Assessing logistics performance
Where we stand

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The World Bank
ITF Summit, Leipzig, May 2, 2012
“Freight transport and the accompanying logistics industry represent one of the most dynamic and important sectors of the European economy, accounting for at least 10 percent of GDP.”

Mr. Siim Kallas

Vice-President of the European Commission and Commissioner responsible for Mobility and Transport
Macro logistics issues

- Aggregating business logistics at the national level.
- Competitiveness and sustainable growth.
- An array of policy interventions:
  - Infrastructure and planning
  - Customs Trade facilitation
  - Regulation
## Why Logistics Performance Matters

Result when a low income country reaches the LPI level of middle income average

<table>
<thead>
<tr>
<th>Indicator/policy area</th>
<th>Increase in trade (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logistics Performance Index</td>
<td>15.2</td>
</tr>
<tr>
<td>All trade barriers reduced to 10%</td>
<td>8.4</td>
</tr>
<tr>
<td>Doing Business, cost of trading</td>
<td>7.4</td>
</tr>
<tr>
<td>Tariffs reduced to 5%</td>
<td>5.7</td>
</tr>
</tbody>
</table>

$LPI = \text{World Bank’s Logistics Performance Index}$

$\text{TARRI} = \text{Trade Restrictiveness Index}$

$\text{OTRI} = \text{Overall Trade Restrictiveness Index}$

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Data Drive & Logistics and Supply Chain Performance

Supply Chain (SC) performance (aggregated) metrics essential to policy making:

- Cross country benchmarking
- Or country, SC specific details (ports corridors…)
- Performance outcome (e.g. time) vs. impact in % or in monetary terms
- Operational Data more available than 10 years ago: customs, facilities, GPS
“Heisenberg Principle”
Breadth vs. Depth

- General indicators (e.g. LPI) are popular
- **BUT** typically policy implementation also needs operational and Supply Chain specific data
- Over time relevance vs. geographical comparisons

\[ \Delta p \Delta q \geq \frac{\hbar}{2} \]
International Supply Chains Complexity & Idiosyncrasies

Many agents in the SC and Public sector concerns!
Reliability, cost, time

![Graph showing the relationship between logistics performance index and costs](image-url)
Looking beyond averages

Distribution Port Dwell time in days (Jakarta 2009)
No simple way to assess the impact

- Concept of total logistics costs at micro level
  \[= \text{freight} + \text{overhead} + \text{cost or unreliability} \text{ (e.g. inventories)}\]

BUT no easy way to

- Aggregate or measure at macro level
- Grasp Significance of logistics costs as %GDP ??
- Model impact on competitiveness and capacity to diversify in VA production. => CGE or gravity.
What you produce matters most export elasticity to Lpi

<table>
<thead>
<tr>
<th>Logistics Performance insensitive products</th>
<th>elasticity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar, sugar preparations and honey</td>
<td>-1.7</td>
</tr>
<tr>
<td>Coffee, tea, cocoa, spices,</td>
<td>-1.1</td>
</tr>
<tr>
<td>Coal, coke and briquettes</td>
<td>-1.5</td>
</tr>
<tr>
<td>Petroleum, petroleum products</td>
<td>-3.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Logistics Performance sensitive products</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>General industrial machinery &amp; equip.</td>
<td>1.3</td>
</tr>
<tr>
<td>Office machines &amp; automatic data</td>
<td>2.9</td>
</tr>
<tr>
<td>Telecommunications &amp; sound recording</td>
<td>0.9</td>
</tr>
<tr>
<td>Electrical machinery, apparatus</td>
<td>1.2</td>
</tr>
<tr>
<td>Road vehicles</td>
<td>0.5</td>
</tr>
<tr>
<td>Other transport equipment</td>
<td>1.4</td>
</tr>
<tr>
<td>Travel goods, handbags</td>
<td>3.7</td>
</tr>
</tbody>
</table>
THE WORLD BANK’S
LOGISTICS PERFORMANCE INDEX (LPI)
The Logistics Performance Index

Measures the overall trade logistics efficiency of 150+ countries

- 2007
- 2010
- >> 2012

Available MAY 16th 2012

www.worldbank.org/lpi
The Logistics Performance Index

- Source of data is suppliers of logistics services (freight forwarders, express carriers)

- Rates logistics performance on a scale of 1 to 5

- 6 components

- One overall LPI
Partnership with the private sector

Built on:

- Responses from 1,000+ logistics professionals worldwide
- 5,000+ country assessments

Primary data gathered for 155 countries
Time, Cost & Reliability measured in the LPI

Customs & Border procedures
Transport & Telecom Infrastructure
Services Quality

Supply Chain Service Delivery

Areas for policy regulations (inputs)

Service Delivery performance outcomes

Timeliness
Availability of International Shipments
Tracking and Tracing

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It’s More Than Income Level that Matters…

Countries in the LPI 2012 quintiles by income group

- Top quintile
- Second quintile
- Third quintile
- Fourth quintile
- Bottom quintile

Percent

Countries in the LPI 2012 quintiles by income group

- Low income
- Lower middle income
- Upper middle income
- High income non-OECD
- High income OECD

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...but much has improved since 2007
Percentage change in LPI scores 2007–2012 by LPI component and income group

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Red tape affects trade transactions most in low performing countries

Sorted by LPI quintile

Number of...

- No. of import agencies
- No. of export agencies
- No. of import documents
- No. of export documents

Bottom quintile (lowest performance)
Fourth quintile (low performance)
Third quintile (average performance)
Second quintile (high performance)
Top quintile (highest performance)
Green Logistics seldom an issue when shipping to LIC’s & MIC’s

Shippers that have “often” or “almost always” asked for environmentally friendly options when shipping to

- Low Income
- Middle Income
- High Income Non OECD
- High Income OECD

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TOWARDS A NETWORK:

THE LOGISTICS PERFORMANCE INTERNATIONAL OBSERVATORY (LPIO)
Towards a LPIO network

Emergent body of experience

- OECD (most EU EFTA countries, Australia, Canada, USA, Japan, Korea, Israel & Turkey)
- LAC (Brazil + projects Argentina, Colombia & Chile),
- South Africa
- MENA projects in Tunisia & Morocco
- EAP (China, Thailand, Singapore, Malaysia, Indonesia)

→ No definitive business models for councils or observatories yet
→ No Joint activities or formal exchanges
Thank you!

May 16 → LPI 2012
www.worldbank.org/lpi
Time and Cost Indicators

EXW
(Shipper)

- Delivery to Dock
- Alongside Vessel

Point of Origin
Seller’s Factory

Exporting Country

FOB
(Free carrier at Port of loading or equivalent)

- Unloaded on Dock

Delivery to Dock

Alongside Vessel

DES
(Carriage paid to Port of discharge or equivalent)

- Unloaded on Dock

Unloaded on Dock

Frontier/Border

Importing Country

DDP
(Delivered duty paid)

- Delivered to Buyer’s Warehouse

Importing Country

Lead time export

Lead time import

Lead time export

Lead time import
Logistics observatory

Supply of logistics
- Performance metric
- Port customs
- Corridors

Demand of logistics
- Firm data from survey

Macro logistics
Trends

- Bottom quintile
- Fourth quintile
- Third quintile
- Second quintile
- Top quintile

Percent

2007
2010
2012