

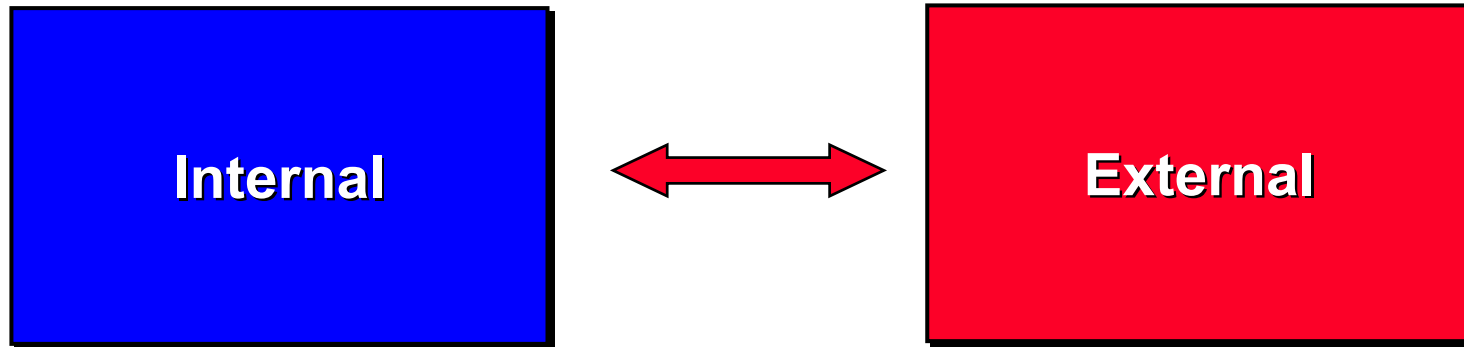
The Competitive Advantage of Greece: Moving to the Next Level

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

Athens, Greece
8 May, 2003

This presentation draws on ideas from Professor Porter's articles and books, in particular, *The Competitive Advantage of Nations* (The Free Press, 1990), "Building the Microeconomic Foundations of Competitiveness," in *The Global Competitiveness Report 2002*, (World Economic Forum, 2002), "Clusters and the New Competitive Agenda for Companies and Governments" in *On Competition* (Harvard Business School Press, 1998), and ongoing research on clusters and competitiveness. 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. Further information on Professor Porter's work and the Institute for Strategy and Competitiveness is available at www.isc.hbs.edu

Perspectives on Firm Success

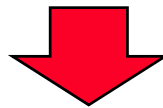


- Competitive advantage resides solely **inside** a company or in its industry
- Competitive success depends primarily on **company choices**

- Competitive advantage (or disadvantage) resides partly in the **locations** at which a company's business units are based
- **Cluster participation** is an important contributor to competitiveness

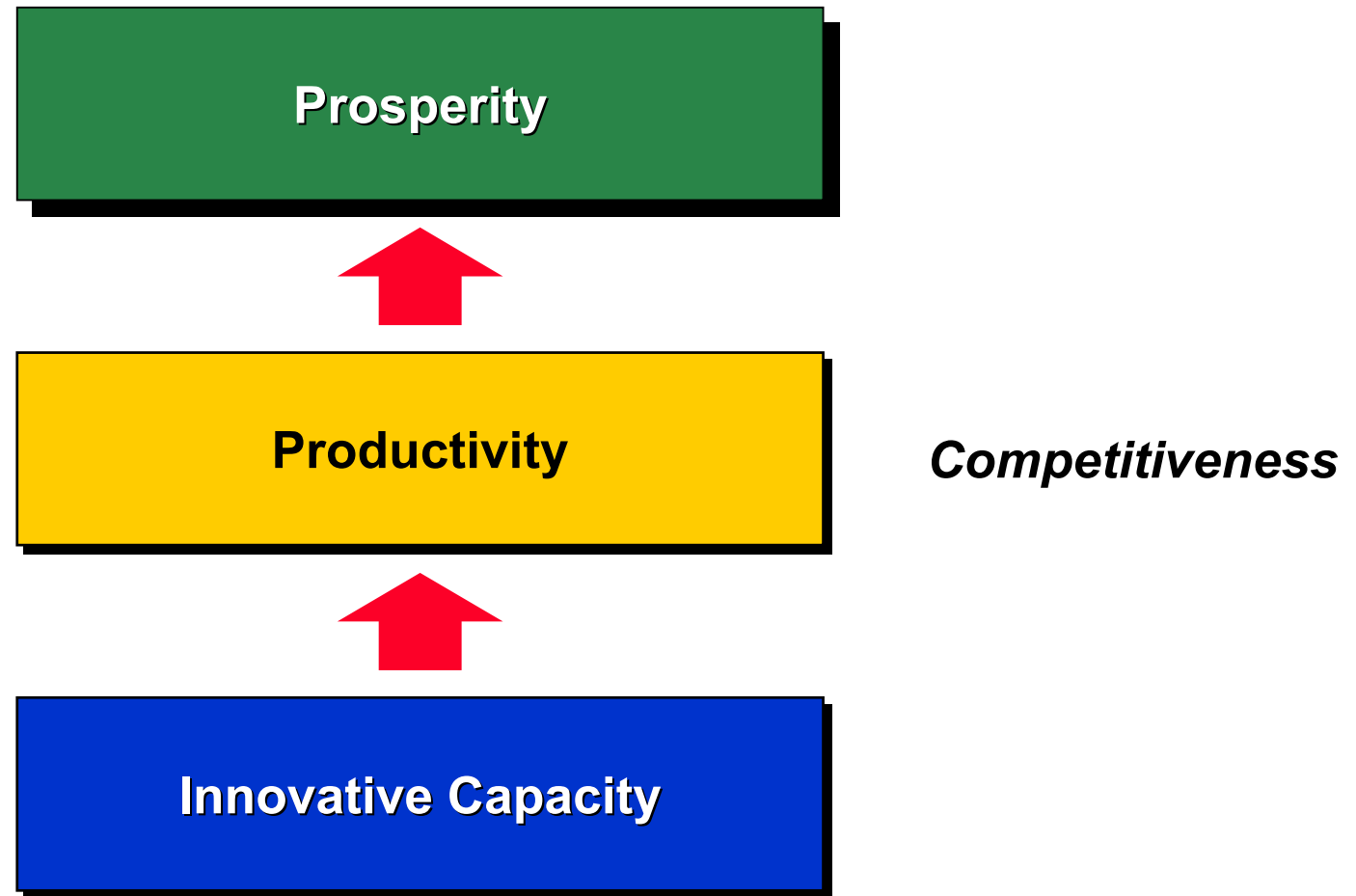
What is Competitiveness?

- Competitiveness is determined by the **productivity** with which a nation uses its human, capital, and natural resources. Productivity sets a nation's or region's standard of living (wages, returns to capital, returns to natural resource endowments)
 - Productivity depends both on the **value** of products and services (e.g. uniqueness, quality) as well as the **efficiency** with which they are produced.
 - It is not **what** industries a nation competes in that matters for prosperity, but **how** firms compete in those industries
 - Productivity in a nation is a reflection of what both domestic and foreign firms **choose to do in that location**. The location of ownership is secondary for national prosperity.
 - The productivity of **“local”** industries is of fundamental importance to competitiveness, not just that of traded industries
 - Devaluation **does** not make a country more competitive



- 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

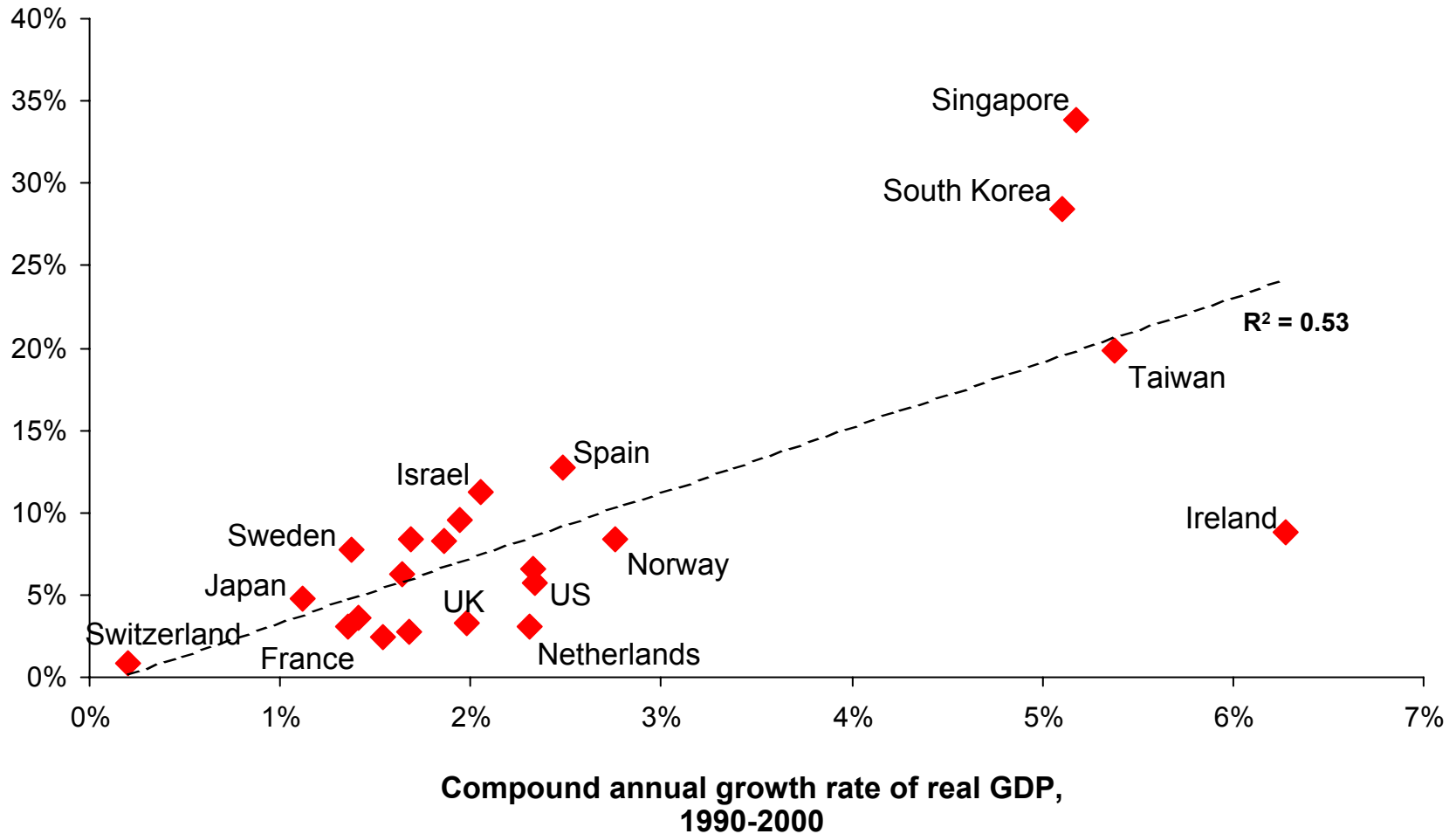
Innovation and Competitiveness



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

Patenting Growth and Prosperity Growth Selected OECD Countries

Compound annual
growth rate of US-
registered patents,
1990 - 2001



Source: IMF (2001), US Patent and Trademark Office (2002)

The Greek Economic Situation in 2003

- Greece has been among the leading European Union member countries in terms of **GDP growth** in the last five years
- Macroeconomic **progress** has been considerable, and Greece successfully entered the European Monetary Union in the first wave

However

- Much of the recent growth has been fueled by **low interest rates** after entry into the EMU and **access to EU structural funds**
- Despite some recent progress, Greece is still **lagging** behind the reforms other countries started much earlier
- Greece will receive **reduced EU funding** after 2006 and faces increasingly intense competition from EU accession countries in **Eastern Europe**
- Greece has **significant competitiveness challenges** that must be addressed if prosperity growth is to be sustainable

Comparative Economic Performance

Growth Rate of Real GDP, Selected Economies

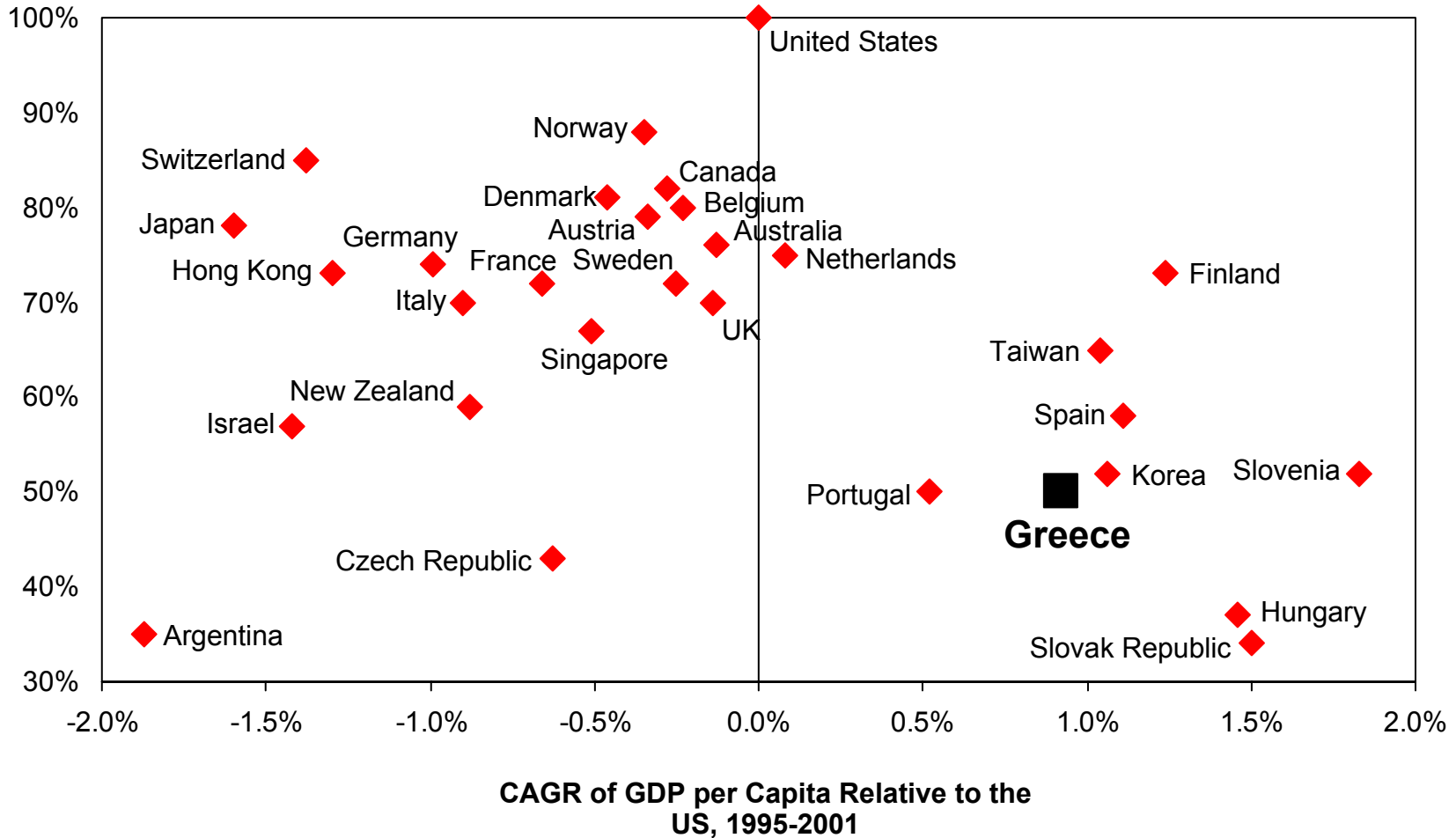
Annual Growth
Rate of Real GDP



Comparative Economic Performance

Prosperity, Selected Economies

GDP per Capita,
2001, US=100



Greek Microeconomic Performance

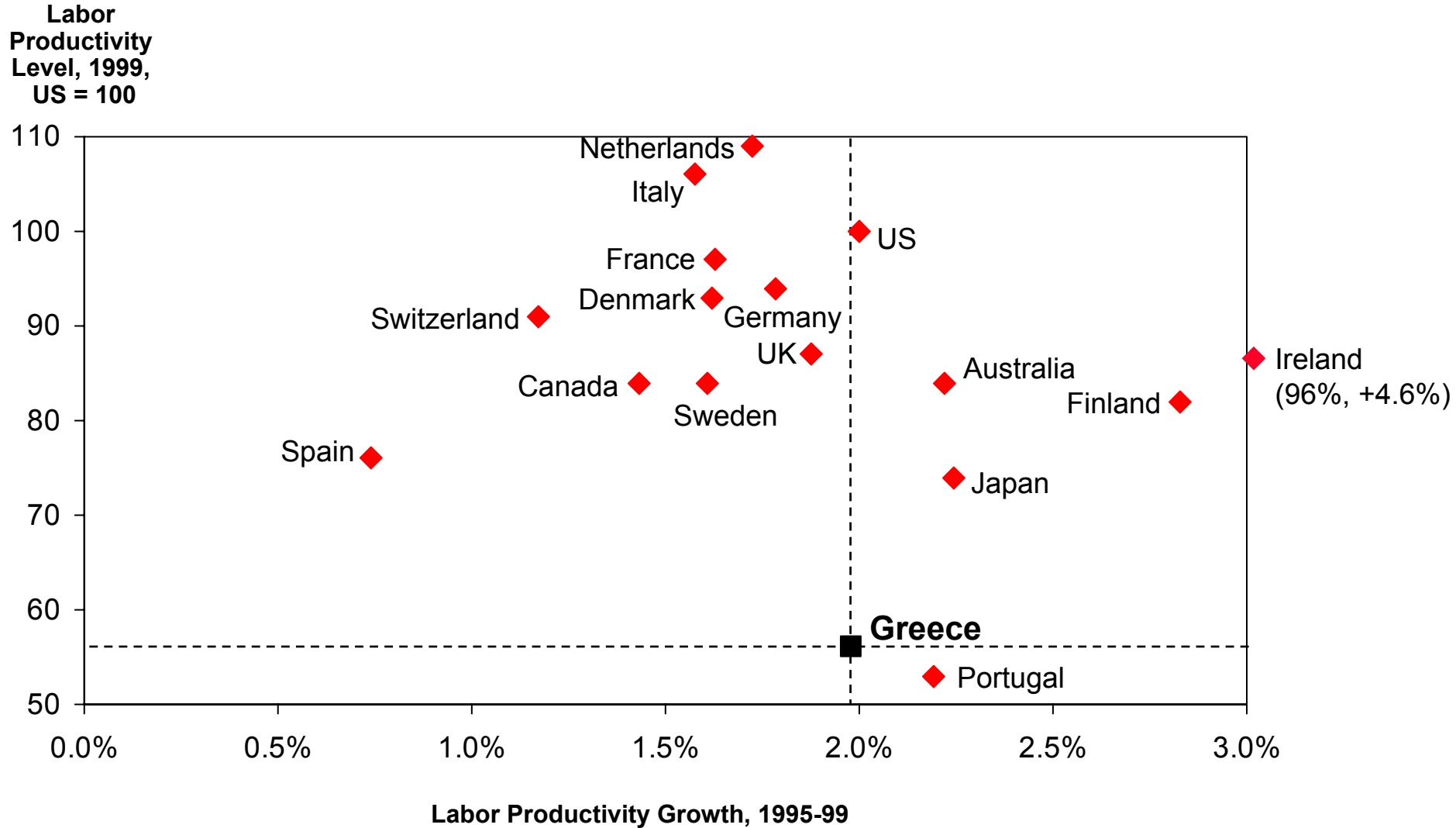
- Greece has registered solid **labor productivity growth** in the last few years

However

- The overall **level** of labor productivity is still low
- Greece has been one of the few middle to high-income countries with **increasing unemployment** since 1995
 - The effects of corporate restructuring, labor force inflows from agriculture, higher participation of women, and immigrants have outweighed positive job creation
- Greece has a **weak position in exports**. Performance is better in service exports such as tourism and shipping
- Greece **innovation performance** lags all other EU member countries with the exception of Portugal

Labor Productivity Performance

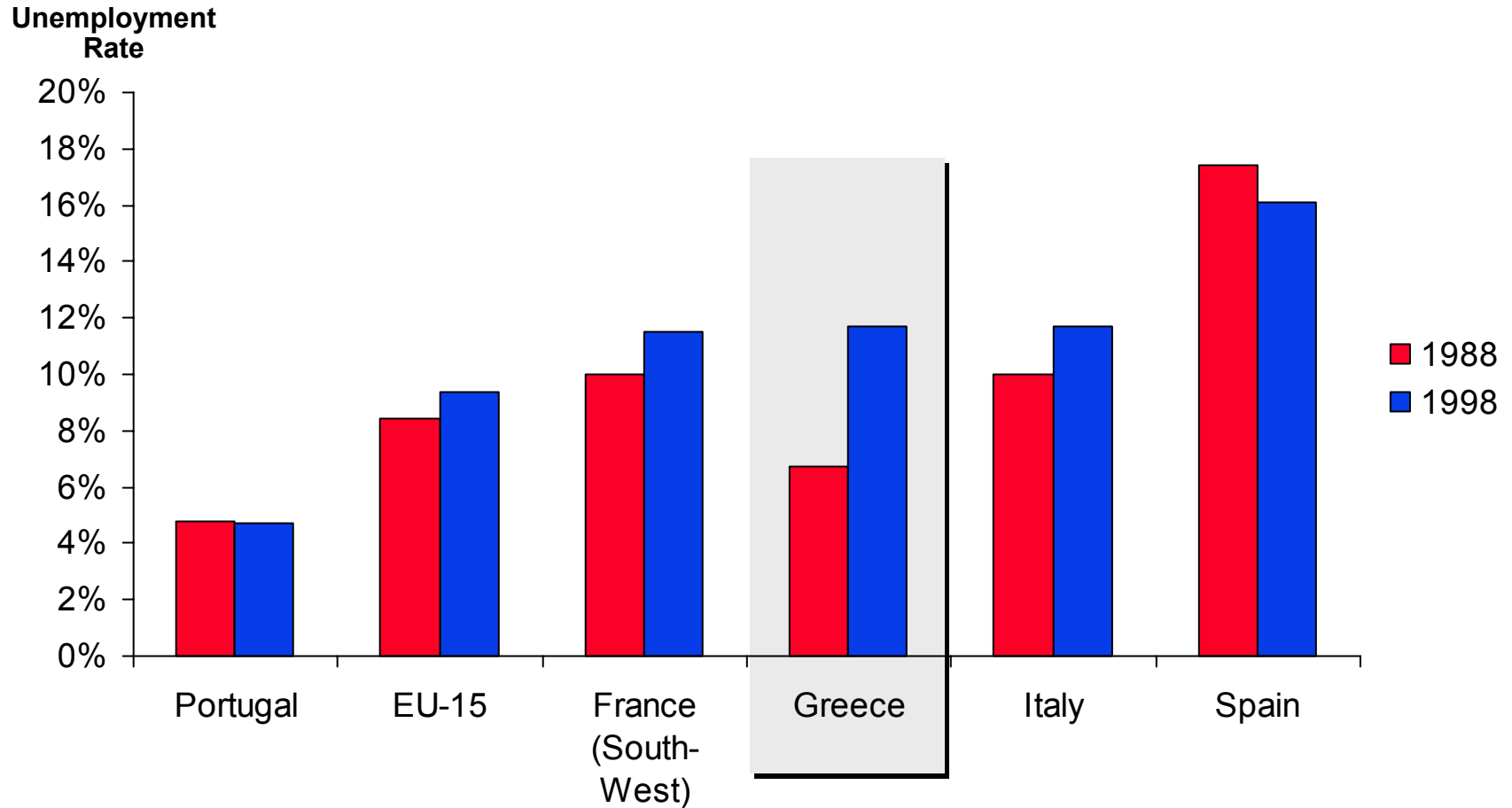
Selected OECD Countries, GDP per Hour worked



Note: Total economy
Source: OECD (2001)

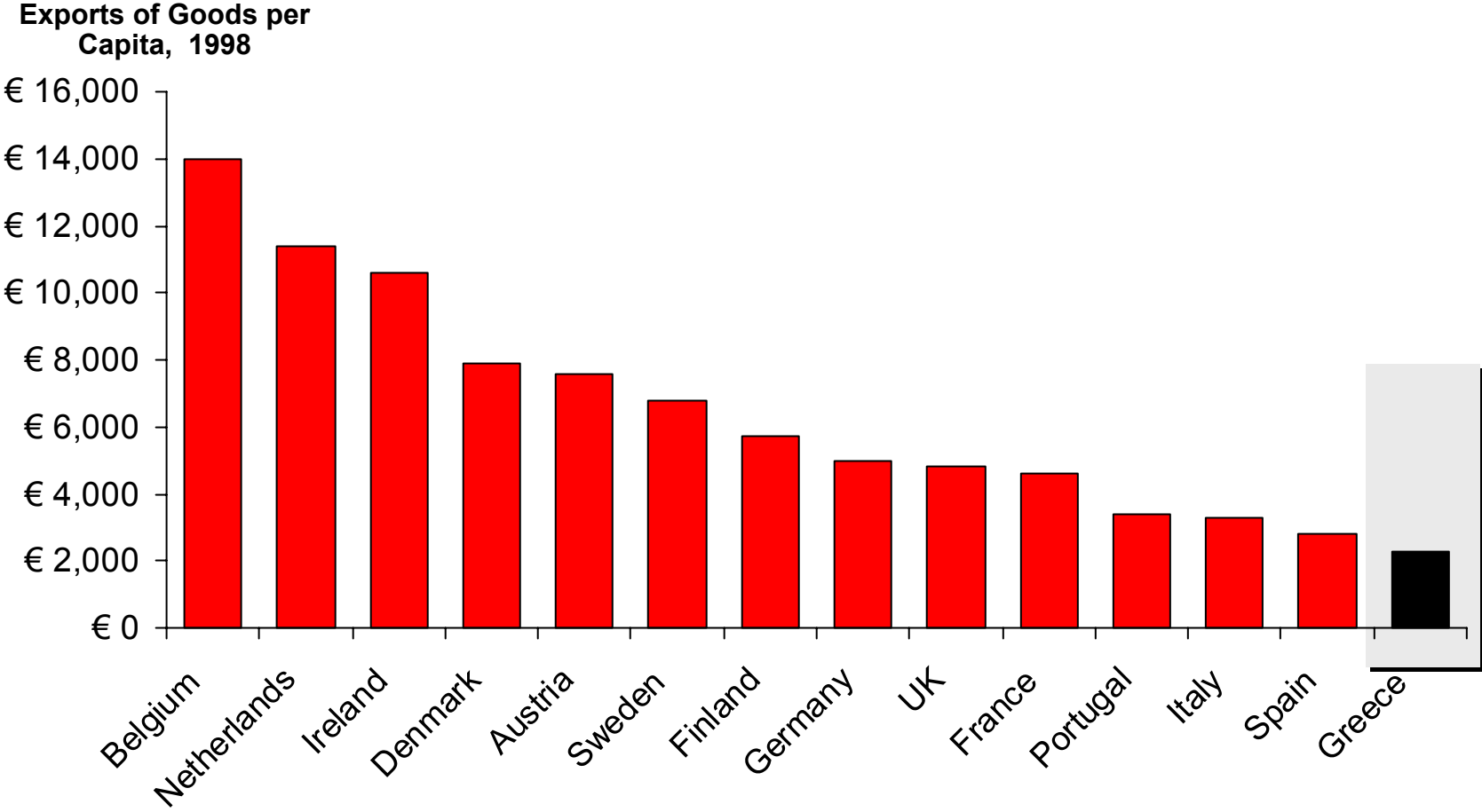
Unemployment Rate

Southern European Countries and Regions



Comparative Goods Export Performance

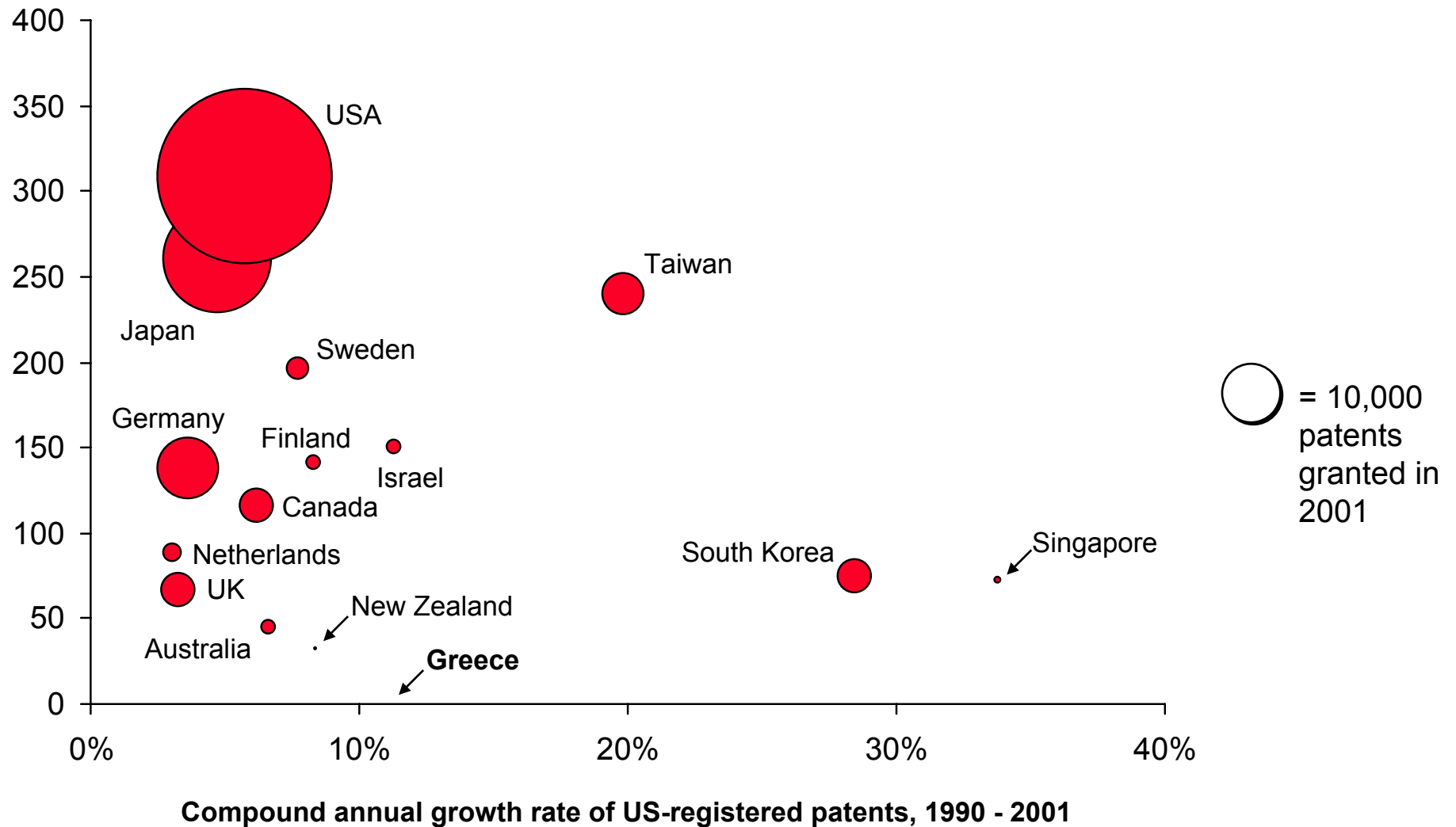
European Countries



Source: Eurostat

International Patenting Output

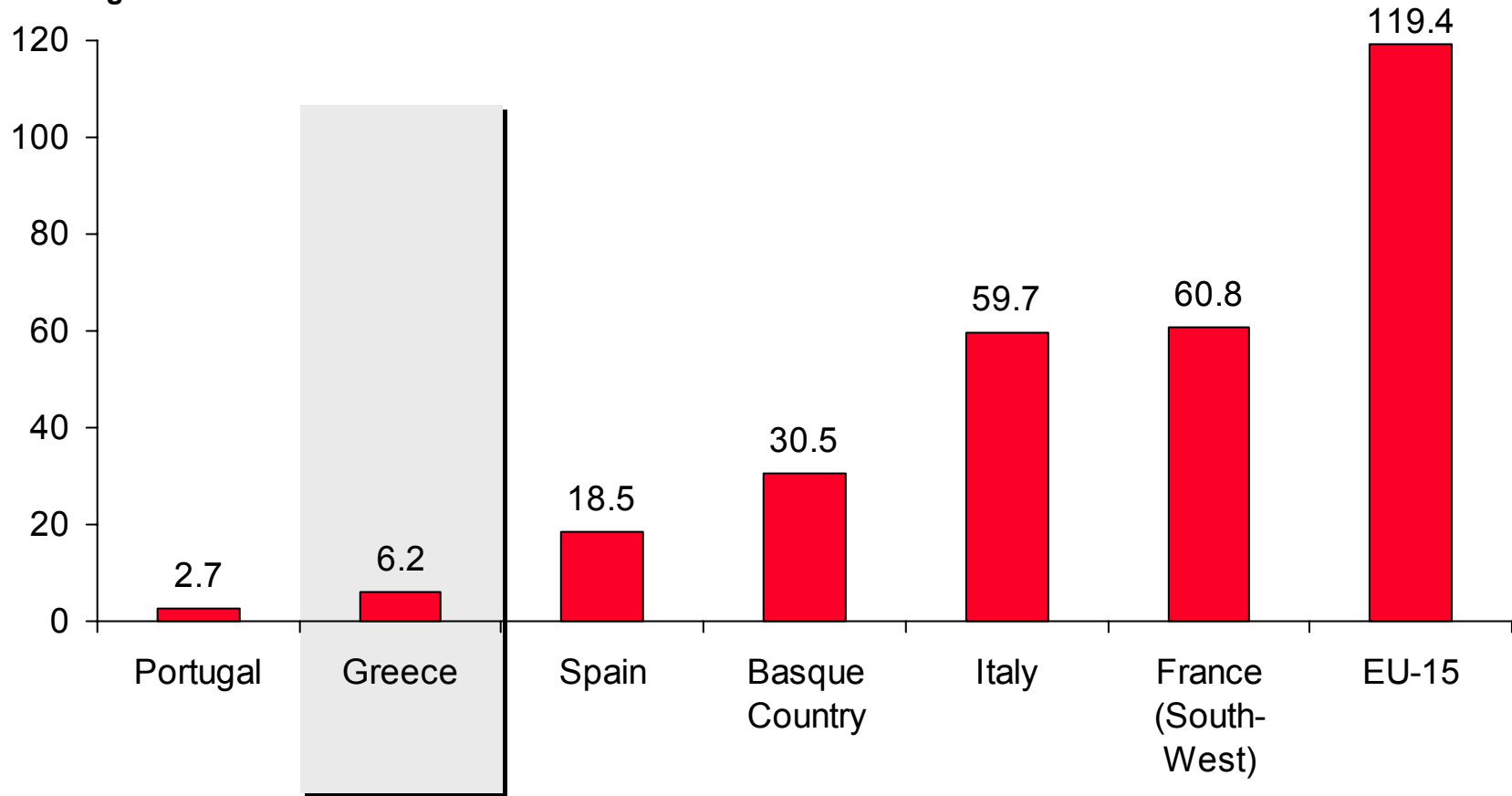
Annual U.S. patents
per 1 million
population, 2001



Innovation Performance

Southern European Countries and Regions

EU Patents per million
population, 1997-99
average



Source: European Commission

Determinants of Productivity and Productivity Growth

**Macroeconomic, Political, Legal, and Social
Context for Development**

Microeconomic Foundations of Development

**Sophistication
of Company
Operations and
Strategy**

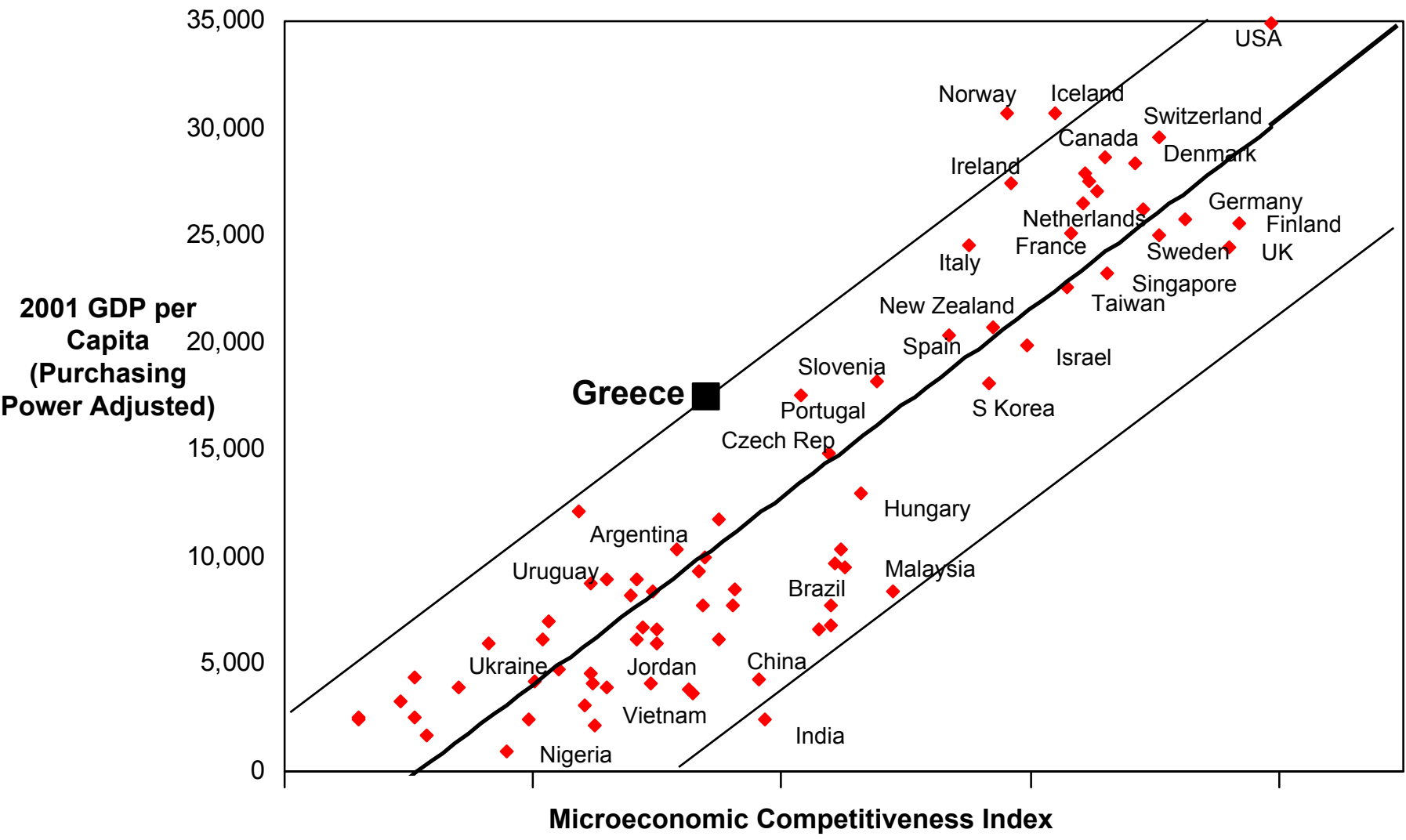


**Quality of the
Microeconomic
Business
Environment**

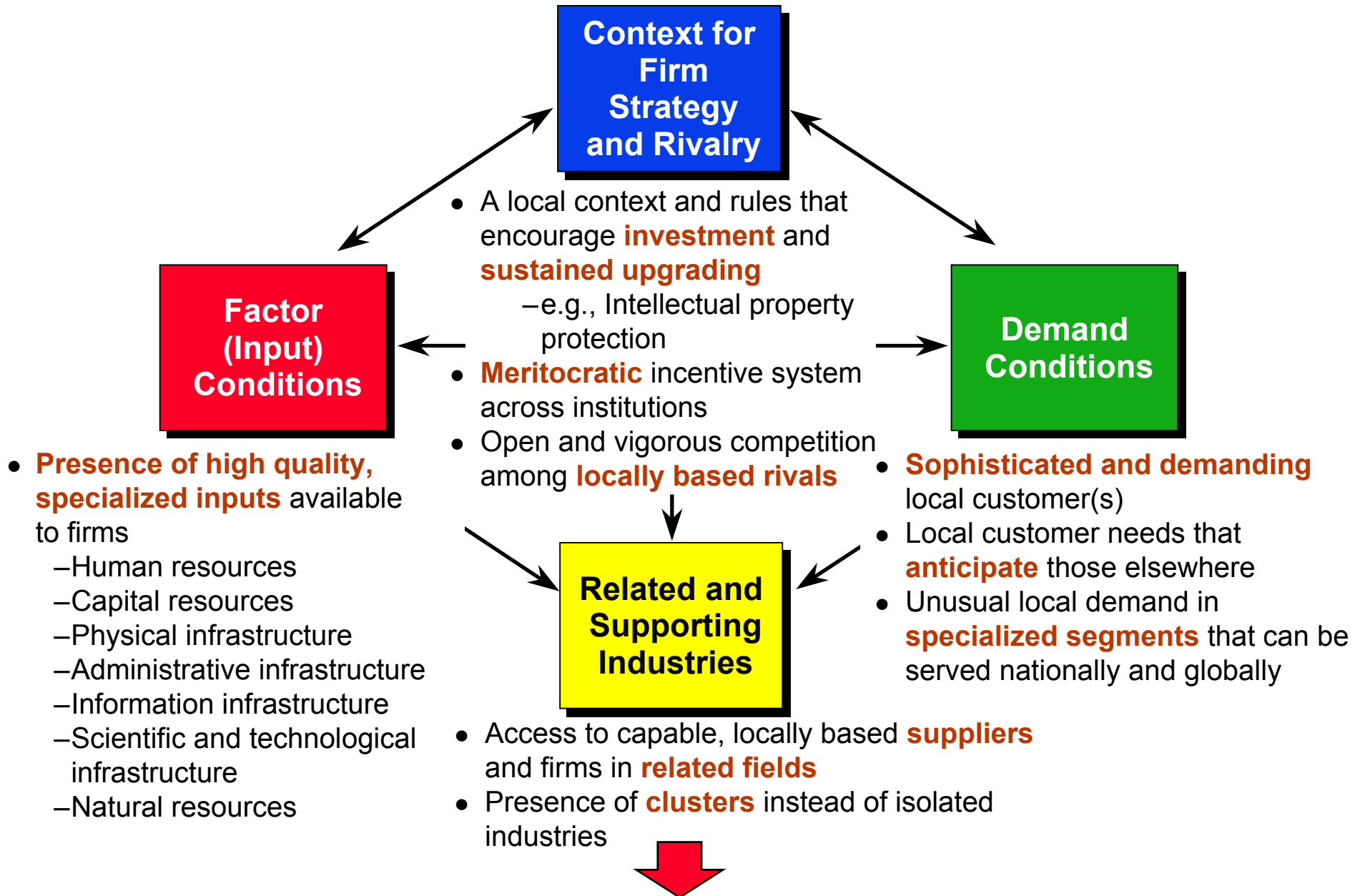
- A sound macroeconomic, political, legal, and social context creates the potential for competitiveness, **but is not sufficient**
- Competitiveness ultimately depends on improving the **microeconomic capability** of the economy and the **sophistication of local companies and local competition**

Global Competitiveness Report 2002

The Relationship Between Microeconomic Competitiveness and GDP Per Capita

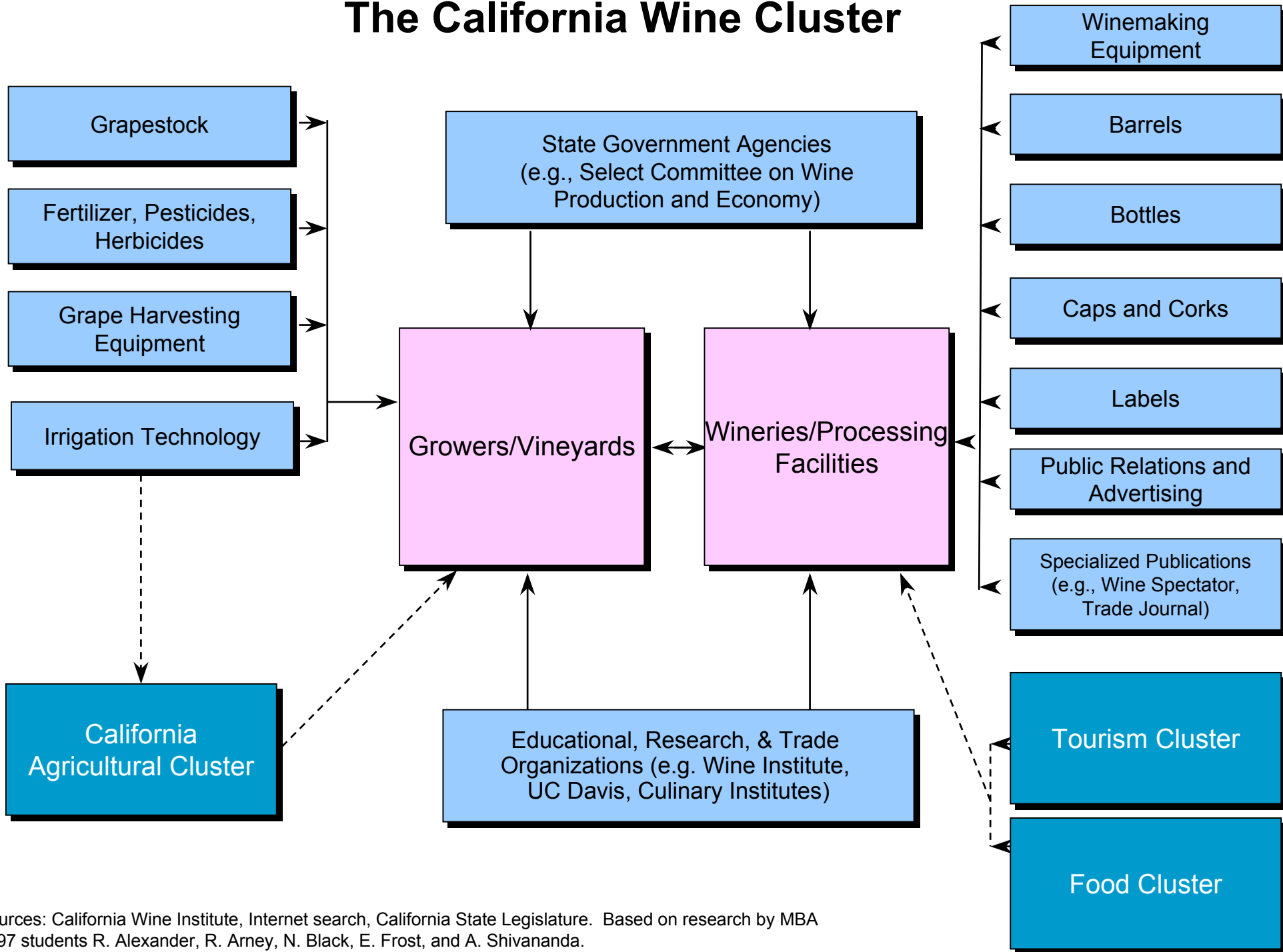


Productivity, Innovation, and the Business Environment



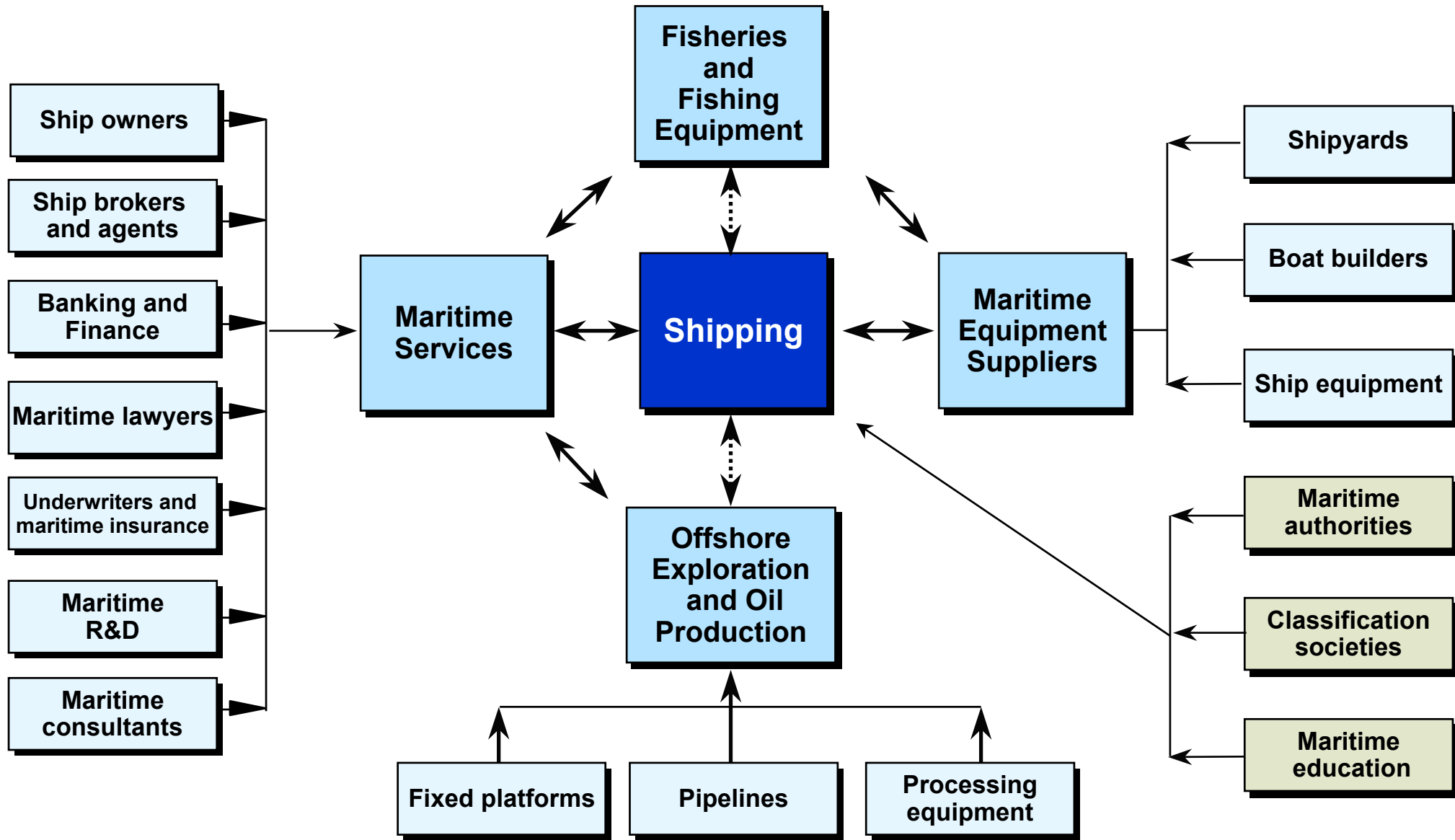
- Successful economic development is a process of **successive economic upgrading**, in which the business environment in a nation evolves to support and encourage increasingly sophisticated ways of competing

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.

The Norwegian Maritime Cluster



Norway has 0.1% of the world's population, represents 1.0% of the world's economy, yet accounts for 10% of world seaborne transportation

Clusters and Competitiveness

Clusters increase productivity and efficiency

- Efficient **access** to specialized inputs, services, employees, information, institutions, and “public goods” (e.g. training programs)
- Ease of **coordination** and transactions across firms
- Rapid **diffusion** of best practices
- Ongoing, visible **performance comparisons** and strong incentives to improve vs. local rivals

Clusters stimulate and enable innovation

- Enhanced ability to **perceive innovation opportunities**
- Presence of multiple suppliers and institutions to assist in **knowledge creation**
- Ease of **experimentation** given locally available resources

Clusters facilitate commercialization

- Opportunities for **new companies** and **new lines of established business** are more apparent
- **Commercializing** new products and starting new companies is easier because of available skills, suppliers, etc.



Clusters reflect the fundamental influence of **externalities / linkages** across firms and associated institutions in competition

Levels of Clusters

- There is often an **array of clusters** in a given field in different locations, each with different levels of specialization and sophistication
- Global **innovation centers**, such as Silicon Valley in semiconductors, are few in number. If there are multiple innovation centers, they normally **specialize** in different market segments
- Other clusters focus on **manufacturing**, outsourced **service functions**, or play the role of **regional** assembly or service centers
- Firms based in the most advanced clusters often **seed or enhance clusters** in other locations in order to reduce the risk of a single site, access lower cost inputs, or better serve particular regional markets
- The challenge for an economy is to move from **isolated firms** to an array of **clusters**, and then to **upgrade the breadth and sophistication** of clusters to more advanced activities

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

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 level 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**

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

Stages Of Competitive Development



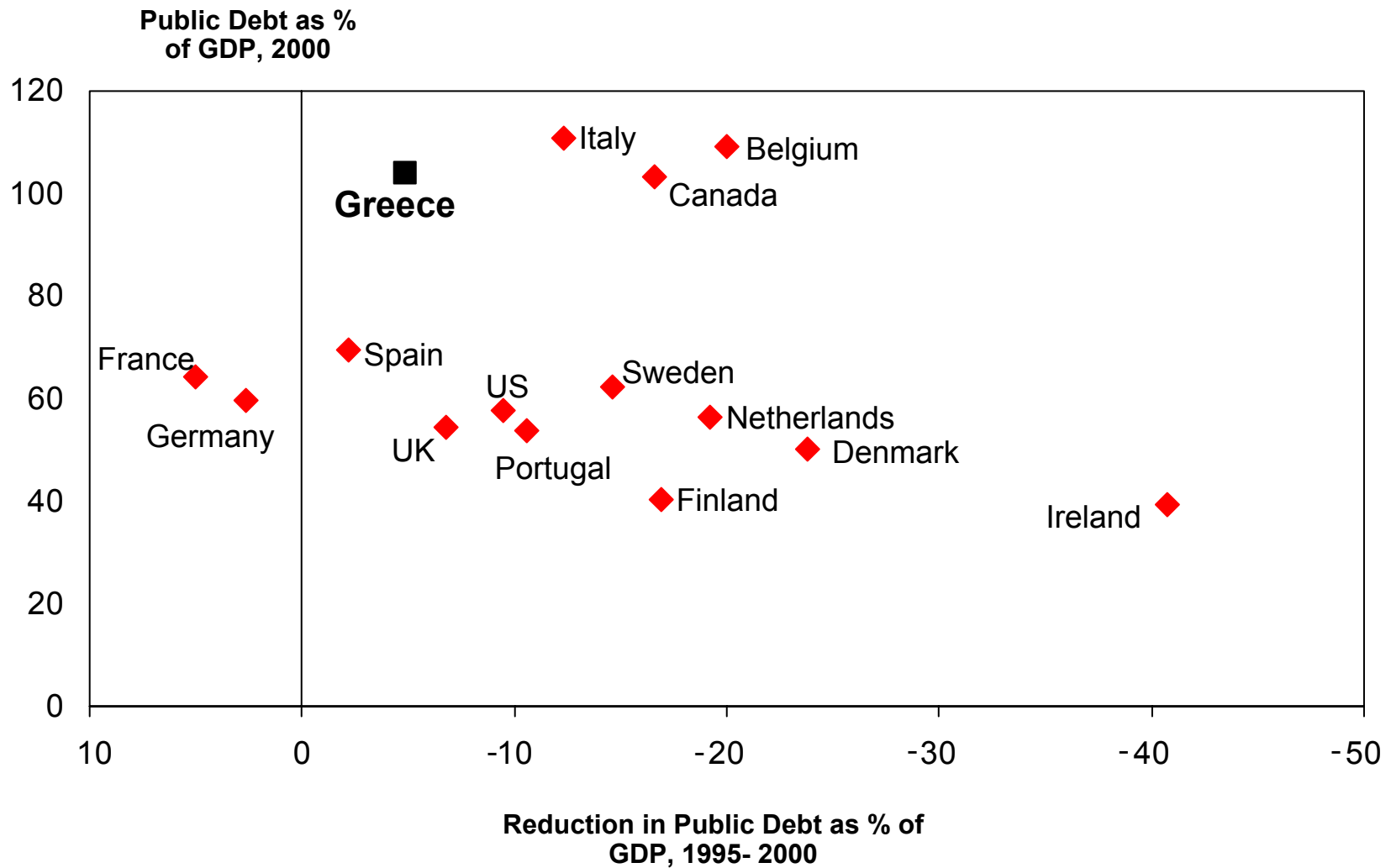
Source: Porter, Michael E., *The Competitive Advantage of Nations*,
The Free Press: New York (1990)

Greece's Competitiveness Agenda 2003

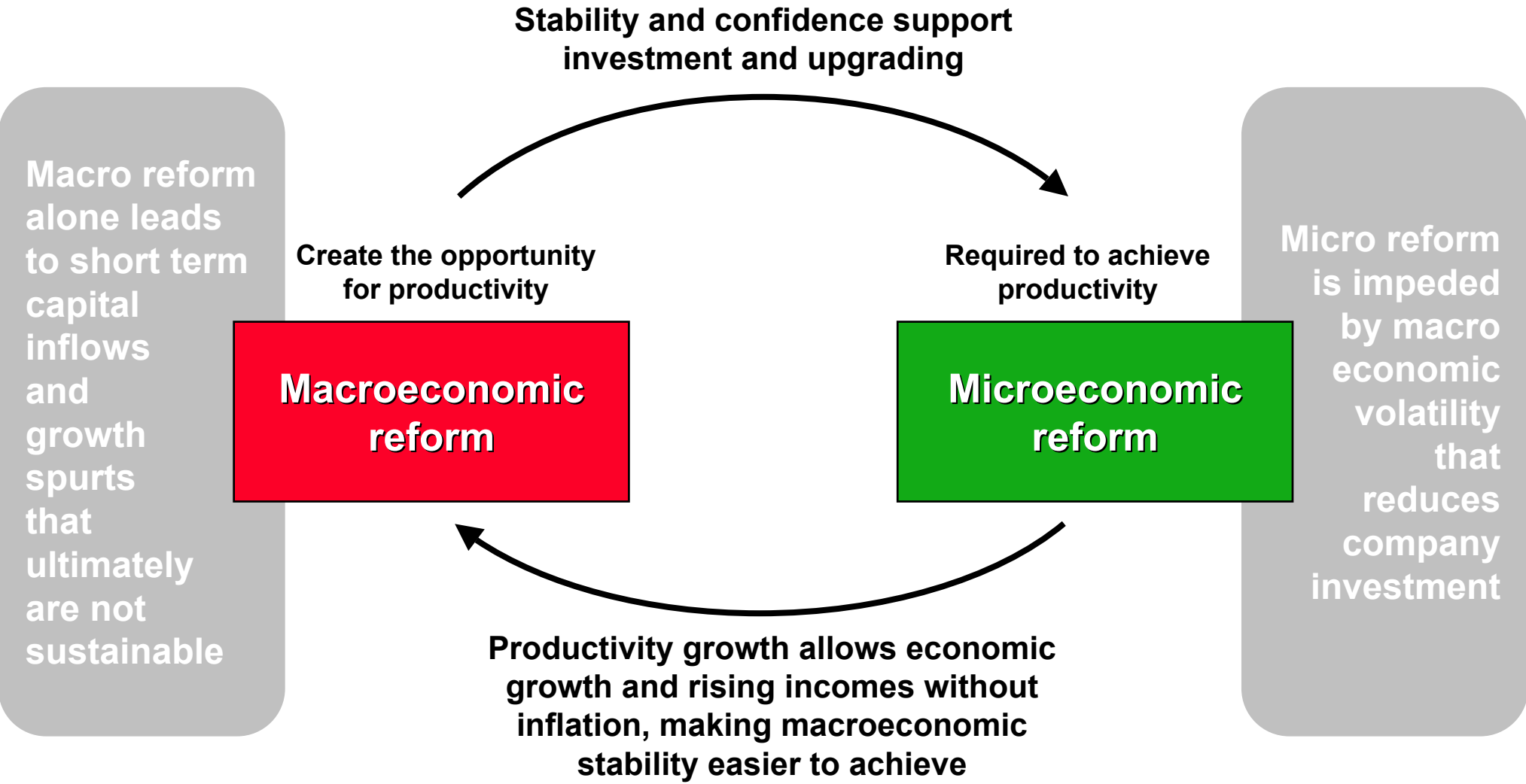
- **Continue the macroeconomic progress**
 - Upgrade the business environment
 - Foster cluster development
 - Create a regional strategy for Southeast Europe
 - Shift the roles of government and business in economic development

Macroeconomic Consolidation

Public Debt, Selected Countries



Integration of Macro- and Microeconomic Reforms



Greece's Competitiveness Agenda 2003

- Continue the macroeconomic progress
- **Upgrade the business environment**
- Foster cluster development
- Create a regional strategy for Southeast Europe
- Shift the roles of government and business in economic development

Factor (Input) Conditions

Greece's Relative Position

Competitive Advantages Relative to GDP per Capita

Country Ranking, Arrows
indicate a change of 5 or more
ranks since 1998

Availability of Scientists and Engineers	21
Ease of Access to Loans	31
University/Industry Research Collaboration	34 ↑
Judicial Independence	36 ↑
Local Equity Market Access	36 ↑
Telephone/Fax Infrastructure Quality	38 ↑
Venture Capital Availability	38 ↑
Financial Market Sophistication	40 ↑
Extent of Bureaucratic Red Tape	41
Intellectual Property Protection	41

Competitive Disadvantages Relative to GDP per Capita

Country Ranking, Arrows
indicate a change of 5 or more
ranks since 1998

Quality of Management Schools	62
Administrative Burden for Start-Ups	61
Quality of Public Schools	52
Quality of Scientific Research Institutions	51 ↑
Electricity Supply Quality	49
Overall Infrastructure Quality	48 ↑
Port Infrastructure Quality	48 ↓
Railroad Infrastructure Quality	48 ↑
Police Protection of Businesses	47
Adequacy of Public Sector Legal Recourse	43
Air Transport Infrastructure Quality	43 ↑
Quality of Math and Science Education	42

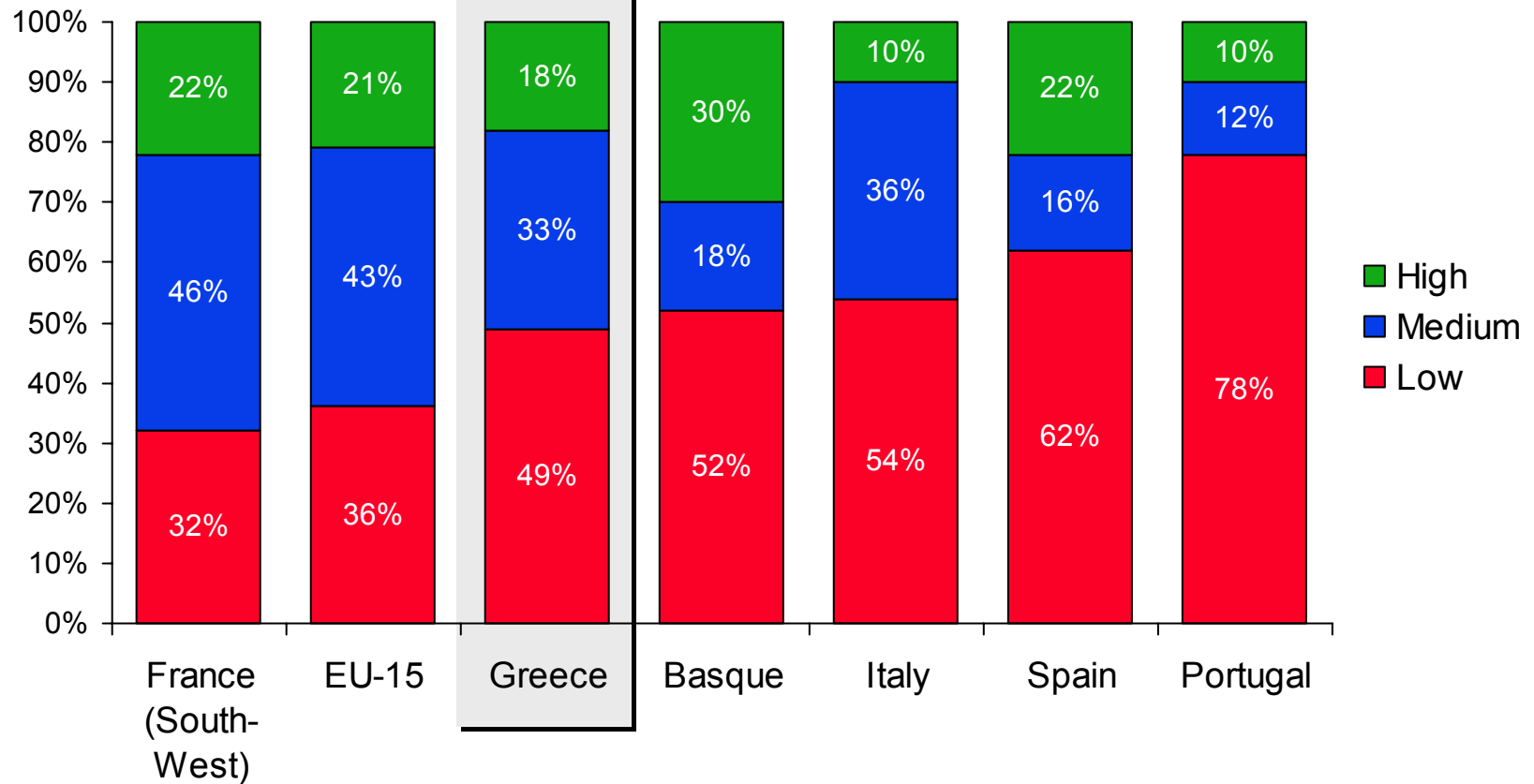
Note: Rank by countries; overall Greece ranks 43 out of 80 countries (41 on National Business Environment, 28 on GDP pc 2001)

Source: Global Competitiveness Report 2002

Educational Attainment

Southern European Countries and Regions

Share of 25-59 year old by level of educational attainment



U.S. Patenting by Greek Institutions

	Organization	U.S. Patents Issued from 1996 to 2001
1	INNOVAL MANAGEMENT LIMITED	6
2	INSTITUTE FOR MOLECULAR BIOLOGY & BIOTECHNOLOGY/FORTH	5

Note: Shading indicates universities, research institutions, and other government agencies

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

Patents by Organization

Commonwealth of Massachusetts

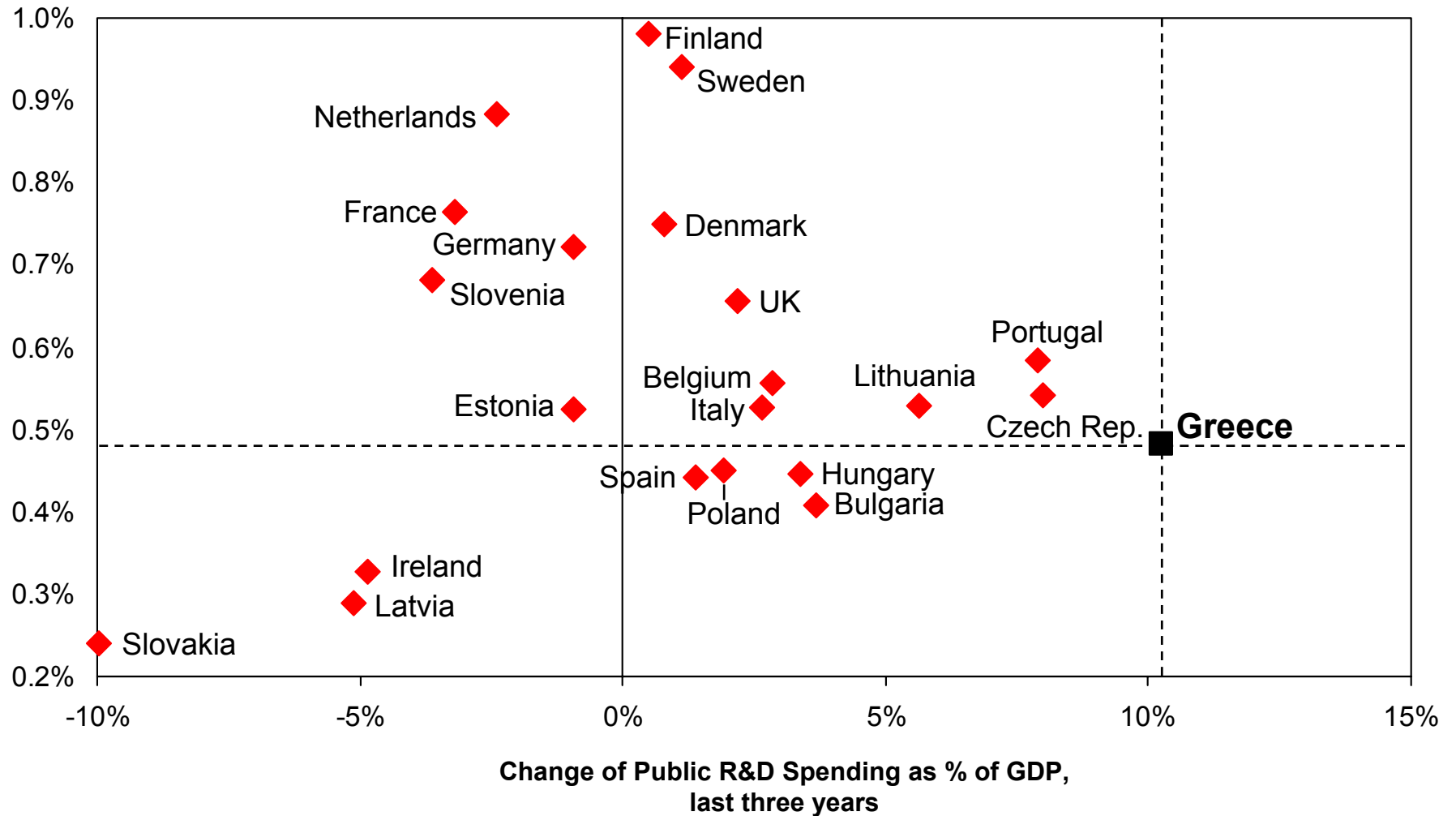
	Organization	Patents Issued from 1997 to 2001
1	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	518
2	GENERAL HOSPITAL CORPORATION	296
3	EMC CORPORATION	269
4	DIGITAL EQUIPMENT CORPORATION	261
5	POLAROID CORPORATION	213
6	ANALOG DEVICES, INC.	167
7	MILLENNIUM PHARMACEUTICALS, INC.	165
8	HARVARD UNIVERSITY	150
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	90
23	JOHNSON & JOHNSON PROFESSIONAL INC.	90
24	BOSTON UNIVERSITY	84
25	SEPRACOR INC.	84

Note: Shading indicates universities, research institutions, and other government agencies

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

Government R&D Spending Selected European Countries

Public R&D Spending as % of GDP, 2001 (or last available)



Context for Firm Strategy and Rivalry

Greece's Relative Position

Competitive Advantages Relative to GDP per Capita

Country Ranking, Arrows
indicate a change of 5 or more
ranks since 1998

Tariff Liberalization	8	↑
Costs of Other Firms' Illegal/ Unfair Activities	31	
Hidden Trade Barrier Liberalization	31	↑
Effectiveness of Anti-Trust Policy	40	↑
Intensity of Local Competition	41	↓

Competitive Disadvantages Relative to GDP per Capita

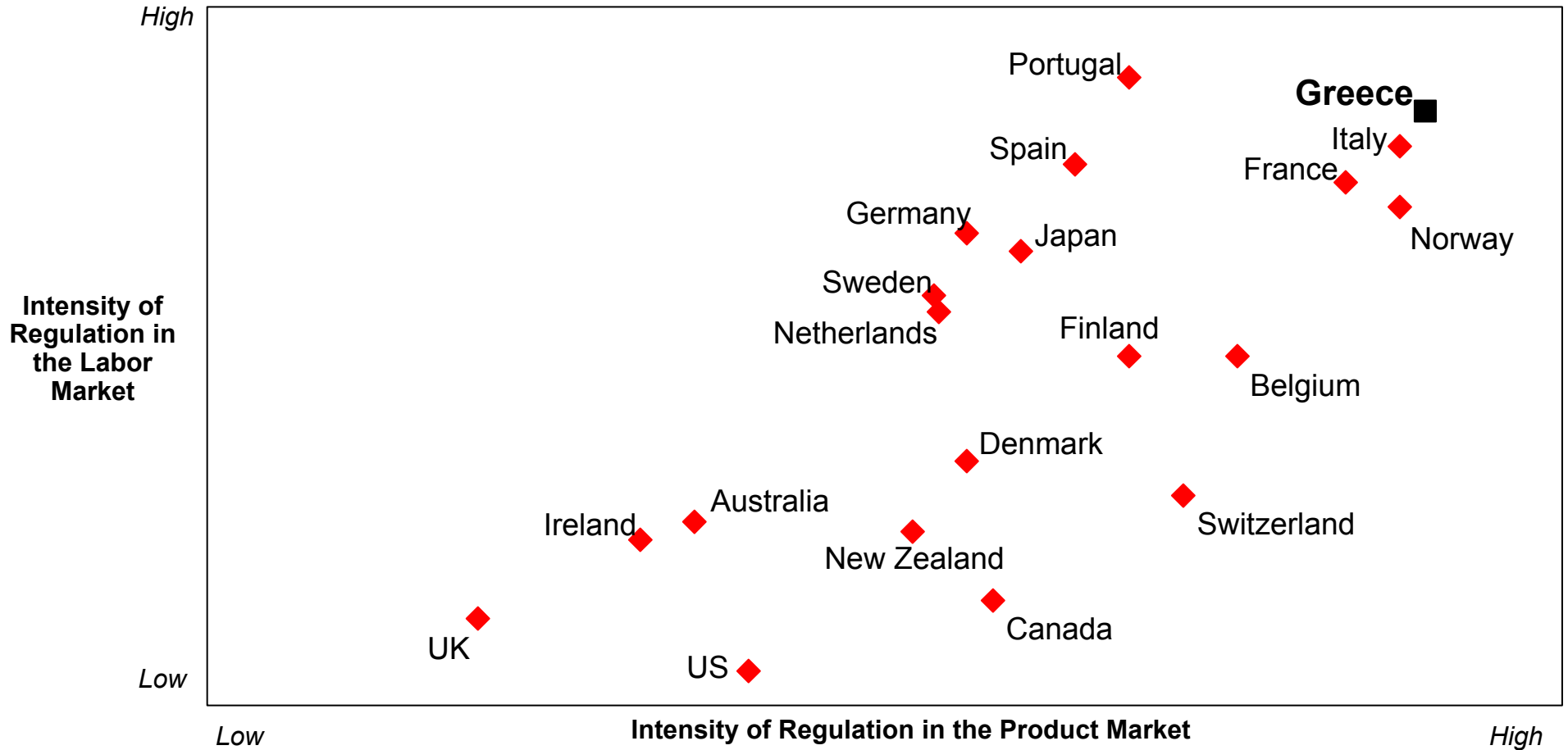
Country Ranking, Arrows
indicate a change of 5 or more
ranks since 1998

Efficacy of Corporate Boards	76	↓
Cooperation in Labor-Employer Relations	56	
Extent of Distortive Government Subsidies	50	↑
Favoritism in Decisions of Government Officials	50	↑
Decentralization of Corporate Activity	43	
Extent of Locally Based Competitors	42	

Note: Rank by countries; overall Greece ranks 43 out of 80 countries (41 on National Business Environment, 28 on GDP pc 2001)
Source: Global Competitiveness Report 2002

Regulation of Product and Labor Markets

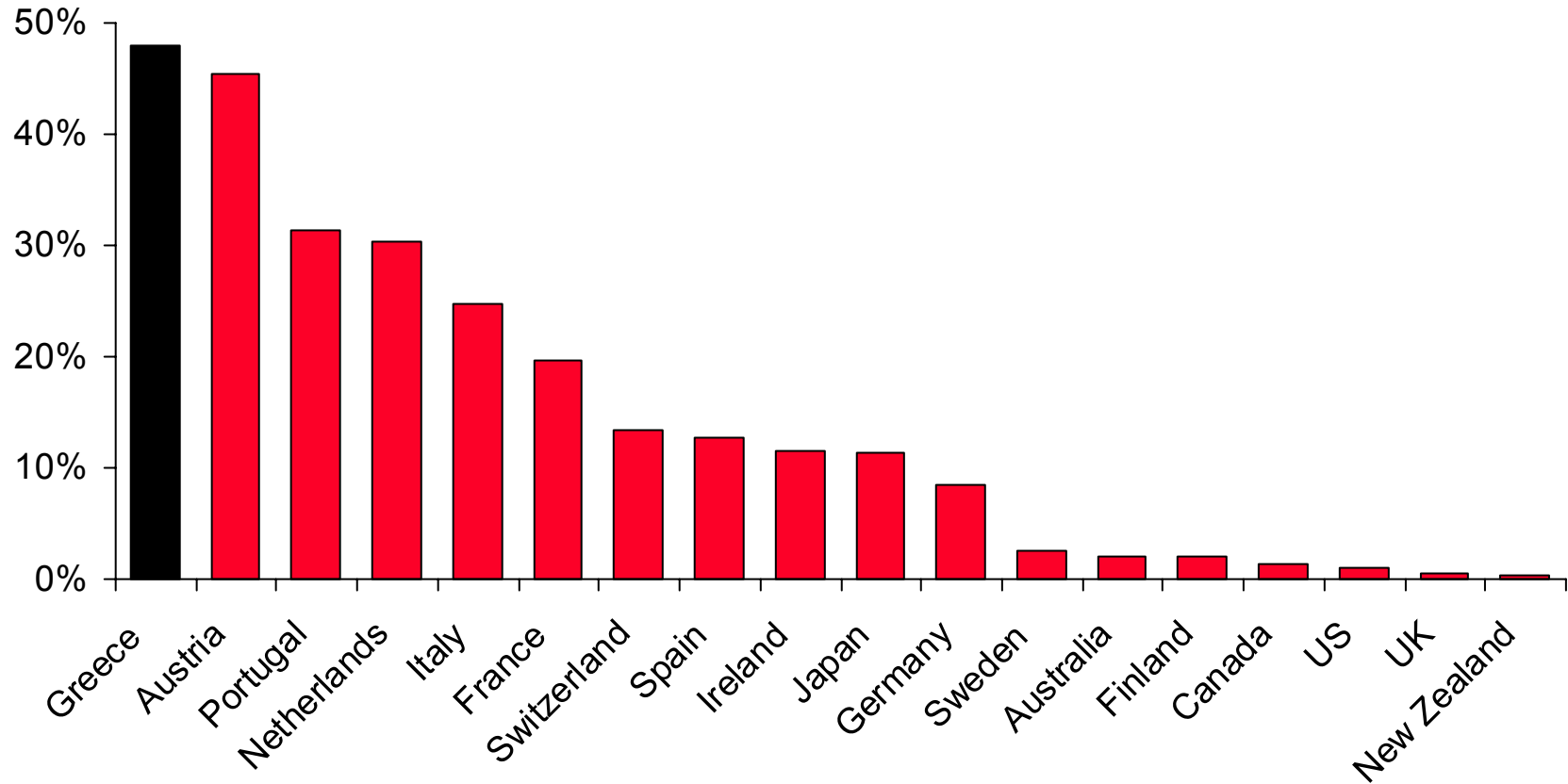
Selected OECD Countries



Ease of Business Formation

Selected OECD Countries

Cost of Business Formation
relative to GDP per capita




Demand Conditions Greece's Relative Position

Competitive Advantages Relative to GDP per Capita

Country Ranking, Arrows
indicate a change of 5 or more
ranks since 1998

Buyer Sophistication

37 

Competitive Disadvantages Relative to GDP per Capita

Country Ranking, Arrows
indicate a change of 5 or more
ranks since 1998

Laws Relating to Information Technology 67

Government Procurement of Advanced
Technology Products 56

Consumer Adoption of Latest Products 52

Stringency of Environmental Regulations 50

Note: Rank by countries; overall Greece ranks 43 out of 80 countries (41 on National Business Environment, 28 on GDP pc 2001)

Source: Global Competitiveness Report 2002

Related and Supporting Industries

Greece's Relative Position

Competitive Advantages Relative to GDP per Capita

Country Ranking, Arrows
indicate a change of 5 or more
ranks since 1998

Competitive Disadvantages Relative to GDP per Capita

Country Ranking, Arrows
indicate a change of 5 or more
ranks since 1998


State of Cluster Development	67
Extent of Product and Process Collaboration	65
Local Availability of Components and Parts	60
Local Availability of Specialized Research and Training Services	57
Local Availability of Process Machinery	54
Local Supplier Quality	49
Local Supplier Quantity	47↓

Company Operations and Strategy

Greece's Relative Position 2002


Competitive Advantages Relative to GDP per Capita

Country Ranking, Arrows
indicate a change of 5 or more
ranks since 1998

Extent of Marketing	30
Control of International Distribution	38 
Value Chain Presence	40
Production Process Sophistication	42

Competitive Disadvantages Relative to GDP per Capita

Country Ranking, Arrows
indicate a change of 5 or more
ranks since 1998

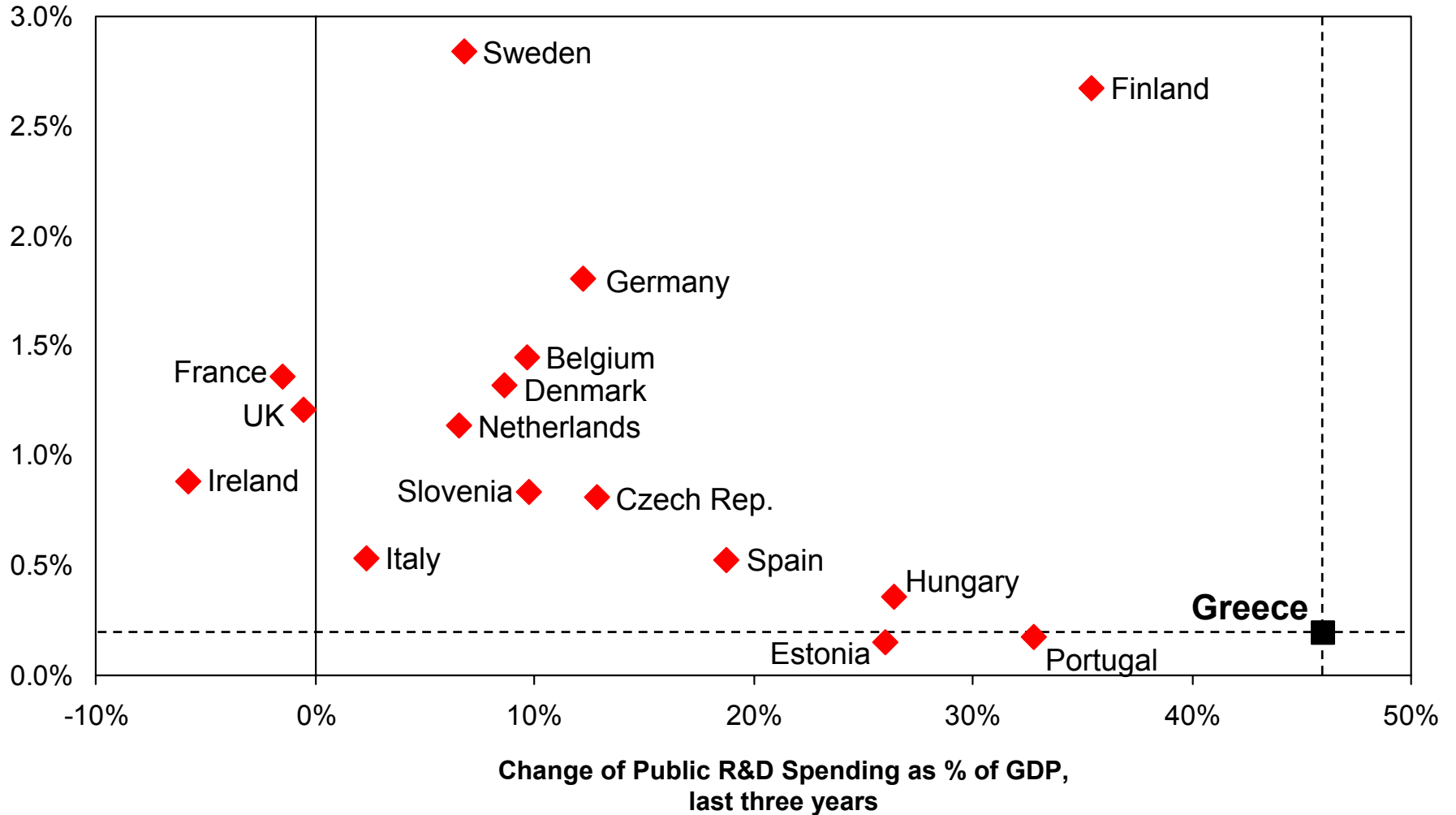
Reliance on Professional Management	67
Willingness to Delegate Authority	63
Capacity for Innovation	57
Extent of Staff Training	57
Company Spending on R&D	56
Breadth of International Markets	47 
Extent of Branding	47
Extent of Incentive Compensation	47
Degree of Customer Orientation	44

Note: Rank by countries; overall the Greece ranks 43 out of 80 countries (47 on Company Operations and Strategy, 28 on GDP pc 2001)

Source: Global Competitiveness Report 2002

Private R&D Spending Selected European Countries

Public R&D Spending as % of
GDP, 2001 (or last available)



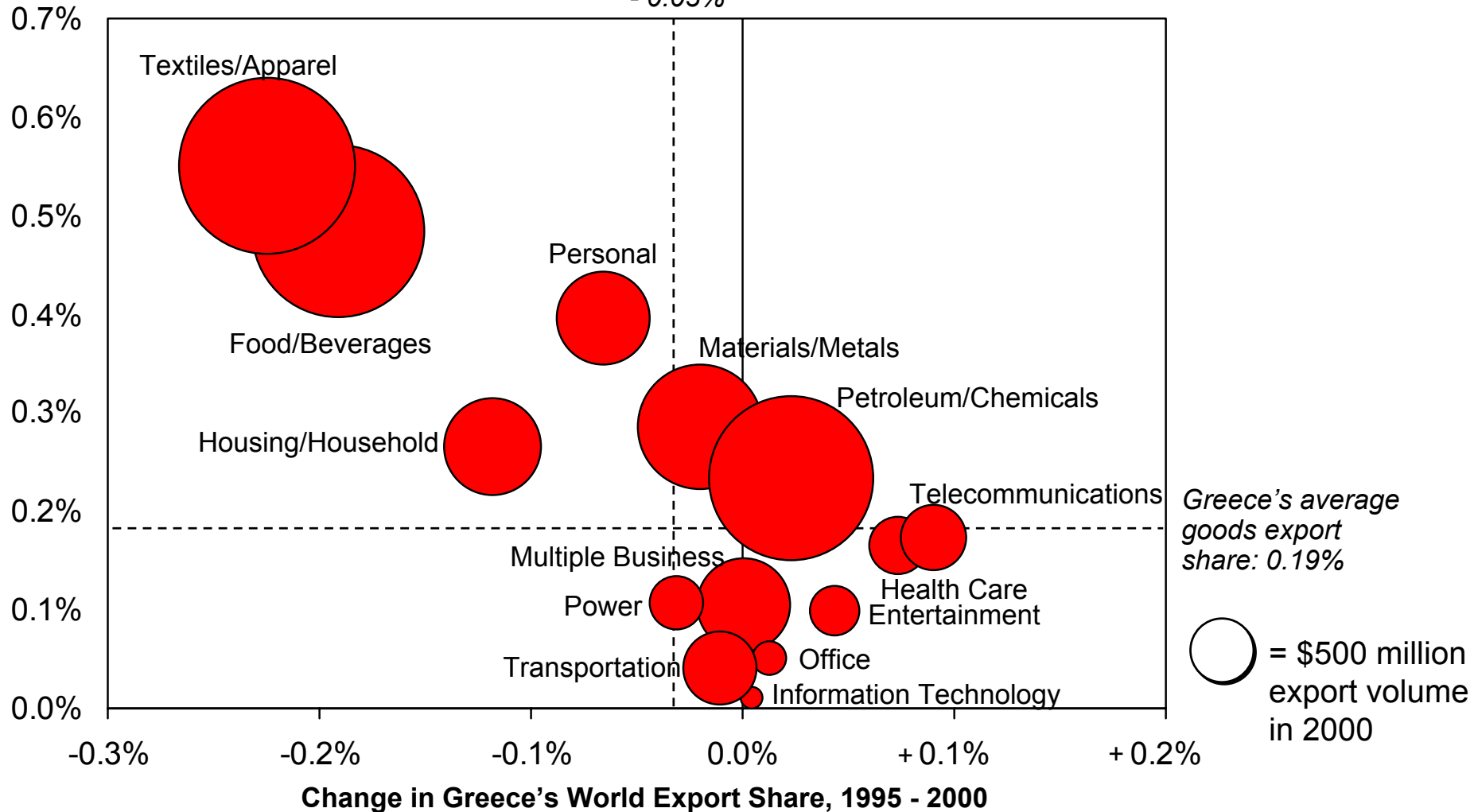
Greece's Competitiveness Agenda 2003

- Continue the macroeconomic progress
- Upgrade the business environment
- **Foster cluster development**
- Create a regional strategy for Southeast Europe
- Shift the roles of government and business in economic development

Greek Export Performance By Broad Sector 1995-2000

World Export Share,
2000

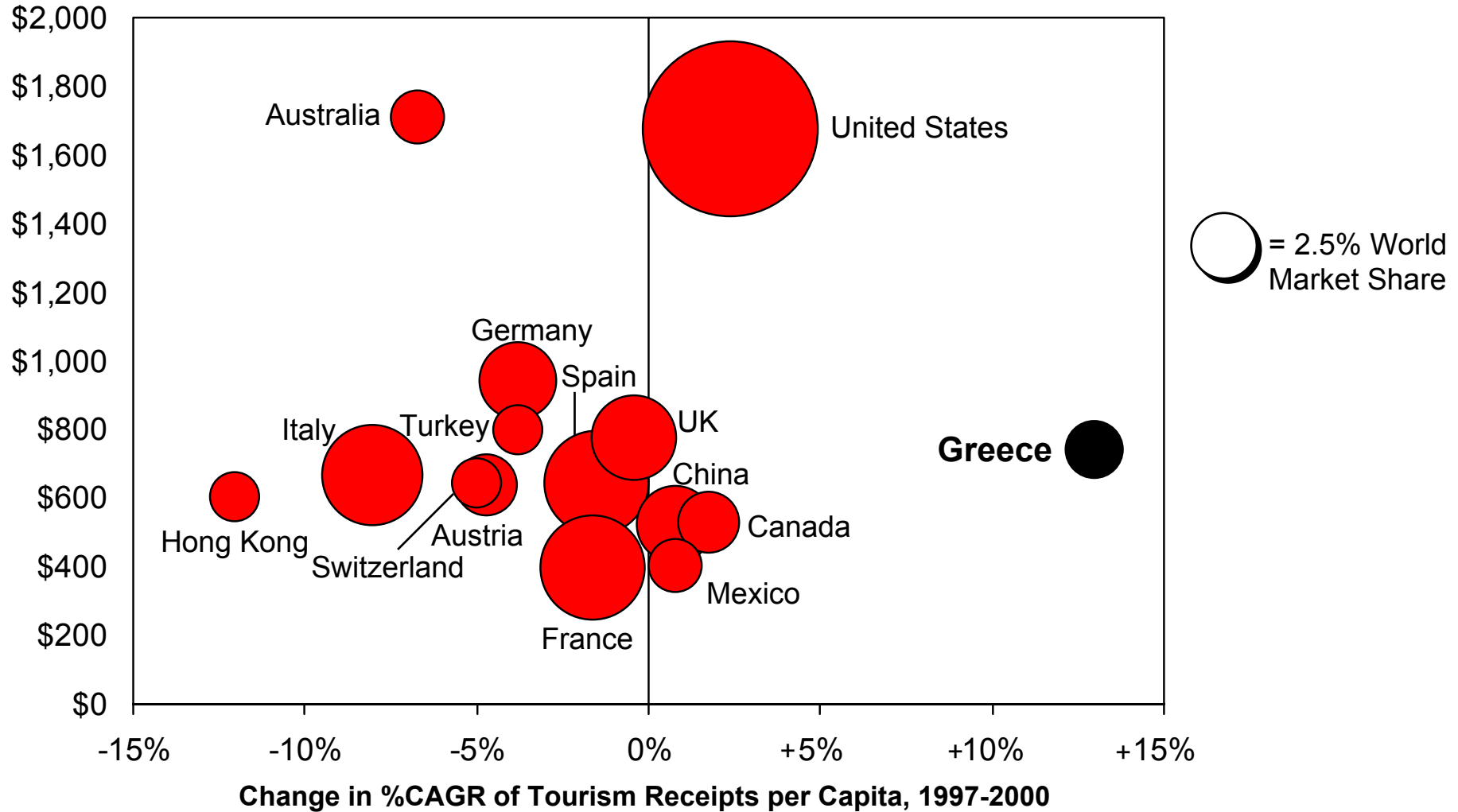
Greece's average change in
world goods export share:
- 0.03%



- Greece is **losing position** in some of its largest export clusters

Tourism Cluster Performance

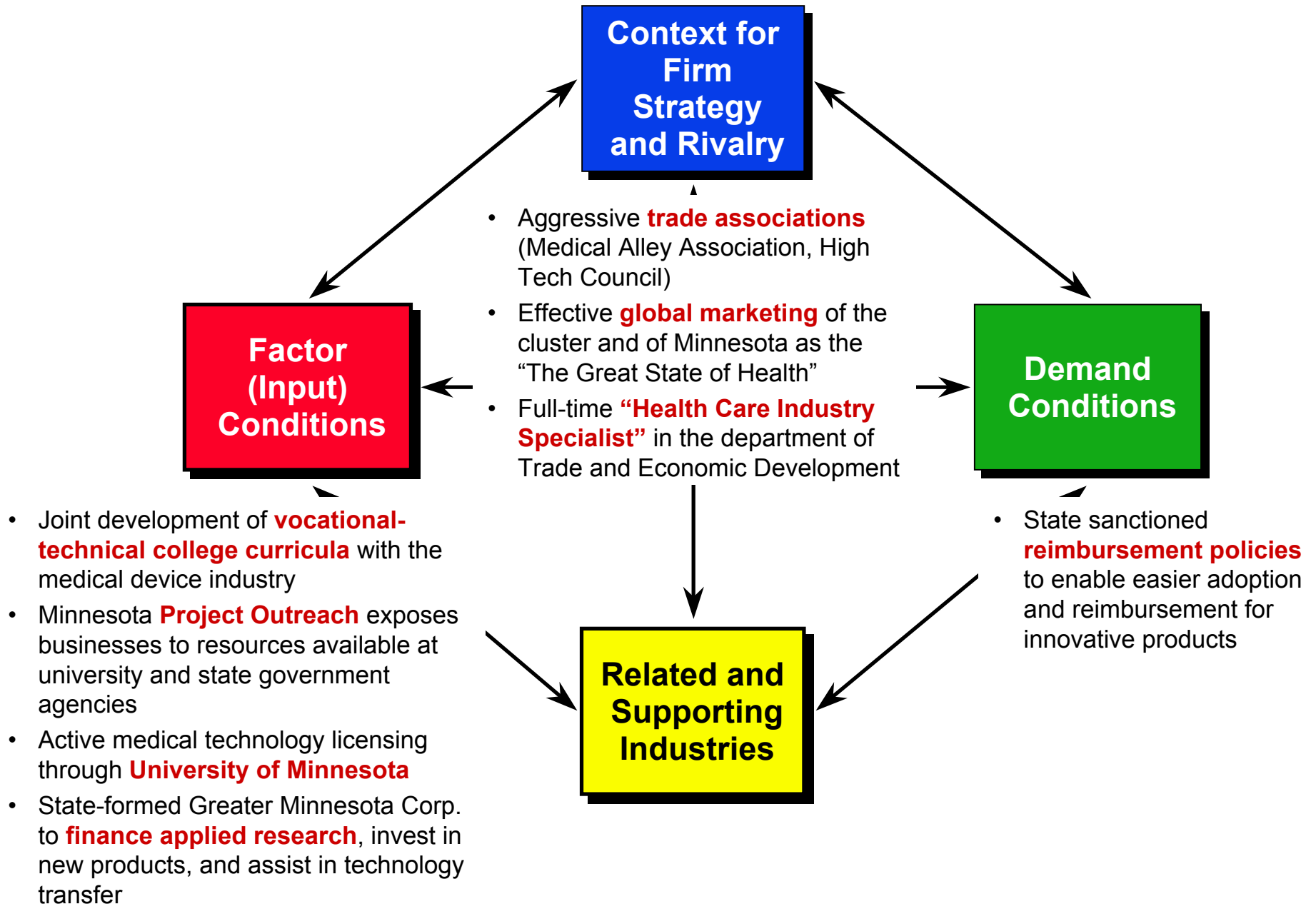
Tourism Receipts per Capita, 2000



- Greece has a strong tourism cluster that **increased revenues** per tourists in the last few years

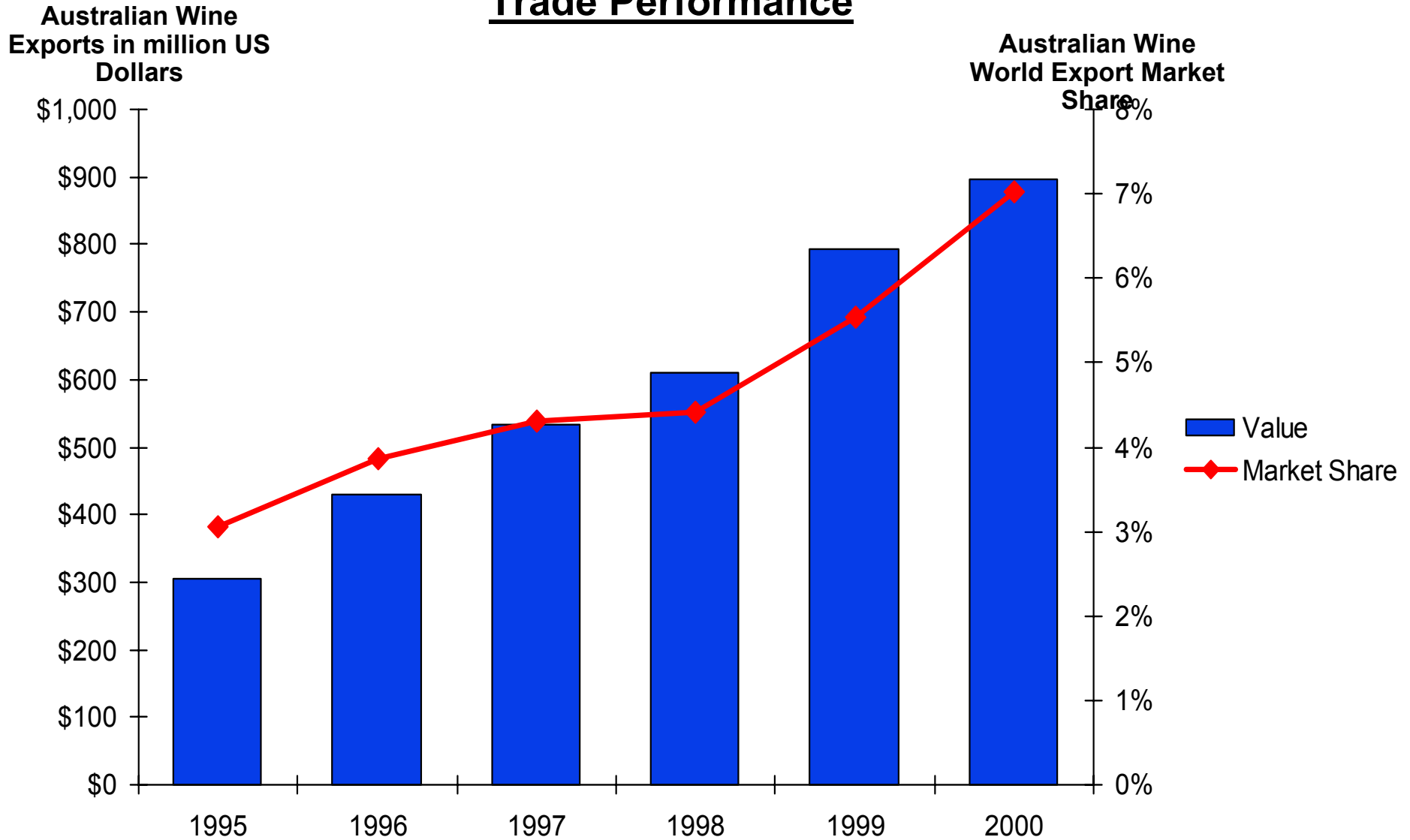
Public / Private Cooperation in Cluster Upgrading

Minnesota's Medical Device Cluster



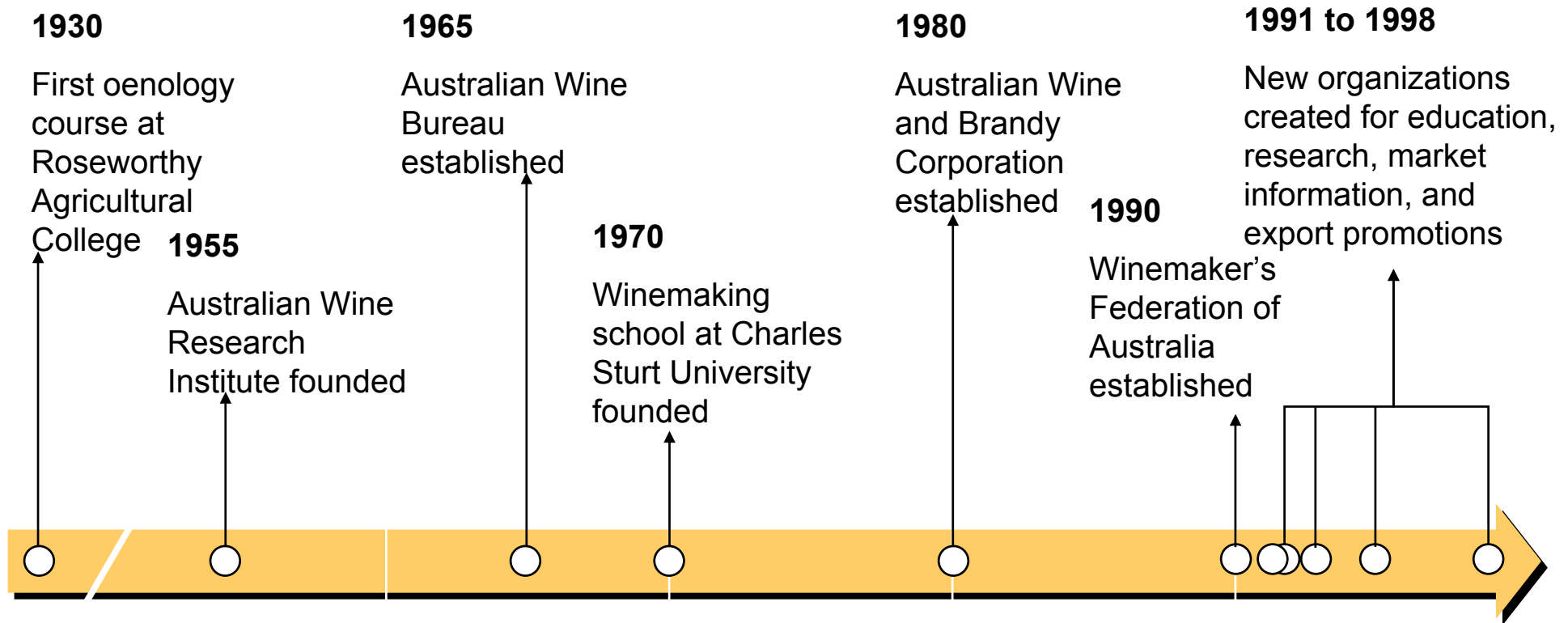
The Australian Wine Cluster

Trade Performance



Source: UN Trade Statistics

The Australian Wine Cluster History



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

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

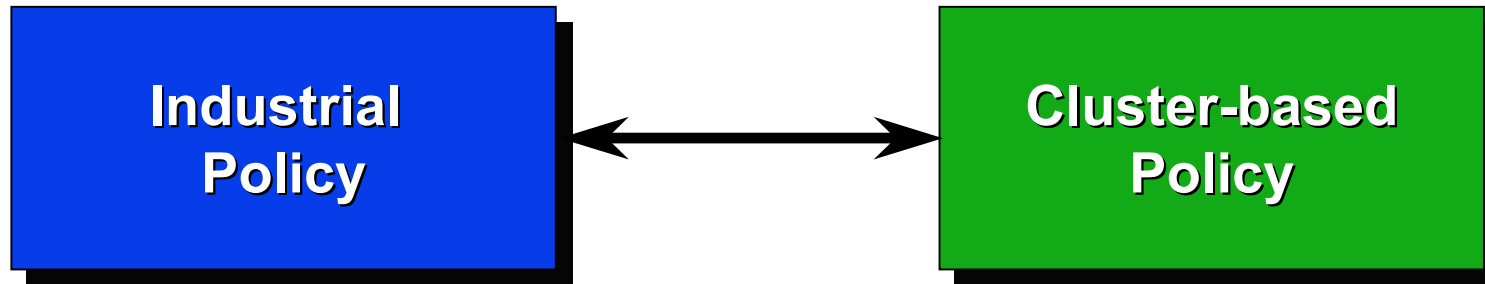
Wine Industry National Education and Training Council

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

Appropriate Roles of Government in Cluster Development

- A successful cluster policy builds on **sound overall economic policies**
- Government should support the development of **all clusters**, not choose among them
- Government policy should **reinforce established and emerging clusters** rather than attempt to create entirely new ones
- Government's role in cluster initiatives is as **facilitator** and **participant**. The most successful cluster initiatives are a public-private partnership

Cluster Policy versus Industrial Policy



- Target desirable industries / sectors
- Focus on domestic companies
- Intervene in competition (e.g., protection, industry promotion, subsidies)
- Centralizes decisions at the national level



Distort competition

- **All** clusters can contribute to prosperity
- Domestic and foreign companies both enhance productivity
- Relax impediments and constraints to productivity
- Emphasize cross-industry linkages / complementarities
- Encourage initiative at the state and local level



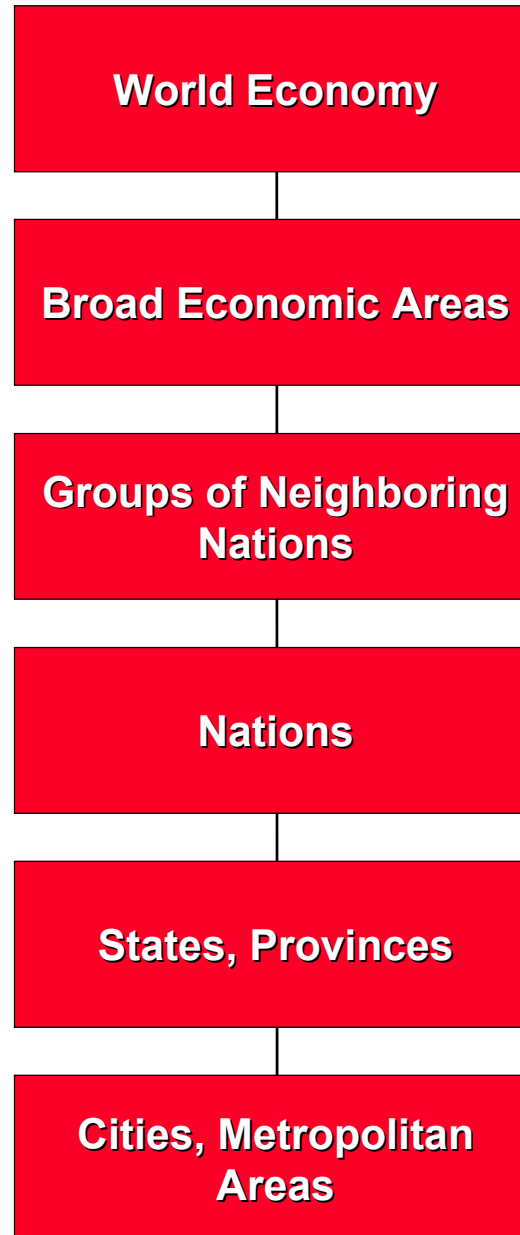
Enhance competition

Greece's Competitiveness Agenda 2003

- Continue the macroeconomic progress
- Upgrade the business environment
- Foster cluster development
- **Create a regional strategy for Southeast Europe**
- Shift the roles of government and business in economic development

Influences on Competitiveness

Multiple Geographic Levels



Cross-National Regions and Economic Strategy

Traditional Views

- Regions as **free trade zones**; regions as **economic unions** (e.g., United States, European Union)

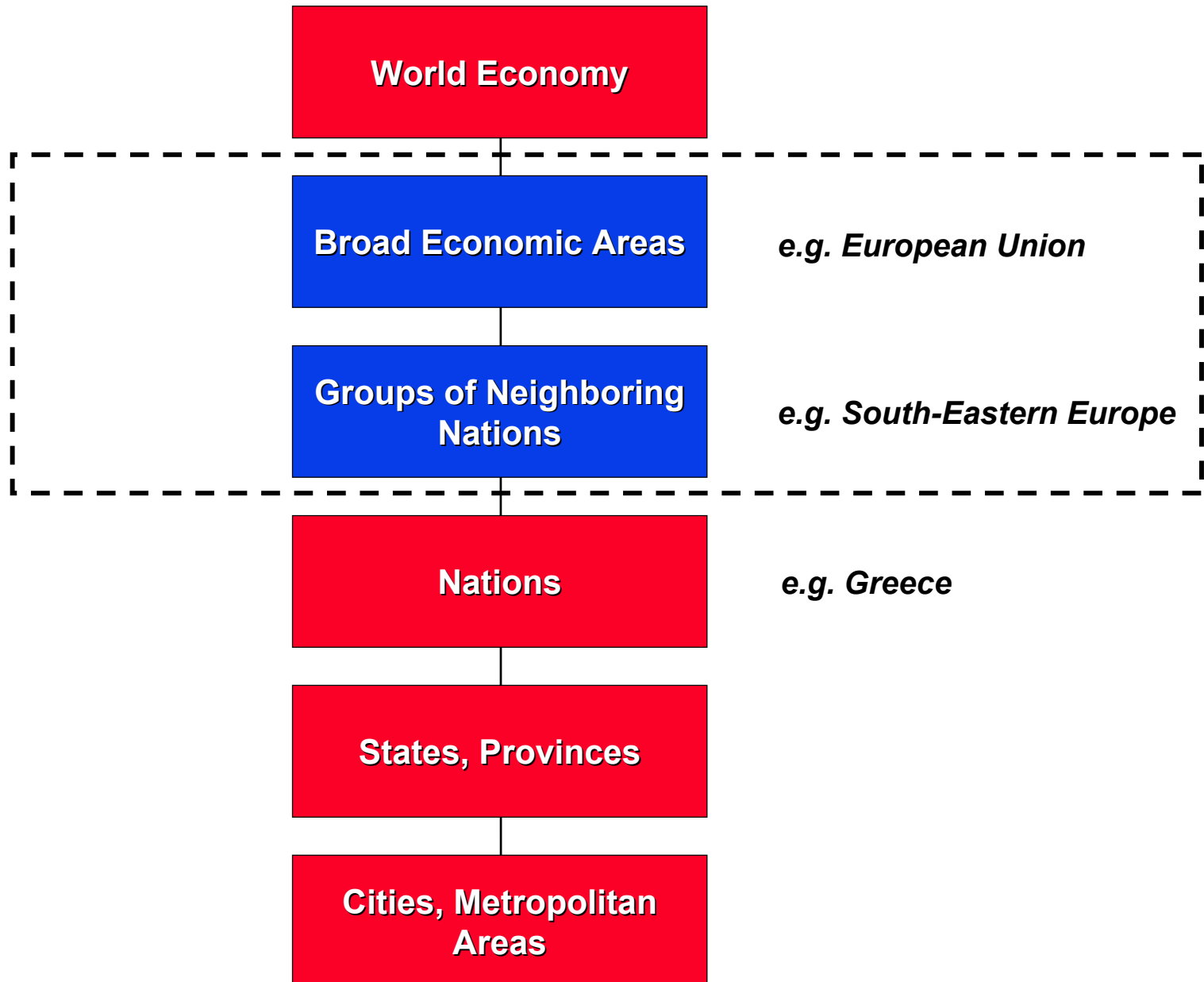


New View

- A regional strategy as a powerful tool to enhance **competitiveness** in autonomous countries
- Internal trade and investment
 - Gains from internal trade and investment
- AND
- Company operations and strategy
 - Enhancing the **competitive capability** of firms
 - Expanding trade in **non-traditional** export industries
- Business environment
 - Mutual benefits to the **productivity of the business environment** through policy coordination that captures **external economies** and the benefits of **specialization** in institutions and infrastructure across borders
- Cluster development
 - **Cross-border cluster** specialization and integration
- Foreign investment
 - Enhancing interest and investment in the region by the **international community**
- Economic policy process
 - Improving economic policy formulation and implementation **at the national level**

Cross-National Economic Coordination

Alternate Geographic Levels



Cross-National Economic Coordination

Illustrative Policy Areas

Factor (Input) Conditions

- Improve regional **transportation infrastructure**
- Create an efficient **energy** network
- Upgrade/link regional **communications**
- Upgrade/link **financial markets**
- Upgrade **higher education** through facilitating specialization and student exchanges
- Expand cross-border business and financial **information access and sharing**
- Coordinate activities to ensure **personal safety**

Context for Strategy and Rivalry

- Coordinate **macroeconomic** policies
- Eliminate **trade and investment barriers** within the region
- Simplify **cross-border** regulations and paperwork
- Guarantee minimum basic **investor protections**
- Agree on foreign **investment promotion guidelines** to limit forms of investment promotion that do not enhance productivity
- Coordinated **competition policy**

Demand Conditions

- Set minimum **environmental standards**
- Set minimum **safety standards**
- Establish reciprocal **consumer protection laws**

Related and Supporting Industries

- Establish ongoing upgrading process in **clusters that cross national borders**, e.g.
 - Tourism
 - Agribusiness
 - Textiles and Apparel
 - Information Technology

Regional Governance

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

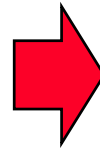
Greece's Competitiveness Agenda 2003

- Continue the macroeconomic progress
- Upgrade the business environment
- Foster cluster development
- Create a regional strategy for Southeast Europe
- **Shift the roles of government and business in economic development**

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

Roles of Government in Economic Development

- **Macroeconomic, political, legal, and social context**
 - Establish a **stable and predictable** macroeconomic, legal, and political environment
 - Improve the **social conditions** of citizens
- **General microeconomic business environment**
 - Improve the availability, quality, and efficiency of **cross-cutting or general purpose inputs, infrastructure, and institutions**
 - Set **overall rules and incentives** governing competition that encourage productivity growth
- **Clusters**
 - Facilitate **cluster development and upgrading**
- **Process of Economic Change**
 - Create institutions and **processes for upgrading competitiveness** that inform citizens and mobilize the private sector, government at all levels, educational and other institutions, and civil society to take action

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

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, forthcoming 2002
- “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
- “Attitudes, Values, Beliefs and the Microeconomics of Prosperity,” in Culture Matters: How Values Shape Human Progress, (L.E. Harrison, S.P. Huntington, eds.), New York: Basic Books, 2000

Web resources

- Institute for Strategy and Competitiveness www.isc.hbs.edu
- ISC Cluster Mapping Data (US) data.isc.hbs.edu/isc/index.jsp
- *Cluster of Innovation Initiative*
 - Council on Competitiveness www.compete.org
 - Monitor Company www.monitor.com