The Politics of Trade and Pressures on the Supply Chain — economic, political and environmental issues

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OUR BUSINESS IS FACING GLOBAL AND LOCAL UNCERTAINTIES

Economic & political factors – economic growth drives trade which funds new and expanded port investment. Politically, the world looks much more uncertain than for many years. Trade has ridden on globalisation, will this model change?

The environment – a critical path for port development. As economies recover, attention focuses again on this sector

Technical change – responding to evolving market needs (automation, vessel sizes, etc.)

What can the port industry expect from all of this?
1.1: MACRO-ECONOMY – CONFIDENCE IS THE KEY

- Growth has been strong since Brexit and the Presidential election – are we in a ‘Phoney War’?
- Uncertainties and confidence both increasing – a paradox
- China has driven commodity and trade demand uncertainty here may be the most significant factor
- EU looking very problematic – no end to the Euro Crisis in sight
- What will happen with Trade Agreements?
- Next six months to shape the medium term outlook

- Billion dollar projects still determined by (very) short term considerations
- Actual demand is strong, but major projects on hold on a ‘wait and see’ basis
- Major uncertainty on the direction of trade
- Project bankability very difficult for large projects

Source: Financial Times

Dow Jones Industrial Avg.

Shanghai SE 50 index

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1.2: MARKET UNCERTAINTIES – COMMODITY PRICES ROLLER COASTER

- Direct result is massive uncertainty in commodity prices
- Very difficult to forecast and justify new developments in this climate
- But position is complex:
  - Major dry bulk projects – great uncertainty
  - Containers – still strong (but slowing)
  - Liquids – increased demand / reorientation

- Continued strong interest in container terminal investment and improvement (global)
- Limited dry bulk investment
- Oil/products and chemicals – increased storage demand and trading – new export terminals
- Generally, the focus is on margins not expansion (getting more from existing investments)

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1.3: Macro Economic Outlook – Quo Vadis?

World Trade, Industrial Production, and Manufacturing PMI - (three-month average; annualized per cent change)

- Macro economic outlook is now much more uncertain
- Chinese pressures have been mounting for some time. IMF projections are suspect
- Demand remains weak – high political risks
- Very difficult to finance some projects in this situation

World GDP Projections - IMF

<table>
<thead>
<tr>
<th>Region</th>
<th>2016</th>
<th>2017F</th>
<th>2018F</th>
<th>2021F</th>
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<tbody>
<tr>
<td>US</td>
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<td>2.5</td>
<td>1.7</td>
</tr>
<tr>
<td>Euro Area</td>
<td>1.7</td>
<td>1.6</td>
<td>1.6</td>
<td>1.5</td>
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<tr>
<td>China</td>
<td>6.7</td>
<td>6.5</td>
<td>6.0</td>
<td>6.8</td>
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<tr>
<td>Developing Asia</td>
<td>6.3</td>
<td>6.4</td>
<td>6.3</td>
<td>6.4</td>
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<tr>
<td>Latin America/Caribbean</td>
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<td>1.2</td>
<td>2.1</td>
<td>2.7</td>
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<td>Middle East</td>
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<tr>
<td>World</td>
<td>3.1</td>
<td>3.4</td>
<td>3.6</td>
<td>3.8</td>
</tr>
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Source: IMF, 2016 (Oct)

- Most recent data from IMF stresses recovery in US but Euro Area uncertain
- But looks shaky for southern Europe and especially for China – significant revision to forecast anticipated
- Anticipate reduction in China GDP forecasts to 3.5-4%?
- Middle East – some recovery in growth
- Commodity exporters still reeling

Source: INF, 2017 (Jan)
**1.4: IMPACT ON THE PORT BUSINESS**

**M&A activity is still high** – financial institutions continue to chase the port sector, with high bids for established operations, but interest has slowed.

**M&A** driven by shipping line fire sales in the container sector.

**Big player uncertainty** – majors: DPW, Hutch continue to invest, APM static, smaller players increasing market activity (ICTSI, Yildirim, OHL, etc.).

**Greenfield commodity projects** are much more difficult to finance than three-four years ago.

**New money** coming from Chinese investors – often for ‘political’ not ‘commercial’ reasons (‘Silk Road’ strategy).

**Making the most of existing investment** is central strategy for terminals.

**Lower margins** forecast for terminal operations in general.

**Focus on reduced costs** – automation, etc.

**Niche markets** are very important – e.g. cement carriers, liquid storage (increased trading demand), LNG bunkering, cold ironing.

**Much tougher environment with concentration of terminal investment in fewer, much larger, organisations**
1.5: SOME SCENARIOS

1. BUSINESS AS USUAL
   We have had many years of globalised growth and this has driven port investment. This was already slowing by early 2016. Some further slowdown anticipated in the container trades. Rebalancing of markets to slower demand growth.

2. INTERRUPTED GROWTH
   Short term upheaval in trade followed by pragmatic policy adjustments. This is a more volatile outlook, but has the potential for a rapid bounce-back.

3. PROTECTIONISM
   Seems more likely than for many years. Import tariffs will directly hit container flows, with limited stimulus to domestic demand. Under these conditions reciprocal moves seem certain. Will force a readjustment on shipping and ports.

You pay the money and make your choice
Long term cost of protectionism will be too high, but political gestures unavoidable. Today ‘Interrupted Growth’ is the favourite.
1.6: FINANCING PROJECT DEVELOPMENT – NEW CHALLENGES

- Projecting demand and project revenues – much more difficult in this situation. Modelling scenario risk is central to the process.

- Bankers looking to reduce risks – equity shipping line involvement increasingly sought after (but counterparty risk remains).

- Greenfield projects – except with cargo interest support – are very difficult.

- Attention now focusing on modernisation of existing facilities in terms of marketing (terminal combinations) and operations (automation, cost reduction).

- Flight to quality’ marginal projects are off the agenda.
2.1: INTRINSIC FACTORS – MAJOR CHALLENGES

**SHIP SIZE DEVELOPMENT**

- Ship size development – a major driver of port development and still underway
- Not just a matter of vessel handling but also much larger consignment sizes

**TERMINAL AUTOMATION**

- Terminal automation – this is the focus for container terminals. Well advanced in Europe – now developing in North America

**PANAMA CANAL**

- Panama Canal expansion fallout still not certain – possible revitalisation of All-Water services?
2.2: **SHIP SIZES – A REVOLUTION IS UNDERWAY**

- **PRIMARY TRADE**
  - Much larger vessels on ‘Primary’ trade + larger vessels deployed on ‘Secondary’ deepsea trades – where port capacity permits

- **SECONDARY TRADE**
  - This is driven by an excess of vessels displaced from primary deepsea trades cascading to the secondary trades

- **DEMAND**
  - Actual demand at present seldom justifies these much larger vessels – but it’s a ‘fact of life’

- **ORDERS**
  - With more orders of ever larger vessels the cascading effect will continue

- **FEEDERS**
  - This will also push of larger vessels into the feeder sector
2.3: **SHIP SIZES – A REVOLUTION IS UNDERWAY**

<table>
<thead>
<tr>
<th>TEU Range</th>
<th>Ship Size</th>
<th>Berths</th>
<th>Draft</th>
</tr>
</thead>
<tbody>
<tr>
<td>8,000 to 14,000</td>
<td>E Class Maersk: 397m, 22 rows, 16m</td>
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<td></td>
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<tr>
<td>14,000 to 18,000</td>
<td>Triple E Maersk: 400m, 23 rows, 16m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18,000 to 22,000</td>
<td>22,500 TEU: 400m, 24 rows, 420m, 23 rows? 16m?</td>
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</tbody>
</table>

- Ports around the world were sized to accommodate the E class Maersk by providing 16m of draft.
- Cranes were upgraded to 22 rows

- Cranes were extended to 23 rows
- No change required for berth or channel drafts

- Could be a step too far?
- Berth length should be able to accommodate but cranes would need 24 rows and deeper draft

*Ports have adjusted as the increases were incremental. The next size of container vessels could result in significant capacity redundancy. Berth length, turning circle, draft and air draft are critical.*
2.4: TERMINAL AUTOMATION

- Container terminal automation well advanced at the global level
- Driven (and constrained) by labor issues
- All major new terminals are utilising automated systems – to varying degrees
- Very difficult to retrofit these systems and best suited to optimum layouts
- At present, productivity of automated terminals is little better than best practice in conventional facilities
- This will change in the near term and become essential for handling the largest vessels and consignment sizes

All high volume container terminals will look like this in the future
3.1: ENVIRONMENTAL ISSUES CURRENTLY FACING PORTS

- **Permits, Consents**
  - NIMBY, Urban Encroachment

- **Management**
  - PERS, ISO14001

- **Resiliency**
  - Tides, Storms, Surges, Floods

- **Emissions**
  - CO$_2$$_e$, NOX, DPM$_{10}$

- **Habitats**
  - Fish, Birds, Mammals

- **Public Access**
  - Parks, Trails, Bicycles

- **Hazardous Materials**
  - Proximity Risks, Responses

- **Noise, Vibration, Light**
  - Cranes, Trains, Beepers

- **Health & Safety**
  - Workers, Truckers, Staff

- **Water Quality**
  - Spills, Runoff, Groundwater

- **Waste Management**
  - Trash, Dunnage, Hoteling

- **Cultural Resources**
  - Indigenous, Architecture

- **It’s not easy being green**
3.2 THE FUTURE READY SPACE…

SUSTAINABILITY
‘Sustainability governance’ or ESG

- Energy conservation and efficiency – sweat assets
- Renewable energy (biogas, solar, wind, wave)
- GHG emissions management – not consistent across sector
- Construction impact – largely ignored
- Supply chain – growing interest
- Climate change adaptation/resilience – high on the agenda, but difficult to prioritise actions
- CSR – Materiality Assessment, annual reporting
- ‘Beyond the gate’ – social, community, charity
3.3: WHAT IS TOPICAL? OUR CLIENTS ARE TALKING ABOUT…

CURRENTLY TOPICAL
- Air quality
- LNG
- Renewable energy
- Energy efficiency and audit
- Climate change mitigation/adaptation
- Carbon neutrality
- Biodiversity

DRIVERS (TRENDS)
- Power of the retailer (Fast Moving Consumer Goods)
- Influence of lenders
- Transport & master-planning
4.1: CONCLUSION & TAKE-AWAYS

Macro-economic & political risks:
- Outlook very unclear – wide range of possible scenarios will make funding for development difficult to secure
- Danger of protectionism – a direct threat to trade and port volumes
- What happens when interest rates rise? – potentially lower growth and more expensive investments

‘Industry risks’ (and opportunities):
- Ship size increases – major driving force in containers
- Cascading of larger vessels pressures smaller terminals
- Need for terminal productivity improvements and automation
- Making better use of existing port investments

ENVIRONMENTAL RISKS
- Environmental pressures – shoreside power, emissions, green terminal development, and climate resilience, etc.
- Need to adopt (and define) best practice – a lot to learn from different regional systems and other sectors (e.g. innovation in construction and rail)
THANK YOU

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