Global Supply Chains, Transport and Competitiveness

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Globalization

- Growing economic interdependence through an increasing volume and variety of cross-border transactions
- International trade, mobility of capital, tourism, rapid and widespread diffusion of technology
- Changing patterns of trade, location choices at regional and global level, institutional organization and structural shifts in world economic order
- Potentially could raise economic growth of developing regions and lead to shift of production activities to these countries
- The current economic meltdown has sparked discussion about the merits of globalization.
Transport and Globalization

- Commonly considered as one of driving forces of economic growth and social development
- Transport is central and functions as an enabling mechanism
- Freight transport services have become more critical
- Accommodating new technologies, markets and organizational structures requires change
- Need for greater efficiencies has made urgent the need for a more “seamless” transport market in which delays in freight movements are minimized and choices of efficient route/mode combination are unhindered by national or modal boundaries
Trends affecting transport

- Globalization and Global Supply Chain management
- Trade liberalization – Facilitation – Security
- Technical and technological changes
- Changing role and scope of the public sector
- Environmental awareness - growing responsibility for sustainable development
Challenges: Competitiveness - Transport - Supply chains

- WEF – National competitiveness as the set of factors, policies and institutions that determine the level of productivity of a country.
- Fierce global competition
- Globalization is putting increased pressure on the organization of logistics and supply chains
- Specialization, utilization of superior resources, and economies of scale in production and distribution are important
- Efficient freight movement is fundamental to the functioning and competitiveness of a modern economy
Conventional and contemporary arrangement of freight flows
What is logistics?

- Several ways to view logistics: input/output view, supply chain view, geographic view, regional economy view
- To some logistics is limited to transport management
- The Council of Supply Chain Management Professionals definition:

> Logistics plans, implements, and controls the efficient, effective, forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customers' requirements.
Economic significance of logistics

- Logistics sector is estimated at 14% of the global GDP (10-30%);
- European logistics expenditures are estimated at about 1000 bill. € p/a;

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP in US$m</th>
<th>Logistics in US$m</th>
<th>% of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>334,726</td>
<td>49,753</td>
<td>14.9</td>
</tr>
<tr>
<td>Ireland</td>
<td>67,392</td>
<td>9,611</td>
<td>14.2</td>
</tr>
<tr>
<td>Singapore</td>
<td>94,063</td>
<td>13,074</td>
<td>13.9</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>153,068</td>
<td>20,992</td>
<td>13.7</td>
</tr>
<tr>
<td>Germany</td>
<td>2,352,472</td>
<td>306,264</td>
<td>13.0</td>
</tr>
<tr>
<td>Taiwan</td>
<td>273,440</td>
<td>35,686</td>
<td>13.0</td>
</tr>
<tr>
<td>Denmark</td>
<td>174,237</td>
<td>22,440</td>
<td>12.8</td>
</tr>
<tr>
<td>Portugal</td>
<td>101,182</td>
<td>12,871</td>
<td>12.7</td>
</tr>
<tr>
<td>Canada</td>
<td>585,105</td>
<td>70,191</td>
<td>12.0</td>
</tr>
<tr>
<td>Japan</td>
<td>4,599,706</td>
<td>522,982</td>
<td>11.3</td>
</tr>
<tr>
<td>Netherlands</td>
<td>392,550</td>
<td>44,495</td>
<td>11.3</td>
</tr>
<tr>
<td>Italy</td>
<td>1,214,272</td>
<td>137,027</td>
<td>11.2</td>
</tr>
<tr>
<td>UK</td>
<td>1,151,348</td>
<td>122,344</td>
<td>10.6</td>
</tr>
<tr>
<td>US</td>
<td>7,576,100</td>
<td>795,265</td>
<td>10.5</td>
</tr>
</tbody>
</table>
Logistics Efficiency and International Trade

- Business practice of MNCs – more than 60% of international trade is intra-company exchanges
- Logistics systems improvements are the “blocking and tackling” of economic development
- Strong logistics and transportation services can enhance the competitiveness of an economy – inefficient supply chains through high transport and logistics costs could impede export and import flows, may increase cost for firms, especially those competing in the export market.
Logistics operations and global logistics costs

- Direct transport costs are between 30-40% of all logistics costs;
- Logistics costs are typically 10-30% of final product costs;
What are global supply chains?

- “Global supply chains (GSCs) are worldwide networks of suppliers, manufactures, warehouses, distribution centres and retailers through which raw materials are acquired, transformed and delivered to customers. (OECD, Supply Chains and the OECD Guidelines for Multinational Enterprises, 2002)”
UNCTAD estimated that the average customs transaction involves 30 different parties, 40 documents, 200 data elements (30 of which are repeated at least 30 times) and the re-keying of 60% to 70% of the data at least once.
The very simplest logistics activities .....
….generates an enormous amount of logistics activity
How are the costs distributed in the supply chain? We have used the table below to illustrate the basic costs levied in the movement of a perishable goods container by sea and the average duration of time expended.

<table>
<thead>
<tr>
<th>Sequence</th>
<th>Time (Hours)</th>
<th>Cost US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moving container from loading ramp to storage</td>
<td>1</td>
<td>80.00</td>
</tr>
<tr>
<td>Container waiting for pickup after loading</td>
<td>48</td>
<td>12.00</td>
</tr>
<tr>
<td>Loading container on road trailer</td>
<td>1</td>
<td>62.00</td>
</tr>
<tr>
<td>Road transport to port terminal</td>
<td>33</td>
<td>360.00</td>
</tr>
<tr>
<td>Transfer from road trailer to stack</td>
<td>-</td>
<td>80.00</td>
</tr>
<tr>
<td>Waiting in stack</td>
<td>50</td>
<td>40.00</td>
</tr>
<tr>
<td>Unstacking and transfer to terminal trailer</td>
<td>-</td>
<td>88.00</td>
</tr>
<tr>
<td>Transfer / loading onto ship</td>
<td>-</td>
<td>240.00</td>
</tr>
<tr>
<td>Containership travel time (NY to Rotterdam)</td>
<td>154</td>
<td>1840.00</td>
</tr>
<tr>
<td>Transfer / unloading off ship</td>
<td>1</td>
<td>192.00</td>
</tr>
<tr>
<td>Transfer to stack</td>
<td>-</td>
<td>60.00</td>
</tr>
<tr>
<td>Waiting in stack / transfer to road trailer</td>
<td>106</td>
<td>90.00</td>
</tr>
<tr>
<td>Clearance and inspection</td>
<td>2</td>
<td>10.00</td>
</tr>
<tr>
<td>Road transport, port terminal to inland depot</td>
<td>14</td>
<td>220.00</td>
</tr>
<tr>
<td>Storage in inland depots</td>
<td>30</td>
<td>-</td>
</tr>
<tr>
<td>Moving container to consignee</td>
<td>2</td>
<td>40.00</td>
</tr>
<tr>
<td><strong>Total hours / days</strong></td>
<td><strong>442 hrs / 19 days</strong></td>
<td><strong>3,414.00</strong></td>
</tr>
</tbody>
</table>

The equivalent airfreight movement would be approximately seven times more expensive but could be 17 or more days quicker.
International and national initiatives

- Transport sector role and importance taken into account as a factor overall national competitiveness;

- **International initiatives**
  - World Bank - LP Index, Doing business
  - World Economic Forum – Global Competitiveness Index, Enabling Trade Index (ETI)
  - European Commission
  - IMD Lausanne – World Competitiveness Yearbook

- **National initiatives** : Canada, Finland, Germany, Ireland, United States.......

- **Strengths / Weaknesses / Opportunities /**
Traditional methodologies and tools

- Transport statistics and a variety of indicators:
  - modal indicators
  - capacity indicators
  - performance indicators
  - environmental indicators

- They have certain strengths but also weaknesses:
  - reliable, harmonized, objective, historical data;
  - lack of quality of service measure, not demand driven, only partially capture the role of transport in supply chains, static;

Can they still be useful for assessment of transport sector’s role in supply chains and contribution to national competitiveness?
Need for new methodology

- Re-position role of transport
  - as part of the global trade
  - important indicator for the level of development and competitiveness

- Reflect technological, commercial and regulatory changes governing transport

- Need to develop appropriate methodology based on:
  - multi-criteria based tools
  - meso-level indicators
  - specification of strategic policy objectives
  - collection of data and appropriate comparison of costs

- Outline of the new (UNECE) methodology (Informal doc. No.10)
Next steps

❖ Strengthen cooperation with the key “indicator producers”;

❖ Seek inputs and views from academia and partner organizations in order to expand and deepen the analysis;

❖ Organise a series of capacity building workshops

❖ Launch the development of a new evaluation tools;

❖ Explore the interest of possible donors, both public and private.
Thank you for attention