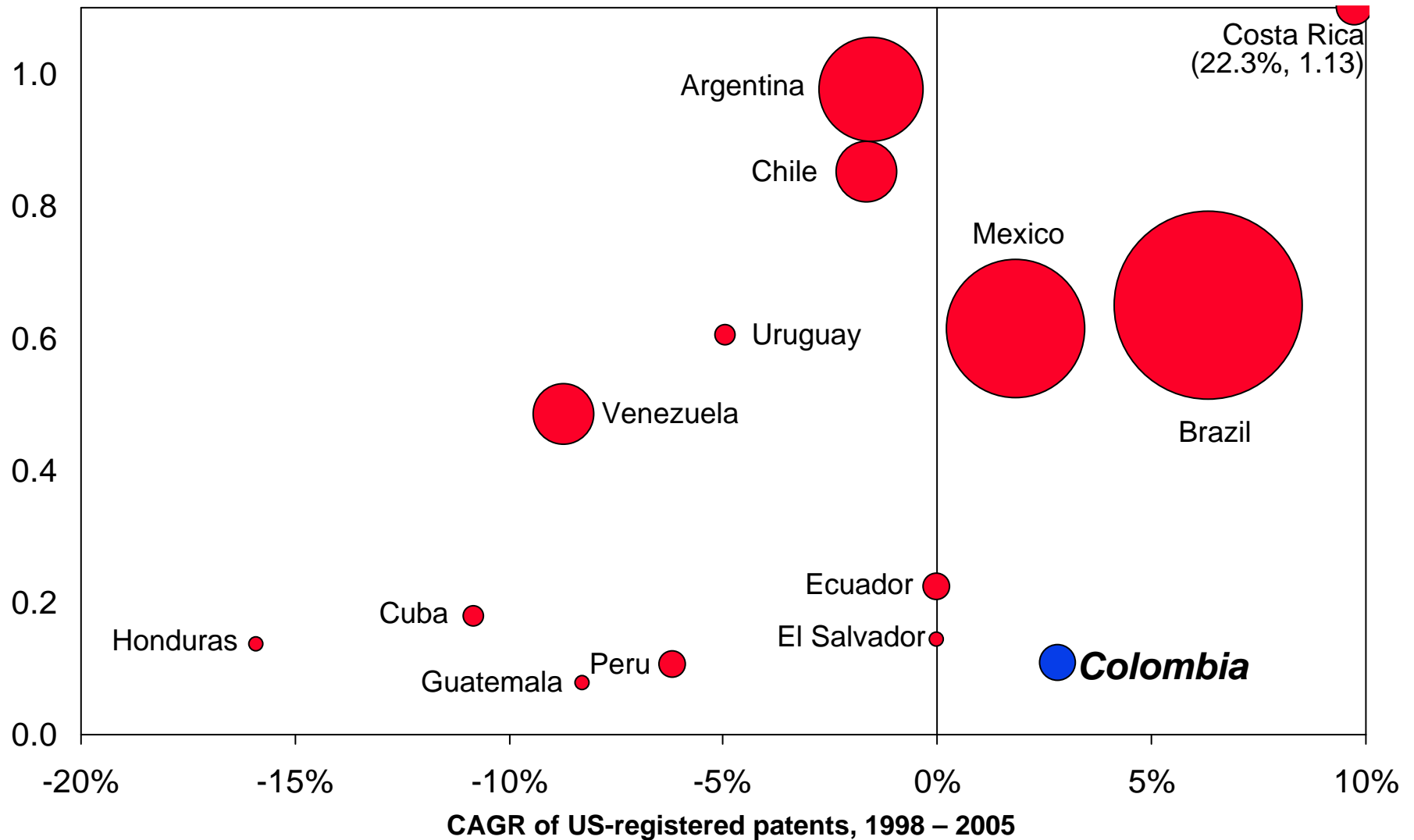
Gross Fixed Investment
as % of GDP



International Patenting Output

Selected Latin American Countries

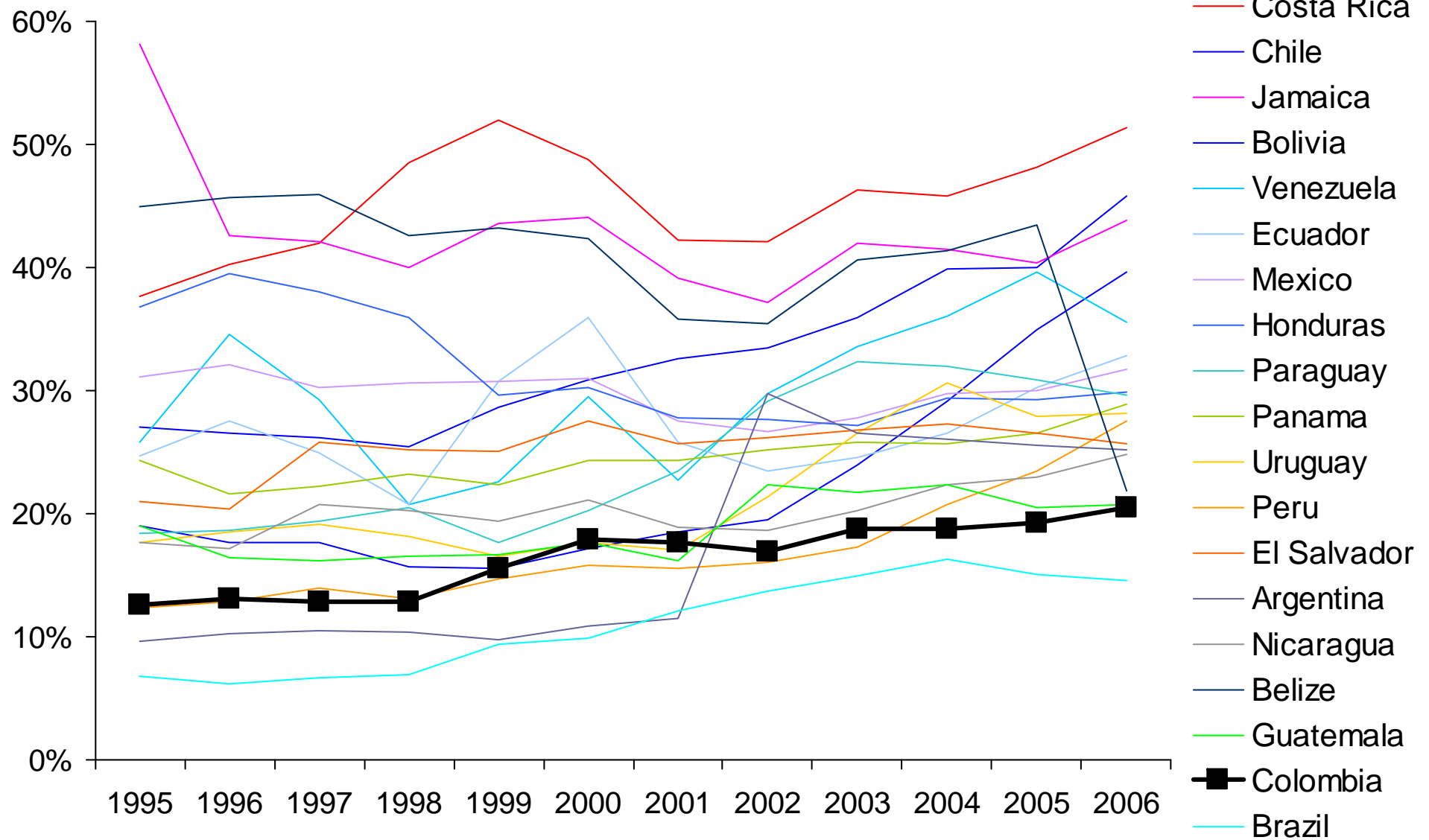
Annual U.S. patents per 1 million population, 2006



Export Intensity

Selected Latin American Countries

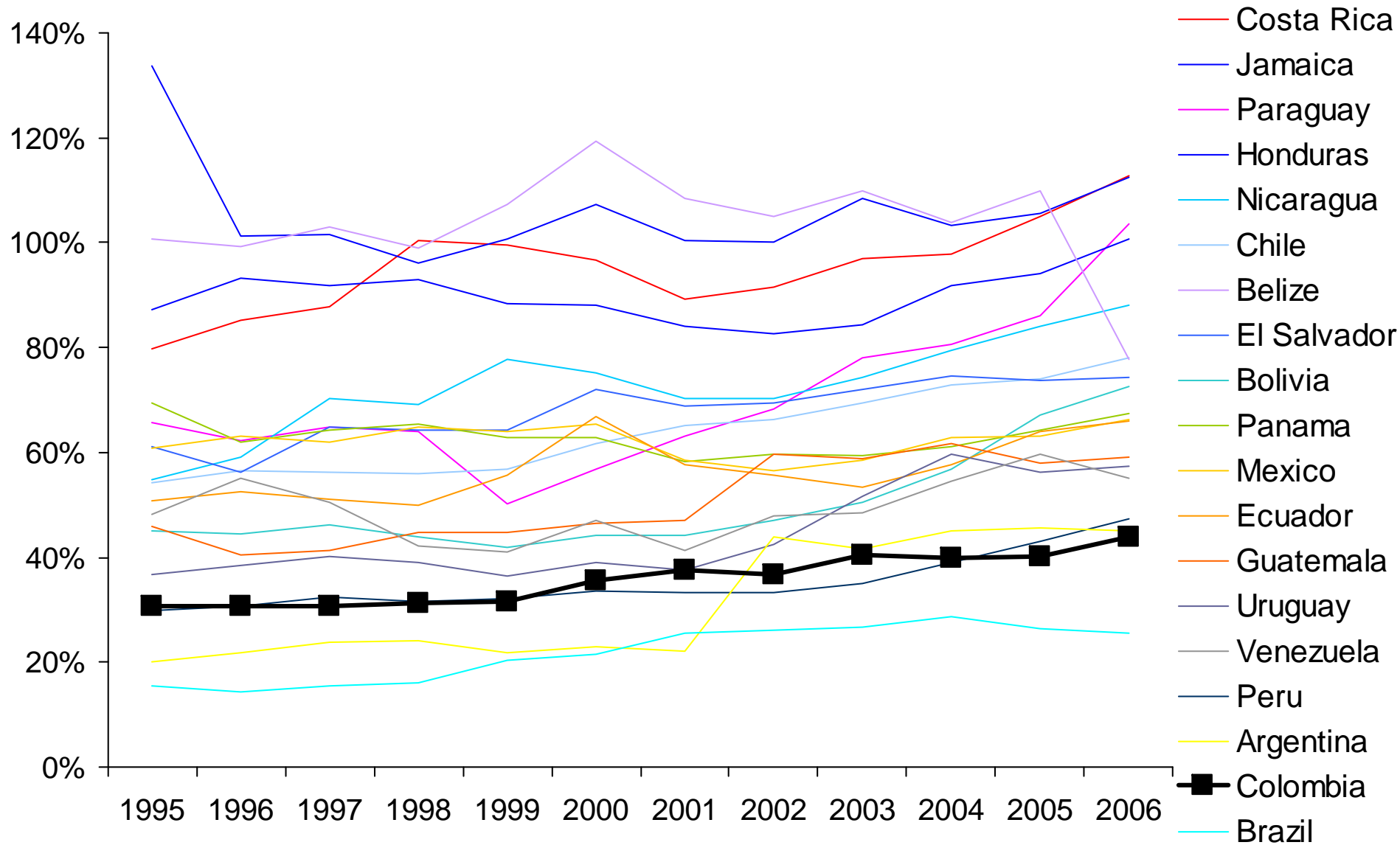
Exports as % GDP,
2006



Trade Intensity

Selected Latin American Countries

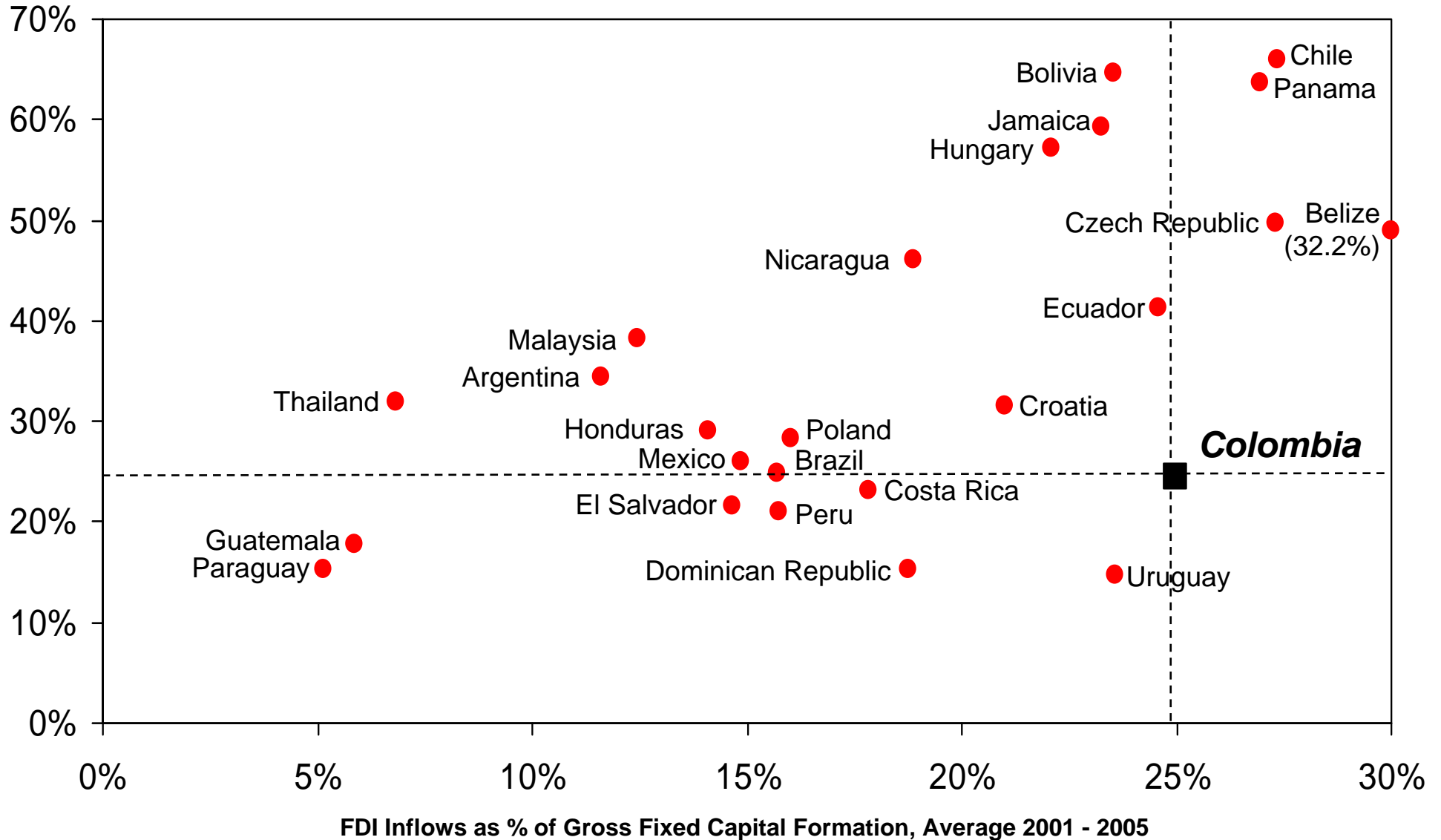
Exports plus Imports
as % GDP, 2006



Foreign Investment Stocks and Flows

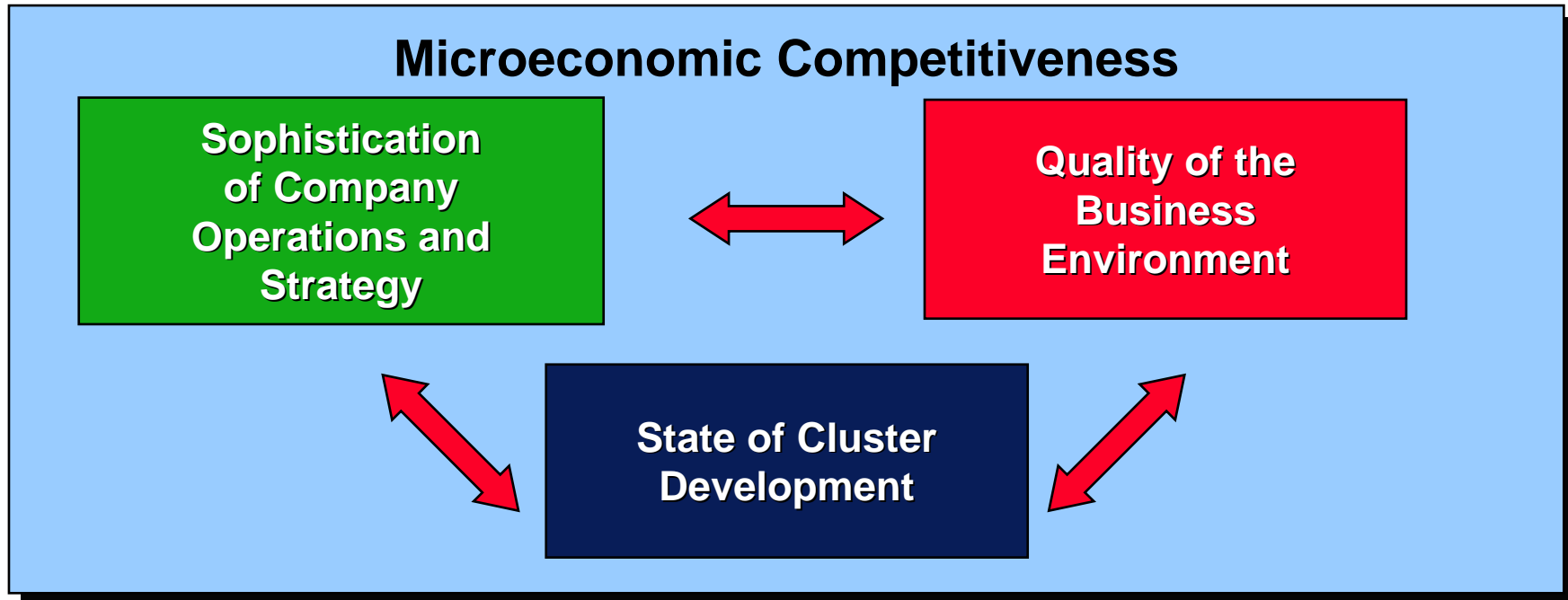
Selected Countries

FDI Stocks as % of GDP, 2005



Determinants of Competitiveness

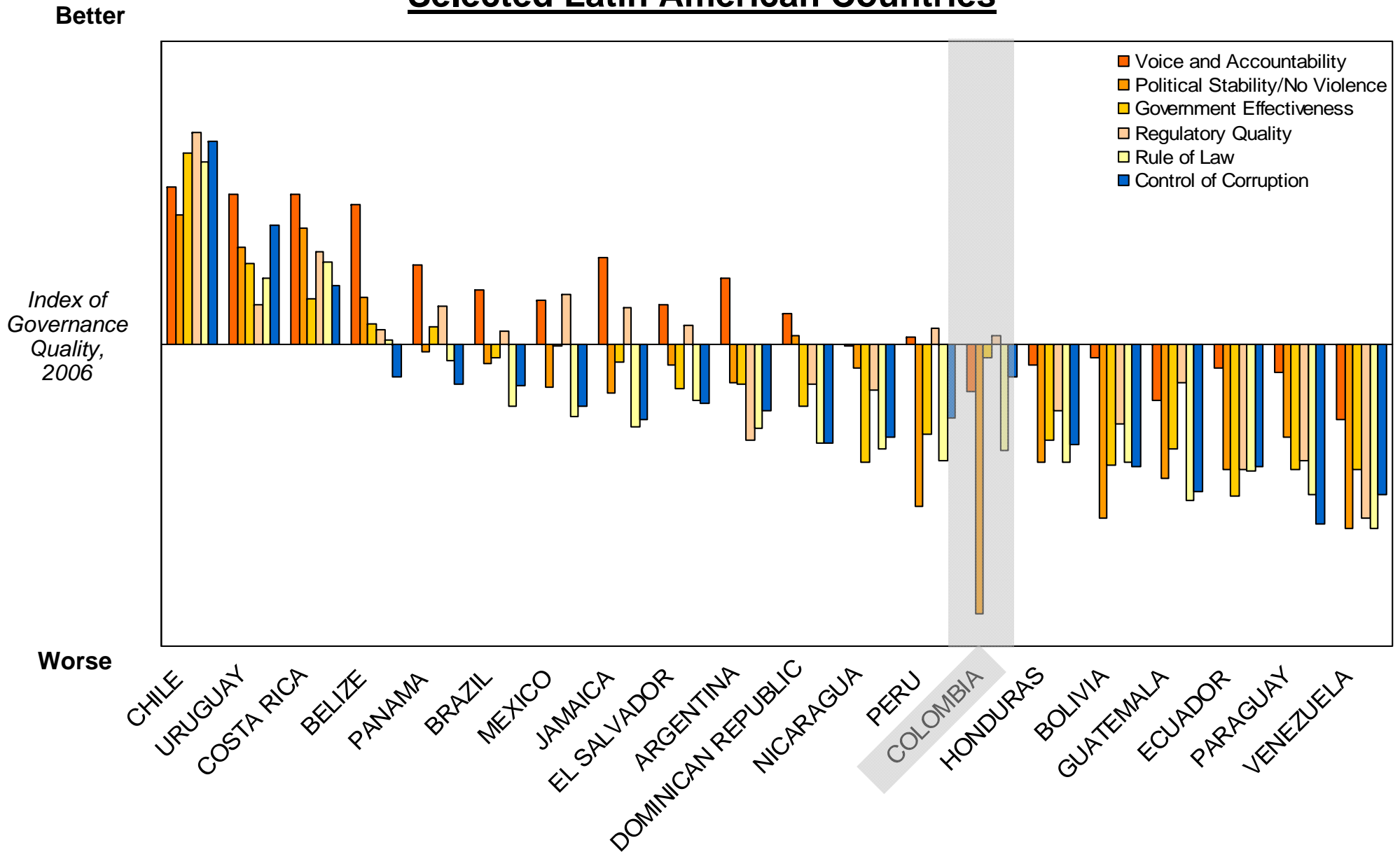
Macroeconomic, Political, Legal, and Social Context



- A sound 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 competition**

Governance Indicators, 2006

Selected Latin American Countries

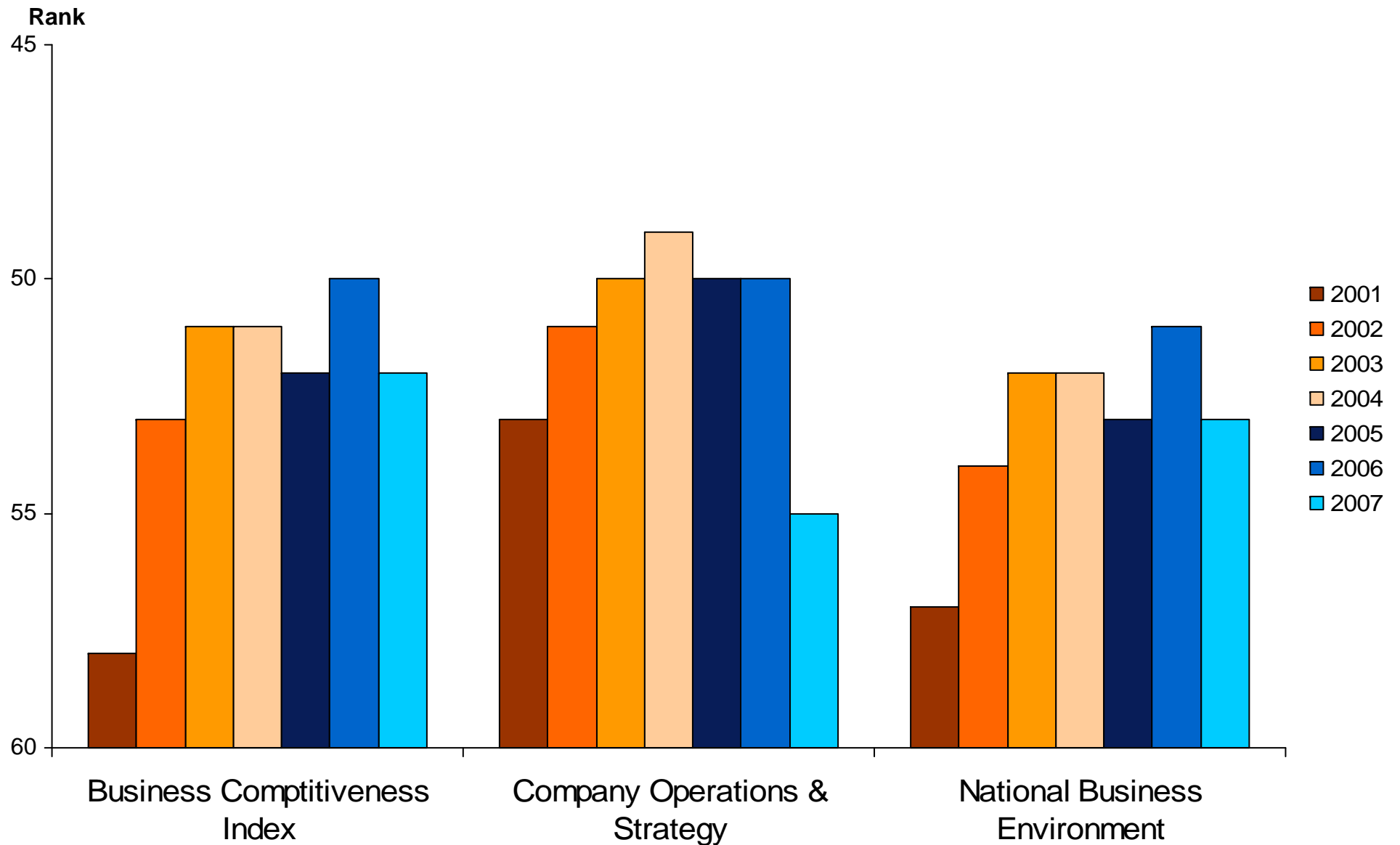


Note: Sorted left to right by decreasing average value across all indicators. The 'zero' horizontal line corresponds to the median country's average value across all indicators.

Source: World Bank (2007)

Business Competitiveness Index

Colombia's Position over Time



Source: Institute for Strategy and Competitiveness, Harvard University (2007)

Improving Company Sophistication

Relative Position of Colombian Companies 2007

Competitive Advantages Relative to GDP per Capita

Degree of customer orientation	38
Nature of competitive advantage	44
Extent of regional sales	46
Reliance on professional management	46
Value chain breadth	49

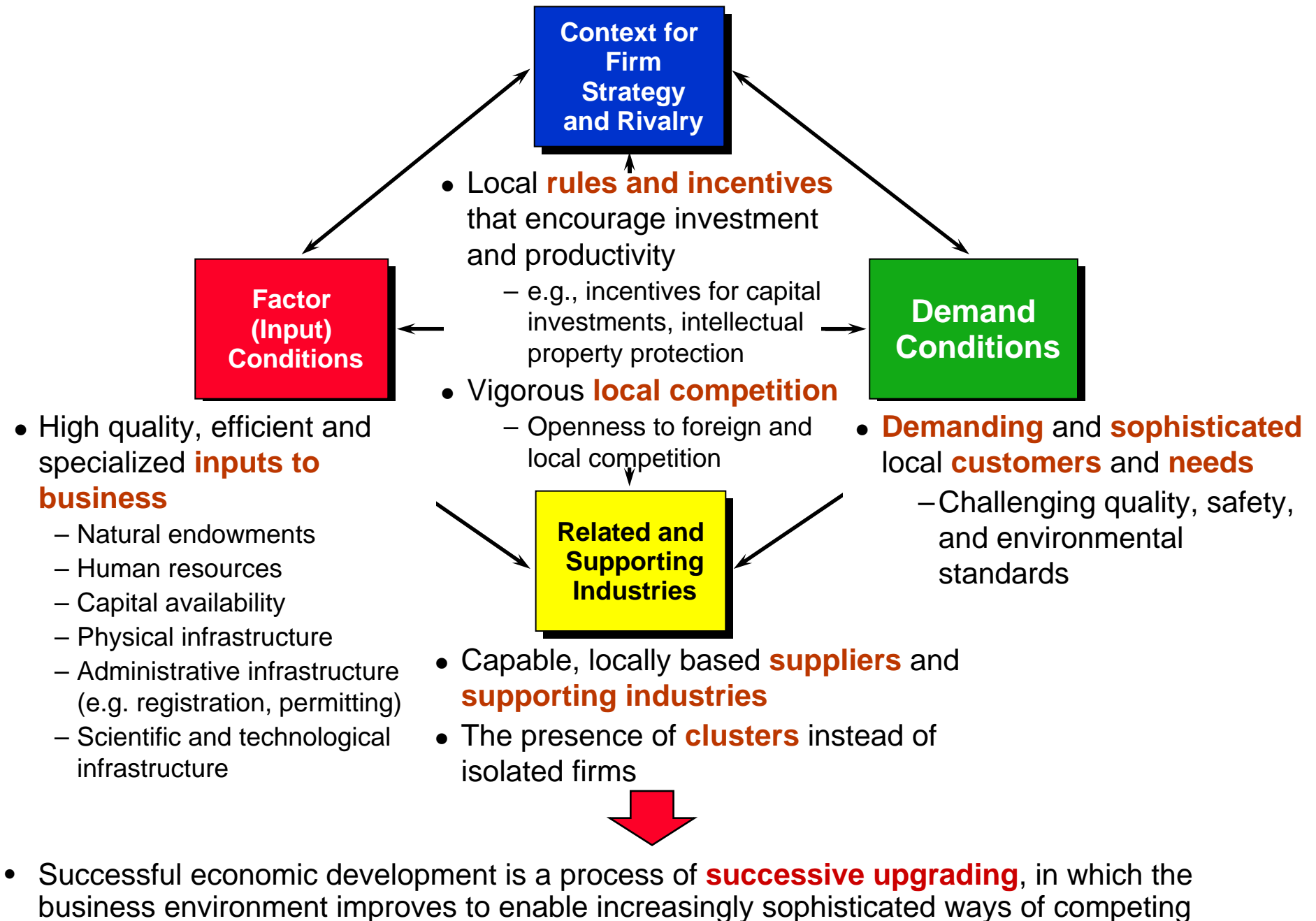
Competitive Disadvantages Relative to GDP per Capita

Breadth of international markets	63
Extent of incentive compensation	61
Control of international distribution	61
Production process sophistication	60
Company spending on research and development	60
Prevalence of foreign technology licensing	59
Extent of staff training	57
Extent of marketing	55
Capacity for innovation	54
Willingness to delegate authority	52

Note: Rank versus 74 countries; overall, Colombia ranks 52nd in 2006 PPP adjusted GDP per capita and 52nd in Business Competitiveness.

Source: Global Competitiveness Report 2007.

Improving the Business Environment: The Diamond



Factor (Input) Conditions Colombia's Relative Position 2007

Competitive Advantages Relative to GDP per Capita

Quality of management schools	39
Quality of telephone/fax infrastructure	40
Judicial independence	42
Efficiency of legal framework	42
Air transport infrastructure quality	43
Reliability of police services	43
University/industry research collaboration	45
Financial market sophistication	48
Quality of electricity supply	49

Competitive Disadvantages Relative to GDP per Capita

Railroad infrastructure	67
Quality of port infrastructure	66
Quality of roads	60
Quality of scientific research institutions	60
Venture capital availability	58
Availability of scientists and engineers	56
Local equity market access	55
Ease of access to loans	53
Quality of math and science education	51

Note: Rank versus 74 countries; overall, Colombia ranks 52nd in 2006 PPP adjusted GDP per capita and 52nd in Business Competitiveness.

Source: Global Competitiveness Report 2007.

Context for Strategy and Rivalry

Colombia's Relative Position 2007

Competitive Advantages Relative to GDP per Capita

Efficacy of corporate boards	41
Intellectual property protection	46
Lack of favoritism in decisions of government officials	48

Competitive Disadvantages Relative to GDP per Capita

Property rights	72
Extent of market dominance	65
Prevalence of trade barriers	64
Trade freedom	63
Intensity of local competition	55
Effectiveness of antitrust policy	50

Note: Rank versus 74 countries; overall, Colombia ranks 52nd in 2006 PPP adjusted GDP per capita and 52nd in Business Competitiveness.

Source: Global Competitiveness Report 2007.

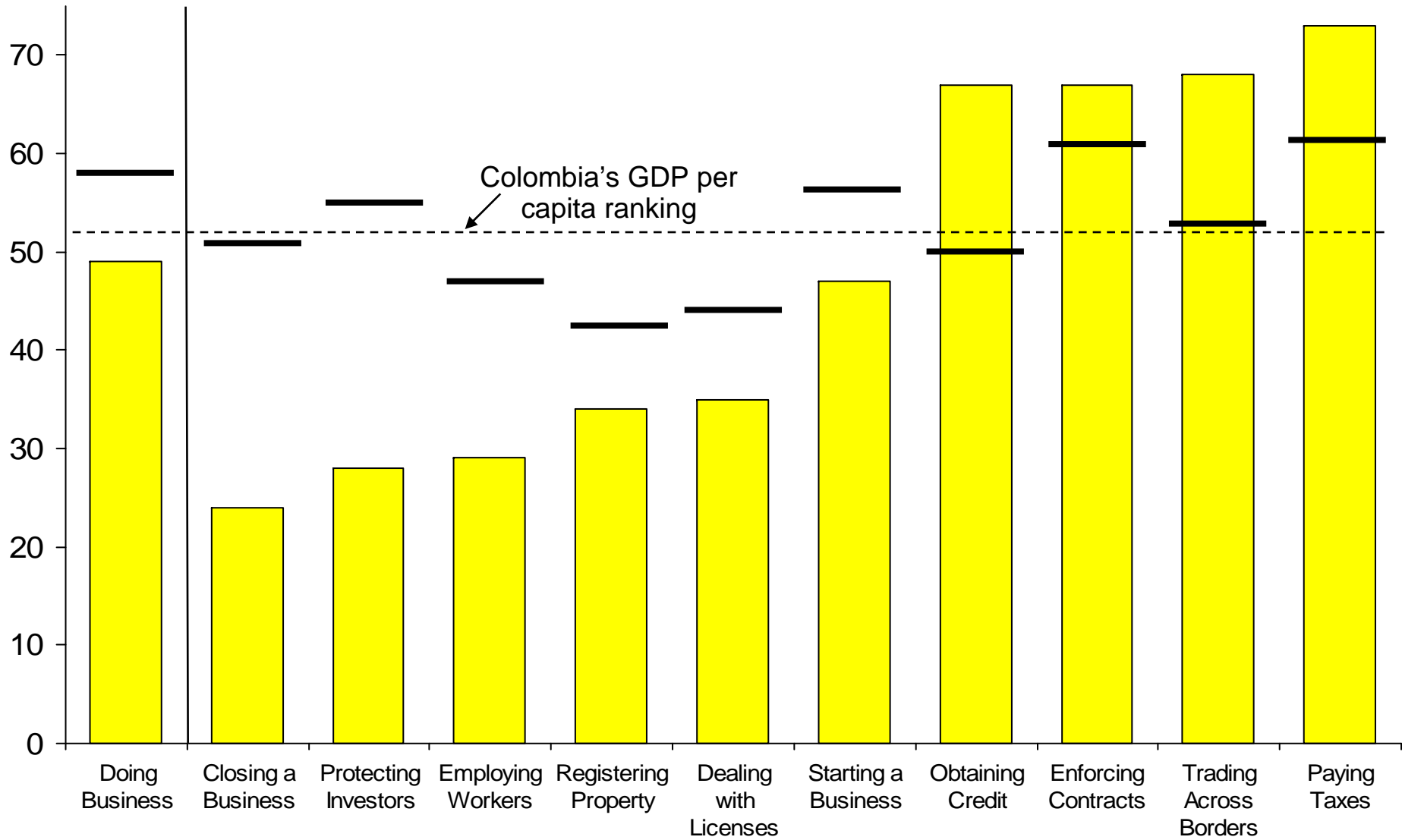
Ease of Doing Business Indicators

Colombia's Position, 2006

Ranking, 2006
(of 74 countries)

Favorable

Unfavorable

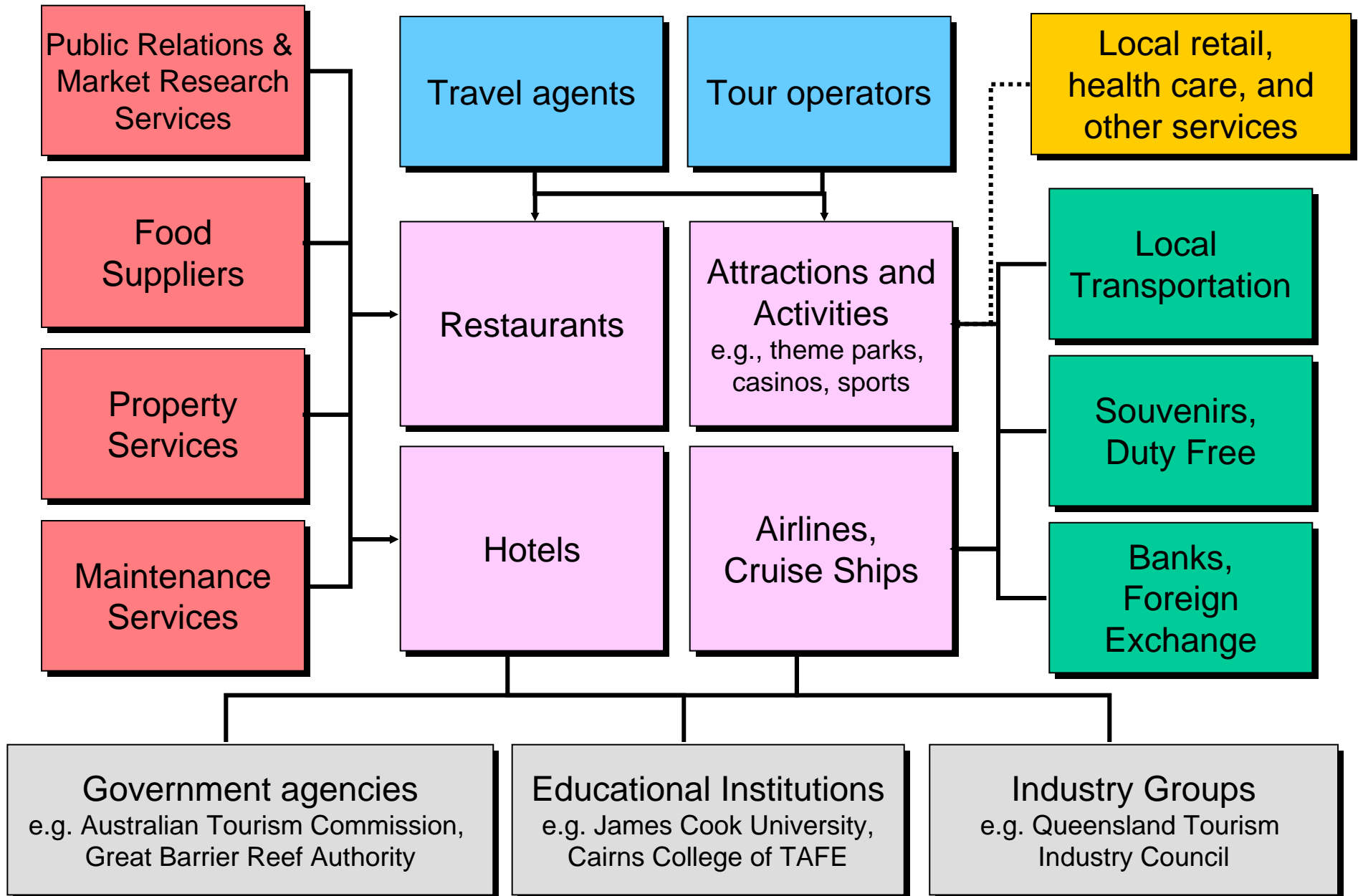


— Median ranking, selected Latin America countries

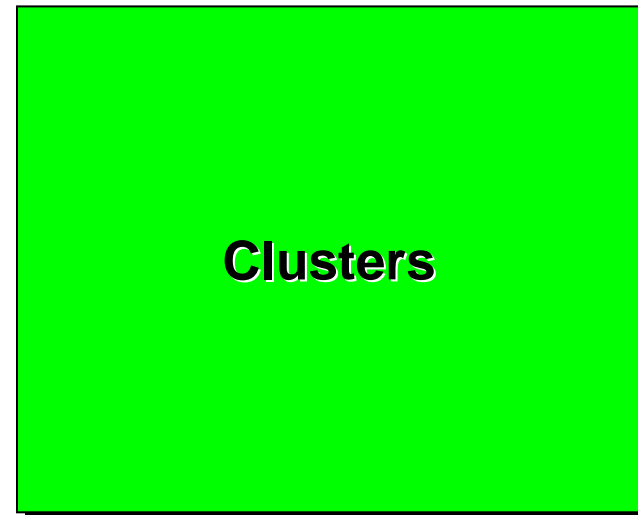
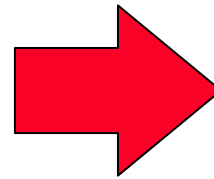
Source: World Bank Doing Business (2007)

Enhancing Cluster Development

Tourism Cluster in Cairns, Australia



From Sector Thinking to Cluster Thinking

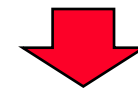


- Isolated industries or areas of the economy (e.g., agriculture, manufacturing)
- **National** perspective



- Some sectors are superior
- Focus on government “support”
- Government is the driver

- Linkages and externalities across related industries and specialized institutions
- **Regional** perspective

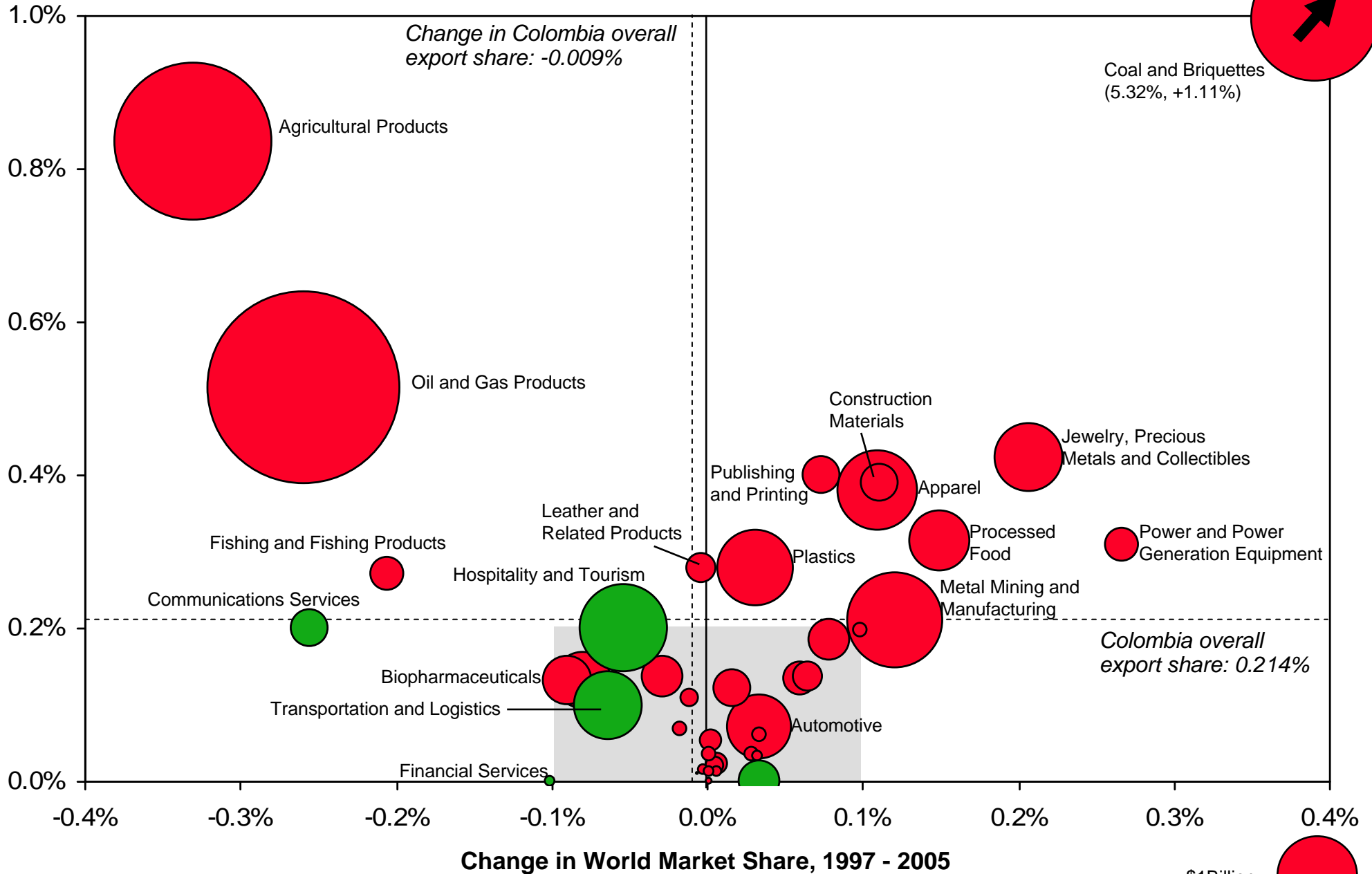


- All clusters are good
- Focus on productivity and innovation
- Private sector is the driver; government is a participant

Cluster Composition

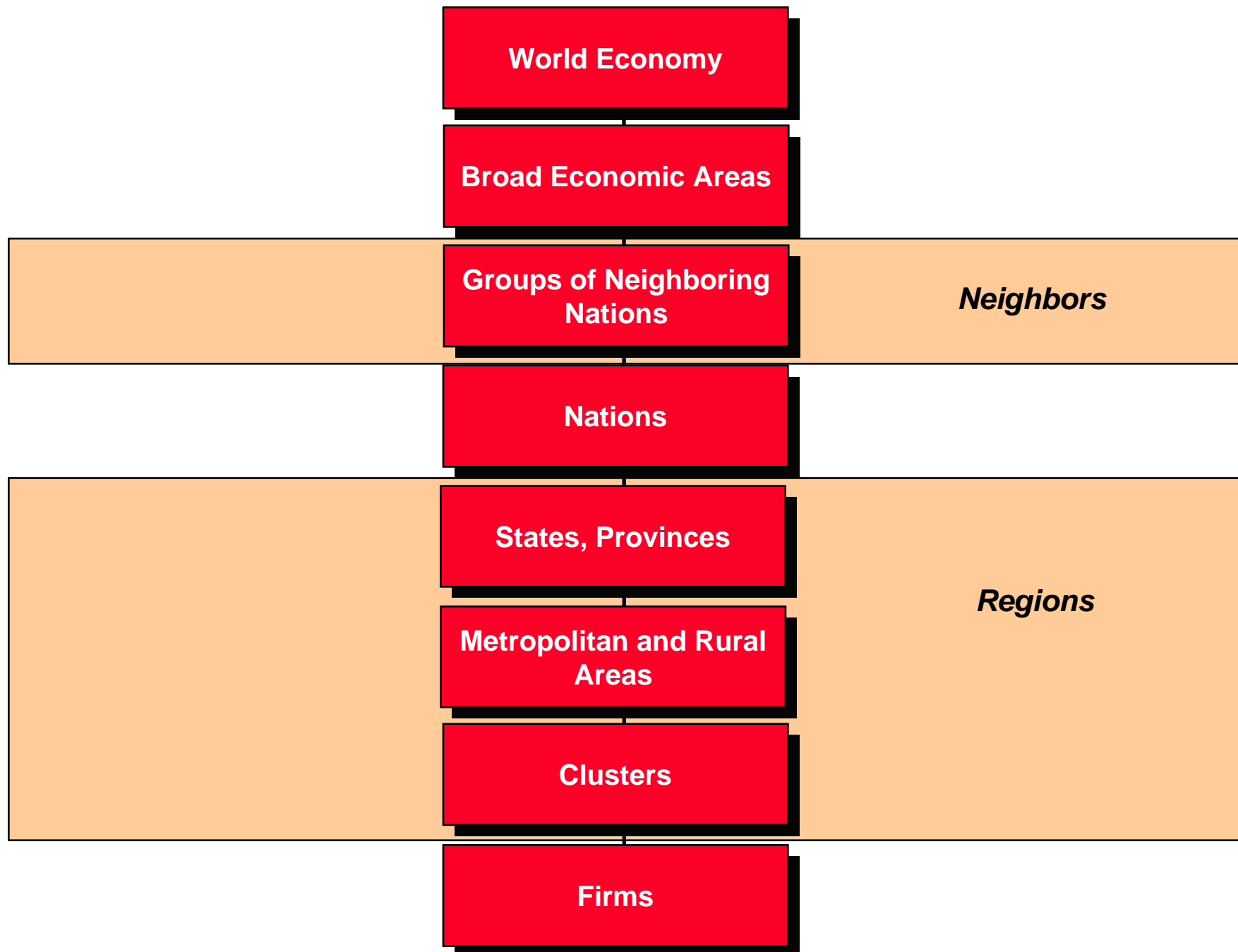
Colombia Export Performance by Cluster

World Market Share, 2005



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

Levels of Influence on Competitiveness



Economic Coordination with Neighbors

Strategic Opportunities

Factor (Input) Conditions

- Improve regional **transportation infrastructure**
- Create an efficient **energy** network
- Interconnect regional **communications**
- Link **financial markets**
- Harmonize **regulatory requirements** for business
- Facilitate the movement of students to enhance **higher education**
- Coordinate programs to improve **security and public safety**

Context for Strategy and Rivalry

- Eliminate **trade and investment barriers** within the region
- Simplify and harmonize **cross-border** regulations and paperwork
- Coordinate **antimonopoly and fair competition policies**
- Coordinate **macroeconomic** policies

Demand Conditions

- Harmonize product **safety standards**
- Harmonize **environmental standards**
- Establish reciprocal **consumer protection laws**

Cluster Development

- Coordinate development of **cross-border clusters**, e.g.
 - Tourism
 - Agribusiness
 - Transport & Logistics
 - Business services

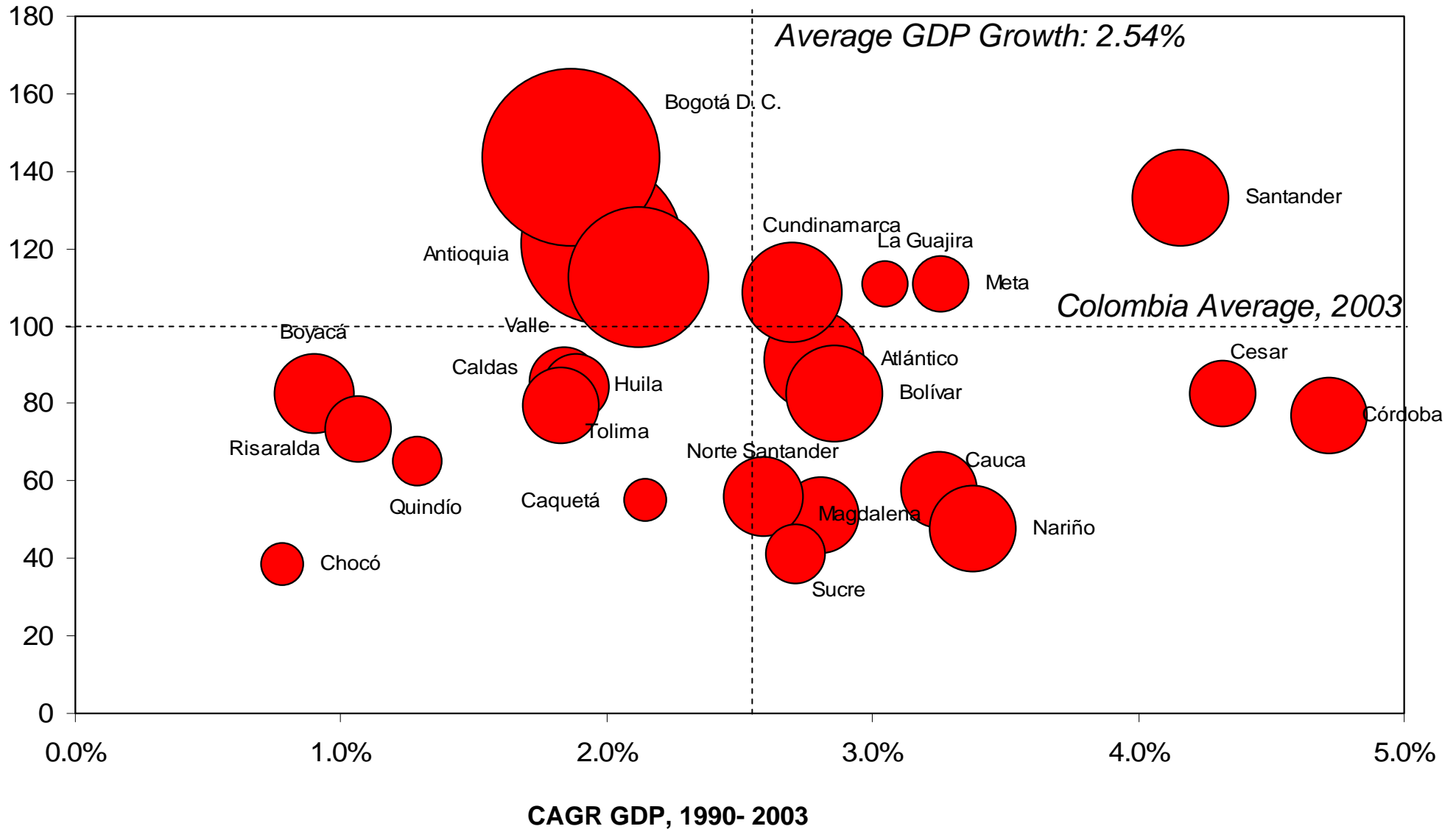
Regional Governance

- Share **best practices** in government operations
- Create regional **institutions**
 - Dispute resolution mechanisms
 - Regional development bank
- Develop a regional **marketing** strategy

Regional Economic Performance

Colombian *Departamentos*

Region's GDP
per capita, 2003



Note: Size of bubble is proportional to population
Source: CEC - DANE, 2003.

The Composition of Regional Economies

United States, 2004

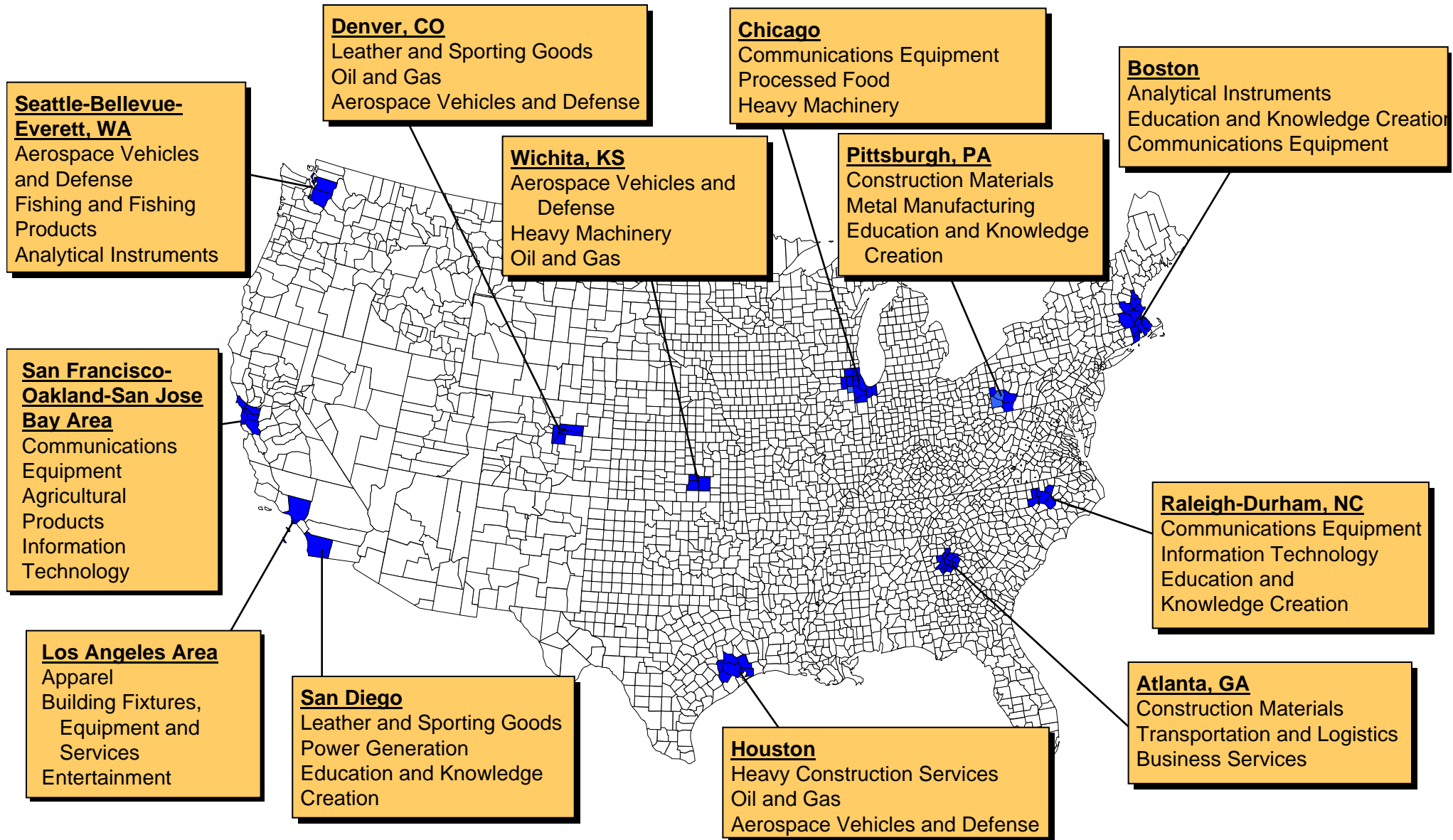
	Traded	Local
Share of Employment	29.9%	70.1%
Employment Growth Rate, 1990 to 2004	0.7%	2.4%
Average Wage	\$49,058	\$30,416
Relative Wage	136.3%	84.5
Wage Growth	4.2%	3.4%
Relative Productivity	144.1	79.3
Patents per 10,000 Employees	20.0	0.4
Number of SIC Industries	638	241

Note: 2004 data, except relative productivity which uses 1997 data.

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

Cluster Specialization of Regional Economies

Select U.S. Geographic Areas

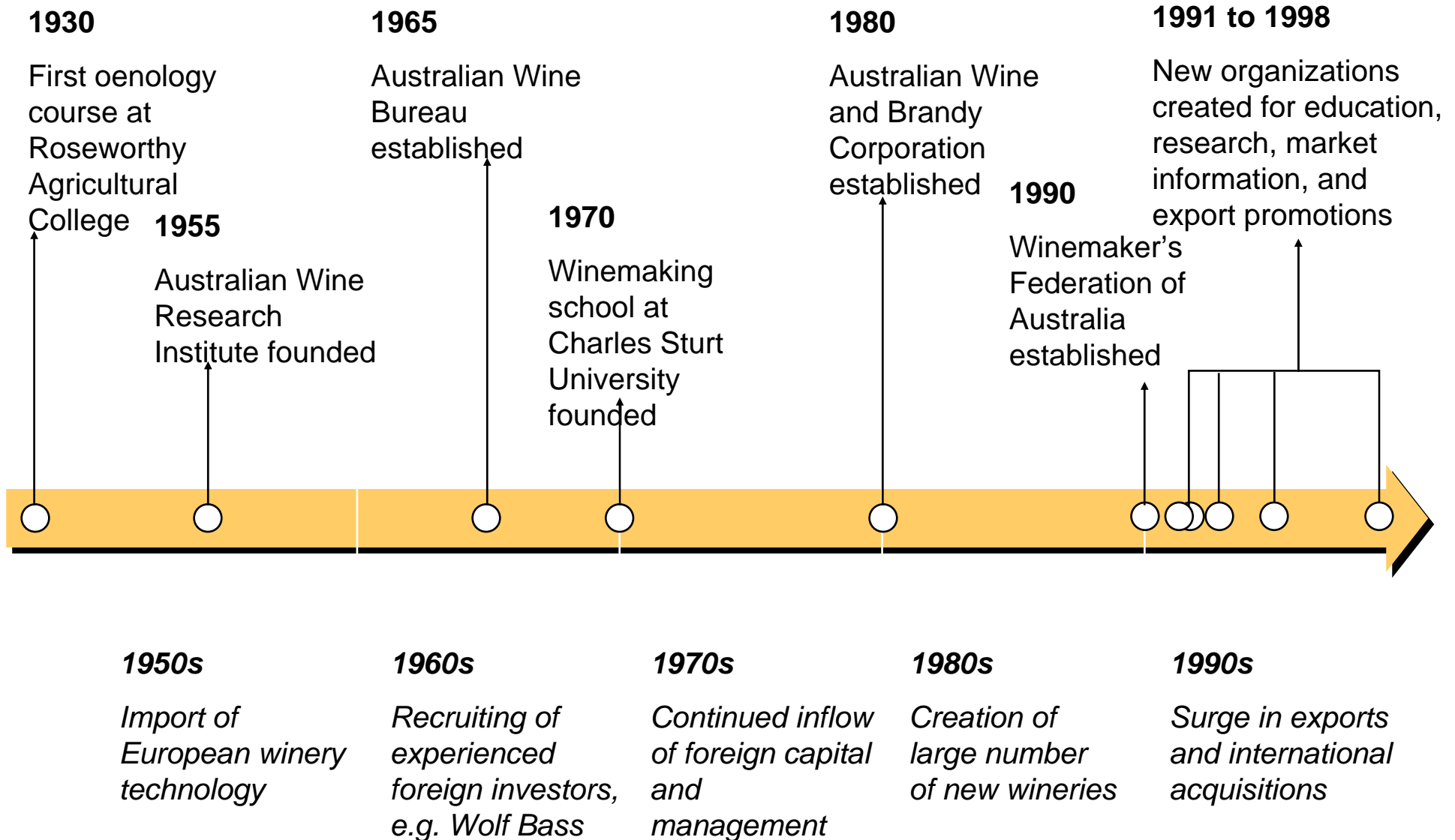


Note: Clusters listed are the three highest ranking clusters in terms of share of national employment

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

The Australian Wine Cluster

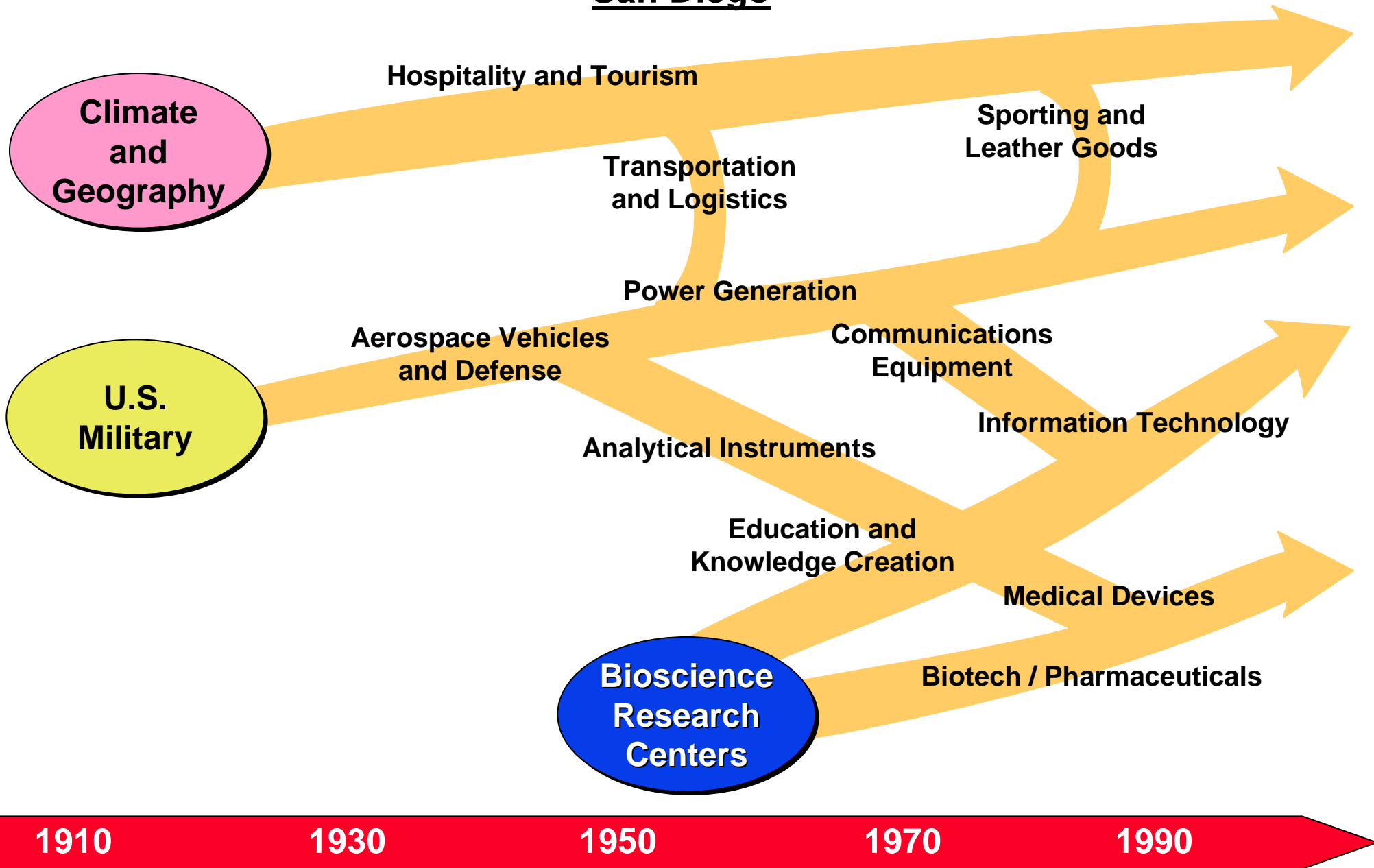
Time Line



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

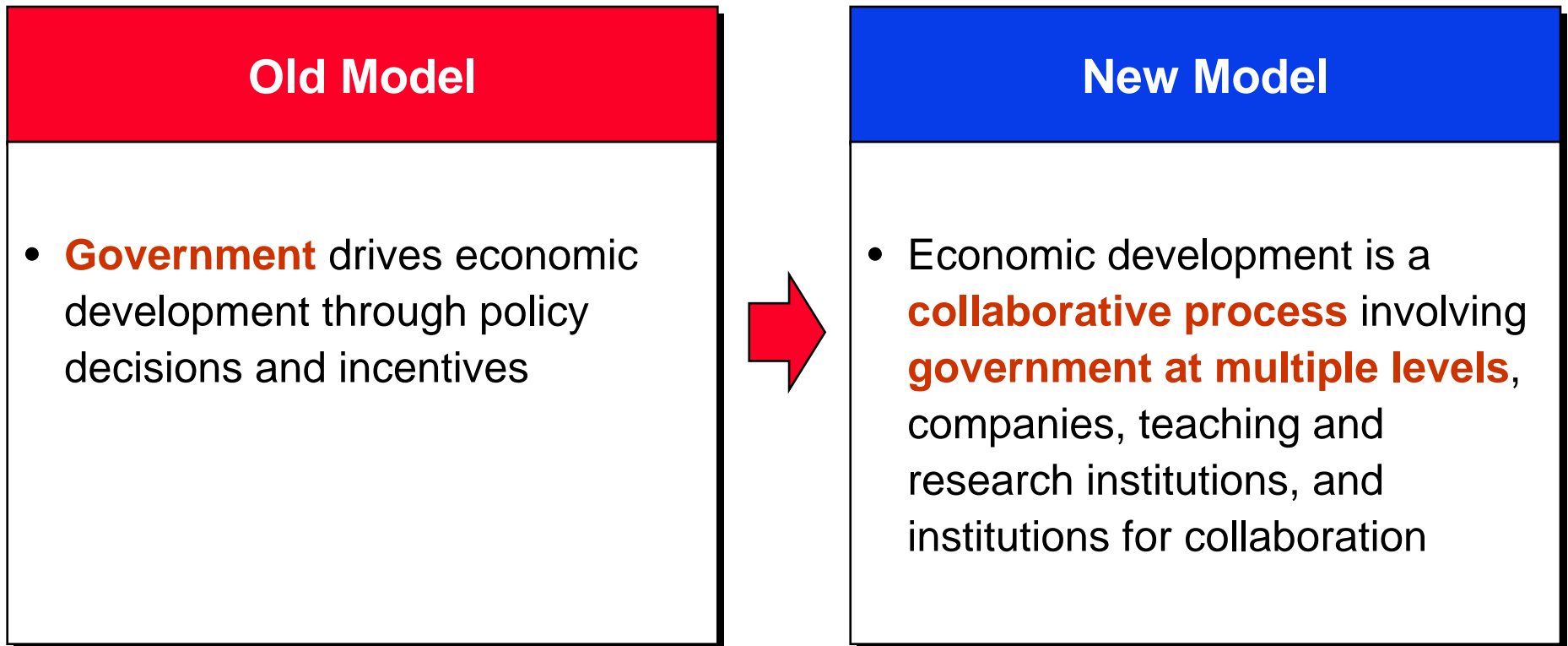
The Evolution of Economies

San Diego



The Process of Economic Development

Shifting Roles and Responsibilities



- Competitiveness must become a **bottoms-up process** in which many individuals, companies, and institutions take responsibility
- **Every** community and cluster can take steps to enhance competitiveness

Defining an Economic Strategy

Value Proposition

- What is the **unique competitive position of the** nation or region given its location, legacy, and existing and potential strengths?
 - What roles in the world, the region, and the neighborhood?
 - What unique value as a business location?
 - For what range and types of businesses, activities in the value chain, and clusters can the nation or region be competitive?

Developing Unique Strengths

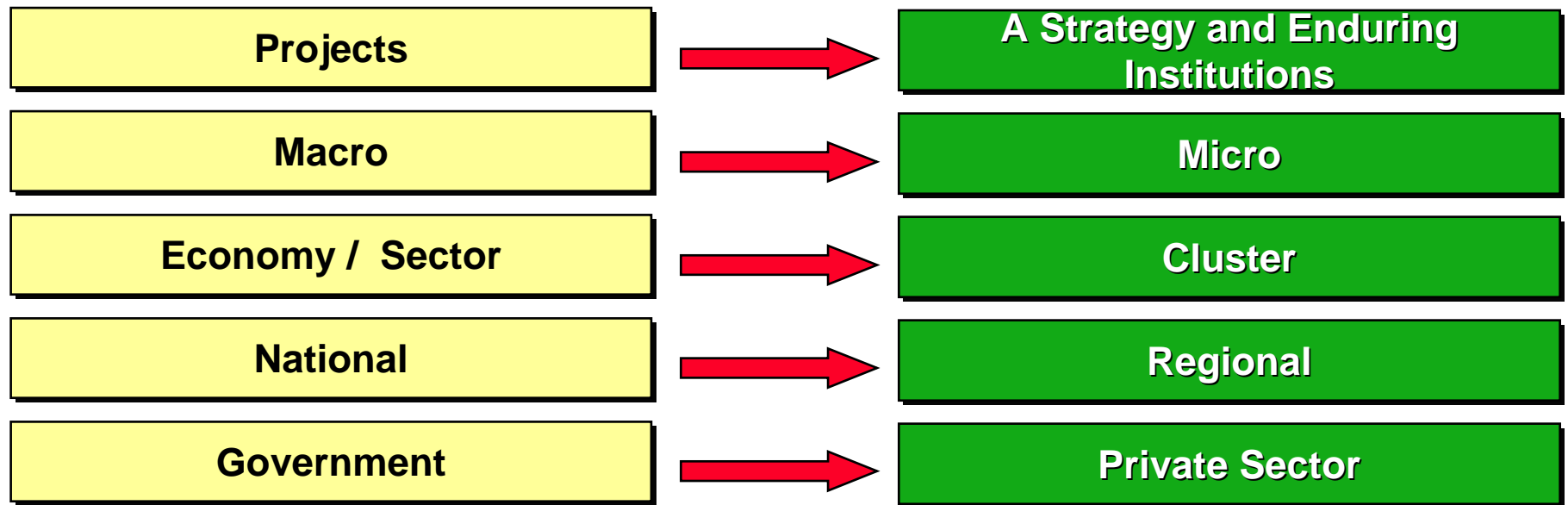
- What **elements of the business environment** are essential strengths in the national or regional value proposition?
- What areas of **macroeconomic / political / legal / social context** can be strengths versus neighbors or peers?
- What **existing and emerging clusters** must be activated?

Achieving and Maintaining Parity with Peers

- What areas of the **general business environment** must improve to maintain parity with peer countries or regions?
- What **macro / political / legal / social context improvements** are necessary to maintain parity with peer countries or regions?

Colombia's Competitiveness Challenge

Five Transformations



While continuing to improve security and stability

Implications for Colombia Competitiveness

- Address continued weakness in Colombian **context** and the **business environment**
- Pursue **targeted** economic coordination with **neighbors**
- Move to a **cluster-based** development model
 - Organize **public policy formulation and implementation** around clusters
 - Use the cluster model to **grow Colombian exports and FDI**
- Institutionalize the **private sector role** in competitiveness
- Drive competitiveness improvement to **regional level**

Address Strategic Weaknesses in the Colombian Business Environment

- Continued improvement in stability and security



- Secure property rights, contracts and reform the legal system.
- Modernize regulatory and taxation structures and reduce their cost to SME's
 - One stop model
 - Reduce the informal economy
- Aggressive investment in logistical infrastructure
- Eliminate formal and informal trade barriers
- Truly open up domestic competition
 - Facilitate internal specialization
- Improve human resources skills, especially among disadvantage citizens
- Build scientific and technological capabilities to support upgrading the economy

Implications for Colombia Competitiveness

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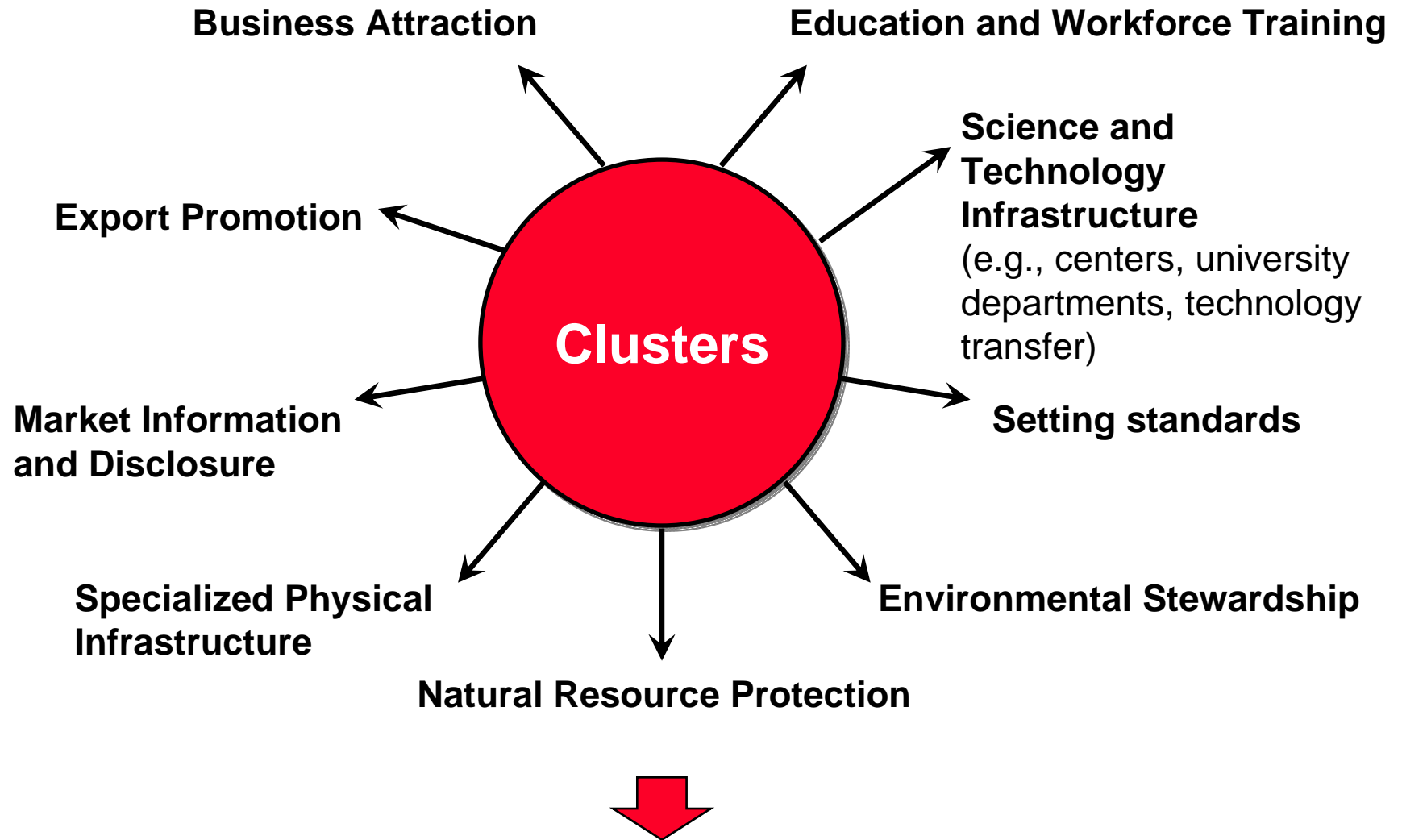
The Role of Government in Cluster Development

- A successful cluster-based development strategy builds on **sound overall economic policies**
- Government should support **all qualifying clusters**, not select among them
 - Criteria for **cluster designation** should qualify a cluster group for matching funds and other support
- Government's role in cluster initiatives is as **facilitator** and **participant**. The most successful cluster initiatives are public-private partnerships
- Government should **NOT** provide **direct** subsidies, protection, or relaxation of competition laws

Criteria for Cluster Designation

- A **critical mass** of private sector companies
- Including **suppliers, supporting industries, service companies, and banks**
- Involvement of **academic, training, and research organizations**
- A functioning **cluster organization**

Clusters and Economic Policy



- Clusters provide a framework for **formulating and implementing** effective public policies and public investments to foster economic development

Cluster-Base Export and FDI Development

1. Upgrade the quality of **existing strong export products**
2. Widen exports in **existing Colombian clusters**
3. Grow in **related clusters**



Focus **FDI attraction** around clusters

Upgrading Established Export Products

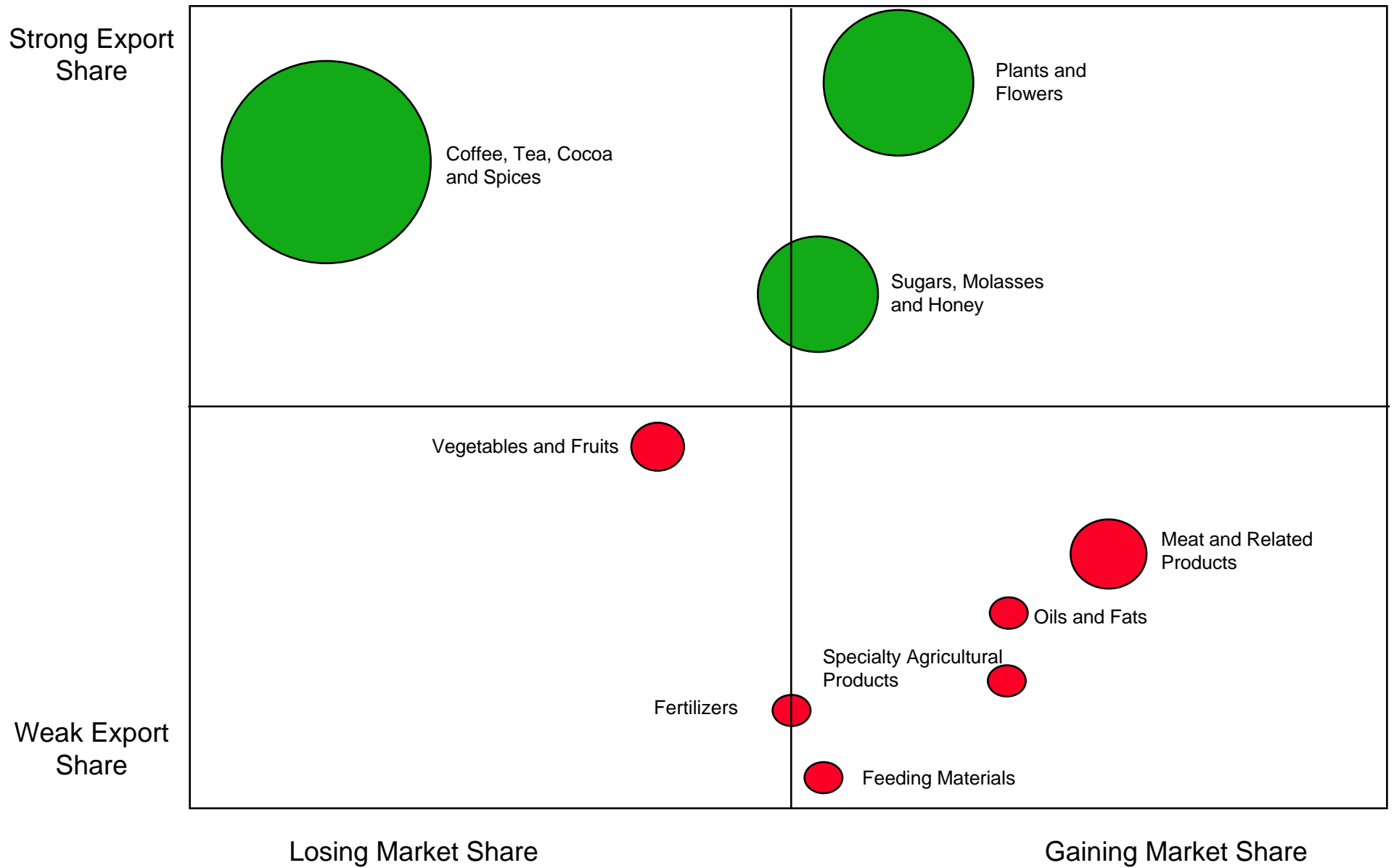
Leading Colombian Export Industries, 2005

	Industry	Cluster	World Export Share	Change in Share, 2000-2005	Export Value (in US\$1,000)
1	Crude petroleum oils	Oil and Gas Products	0.71%	-0.58%	\$4,031,872
2	Coal	Coal and Briquettes	5.44%	1.06%	\$2,440,004
3	Coffee	Agricultural Products	11.11%	-3.65%	\$1,631,481
4	Petroleum	Oil and Gas Products	0.47%	0.11%	\$1,505,518
5	Cut flowers and foliage	Agricultural Products	14.09%	1.15%	\$907,459
6	Pig iron, spiegeleisen, sponge iron or steel granules	Metal Mining and Manufacturing	3.02%	1.33%	\$738,550
7	Gold	Jewelry, Precious Metals and Collectibles	2.04%	1.75%	\$627,163
8	Fruit, nuts	Agricultural Products	1.24%	-0.58%	\$544,023
9	Passenger transport vehicles	Automotive	0.09%	0.08%	\$430,807
10	Sugars, molasses and honey	Agricultural Products	1.78%	-0.05%	\$289,531
11	Men's or boys' trousers, breeches and shorts	Apparel	1.18%	0.61%	\$235,697
12	Other plastics in primary forms	Plastics	0.36%	0.15%	\$222,078
13	Polymers of vinyl chloride	Plastics	1.92%	0.64%	\$216,029
14	Live animals	Agricultural Products	1.47%	1.35%	\$182,438
15	Miscellaneous medicaments	Biopharmaceuticals	0.10%	-0.18%	\$175,258
16	Sugar confectionery	Processed Food	2.74%	1.04%	\$166,479
17	Coke, semi-coke	Metal Mining and Manufacturing	2.56%	2.18%	\$158,173
18	Electric current	Power and Power Generation Equipment	0.73%	0.73%	\$157,367
19	Other tubes, pipes of iron or steel	Metal Mining and Manufacturing	0.99%	0.83%	\$149,850
20	Printed books, maps, globes	Publishing and Printing	0.88%	0.07%	\$125,144
21	Miscellaneous goods vehicles	Automotive	0.16%	-0.03%	\$121,839
22	Other plates, sheets, film, foil and strip, of plastics	Plastics	0.36%	0.05%	\$112,091
23	Miscellaneous articles of pulp, paper and paperboard	Forest Products	0.84%	0.34%	\$110,635
24	Other vegetable fats and oils	Agricultural Products	0.83%	0.43%	\$108,640
25	Portland cement, aluminous cement and similar products	Construction Materials	1.54%	0.17%	\$106,444

Top 25 Industries as % of Colombia's total goods exports: 73.2%

Growth Opportunities within Clusters

Colombian Agricultural Products



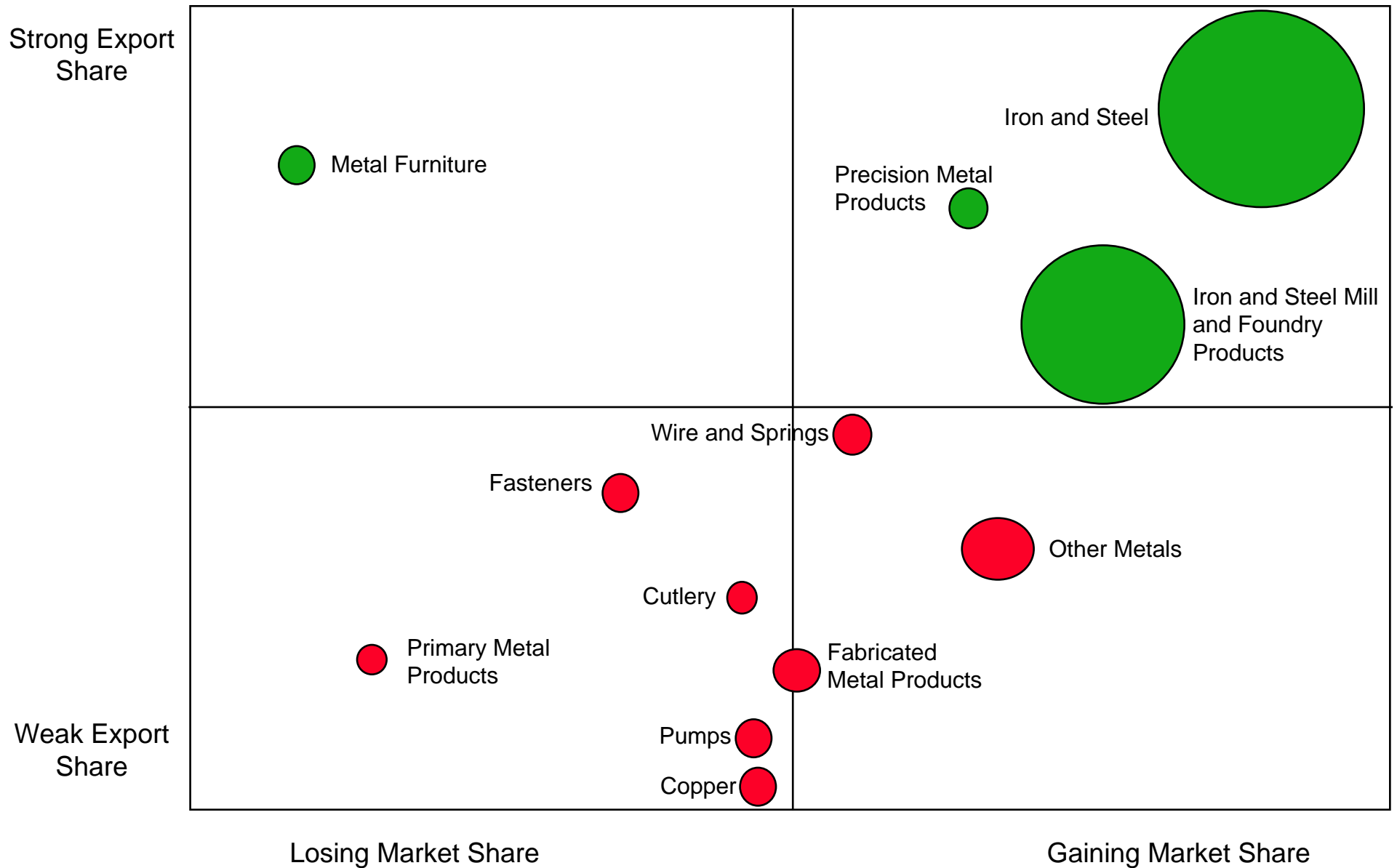
Growth Opportunities within Clusters

Colombian Apparel



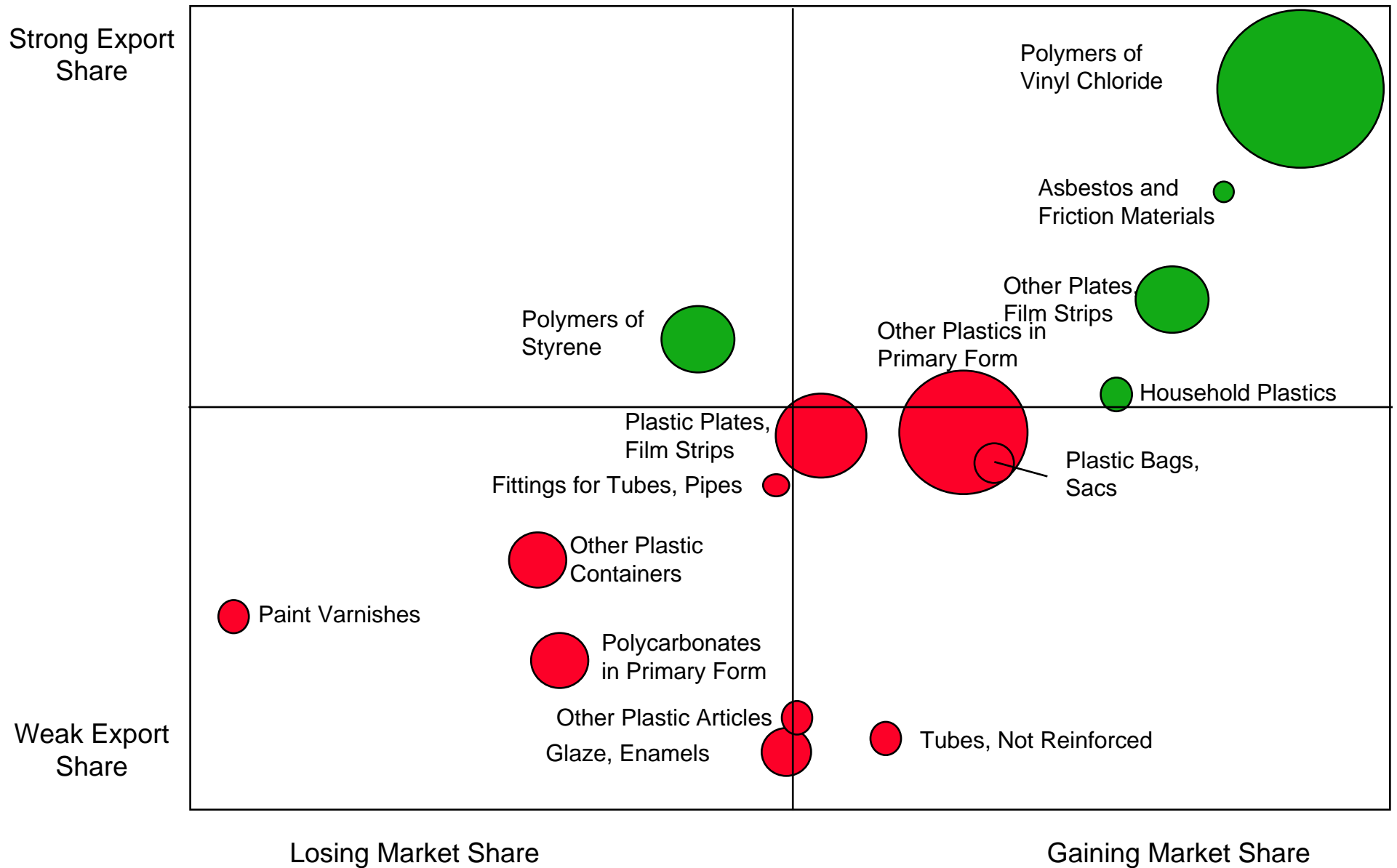
Growth Opportunities within Clusters

Colombian Metal Mining and Manufacturing



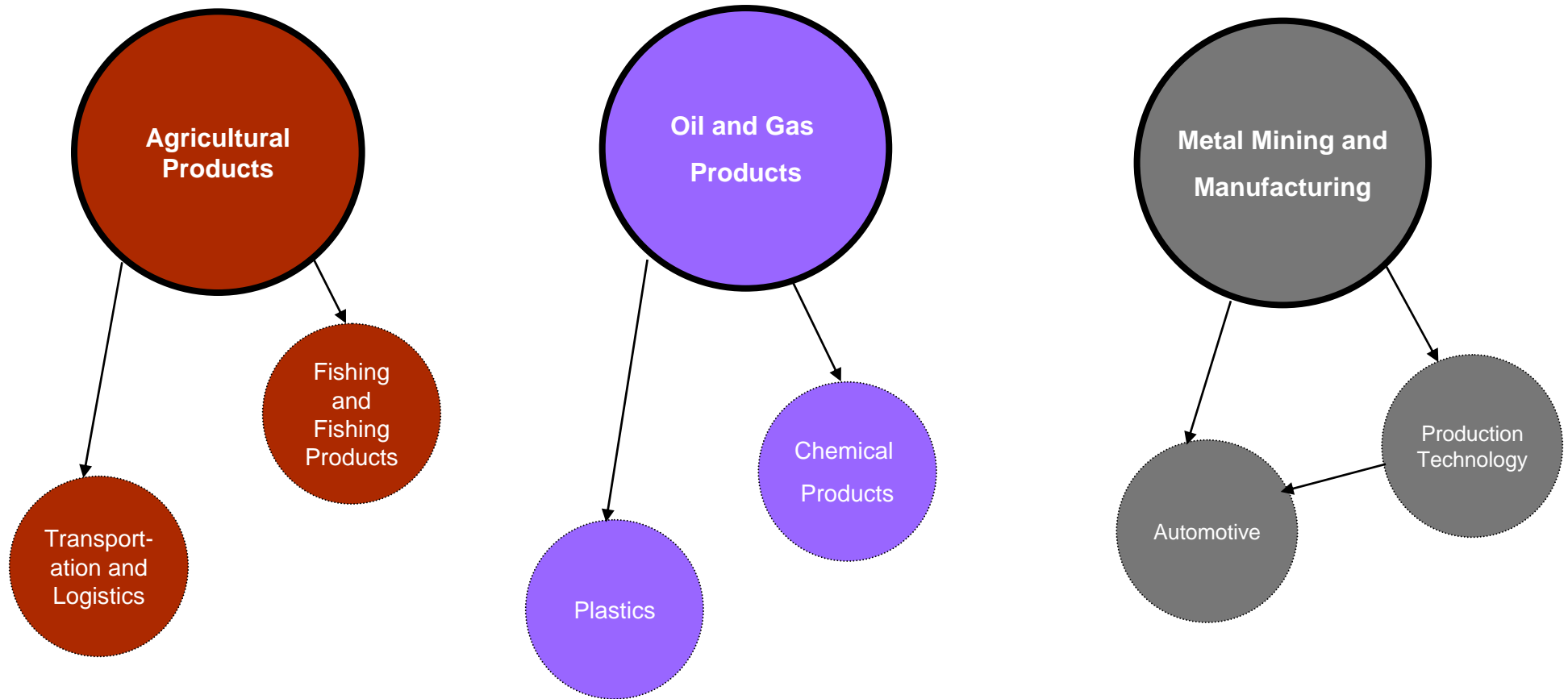
Growth Opportunities within Clusters

Colombian Plastics Cluster



Growth Opportunities in Related Clusters

Colombia's leading Export Clusters



Source: Institute for Strategy and Competitiveness, authors' calculations (2007)

Implications for Colombia Competitiveness

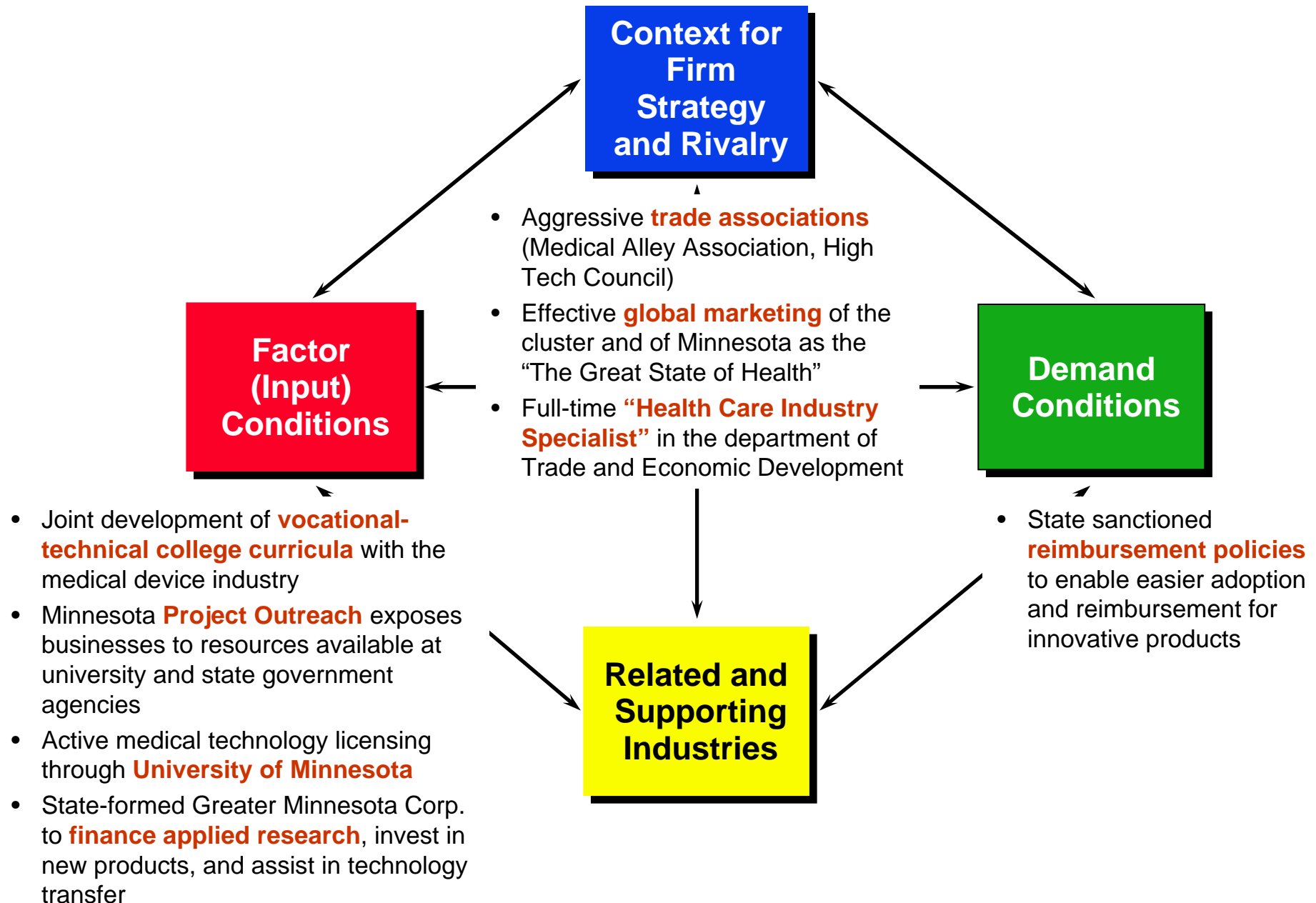
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Role of the Private Sector in Economic Development

- A company's competitive advantage depends partly on the **quality of the business environment**
 - A company gains advantages from being part of a **cluster**
 - Companies have a strong **role to play** in upgrading their business environment
- 
- Take an **active role** in upgrading the local infrastructure
 - Nurture **local suppliers** and attract foreign suppliers
 - Work closely with local **educational and research institutions**, to upgrade their **quality and create specialized programs addressing the cluster's needs**
 - Focus **corporate philanthropy** on enhancing the local business environment
 - Inform government on **regulatory issues and constraints** bearing on cluster development
 - Take leadership role in **national and regional competitiveness organizations and initiatives.**
- 
- An important role for **trade associations**
 - Greater influence if many companies are united
 - Cost sharing between members

Public / Private Cooperation in Cluster Upgrading

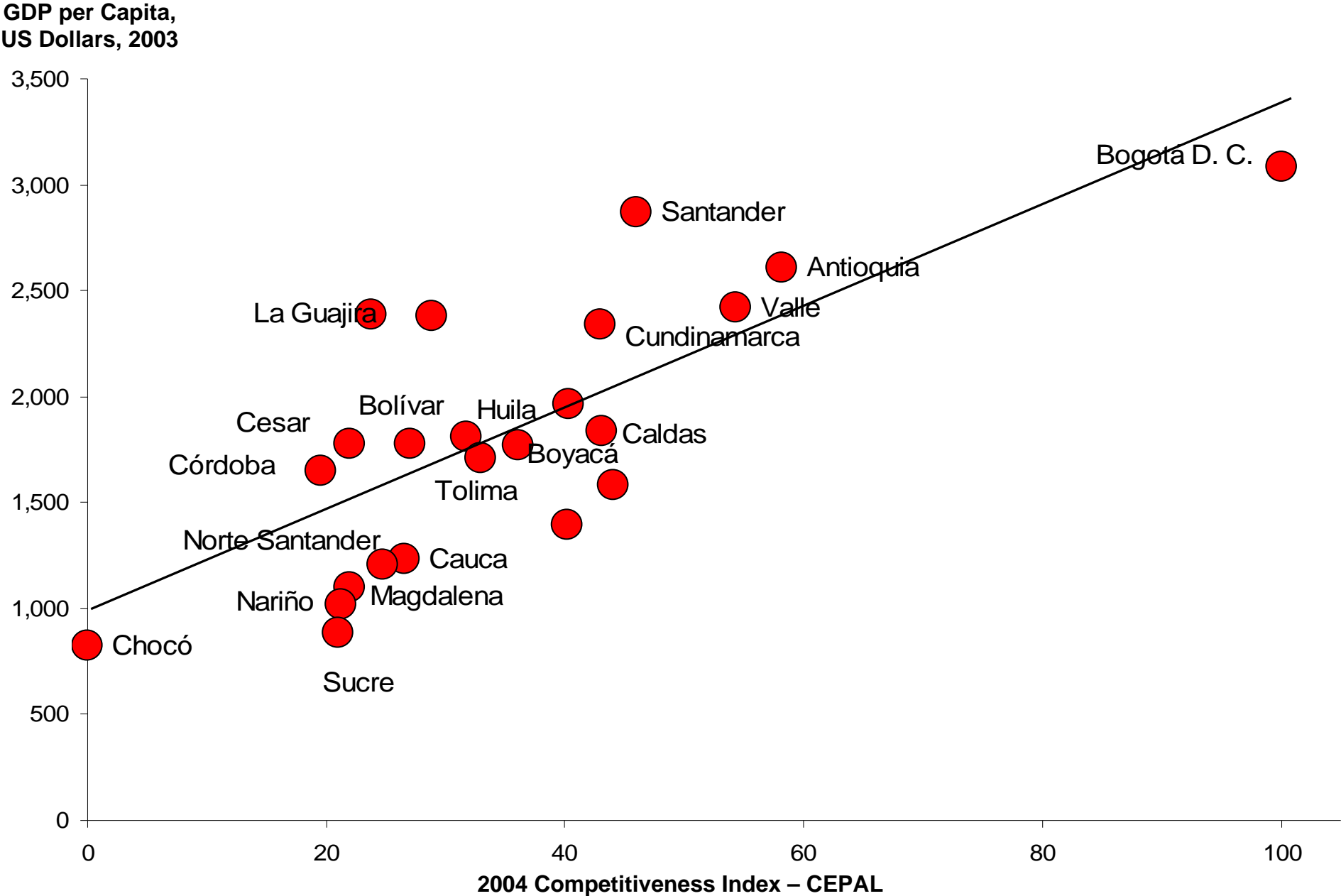
Minnesota's Medical Device Cluster



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Determinants of Regional Prosperity in Colombia, 2004



Source: Centro de Estrategia y Competitividad, 2006

Regional Competitiveness Initiatives

Success Factors

- Focus on the **microeconomic aspects** of competitiveness
- Led by the **private sector** with the participation of all **regional actors** and representation from the **national government**
- Institutionalized through a formal **enabling structure**
- Common **conceptual framework**
- Develop a **regional value proposition** = a strategy
- Prioritized a **sequenced action plan**
- Measure and report **progress**

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