InterAmerican Committee on Ports
9th Ordinary Meeting

Port Logistics and Competitiveness in Latin America and the Caribbean

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Productivity in LAC is lagging behind

Total Factor Productivity

Note: Total Factor Productivity measures the growth of GDP over the combined contributions of total hours, workforce skills, machinery and structures and IT capital.

Source: Penn World Table 8.0 (January 2014)
Logistics costs are key to competitiveness: *Latin America has plenty of room to improve*

**Diagram:**

- **Production losses:** Share of primary production that does not reach the market
- **Logistics cost as a share of market value**
- **Inventory Level**

Logistics costs are vital as Latin America opens to the world and trade expands.

Source: World Development Indicators
Logistics Costs are key to Poverty Alleviation:

*Logistics is a significant component of retail food price*

Source: Dessus, et al, World Bank (2008); data from household surveys.
Where does LAC stand in logistics performance?

Average: no better than other developing regions

Average Logistics Performance Index 2014

By regions

OECD: 3.7
Developing Europe and Central Asia: 2.9
East Asia and Pacific: 2.9
Latin America and the Caribbean: 2.8
South Asia Region: 2.6
Middle East and North Africa: 2.6
Sub-Saharan Africa: 2.5

Evolution of the Logistics Performance Index
Latin America and the Caribbean

Source: World Development Indicators
Ports: fundamental to improve logistics in LAC
Supply chain globalization has made the economy more transport and container intensive

*Over the last 10 years in Latin America:*

- **GDP GROWTH:** 5%
- **INTERNATIONAL TRADE GROWTH:** 6%
- **CONTAINER THROUGHPUT GROWTH:** 9%

- International trade opening
- Supply chain globalization
- New production models
- More outsourcing

- Cargo Containerization
- Empty container handling
- New shipping lines
- Transshipment

*Globalization has been transport intensive*

Source: World Development Indicators
Perception of port quality varies widely in LAC…

Caribbean transshipment hubs and large import/export markets concentrate shipping lines

Worldwide container shipping line services, zooming in Latin America and Caribbean region
Port quality and liner connectivity in LAC

Better perceived quality than connectivity

Low perceived quality and low connectivity

Better connectivity than perceived quality

Port Efficiency and Competitiveness in Latin America and the Caribbean
Tomás Serebrinsky

Perceived Quality of Port Infrastructure 2013 (WEF)
Liner Shipping Connectivity 2013 (UNCTAD)
How much does it cost to export a container in LAC?

Costs much higher than in OECD countries (bigger economies have high costs!!)

What do we know about port efficiency?
The average port in LAC handles less throughput than the average port in the rest of the developing world…

Number of Ports with Container Throughput > 50,000 TEUs

Average Container Throughput (’000 TEUs)

Average Terminal Area (m^2)

LAC: 37 million TEUs in 2010, 14% of the developing world total.

*Rest of the Developing World: Countries outside LAC with GDP per capita under USD20,000. Source: Data collected from Containerisation International.
…and is also smaller in terms of infrastructure assets (terminal area, length of berths and cranes)

<table>
<thead>
<tr>
<th>Average Total Length of Berths (meters)</th>
<th>Average Number of STS Gantry Cranes</th>
<th>Share of Private Participation in Ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latin America and the Caribbean</td>
<td>Rest of the Developing World</td>
<td>Latin America and the Caribbean</td>
</tr>
<tr>
<td>315</td>
<td>728</td>
<td>Rest of the Developing World</td>
</tr>
<tr>
<td>0</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>100</td>
<td>4</td>
<td>20%</td>
</tr>
<tr>
<td>200</td>
<td>6</td>
<td>30%</td>
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<td>8</td>
<td>40%</td>
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<tr>
<td>400</td>
<td>10</td>
<td>50%</td>
</tr>
<tr>
<td>500</td>
<td>12</td>
<td>60%</td>
</tr>
<tr>
<td>600</td>
<td>10.6</td>
<td>65%</td>
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<tr>
<td>700</td>
<td>12</td>
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</tr>
<tr>
<td>800</td>
<td>12</td>
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</tbody>
</table>

50% of LAC ports have rail connection, the same proportion as in the developing world.

*Rest of the Developing World: Countries outside LAC with GDP per capita under USD20,000.
Source: Data collected from Containerisation International.
In terms of time productivity, there is large variation among ports...

**Ship Productivity**
Moves/ship-hour, for calls involving less than 500 moves

- Exolgan - ARG
- Manzanillo - PAN
- Caucedo - DR
- Cartagena - COL
- Puerto Cortés - HND
- Santo Tomás de Castilla - GUA
- Acajutla - ES
- Puerto Limón - CR

**Ship Delay**
Average time in hours between vessel’s arrival at the port and at the berth

- Exolgan - ARG
- Santo Tomás de Castilla - GUA
- Manzanillo - PAN
- Puerto Cortés - HND
- Caucedo - DR
- Acajutla - ES
- Cartagena - COL
- Puerto Limón - CR

Source: Kent, P (2011) How Fit are Central America’s Ports? World Bank
Measuring port efficiency is a difficult task

Benchmarking studies have addressed efficiency with Partial Productivity Indicators or with the estimation of Technical Efficiency Frontiers

Focus on Technical Efficiency:
A technical efficient port generates the maximum container throughput with the lowest quantity of infrastructure inputs
Distribution of technical efficiency in LAC ports
(average 1999-2009):

Port size and Technical Efficiency

Is there a minimum efficient scale?

Correlation = 0.46
Overall technical efficiency in LAC ports is 43%  
(Africa 30% and Europe 60%)

Good news: TE has improved significantly!!

Average technical efficiency growth in LAC over 1999-2009:

<table>
<thead>
<tr>
<th>Year</th>
<th>Technical Efficiency, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>36</td>
</tr>
<tr>
<td>2000</td>
<td>37</td>
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<tr>
<td>2001</td>
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<td>2008</td>
<td>51</td>
</tr>
<tr>
<td>2009</td>
<td>50</td>
</tr>
</tbody>
</table>

Compound Annual Growth Rate = 3.2%

Data, data, data… Can’t do better without it

Source: IADB (2014) Freight Logistics Statistics Yearbook for Latin American and the Caribbean
Final Remarks

- Logistics costs are key determinants for productivity, competitiveness and poverty alleviation

- Logistics and port quality: LAC is not in a good position relative to other developing regions

- Growth in international trade has put pressure on ports to accommodate increasing demand: expansion of infrastructure is not the only solution. What about efficiency?

- Data availability is a major constraint. Scarcity of data does not allow a thorough benchmarking of our ports. Major barrier to improve public policies.