Chile’s Competitiveness:
Facing the Demands of a New Era

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Institute for Strategy and Competitiveness
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Santiago, Chile
May 29, 2008
Prosperity Performance
Selected Countries

PPP-adjusted GDP per Capita, 2007

Growth of Real GDP per Capita (PPP-adjusted), CAGR, 1998-2007

Source: EIU (2008), authors calculations

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Comparative Economic Performance
Real GDP Growth Rates Over Time

Compounded annual growth rate (CAGR) of real GDP

Source: EIU (2008), authors calculations
Chile’s Economy in 2008

• Chile remains the Latin American success story in competitiveness, though its relative progress has slipped

However

• Chile has many global peers that perform better

• Chile has benefited from a beneficial global context, especially the rise of copper demand. However, the tailwind is now receding

• Chile is strong on macroeconomic policy but fundamental business environment remain

• Political pressure is rising to shift from wealth creation to wealth distribution
Comparative Labor Productivity
Latin American Countries

GDP per employee (PPP adjusted US$), 2007

Compound annual growth rate (CAGR) of real GDP per employee (PPP-adjusted), 1998-2007

Note: Venezuela and Trinidad & Tobago’s data is biased by the rise in oil and gas export prices.
Source: authors calculation, EIU (2008), Groningen Growth and Development Centre (2008)
Labor Force Mobilization over Time
Selected Countries

Employees as % of Total Population,

Source: The Conference Board and Groningen Growth and Development Centre, Total Economy Database, May 2008
Inbound Foreign Investment Performance
Stocks and Flows, Latin American Countries

Chile Export Share Trends

World Export Market Share (current USD)

Source: WTO (2008)
Innovative Capacity
Innovation Output of Latin American Countries

Average U.S. patents per 1 million population, 2003-2007

What is Competitiveness?

• Competitiveness is determined by the **productivity** with which a nation uses its human, capital, and natural resources.
  
  – Productivity **sets the standard of living** (wages, returns on capital, returns on natural resources) that a country can sustain
  
  – It is not **what** industries a nation competes in that matters for prosperity, but **how** it competes in those industries
  
  – Productivity in a national economy arises from a **combination of domestic and foreign firms**
  
  – The productivity of **“local” or domestic industries** is fundamental to competitiveness, not just that of export industries

• 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
Determinants of Productivity

- Macroeconomic competitiveness creates the potential for high productivity, but is **not sufficient**
- Productivity ultimately depends on improving the **microeconomic capability** of the economy and the **sophistication of local competition**
Micro reform is needed to raise the level of sustainable prosperity

Macro reform alone can lead to short term capital inflows and growth spurts that ultimately are not sustainable

Integration of Macro- and Microeconomic Reforms

Stability and confidence support investment and upgrading

Create opportunity for productivity

Required to achieve productivity

Macroeconomic reform

Microeconomic reform

Productivity growth allows economic growth without inflation, making macroeconomic stability easier to achieve
Improving the Business Environment: The Diamond

Context for Firm Strategy and Rivalry

- Local rules and incentives that encourage investment and productivity
  - e.g. salaries, incentives for capital investments, intellectual property protection

Factor (Input) Conditions

- Access to high quality business inputs
  - Natural endowments
  - Human resources
  - Capital availability
  - Physical infrastructure
  - Administrative infrastructure (e.g. registration, permitting)
  - Information infrastructure (e.g., transparency)
  - Scientific and technological infrastructure

Demand Conditions

- Vigorous local competition
  - Openness to foreign and local competition

- Sophistication of local customers and needs
  - Strict quality, safety, and environmental standards

Related and Supporting Industries

- Availability of suppliers and supporting industries
- Presence of clusters instead of isolated firms

- Successful economic development is a process of successive upgrading, in which the business environment improves to enable increasingly sophisticated ways of competing
### Factor (Input) Conditions
#### Chile’s Relative Position 2007

#### Competitive Advantages Relative to GDP per Capita

#### Competitive Disadvantages Relative to GDP per Capita
- Quality of public schools: 63<br>- Quality of math and science education: 59<br>- Railroad infrastructure development: 49<br>- Centralization of economic policymaking: 46<br>- Quality of scientific research institutions: 42<br>- Judicial independence: 38<br>- University/industry research collaboration: 37<br>- Quality of electricity supply: 33<br>- Venture capital availability: 30

Note: Rank versus 74 countries; overall, Chile ranks 39\(^{th}\) in 2007 PPP adjusted GDP per capita and 27\(^{th}\) in Business Competitiveness.  

Change up/down of more than 5/10 ranks since 2002
## Context for Firm Strategy and Rivalry

### Chile’s Relative Position 2007

<table>
<thead>
<tr>
<th>Competitive Advantages Relative to GDP per Capita</th>
<th>Competitive Disadvantages Relative to GDP per Capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevalence of trade barriers</td>
<td>Decentralization of corporate activity</td>
</tr>
<tr>
<td>Efficacy of corporate boards</td>
<td>49</td>
</tr>
<tr>
<td>Intensity of local competition</td>
<td>Intellectual property protection</td>
</tr>
<tr>
<td>Property rights</td>
<td>38</td>
</tr>
<tr>
<td>Effectiveness of antitrust policy</td>
<td></td>
</tr>
<tr>
<td>Favoritism in decisions of government officials</td>
<td></td>
</tr>
</tbody>
</table>

Change up/down of more than 5/10 ranks since 2002

Note: Rank versus 74 countries; overall, Chile ranks 39<sup>th</sup> in 2007 PPP adjusted GDP per capita and 27<sup>th</sup> in Business Competitiveness.

Labor Market Regulation
Selected Countries

Hiring and Firing Practices

Liberal
Restrictive

Costa Rica
Nicaragua
Dominican Republic
Guyana
Guatemala
Honduras
Colombia
Chile
Jamaica
Mexico
Panama
Peru
Uruguay
Paraguay
Argentina
Bolivia
Ecuador
Brazil
Venezuela

Context for Firm Strategy and Rivalry

Note: Determined by whether hiring / firing decisions are impeded by regulations or determined by the employer
Source: Global Competitiveness Report (2008)
National Business Environment Overview

Chile’s Relative Strengths and Weaknesses

Note: Rank versus 74 countries; overall, Chile ranks 39th in 2007 PPP adjusted GDP per capita and 27th in Business Competitiveness.

### Competitive Advantages Relative to GDP per Capita

<table>
<thead>
<tr>
<th>Factor</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breadth of international markets</td>
<td>16</td>
</tr>
<tr>
<td>Extent of marketing</td>
<td>20</td>
</tr>
<tr>
<td>Extent of incentive compensation</td>
<td>21</td>
</tr>
<tr>
<td>Control of international distribution</td>
<td>24</td>
</tr>
<tr>
<td>Reliance on professional management</td>
<td>24</td>
</tr>
<tr>
<td>Production process sophistication</td>
<td>27</td>
</tr>
</tbody>
</table>

### Competitive Disadvantages Relative to GDP per Capita

<table>
<thead>
<tr>
<th>Factor</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company spending on research and development</td>
<td>46</td>
</tr>
<tr>
<td>Capacity for innovation</td>
<td>45</td>
</tr>
<tr>
<td>Nature of competitive advantage</td>
<td>41</td>
</tr>
<tr>
<td>Degree of customer orientation</td>
<td>39</td>
</tr>
<tr>
<td>Value chain presence</td>
<td>38</td>
</tr>
<tr>
<td>Extent of regional sales</td>
<td>36</td>
</tr>
<tr>
<td>Extent of staff training</td>
<td>36</td>
</tr>
<tr>
<td>Prevalence of foreign technology licensing</td>
<td>34</td>
</tr>
<tr>
<td>Willingness to delegate authority</td>
<td>34</td>
</tr>
</tbody>
</table>

Chile Manufacturing Lagging Behind
Share of Manufacturing Firms

% of Manufacturing Firms engaged in...

Source: Chile Investment Climate Assessment, 2007, World Bank
Clusters and Competitiveness
Cairns (Australia) Tourism

Sources: HBS student team research (2003) - Peter Tynan, Chai McConnell, Alexandra West, Jean Hayden
The Houston Oil and Gas Cluster

- Houston exports technology, knowledge, and management, not just resources
Clusters and Competitiveness

• Clusters Increase Productivity / Operational Efficiency
  – Efficient access to specialized inputs, services, employees, information, institutions, training programs, and other “public goods” (local outsourcing)
  – Ease of coordination and transactions across firms
  – Rapid diffusion of best practices
  – Ongoing, visible performance comparisons and strong incentives to improve vs. local rivals
  – Proximity of rivals encourages strategic differentiation

• Clusters Stimulate and Enable Innovations
  – Density enables recognition of innovation opportunities (e.g., unmet needs, sophisticated customers, new combinations of services, or better technologies)
  – Presence of multiple suppliers and institutions to assist in knowledge creation
  – Ease of experimentation given locally available resources

• Clusters Facilitate Commercialization and New Business Formation
  – Opportunities for new companies and new lines of established business are apparent
  – Spinoffs and startups are encouraged by the presence of other companies, commercial relationships, and concentrated demand
  – Commercializing new products and starting new companies is easier because of available skills, suppliers, etc.

• Clusters reflect the fundamental influence of linkages and spill-overs across firms and associated institutions in competition
## Institutions for Collaboration
### Selected Massachusetts Organizations, Life Sciences

### Life Sciences Industry Associations
- Massachusetts Biotechnology Council
- Massachusetts Medical Device Industry Council
- Massachusetts Hospital Association

### General Industry Associations
- Associated Industries of Massachusetts
- Greater Boston Chamber of Commerce
- High Tech Council of Massachusetts

### Economic Development Initiatives
- Massachusetts Technology Collaborative
- Mass Biomedical Initiatives
- Mass Development
- Massachusetts Alliance for Economic Development

### University Initiatives
- Harvard Biomedical Community
- MIT Enterprise Forum
- Biotech Club at Harvard Medical School
- Technology Transfer offices

### Informal networks
- Company alumni groups
- Venture capital community
- University alumni groups

### Joint Research Initiatives
- New England Healthcare Institute
- Whitehead Institute For Biomedical Research
- Center for Integration of Medicine and Innovative Technology (CIMIT)
National Cluster Export Portfolio
Chile, 1997-2006

Change in Chile's world export market share, 1997 – 2006

Chile's Average World Export Share: 0.485%

Change In Chile's’ Overall World Export Share: 0.149%

Exports of US$5.4 Billion =

Fishing and Fishing Related Products (1.51%, 4.22%)
Forest Products
Metal, Mining and Manufacturing (1.73%, 3.99%)
Agriculture Products
Furniture
Transportation and Logistics

Chemical Products
Building Fixtures and Equipment

Communication Services
Publishing and Printing
Hospitality and Tourism
Production Technology
Motor Driven Products
Financial Services
Textiles
Biopharmaceuticals

Jewelry, Precious Metals and Collectibles

Production Technology

Metal, Mining and Manufacturing (1.73%, 3.99%)
Furniture
Transportation and Logistics

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Transportation and Logistics

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Biopharmaceuticals

Change in Chile's world export market share, 1997 – 2006

Change In Chile's’ Overall World Export Share: 0.149%
Key Issues for Chile

• Maintain macroeconomic stability

• Address weaknesses in the business environment

• Pursue cluster-driven diversification of the Chilean economy

• Leverage the role of sub-national regions

• Create a new phase of Chile’s economic strategy

• These goals are well within reach, if Chile manages to move towards a more effective collaboration between the public and the private sector
Key Challenges in the Business Environment

• Education system

• Labor market reform

• Energy supply
Labor Market and Wages

• Remains a **central issue** for the country and the number one complaint of business

• Labor market flexibility gets **mixed up** with discussions about wage levels

• Flexibility is critical for **productivity**

• Wage levels that are low relative to competitiveness support fast growth but might not push companies to pursue **productivity growth**

• Aim should be to **decouple** these to issues politically
Clusters as a Tool For Economic Policy

Overview

• A new way of thinking about an economy and organizing economic development efforts

• Better aligned with the nature of competition and sources of competitive advantage. Clusters capture important linkages in terms of technology, skills, information, marketing and customer needs that cut across firms and industries. Such linkages are fundamental to competition and, especially, to the direction and pace of innovation

• Recast the role of the private sector, government, trade associations and educational or research institutions

• Brings together firms of all sizes

• Creates a forum for constructive business-government dialog

• A means to identify common opportunities, not just common problems

• Provides guidance for both economic and social policies
The Chilean Wine Cluster
Trade Performance

Chilean Wine Exports in thousand US $

$0 $200,000 $400,000 $600,000 $800,000 $1,000,000


0.0% 0.5% 1.0% 1.5% 2.0% 2.5% 3.0% 3.5% 4.0% 4.5% 5.0%

Value Market Share

Chilean Wine Cluster

Related and Supported Industries

- Irrigation technology
- Grapestock
- Fertilizer, pesticides, herbicides
- Grape harvesting equipment

Government (trade promotion offices, implementation of standards, export/import/FDI policies)

Growers / vineyards

Wineries / processing facilities

Educational, research, and trade organization

= Strong domestic capacity
= Moderate domestic capacity
= Weak domestic capacity

Specialized financing

- Barrels
- Bottles
- Plastics / Tetrapacks
- Corks
- Labels
- Public relations and advertising
- Specialized publications
- Export promotion

Related and Supported Industries

Agriculture Cluster

Food Cluster

Tourism Cluster

Pisco Cluster

Source: Research by HBS student team (Asier Alea, Judd Belstock, Don Lambert, Jacqueline O’Neill, Noah Sawyer), 2005
Cluster-Driven Diversification of the Chilean Economy

- Grow exports in related clusters
- Build clusters around existing niche positions
- Expand into new industries within existing clusters
- Upgrade quality and sophistication of existing export products
## Upgrading Established Export Products
### Leading Chilean Export Industries, 2006

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper, copper anodes and alloys</td>
<td>Copper</td>
<td>35.92%</td>
<td>3.53%</td>
<td>$19,824,329</td>
</tr>
<tr>
<td>Fish, fresh, chilled, or frozen</td>
<td>Fishing</td>
<td>7.21%</td>
<td>2.57%</td>
<td>$2,451,121</td>
</tr>
<tr>
<td>Chemical wood pulp, soda, bleached</td>
<td>Pulp and Waste Paper</td>
<td>6.36%</td>
<td>1.50%</td>
<td>$1,180,153</td>
</tr>
<tr>
<td>Petroleum Oils</td>
<td>Petroleum Processing</td>
<td>0.24%</td>
<td>0.20%</td>
<td>$1,002,648</td>
</tr>
<tr>
<td>Wine of fresh grapes</td>
<td>Wine</td>
<td>4.24%</td>
<td>0.85%</td>
<td>$967,619</td>
</tr>
<tr>
<td>Acyclic monohydric alcohols</td>
<td>Organic Chemicals</td>
<td>5.34%</td>
<td>1.69%</td>
<td>$770,956</td>
</tr>
<tr>
<td>Pig iron, spiegeleisen, sponge iron or steel granules</td>
<td>Iron and Steel</td>
<td>2.23%</td>
<td>1.80%</td>
<td>$548,326</td>
</tr>
<tr>
<td>Gold, non-monetary, excluding ores</td>
<td>Precious Metals</td>
<td>1.02%</td>
<td>-0.47%</td>
<td>$520,410</td>
</tr>
<tr>
<td>Flours, meals of meat, fish for animal feeds</td>
<td>Meat and Related Products</td>
<td>15.16%</td>
<td>-3.18%</td>
<td>$514,632</td>
</tr>
<tr>
<td>Copper wire</td>
<td>Wire and Springs</td>
<td>2.17%</td>
<td>0.51%</td>
<td>$414,970</td>
</tr>
<tr>
<td>Wood of conifer, worked, shaped</td>
<td>Sawn and Shaped Wood</td>
<td>17.83%</td>
<td>6.04%</td>
<td>$324,373</td>
</tr>
<tr>
<td>Miscellaneous prepared or preserved fish, crustaceans</td>
<td>Fishing</td>
<td>1.96%</td>
<td>-0.47%</td>
<td>$319,251</td>
</tr>
<tr>
<td>Fruit, preserved or prepared</td>
<td>Vegetables and Fruits</td>
<td>2.76%</td>
<td>0.66%</td>
<td>$299,632</td>
</tr>
<tr>
<td>Other chemical elements</td>
<td>Inorganic Chemicals</td>
<td>3.95%</td>
<td>-0.36%</td>
<td>$280,307</td>
</tr>
<tr>
<td>Fiberboard</td>
<td>Wood Building Materials</td>
<td>3.13%</td>
<td>-0.05%</td>
<td>$264,279</td>
</tr>
<tr>
<td>Other inorganic bases and metallic oxides</td>
<td>Inorganic Chemicals</td>
<td>2.17%</td>
<td>1.73%</td>
<td>$262,134</td>
</tr>
<tr>
<td>Silver, platinum and other metals of the platinum group</td>
<td>Precious Metals</td>
<td>0.82%</td>
<td>-1.00%</td>
<td>$248,782</td>
</tr>
<tr>
<td>Plywood, solely of wood</td>
<td>Wood Building Materials</td>
<td>2.36%</td>
<td>2.31%</td>
<td>$224,523</td>
</tr>
<tr>
<td>Miscellaneous paper and paperboard, coated</td>
<td>Paper Mills</td>
<td>0.80%</td>
<td>0.75%</td>
<td>$173,227</td>
</tr>
<tr>
<td>Newsprint, rolls, sheets</td>
<td>Paper Mills</td>
<td>1.61%</td>
<td>0.77%</td>
<td>$160,458</td>
</tr>
<tr>
<td>Chemical wood pulp, soda, unbleached</td>
<td>Pulp and Waste Paper</td>
<td>22.18%</td>
<td>3.15%</td>
<td>$159,747</td>
</tr>
<tr>
<td>Nitrites; nitrates</td>
<td>Inorganic Chemicals</td>
<td>23.31%</td>
<td>2.93%</td>
<td>$155,865</td>
</tr>
<tr>
<td>Fertilizer, except crude (group272)</td>
<td>Fertilizers</td>
<td>0.67%</td>
<td>0.37%</td>
<td>$154,361</td>
</tr>
<tr>
<td>Fruit, vegetable juices</td>
<td>Vegetables and Fruits</td>
<td>1.46%</td>
<td>-0.07%</td>
<td>$154,344</td>
</tr>
<tr>
<td>Miscellaneous food preparations</td>
<td>Specialty Foods and Ingredients</td>
<td>0.59%</td>
<td>-0.13%</td>
<td>$151,567</td>
</tr>
</tbody>
</table>

### Top 25 Industries (Processed & Semi-Processed) as % of Chile’s total goods exports: 57.6%
Growth Opportunities within Clusters
Chilean Agricultural Products

Strong Export Share

Weak Export Share

Losing Market Share

Gaining Market Share

Source: International Cluster Competitiveness Project, Institute for Strategy and Competitiveness, Harvard Business School
Growth Opportunities within Clusters
Chilean Metal Mining and Manufacturing Products

Strong Export Share

- Copper
- Other Metals
- Iron and Steel
- Non-Ferrous Metal Processing
- Wire and Springs

Weak Export Share

- Precision Metal Products
- Primary Metal Products
- Wire and Springs
- Fabricated Metal Products
- Iron and Steel Mill and Foundry Products
- Fasteners
- Pumps

Losing Market Share
Gaining Market Share

Source: International Cluster Competitiveness Project, Institute for Strategy and Competitiveness, Harvard Business School
Growth Opportunities within Clusters
Chilean Chemical Products

Strong Export Share

Asbestos and Friction Materials

Plastic Tubes, Hoses, Plates, and Sheets

Weak Export Share

Plastic Products

Plastic Materials and Resins

Losing Market Share

Plastic Waste

Paints and Allied Products

Gaining Market Share

Rubber

Source: International Cluster Competitiveness Project, Institute for Strategy and Competitiveness, Harvard Business School
Growth Opportunities within Clusters
Chilean Forest Products

Strong Export Share

Weak Export Share

Losing Market Share

Gaining Market Share

- Rough and Chipped Wood
- Paper Products
- Paper Mills
- Pulp and Paper Waste

Source: International Cluster Competitiveness Project, Institute for Strategy and Competitiveness, Harvard Business School
Growth Opportunities within Clusters
Chilean Furniture Products

Source: International Cluster Competitiveness Project, Institute for Strategy and Competitiveness, Harvard Business School
## Upgrading Chile’s Export Portfolio
### Niche Positions Outside of Clusters

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<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Jewelry, Precious Metals and Collectibles</td>
<td>0.36%</td>
<td>Precious Metals</td>
<td>Precious metal ores and concentrates</td>
<td>6.27%</td>
<td>-5.91%</td>
<td>$ 84,869</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Precious Metals</td>
<td>Gold, non-monetary, excluding ores</td>
<td>1.02%</td>
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<tr>
<td></td>
<td></td>
<td>Inorganic Chemicals</td>
<td>Carbonates, percarbonates</td>
<td>3.19%</td>
<td>1.06%</td>
<td>$ 121,150</td>
</tr>
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<tr>
<td>Processed Food</td>
<td>0.27%</td>
<td>Specialty Foods and Ingredients</td>
<td>Mucilages and thickeners</td>
<td>5.84%</td>
<td>-2.37%</td>
<td>$ 80,038</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dairy and Related Products</td>
<td>Milk, concentrated or sweetened</td>
<td>0.66%</td>
<td>0.39%</td>
<td>$ 70,235</td>
</tr>
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Note: Clusters with overlapping borders or identical shading have at least 20% overlap (by number of industries) in both directions.

Source: Chile has a strong export position in the clusters highlighted.
Growth Opportunities in Related Clusters
Chile’s leading Export Clusters

Transportation and Logistics
- Hospitality and Tourism
- Information Technology

Furniture
- Building Fixtures

Chemical Products
- Plastics
- Biopharmaceuticals
- Oil & Gas

Metal Mining and Manufacturing
- Production Technology

Source: Institute for Strategy and Competitiveness, authors’ calculations (2007)
Specialization of Regional Economies
Selected U.S. Geographic Areas

Seattle-Bellevue-
Everett, WA
Aerospace Vehicles and Defense
Fishing and Fishing Products
Analytical Instruments

San Francisco-
Oakland-San Jose Bay Area
Communications Equipment
Agricultural Products
Information Technology

Los Angeles Area
Apparel
Building Fixtures, Equipment and Services
Entertainment

San Diego
Leather and Sporting Goods
Power Generation
Education and Knowledge Creation

Wichita, KS
Aerospace Vehicles and Defense
Heavy Machinery
Oil and Gas

Chicago
Communications Equipment
Processed Food
Heavy Machinery

Pittsburgh, PA
Construction Materials
Metal Manufacturing
Education and Knowledge Creation

Boston
Analytical Instruments
Education and Knowledge Creation
Communications Equipment

Raleigh-Durham, NC
Communications Equipment
Information Technology
Education and Knowledge Creation

Atlanta, GA
Construction Materials
Transportation and Logistics
Business Services

Wichita, KS
Aerospace Vehicles and Defense
Heavy Machinery
Oil and Gas

Denver, CO
Leather and Sporting Goods
Oil and Gas
Aerospace Vehicles and Defense

Pittsburgh, PA
Construction Materials
Metal Manufacturing
Education and Knowledge Creation

San Francisco-
Oakland-San Jose Bay Area
Communications Equipment
Agricultural Products
Information Technology

Raleigh-Durham, NC
Communications Equipment
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Atlanta, GA
Construction Materials
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Atlanta, GA
Construction Materials
Transportation and Logistics
Business Services

Raleigh-Durham, NC
Communications Equipment
Information Technology
Education and Knowledge Creation

Note: Clusters listed are the three highest ranking clusters in terms of share of national employment.
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?
The Process of Economic Development
Shifting Roles and Responsibilities

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 private sector organizations

- 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

- The **private sector** must become more engaged in competitiveness to improve rapidly
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
• Inform government 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 if many companies are united
  – Cost sharing between members
Back-Up
## Upgrading Established Export Products
### Leading Chilean Export Industries, 2006

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Copper, copper anodes and alloys</td>
<td>Copper</td>
<td>35.92%</td>
<td>3.53%</td>
<td>$19,824,329</td>
</tr>
<tr>
<td>2. Copper ores and concentrates</td>
<td>Copper</td>
<td>38.91%</td>
<td>2.84%</td>
<td>$11,430,027</td>
</tr>
<tr>
<td>3. Fish, fresh, chilled, or frozen</td>
<td>Fishing</td>
<td>7.21%</td>
<td>2.57%</td>
<td>$2,451,121</td>
</tr>
<tr>
<td>4. Ores and concentrates of molybdenum, titanium, zirconium</td>
<td>Other Metals</td>
<td>23.79%</td>
<td>11.16%</td>
<td>$2,223,036</td>
</tr>
<tr>
<td>5. Fruit, nuts excluding oil nuts</td>
<td>Vegetables and Fruits</td>
<td>4.53%</td>
<td>0.91%</td>
<td>$2,103,330</td>
</tr>
<tr>
<td>6. Chemical wood pulp, soda, bleached</td>
<td>Pulp and Waste Paper</td>
<td>6.36%</td>
<td>1.50%</td>
<td>$1,180,153</td>
</tr>
<tr>
<td>7. Petroleum Oils</td>
<td>Petroleum Processing</td>
<td>0.24%</td>
<td>0.20%</td>
<td>$1,002,648</td>
</tr>
<tr>
<td>8. Wine of fresh grapes</td>
<td>Wine</td>
<td>4.24%</td>
<td>0.85%</td>
<td>$967,617</td>
</tr>
<tr>
<td>9. Acyclic monohydric alcohols</td>
<td>Organic Chemicals</td>
<td>5.34%</td>
<td>1.69%</td>
<td>$770,956</td>
</tr>
<tr>
<td>10. Wood of conifer, sawn</td>
<td>Sawn and Shaped Wood</td>
<td>3.10%</td>
<td>1.56%</td>
<td>$740,249</td>
</tr>
<tr>
<td>11. Pig iron, spiegeleisen, sponge iron or steel granules</td>
<td>Iron and Steel</td>
<td>2.23%</td>
<td>1.80%</td>
<td>$548,326</td>
</tr>
<tr>
<td>12. Gold, non-monetary, excluding ores</td>
<td>Precious Metals</td>
<td>1.02%</td>
<td>-0.47%</td>
<td>$520,410</td>
</tr>
<tr>
<td>13. Flours, meals of meat, fish for animal feeds</td>
<td>Meat and Related Products</td>
<td>15.16%</td>
<td>-3.18%</td>
<td>$514,632</td>
</tr>
<tr>
<td>14. Other meat, meat offal</td>
<td>Meat and Related Products</td>
<td>1.29%</td>
<td>1.08%</td>
<td>$509,079</td>
</tr>
<tr>
<td>15. Copper wire</td>
<td>Wire and Springs</td>
<td>2.17%</td>
<td>0.51%</td>
<td>$414,970</td>
</tr>
<tr>
<td>16. Other non-ferrous metal waste</td>
<td>Other Metals</td>
<td>1.40%</td>
<td>1.30%</td>
<td>$370,738</td>
</tr>
<tr>
<td>17. Iron Ore and Concentrates</td>
<td>Iron and Steel</td>
<td>1.00%</td>
<td>-0.58%</td>
<td>$324,886</td>
</tr>
<tr>
<td>18. Wood of conifer, worked, shaped</td>
<td>Sawn and Shaped Wood</td>
<td>17.83%</td>
<td>6.04%</td>
<td>$324,373</td>
</tr>
<tr>
<td>19. Miscellaneous prepared or preserved fish, crustaceans</td>
<td>Fishing</td>
<td>1.96%</td>
<td>-0.47%</td>
<td>$319,251</td>
</tr>
<tr>
<td>20. Fruit, preserved or prepared</td>
<td>Vegetables and Fruits</td>
<td>2.76%</td>
<td>0.66%</td>
<td>$299,627</td>
</tr>
<tr>
<td>21. Other chemical elements</td>
<td>Inorganic Chemicals</td>
<td>3.95%</td>
<td>-0.36%</td>
<td>$280,307</td>
</tr>
<tr>
<td>22. Fiberboard</td>
<td>Wood Building Materials</td>
<td>3.13%</td>
<td>-0.05%</td>
<td>$264,279</td>
</tr>
<tr>
<td>23. Other inorganic bases and metallic oxides</td>
<td>Inorganic Chemicals</td>
<td>2.17%</td>
<td>1.73%</td>
<td>$262,134</td>
</tr>
<tr>
<td>24. Silver, platinum and other metals of the platinum group</td>
<td>Precious Metals</td>
<td>0.82%</td>
<td>-1.00%</td>
<td>$248,782</td>
</tr>
<tr>
<td>25. Plywood, solely of wood</td>
<td>Wood Building Materials</td>
<td>2.36%</td>
<td>2.31%</td>
<td>$224,523</td>
</tr>
</tbody>
</table>

**Top 25 Industries as % of Chile’s total goods exports: 87.9%**