Arctic shipping: what interest and perceptions from shipping firms?
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Warming of the North: Challenges and Opportunities for Arctic Transportation
Ottawa, March 2-3, 2015
What potential for shipping?

1. General reflexions on navigation conditions
2. What do companies think?

Iqaluit, Nunavut
November 2009
F. Lasserre
## 1. General thoughts on navigation conditions

### 1.1. Are distances really shorter?

Distances between ports with three different routes

<table>
<thead>
<tr>
<th>Origin-destination</th>
<th>Panama</th>
<th>Northwest Passage</th>
<th>Suez and Malacca</th>
</tr>
</thead>
<tbody>
<tr>
<td>London - Yokohama</td>
<td>23 300</td>
<td>15 930</td>
<td>21 200</td>
</tr>
<tr>
<td>Marseilles - Yokohama</td>
<td>24 030</td>
<td>16 720</td>
<td>17 800</td>
</tr>
<tr>
<td>Marseilles - Singapore</td>
<td>29 484</td>
<td>21 600</td>
<td>12 420</td>
</tr>
<tr>
<td>Marseilles - Shanghai</td>
<td>26 038</td>
<td>19 160</td>
<td>16 460</td>
</tr>
<tr>
<td>Rotterdam - Singapore</td>
<td>28 994</td>
<td>19 900</td>
<td>15 750</td>
</tr>
<tr>
<td>Rotterdam - Shanghai</td>
<td>25 588</td>
<td>17 570</td>
<td>19 550</td>
</tr>
<tr>
<td>Hamburg - Seattle</td>
<td>17 110</td>
<td>15 270</td>
<td>29 780</td>
</tr>
<tr>
<td>Rotterdam - Vancouver</td>
<td>16 350</td>
<td>14 330</td>
<td>28 400</td>
</tr>
<tr>
<td>Rotterdam – Los Angeles</td>
<td>14 490</td>
<td>15 790</td>
<td>29 750</td>
</tr>
<tr>
<td>Gioia Tauro (Italy) - Hongkong</td>
<td>25 934</td>
<td>24 071</td>
<td>14 093</td>
</tr>
<tr>
<td>Barcelona - Hongkong</td>
<td>25 044</td>
<td>23 179</td>
<td>14 693</td>
</tr>
<tr>
<td>New York - Shanghai</td>
<td>20 880</td>
<td>17 030</td>
<td>22 930</td>
</tr>
<tr>
<td>New York - Hongkong</td>
<td>21 260</td>
<td>18 140</td>
<td>21 570</td>
</tr>
<tr>
<td>New York – Singapore</td>
<td>23 580</td>
<td>20 310</td>
<td>18 770</td>
</tr>
</tbody>
</table>

Source: SIG MapInfo

- **Shortest trip**
- **Marginally longer**
1.2. Obstacles to the development of shipping

- Drifting ice will remain a hazard at all season changes and even in the summer
- Impossible to predict date of melt and freeze-up
- Melting of the Greenland inlandsis -> several more icebergs and growlers
  => Slower speed even if shorter route
- Insurance premiums much more expensive (≈25%)
1.3. Structure of maritime transportation

- Dominance of «just in time» in the container industry:
  - unwillingness
    - to take risks of delay due to drifting ice, icebergs, growlers,
    - to change routes twice a year
  - No market to serve along the Arctic route.

**Functional Classification of Maritime Cargos**

- **All Maritime Cargo**
  - **General Cargo**
    - **Break Bulk**
      - Sacks, Cartons, Crates, Drums, Pallets, Bags
    - **Neo-Bulk**
      - Lumber, Paper, Steel, Autos
    - **Containerized**
      - Containers, Lift On/Lift Off (Lo/Lo), Roll On/Roll Off (Ro/Ro)
  - **Bulk Cargo**
    - **Liquid Bulk**
      - LNG, Petroleum, Molasses, Chemicals, Vegetable Oil
    - **Dry Bulk**
      - Grain, Sand & Gravel, Scrap Metal, Coal/Coke, Clinker, Fertilizer

**Just in time**
1.4. Mining: a strong incentive for navigation

- Large deposits of hydrocarbons and minerals in the Canadian and Russian Arctic
- Profitability of their exploitation increases with navigation season
- Shipyards see their order books for ice strengthened cargo ships full (Aker Finnyards, Mitsubishi), most of them for the Russian Arctic
- But *destination* traffic, not transit
- Bulk carriers look for long-term contracts and high charter rates
A few statistics

- NSR route commercial (cargo) transits:

- NWP transits:
  18 in 2010; 20 in 2011; 30 in 2012; 22 in 2013 and 17 in 2014

  Of which commercial (cargo) transits:
  1 in 2013, 1 in 2014

=> Most transits by pleasure craft

Norther Sea Route Administration, 2010-2014; Nordreg statistics, 2010-2014
Canadian Arctic shipping activity

<table>
<thead>
<tr>
<th>Ships in the Canadian Arctic (nb of voyages)</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fishing vessels (nb of voyages)</td>
<td>183</td>
<td>254</td>
<td>319</td>
<td>322</td>
<td>348</td>
<td>302</td>
</tr>
<tr>
<td>Cargo ships or barges (nb of voyages)</td>
<td>100</td>
<td>124</td>
<td>126</td>
<td>124</td>
<td>127</td>
<td>108</td>
</tr>
<tr>
<td>of which:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General cargo</td>
<td>23</td>
<td>34</td>
<td>38</td>
<td>32</td>
<td>35</td>
<td>32</td>
</tr>
<tr>
<td>Tanker</td>
<td>23</td>
<td>28</td>
<td>30</td>
<td>31</td>
<td>28</td>
<td>25</td>
</tr>
<tr>
<td>Bulk</td>
<td>27</td>
<td>27</td>
<td>23</td>
<td>24</td>
<td>27</td>
<td>33</td>
</tr>
<tr>
<td>Cruise/Panenger vessels</td>
<td>11</td>
<td>18</td>
<td>11</td>
<td>10</td>
<td>17</td>
<td>11</td>
</tr>
</tbody>
</table>

Arctic shipping in indeed expanding, but driven by destination traffic

Nordreg statistics, 2009-2014
Idea: try to picture shipping companies’ interest and perceptions.

1st survey with 125 shipping firms, 2008-2010

- from Asia, Europe and North America
- Bulk, container shipping, general cargo...
- On 3 continents: Asia, Europe, North America
## Activity segment

<table>
<thead>
<tr>
<th></th>
<th>Container</th>
<th>Dry</th>
<th>Liquid</th>
<th>cargo</th>
<th>Europe</th>
<th>Asia</th>
<th>America</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No interest</strong></td>
<td>40</td>
<td>8</td>
<td>7</td>
<td>3</td>
<td>29</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td><strong>Maybe</strong></td>
<td>4</td>
<td>3</td>
<td>4</td>
<td></td>
<td>7</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Shipping Arctic shipping</strong></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>7</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: survey conducted by F. Lasserre with 125 shipping companies in North America, Asia and Europe; 84 answers.
Answering firms manage 6,723 ships. Container firms that answered represented 75.23% of world market share in 2008.
Note: Among answering firms in North America, several interested firms are already present in the Arctic, such as Fednav, Oceanex, Nunavut Eastern, Desgagnés. In Europe, among answering firms, only Sovcomflot and Beluga are already present in the region.

Lasserre, Frédéric et Sébastien Pelletier (2011).

- Preliminary results with 147 answers

<table>
<thead>
<tr>
<th>Activity segment</th>
<th>Container</th>
<th>Dry</th>
<th>bulk</th>
<th>General cargo/Multipurpose</th>
<th>Europe</th>
<th>Asia</th>
<th>North America</th>
</tr>
</thead>
<tbody>
<tr>
<td>No interest</td>
<td>56</td>
<td>16</td>
<td>27</td>
<td>12</td>
<td>42</td>
<td>60</td>
<td>9</td>
</tr>
<tr>
<td>Maybe</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>shipping</td>
<td>1</td>
<td>10</td>
<td>9</td>
<td>9</td>
<td>16</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

As of Feb. 15, 2015
Conclusions

– Too complex (route change twice a year),
– Too much uncertainty (ice variability, risk of delay, unfit for scheduled service),
– No port along the route: low load factor (no intermediate market

very interested, but remain prudent:

– Ice variability
– Insurance cost
– Profitability of ice-strengthened ship: need for long-term contracts and high charter rates
• Most mention Arctic shipping is a niche market, not a future competitor to Suez or Panama.

Most interested underline there is much more potential in *destinational* service rather than transit.