UNCTAD’s perspectives on maritime transport costs, with a focus on Pacific SIDS

Onno Hoffmeister (UNCTAD/Statistics)
Regional Roundtable on Improving the Availability of Maritime Transport Costs Data in the Pacific Region
Suva (Fiji), 15-16 February 2023
Why data on maritime freight transport are so important

Maritime freight transport ...
• is an enabler of international goods trade – a driver of economic development (especially in small island states)
• has seen important frictions in recent times → supply shortages
• is a source of carbon emissions

Transport costs ...
• drive import prices and inflation rates
• reduce competitiveness on global markets
• impact on current account balances, real GDP, and welfare
• are a key variable in International Economics → needed for modelling
• need to be known for the compilation of international trade statistics, balance-of-payments, and national accounts
• are in island states primarily maritime
Maritime transport in UNCTAD’s Programme of Work (Bridgetown Covenant)

“The pandemic caused significant disruptions in international maritime and air transport networks, with a particular impact on regional trade, port operations and logistics. (...) These developments highlight the need for resilient air and maritime transportation systems (...) which are essential for deepening regional integration processes and critical to accelerating developing countries’ integration into the global economy.” (§50)

“UNCTAD should (...) continue to support international and regional transport networks, ensuring their sustainability and resilience” (§127).

UNCTAD’s analytical work should continue being “grounded in solid evidence” (§113).
UNCTAD statistics and analyses on maritime transport

- Merchant fleet (registrations and ownership; by vessel types and carrying capacity)
- Ship building and ship recycling
- Seaborne trade (goods loaded and discharged on seaports)
- Container port throughput
- Liner shipping connectivity (country-level and bilateral indices)
- Port performance (port calls, time on port, ...)
- Global transport costs dataset (experimental)

Review of Maritime Transport

Topical studies and reports

Policy advice
## Data sources

<table>
<thead>
<tr>
<th>Output dataset</th>
<th>Secondary data source</th>
<th>Primary data source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merchant fleet</td>
<td>Clarkson Research Services</td>
<td>Port authorities</td>
</tr>
<tr>
<td>Ship building and recycling</td>
<td>UN-ECLAC</td>
<td>Container port terminals websites</td>
</tr>
<tr>
<td>Container port throughput</td>
<td>Research institutes, academia</td>
<td>Port authorities</td>
</tr>
<tr>
<td>World seaborne trade</td>
<td>Private data providers</td>
<td>Government agencies</td>
</tr>
<tr>
<td>Liner shipping connectivity</td>
<td>MDS Transmodal</td>
<td>Port industry</td>
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<tr>
<td>Port performance</td>
<td>MarineTraffic</td>
<td>AIS</td>
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<td></td>
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<td>Port mapping intelligence</td>
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</tbody>
</table>
Methodological approach of the impact assessment

- Match DNV ship segments to MDST containership and AIS ship and traffic data
- Assign transport cost and time at sea to bilateral trade pairs
- Assign value-of-time rates to transit times at sea
- Feed total logistics cost into the Global Trade Model

- DNV Output / Results
- Containership Databank (MDST)
- AIS
- Marine Traffic
- World Cargo Database (MDST)
- Customs authorities (46 OECD countries)
- UN Comtrade

Impact on ship type
Impact on distance travelled

Changes in shipping (transport) cost
Changes in transit time at sea

Changes in total maritime logistics cost

Changes in Trade
Changes in GDP
Changes in GVC

20 illustrative cases
4 Other considerations
Global Transport Costs Dataset for International Trade (GTCDIT)

Goals:

• Enhanced evidence base on the interlinkages between international transport and trade

• Monitoring of the resilience of the maritime and logistical system, especially in SIDS and LDCs

Beta version of the dataset online on UNCTADstat
How GTCDIT is compiled

### UN Comtrade Plus

<table>
<thead>
<tr>
<th>Reporter</th>
<th>Partner</th>
<th>Commodity</th>
<th>Flow</th>
<th>Mode of transport</th>
<th>FOB value (US$)</th>
<th>CIF value (US$)</th>
<th>Quantity (items, kg, l, …)</th>
<th>Weight (kg)</th>
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</thead>
<tbody>
<tr>
<td>163 countries</td>
<td>225 countries</td>
<td>5600 commodity groups (HS, 6 digits)</td>
<td>Imports / exports</td>
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### GTCDIT

<table>
<thead>
<tr>
<th>Origin</th>
<th>Destination</th>
<th>Commodity</th>
<th>Mode of transport</th>
<th>FOB value (US$)</th>
<th>Transport costs (US$)</th>
<th>Quantity (items, kg, l, …)</th>
<th>Weight (kg)</th>
<th>Distance (km)</th>
<th>Ad-valorem transport costs (%)</th>
<th>Per-unit transport costs (US$/km)</th>
<th>Transport work (ton-km)</th>
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</tbody>
</table>

Recommended data sources for international merchandise trade statistics

- Customs records
  - Customs declaration
  - Supporting documents (invoice, transport documents, import license, ...)
- Shipping manifests
- Aircraft and ship registers
- Enterprise surveys
- Postal records
- Commodity board reports
### Availability of data on transport costs and mode in UN Comtrade Plus

#### Number of countries by detail of information, 2016-2021*

<table>
<thead>
<tr>
<th>CIF-FOB margin</th>
<th>Breakdown by mode</th>
<th></th>
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<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>No</td>
<td>66 (3)</td>
<td>75 (3)</td>
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<tr>
<td>Yes</td>
<td>7 (0)</td>
<td>25 (0)</td>
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<tr>
<td>Total</td>
<td>73 (3)</td>
<td>100 (3)</td>
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</tbody>
</table>

*Full SPC member States in parentheses.  
*Best information content in any available year.

### Responses in the IMTS National Compilation and Dissemination Practices (NCDP) Survey 2016

“Do you compile data on freight and insurance associated with the importation of goods separately, at the most detailed commodity and partner level possible?”

<table>
<thead>
<tr>
<th>Country</th>
<th>Yes</th>
<th>No</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Detailed by mode</td>
<td>Not detailed by mode</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Tokelau</td>
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<td>X</td>
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</tbody>
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Onno Hoffmeister
Résumé

• Good quality data on maritime transport costs, with global coverage, are key for analytical work in many domains related to (sustainable) development and international trade

• Island States in the Pacific are characterized by
  – high need for precise assessment of the effects of transport costs on their economies
  – low availability of maritime transport costs data

• Data on transport costs and international goods trade are intertwined in both economic analysis and micro-level data collection

• Measuring transport costs and transport work from the trade side
  – can build a bridge between international transport and international trade models
  – allows using synergies in data collection and compilation
  – provides opportunities for cross-validation and reconciliation of collected data