WHICH WAY TO THE SEA?
Landlocked Countries, Sea Transport and Port Competition

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Department of Transport and Regional Economics
University of Antwerp
WHY THIS MARITIME TOPIC?

• Landlocked, i.e. no coastline, no seaports
• The specific Swiss situation
  * not a member of EU
  * important transit flows, linked to ports
  * headquarters of shipping companies
• Existing scientific research (e.g. Rudel & Taylor)
Rudel and Taylor (1999)

• “For many years transalpine freight traffic has been at the centre of political debate and many research projects in Switzerland, while sea transport logically remained a black spot.”

• “...interest in container traffic across the Alps grew with the liberalisation of the European transport markets, the projects for the new transalpine railway infrastructures across the Alps and the unexpected development in the Italian ports.”
The competitive position of a country and its companies will depend on the competitiveness of logistic chains.

Therefore: know that logistic chain!

Try to influence elements under your control.
• Introduction
• Maritime transport: an overview
• The port as an economic entity
• The primary product of a port
• Globalization and ports: some unmistakable trends
• An attempt at channelling uncertainty
GLOBALISATION

International mobility of
• goods
• labour
• capital
• technology

GLOBALISATION AND PORTS

• there is more than goods flows
• a systematic shift in ownership structures
• who receives the benefits of public investments?
CHARACTERISTICS

- Price of ships – large investments
- Volatility
<table>
<thead>
<tr>
<th>Vessel prices (July 2005)</th>
<th>New</th>
<th>2nd hand (10yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry bulk</td>
<td>29 – 60 $m</td>
<td>25 – 54 $m</td>
</tr>
<tr>
<td>Tanker</td>
<td>44 – 120 $m</td>
<td>30 – 70 $m</td>
</tr>
<tr>
<td>Containership</td>
<td>27 – 125 $m</td>
<td>24 – .... $m</td>
</tr>
<tr>
<td>Train engine prices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bombardier</td>
<td>ca 5.6 $m</td>
<td></td>
</tr>
<tr>
<td>Truck prices</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ca 0.12 $m</td>
<td></td>
</tr>
</tbody>
</table>
• Volatility reflected in freight rates and average earnings
STRATEGIES OF THE BULK SECTOR

• Cost-reduction strategies:
  - Economies of scale – optimal scale
  - Economising on staffing costs through the recruitment of seamen from low-wage countries
  - Reducing the tax burden by flagging out a large part of the fleet

• Multi-purpose vessels

• Attracting private investors
LINER SHIPPING

Vollatility ⇔ Stability and service

⇒ Conferences
⇒ Strategic alliances
THE PORT AS AN ECONOMIC ENTITY

A port is

- a chain consisting of consecutive links
- a link in a global logistics chain
SUB-PROCESSES OF CARGO THROUGHPUT

Source: Vanelislander, 2005
<table>
<thead>
<tr>
<th>PORT ORGANISATION</th>
<th>PUBLIC</th>
<th>PRIVATE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Type I</td>
<td>Type II</td>
</tr>
<tr>
<td>Ownership</td>
<td>Public</td>
<td>Public</td>
</tr>
<tr>
<td>Autonomy of Port Management</td>
<td>very restricted</td>
<td>limited</td>
</tr>
<tr>
<td>External public funding</td>
<td>extensive</td>
<td>important</td>
</tr>
<tr>
<td>Access to provide services</td>
<td>open tender/direct agreement</td>
<td>direct agreement predominant</td>
</tr>
<tr>
<td>EU states employing organisation types I-IV</td>
<td>Dk, Gr, F, P, D, I</td>
<td>B, Dk, Fin, F, D, Gr, NL, P, E, S, I</td>
</tr>
</tbody>
</table>
PORT ORGANISATION STRUCTURE

• Landlord ports
  - Public authority owns and manages basic infrastructure
  - Co-ordinates port development

• Limited-operating ports
  - Public authority provides basic infrastructure and facilities to port operators

• Operating ports
  - A port operating company runs port entirely
PRIVATE PARTICIPATION IN PORTS

- Full privatisation
- Concessions
- Joint ventures
- Leasing
- Licensing
- Management contracts
THE MARITIME GOODS FLOWS

Source: UNCTAD, Review of Maritime Transport 2005
THE MARITIME GOODS FLOWS (ctd)

Annual growth rate

Based on Fearnleys Review and WTO International Trade Statistics

- Merchandise exports
- Seaborne Trade
- GDP
THE MARITIME GOODS FLOWS (ctd)

- Seaborne trade has shifted very strongly
- Increasing market share for developing countries (China, India, NIEs)
- Imbalances
- Strong effect on ports
EVOLUTION OF SEABORNE TRADE FOR SELECTED COUNTRY GROUPS

Crude Oil Seaborne Trade

- S and East Asia
- West Asia
- S-Am(West)
- S-Am(N & East)
- Centr-Am & Car
- East-Afr
- West-Afr
- N-Afr
- Asian Soc.
- C & E Eur
- South Afr
- Austr & NZ
- Japan
- Europe
- N-Am

Developing Countries
Socialist countries
Developed market-economy countries
EVOLUTION OF SEABORNE TRADE FOR SELECTED COUNTRY GROUPS

Dry Cargo Seaborne Trade

- S and East Asia
- West Asia
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Developing Countries

Socialist countries

Developed market-economy countries
GLOBALISATION AND PORTS: SOME TRENDS

- Shipowners: a constant striving for scale expansion
- Terminal operating companies: the ‘free capacity’ game
- Port authorities: safeguarding the control of infrastructure
## Strategic Co-operation in the Maritime Sector

<table>
<thead>
<tr>
<th>Market actors</th>
<th>Shipowners</th>
<th>Terminal operating companies</th>
<th>Port authorities</th>
</tr>
</thead>
</table>
| Shipowners    | • vessel-sharing agreements  
                • joint-ventures  
                • consortia  
                • alliances  
                • mergers/acquisitions  
                • conferences |                      |                  |
| Terminal operating companies | • joint-ventures  
                             • dedicated terminals  
                             • capital participation  
                             • consortia | • mergers/acquisitions  
                             • joint-ventures |                  |
| Port authorities | • concessions concerning dedicated terminals | • concessions  
                        • joint-ventures | • alliances |

Source: Heaver et al., 2001
THE ISSUES

• Will this evolution continue in the future?
• What are the consequences?
• Which time path will shipowners follow?
• What kind of strategy might the other market players adopt?
• Will shipowners become the dominant players?
SHIPOWNERS: SCALE EXPANSION

- Investments in additional capacity
- Strategic alliances, new partnerships and rerouting of vessels
- More concentration
- More control of logistics chains means more market power
- Bigger vessels?
## Medium/large containership deliveries and orders

(position at 1 January 2006; number and nominal TEU capacity)

<table>
<thead>
<tr>
<th></th>
<th>No. of vessels</th>
<th>Teu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deliveries of new vessels in 2005</td>
<td>214</td>
<td>901,000</td>
</tr>
<tr>
<td><strong>Total fleet (1 January 2006)</strong></td>
<td><strong>2,586</strong></td>
<td><strong>7,671,700</strong></td>
</tr>
<tr>
<td>On order for delivery in:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>324</td>
<td>1,295,500</td>
</tr>
<tr>
<td>2007</td>
<td>362</td>
<td>1,355,600</td>
</tr>
<tr>
<td>2008</td>
<td>289</td>
<td>1,287,900</td>
</tr>
<tr>
<td>2009</td>
<td>67</td>
<td>348,800</td>
</tr>
<tr>
<td><strong>Total on order</strong></td>
<td><strong>1,042</strong></td>
<td><strong>4,287,700</strong></td>
</tr>
</tbody>
</table>

Note: Table only includes cellular vessels with a nominal capacity of 1,000 TEU

Source: LSE/Boxfile Containership Database
TERMINAL OPERATING COMPANIES

- Concentration movements as a buffer against vertical integration
- Investments in additional (over)capacity
- Entry of international capital
- Reaction of shipowners?
<table>
<thead>
<tr>
<th>Port</th>
<th>Terminal</th>
<th>Additional capacity / planned introduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amsterdam</td>
<td>CERES Paragon Containerterminal (Amerikahaven)</td>
<td>1,250,000 TEU / 2008</td>
</tr>
<tr>
<td>Antwerp</td>
<td>Deurganckdock terminals</td>
<td>6,400,000 TEU / 2007-2008</td>
</tr>
<tr>
<td>Bremen</td>
<td>CTIV</td>
<td>950,000 TEU / 2007</td>
</tr>
<tr>
<td></td>
<td></td>
<td>950,000 TEU / 2009</td>
</tr>
<tr>
<td>Flushing</td>
<td>Westerschelde Container Terminal</td>
<td>2,000,000 TEU / no date specified</td>
</tr>
<tr>
<td>Hamburg</td>
<td>Eurogate container Terminal Hamburg CTH</td>
<td>1,900,000 TEU / 2010</td>
</tr>
<tr>
<td></td>
<td>HHLA Container Terminal Burchardkai CTB</td>
<td>2,400,000 TEU / 2010</td>
</tr>
<tr>
<td></td>
<td>HHLA Container Terminal Altenwerder CTA</td>
<td>600,000 TEU / 2010</td>
</tr>
<tr>
<td></td>
<td>HHLA Container Terminal Tollefort CTT</td>
<td>1,050,000 TEU / 2010</td>
</tr>
<tr>
<td>Le Havre</td>
<td>Port 2000</td>
<td>Phase 1: four berths at a tidal terminal / 2005-06</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 2: two berths at a tidal terminal / 2008-09</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phase 3: six berths at a tidal terminal / depending on traffic increase</td>
</tr>
<tr>
<td>Rotterdam</td>
<td>EUROMAX Terminal</td>
<td>3,000,000 TEU / 2007</td>
</tr>
<tr>
<td></td>
<td>Tweede Maasvlakte</td>
<td>up to 16,000,000 TEU / no date specified</td>
</tr>
<tr>
<td>Zeebruges</td>
<td>Albert II dock</td>
<td>1,000,000 TEU / no date specified</td>
</tr>
</tbody>
</table>

Sources: various port authorities
## PORT PROJECT FINANCE DEALS IN 2005

<table>
<thead>
<tr>
<th>Project</th>
<th>Date</th>
<th>Value</th>
<th>Arranger</th>
<th>Lenders</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCT Gdansk</td>
<td>October 2005</td>
<td>€180m</td>
<td>Macquarie</td>
<td>Macquarie, DVB Bank</td>
</tr>
<tr>
<td>Antwerp Gateway</td>
<td>May 2005</td>
<td>€143m</td>
<td>Barclays Capital, KfW IPEX-Bank</td>
<td>Barclays Capital, KfW IPEX-Bank, DNB Nor Bank, KBC Bank</td>
</tr>
<tr>
<td>Sodrugestvo Group, soya bean terminal, Kaliningrad</td>
<td>March 2005</td>
<td>$75m</td>
<td>Standard Bank London</td>
<td>Standard Bank London</td>
</tr>
<tr>
<td>Multi-Link Terminals' port project in Kotka, Helsinki and StPetersberg</td>
<td>January 2005</td>
<td>€71m</td>
<td>DVB Bank</td>
<td>DVB Bank</td>
</tr>
</tbody>
</table>

Source: Lloyds Shipping Economist, based on Cargo Systems, Jan/Feb 2006
PORT AUTHORITIES

- Decreasing market power
- One important trump card: concession policy
- Avoid conflict of interests
- More concentration?
ADDITIONAL FACTORS

- Safety aspects (e.g. containers as a potential target)
- Environmental aspects
- Maritime incidents
The new playing field:

Drastic scale expansion by shipowners and terminal operating companies, coupled with horizontal and vertical integration
CONSEQUENCES FOR MARKET STRUCTURE AND PRICING STRATEGY

• Justifications to deviate from pure competition (e.g. the conference system)
• Strong market concentration (e.g. alliances and dedicated terminals)
• Creating and financing (over)capacity
• Concession policies
THE SWISS CASE

Transferability of experiences, e.g. control of the supply chain:

- A chain approach to operations
- Vertical integration: companies becoming takeover targets of other companies
- Initiatives to increase customer loyalty

In combination with the own strengths (e.g. financial issues)
TO CONCLUDE

⇒ The scenarios are more or less fixed
⇒ Their timeframe remains uncertain

*Timing and optimal speed of action will determine who ultimately comes out on top*