Second LAEBA Annual Meeting
Buenos Aires, Argentina – November 28-29, 2005

Trade and productive policies: a Latin American and Caribbean perspective

José Luis Machinea – ECLAC
Trade and productive policies: a Latin American and Caribbean perspective

LAEBBA 2005 Second Annual Meeting
“Latin America and Asia: Strategic Policies for Global Competition”

José Luis Machinea
Executive Secretary of ECLAC
28-29 November 2005, Buenos Aires, Argentina
Structure of presentation

(1) Trade and growth: what do we know?

(2) Export dynamics and patterns of integration

(3) Productive development policies
Trade and growth: what do we know?

- No clear or conclusive link between trade liberalization and growth
- Importance of how liberalization is carried out and its context
- Positive link between exports and growth
LAC: GDP growth vs. export growth
(Average annual rates, 1990-2004)
(1) Trade and growth: what do we know?

(3) Productive development policies
Fastest export growth in the last 25 years.

Latin America: 10-year growth rates of export volumes

Note: Does not include the Bolivarian Republic of Venezuela.
LAC: terms of trade for goods
(Index: 2000=100)

Variation 1990-2004
South America: 32%
Central America: -1%
Mexico: 22%

Excluding oil and oil products
Variation 1990-2004
South America: 35.5%
Central America: 3%
Mexico: 2.7%
LAC: terms of trade for goods

(Index 90-99=100)

Total

Excluding oil

(90-99 vs 2004)
AS: 23.1
C: -8.5
M: 18.5

(90-99 vs 2004)
AS: 21.3
C: -3.7
M: 2.7
LAC: GDP growth and current account balance
(Percentages of GDP)

South America: 2.4%
Central America and Mexico: –1.4 %
Export dynamics

- Is this export growth enough to overcome the external constraints traditionally faced by LAC?

- Two issues are important in answering this question:
  - Future trends in the terms of trade
  - Degree of income elasticity of imports (large increase in 1990s, now gross elasticity is back to 3-4)
Latin America: gross import elasticity
(Linear regression, moving 6-year periods)
Estimating an import function for LAC  
(Random-effect panel method for 19 Latin American countries)

<table>
<thead>
<tr>
<th></th>
<th>Period 1960-1989</th>
<th>Period 1990-2003</th>
<th>Overall period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ln(imports)</td>
<td>ln(imports)</td>
<td>ln(imports)</td>
</tr>
<tr>
<td>ln(GDP)</td>
<td>1.35 (0.000)</td>
<td>3.594 (0.000)</td>
<td>1.793 (0.000)</td>
</tr>
<tr>
<td>ln(GDP) -1</td>
<td>-1.267 (0.000)</td>
<td>-3.308 (0.000)</td>
<td>-1.681 (0.000)</td>
</tr>
<tr>
<td>ln(imports) -1</td>
<td>0.937 (0.000)</td>
<td>0.873 (0.000)</td>
<td>0.924 (0.000)</td>
</tr>
<tr>
<td>ln(TCR)</td>
<td>-0.043 (0.003)</td>
<td>-0.183 (0.000)</td>
<td>-0.058 (0.000)</td>
</tr>
<tr>
<td>Dummy 1982</td>
<td>-0.141 (0.000)</td>
<td>------</td>
<td>-0.111 (0.003)</td>
</tr>
<tr>
<td>Dummy 1990-2003</td>
<td>------</td>
<td>------</td>
<td>0.088 (0.000)</td>
</tr>
<tr>
<td>Trend</td>
<td>-0.0003 (0.731)</td>
<td>-0.002 (0.412)</td>
<td>-0.001 (0.359)</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.248 (0.090)</td>
<td>-1.648 (0.000)</td>
<td>-0.435 (0.001)</td>
</tr>
<tr>
<td>Observations</td>
<td>523</td>
<td>247</td>
<td>789</td>
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<tr>
<td>R²</td>
<td>0.9843</td>
<td>0.9912</td>
<td>0.9875</td>
</tr>
</tbody>
</table>

Notes: Coefficients in parentheses are standard errors.
Although with variations across countries, in the last 20 years LAC:

- has diversified its export basket
- but has not diversified its export markets
Latin America: concentration of exports

By product:
- Venezuela (Bolivarian Republic of)
- Ecuador
- Paraguay
- Honduras
- Costa Rica
- Nicaragua
- Chile
- Colombia
- Peru
- Guatemala
- Bolivia
- El Salvador
- Uruguay
- Argentina
- Mexico
- Brazil

1986-1989 = 0.16
1999-2002 = 0.09

By destination:
- Mexico
- Venezuela (Bolivarian Republic of)
- Honduras
- Costa Rica
- Colombia
- Ecuador
- Nicaragua
- Guatemala
- El Salvador
- Paraguay
- Bolivia
- Peru
- Argentina
- Uruguay
- Brazil
- Chile

1986-1989 = 0.19
1999-2002 = 0.20
Latin America: diversification of the export basket and terms-of-trade volatility

Note: diversification measured as \((1-IHH)\)
Export patterns and composition of trade

- Although with variations across countries, in the last 20 years LAC:
  - has diversified its export basket
  - but has not diversified its export markets

- Three different patterns of export specialization have developed in LAC

- Since 1980 the export basket has become more diversified because of changes in the technological content of LAC exports, but only in Mexico and, to a lesser extent, in Central America (Costa Rica)
Structure of exports by technological intensity

(a) Latin America and the Caribbean
(b) Central America
(c) Mexico
(d) South America

- High-technology manufactures
- Mid-technology manufactures
- Low-technology manufactures
- Natural-resource-based manufactures
- Commodities
Preference for manufactures with high- and mid-technological content

- Greatest growth of world trade share in the last 25 years.
- Primary products may contribute less to growth:
  - Less diversification in the production structure (Dutch disease)
  - More volatile prices
  - Deterioration in terms of trade, though this appears to be changing (China and India)
  - Little product differentiation, which discourages innovation
  - Difficulty in building linkages because of remoteness from population centres (especially in the case of mining)
Composition of exports, by technological content, 2004

Chile, Australia, Canada, Sweden, Finland, China, United States, Mexico

High-technology manufactures
Mid-technology manufactures
Low-technology manufactures
Natural-resource-based manufactures
Commodities
However, higher technological content has not always been associated with higher growth in LAC and the fastest-growing countries have not necessarily been the ones whose export pattern has changed.

<table>
<thead>
<tr>
<th>Growth in per capita GDP (annualized)</th>
<th>Increase in goods with high- and mid-technological content as a percentage of total exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1.5%</td>
<td>&lt; 10 percentage points</td>
</tr>
<tr>
<td>&gt; 1.5%</td>
<td>&gt; 10 percentage points</td>
</tr>
</tbody>
</table>

(1985-2002)
### Per capita GDP growth versus increase in high- and mid-technology goods as a proportion of total exports (1985-2002)

<table>
<thead>
<tr>
<th>Growth in per capita GDP (annualized)</th>
<th>Increase in high- and mid-technology goods as a proportion of total exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 1%</td>
<td>Colombia, Costa Rica</td>
</tr>
<tr>
<td>&lt; 1%</td>
<td>Brazil, Mexico</td>
</tr>
<tr>
<td></td>
<td>Chile, Dominican Republic, El Salvador, Uruguay</td>
</tr>
<tr>
<td></td>
<td>Argentina, Bolivarian Republic of Venezuela, Bolivia, Ecuador, Guatemala, Haiti, Honduras, Nicaragua, Paraguay, Peru</td>
</tr>
</tbody>
</table>
Moreover, successful countries with abundant natural resources do not exhibit a clear export pattern.
The largest difference appears to lie in innovation (resources and efficiency)

<table>
<thead>
<tr>
<th>Country</th>
<th>Patents granted by USPTO</th>
<th>Patents granted by USPTO per million inhabitants</th>
<th>Total spending on R&amp;D as a % of GDP</th>
<th>Business R&amp;D spending as a % of total spending</th>
<th>Effectiveness of R&amp;D spending (cost per patent in US$ thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>70</td>
<td>1.8</td>
<td>0.4</td>
<td>29</td>
<td>7.6</td>
</tr>
<tr>
<td>Brazil</td>
<td>180</td>
<td>1.0</td>
<td>1.1</td>
<td>40</td>
<td>25.8</td>
</tr>
<tr>
<td>Chile</td>
<td>15</td>
<td>1.0</td>
<td>0.5</td>
<td>35</td>
<td>36.4</td>
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<tr>
<td>Colombia</td>
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<td>0.2</td>
<td>18</td>
<td>9.7</td>
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<tr>
<td>Costa Rica</td>
<td>10</td>
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<td>0.2</td>
<td>23</td>
<td>5.2</td>
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<tr>
<td>Mexico</td>
<td>92</td>
<td>0.9</td>
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<td>31</td>
<td>28.2</td>
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<tr>
<td>G-7</td>
<td>23152</td>
<td>153</td>
<td>2.2</td>
<td>48</td>
<td>5.8</td>
</tr>
<tr>
<td>Australia</td>
<td>1047</td>
<td>53</td>
<td>1.5</td>
<td>48</td>
<td>5.0</td>
</tr>
<tr>
<td>New Zealand</td>
<td>165</td>
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<td>37</td>
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<tr>
<td>Canada</td>
<td>3893</td>
<td>123</td>
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<td>70</td>
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<tr>
<td>Republic of Korea</td>
<td>4132</td>
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<tr>
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<td>424</td>
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<td>43.9</td>
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Note: refers to 2003 or latest year available
Source: World Bank Knowledge Assessment Methodology (KAM) and World Investment Report (2005)
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<th>Share of TNCs in % of business R&amp;D</th>
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Source: World Bank Knowledge Assessment Methodology (KAM) and World Investment Report (2005)
... and in adding value

Ratio of export unit value
(3 highest among *successful* countries versus 3 highest in LAC)

Source: Economic Commission for Latin America and the Caribbean (ECLAC).
Note: Countries considered to be successful include Australia, Canada, China, France, India, Italy and the Nordic nations.
Smaller differences vis-à-vis China and India

Ratio of export unit value
(China and India versus two highest in LAC)

Source: Economic Commission for Latin America and the Caribbean (ECLAC).
In summary...

- Although there is no clear link between trade liberalization and growth, there seems to be a link between export growth and GDP growth.

- Exporting high- or mid-technology goods appears to be more conducive to growth, but growth is not an automatic outcome.

- There are examples of successful countries that have not specialized in high and mid-technology goods.

- A common pattern is that successful countries’ exports provide an engine of growth, creating *domestic linkages* and *generating new technologies or processes*.

- Importance of policies that provide incentives for innovation in a broad sense: capacity to adopt, but also to adapt, and then to create.
Structure of presentation

(1) Trade and growth: what do we know?

(2) Export dynamics and patterns of integration into external trade flows
Why are they necessary?

- The main key to growth is the capacity to generate new dynamic activities.
- Information and coordination failures hinder this task.
- Heterogeneity in production generates a “three-speed” pattern that has to be addressed with active, differentiated policies.
- Trade growth and FDI can contribute to economic growth, but there are no automatic links.
- Successful countries’ experiences point up the benefits of using a variety of productive development policies over time.
What are the objectives of a productive development policy?

- To create a growth-friendly macroeconomic and institutional environment
- To improve patterns of integration into external markets (rewarding innovators)
- To level the playing field (given productive heterogeneity) in order to raise average productivity
  - reduce the informal sector
  - modernize SMEs (importance of clusters)
- To create the conditions for innovation in a broad sense and for increasing the complementarity of the production structure
(1) They must be different from past policies.
Differences with respect to policies used in the past

- Lower levels of protection.
- Scarcity of resources makes it necessary:
  - to limit the amount and time of subsidies;
  - to focus policy efforts.
- Multilateral and bilateral agreements impose new constraints.
- New institutions: transparency, evaluation, continuity of staff and upgrading of State role.
- Need to establish clear performance criteria.
Productive development policies: characteristics

(1) They must be different from past policies.

(2) A stable and competitive exchange rate is key to “discovering” new activities in the tradable sector.

(3) *Horizontal* policies should be combined with *selective* ones.

(4) Selective policies should focus on new activities with potential for stimulating the productive structure.
Selection criteria

- New export activities
- Activities related to goods with static advantages (need for targeting): backward, forward and lateral linkages (biotechnology, design, marketing)
- New activities not necessarily associated with the region’s comparative advantages but with potential dynamic effects (selectivity)
- Activities that generate externalities through complementarities with the production system (infrastructure, services, financing, job training)
- Innovation in a broad sense (adopting, adapting and creating)
Selection criteria

- New export activities
- Activities related to goods with static advantages (need for targeting): backward, forward and lateral linkages (biotechnology, design, marketing)
- New activities which ought to have dynamic effects
- Activities that generate externalities through complementarities with the production system (infrastructure, services, job training)
- Innovation in a broad sense (adopting, adapting and creating)
  - Special incentives for FDI: with foreseeable externalities only
  - Scheme of subsidies for R&D should reward private-sector engagement
  - Avoid high tariffs on capital goods
Productive development policies: characteristics

(1) They have to be different from past policies.

(2) A stable and competitive exchange rate is key to “discovering” new activities in the tradable sector.

(3) *Horizontal* policies should be combined with *selective* ones.

(4) Selective policies should focus on new activities with potential dynamic effects on the production structure.

(5) The public sector should provide leadership in defining strategies but should work closely with the private sector.

(6) Design of a national innovation system with proper incentives and increasing private-sector engagement.

(7) Human capital formation is an essential requirement for any development policy, but particularly for a strategy intended to increase innovation and encourage linkages of export sectors and of FDI.

(8) There is no single set of rules given the differences among countries (among them the institutional capacity).
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