Port and Maritime Transport Issues and Views

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Introduction

This presentation is based on the experience of the Port and Maritime Transport Specialists of the Transport Division of the ETW Department of The World Bank. The Port Issues and Views presented are the idea of the presenters on the basis of their cross-support and analytical work and practical experience in the field.
Topics

- Recent Industry and Sector Trends
  - World Maritime Transport Development
  - Global (container) port capacity
  - Private Sector Involvement in port development and operations
  - Global (container) terminal operators
  - Port and Supply Chain Security
  - Operational systems and technology
  - Environmental Issues
  - Port-City relationship
  - Social issues

- PMTO Agenda
Sector Background

- Ports in developing countries represent a key asset for economic development.
- They need to operate efficiently and be properly structured in order to support an increase in trade and GDP by linking countries, both coastal and landlocked, productive hinterlands and consumers to global markets.
- Through their nodal role of facilitating intermodal transport ports have a significant role in contributing toward achievement of the Millennium Development Goals.
Recent Industry and Sector Trends
Development of World Maritime Transport
(Source: UNCTAD Review of Maritime Transport 2006)
Development of World Maritime Transport for selected country groups
(Source: UNCTAD Review of Maritime Transport 2006)
World port container traffic (mio TEU)
(Source: Containerisation International)
Major Container Routes (mio TEU) 2005
(Source: Drewry)

- Transatlantic
- Europe – Far East
- Trans - Pac

- Total East/West: 50.3 mio TEU
- Total North/South: 20.3 mio TEU
- Total Inter-Regional: 45.3 mio TEU
- World Total: 115.9 mio TEU
World Top 10 container ports
2003 – 2006 (Yearbook Containerisation International)
Relative growth Top 10 world container ports 2003 - 2006
(Yearbook Containerisation International)
Fluctuation of Global Container Freight Rates - Example Asia/Europe/Asia

Source: Containerisation International On-Line
Global (container) port capacity

- Global container port capacity is reaching critical levels
- Development of new port capacity in countries like China is fast, but in other regions (like USA and Europe) much slower, due to many procedures (i.e. public inquiry, EIA, inefficient hinterland connections, etc.)
- Example
  - Port 2000 project in Le Havre: First Phase of 4 berths took 3 years
  - Yangshang Offshore Terminal in Shanghai: Phases 1 and 2 (9 berths) and 32.5 km long bridge took 5 years
Expected Utilization Rates by 2011
(Source: Drewry)

[Map showing expected utilization rates around the world with percentages: 140%, 107%, 99%, 110%, 101%]
Private sector involvement

- Governments, in particular since the 1990’s, started to invite the private sector both for capital and operational experience.
- To date, developing economy countries entered into 230 projects totalling more than US$ 24.7 billion of investment in 15 years.
- In Africa some 70% of the (container) port operations are still run by the public sector.
- LAC is second, but the process is gaining momentum.
Private participation in seaports in developing countries 1990-2005

(Source: World Bank and PPIAF, PPI Project database)
Private sector involvement (contd.)

- The WB Port Reform Toolkit (Second Edition 2006) provides extensive details since *not one solution fits all*
- The Landlord Port Management Model is the World Bank’s preferred option
- Private sector involvement will grow but Governments will continue to be the landlord, regulator and provider of basic infrastructure
- Governments grant a concession (Lease or BOT) for 10-30 years
- Investment costs of new facilities may run into billions of US$
- Top 24 Global Terminal Operators handled 67% of the global container throughput in 2005
Port Issues and Views

Growing involvement of private investors in port projects

(Source: Lloyds’ List November 2006)

- Private investors are flocking to the ports industry and so far have been proved right (ING source)
- There is 'a 100% capacity demand' and this would outstrip the asset value
- Cargo volume increases are outpacing terminal capacity
- Typically investors were paying multiples 12-14 times above the port group's earnings level
Growing involvement of private investors in port projects (contd.)

(Source: Lloyds’ List November 2006)

➢ Examples
  • Dubai Ports World (DPW) paid a multiple of 15.3 for P&O Ports in February 2006
  • Babcock ' Brown a multiple of 12.9 for PDW Ports in December 2006
  • Peel Ports paid a multiple of 11.5 times for Mersey Docks and Harbour Company

➢ Contrast of recent buys with those of a few years ago
  • Royal Nedlloyd paid a multiple of 5.1 for ECT in 1998
  • Mersey Docks then paid a multiple of 5.3 for Medway Ports
Growing involvement of private investors in port projects (contd.)

(Source: Lloyds’ List November 2006)

- IPO’s: Oversubscription was much in evidence as from these Chinese examples: Xiamen was 94 times oversubscribed, Tianjin an amazing 1,703 and Dalian 851 times
- Important issues:
  - The industry is dependent on world trade and cyclicality and notoriously difficult to forecast
  - Planning and lead times could be incredibly long
Top 4 Global Terminal Operators
concessions in the regions in 2005
(Source: Port Reform Toolkit 2006)
Examples of PPP contracts in 2006
Port and Supply Chain Security

- The International Ship and Port Facility Security (ISPS) Code of the IMO was introduced in July 2004
- The implementation of the ISPS resulted in a small increase of port/terminal handling costs (preliminary outcome of ongoing WB study)
- 2007: IMO statement that there still is considerable confusion about the actual ISPS requirements
- Supply Chain Security concentrates on security issues in the entire chain from producer to consumer
Port Issues and Views (contd.)

- Pilot projects in several countries
- Negotiations on initiative to produce Supply Chain Security Toolkit (WB participation?)
- Lessons learned from ISPS implementation to be incorporated
- Scanning of cargo increasing
- Discussion about the procedures (scan all containers?) and costs (who pays for what?)
- WB involved in feasibility studies
Tunnel and mobile radiation scanners
Operational systems and technology

- In particular in container terminals increasing automation
- Aims: Reduction of labor costs and higher efficiency and productivity
- Shipping lines will require 250 moves per berth hour whereas most terminals today are in the range of 50 to 120 moves per berth hour
Automated Container Terminal Operations
(Source: Kalmar)
Environmental issues

- Major Maritime Environmental issues
  - Spills
  - Air pollution by ships

Source: ECSA
Major Air Polluters in Ports

- Oceangoing vessels and port craft if they use low-grade fuels and have inefficient engines
- Solutions are ‘cold ironing (the use of special electrical outlets to power ships while in port) or the use of low-sulfur fuels
- Cargo handling equipment, trucks and locomotives
- Solution: fleet modernization, alternative fuels and reduced idle time
- Also important: Dust, Noise, Smell and Light pollution and ‘Foreign Ballast Water’
Cold Ironing

- Outfitting ships for cold ironing costs $0.3 to $2 million
NO2 emission per ton km
(grams NO2 per ton km)

Rail: 0.01
Barge: 0.01
Road: 1.29
CO2 emission per ton km
(grams CO2 per ton km)

- Rail: 25
- Barge: 33
- Road: 130
City-Port relationship

- Cities may benefit from ports: employment, tax income, economic development, but
- Ports may also have a negative influence on cities such as traffic congestion, air, noise and light pollution and security issues
- Port zoning plans may lead to improved coexistence
- Increasing trend to move ports to Greenfield sites and redevelop the port in real estate (housing, recreation, business), marina, cruise terminal, and/or fishery facilities
City – Port (Valparaiso, Chile)
City – Port (Male, Maldives)
City – Port (Sydney, Australia)
Social issues

- More efficient equipment and automation decrease human requirements in cargo handling
- Social issue: redundancy
- Manual work shifts to inland facilities
- ‘Ripple effect’ studies: a port may create employment in the hinterland which is three to four times the direct port employment
Decrease in employment of dockers (direct employment) in Western Europe

- Rotterdam
- Hamburg
- Antwerp
- Bremen
- Le Havre
- Amsterdam
- Tilbury

1980 vs 2000

Number of dock workers

Port Issues and Views
# Potential / Requirements for WB involvement in the Regions

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Extensive practical and world-wide experience of the senior staff is a major requirement

Cross Support target around 50%

Information supply to the Sector Managers and Regions

Outputs: Databank, Performance Indicators, Economic Sector Work (ESW), (automated) Consultants file, Toolkit(s), papers on specific topics, presentations at important Conferences and Seminars
Thank you for your attention